# Designed to Fit Manufactured to Perform



... solve complex filtration challenges that improve people's lives, enhance engine and equipment performance and protect our environment.

PSD PowerCore® Air Cleaners, Peak performance in Half the Space

Air cleaners with original PowerCore filtration technology offer maximum design flexibility. You gain equal performance in significantly less space, freedom to design unique configurations to fit tight spots, and overall design simplicity.



PSD08, PSD09, PSD10 and PSD12 housings

See the PSD PowerCore® air cleaner section for all the details.

PowerCore® G2 Filtration Technology Big Performance, Small Footprint

The second generation of Donaldson PowerCore Filtration Technology is now available for engine air intake systems. PowerCore G2 Filtration Technology offers size reduction and geometric flexibility to overcome the tight space constraints resulting from today's complex emissions systems. In addition to size reduction, its customizable filtration performance also features lower restriction and longer filter life. For more information on PowerCore G2, please contact your Donaldson representative.





Conventional
Cellulose Air Cleaner



Original PowerCore® Air Cleaner



PowerCore. G2
60% smaller than A
30% smaller than B

# **Designed to Fit Manufactured to Perform**



... solve complex filtration challenges that improve people's lives, enhance engine and equipment performance and protect our environment.

RadialSeal™ Sealing Technology The best, most reliable choice for your engine

Filters using Donaldson RadialSeal Technology are lighter weight and easier to service than other filter designs. Invented by Donaldson in the 1980s, the urethane seal compresses radially on the outside surface of the outlet tube to create a seal around the tube.

In most applications, a safety element inside the main element seals radially to the inside of the outlet tube to provide an extra measure of protection. Filters equipped with RadialSeal Technology are easy to replace and provide leak-free seal even in adverse operating contitions such as extreme heat or cold.



XRB Air Cleaners Smaller, Lightweight Alternative Two-Stage Air Cleaner

The XRB family is ideal for light- to medium-duty diesel engine trucks, agriculture, construction, mining and industrial engine applications. The XRB air cleaner is smaller, lighter and easier to install and it effectively reduces contaminants, providing a high level of engine protection. Available in three diameter sizes.

See the XRB air cleaner section for all the details.

New XRB Housings: left XRB08; middle XRB12; and right XRB10 (filters shown from XRB12 model).

FKB Air Cleaners Smaller, Lightweight Alternative Two-Stage Air Cleaner

For smaller sizes of the XRB family, check out the FKB air cleaner family.

See the FKB air cleaner section for all the details.



FKB Housings and Filters: top center, FKB06; bottom left, FKB05; and bottom right, FKB04

# Designed to Fit Manufactured to Perforn



... solve complex filtration challenges that improve people's lives, enhance engine and equipment performance and protect our environment.

Drop Down Tube Extension (Dust Dumpa) Replacement to Your Existing Dust Cup Assembly

Air cleaners operate in extreme dust conditions (mining, construction and quarrying). In some cases, the dust is so concentrated that maintenance personnel have to empty the dust cups or check the Vacuator Valves more frequently than they like.

These two new drop tube accessory incorporates rubber connections that improve dust evacuation from the housing during normal vehicle vibration. The clear tube allows you to easily see what's happening during daily inspections without climbing up to open or check out the Vacuator Valve.

Available for SSG and PSD PowerCore® air cleaner and also works on all other air cleaners with 76 mm drop tube. See the Accessories Section for more details.



New Dust Dumpa ship fully assembled. Left: Part No. X006561 / Part No. X006562 right.





Go Twice the Distance with Donaldson Endurance™ Air Filters

Donaldson Endurance™ high efficiency air filters, made using Donaldsons advanced Ultra-Web® nanofiber technology, deliver cost saving benefits:

- Longer filter life with submicron contaminant
- Ideal for extended maintenance intervals
- Longer engine life
- · Lower operating costs

Donaldson Endurance  $^{\text{TM}}$  air filters are available for many popular Donaldson air cleaner housing models. Filters with Ultra-Web technology are easily to recognized because of the blue filter media.

Finding a Donaldson Endurance air filter in this catalogue. If available for an air cleaner model, the Endurance air filters are listed in the service parts list with ES, Extended Service and HE, High Efficiency.





# Designed to Fit Manufactured to Perform



... solve complex filtration challenges that improve people's lives, enhance engine and equipment performance and protect our environment.

#### Don't forget Intake Accessories

Engine Air Accessories are designed to solve our customer's specific problems - such as excessive moisture or noise - or simply help maintain your systems.

- Inlet Hoods protect air intake from large debris
- Pre-cleaners extend air filter life and boost system efficiency
- Filter Gauges and Indicators maximize filter life and reduce maintenance costs
- Rubber Elbows and Connectors minimize air intake flow resistance, reduce noise levels in severe operating condition
- Vacuator<sup>™</sup> Valves automatically dispel dust and water from the air cleaner
- Stack Caps protects the exhaust stack from water and debris.

See the Accessories Section for all the details.





# Donaldson TopSpin™ Pre-Cleaner Extend Filter Life in Heavy Dust Conditions

We recently upgraded the cover material of the TopSpin Pre-Cleaner to **increase impact resistance**. Before it was a see-through unit, now it is **black**.

This new design will even more extend your primary air filter life, boost your system efficiency and extend your engine life!

Donaldson TopSpin requires no maintenance and works great on all types of equipment, from crawler tractors to farm tractors to skid steer loaders.

See the Accessories Section for all the details.





# Designed to Fit Manufactured to Perform



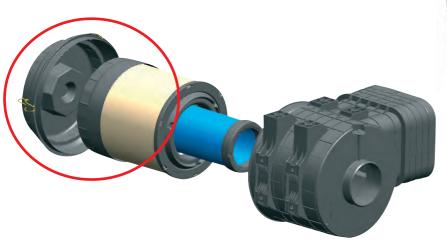
... solve complex filtration challenges that improve people's lives, enhance engine and equipment performance and protect our environment.

A New Generation of Hybrid Air Cleaners featuring Donaldson's Unique Design Concept

Air Cleaners equipped with Donaldson's Unique Design Concept ensure you

- 1) The best protection for your Engine:
- Via a unique fit of the element into the access cover, rotation of the element is prevented which improves durability of the radial seal.
- The unique interface between the primary element and access cover assures best fit and function and is achieved only with the Donaldson original elements. discouraging use of low quality will-fit elements.
- New moulded polymer closed end cap works in conjunction with the element retention system resulting in outstanding durability and safer manipulation of your element.
- A plastic liner outer instead of a metal one prevents media pleat tip wear and improves handling protection.
- 2) The best protection for our Environment:
- Reduced metal content.

See the ERB2, FRG2 and SPB2 Air Cleaner Section for more details on these next generation products.







**Built with Donaldson Technology.** 

# Designed to Fit Manufactured to Perform

# the following customers rely on Donaldson



Agco, Case New Holland, Claas, Deutz, Fendt, John Deere, Landini, Manitou, Massey Ferguson, McCormick, Renault Agriculture, SAME, Valtra...



BMC, Carrier Transicold, DAF, Daimler, EvoBus, FIAT,
Ford Otosan, Freightliner, International, Isuzu, Iveco, MAN,
Paccar, Renault Truck, Scania, Thermo-King,
Vanhool, VDL Bus, Volvo...



AtlasCopco, Bobcat, Case New Holland,
Daewoo, Doosan, Dynapac, Fermec, Fiat-Kobelco,
Furukawa, Hitachi, JCB, Komatsu, Liebherr, Linde,
MCFE, Merlo, Sandvik, Terex, Toyota, Volvo CE...



Cummins, Detroit Diesel, Honda, Isuzu,
Iveco, John Deere, KHD, Komatsu, Kubota, MAN
Engines, Mercedes Benz, Perkins, Scania, Sisu,
Steyr Motors, Yanmar Diesel...



Manitou, Hyster, JCB, Jungheinrich, Komatsu, Linde, Toyota...

# Donaldson Engine Aftermarket Warranty

# for Filtration and Exhaust Products

Donaldson warrants its Aftermarket products against failure due to defects in materials and workmanship for the period specified under Terms and Conditions for the particular product.

Donaldsons obligation under this warranty covers replacing the failed product, including transportation charges, only. If the Donaldson product failure is the sole and direct cause of damage to the equipment on which the product was properly installed, Donaldson will reimburse reasonable costs to restore the equipment to the condition it was in immediately before the failure.

This warranty does not cover failure due to misapplication, misuse, abuse, neglect, rust through and corrosion (mufflers), improper service practices or non-Donaldson approved modifications. Engine and equipment manufacturers' warranties remain in effect when Donaldson products are used.

Donaldson must be notified in writing of any claims covered by this warranty within one year of the date of failure. Donaldson, at its discretion, will either physically visit the site where the alleged failure has been found or, request that all parts, Donaldson and other relevant parts, be shipped prepaid to its General Office, in care of the Product Lab or as otherwise specified.

# **Terms & Conditions**

Warranty coverage begins at the date of installation to the original end-user, and expires after the indicated period or kilometres, whichever occurs first.

More detailed information can be found in the Donaldson Europe Operating Guide or can be received upon request.

# **Warranty Length by Product**

### **Filtration Products**

Air Cleaner Housing & Accessories
Liquid Filter Assemblies & Accessories
Air & Liquid Filters

### **Exhaust Products**

Exhaust Assemblies On-Road
Exhaust Assemblies Off-Road
Exhaust Accessories

# **Warranty Period**

1 year 1 year Maximum 1 year

# Warranty Period

2 years - 300.000 kilometers 1 year - 1500 working hours 1 year

**Brochure No. F116006 (11/08)** 

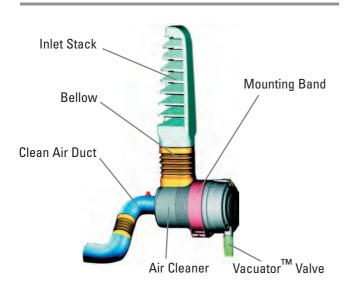
# Simple Facts on Air Filtration

... common terms and definitions.

### Why an Air Intake System?

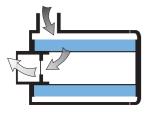
Air is a critical component of combustion for a diesel engine. If the air reaching the engine is not clean, the engine will lose efficiency and have engine wear. The engine will run longer and more efficiently with a proper air intake system that is designed to keep the engine intake air as clean as possible by removing particulate matter or debris that would cause engine wear and ultimately failure.

# Components Air Intake System



#### Air Cleaner Types

### One-Stage Air Cleaners



Air Cleaners in which the air goes through the inlet and directly to the main element are considered onestage air cleaners. One-stage air cleaners are typically used where there is less contaminate in the environment, such as in on-road applications.

#### Two-stage Air Cleaners



Air entering a two-stage air cleaner is first pre-cleaned before reaching the main element. The air may either be sent through pre-cleaner tubes or cleaned by centrifugal flow around the filter. Depending on the type of pre-cleaner, the pre-cleaner removes between 75-98% of the contaminate from the air before the air reaches the main element. Two stage air cleaners are recommended for use in medium- and heavy dust environments, such as in agricultural, construction, and mining applications.

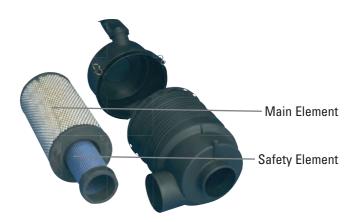
# Element types

#### Main Element

Is the filter element in the air cleaner that removes around 99,9%<sup>+</sup> of the air's dust. The air flows through the main element first.

#### Safety Element

Is an optional element that protects the engine during servicing of the main element and in case of a leak in the main element.



# **Simple Facts on Air Filtration**

... common terms and definitions.

#### **Technologies**

# RadialSeal<sup>TM</sup>

RadialSeal refers to Donaldsons sealing technology, which uses the urethane end caps and the cleaners outlet tube to created the seal. This is the preferred method of sealing.



#### **Axial Seal**

The Axial Seal sealing method requires a force between air filter and air cleaner that provides enough compression on the gasket between the parts to create a seal.



#### Filtration Terms

#### **Dust Capacity**

Dust capacity is the amount of contaminant that will be collected on a filter before final restriction level as set by the engine manufacturer - is reached.

#### Efficiency

Efficiency is the percentage of dust that the air cleaner with a filter removed from intake air.

Donaldson air cleaners have a 99,7% efficiency level.

#### Restriction

Restriction represents the resistance to the flow of air through the air cleaner system. Typical unit is kilopascal (kPa). Air cleaners with clean filters should have restrictions between 0,5 and 4 kPa.

#### Filter media

Filter media is the material in the filter that removes the contaminate. Conventional media is made from cellulose fibers combined with resins to keep the fibers together.



#### **Dust Concentration**

Dust concentration expresses the mass of dust in a specified volume of air. Typical ambient conditions are around 0,1 milligrams per cubic meter (mg/m³). Dirt road conditions are around 10 miligrams per cubic meter (mg/m³).

### Laboratory Life

This is the life of an air filter, until a defined restriction, tested at a constant dust concentration (mg/m³) following an ISO 5011 laboratory test procedure to determine performance and allow comparison with other air filter models.

#### Field Life

This is the life of an air filter, till a defined final restriction, during its usage in the field.

#### **Differential Pressure**

The difference in pressure between two points, generally between the inlet and outlet of an air cleaner. To be measured in pascal (Pa).

#### Pascal

The SI unit to express a pressure, to be used instead of mm  $H_2O$ .

Pa (pascal) - kPa (kilopascal) - mbar (milibar) - daPa (decapascal)

1 mm H<sub>2</sub>O = 9,80665 Pa 1000 Pa = 1 kPa 100 Pa = 1 mbar 10 Pa = 1 daPa

#### Airflow Requirements

Air is as critical to the operation of an engine as it is to the working of the human body. Like lungs, an engine draws air from the atmosphere. The amount of air required by engine depends on the type of engine, whether there is a turbocharger, and the amount of horsepower of the engine. The airflow requirement is a specification of the engine that should be given by the engine manufacturer.

# Air Cleaner Selection by Flow Direction

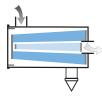
Donaldson has air cleaner housings that work in a variety of dust conditions and air flow patterns (A - D, and G). For improved filtration reliability and quicker filter service compared to older axial seal style air cleaners, Donaldson recommends installing either PowerCore air cleaners or radial seal style air cleaners whenever possible.

#### **Flow Direction Legend**

- B = Air in the Side, Out the End
- C = Air in the End, Out the Same End
- D = Air in the End, Out the Opposite End
- **G** = Air in the Side, Out the End

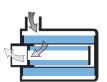
# B Airflow

### Air in the Side, Out the End



### **Light and Medium Dust - FKB**

A compact housing high dust holding capacity, and comparable airflow to FPG. Two-stage filtration, side inlet, horizontal installation. Body diameters in 4", 5" and 6". Mount under hood or behind cab. Handles airflows from 2-6 m³/min. Used on offroad equipment operating in medium-dust conditions. Page 50-54.



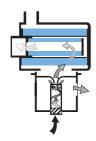
# Light, Medium & Heavy Dust -

One-stage full-plastic air cleaner. Body diameters in 7" and 8". Handles airflows of 2-7 m³/min. Used on light-, medium- and heavy-duty applications, always combined with a pre-cleaner. Page 43-48.



### **Heavy Dust - FLB**

Two-stage air cleaner with scavenge exhaust system. Body diameters in 6", 8", 10" and 12". Handles airflows of 3-17 m³/min. Designed for heavy-duty equipment. To be used with an exhaust ejector. Page 90-92.



#### **Heavy Dust - SRB**

Two-stage hybrid air cleaner with built-in high efficiency pre-cleaner. Body diameters in 9", 10", 11" and 13". Handles airflows of 4-18 m³/min. Designed for heavy-duty equipment. To be used with an exhaust ejector. Page 100-103.



#### Medium Dust - XRB

The radial seal, plastic, two-stage air cleaner. with side inlet for horizontal installation. Body diameters in 8", 10" and 12". Mount under hood or behind cab. Handles airflows of 7,5-18 m $^3$ / min. Used on off-road equipment operating in medium-dust conditions. Page 55-59.



### **Heavy Dust - SPB2**

Two-stage full-plastic air cleaner with built-in high efficiency pre-cleaner. Body diameter of 13". Handles airflows of 6-22 m³/min. Designed for heavy-duty equipment. To be used with an exhaust ejector. Page 97-99.



#### **Light Dust - ECB**

Disposable, one-stage, dry air cleaner, small, lightweight and unitized (housing and filter in one). For 2-3 cylinder, high-vibration engines. Can be vertically or horizontally mounted. Handles airflows of 6-90 m³/min. Used on light-duty applications. Page 38-42.



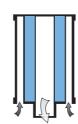
# Light, Medium & Heavy Dust - ERB2

One-stage hybrid air cleaner. Body diameters in 10", 11", 13" and 15". Handles airflows of 8-65 m³/min. Used on light-, medium- and heavy-duty applications, always combined with a pre-cleaner. Page 43-48.



### **Airflow**

#### Air in the End, Out the Same End

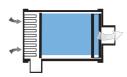


#### **Light Dust - ECC**

Disposable, one-stage, dry air cleaner, small, lightweight and unitized (housing and filter in one). For small 2-3 cylinder, high-vibration engines. Can be vertically or horizontally mounted. Handles airflows of 1-26,5 m³/min. Used on off-road equipment operating in medium-dust conditions. Page 38-42.

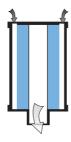
# **Airflow**

# Air in the End, Out the Opposite End



### **Medium to Heavy Dust - PSD**

Two-stage air cleaner with built-in high efficiency pre-cleaner using the PowerCore™ Filtration Technology. Smaller, compact with built-in mounting brackets. Can be vertically or horizontally mounted. Handles airflows of 6-30 m<sup>3</sup>/ min. Body diameters in 8", 9", 10" and 12". Designed for medium- and heavy-duty equipment. Can be used with Vacuator™ Valve on the pre-cleaner or continuously scavenge of the pre-cleaner by an exhaust ejector or air blower cooling. Page 19-35.



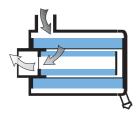
### **Light Dust - ECD**

Disposable, one-stage, dry air cleaner, small, lightweight and unitized (housing and filter in one). For small 2-3 cylinder, high-vibration engines. Can be vertically or horizontally mounted. Handles airflows of 1-23 m<sup>3</sup>/min. Used on light-duty applications. Page 38-42.



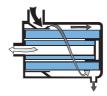
### **Airflow**

### Air in the Side, Out the End



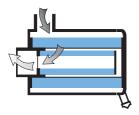
#### **Medium Dust - FPG**

The first fully plastic air cleaner in our two-stage filtration line. Built-in precleaner. Tangential inlet, with or without safety element, body diameters from 4", 5", 7", 8" and 10". Handles airflows of 0.5-12 m<sup>3</sup>/min. Can be mounted horizontal, vertical or at an angle. Used on mediumduty applications. Page 64-69 / 76-77.



# **Medium to Heavy Dust -**

Two-stage air cleaner with built-in pre-cleaner. Body diameter of 21". Handles airflows of 32-59 m<sup>3</sup>/min. Used in medium- to heavy-duty duty applications. Page 78-81.



#### Medium Dust - Alexin FPG

Two-stage full-plastic air cleaner with built-in pre-cleaners. Tangential inlet, with or without safety element, body diameters from 6", 8", 9" and 10". Handles airflows of 1,5-12 m<sup>3</sup>/min. Can be mounted horizontal, vertical or at an angle. Used on medium-duty applications. Page 70-77.



### Heavy (Severe) Dust -SSG

These new models are replacing our older SRG models. Donaldson's largest two-stage engine air cleaner, designed for the engines on large equipment. Handles airflows of 48-135 m³/min. The best protection for 500 to 2000 horsepower diesel engines. This new model uses radial seal sealing technology for filter retention. Used on heavy-duty applications. Page 104-110.

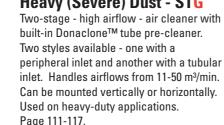


#### Medium to Heavy Dust - FRG2

Two-stage hybrid air cleaner which is available in body diameters of 10", 11", 13", 15" and 18". Horizontal mount required. Handles airflows from 6,5-51 m³/min. Used in medium- to heavy-duty duty applications. Page 82-88.



#### Heavy (Severe) Dust - STG



# Five Easy Steps to Air Cleaner Selection

# (1) Determine the Airflow Requirements of the Engine

There are 2 different formulas to estimate the airflow (m³/min) required by the engine.

One formula is based on Engine Displacement (Formula A). The other is based on Engine Horse Power (Formula B).

Formula A =  $\frac{\text{Airflow} = }{\frac{\text{Engine Displacement} \times \text{RPM} \times \text{VE}}{1000 \times \text{CF}}} = \frac{\text{m}^3/\text{min.}}{\text{min.}}$ 

- Engine Displacement
   Size of the engine expressed in litres (swept volume).
- RPM = Revolutions per minute
- VE = Volumetric Efficiency

VF Table

0,85 for 4 stroke natural aspirated diesel engine
1,60 for 4 stroke turbo charged diesel engine
1,85 for 4 stroke turbo charged after cooled diesel engine
1,40 for 2 stroke scavenge blower diesel engine
1,90 for 2 stroke turbo charged diesel engine

CF = Cycle Factor = 2 for 4 stroke engine
 1 for 2 stroke engine

Formula B = Airflow =  $HP(SAE) \times SA = m^3/min$ .

- HP(SAE) = Horse Power
- SA = Specific Airflow per Horse Power

**SA Table** 

0,057 m³/min. for 4 stroke natural aspirated diesel engine 0,065 m³/min. for 4 stroke turbo charged/after cooled engine

0,093 m<sup>3</sup>/min. for 2 stroke scavenge blower diesel engine 0,102 m<sup>3</sup>/min. in for 2 stroke turbo charged diesel engine

Additional Consideration

 Please be aware that when you have High Pulsation engines the air inflow to the air cleaner is influenced by this pulsation. We recommand that you review the application and if necessary multiply the airflow - found by one of above formula - by the pulsation factor (PF).

**PF Table** 

2,1 for 1 cylinder engine natural aspirated.
1,5 for 2 cylinder engine natural aspirated.
1,2 for 3 cylinder engine natural aspirated.
1,0 for 4 and more cylinder engine natural aspirated.

- 2. No pulsation factor needs to be considered for turbo charged engines.
- 3. Donaldson ECB, ECC, ECD Duralite<sup>™</sup> (see page 38-42) and the FPG057505 Air Cleaners (see page 67) are not subject to the pulsation factor due to the fact that we use a specially developed High Pulsation media for these products.

#### Example

A tractor is equiped with a 40 HP(SAE), 3 cylinder, 4 stroke natural aspirated diesel engine of 2 litres running at 2600 RPM.

Formula A =  $Airflow = \frac{2 \times 2600 \times 0.85}{1000 \times 2} = 2,21 \text{ m}^3/\text{min.}$ 

Formula B = Airflow =  $40 \times 0,057 = 2,28 \text{ m}^3/\text{min.}$ 

In High Pulsation application multiply your answer by FP table which in this case is  $2,21 \text{ m}^3/\text{min.} \times 1,2 = 2,652 \text{ m}^3/\text{min.}$ 

# Five Easy Steps to Air Cleaner Selection

# (2) Determine the Type of Machine and its Environment

For example, a truck of less than 8 ton will probably see light-dust, whereas dumpers used on construction sites would almost always be surrounded by an extremely heavy-dust concentration of large dirt particles. To determine the type of environment and the dust concentration level your machine works in, you can use the table below.

| Environment   | Applications  | Dust concentration (mg/m³)        |
|---|---|-----------------------------------|
| Light-Duty<br>(On-Road, Marine)                                   | On-Highway Trucks (< 8T), Lift Truck, Pumps for use in generators, compressors, marine, small engines and railroad. | 1-5<br>+ carbon, soot, oil vapeur |
| Medium-Duty<br>(Light Construction,<br>Agricultural, Compressors) | Mixed operating Trucks (8 - 16T),<br>Farm Tractor, Lift Truck,<br>Mobile Compressor, Skid Steer.                    | 5-15                              |
| Medium- to Heavy-Duty   | Combines and Harvesters, Earth<br>Moving Equipment, Loader, Dozer,<br>Grader, Excavator, Artic Dumper.              | 15-20                             |
| Heavy-Duty<br>(Construction, Mining)                              | Scraper, Dumper, Track type dozer,<br>Mining Equipment,<br>Rail Road (Middle East).                                 | 20-50                             |
| Extra Heavy-Duty  | Special equipment, Military.  | 50-100                            |

Note: These figures are only indications.

# (3) Select an Air Cleaner Series

You can do this by using the Air Cleaner Selection Overview on page 12-13. This correlates the Airflow Requirements of your engine (which you calculated under step 1) with the Dust Concentration level of your environment (which you calculated under step 2).

# (4) Choose a SPECIFIC Air Cleaner Model

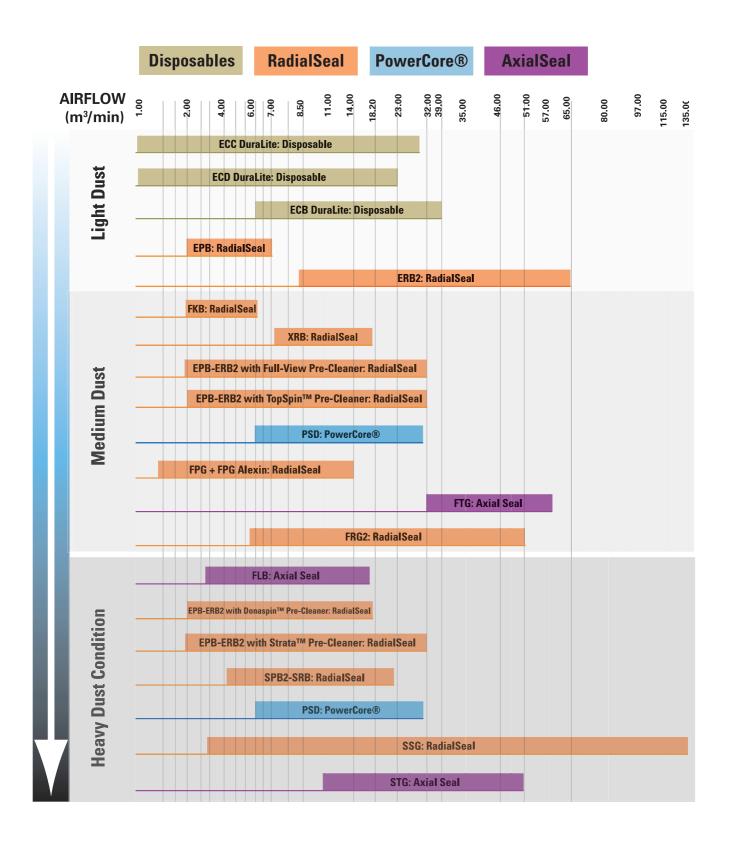
Once you have selected your Air Cleaner Series you can look in the catalogue for the specific Air Cleaner Model according to the Air Flow Requirements your engine needs. You can do this by refering to the Air Flow Restriction Curves. If there are 2 air cleaner models that fit your parameters, choose the one with the lowest restriction to ensure maximum service life from that air cleaner seriers.

# (5) Choose Intake Accessories

Accessories are an integral and important part of the entire air intake filtration system. See the Accessories Section for more details.

# **Engine Protection for All Dust Conditions**

...Donaldson offers a full line of air cleaners for a wide variety of applications and operating environments



# Air Filtration Conversion Factors

# **Temperature**

 $^{\circ}C = (^{\circ}F - 32) \times 5/9$  $^{\circ}F = (^{\circ}C \times 9/5) + 32$ 

# **Power**

 $HP = KW \times 1,341 \text{ (metric)}$  $KW = HP \times 0,745 \text{ (metric)}$ 

# **Flow rates**

1 l/min. = 0,0353 cfm 1 m<sup>3</sup>/min. = 35,3147 cfm 1m<sup>3</sup>/h = 0,5886 cfm 1 English gallon/min. = 0,1605 cfm

# Length

1 m = 1000 mm = 39,37 inch = 3,281 ft. 1 inch = 25,4 mm = 0,0254 m = 0,08333 ft. 1 ft. = 304,8 mm = 0,3048 m = 12 inch

# **Volume**

1 m<sup>3</sup> = 1000 litres = 35,31 ft.<sup>3</sup> = 61024 inch<sup>3</sup> 1 ft.<sup>3</sup> = 28,32 litres = 0,02832 m<sup>3</sup> = 1728 inch<sup>3</sup> 1 litre = 0,2642 US gallon = 0,2201 Engl gallon 1 US gallon = 3,785 litres = 231 inch<sup>3</sup> 1 English gallon = 4,546 litres = 277 inch<sup>3</sup>

# Weight

1 kg = 2,205 lb = 35,27 Oz 1 lb = 0,4536 kg = 16 Oz 1 Oz = 0,02835 kg = 0,0625 lb

# **Pressure**

1 mm H<sub>2</sub>0 = 9,80665 Pa 1 bar = 100 kPa = 14,5 psi 10 mbar = 1 kPa = 0,145 psi 10 psi = 68,95 kPa = 0,6895 bar 1 "Hg = 345,4mm H<sub>2</sub>0 = 3,321 kPa

# **Air Weight**

Air weight at  $0^{\circ}$ C = 1,293 kg/m<sup>3</sup> Air weight at  $20^{\circ}$ C = 1,205 kg/m<sup>3</sup> Air weight at  $25^{\circ}$ C = 1,184 kg/m<sup>3</sup>

# PowerCore® Delivers Improved Filtration Performance

# **Section Index**

| PSD (Medium to Heavy Dust) |  | . 19     |
|----------------------------|--|----------|
| PSD Service Instructions   |  | <br>. 34 |

# **PowerCore® Filtration Technology**







# Why was it developed?

Vehicle design is moving from classic to aerodynamic. This means less under-hood space, highly stylized, cost effective designs, greater operator visibility, higher horsepower engines with greater airflow and other emission requirements with hotter engines...

Therefore Donaldson developed PowerCore® Filtration Technology, to do more in less space and to allow system optimization.

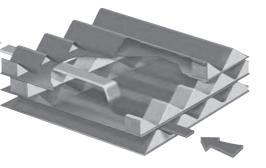
# What is it about?

- Proprietary air filtration technology developed to improve engine protection.
- Revolutionary, fluted media design for improved air filtration.
- PowerCore® media is visually unique.
- PowerCore filters can be designed, based on an approved matrix, in obround (racetrack) and round shapes.
- · High density media packaging technology.
- Built with Donaldson Technology.
- · Backed by extensive lab and field testing

# How does it work?

Clean air travels on to your engine

Filter media is formed into flutes - these flutes are layered to give tight, rugged structure to the filter



Fluted channels are alternately sealed: air enters an open flute and is forced to exit through an adjacent flute

Contaminants stay inside the filter and won't drop back into an unprotected air filter housing.

Dirty air travels in and is filtered in one pass through the media









# **PowerCore® Filtration Technology**



# With PowerCore, you will gain...

### **Greater Efficiency**

The straight-through fluted design of PowerCore Filtration Technology is three times more efficient than average conventional pleated filters.

#### **Engine Protection**

No media movement, expansion, contraction or bunching, with less dust and dirt passed on to the engine.

#### **Contaminant Encapsulation**

Dust and dirt won't dislodge during servicing.

#### **Equal or Better Performance in a Small Package**

The freedom to design unique configurations to fit tight spots and overall design simplicity.

#### **Donaldson Reliability**

Backed by nearly a century of innovation and experience. Donaldson supplies air filtration products to almost every vehicle manufacturer.

### **Lower Shipping and Inventory Costs**

PowerCore filters are lighter and take up less shelf space being so compact - in fact as much as half of a conventional filter.

### **Improved Handling and Maintenance**

Lighter and smaller, changing filters is a snap.

### **Improved Environment Protection**

Non-metal filters – both main and safety (where applicable).

#### **System Design Flexibility**

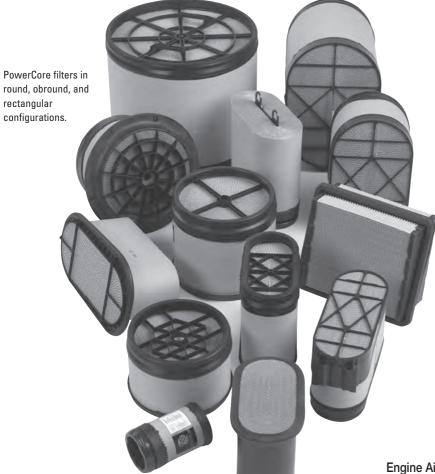
Multiple horizontal and vertical installation positions.

#### **Dust Holding Capacity**

Gain over 100% more dust holding capacity in a given volume.

#### **Built-In Pre-Separation and Mounting Brackets**

To eliminate the need to purchase separate.



# **PSD Air Cleaner**





# **Excellent Performance in Half the Space**

The PSD PowerCore® Air Cleaner is a two-stage air cleaner with built-in high efficiency pre-cleaner using PowerCore Filtration Technology.

PSD PowerCore Air Cleaners are designed especially for on and off road equipment operating in medium to heavy dust environments.

Can be used with Vacuator™ Valve on the precleaner or continuously scavenge of the pre-cleaner by an exhaust ejector or air blower cooling. See page 124-125 for all available Exhaust Ejectors.

# **Applications**

- Equipment operating in medium to heavy dust conditions with engine airflow ranges up to 30 m³/min.
- Obround housing shape allows for a narrow or wide mounting orientation. Models have either end or side filter service access
- Sustained temperature tolerance: to 82°C

#### **Features**

- More compact at a given performance level than standard pleated filters
- Non-metal filters both main and safety (where applicable)
- Improved engine protection: no media movement, expansion, contraction or bunching
- Improved contaminant encapsulation: dust and dirt stay contained in filter during service
- Improved filtration efficiency:
  - Three times more efficient than the average conventional pleated filter
  - PowerCore Filtration Technology with high efficiency pre-cleaner tubes improve engine protection
- Improved handling and maintenance: lighter and smaller, changing filters is a snap
- Easily serviced with clamp-on cover design
- Can be used with scavenge line or Vacuator™
   Valve depending on housing orientation
- Built in mounting brackets eliminate the need to purchase separate mounting bands
- Indicator thread size = 1/8-27NPT (Male) for PSD08/PSD09/PSD10 1/8-27NPT (Female) for PSD12





D080069 - Horizontal

D080070 - Vertical

#### **Mounting Flexibilty**

The PSD air cleaner is available with two separate drop tube in orientations and built- in mounting brackets on the 2 long sides of the housing. The ohter three PSD models (09, 10 and 12) offer even more mounting flexibility with built- in brackets on three sides of the main body housing.



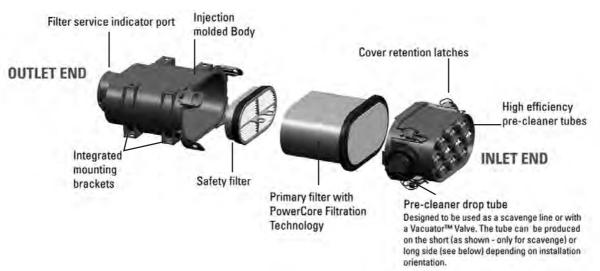


D100030 - Horizontal

D100029 - Vertical



# **PSD 08 - Service Access on Inlet End**



# PSD 09-10-12- Service Access on Side

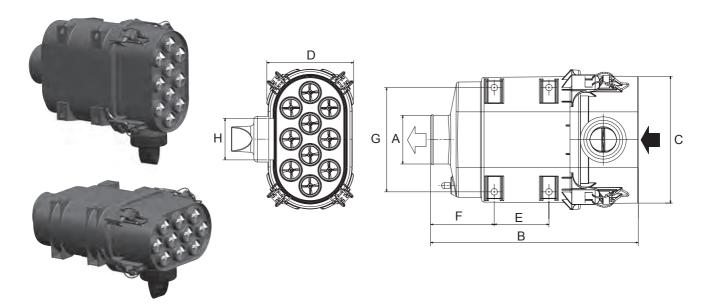


# **PSD Air Cleaner**





# **PSD 08 - Specifications**



| Air Cleaner                                      | Airflow Range |    | D   | imensi | ons (m | ım) |          |     |    |
|--|---------------|----|-----|--------|--------|-----|----------|-----|----|
| Model No.  | m³/min.       | Α  | В   | С      | D      | E   | F        | G   | Н  |
| D080069 (H)<br>D080070 (V)<br>With Vac Valve     | up to 6       | 89 | 380 | 257    | 159    | 100 | 117      | 191 | 76 |
| D080069 (H)<br>D080070 (V)<br>With Scavenge Flow | up to 8,5     |    |     | _0.    |        |     | I Instal |     | 70 |

# To Scavenge or Not Scavenge...

PSD air cleaners are designed to operate with or without aspiration, otherwise known as scavenging. Scavenging is accomplished by introducing a secondary airflow to the drop tube on the air cleaner (generally through the use of an ejector or ejector muffler). This flow pulls the separated contaminant from the precleaner and inserts it into the exhaust stream.

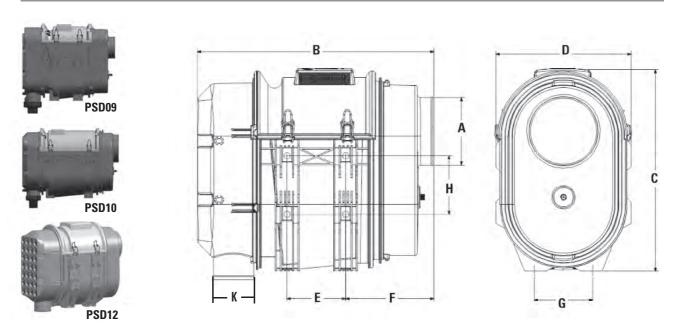
The advantages to scavenging are:

- · Higher pre-cleaner efficiency (resulting in longer filter service life)
- · Completely self-servicing (no regular maintenance needed on pre-cleaner)
- Drop tube can be located in variety of orientations (not just straight down as is necessary on non-scavenged systems)

Aspirating an intake system through the use of a scavenging device adds more components (an ejector and some plumbing) to the overall system, but will enhance the separator efficiency of the pre- cleaner and consequently extend the filter service life. Conversely, the PSD air cleaner and precleaner will function adequately without scavenge, with the result being less filter service life than with the use of scavenging.



# PSD 09 - 10 - 12 Specifications



| Air Cleaner      | Airflow Range                     |     |        |      | Dimens | sions (r | nm) |     |     |      |
|------------------|-----------------------------------|-----|--------|------|--------|----------|-----|-----|-----|------|
| Model No.        | m³/min.<br>With 10% Scavenge Flow | Α   | В      | С    | D      | Е        | F   | G   | Н   | K    |
| D090073 (V)      | 6-10                              | 102 | 433    | 362  | 180    | 110      | 174 | 100 | 130 | 76,5 |
| D090074 (H)      | 6-10                              | 102 | 433    | 362  | 180    | 110      | 174 | 100 | 130 | 76,5 |
| D090099 (V)      | 7-11                              | 102 | 458    | 362  | 180    | 135      | 174 | 100 | 130 | 76,5 |
| D090098 (H)      | 7-11                              | 102 | 458    | 362  | 180    | 135      | 174 | 100 | 130 | 76,5 |
| D090101 (V)      | 9-13                              | 102 | 533    | 362  | 180    | 180      | 174 | 100 | 130 | 76,5 |
| D090100 (H)      | 9-13                              | 102 | 533    | 362  | 180    | 180      | 174 | 100 | 130 | 76,5 |
| D090086 (V)*     | 6-10                              | 102 | 477    | 362  | 180    | 110      | 218 | 100 | 130 | 76,5 |
| D090087 (H)*     | 6-10                              | 102 | 477    | 362  | 180    | 110      | 218 | 100 | 130 | 76,5 |
| D090088 (V)*     | 7-11                              | 102 | 502    | 362  | 180    | 135      | 218 | 100 | 130 | 76,5 |
| D090089 (H)*     | 7-11                              | 102 | 502    | 362  | 180    | 135      | 218 | 100 | 130 | 76,5 |
| D090090 (V)*     | 9-13                              | 102 | 577    | 362  | 180    | 180      | 218 | 100 | 130 | 76,5 |
| D090091 (H)*     | 9-13                              | 102 | 577    | 362  | 180    | 180      | 218 | 100 | 130 | 76,5 |
| D100029 (V)      | 12-18                             | 127 | 429    | 375  | 254    | 110      | 165 | 110 | 110 | 76,5 |
| D100030 (H)      | 12-18                             | 127 | 429    | 375  | 254    | 110      | 165 | 110 | 110 | 76,5 |
| D100031 (V)      | 18-25                             | 152 | 529    | 375  | 254    | 210      | 165 | 110 | 110 | 76,5 |
| D100032 (H)      | 18-25                             | 152 | 529    | 375  | 254    | 210      | 165 | 110 | 110 | 76,5 |
| D100124 (V)*     | 12-18                             | 127 | 505    | 375  | 254    | 110      | 241 | 110 | 110 | 76,5 |
| D100123 (H)*     | 12-18                             | 127 | 505    | 375  | 254    | 110      | 241 | 110 | 110 | 76,5 |
| D100122 (V)*     | 18-25                             | 127 | 605    | 375  | 254    | 210      | 241 | 110 | 110 | 76,5 |
| D100121 (H)*     | 18-25                             | 127 | 605    | 375  | 254    | 210      | 241 | 110 | 110 | 76,5 |
| D120035 (V)      | 23-27                             | 152 | 496    | 430  | 306    | 168      | 160 | 154 | 110 | 76   |
| D120036 (H)      | 23-27                             | 152 | 496    | 430  | 306    | 168      | 160 | 154 | 110 | 76   |
| D120037 (V)      | 27-30                             | 152 | 596    | 442  | 306    | 268      | 160 | 154 | 110 | 76   |
| D120038 (H)      | 27-30                             | 152 | 596    | 442  | 306    | 268      | 160 | 154 | 110 | 76   |
| (H) Horizontal / | (V) Vertical Installation         | *   | 90° Ou | tlet |        |          |     |     |     |      |

# **PSD Air Cleaner**





# **PSD PowerCore® - Service Parts**

|                          |                             |         |                          |                       | Service Parts        |                          |                 |                   |
|--------------------------|-----------------------------|---------|--------------------------|-----------------------|----------------------|--------------------------|-----------------|-------------------|
| Air Cleaner<br>Model No. | Air Cleaner<br>Installation | Version | Orientation<br>Drop Tube | Orientation<br>Outlet | Access Cover<br>Assy | U-Clip,<br>Mounting (x4) | Main<br>Element | Safety<br>Element |
| D080069                  | Horizontal                  | -       | Horizontal               | Straight              | P785236              | P786050                  | P608533         | P600975           |
| D080070                  | Vertical                    | -       | Vertical                 | Straight              | P785237              | P786050                  | P608533         | P600975           |
| D090073                  | Vertical                    | Short   | Vertical                 | Straight              | P785651              | P784517                  | P608665         | P606121           |
| D090074                  | Horizontal                  | Short   | Horizontal               | Straight              | P785651              | P784517                  | P608665         | P606121           |
| D090099                  | Vertical                    | Medium  | Vertical                 | Straight              | P785978              | P784517                  | P787281         | P606121           |
| D090098                  | Horizontal                  | Medium  | Horizontal               | Straight              | P785978              | P784517                  | P787281         | P606121           |
| D090101                  | Vertical                    | Long    | Vertical                 | Straight              | P786989              | P784517                  | P608675         | P606121           |
| D090100                  | Horizontal                  | Long    | Horizontal               | Straight              | P786989              | P784517                  | P608675         | P606121           |
| D090086                  | Vertical                    | Short   | Vertical                 | 90°                   | P785651              | P784517                  | P608665         | P606121           |
| D090087                  | Horizontal                  | Short   | Horizontal               | 90°                   | P785651              | P784517                  | P608665         | P606121           |
| D090088                  | Vertical                    | Medium  | Vertical                 | 90°                   | P785978              | P784517                  | P787281         | P606121           |
| D090089                  | Horizontal                  | Medium  | Horizontal               | 90°                   | P785978              | P784517                  | P787281         | P606121           |
| D090090                  | Vertical                    | Long    | Vertical                 | 90°                   | P786989              | P784517                  | P608675         | P606121           |
| D090091                  | Horizontal                  | Long    | Horizontal               | 90°                   | P786989              | P784517                  | P608675         | P606121           |
| D100029                  | Vertical                    | Short   | Vertical                 | Straight              | Upon request         | P784517                  | P608666         | P601560           |
| D100030                  | Horizontal                  | Short   | Horizontal               | Straight              | Upon request         | P784517                  | P608666         | P601560           |
| D100031                  | Vertical                    | Long    | Vertical                 | Straight              | Upon request         | P784517                  | P608676         | P601560           |
| D100032                  | Horizontal                  | Long    | Horizontal               | Straight              | Upon request         | P784517                  | P608676         | P601560           |
| D100124                  | Vertical                    | Short   | Vertical                 | 90°                   | Upon request         | P784517                  | P608666         | P601560           |
| D100123                  | Horizontal                  | Short   | Horizontal               | 90°                   | Upon request         | P784517                  | P608666         | P601560           |
| D100122                  | Vertical                    | Long    | Vertical                 | 90°                   | Upon request         | P784517                  | P608676         | P601560           |
| D100121                  | Horizontal                  | Long    | Horizontal               | 90°                   | Upon request         | P784517                  | P608676         | P601560           |
| D120035                  | Vertical                    | Short   | Vertical                 | Straight              | Upon request         | P784517                  | P608667         | P607557           |
| D120036                  | Horizontal                  | Short   | Horizontal               | Straight              | Upon request         | P784517                  | P608667         | P607557           |
| D120037                  | Vertical                    | Long    | Vertical                 | Straight              | Upon request         | P784517                  | P608677         | P607557           |
| D120037                  | Horizontal                  | Long    | Horizontal               | Straight              | Upon request         | P784517                  | P608677         | P607557           |

#### Accessories used on all PSD Air Cleaners

**Check Valve** 

Vacuator™ Valve P112803 for the European PSD Range / P158914 for the US PSD Range - See page 27.

When making use of a reducer, see page 141 for all available Vac Valves P784790 for the PSD Range. See page 126 for all available Check Valves.

Adapters  $\emptyset$  32 = P783747  $\emptyset$  38 = P783746  $\emptyset$  50 = P783748

 $\texttt{ \emptyset 25 + 90° = P786685 } \quad \texttt{ \emptyset 32 + 90° = P784019 (PP) } \quad \texttt{ \emptyset 32 + 90° = P784834 (PA) } \quad \texttt{ \emptyset 38 + 90° = P786778 }$ 

Ejectors See page 124-125 for all available Exhaust Ejectors



#### Media used on PSD PowerCore® Standard Air Cleaners

All PSD Standard Air Cleaners are equiped with White Media, Blue Ultra-Web® Media is optional. Contact your Donaldson representative for more info.



### **PSD Extended Product Line**

For the PowerCore<sup>™</sup> Air Cleaner Range, Donalson now offers you more alternatives - an extended product line. These new alternatives provide you more flexibility and mounting options. A new range of accessories is also available (see page 26).

| Standard  | PSD PowerCor | e® Line  |  |  |  |  |  |  |  |
|-----------|--------------|----------|--|--|--|--|--|--|--|
|           |              |          |  |  |  |  |  |  |  |
| US Models | European     | Models   |  |  |  |  |  |  |  |
| PSD08     |              |          |  |  |  |  |  |  |  |
| D080020   | D080069      | New      |  |  |  |  |  |  |  |
| D080026   | D080070      | New      |  |  |  |  |  |  |  |
|           | PSD09        |          |  |  |  |  |  |  |  |
| D090019   | D090073      | New      |  |  |  |  |  |  |  |
| D090020   | D090074      | New      |  |  |  |  |  |  |  |
| -         | D090099      | New      |  |  |  |  |  |  |  |
| -         | D090098      | New      |  |  |  |  |  |  |  |
| D090021   | D090101      | New      |  |  |  |  |  |  |  |
| D090022   | D090100      | New      |  |  |  |  |  |  |  |
| _         | D090086      | New      |  |  |  |  |  |  |  |
| _         | D090087      | New      |  |  |  |  |  |  |  |
| _         | D090088      | New      |  |  |  |  |  |  |  |
| _         | D090089      | New      |  |  |  |  |  |  |  |
| -         | D090090      | New      |  |  |  |  |  |  |  |
| -         | D090091      | New      |  |  |  |  |  |  |  |
|           | PSD10        |          |  |  |  |  |  |  |  |
| -         | D100029      | Existing |  |  |  |  |  |  |  |
| -         | D100030      | Existing |  |  |  |  |  |  |  |
| -         | D100031      | Existing |  |  |  |  |  |  |  |
| -         | D100032      | Existing |  |  |  |  |  |  |  |
| -         | D100124      | New      |  |  |  |  |  |  |  |
| -         | D100123      | New      |  |  |  |  |  |  |  |
| -         | D100122      | New      |  |  |  |  |  |  |  |
| -         | D100121      | New      |  |  |  |  |  |  |  |
|           | PSD12        |          |  |  |  |  |  |  |  |
| D120035   | -            | Existing |  |  |  |  |  |  |  |
| D120036   | -            | Existing |  |  |  |  |  |  |  |
| D120037   | -            | Existing |  |  |  |  |  |  |  |
| D120038   | -            | Existing |  |  |  |  |  |  |  |
|           |              | 7 3      |  |  |  |  |  |  |  |

#### **PSD08 Extended Product Line - Features**



- · Lower initial restriction
- Mounting brackets on both sides to increase mounting options
- Drop tube diameter enlarged (same as PSD10 & 12)
- Possibility to fix different scavenge adapters > straight & 90°
- Possibility to integrate check-valve into scavenge tube of pre-cleaner
- · 4 latches on service cover to improve accessibility & serviceability

#### **PSD09 Extended Product Line - Features**



- · Lower initial restriction
- Next to the short and long PSD09 we offer now a medium version
- Drop tube diameter enlarged (same as PSD10 & 12)
- Possibility to fix different scavenge adapters > straight & 90°
- · Possibility to integrate check-valve into scavenge tube of pre-cleaner
- Optional 45° latch position on the cover
- New version with 90° outlet tube
- Male indicator tab with thread 1/8 27 NPT

#### **PSD10 Extended Product Line - New features**



· New version with 90° outlet tube

# **PSD Air Cleaner**

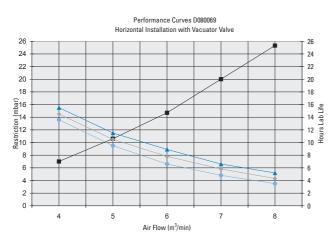


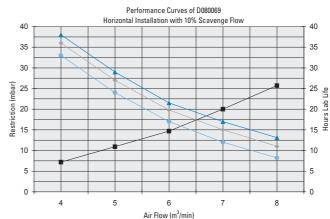


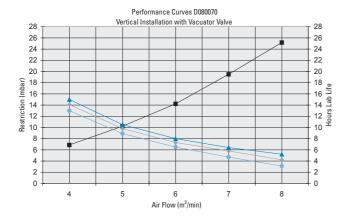
### When specifying an Air Cleaner...

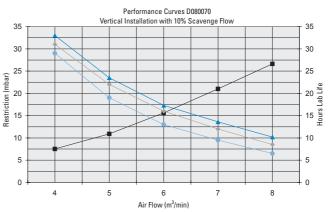
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

# **PSD 08 Performance Curves**





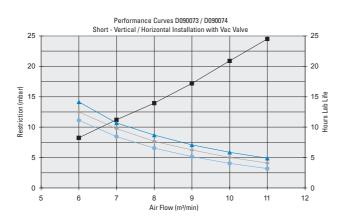


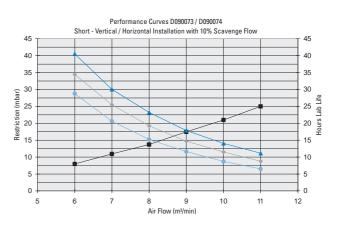


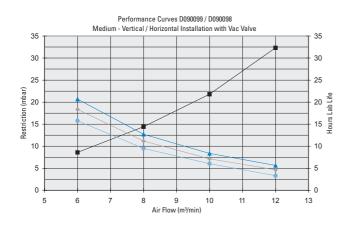


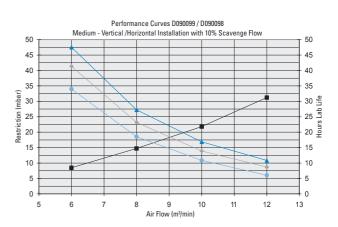


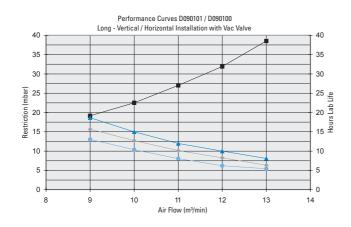
# **PSD 09 Performance Curves**

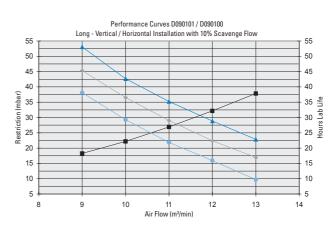












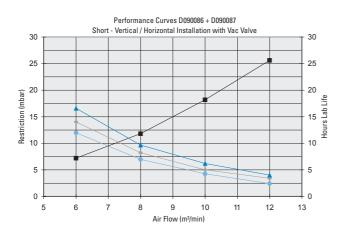


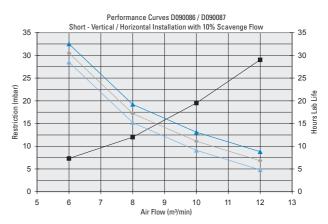
# **PSD Air Cleaner**

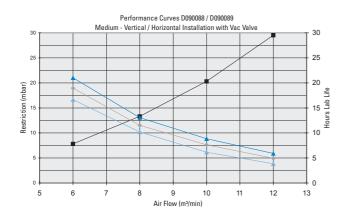


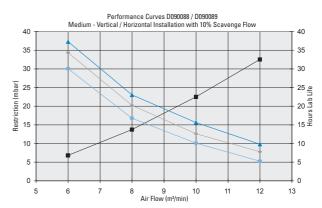


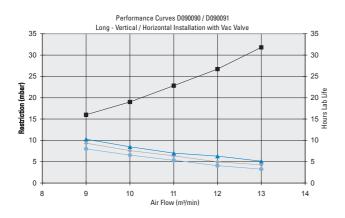
# **PSD 09 Performance Curves**

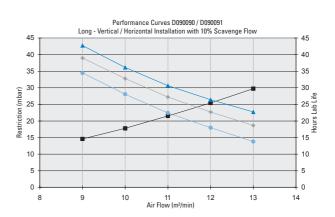








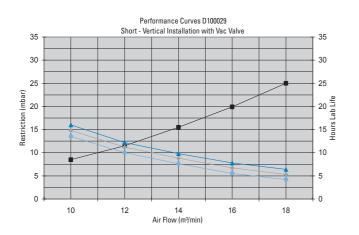


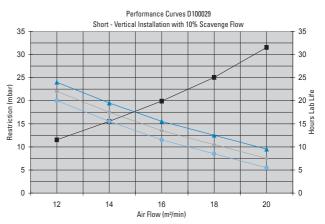


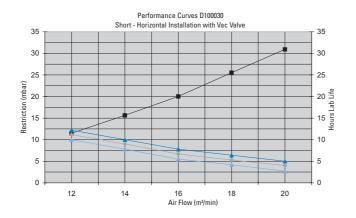


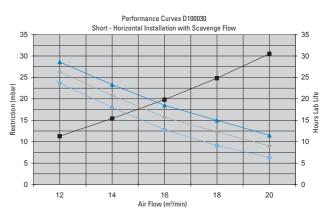


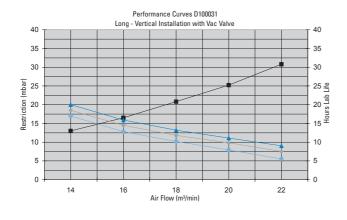
# **PSD 10 Performance Curves**

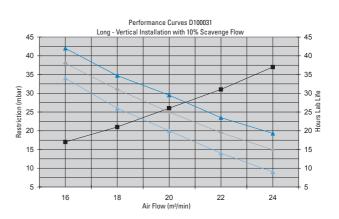












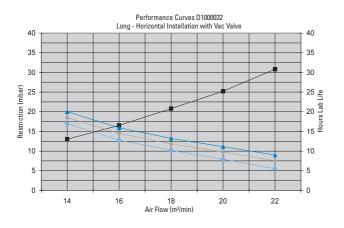


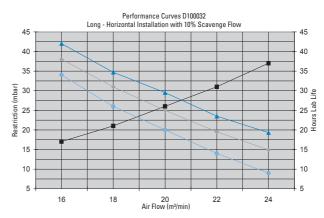
# **PSD Air Cleaner**

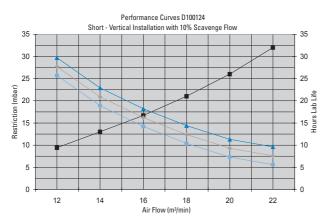


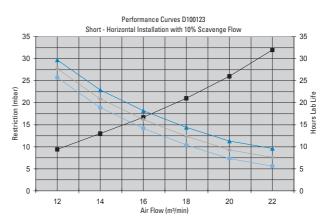


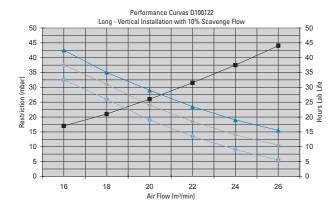
# **PSD 10 Performance Curves**

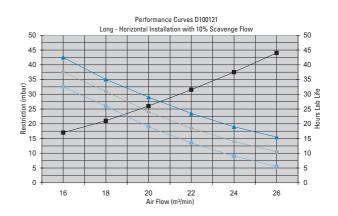








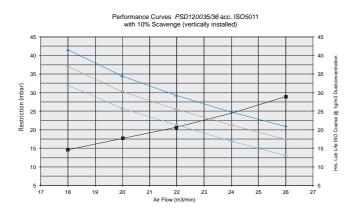


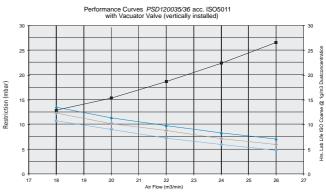


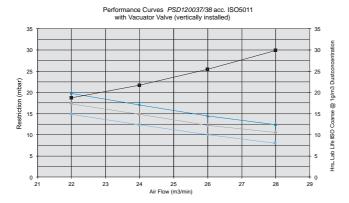


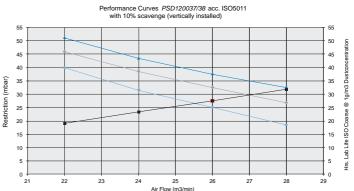


# **PSD 12 Performance Curves**











# **PSD Service Instructions**





Note: Your air cleaner service cover may be in a different position than shown.

PSD09, PSD10 or PSD12 Style

**PSD08 Style** 





Shut off engine. Unlatch and remove the housing service cover.







Remove primary filter. Pull the filter out of housing. On PSD09, PSD10, and PSD12 you must first loosen the filter gasket seal. Using the handle, push down on the filter to loosen the seal, which will tilt the filter to approximately a 5° angle.





Remove safety filter. Using the plastic handle on the face of the safety filter, pull the filter toward the center of the housing and remove. Note: A safety filter only needs to be replaced at every third primary air filter change.





Inspect the new filter before installing. Visually check for cuts, tears, or indentations on the sealing surfaces before installation. If any damage is visible, do not install.

# **PSD Service Instructions**

### PSD09, PSD10 or PSD12 Style

#### **PSD08 Style**





If replacing safety, using the plastic handle on the safety filter, slide the filter at an angle into the outlet side and push in place until the filter seats firmly and evenly within the housing. Note: On PSD09, PSD10 and PSD12 models, insert the safety filter tab into the positioning slot before pushing the filter in place.







**Insert the primary filter.** For PSD08, slide the filter into the housing until the gasket seats against the housing. For PSD09, PSD10 and PSD12, slide the filter down at approximately a 5° angle until it hits the end of the housing. Rotate the filter toward the outlet section to complete the seal.





Replace the service cover. On PSD08, tilt the service cover into place and secure latches. For the PSD09, PSD10 and PSD12, placed the service cover in position and fasten the latches. Note: If the cover doesn't seat, remove and re-check the filter position. The cover will be difficult to install if the filter isn't installed correctly.





Visually inspect your inlet and outlet connections. If your air cleaner has a Vacuator Valve, inspect the valve. Replace if any signs of wear or damage are visible.

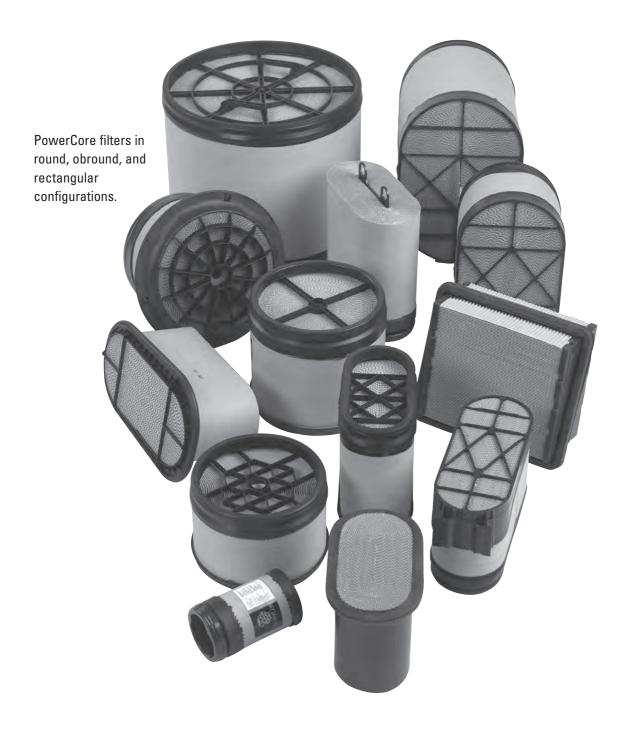
# Engine Protection in All Conditions

Like Never Before!



Innovative vehicle designs call for new engineering solutions plus know-how from your suppliers.

We have both — and are ready to help you solve your space or configuration problems.



# Air Cleaners used in Light Dust Conditions

... Donaldson offers a full line of air cleaners for a wide variety of applications and operating environments.

# **Section Index**

| DuraLite™ ECB, ECC, ECD       | . 38 |
|-------------------------------|------|
| DuraLite Service Instructions | 42   |
| EPB                           | 43   |
| EPB Service Instructions      | 48   |
| ERB2                          | . 43 |
| ERB2 Service Instructions     | 48   |

# DuraLite™ ECB, ECC, ECD Air Cleaner



# **Convenient DuraLite Disposables** Rugged Air Cleaners for Small and/or High Pulsation Gas & Diesel Engines

The DuraLite<sup>TM</sup> Air Cleaners are disposable, one-stage, dry air cleaners which are used on light-duty applications like air compressors, pumps, material handling equipment, propulsion units, breathers, welders, generator sets, lawn vehicles, recreation vehicles and many more. Ideal for high pulsating small engines.

Donaldson's DuraLite<sup>TM</sup> air cleaners are tough, non-metallic, lightweight, self-supporting and completely disposable. They are also easy to install, durable, and reliable.

They are designed to function well under high and severe pulsation conditions found in many applications, especially two- and three-cylinder engines. Vibration-resistant media is potted into molded housings of rugged ABS plastic - so they don't fall apart as other designs might.

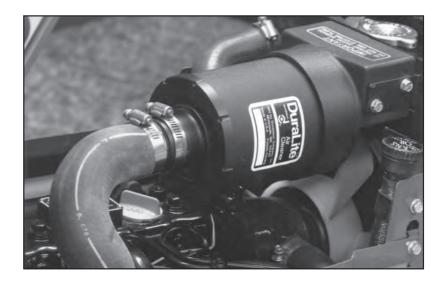


- Can be mounted vertically or horizontally.
- · Provides variety of airflow volumes to engine: from 1 to 90 m<sup>3</sup>/min.
- Temperature tolerance: to 83°C continuous / 105°C intermittent.



Donaldson recommends the use of a high torque clamp for DuraLite air cleaners. This clamp eliminates the need for

double clamping - order one for each DuraLite™ Air Cleaner. See page 120 for more information.





#### **Air Cleaner Features**

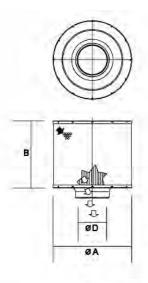
- No serviceable parts! Air cleaner housing and filter are one unit!
- · Designed to withstand severe intake pulsation.
- Economical replacement cost.
- · Self-supporting, sturdy.
- Very reliable: only one critical seal.
- · Lightweight and compact
- Non-metallic, non-corrosive... ideal for marine applications.

- Completely disposable... acceptable for normal trash pick-up (DuraLite<sup>™</sup> should not be incinerated).
- Easily installed & maintained.
- Minimal removal clearance needed: only 38 mm.
- Three airflow styles available to fit virtually any engine intake configuration.
- Various media available for specific applications: high pulsation, high humidity, etc....

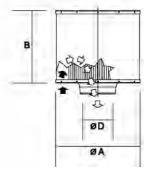


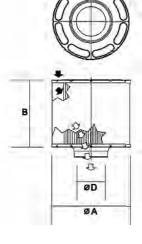
# **DuraLite™ ECB, ECC, ECD Air Cleaner**

# **DuraLite™ Specifications**









| Curve No. | Style | Air Cleaner<br>Model No. | Airflow Range<br>m³/min. | Dimensions<br>(mm) |     | s<br>D |
|-----------|-------|--------------------------|--------------------------|--------------------|-----|--------|
|           |       |                          |                          | A                  | В   | U      |
| 1         | ECB   | B085001                  | 6 - 12                   | 216                | 279 | 76     |
| 1         | ECB   | B085048**                | 6 - 12                   | 216                | 279 | 76     |
| 2         | ECB   | B085011                  | 7 - 14                   | 216                | 279 | 102    |
| 2         | ECB   | B085046**                | 7 - 14                   | 216                | 279 | 102    |
| 3         | ECB   | B085056**                | 27 - 49                  | 196                | 260 | 152    |
| 4         | ECB   | B100094**                | 15 - 27                  | 267                | 228 | 102    |
| 5         | ECB   | B105002*                 | 16 - 30                  | 267                | 381 | 127    |
| 6         | ECB   | B105006                  | 13 - 25                  | 267                | 267 | 102    |
| 7         | ECB   | B105012**                | 18 - 36                  | 267                | 381 | 127    |
| 8         | ECB   | B120376**                | 30 - 90                  | 318                | 400 | 198    |
| 9         | ECB   | B125003*                 | 16 - 31                  | 318                | 381 | 153    |
| 10        | ECB   | B125005**                | 25 - 42                  | 318                | 229 | 140    |
| 11        | ECB   | B125011**                | 22 - 39                  | 318                | 228 | 127    |

| Curve No. | Style | Air Cleaner<br>Model No. | Airflow Range<br>m³/min. | Dimensions<br>(mm) |     | S   |
|-----------|-------|--------------------------|--------------------------|--------------------|-----|-----|
|           |       |                          |                          | Α                  | В   | D   |
| 12        | ECC   | C045001*                 | 1 - 3                    | 114                | 114 | 38  |
| 13        | ECC   | C045002*                 | 2 - 3                    | 114                | 203 | 38  |
| 14        | ECC   | C055002*                 | 2 - 4                    | 140                | 178 | 45  |
| 15        | ECC   | C055003*                 | 1,5 - 3                  | 140                | 102 | 45  |
| 16        | ECC   | C055008*                 | 2 - 4                    | 140                | 242 | 45  |
| 17        | ECC   | C065001*                 | 2 - 3                    | 165                | 102 | 51  |
| 18        | ECC   | C065002*                 | 3 - 5                    | 165                | 190 | 51  |
| 19        | ECC   | C065003*                 | 2,5 - 5                  | 165                | 127 | 57  |
| 20        | ECC   | C065004*                 | 3 - 6                    | 165                | 229 | 57  |
| 21        | ECC   | C065015**                | 3 - 6                    | 165                | 229 | 51  |
| 22        | ECC   | C085001*                 | 3 - 5                    | 216                | 102 | 64  |
| 23        | ECC   | C085002*                 | 3 - 6                    | 216                | 165 | 64  |
| 24        | ECC   | C085003*                 | 4 - 7                    | 216                | 127 | 76  |
| 25        | ECC   | C085004*                 | 5 - 10                   | 216                | 241 | 76  |
| 26        | ECC   | C085005*                 | 3 - 5                    | 216                | 127 | 64  |
| 27        | ECC   | C085006*                 | 3,5 - 6,5                | 216                | 241 | 64  |
| 28        | ECC   | C105003                  | 9 - 17                   | 267                | 152 | 102 |
| 29        | ECC   | C105004                  | 10,5 - 20                | 267                | 267 | 102 |
| 30        | ECC   | C125003                  | 10 - 19                  | 317                | 152 | 127 |
| 31        | ECC   | C125004                  | 14 - 26,5                | 317                | 279 | 127 |

| Curve No.              | Style | Air Cleaner<br>Model No. | Airflow Range<br>m³/min. | Dimensions<br>(mm) |     | 5   |  |  |
|------------------------|-------|--------------------------|--------------------------|--------------------|-----|-----|--|--|
|                        |       |                          |                          | Α                  | В   | D   |  |  |
| 32                     | ECD   | D045003*                 | 1 - 3                    | 114                | 114 | 38  |  |  |
| 33                     | ECD   | D045004*                 | 1 - 3                    | 114                | 152 | 38  |  |  |
| 34                     | ECD   | D055004*                 | 2 - 3,5                  | 140                | 178 | 45  |  |  |
| 35                     | ECD   | D065003*                 | 2 - 3                    | 165                | 102 | 51  |  |  |
| 36                     | ECD   | D065008**                | 3,5 - 7                  | 165                | 229 | 51  |  |  |
| 37                     | ECD   | D085011                  | 8 - 15,5                 | 197                | 655 | 106 |  |  |
| 38                     | ECD   | D085012                  | 2,5 - 7,5                | 197                | 258 | 106 |  |  |
| 39                     | ECD   | D125004                  | 12 - 23                  | 317                | 279 | 127 |  |  |
| * High pulsation media |       |                          |                          |                    |     |     |  |  |

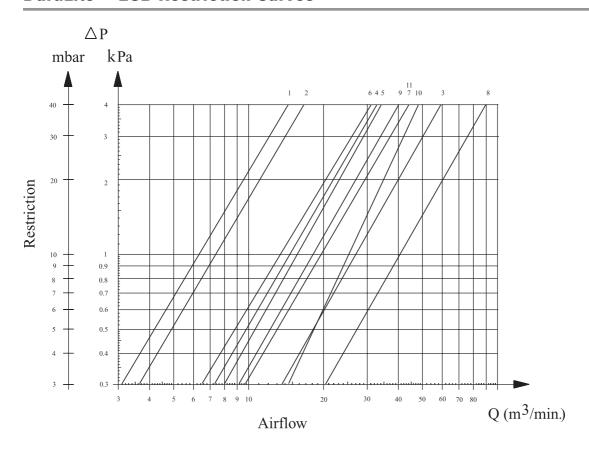
### DuraLite™ ECB, ECC, ECD Air Cleaner



### When specifying an Air Cleaner...

Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar - indicate the approximate initial restriction of each model air cleaner at that m³/min. If there are two air cleaner models that fit your paramaters, choosing the one with the lowest restriction will provide the longest service life. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc.

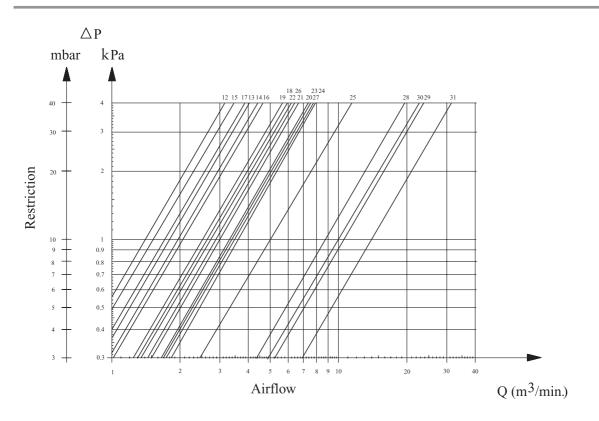
### **DuraLite™ ECB Restriction Curves**



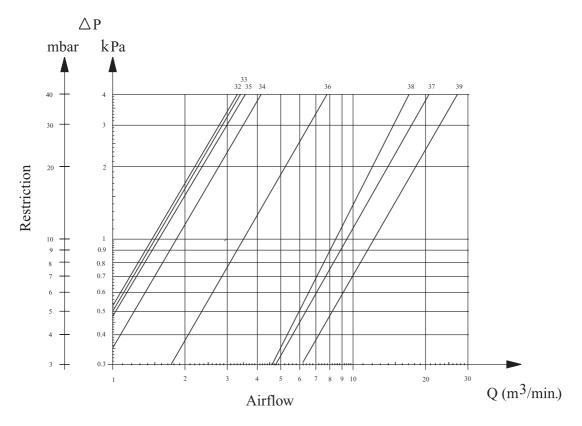


### DuraLite™ ECB, ECC, ECD Air Cleaner

### **DuraLite™ ECC Restriction Curves**



### **DuraLite™ ECD Restriction Curves**



### DuraLite™ ECB, ECC, ECD **Service Instructions**



### Service Recommendations

### **Servicing Intervals**

Choose either of two types:

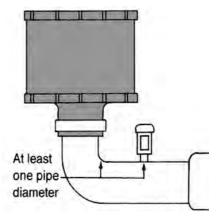
- Scheduled maintenance. DuraLite service intervals can be integrated into any existing maintenance program.
- Restriction Maintenance. This method offers the most accurate filter maintenance program, delivering maximum filter life at 99.9% efficiency, less machine downtime, and reduced maintenance costs.
- Washing, cleaning or servicing the filter in any way voids the warranty.

### **Service Indicator Location**

For proper restriction readings, a restriction fitting tap must be located between the engine intake and DuraLite outlet neck. The tap should be located in a straight section of the intake pipe at least one pipe diameter away from the manifold or any bends, elbows or reducers.

### **Servicing Tips**

- Do NOT judge the filter on the basis of visual inspection! If it's doing its job, it should look dirty. DuraLite filter life is longer than you may think. Change the filter only when restriction readings indicate.
- Do NOT leave the inlet ducting exposed any longer than necessary (a few minutes) during service.



### Disposal

Normal trash pick up is acceptable - never burn.

### Installation Instructions

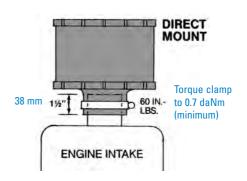
### Installation

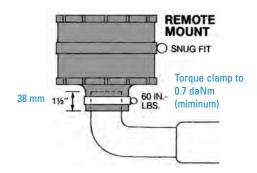
DuraLite air cleaners can be mounted in two ways:

- 1. Direct Mount: mounted directly on the intake manifold.
- 2. Remote Mount: mounted away from engine and connected to engine with inlet piping.

### **Installation Tips**

- Engage outlet neck of the DuraLite<sup>™</sup> over intake piping for a full 38 mm to insure a secure, lasting seal.
- Tighten clamp around outlet neck to 0.7 daNm minimum. A Donaldson high torque hose clamp is recommended.
- On remote mount style, avoid crushing the body with body clamps. A snug fit is best, and body clamps are not always required.
- Keep away from engine manifold and other very hot components (DuraLite™ is rated at 83°C maximum sustained temperature).
- Keep away from battery acids, brake fluid, and other caustic fluids.







## Primary Dry RadialSeal™ Air Cleaners which offer improved reliability and durability, reduced weight and costs and better serviceability.

The EPB-ERB2 Primary Dry RadialSeal<sup>TM</sup> Air Cleaners are used on light-duty applications like on-highway vehicles, stand-by generator sets and all other light-duty applications. They are also used on medium- and heavy-duty applications but than always combined with a Pre-Cleaner.

For more details on EPB-ERB2 Air Cleaners with Pre-Cleaners operating in Medium Dust conditions see page 60-63 and in Heavy Dust conditions see page 93-96.



The EPB Air Cleaner is a one-stage full-plastic air cleaner



The ERB2 Air Cleaner is a one-stage hybrid air cleaner. It is the Next Generation ERB Air Cleaner Product featuring Donaldson's Unique Design Concept. For more details on this UDC Feature, see page 7.

### **Applications EPB-ERB2**

- Can be mounted vertically or horizontally
- Provides variety of airflow volumes to engine: from 2 to 65 m<sup>3</sup>/min.
- Temperature tolerance: to 83°C continuous / 105°C intermittent.

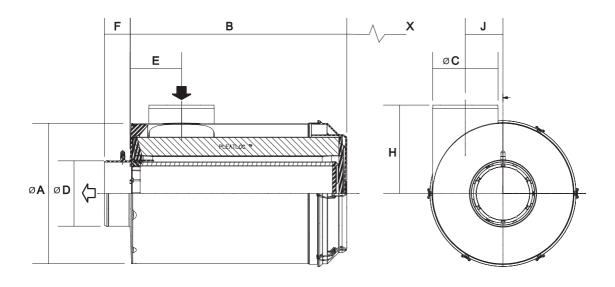
### **Features EPB-ERB2**

- Cost effective / Compact and light
- Flexible installation / Conquers underhood space limitations
- Reliable, durable, high-tech and easy to service design
- Proven RadialSeal™ Technology
- Pre-cleaner can be added / Tapped for restriction indicator as standard
- Filter inside air cleaner is different from filters with metal end caps
- One-piece molded end caps encase the ends of media and filter liners
- Filter fits over the housing outlet tube, creating a reliable seal with no hassle of separate sealing gaskets
- Indicator thread size = 1/8-27NPT (MALE)

### **EPB - ERB2 Air Cleaner**



### **EPB Specifications - Service Parts**

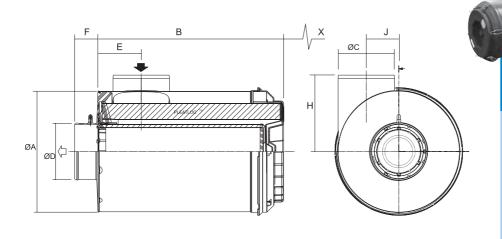


| Air Cleaner                 |         |     |         | Rang  | e Dimer | sions  | (mm)  |       |         |      |       |
|-----------------------------|---------|-----|---------|-------|---------|--------|-------|-------|---------|------|-------|
| Model No.                   | m³/min. | Α   | В       | C     | D       | Е      | F     | Н     | J       | Х°   | Z°°   |
| B070005*                    | 2 - 5   | 182 | 334     | 76    | 76      | 45     | 27    | 115   | 145     | 340  | 45    |
| B080067*                    | 4 - 7   | 210 | 355     | 95    | 89      | 54     | 31,5  | 130   | 146     | 355  | 110   |
| * Includes s<br>X° Free spa | •       |     | /e main | eleme | ent Z°° | ° Free | space | neede | d to re | move | cover |

|                 |           | Service Parts | 5               |                |          |
|-----------------|-----------|---------------|-----------------|----------------|----------|
| Air Cleaner     | Main      | Safety        | Access          | Raincap        | Mounting |
| Model No.       | Element   | Element       | Cover Assy*     |                | band**   |
| B070005         | P772579   | P775300       | P778758         | H001379        | P777731  |
| B080067         | P772580   | P775302       | P775305         | H770010        | P777732  |
| * Spare Part on | y ** Only | y one mountin | g band needed p | er Air Cleaner |          |



### **ERB2 Specifications - Service Parts**



UNIQUE DESIGN

Replaces

### ERB2 **ERB Air Cleaners**

| B100126 | B100120 |
|---------|---------|
| B130057 | B130010 |
| B130058 | B130013 |
| B150058 | B150025 |
| B150059 | B150028 |
| B180016 | B180011 |
| B180017 | B180012 |

| Air Cleaner | Airflow |     |     | Range | e Dime | nsions | (mm) |     |     |     |     |
|-------------|---------|-----|-----|-------|--------|--------|------|-----|-----|-----|-----|
| Model No.   | m³/min. | Α   | В   | С     | D      | E      | F    | Н   | J   | Χ°  | Z°° |
| B100126*    | 8 - 14  | 259 | 430 | 114   | 102    | 143    | 52   | 205 | 0   | 400 | 75  |
| B130057     | 18 - 30 | 330 | 530 | 178   | 152    | 180    | 58   | 215 | 0   | 360 | 95  |
| B130058*    | 18 - 28 | 330 | 530 | 178   | 152    | 180    | 58   | 215 | 0   | 360 | 95  |
| B150058*    | 18 - 32 | 381 | 590 | 178   | 178    | 136    | 70   | 241 | 102 | 540 | 93  |
| B150059     | 18 - 32 | 381 | 590 | 178   | 178    | 136    | 70   | 241 | 102 | 540 | 93  |
| B180016     | 32 - 65 | 457 | 650 | 254   | 203    | 282    | 85   | 328 | 0   | 600 | 130 |
| B180017*    | 32 - 65 | 457 | 650 | 254   | 203    | 282    | 85   | 328 | 0   | 600 | 130 |
|             |         |     |     |       |        |        |      |     |     |     |     |

| $\mathbf{a}$ |            |     |              |    | $\overline{}$ |   |     |
|--------------|------------|-----|--------------|----|---------------|---|-----|
| V.           | $\alpha r$ | W   | $\mathbf{c}$ | Δ. | ч             | 9 | rts |
| TO I         | <b>G</b> I | v i | ч.           | ₩. |               | ш |     |

| ERB2<br>Air Cleaner | Main<br>Element | Kit Number• | Access<br>Cover Assy* | Raincap | Mounting<br>band** |
|---------------------|-----------------|-------------|-----------------------|---------|--------------------|
| B100126             | P785388         | X770685     | P784954               | H770012 | P004076            |
| B130057             | P785610         | -           | P783693               | H770089 | P013722            |
| B130058             | P785610         | X770686     | P783693               | H770089 | P013722            |
| B150058             | P785426         | X770687     | P784869               | H770089 | P016845            |
| B150059             | P785426         | -           | P784869               | H770089 | P016845            |
| B180016             | P785394         | -           | P785546               | H770082 | H770037            |
| B180017             | P785394         | X770688     | P785546               | H770082 | H770037            |

- \* Spare Part only \*\* Two mounting bands needed per Air Cleaner
- Safety element can only be bought as a kit meaning together with the main element

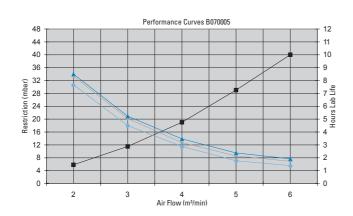
### **EPB - ERB2 Air Cleaner**

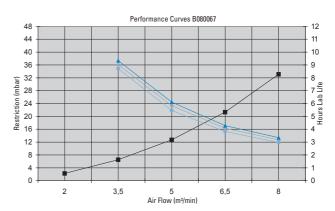


### When specifying an Air Cleaner...

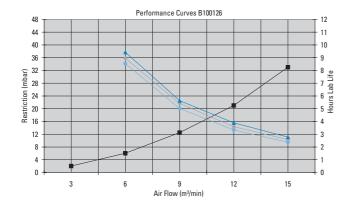
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

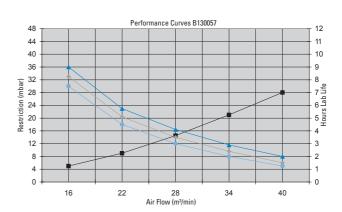
### **EPB Performance Curves**





### **ERB2 Performance Curves**

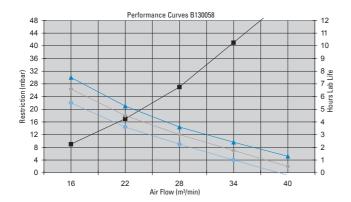


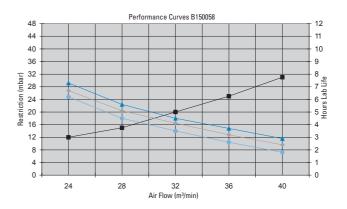


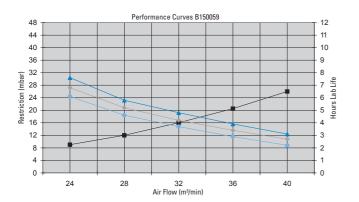


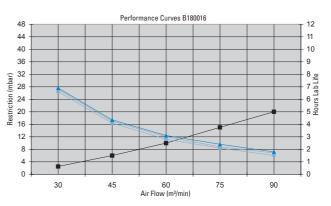


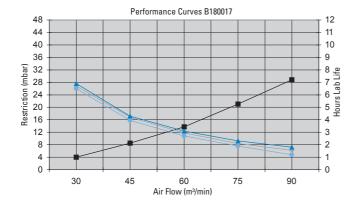
### **ERB2 Performance Curves**













### **EPB-ERB2 Service Instructions**



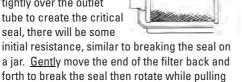
### Remove the Filter

Unfasten or unlatch the service cover.

housing.



Rotate the filter while pulling straight out. Because the filter fits tightly over the outlet seal, there will be some



straight out. Avoid knocking the filter against the

If your air cleaner has a safety filter, replace it every third primary filer change. Remove the safety filter as you would the primary filter. Make sure you cover the air cleaner outlet tube to avoid any unfiltered contaminant dropping into the engine.

## Clean Both Surfaces of the Outlet Tube and Check the Vacuator Walve

Use a clean cloth to wipe the filter sealing surface and the inside of the outlet tube. Contaminant on the sealing surface could hinder an effective seal and cause leakage. Make sure that all contaminant is removed before the new filter is inserted. Dirt accidently transferred to the inside of the outlet tube will reach the engine and cause wear. Engine manufacturers say that it takes only a few grams of dirt to "dust" an engine! Be careful not to damage the sealing area on the tube.

Wipe both

sides of the outlet tube clean



Outer edge of the outlet tube



Inner edge of the outlet tube

### If your air cleaner is equipped with a Vacuator Valve

Visually check and physically squeeze to make sure the valve is flexible and not inverted, damaged or plugged.



### Inspect the Old **Filter for Leak Clues**

Visually inspect the old filter for any signs of leaks. A streak of dust on the clean side of the filter is a telltale sign. Remove any cause of leaks before installing new filter.



### **Inspect the New Filter for Damage**

Inspect the new filter carefully, paying attention to the inside of the open end, which is the sealing area. NEVER install a damaged filter. A new Donaldson radial seal filter may have a dry lubricant on the seal to aid installation.



### **Insert the New Radial Seal Filter Properly**

If you're servicing the safety filter, this should be seated into position before installing the primary filter.

Insert the new filter carefully. Seat the filter by hand, making certain it is completely into the air cleaner housing before securing the cover in place.



The critical sealing area will stretch

slightly, adjust itself and distribute the sealing pressure evenly. To complete a tight seal, apply pressure by hand at the outer rim of the filter, not the flexible center. Avoid pushing on the center of the urethane end cap. No cover pressure is required to hold the seal. NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.

If the service cover hits the filter before it is fully in place, remove the cover and push the filter (by hand) further into the air cleaner and try again. The cover should go on with no extra force.

Once the filter is in place, secure the service cover.



NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.



### **Check Connectors for Tight Fit**

Make sure that all mounting bands, clamps, bolts, and connections in the entire air cleaner system are tight. Check for holes in piping and repair if needed. Any leaks in your intake piping will send dust directly to the engine!

# **Medium Dust Conditions**

## Air Cleaners used in Medium Dust Conditions

... Donaldson offers a full line of air cleaners for a wide variety of applications and operating environments.

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UNIQUE DESIGN

### **FKB Air Cleaner**



## Smaller, Lightweight Alternative Two-Stage Air Cleaner Designed for horizontal installation

The FKB series is a family of twostage air cleaners for medium dust conditions.

Compared to other air cleaner styles, this new air cleaner family delivers the performance of competitive larger air cleaners in a compact, rugged design.

With heavy-duty plastic construction and non-metal filters, the air cleaner is lighter, more efficient and easier to install and replace than competing products.

Another key design feature is the built-in mounting brackets. There's no need for additional mounting support.

The two stage design features a built-in pre-cleaner that separates up to 85% of airborne contaminants.



The FKB's plastic housing and durable construction enables installation in all types of mediumdust environments with engine air flow from 2 - 10 m³/min.

FKB air cleaners effectively reduce contaminants flowing into the air intake system, provide a

high level of engine protection from harmful contaminants and increase engine performance and fuel efficiency.

The air cleaner models ship with both the main and safety filters.





## Built-in Mounting Brackets and Filter Indicator Port Easy to service with non-metal filters

### **Applications**

- Off-road equipment operating in medium-dust conditions with engine airflow range of 2 to 10 m³/min.
- Installs horizontally. In case engine mount is required, contact Donaldson Representative.
- Sustained temperature tolerance: to 82°C. Do not install next to components that exceed the maximum temperature (82°C); like a turbocharger, muffler, exhaust pipe or other high temperature component



Filter changeout is a snap with minimal service clearance required

### **Air Cleaner Features**

- Smaller in diameter compared to competitive brands with similar airflow
- Improved handling and maintenance: lighter and smaller, changing filters is a snap
- Product design includes:
  - main filter
  - safety filter
  - filter service indicator port
- Improved filter disposal ease: no metal
- Cover latch position allows for minimum service clearance and eases filter service
- Mounting brackets built-in to air cleaner body eliminating need for mounting bands
- Indicator thread size = 1/8-27NPT (MALE)

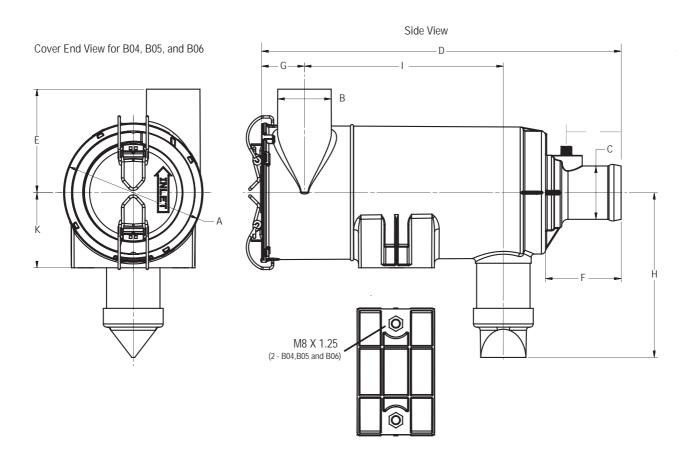


Unique Twist & Lock Filter ensure proper positioning during filter service. Air cleaners assemblies include main and safety filters.

### **FKB Air Cleaner**



### **FKB Specifications - Service Parts**



| Airflow |  |                                |  | Rang  | e Dime  | nsions  | (mm)  |   |   |   |   |
|---------|--|--------------------------------|--|---|---|---|---|---|---|---|---|
| m³/min. | Α                                      | В                              | С                                      | D   | E   | F   | G   | Н   | - 1   | J   | K   |
| 2 - 3   | 133                                    | 51                             | 51                                     | 342   | 99  | 72  | 41  | 157   | 189   | 52  | 72  |
| 3 - 4   | 152                                    | 64                             | 64                                     | 404   | 99  | 73  | 49  | 157   | 244   | 52  | 77  |
| 4 - 6   | 180                                    | 76                             | 76                                     | 408   | 120   | 73  | 53  | 188   | 241   | 52  | 90  |
|         | m <sup>3</sup> /min.<br>2 - 3<br>3 - 4 | m³/min. A  2 - 3 133 3 - 4 152 | m³/min. A B  2 - 3 133 51 3 - 4 152 64 | m³/min.     A     B     C       2 - 3     133     51     51       3 - 4     152     64     64 | m³/min.         A         B         C         D           2 - 3         133         51         51         342           3 - 4         152         64         64         404 | m³/min.         A         B         C         D         E           2 - 3         133         51         51         342         99           3 - 4         152         64         64         404         99 | m³/min.         A         B         C         D         E         F           2 - 3         133         51         51         342         99         72           3 - 4         152         64         64         404         99         73 | m³/min.         A         B         C         D         E         F         G           2 - 3         133         51         51         342         99         72         41           3 - 4         152         64         64         404         99         73         49 | m³/min.         A         B         C         D         E         F         G         H           2 - 3         133         51         51         342         99         72         41         157           3 - 4         152         64         64         404         99         73         49         157 | m³/min.         A         B         C         D         E         F         G         H         I           2 - 3         133         51         51         342         99         72         41         157         189           3 - 4         152         64         64         404         99         73         49         157         244 | m³/min.         A         B         C         D         E         F         G         H         I         J           2 - 3         133         51         51         342         99         72         41         157         189         52           3 - 4         152         64         64         404         99         73         49         157         244         52 |

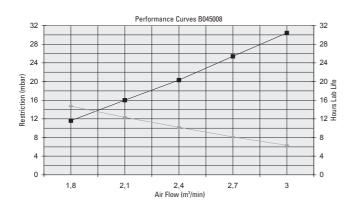
|                          |                 | Service I         | Parts                |                    |
|--------------------------|-----------------|-------------------|----------------------|--------------------|
| Air Cleaner<br>Model No. | Main<br>Element | Safety<br>Element | Access<br>Cover Assy | Vacuator™<br>Valve |
| B045008                  | P604457         | P603729           | P606497              | P158914            |
| B055006                  | P609218         | P602427           | P609219              | P158914            |
| B065045                  | P609221         | P608599           | P608592              | P158914            |

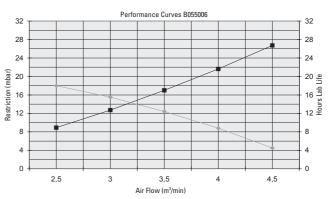


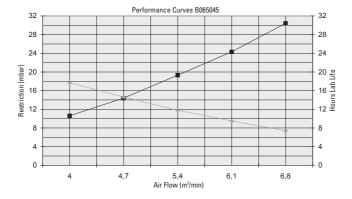
### When specifying an Air Cleaner...

Determine the Airflow Requirements of your engine, then find the corresponding  $m^3$ /min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that  $m^3$ /min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

### **FKB Performance Curves**









### **FKB Service Instructions**



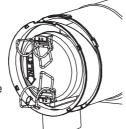
### Installation Recommendations

- Shut off your engine.
- Air cleaner orientation is horizontal, with the drop tube pointing down within +/- 15°. For service clearance, allow the entire length of the filter for removal and 35mm for service cover latches.
- Mounting is M8 x 1,25 with a maximum torque of 20,34 Nm.
- Connections: Inlet/Outlet maximum torque 4.52 Nm Indicator port maximum torque 2 Nm.
- Inlet accessory note: The air cleaner housing can accommodate a lightweight inlet hood, but not a pre-cleaner or any other accessory. Use of an unapproved intake accessory will void your Donaldson warranty.

### Service Instructions

Shut off your engine

Remove service cover Unlatch and remove the service cover. To remove the primary filter, press and rotate filter counterclockwise until filter is free.



Remove the filter Gently pull the filter out of housing. Avoid dislodging contaminant from the filter or knocking it against the housing.



Clean the inside surface

With a soft rag, thoroughly clean the inside surface of the housing. Be careful not to introduce contaminant into the outlet tube.

**Check the safety filter** Check safety filter for damage. If damaged, replace. Also check to insure that the safety filter is properly seated in the housing. It should fit snugly inside the outlet tube.



Inspect the new primary filter

Inspect the new main filter carefully. Check for any voids, cuts, tears or indentations in the urethane-sealing surfaces.

Install the new filter

Install new filter by pressing and rotating the filter clockwise until fully engaged to stop.

Replace the cover

Replace the service cover. The "INLET" arrow should line up with the air cleaner inlet. DO NOT force cover onto air cleaner. The cover should go on with no extra force. If cover is not flush to the body, the filter is not properly seated in the housing.

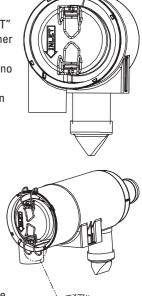


Refasten latches to secure cover. Make sure that latches penetrate the slots in both the body and the cover.

Inspect

Inspect and torque all clamps, bolts and connections in the entire air intake system. Check for holes in piping, and repair if needed. If Vacuator Valve is damaged replace.

**Restart the engine** 





## Compact, Radial Seal, Medium-Duty Air Cleaner Designed for horizontal installation



Compared to other air cleaner styles, this new air cleaner family is smaller in size compared to competitive models with similar airflow operating ranges.

XRB air cleaners effectively reduce contaminants flowing into the air intake system, provide a high level of engine protection from harmful contaminants and increase engine performance and fuel efficiency.

The XRB's plastic housing and durable construction enables installation in medium-dust environments with engine airflow from 7,5 to 18 m³/min.

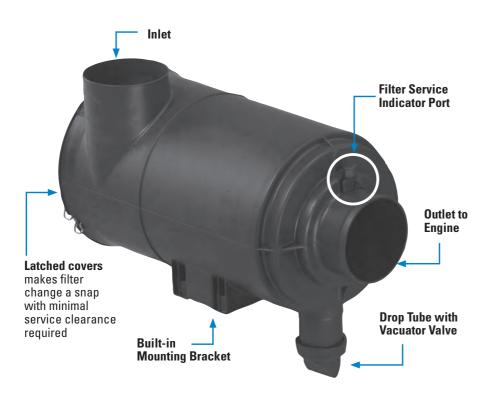
The B080080 has non-metal main and safety filters. The main filters for the B100127 and B120420 have metal outer liners. The air cleaner models ship with both the main and safety filters.

Like our FKB and PSD models, these air cleaners feature built-in mounting brackets. There's no need for additional mounting support.

### **XRB Air Cleaner**



### **Built-in Mounting Brackets and Filter Indicator Port** Easy to service with non-metal filters



### **Applications**

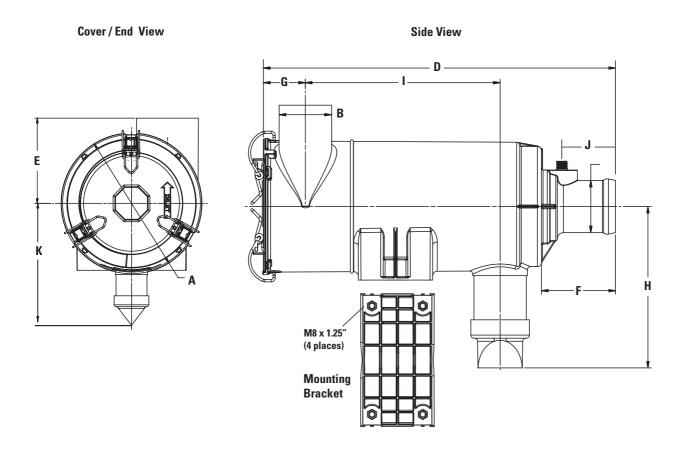
- · Off-road equipment operating in medium-dust conditions with engine airflow range of 7,5 to 18 m<sup>3</sup>/min.
- Installs horizontally. In case engine mount is required contact your Donaldson Representative.
- Sustained temperature tolerance: to 82°C. Do not install next to components that exceed the maximum temperature (82°C); like a turbocharger, muffler, exhaust pipe or other high temperature component

### **Air Cleaner Features**

- Smaller in diameter compared to competitive brands with similar airflow
- Improved handling and maintenance: lighter and smaller, changing filters is a snap
- Product design includes:
  - main filter
  - safety filter
  - filter service indicator port
- Cover latch position allows for minimum service clearance and eases filter service
- Mounting brackets built-in to air cleaner body eliminating need for mounting bands
- Indicator thread size = 1/8-27NPT (MALE)



### **XRB Specifications - Service Parts**



| Air Cleaner | Airflow   |     |     |     | Rang | e Dime | nsion | s (mm) |     |     |    |     |
|-------------|-----------|-----|-----|-----|------|--------|-------|--------|-----|-----|----|-----|
| Model No.   | m³/min.   | Α   | В   | С   | D    | E      | F     | G      | Н   | - 1 | J  | K   |
| B080080     | 7,5 - 10  | 231 | 102 | 102 | 425  | 140    | 61    | 80     | 198 | 375 | 40 | 110 |
| B100127     | 9 - 13,5  | 287 | 127 | 114 | 565  | 198    | 72    | 88     | 225 | 493 | 50 | 145 |
| B120470     | 13,5 - 18 | 330 | 152 | 128 | 601  | 218    | 71    | 100    | 245 | 526 | 50 | 165 |

|             |               | Service | Parts      |           |
|-------------|---------------|---------|------------|-----------|
| Air Cleaner | Main          | Safety  | Access     | Vacuator™ |
| Model No.   | Element       | Element | Cover Assy | Valve     |
| B080080     | P611190 •     | P611189 | P605731    | P158914   |
| B100127     | P611539 *     | P611540 | P609942    | P158914   |
| B120470     | P608116 *     | P608391 | P608117    | P158914   |
| • Non Metal | * Metal Liner |         |            |           |

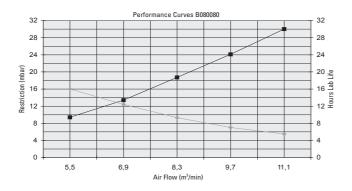
### **XRB Air Cleaner**

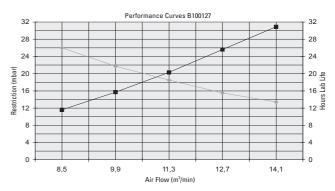


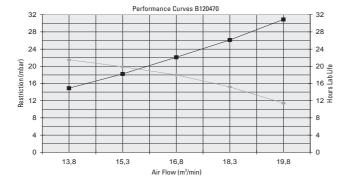
### When specifying an Air Cleaner...

Determine the Airflow Requirements of your engine, then find the corresponding m<sup>3</sup>/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

### **XRB Performance Curves**









All performance curves are according ISO 5011 standards - Restriction measured at Piezo All tests are done with ISO Coarse at Dust Concentration of 1g/m<sup>3</sup>

### **Installation Recommendations**

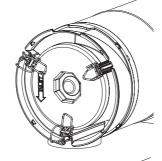
- Air cleaner orientation is horizontal, with the drop tube pointing down within +/- 15°. For service clearance, allow the entire length of the filter for removal and 35 mm for service cover latches.
- Mounting is M8 x 1,25 with a maximum torque of 20,34 Nm.
- Connections: Inlet/Outlet maximum torque 4.52 Nm.
- Inlet accessory note: The air cleaner housing can accommodate a lightweight inlet hood, but not a pre-cleaner or any other accessory. Use of an unapproved intake accessory will void your Donaldson warranty.
- Filter Service Indicator port arrives with plug/cap. Order filter service indicator separately. See accessories section. Indicator port maximum torque 2 Nm.

### **XRB Service Instructions**

### Shut off your engine

## Unlatch and remove

Unlatch and remove the service cover to access the main filter. Gently move the end of the filter back and forth to break the seal.



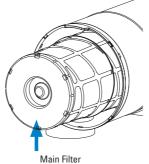
### Remove the filter

The main filter makes such a tight seal, that you will encounter some initial resistance when trying to remove it. To break the seal, grab the end of the filter and gently move the filter back and forth and pull it out of the housing.



Avoid dislodging contaminant from the filter

or knocking it against the housing.



### Clean the inside surface

Using a soft rag, remove all the dust and debris from the inside surface of the housing. Be careful not to introduce contaminant into the outlet tube

APPLICATION Failure to do so may cause contaminant to be introduced to the seal area of the main filter during reinstallation, causing

a leak. Leaks result in higher restriction on the safety filter and shorter filter life.

### Check the safety filter. Replace every third primary filter change

The safety filter should be changed every third primary filter change out.

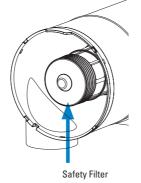


If the safety is not installed properly, it may attach itself to

the primary filter upon removal.

Dust from the main filter may be evident on the safety filter. This is normal. At each 1st and 2nd primary filter change, check safety filter for damage. If damaged, replace.

Also check to ensure the safety filter is properly seated in the housing. It should fit snugly inside the outlet tube. Continue pushing the filter into the outlet tube until it stops.



### Inspect the new main filter

Before installing a new main or safety filter, inspect it carefully. Visually check for any voids, cuts, tears or indentations in the urethane-sealing surface. If your check reveals damage, do NOT install the filter.

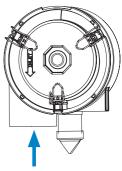
### Install the new filter

The critical sealing area will compress slightly, adjust itself and distribute the sealing pressure evenly. To complete a tight seal, apply pressure by hand at the outer rim of the filter, not the center.

### Replace the cover & refasten the latches

Replace the service cover. The "INLET" arrow should line up with the air cleaner inlet. DO NOT force cover onto air cleaner. The cover should go on with no extra force.

If cover is not flush to the body, the filter is not properly seated in the housing.



The "INLFT" arrow should line up with the air cleaner inlet.

Never use the service

cover to push the filter into place! Using the cover to push the filter could cause damage to the housing and

will void the warranty.

If the service cover hits the filter before it is fully in place, remove the cover and push the filter further into the housing and try again. The cover should go on with no extra force.

Refasten latches to secure cover. Make sure that latches penetrate the slots in both the body and the cover.

### **Inspect the intake system**

Inspect and torque all clamps, bolts and connections in the entire air intake system. Check for holes in piping, and repair if needed. If the Vacuator Valve is damaged, replace.

**Restart your engine** 

### **Recommended Main Filter Change Interval**

Change the main filter when the restriction level reaches your vehicle/engine manufacturer recommendation.

## **EPB - ERB2 Air Cleaner with Full-View Pre-Cleaner**



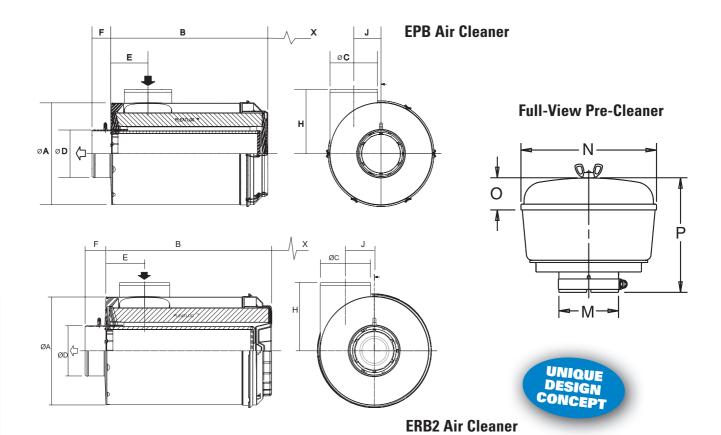
### **Specifications**



See page 131 for the Full-View Pre-Cleaners



See page 44-45 for EPB-ERB2 Service Parts



| Style   | Air<br>Cleaner | Airflow          |          |      | Dir | nensio | ons (m | m)   |     |     |     | Pre-    |     |     |    |     |
|---------|----------------|------------------|----------|------|-----|--------|--------|------|-----|-----|-----|---------|-----|-----|----|-----|
|         | Model No.      | Range<br>m³/min. | Α        | В    | С   | D      | Ε      | F    | Н   | J   | Х°  | Cleaner | M   | N   | 0  | Р   |
| EPB     | B070005        | 2 - 4            | 182      | 334  | 76  | 76     | 45     | 27   | 115 | 145 | 340 | H001249 | 77  | 187 | 42 | 158 |
| EPB     | B080067        | 4 - 7            | 210      | 355  | 95  | 89     | 54     | 31,5 | 130 | 146 | 355 | H000821 | 96  | 270 | 47 | 188 |
| ERB2    | B100126        | 7 - 12           | 259      | 430  | 114 | 102    | 143    | 52   | 205 | 0   | 400 | H000823 | 115 | 270 | 47 | 188 |
| ERB2    | B130058        | 15 - 26          | 330      | 530  | 178 | 152    | 180    | 58   | 215 | 0   | 360 | H002224 | 179 | 412 | 69 | 258 |
| ERB2    | B150058        | 18 - 32          | 381      | 590  | 178 | 178    | 136    | 70   | 241 | 102 | 540 | H002224 | 179 | 412 | 69 | 258 |
| X ° Fre | ee space neede | d to remove i    | main ele | ment |     |        |        |      |     |     |     |         |     |     |    |     |

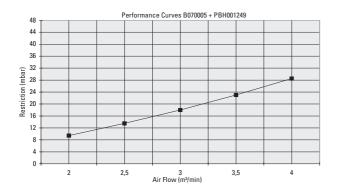


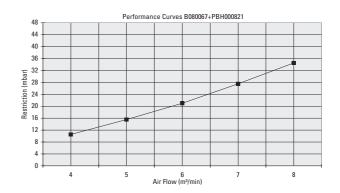
## **EPB - ERB2 Air Cleaner with Full-View Pre-Cleaner**

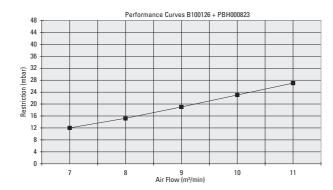
### When specifying an Air Cleaner...

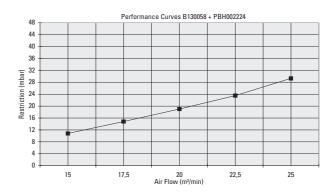
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar - indicate the approximate initial restriction of each model air cleaner at that m³/min. If there are two air cleaner models that fit your paramaters, choosing the one with the lowest restriction will provide the longest service life. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc.

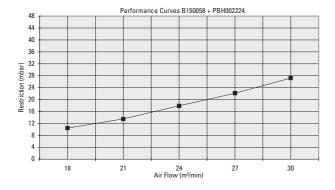
### **Restriction Curves**











Restr. A/c Piezo

## **EPB - ERB2 Air Cleaner with TopSpin Pre-Cleaner**



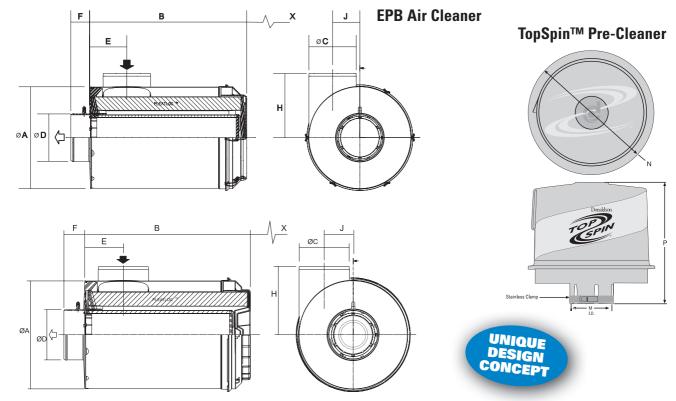
### **Specifications**



See page 132-133 for the TopSpin™ Pre-Cleaners



See page 44-45 for EPB-ERB2 Service Parts.



**ERB2 Air Cleaner** 

| Style   | Air                  | Airflow          |           | Dimensions (mm) |     |     |     |      |     |     |     |                 |     |     |     |
|---------|----------------------|------------------|-----------|-----------------|-----|-----|-----|------|-----|-----|-----|-----------------|-----|-----|-----|
|         | Cleaner<br>Model No. | Range<br>m³/min. | А         | В               | С   | D   | Е   | F    | Н   | J   | Χ°  | Pre-<br>Cleaner | M   | N   | Р   |
| EPB     | B070005              | 2 - 5            | 182       | 334             | 76  | 76  | 45  | 27   | 115 | 145 | 340 | H002437         | 77  | 162 | 146 |
| EPB     | B080067              | 4 - 7            | 210       | 355             | 95  | 89  | 54  | 31,5 | 130 | 146 | 355 | H002426         | 97  | 242 | 238 |
| ERB2    | B100126              | 7 - 12           | 259       | 430             | 114 | 102 | 143 | 52   | 205 | 0   | 400 | H002427         | 116 | 242 | 238 |
| ERB2    | B130058              | 15 - 26          | 330       | 530             | 178 | 152 | 180 | 58   | 215 | 0   | 360 | H002439         | 179 | 297 | 345 |
| ERB2    | B150058              | 18 - 32          | 381       | 590             | 178 | 178 | 136 | 70   | 241 | 102 | 540 | H002439         | 179 | 297 | 345 |
| X ° Fre | ee space neede       | d to remove i    | main elei | ment            |     |     |     |      |     |     |     |                 |     |     |     |

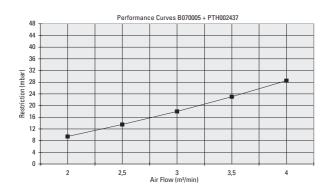


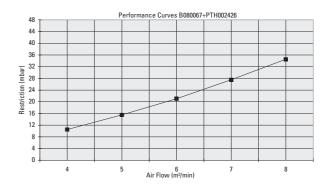
## **EPB - ERB2 Air Cleaner with TopSpin**TM Pre-Cleaner

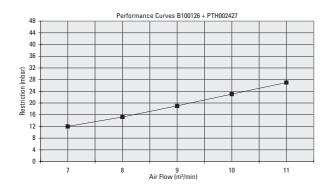
### When specifying an Air Cleaner...

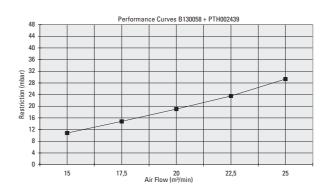
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar - indicate the approximate initial restriction of each model air cleaner at that m³/min. If there are two air cleaner models that fit your paramaters, choosing the one with the lowest restriction will provide the longest service life. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc.

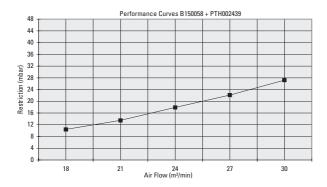
### **Restriction Curves**











Restr. A/c Piezo

### **FPG Air Cleaner**



## Advanced Sealing Technology in Compact Two-Stage Design For the Most Reliable Engine Protection

The FPG Air Cleaner series are two-stage full-plastic air cleaners with a built-in Pre-Cleaner and RadialSeal™ Sealing Technology. They are used on medium-duty applications line generator sets, agricultural tractors, bulldozers, drilling equipment, marine engines, trucks, loaders, backhoe, lifttruck, construction and industrial equipment. The FPG series offers improved reliability and durability with reduced weight and costs.

Ever since Donaldson developed the first air cleaner in 1915, we have worked closely with original equipment manufacturers to provide filtration solutions to meet changing design and specification requirements for diesel engines.

Because they are made of injection molded high-strength plastic, FPG air cleaners offer the flexibility to overcome space limitations for underhood air cleaners. Donaldson employs innovative plastic materials and production techniques that result in air cleaners that are corrosion-free and lighter in weight than traditional metal air cleaners - yet without sacrificing sturdiness. Our extensive vibration testing reveals this to be a more durable design than most metal air cleaners.



Despite its compact size, the FPG Air Cleaner offers complete engine air protection — removing 99.99+% of the dust and dirt particulate that enters the engine airstream.



The filter inside the air cleaner is also quite different from the traditional design: one-piece molded urethane endcaps encase the ends of the media and filter liners, eliminating the metal caps and plastisol potting compound that were traditionally used. The glued-on gasket found on conventional filters is gone – now, the inside surface of the open end is actually the radial sealing surface.



### **Small, Durable and Corrosion-Free** The World's Easiest to Service Air Cleaner

### **Applications**

- Provides up to 16 m<sup>3</sup>/min airflow per air cleaner - double throughput by using two units
- · Installation can be horizontal, vertical, or even at an angle (as long as Vacuator™ Valve points down)
- 4", 5", 7", & 10" diameter sizes
- Temperature tolerance: to 83°C sustained

(Do not install next to turbocharger, muffler, exhaust pipes, or other high-temp component.)

### **Air Cleaner Features**

- Easy to service! No tools needed! Usually done in 5 minutes or less!
- Durable plastic housing corrosion-free and lightweight
- · Two-stage air filtration! Built-in, tangential pre-cleaner ahead of primary filter removes up to 85% of incoming dust
- Choose 90° or straight outlet to fit your application
- Easy to fasten latches (no bolts!) retain dust cup/cover
- 45° Vacuator™ Valve orientation permits either vertical or horizontal air cleaner mounting (the dust cup can be incrementally rotated to suit specific application)
- Safety filter protects engine during in-field filter changeouts
- Already tapped to accept filter service indicator (see the Accessories section for indicator options)
- Indicator thread size = 1/8-27NPT (MALE)





### **Filter Features**

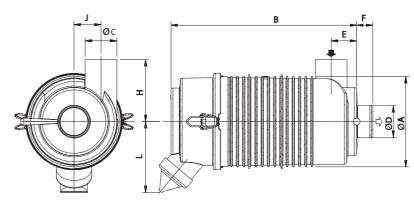
- Exclusive Radial Seal Sealing Technology means reliability and easy service - the filter is self-centering and self-aligning!
- One piece, molded urethane endcaps encase the filter media and liners - reducing components, adding reliability and lowering cost



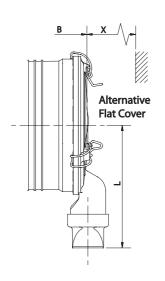
### **FPG Air Cleaner**

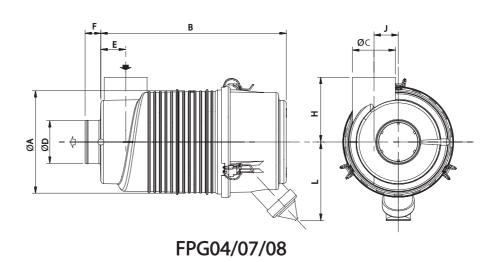


### **FPG Specifications**



FPG05





ØÇ FPG10



### **FPG Specifications - Service Parts**

| Air Cleaner | Airflow  |     | Dimensions (mm) |     |     |     |    |     |                    |              |        |       |     |     |     |     |
|-------------|--|-----|-----------------|-----|-----|-----|----|-----|--------------------|--------------|--------|-------|-----|-----|-----|-----|
| Model No.   | Range<br>m³/min.   | Α   | В               | С   | D   | Ε   | F  | Н   | J                  | L            | 0      | Р     | R   | S   | Т   | Χ°  |
| G042546 •   | 0,5 - 1  | 122 | 189             | 45  | 45  | 40  | 25 | 83  | 37                 | 105          | -      | -     | -   | -   | -   | 137 |
| G042575 * • | 0,5 - 1  | 122 | 189             | 45  | 45  | 40  | 25 | 83  | 37                 | 105          | -      | -     | -   | -   | -   | 137 |
| G057502 *   | 1 - 3  | 146 | 300             | 51  | 51  | 42  | 25 | 100 | 43,5               | 115          | -      | -     | -   | -   | -   | 300 |
| G057504     | 1 - 3  | 146 | 300             | 51  | 51  | 42  | 25 | 100 | 43,5               | 115          | -      | -     | -   | -   | -   | 300 |
| G057505 •   | 1 - 3  | 146 | 300             | 51  | 51  | 42  | 25 | 100 | 43,5               | 115          | -      | -     | -   | -   | -   | 300 |
| G070006 *   | 2 - 5  | 182 | 330             | 76  | 76  | 45  | 27 | 115 | 43                 | 138          | -      | -     | -   | -   | -   | 330 |
| G070059 * " | 2 - 5  | 182 | 334             | 76  | 76  | 45  | 27 | 115 | 43                 | 171          | -      | -     | -   | -   | -   | 340 |
| G070009     | 2 - 5  | 182 | 330             | 76  | 76  | 45  | 27 | 115 | 43                 | 138          | -      | -     | -   | -   | -   | 330 |
| G070060 "   | 2 - 5  | 182 | 334             | 76  | 76  | 45  | 27 | 115 | 43                 | 171          | -      | -     | -   | -   | -   | 340 |
| G082503 *   | 4 - 8  | 212 | 355             | 95  | 89  | 54  | 30 | 130 | 48                 | 215          | -      | -     | -   | -   | -   | 355 |
| G082508 *   | 4 - 8  | 212 | 355             | 95  | 89  | 54  | 30 | 130 | 48                 | 215          | -      | -     | -   | -   | -   | 355 |
| G082505     | 4 - 8,5  | 212 | 355             | 95  | 89  | 54  | 30 | 130 | 48                 | 215          | -      | -     | -   | -   | -   | 355 |
| G100274     | 6 - 12   | 262 | 385             | 190 | 127 | 150 | 35 | 180 | 69                 | 180          | 90     | 200   | 105 | 120 | 156 | -   |
| G100275     | 8 - 16   | 262 | 530             | 190 | 127 | 150 | 35 | 180 | 69                 | 180          | 90     | 200   | 105 | 120 | 156 | -   |
| G100280*    | 6 - 11   | 262 | 385             | 190 | 127 | 150 | 35 | 180 | 69                 | 180          | 90     | 200   | 105 | 120 | 156 | -   |
|             | * Includes safety element<br>*° Free space needed to remove the main element |     |                 |     |     |     |    |     | igh pul<br>at cove | sation<br>er | applic | ation |     |     |     |     |

|                          |                 | Se                | rvice Parts          |                                |         |                            |
|--------------------------|-----------------|-------------------|----------------------|--------------------------------|---------|----------------------------|
| Air Cleaner<br>Model No. | Main<br>Element | Safety<br>Element | Access Cover<br>Assy | Vacuator <sup>™</sup><br>valve | Raincap | Plastic<br>Mounting Band** |
| G042546                  | P822686         | -                 | P777153              | P522958                        | H770066 | P777151                    |
| G042575                  | P822686         | P535396           | P777153              | P522958                        | H770066 | P777151                    |
| G057502                  | P772578         | P775298           | P775308              | P522958                        | H001377 | P777730                    |
| G057504                  | P772578         | -                 | P775308              | P522958                        | H001377 | P777730                    |
| G057505                  | P775631         | -                 | P775308              | P522958                        | H001377 | P777730                    |
| G070006                  | P772579         | P775300           | P775311              | P522958                        | H001379 | P777731                    |
| G070009                  | P772579         | -                 | P775311              | P522958                        | H001379 | P777731                    |
| G070059                  | P772579         | P775300           | P778758              | P522958                        | H001379 | P777731                    |
| G070060                  | P772579         | -                 | P778758              | P522958                        | H001379 | P777731                    |
| G082503                  | P772580         | P775302           | P775305              | P775569                        | H770010 | P777732                    |
| G082505                  | P772580         | -                 | P775305              | P775569                        | H770010 | P777732                    |
| G082508                  | P772580         | P775302           | P775305              | P522958                        | H770010 | P777732                    |
| G100274                  | P777588         | -                 | P777589              | P158914                        | P776343 | Integrated                 |
| G100275                  | P777592         | -                 | P777593              | P158914                        | P776343 | Integrated                 |
| G100280                  | P777588         | P777779           | P777589              | P158914                        | P776343 | Integrated                 |
| * Spare Part o           | only            | ** Only o         | one mounting band ne | eded per air cleane            | er      |                            |

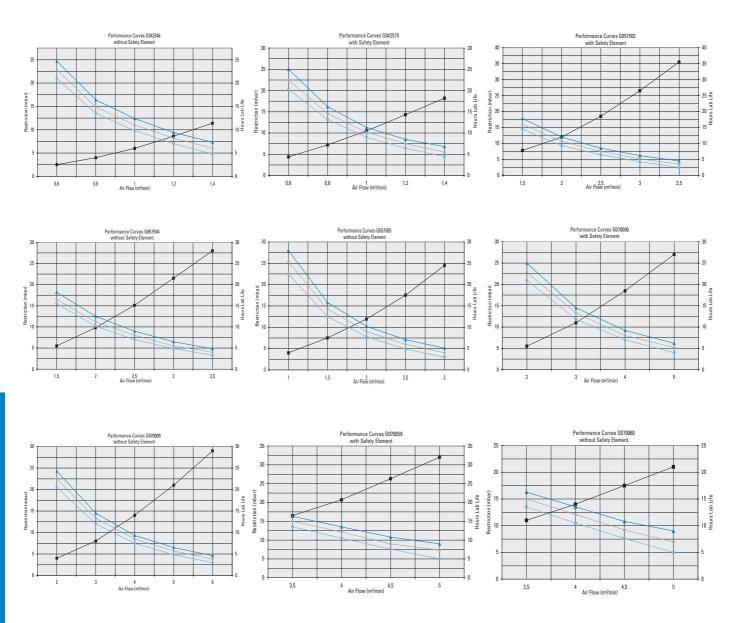
### **FPG Air Cleaner**



### When specifying an Air Cleaner...

Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

### **FPG Performance Curves**

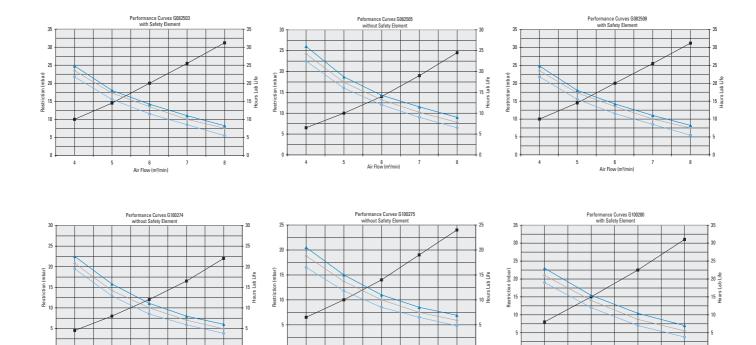


All performance curves are according ISO 5011 standards - Restriction measured at Piezo All tests are done with ISO Coarse at Dust Concentration of  $1g/m^3$ 





### **FPG Performance Curves**







### **Advanced Sealing Technology in Compact Two-Stage Design** For the Most Reliable Engine Protection

The FPG Alexin ™ Air Cleaner series are two-stage full-plastic air cleaners with a built-in Pre-Cleaner and RadialSeal™ Sealing Technology.

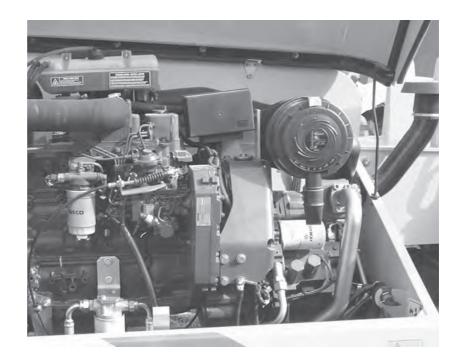
They are used on medium-duty applications line generator sets, agricultural tractors, bulldozers, drilling equipment, marine engines, trucks, loaders, backhoe, lifttruck, construction and industrial equipment. The FPG series offers improved reliability and durability with reduced weight and costs.

Ever since the introduction of the Donaldson RadialSeal™ product line in 1989 with the launch of the FPG Air Cleaner, Donaldson has developed many versions of this products and has continued to invest time and money in the further development of this RadialSeal filter concept, with the Alexin<sup>™</sup> product line as one of the result.

The Donaldson Alexin brandname identifies Donaldson products using the proven, reliable Donaldson RadialSeal Technology for the filter elements combined with the ease of use of a Twist and Lock cover, that provides a convenient cover locking system with a design that saves space.



Despite its compact size, the FPG Air Cleaner offers complete engine air protection - removing 99.99+% of the dust and dirt particulate that enters the engine airstream.





## Small, Durable and Corrosion-Free The World's Easiest to Service Air Cleaner

### **Applications**

- Provides up to 14 m³/min airflow per air cleaner - double throughput by using two units
- Installation can be horizontal, vertical, or even at an angle (as long as Vacuator<sup>™</sup> Valve points down)
- 6", 8", 9", & 10" diameter sizes
- Temperature tolerance: to 83°C sustained

(Do not install next to turbocharger, muffler, exhaust pipes, or other high-temp component.)

### **Air Cleaner Features**

- Easy to service! No tools needed! Usually done in 5 minutes or less!
- Durable plastic housing corrosion-free and lightweight
- Two-stage air filtration! Built-in, tangential pre-cleaner ahead of primary filter removes up to 85% of incoming dust
- Choose 90° or straight outlet to fit your application
- Easy to fasten latches (no bolts!) retain dust cup/cover
- 45° Vacuator<sup>TM</sup> Valve orientation permits either vertical or horizontal air cleaner mounting (the dust cup can be incrementally rotated to suit specific application)
- Safety filter protects engine during in-field filter changeouts
- Already tapped to accept filter service indicator (see the Accessories section for indicator options)
- Indicator thread size = 1/8-27NPT (MALE)

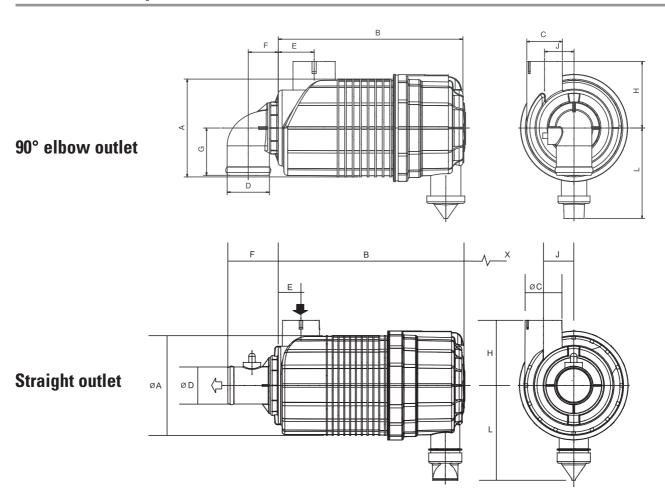


### **Filter Features**

- Exclusive Radial Seal Sealing Technology means reliability and easy service the filter is self-centering and self-aligning!
- One piece, molded urethane endcaps encase the filter media and liners - reducing components, adding reliability and lowering cost
- Cover is unlocked with a yellow "finger", twisted to the left and removed from the filter housing. It's that simple! To fit the cover housing, just reverse the sequence. Only one mounting band is needed per body size.



### FPG Alexin™ Specifications



| Air Cleaner<br>Model No. | Airflow<br>Range |     |     |      | Dimon                  | sions (m | m)       |         |     |    |     |     |
|--------------------------|------------------|-----|-----|------|------------------------|----------|----------|---------|-----|----|-----|-----|
| Widuel No.               | m³/min.          | Α   | В   | С    | D                      | E        | ,<br>F   | G       | Н   | J  | L   | Х°  |
| G065497 "*               | 1,5 - 4          | 172 | 326 | 63,5 | 63,5                   | 43,5     | 40,8     | 78      | 112 | 52 | 163 | 300 |
| G065498 "                | 1,5 - 4          | 172 | 326 | 63,5 | 63,5                   | 43,5     | 40,8     | 78      | 112 | 52 | 163 | 300 |
| G065499 •*               | 1,5 - 4          | 172 | 326 | 63,5 | 63,5                   | 43,5     | 82,2     | -       | 112 | 52 | 163 | 300 |
| G065500 •                | 1,5 - 4          | 172 | 326 | 63,5 | 63,5                   | 43,5     | 82,2     | -       | 112 | 52 | 163 | 300 |
| G082580 "*               | 4 - 7,5          | 213 | 369 | 95   | 89                     | 53,4     | 53,5     | 105     | 138 | 57 | 183 | 355 |
| G082581 "                | 4 - 8            | 213 | 369 | 95   | 89                     | 53,4     | 53,5     | 105     | 138 | 57 | 183 | 355 |
| G082582 •*               | 4 - 7,5          | 213 | 369 | 95   | 89                     | 53,4     | 83       | -       | 138 | 57 | 183 | 355 |
| G082583 •                | 4 - 8            | 213 | 369 | 95   | 89                     | 53,4     | 83       | -       | 138 | 57 | 183 | 355 |
| G090219 "*               | 5 - 10           | 242 | 409 | 114  | 89                     | 61,5     | 53,5     | 105     | 170 | 60 | 260 | 370 |
| G090220 "                | 5 - 10           | 242 | 409 | 114  | 89                     | 61,5     | 53,5     | 105     | 170 | 60 | 260 | 370 |
| G090225 •*               | 5 - 10           | 242 | 409 | 114  | 101,5                  | 61,5     | 87       | -       | 170 | 60 | 260 | 370 |
| G090226 •                | 5 - 10           | 242 | 409 | 114  | 101,5                  | 61,5     | 87       | -       | 170 | 60 | 260 | 370 |
| G100317 "*               | 8 - 11           | 268 | 432 | 114  | 101,5                  | 70,5     | 60,2     | 120     | 185 | 72 | 269 | 390 |
| G100318 "                | 8 - 12           | 268 | 432 | 114  | 101,5                  | 70,5     | 60,2     | 120     | 185 | 72 | 269 | 390 |
| G100319 •*               | 8 - 11           | 268 | 432 | 114  | 101,5                  | 70,5     | 87,5     | -       | 185 | 72 | 269 | 390 |
| G100320 •                | 8 - 12           | 268 | 432 | 114  | 101,5                  | 70,5     | 87,5     | -       | 185 | 72 | 269 | 390 |
| " 90° elbow o            |                  |     |     |      | safety ele<br>ce neede |          | nove mai | n eleme | ent |    |     |     |



### **FPG Alexin™ Service Parts**

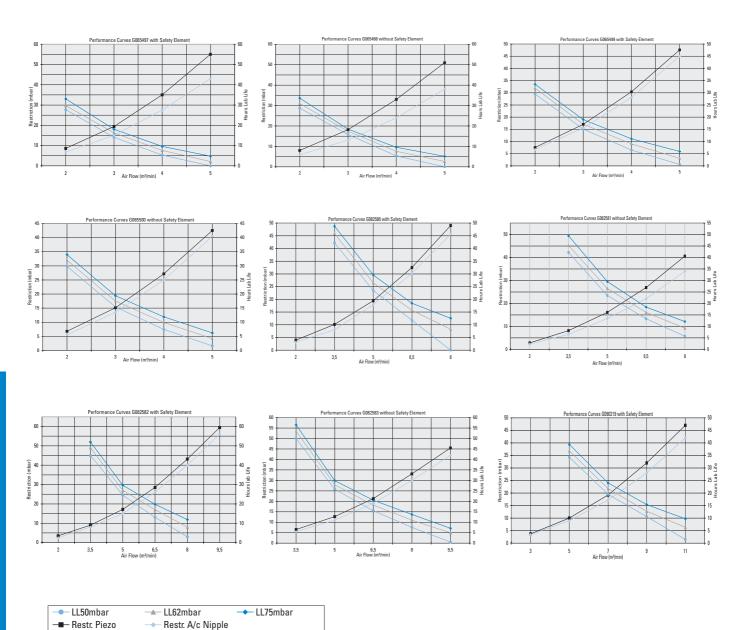
|                          |                 | Serv              | ice Parts            |                                |         |                            |
|--------------------------|-----------------|-------------------|----------------------|--------------------------------|---------|----------------------------|
| Air Cleaner<br>Model No. | Main<br>Element | Safety<br>Element | Access Cover<br>Assy | Vacuator <sup>™</sup><br>valve | Raincap | Plastic<br>Mounting Band** |
| G065497                  | P822768         | P822769           | P780401              | P522958                        | H001378 | P778810                    |
| G065498                  | P822768         | -                 | P780401              | P522958                        | H001378 | P778810                    |
| G065499                  | P822768         | P822769           | P780401              | P522958                        | H001378 | P778810                    |
| G065500                  | P822768         | -                 | P780401              | P522958                        | H001378 | P778810                    |
| G082580                  | P828889         | P829333           | P780403              | P158914                        | H770010 | P777732                    |
| G082581                  | P828889         | -                 | P780403              | P158914                        | H770010 | P777732                    |
| G082582                  | P828889         | P829333           | P780403              | P158914                        | H770010 | P777732                    |
| G082583                  | P828889         | -                 | P780403              | P158914                        | H770010 | P777732                    |
| G090219                  | P780522         | P780523           | P780524              | P776008                        | H770012 | P780532                    |
| G090220                  | P780522         | -                 | P780524              | P776008                        | H770012 | P780532                    |
| G090225                  | P780522         | P780523           | P780524              | P776008                        | H770012 | P780532                    |
| G090226                  | P780522         | -                 | P780524              | P776008                        | H770012 | P780532                    |
| G100317                  | P781039         | P777639           | P780578              | P776008                        | H770012 | P780594                    |
| G100318                  | P781039         | -                 | P780578              | P776008                        | H770012 | P780594                    |
| G100319                  | P781039         | P777639           | P780578              | P776008                        | H770012 | P780594                    |
| G100320                  | P781039         | -                 | P780578              | P776008                        | H770012 | P780594                    |



### When specifying an Air Cleaner...

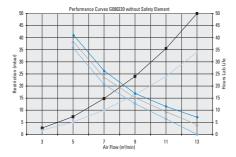
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

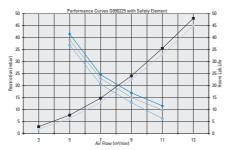
### **FPG Alexin™ Performance Curves**

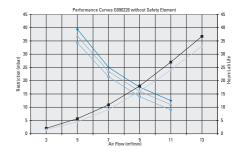


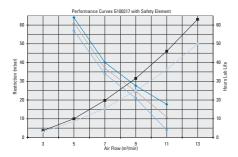


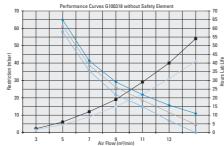
### **FPG Alexin™ Performance Curves**

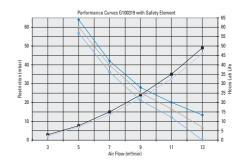


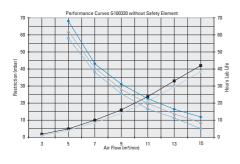














## FPG + FPG Alexin™ **Service Instructions**

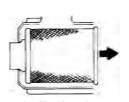


## Remove the Filter

Unfasten or unlatch the service cover for



FPG Alexin models, the cover is unlocked with a yellow "finger", twisted to the left and removed from the filter housing. Because the filter fits tightly over the outlet tube



to create the critical seal, there will be some Rotate the initial resistance, similar to breaking the seal on filter while pulling a jar. Gently move the end of the filter back and straight out. forth to break the seal then rotate while pulling

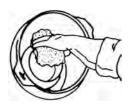
the FPG models. For the

straight out. Avoid knocking the filter against the housing.

If your air cleaner has a safety filter, replace it every third primary filer change. Remove the safety filter as you would the primary filter. Make sure you cover the air cleaner outlet tube to avoid any unfiltered contaminant dropping into the engine.

## Clean Both Surfaces of the Outlet Tube and Check the Vacuator Walve

Use a clean cloth to wipe the filter sealing surface and the inside of the outlet tube. Contaminant on the sealing surface could hinder an effective seal and cause leakage. Make sure that all contaminant is removed before the new filter is inserted. Dirt accidently transferred to the inside of the outlet tube will reach the engine and cause wear. Engine manufacturers say that it takes only a few grams of dirt to "dust" an engine! Be careful not to damage the sealing area on the tube.



Wipe both sides of the outlet tube clean.



Outer edge of the outlet tube

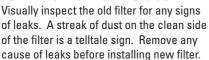
Inner edge of the

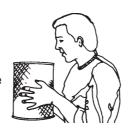
## If your air cleaner is equipped with a Vacuator Valve



Visually check and physically squeeze to make sure the valve is flexible and not inverted, damaged or plugged.

### Inspect the Old **Filter for Leak Clues**





## **Inspect the New Filter for Damage**

Inspect the new filter carefully, paying attention to the inside of the open end, which is the sealing area.

NEVER install a damaged filter.

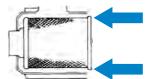
A new Donaldson radial seal filter may have a dry lubricant on the seal to aid installation.



## **Insert the New Radial Seal Filter Properly**

If you're servicing the safety filter, this should be seated into position before installing the primary filter.

Insert the new filter carefully. Seat the filter by hand, making certain it is completely into the air cleaner housing before securing the cover in place.



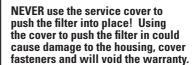
The critical sealing area will stretch

slightly, adjust itself and distribute the sealing pressure evenly. To complete a tight seal, apply pressure by hand at the outer rim of the filter, not the flexible center. Avoid pushing on the center of the urethane end cap. No cover pressure is required to hold the seal. NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.

If the service cover hits the filter before it is fully in place, remove the cover and push the filter (by hand) further into the air cleaner and try again. The cover should go on with no extra force.

Once the filter is in place, secure the service cover for the FPG models. For the FPG Alexin models, the cover is locked with a yellow "finger", twisted to the right.







## **Check Connectors for Tight Fit**

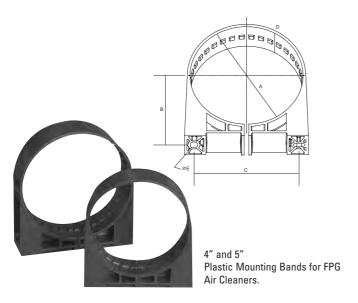
Make sure that all mounting bands, clamps, bolts, and connections in the entire air cleaner system are tight. Check for holes in piping and repair if needed. Any leaks in your intake piping will send dust directly to the engine!

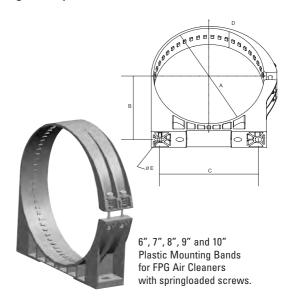


## FPG + FPG Alexin™ **Plastic Mounting Bands**

### **Designed Exclusively for the FPG + FPG Alexin™ Air Cleaners**

- Band has tabs on the inside circumference which fit exactly into notches on the FPG housing to hold the housing in position.
- Tight fit between body and mounting band enhances components durability.
- The springs compensate for dimensional changes due to temperature fluctuations, maintaining a tight fit.
- Critical functions, i.e. Twist and Lock mechanism, remain unaffected.
- Fool proof installation: bolts are tightened to predetermined height. The band is under tension at all times. More user friendly as the base is no longer split.
- Donaldson polymer bands are completely non corrosive, lightweight, easy to install and economical.





| Part Number          | Diameter       |             | Din           | nensions (n  | nm)        |      |
|----------------------|----------------|-------------|---------------|--------------|------------|------|
|                      |                | Α           | В             | C            | D          | E    |
| 4" and 5" Moun       | ting Bands for | r FPG Air C | leaners       |              |            |      |
| P777151              | 4"             | 122         | 79            | 116          | 40         | 9    |
| P777730              | 5"             | 146         | 90            | 136          | 50,5       | 9    |
| 6", 7", 8", 9" and 1 | IO" Mounting B | ands for FF | G Air Cleaner | s with Sprin | gloaded Sc | rews |
| P778810              | 6"             | 171,5       | 99,5          | 153,5        | 50,5       | 9    |
| P778901*             | 6"             | 171,5       | 99,5          | 90           | 50,5       | 9    |
| P781831*             | 6"             | 171,5       | 99,5          | 93           | 50,5       | 9    |
| P777731              | 7"             | 182         | 104,5         | 163          | 50,5       | 9    |
| P777732              | 8"             | 211,5       | 119,5         | 190          | 50,5       | 9    |
| P780580*             | 8"             | 211,5       | 119,5         | 110          | 50,5       | 9    |
| P780378**            | 8"             | 212         | 119,5         | 110          | 85         | 9    |
| P780532              | 9"             | 241         | 136           | 143          | 50,5       | 9    |
| P780594              | 10"            | 268         | 149,5         | 143          | 80         | 11   |
| * With insert N      | /18 ** Do      | uble 8" Mo  | ounting Band  | needed       |            |      |

## **FTG Cycloflow**<sup>TM</sup> Air Cleaner



## **Mounted Underhood Two-Stage Filtration for Large Construction & Mining Machines**

The FTG Cycloflow™ Air Cleaner is a two-stage air cleaner with built-in Pre-Cleaner and Axial Seal Sealing Technology. The air cleaner is mounted underhood with the service cover on the outside and an optional inlet hood on top.

### **Applications**

- Allows 32-59 m³/min. airflow throughput per air cleaner
- Horizontal installation
- · Designed for large industrial and construction machines: crawler tractors, crane loaders, excavators and air compressors with large engines operating in severe dust environments
- Sustained temperature tolerance: to 82°C

#### **Air Cleaner Features**

- Unique, flared inlet allows maximum airflow with low restriction
- 21" body diameters
- · Two-stage air cleaning deals with very dusty environment: (1) Built-in louver spins air to separate up to 85% of incoming dust before it reaches the filter (2) Primary filter removes up to 99.99% of the remaining dust
- Built-in Vacuator<sup>™</sup> Valve collects and releases pre-cleaned dust
- Safety filter on all models protects engine inlet during filter changeout
- Housing is metal and coated with a corrosion and chemical resistant polymer paint
- Indicator thread size = 1/8-27NPT (MALE)



### **Filter Features**

Replacement filter choices include an extended service, high efficiency filter for restriction maintenance, and a standard life filter for scheduled maintenance

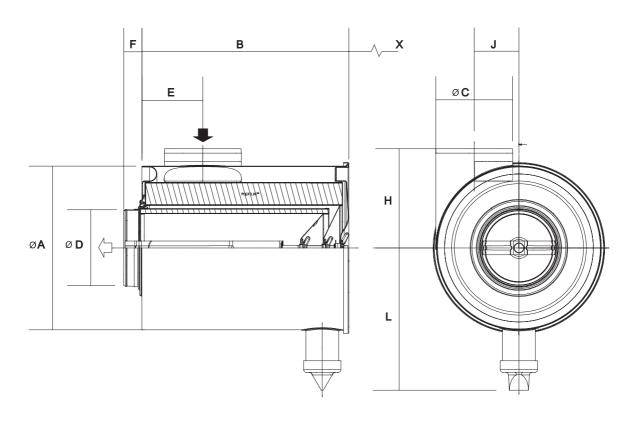
### **Accessories**

- Each FTG is tapped to accept a filter service indicator
- Order mounting bands, hoods, and other accessories separately



## Donaldson. FTG Cycloflow Air Cleaner

## $\textbf{FTG Cycloflow}^{\text{TM}} \ \ \textbf{Specifications - Service Parts}$



| Air Cleaner<br>Model No.       | Airflow Range<br>m³/min. |            | В          | C D        | imensi<br>D | ons (m<br>E |          | Н          | J          | L          | Х°         |
|--------------------------------|--------------------------|------------|------------|------------|-------------|-------------|----------|------------|------------|------------|------------|
| G210007"*<br>G210010*          | 32 - 59<br>32 - 59       | 546<br>546 | 613<br>613 | 254<br>254 | 254<br>254  | 150<br>150  | 90<br>90 | 330<br>330 | 146<br>146 | 442<br>442 | 613<br>613 |
| " Inlet on opp<br>X° Free spac | eleme                    | nt         |            |            |             |             |          |            |            |            |            |

| Air Cleaner<br>Model No. | Main<br>Element | Safety<br>Element | Vacuator <sup>™</sup><br>valve | Wing<br>Nut | Gasket<br>Washer | Raincap | Mounting<br>band* |
|--------------------------|-----------------|-------------------|--------------------------------|-------------|------------------|---------|-------------------|
| G210007                  | P182040         | P117781           | P105220                        | P116175     | P105740          | H770082 | H770068           |
| G210010                  | P182040         | P117781           | P105220                        | P116175     | P105740          | H770082 | H770068           |
| * Two mount              | ing bands r     | eeded per A       | Air Cleaner                    |             |                  |         |                   |

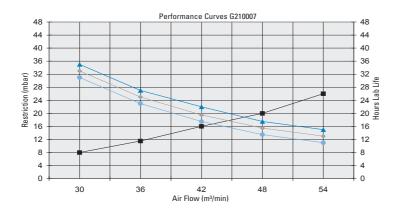
## **FTG Cycloflow**<sup>TM</sup> Air Cleaner

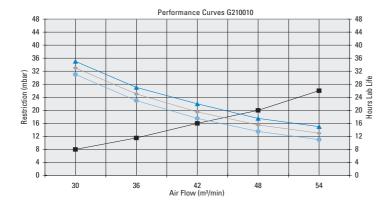


#### When specifying an Air Cleaner...

Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

## FTG Cycloflow<sup>™</sup> Performance Curves







## Donaldson.

### FTG Service Instructions

### 1 Remove the old filter gently

"Baby" that dirty filter, until you get it clear of the housing. Accidentally bumping it while still inside means dropped dirt and dust that will contaminate the clean side of your



filter housing, before the new filter element has a chance to do its job.

## **2** Always clean the inside of the housing carefully

Dirt left in the air cleaner housing spells death for your engine. Use a clean, damp cloth to wipe every surface clean. Check it visually to make sure it's clean before putting in a new filter.



## **3** Always clean the gasket sealing surfaces

An improper gasket seal is one of the most common causes of engine contamination. Make sure that all hardened dirt ridges are completely removed, both on the bottom and top of the air cleaner housing.



### 4 Check for uneven dirt patterns

Your old filter has valuable clues to dust leakage or gasket sealing problems. A pattern on the filter clean side



is a sign that the old filter was not firmly sealed or that a dust leak exists. Identify the cause of that leak and rectify it before installing a new filter

### **5** Press your fresh gasket to see that it springs back

Make sure your new filter is made with a highly compressible gasket that springs back (promptly) when finger pressure is released. A high quality gasket is one of the most important parts of the filter.

## **6** Make sure the gasket seats evenly

If you don't feel the gasket seating evenly for a perfect seal, you don't

have protection. Re-check to see if the sealing surface in the housing is clean, and ensure that the filter is the correct model. It may be the wrong size for the housing.



### Insure air-tight fit on all connections and ducts

Check that all clamps and flange joints are tight, as well as the air cleaner mounting bolts. Seal any leaks immediately - leaks mean dirt is directly entering your engine.



### FRG2 Air Cleaner



## **Superior Protection for Larger Engines** RadialSeal Sealing Technology Means Reliable Filtration and Quicker Service

The FRG2 Air Cleaners is a two-stage hybrid air cleaner with RadialSeal™ Sealing Technology. Ideal for medium- to heavy duty applications like construction equipment, agricultural machinery, mining equipment and off-highway vehicles. The FRG2 Air Cleaner is the Next Generation FRG Air Cleaner Product featuring Donaldson's Unique Design Concept.

For more details on this UDC Feature, see page 7.

**Built with Donaldson** Technology.



### **Applications FRG2**

- Horizontal mount required
- Provides variety of airflow volumes to engine: from 6.5 to 51 m<sup>3</sup>/min.
- Temperature tolerance: to 83°C continuous / 105°C intermittent
- Body diameters of 10", 11", 13", 15" and 18"

#### **Features FRG2**

- Two stage filter system: the first stage removes up to 85% of incoming dust
- Vacuator<sup>™</sup> Valve automatically releases the precleaned dust
- Proven RadialSeal™ Technology
- · Tapped for restriction indicator as standard
- Durable, long-lasting finish. Comprised of two materials: injection molded, high strength polymer service cover and a metal body (the service cover is accessed by latches)
- Indicator thread size = 1/8-27NPT (MALE)

- Mounting the unit directly to the engine is not recommended; excessive engine vibration can cause premature air cleaner structural failure
- Cost effective / Compact and light
- Flexible installation
- Durable, high-tech and easy to service design

#### **Accessories**

Donaldson intake accessories for your FRG2 Air Cleaner can help overcome or prevent various problems. For instance:

- Mounting bands for FRG2s must be ordered separately
- If the installed air cleaner will be exposed to rain, snow or debris, an inlet cap can prevent moisture ingestion.
- A service indicator measures the airflow restriction across the filter, thereby showing how much useful life the filter has left, and when to replace the filter cartridge (see Accessories section of this catalogue).

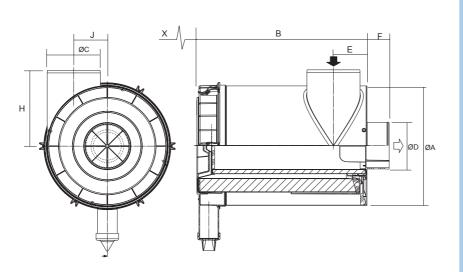


## **FRG2 Specifications**



## Replaces





| Air Cleaner<br>Model No.           | Airflow<br>Range |     |   |     | Dim | ensions | <br>: (mm) |     |     |     |     |     |
|------------------------------------|------------------|-----|---|-----|-----|---------|------------|-----|-----|-----|-----|-----|
|                                    | m³/min.          | Α   | В   | С   | D   | Е       | F          | Н   | J   | L   | Х°  | Z°° |
| G100420 *                          | 7 - 14           | 259 | 430   | 114 | 101 | 90      | 52         | 205 | 68  | 270 | 373 | 107 |
| G100428                            | 7 - 16           | 259 | 430   | 114 | 101 | 90      | 52         | 205 | 68  | 270 | 373 | 107 |
| G110381 " *                        | 8 - 16           | 279 | 480   | 127 | 114 | 108     | 67         | 191 | 77  | 275 | 373 | 107 |
| G110382 *                          | 8 - 16           | 279 | 480   | 127 | 114 | 108     | 67         | 191 | 77  | 275 | 373 | 107 |
| G130236 *                          | 10 - 18          | 330 | 425   | 152 | 127 | 132     | 58         | 216 | 90  | 301 | 365 | 93  |
| G130232 *                          | 13 - 24          | 330 | 530   | 152 | 127 | 132     | 58         | 216 | 90  | 301 | 470 | 93  |
| G130234 " *                        | 13 - 24          | 330 | 530   | 152 | 127 | 132     | 58         | 216 | 90  | 301 | 470 | 93  |
| G130233                            | 13 - 25          | 330 | 530   | 152 | 127 | 132     | 58         | 216 | 90  | 301 | 470 | 93  |
| G130235 "                          | 13 - 25          | 330 | 530   | 152 | 127 | 132     | 58         | 216 | 90  | 301 | 470 | 93  |
| G150255 *                          | 16 - 32          | 381 | 530   | 178 | 152 | 140     | 70         | 242 | 103 | 336 | 480 | 93  |
| G150259 " *                        | 16 - 32          | 381 | 530   | 178 | 152 | 118     | 70         | 242 | 103 | 336 | 480 | 93  |
| G150256                            | 16 - 33          | 381 | 530   | 178 | 152 | 140     | 70         | 242 | 103 | 336 | 480 | 93  |
| G180087 *                          | 20 - 39          | 457 | 510   | 203 | 178 | 128     | 85         | 290 | 128 | 402 | 460 | 130 |
| G180074 *                          | 22 - 39          | 457 | 650   | 203 | 178 | 128     | 85         | 290 | 128 | 402 | 600 | 130 |
| G180073 *                          | 25 - 42          | 457 | 650   | 203 | 203 | 128     | 85         | 290 | 128 | 402 | 600 | 130 |
| G180075 " *                        | 25 - 42          | 457 | 650   | 203 | 203 | 128     | 85         | 290 | 128 | 402 | 600 | 130 |
| " Inlet on oppos<br>Z°° Free space |                  | ent | X° Free space needed to remove main element |     |     |         |            |     |     |     |     |     |

## **FRG2 Air Cleaner**



## **FRG2 Service Parts**

|                          |                 | Service         | Parts                 |                    |             |                    |
|--------------------------|-----------------|-----------------|-----------------------|--------------------|-------------|--------------------|
| Air Cleaner<br>Model No. | Main<br>Element | Kit<br>Number • | Access<br>Cover Assy* | Vacuator™<br>Valve | Rain<br>Cap | Mounting<br>band** |
| G100420                  | P785589         | X770689         | P784944               | P776008            | H770012     | P004076            |
| G100428                  | P785589         | -               | P784944               | P776008            | H770012     | P004076            |
| G110381                  | P785396         | X770690         | P784923               | P158914            | H770013     | P004079            |
| G110382                  | P785396         | X770690         | P784923               | P158914            | H770013     | P004079            |
| G130232                  | P785390         | X770691         | P784892               | P776008            | H770090     | P013722            |
| G130233                  | P785390         | -               | P784892               | P776008            | H770090     | P013722            |
| G130234                  | P785390         | X770691         | P784892               | P776008            | H770090     | P013722            |
| G130235                  | P785390         | -               | P784892               | P775569            | H770090     | P013722            |
| G130236                  | P785398         | X770692         | P784892               | P776008            | H770090     | P013722            |
| G150255                  | P785590         | X770693         | P785551               | P776008            | H770089     | P016845            |
| G150256                  | P785590         | -               | P785551               | P776008            | H770089     | P016845            |
| G150259                  | P785590         | X770693         | P785551               | P776008            | H770089     | P016845            |
| G180073                  | P785394         | X770688         | P784792               | P105220            | H001053     | H770037            |
| G180074                  | P785394         | X770688         | P784792               | P105220            | H001053     | H770037            |
| G180075                  | P785394         | X770688         | P784792               | P105220            | H001053     | H770037            |
| G180087 "                | P786197         | X770683         | P784792               | P105220            | H001053     | H770037            |

<sup>&</sup>quot; No restriction indicator tapping point

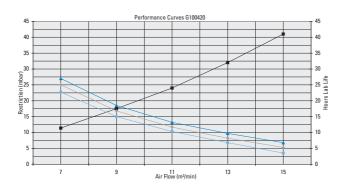
<sup>•</sup> Safety element can only be bought as a kit meaning together with the main element

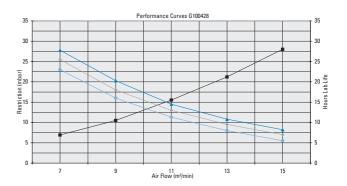


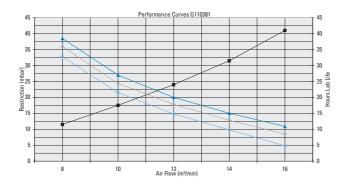
#### When specifying an Air Cleaner...

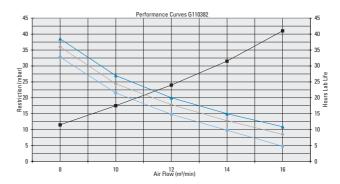
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

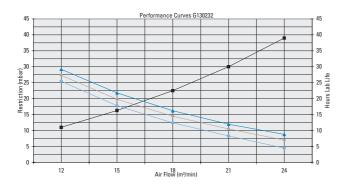
### **FRG2 Performance Curves**

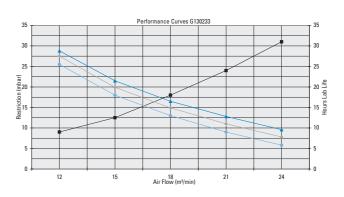


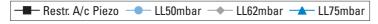








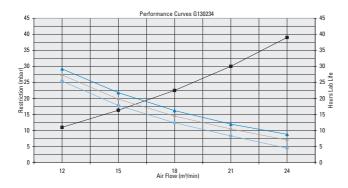


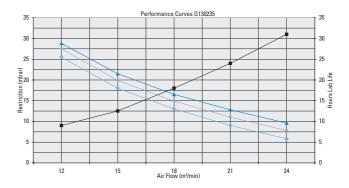


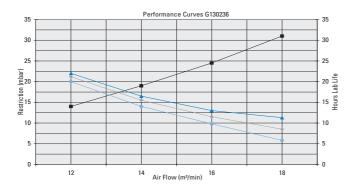
## **FRG2 Air Cleaner**

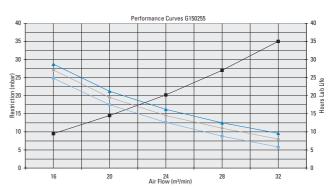


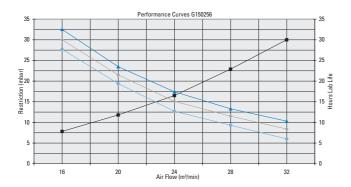
### **FRG2 Performance Curves**

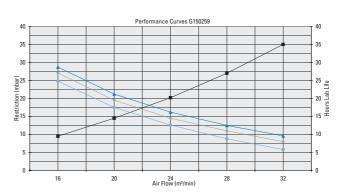








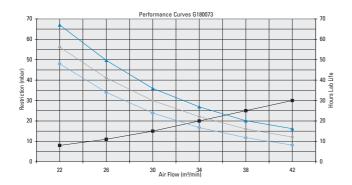


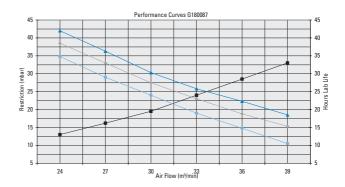


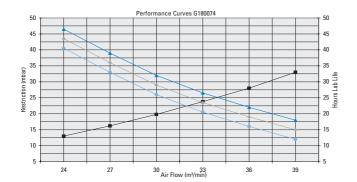


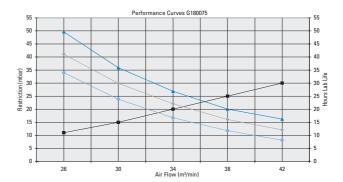


## **FRG2 Performance Curves**











## FRG2 Service Instrcutions



## **Remove the Filter**

Unfasten or unlatch the service cover.



Rotate the filter while pulling straight out. Because the filter fits tightly over the outlet tube to create the critical seal, there will be some

initial resistance, similar to breaking the seal on a jar. Gently move the end of the filter back and forth to break the seal then rotate while pulling straight out. Avoid knocking the filter against the housing.

If your air cleaner has a safety filter, replace it every third primary filer change. Remove the safety filter as you would the primary filter. Make sure you cover the air cleaner outlet tube to avoid any unfiltered contaminant dropping into the engine.

### Clean Both Surfaces of the Outlet Tube and Check the Vacuator <sup>™</sup> Valve

Use a clean cloth to wipe the filter sealing surface and the inside of the outlet tube. Contaminant on the sealing surface could hinder an effective seal and cause leakage. Make sure that all contaminant is removed before the new filter is inserted. Dirt accidently transferred to the inside of the outlet tube will reach the engine and cause wear. Engine manufacturers say that it takes only a few grams of dirt to "dust" an engine! Be careful not to damage the sealing area on the tube.

> Wipe both sides of the

outlet tube



Outer edge of the outlet tube



Inner edge of the outlet tube

If your air cleaner is equipped with a Vacuator Valve Visually check and physically squeeze to make sure the valve is flexible and not inverted, damaged or plugged.



### Inspect the Old Filter for Leak Clues

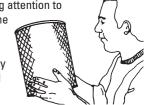
Visually inspect the old filter for any signs of leaks. A streak of dust on the clean side of the filter is a telltale sign. Remove any cause of leaks before installing new filter.



**Inspect the New Filter for Damage** 

Inspect the new filter carefully, paying attention to the inside of the open end, which is the sealing area.

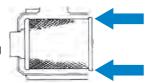
NEVER install a damaged filter. A new Donaldson radial seal filter may have a dry lubricant on the seal to aid installation.



## **Insert the New Radial Seal Filter Properly**

If you're servicing the safety filter, this should be seated into position before installing the primary filter.

Insert the new filter carefully. Seat the filter by hand, making certain it is completely into the air cleaner housing before securing the cover in place.



The critical sealing area will stretch slightly, adjust itself and distribute the sealing pressure evenly. To complete a tight seal, apply pressure by hand at the outer rim of the filter, not the flexible center. Avoid pushing on the center of the urethane end cap. No cover pressure is required to hold the seal. NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.

If the service cover hits the filter before it is fully in place, remove the cover and push the filter (by hand) further into the air cleaner and try again. The cover should go on with no extra force.

Once the filter is in place, secure the service cover.



**NEVER** use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.



## **Check Connectors for Tight Fit**

Make sure that all mounting bands, clamps, bolts, and connections in the entire air cleaner system are tight. Check for holes in piping and repair if needed. Any leaks in your intake piping will send dust directly to the engine!

# Air Cleaners used in Heavy Dust Conditions

... Donaldson offers a full line of air cleaners for a wide variety of applications and operating environments.

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## **FLB Air Cleaner**



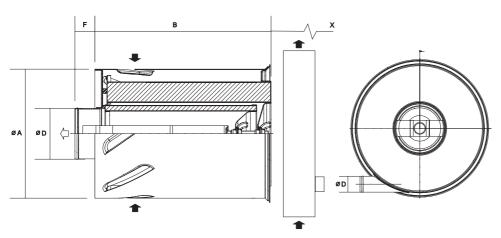
## **Two-Stage Louvered Body Air Cleaner**



The FLB - Louvered Body Air Cleaner is a two-stage air cleaner with scavenge exhaust system and Axial Seal Sealing Technology. Body diameters in 6", 8", 10" and 12". Handles airflows of 3-17 m³/min. Sustained temperature tolerance: to 82°C.

Designed especially for combines and other heavy-duty construction and agricultural equipment operating in severe dust, fibers, lint and shaft environments. To be used with an exhaust ejector. For all available Donaldson Exhaust Ejectors, see page 124-125.

## **FLB Specifications - Service Parts**



| Air Cleaner  | Airflow Range     |         | Dir     | nensions | (mm) |    |     |
|--------------|-------------------|---------|---------|----------|------|----|-----|
| Model No     | m³/min.           | А       | В       | D        | F    | G  | Х°  |
| B065018      | 3 - 5             | 167     | 360     | 76       | 28   | 32 | 345 |
| B080022      | 4,5 - 7           | 203     | 423     | 89       | 54   | 32 | 415 |
| B100067      | 7 - 12            | 259     | 430     | 101      | 50   | 32 | 425 |
| B120260      | 12 - 17           | 300     | 424     | 127      | 80   | 32 | 415 |
| X° Free spac | ce needed to remo | ve main | element |          |      |    |     |

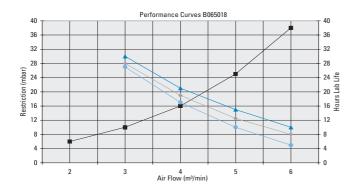
|                          |                 | Service Parts     |                   |                    |  |  |  |  |  |  |  |  |  |  |
|--------------------------|-----------------|-------------------|-------------------|--------------------|--|--|--|--|--|--|--|--|--|--|
| Air Cleaner<br>Model No. | Main<br>Element | Safety<br>Element | Mounting<br>Band* | Filter<br>Wing Nut |  |  |  |  |  |  |  |  |  |  |
| B065018                  | P772565         | P770207           | P007191           | P138403            |  |  |  |  |  |  |  |  |  |  |
| B080022                  | P772556         | P119410           | P004307           | P138403            |  |  |  |  |  |  |  |  |  |  |
| B100067                  | P772530         | P133138           | P004076           | P138403            |  |  |  |  |  |  |  |  |  |  |
| B120260                  | P772520         | P770678           | H000349           | P134803            |  |  |  |  |  |  |  |  |  |  |
| * Two moun               | iting bands ne  | eded per Air C    | leaner            |                    |  |  |  |  |  |  |  |  |  |  |

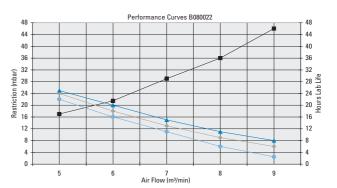


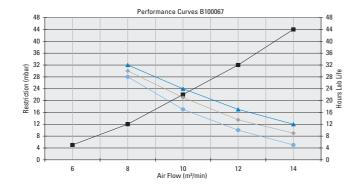
#### When specifying an Air Cleaner...

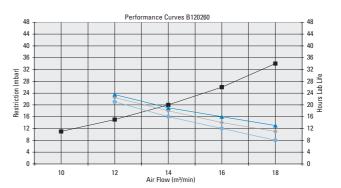
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

### **FLB Performance Curves**











## **FLB Service Instructions**



### 1 Remove the old filter gently

"Baby" that dirty filter, until you get it clear of the housing. Accidentally bumping it while still inside means dropped dirt and dust that will contaminate the clean side of your filter housing, before the new filter element has a chance to do its job.



Dirt left in the air cleaner housing spells death for your engine. Use a clean, damp cloth to wipe every surface clean. Check it visually to make sure it's clean before putting in a new filter.



## **3** Always clean the gasket sealing surfaces

An improper gasket seal is one of the most common causes of engine contamination. Make sure that all hardened dirt ridges are completely removed, both on the bottom and top of the air cleaner housing.

### 4 Check for uneven dirt patterns

Your old filter has valuable clues to dust leakage or gasket sealing problems. A pattern on the filter clean side



is a sign that the old filter was not firmly sealed or that a dust leak exists. Identify the cause of that leak and rectify it before installing a new filter.

### **5** Press your fresh gasket to see that it springs back

Make sure your new filter is made with a highly compressible gasket that springs back (promptly) when finger pressure is released. A high quality gasket is one of the most important parts of the filter.

## **6** Make sure the gasket seats evenly

If you don't feel the gasket seating evenly for a perfect seal, you don't

have protection. Re-check to see if the sealing surface in the housing is clean, and ensure that the filter is the correct model. It may be the wrong size for the housing.



### 7 Ensure air-tight fit on all connections and ducts

Check that all clamps and flange joints are tight, as well as the air cleaner mounting bolts. Seal any leaks immediately - leaks mean dirt is directly entering your engine.





## **EPB – ERB2 Air Cleaner with Donaspin Pre-Cleaner**

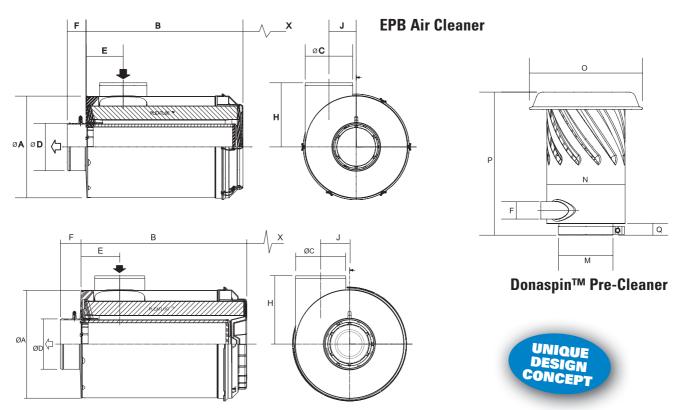
## **Specifications**



See page 130 for the Donaspin™ Pre-Cleaners



See page 44-45 for EPB-ERB2 Service Parts.



**ERB2 Air Cleaner** 

| Style | Air<br>Cleaner                    | Airflow<br>Range |     |     | Dir  | nensio | ons (m | ım)  |     |     |     | Pre-    |     |     |     |     |    |
|-------|-----------------------------------|------------------|-----|-----|------|--------|--------|------|-----|-----|-----|---------|-----|-----|-----|-----|----|
|       | Model No.                         | m³/min.          | А   | В   | С    | D      | Е      | F    | Н   | J   | Х°  | Cleaner | M   | N   | 0   | Р   | α  |
| EPB   | B070005                           | 2 - 5            | 182 | 334 | 76   | 76     | 45     | 27   | 115 | 145 | 340 | H001212 | 77  | 203 | 305 | 316 | 55 |
| EPB   | B080067                           | 4 - 7            | 210 | 355 | 95   | 89     | 54     | 31,5 | 130 | 146 | 355 | H001307 | 95  | 203 | 305 | 304 | 42 |
| ERB2  | B100126                           | 7 - 12           | 259 | 430 | 114  | 102    | 143    | 52   | 205 | 0   | 400 | H001215 | 114 | 203 | 305 | 290 | 28 |
|       | ee space neede<br>available Donal |                  |     |     | page | 124-12 | !5     |      |     |     |     |         |     |     |     |     |    |

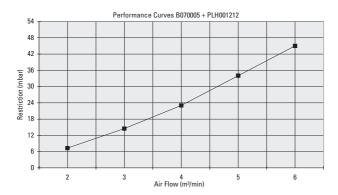
## **EPB - ERB2 Air Cleaner with Donaspin**TM Pre-Cleaner

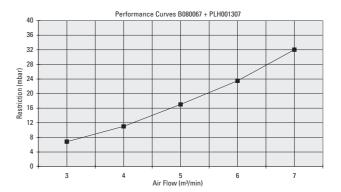


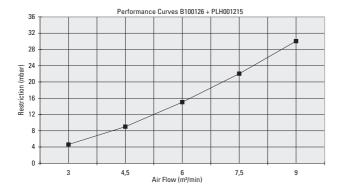
### When specifying an Air Cleaner...

Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar - indicate the approximate initial restriction of each model air cleaner at that m³/min. If there are two air cleaner models that fit your paramaters, choosing the one with the lowest restriction will provide the longest service life. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc.

### **Restriction Curves**







Restr. A/c Piezo



## **EPB - ERB2 Air Cleaner with Strata Pre-Cleaner**

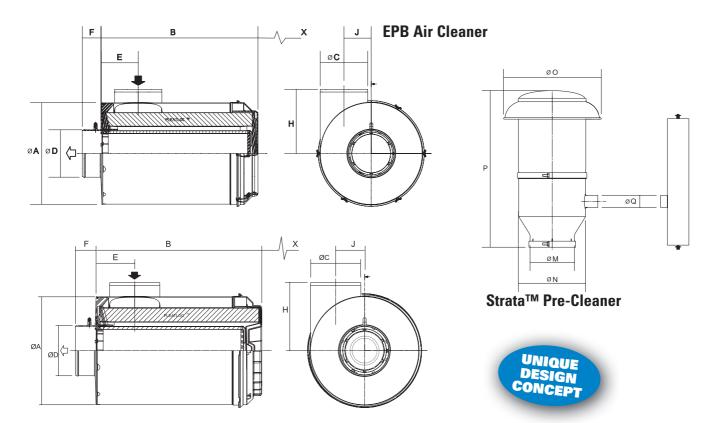
## **Specifications**



For more details on the Strata™ Pre-Cleaner, contact your Donaldson representative.



See page 44-45 for EPB-ERB2 Service Parts.



**ERB2 Air Cleaner** 

| Style | Air                             | Airflow                       |     |     | Dir  | nensio | ons (m | m)   |     |     |     |                 |     |     |     |     |    |
|-------|---------------------------------|-------------------------------|-----|-----|------|--------|--------|------|-----|-----|-----|-----------------|-----|-----|-----|-----|----|
|       | Cleaner<br>Model No.            | Range<br>m <sup>3</sup> /min. | А   | В   | С    | D      | E      | F    | Н   | J   | Χ°  | Pre-<br>Cleaner | M   | N   | 0   | Р   | ۵  |
| EPB   | B070005                         | 2 - 4                         | 182 | 334 | 76   | 76     | 45     | 27   | 115 | 145 | 340 | H000975         | 78  | 167 | 281 | 441 | 25 |
| EPB   | B080067                         | 4 - 7                         | 210 | 355 | 95   | 89     | 54     | 31,5 | 130 | 146 | 355 | H000896         | 97  | 167 | 281 | 447 | 25 |
| ERB2  | B100126                         | 7 - 12                        | 259 | 430 | 114  | 102    | 143    | 52   | 205 | 0   | 400 | H001510         | 116 | 167 | 281 | 441 | 25 |
| ERB2  | B130013                         | 15 - 26                       | 330 | 530 | 178  | 152    | 180    | 58   | 215 | 0   | 360 | H001148         | 179 | 279 | 406 | 465 | 38 |
| ERB2  | B150025                         | 18 - 32                       | 381 | 590 | 178  | 178    | 136    | 70   | 241 | 102 | 540 | H001148         | 179 | 279 | 406 | 465 | 38 |
|       | e space neede<br>available Dona |                               |     |     | page | 124-1  | 25     |      |     |     |     |                 |     |     |     |     |    |

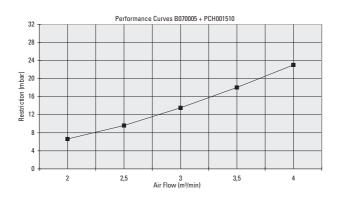
## **EPB - ERB2 Air Cleaner** with Strata™ Pre-Cleaner

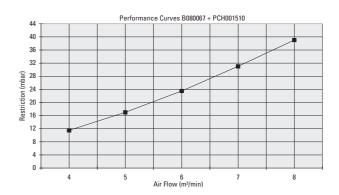


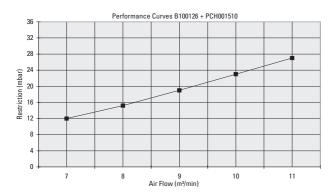
### When specifying an Air Cleaner...

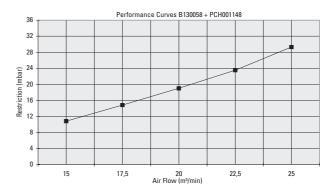
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar - indicate the approximate initial restriction of each model air cleaner at that m³/min. If there are two air cleaner models that fit your paramaters, choosing the one with the lowest restriction will provide the longest service life. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc.

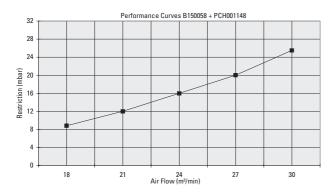
### **Restriction Curves**











Restr. A/c Piezo



## Two-Stage RadialSeal<sup>™</sup> Air Cleaners which offer improved reliability and durability, reduced weight and costs and better serviceability



- Can be mounted vertically or horizontally
- Provides variety of airflow volumes to engine: from 6 to 22 m<sup>3</sup>/min.
- Temperature tolerance: to 83°C continuous / 105°C intermittent

#### **Features SPB2**

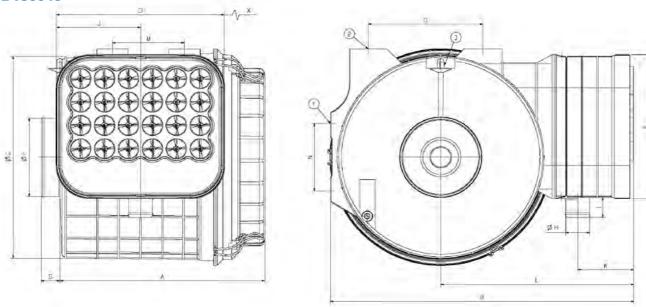
- Body diameter of 13"
- Cost effective / Compact and light weight
- Flexible installation
- Reliable, durable, high-tech and easy to service design
- Proven RadialSeal™ Technology
- Tapped for restriction indicator as standard
- Built-in Strata<sup>™</sup> Pre-Cleaner with efficiency of 90 93%
- Always to be used with a scavenge system (minimum with 10% scavenge)
- ISO Coarse Dust / ISO 5011 Certificate
- Indicator thread size = 1/8-27NPT (MALE)

## **SPB2 Air Cleaner**

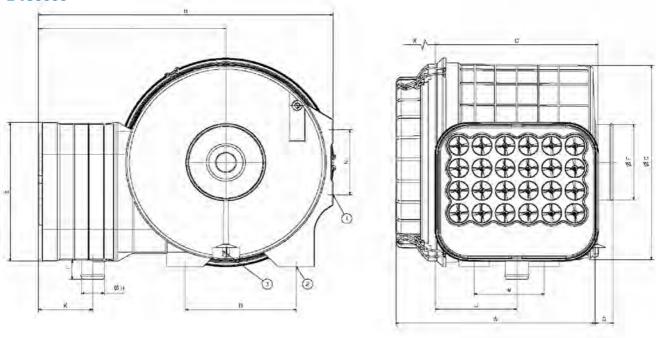


## **SPB2 Specifications**

### B130048



### **B130060**



- 1) 4 Clips M8 optional Reference P784517: Plastic bag with 4 U-Clips
- 2) Insert M8
- 3) 1/8 27 NPT



## **SPB2 Specifications - Service Parts**

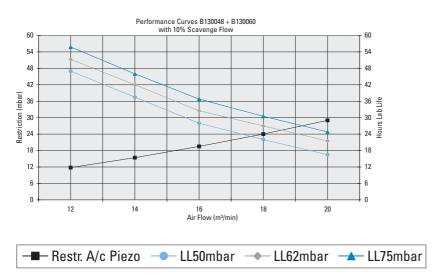
|     | B130048 + B130060<br>Dimensions (mm) |     |     |     |         |    |    |        |                               |      |     |     |     |     |    |     |
|-----|--------------------------------------|-----|-----|-----|---------|----|----|--------|-------------------------------|------|-----|-----|-----|-----|----|-----|
| А   | В                                    | С   | D   | E   | F       | G  | Н  | - 1    | J                             | K    | L   | M   | N   | 0   | Χ  | Z   |
| 325 | 481                                  | 328 | 266 | 234 | 127     | 30 | 38 | 33     | 133                           | 89   | 306 | 114 | 110 | 182 | 75 | 280 |
|     |                                      |     |     |     | ove mai |    |    | ow = 6 | 5- <b>22</b> m <sup>3</sup> / | min. |     |     |     |     |    |     |

|                 | Service Parts |                    |   |            |  |  |  |  |
|-----------------|---------------|--------------------|---|------------|--|--|--|--|
| Air Cleaner     | Main          | Kit                | Access Cover  | Mounting   |  |  |  |  |
| Model No.       | Element       | Number •           | Assy*   | band**     |  |  |  |  |
| B130048 P783543 |               | X770684            | P783693   | Integrated |  |  |  |  |
| B130060 P783543 |               | X770684            | P783693   | Integrated |  |  |  |  |
| •               |               | ıght as a kit meaı | eeded per air cleane<br>ning together with th<br>25 |            |  |  |  |  |

#### When specifying an Air Cleaner...

Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

### **SPB2 Performance Curves**



### **SRB Air Cleaner**



## Two-Stage RadialSeal™ Air Cleaners which offer improved reliability and durability, reduced weight and costs and better serviceability.



The SRB Air Cleaner is a two-stage hybrid air cleaner with built-in high efficiency Pre-Cleaner and RadialSeal<sup>TM</sup> Sealing Technology.

They are suitable for agricultural and construction equipment operating in severe dust environments.

To be used with an exhaust ejector. For all available Donaldson Exhaust Ejectors, see page 124.125.

### **Applications SRB**

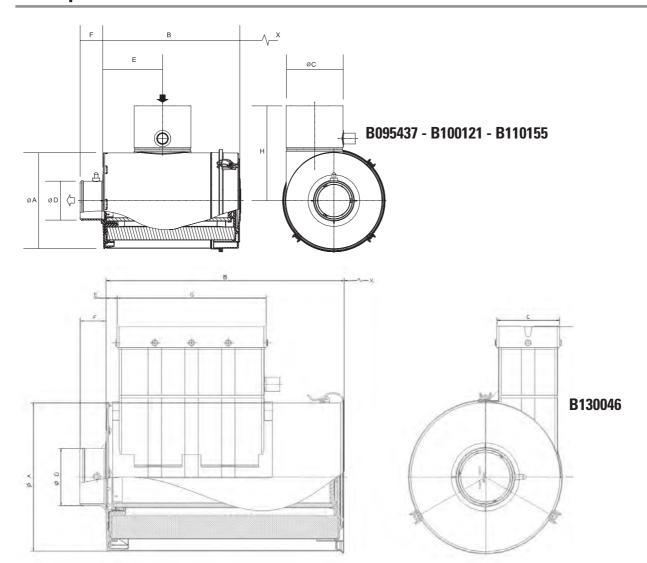
- Can be mounted vertically or horizontally
- Provides variety of airflow volumes to engine: from 4 to 18 m³/min.
- Temperature tolerance: to 83°C continuous / 105°C intermittent.

#### **Features SRB**

- Body diameter of 9", 10", 11" and 13".
- Cost effective / Compact and light weight
- Flexible installation
- Reliable, durable, high-tech and easy to service design
- Proven RadialSeal™ Technology
- Tapped for restriction indicator as standard
- Built-in Strata<sup>™</sup> Pre-Cleaner with efficiency of 90 93%
- Always to be used with a scavenge system (minimum with 10% scavenge)
- ISO Coarse Dust / ISO5011 Certificate
- Indicator thread size = 1/8-27NPT (MALE)



## **SRB Specifications - Service Parts**



| Air Cleaner                                 | Air Cleaner Airflow Range Dimensions (mm) |     |     |     |                                       |     |    |     |     |      |       |
|---|---|-----|-----|-----|---------------------------------------|-----|----|-----|-----|------|-------|
| Model No.                                   | m³/min.                                   | Α   | В   | С   | D                                     | E   | F  | G   | H   | Х°   | Z°°   |
| B095437"                                    | 4 - 8                                     | 229 | 400 | 166 | 102                                   | 203 | 61 | -   | 268 | 75   | 380   |
| B100121                                     | 8 - 12                                    | 259 | 430 | 166 | 102                                   | 179 | 52 | -   | 268 | 75   | 380   |
| B110155                                     | 11 - 15                                   | 279 | 480 | 166 | 114                                   | 175 | 67 | -   | 278 | 75   | 380   |
| B130046                                     | 13 - 18                                   | 330 | 530 | 140 | 127                                   | 25  | 58 | 332 | 335 | 60   | 530   |
| X° Free space needed to remove main element |   |     |     | t   | Z°° Free space needed to remove cover |     |    |     |     | "90° | elbow |

| Air Cleaner<br>Model No. | Main<br>Element | Safety<br>Element | Access<br>Cover Assy* | Mounting<br>band** |
|--------------------------|-----------------|-------------------|-----------------------|--------------------|
| B095437                  | P780522         | P780523           | P782176               | P004073            |
| B100121                  | P771039         | P777639           | P777998               | P004076            |
| B110155                  | P778905         | P778906           | P783014               | P004079            |
| B130046                  | P777279         | P777414           | P781124               | P013722            |
| * Spare Part             | only ** Tw      | o mounting ban    | ds needed per Air     | Cleaner            |

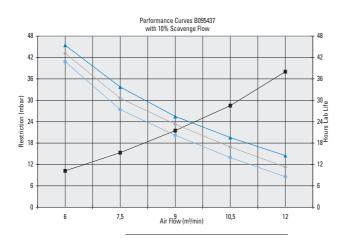
## **SRB Air Cleaner**

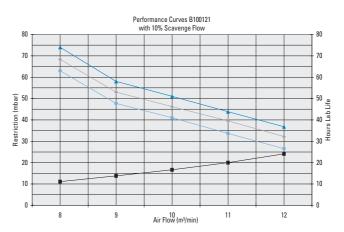


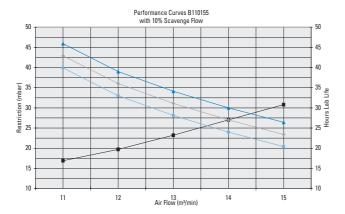
### When specifying an Air Cleaner...

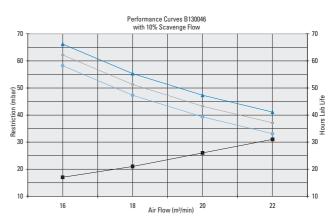
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in kPa at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

### **SRB Performance Curves**













## SPB2 - SRB **Service Instructions**

## **Remove the Filter**

Unfasten or unlatch the service cover.



Rotate the filter while pulling straight out. Because the filter fits tightly over the outlet tube to create the critical seal, there will be some

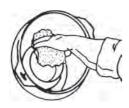


initial resistance, similar to breaking the seal on a jar. Gently move the end of the filter back and forth to break the seal then rotate while pulling straight out. Avoid knocking the filter against the housing.

If your air cleaner has a safety filter, replace it every third primary filer change. Remove the safety filter as you would the primary filter. Make sure you cover the air cleaner outlet tube to avoid any unfiltered contaminant dropping into the engine.

## **Clean Both Surfaces of the Outlet Tube** and Check the Vacuator TM Valve

Use a clean cloth to wipe the filter sealing surface and the inside of the outlet tube. Contaminant on the sealing surface could hinder an effective seal and cause leakage. Make sure that all contaminant is removed before the new filter is inserted. Dirt accidently transferred to the inside of the outlet tube will reach the engine and cause wear. Engine manufacturers say that it takes only a few grams of dirt to "dust" an engine! Be careful not to damage the sealing area on the tube.



Outer edge of the outlet tube





Inner edge of the outlet tube

If your air cleaner is equipped with a Vacuator Valve Visually check and physically squeeze to make sure the valve is flexible and not inverted, damaged or plugged.



### Inspect the Old **Filter for Leak Clues**

Visually inspect the old filter for any signs of leaks. A streak of dust on the clean side of the filter is a telltale sign. Remove any cause of leaks before installing new filter.



## **Inspect the New Filter for Damage**

Inspect the new filter carefully, paying attention to the inside of the open end, which is the sealing area.

NEVER install a damaged filter.

A new Donaldson radial seal filter may have a dry lubricant on the seal to aid installation.



## **Insert the New Radial Seal Filter Properly**

If you're servicing the safety filter, this should be seated into position before installing the primary filter.

Insert the new filter carefully. Seat the filter by hand, making certain it is completely into the air cleaner housing before securing the cover in place.



The critical sealing area will stretch slightly, adjust itself and distribute the sealing pressure evenly. To complete a tight seal, apply pressure by hand at the outer rim of the filter, not the flexible center. Avoid pushing on the center of the urethane end cap. No cover pressure is required to hold the seal. NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.

If the service cover hits the filter before it is fully in place, remove the cover and push the filter (by hand) further into the air cleaner and try again. The cover should go on with no extra force.

Once the filter is in place, secure the service cover.



NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.



## **Check Connectors for Tight Fit**

Make sure that all mounting bands, clamps, bolts, and connections in the entire air cleaner system are tight. Check for holes in piping and repair if needed. Any leaks in your intake piping will send dust directly to the engine!



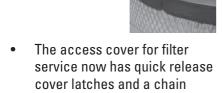
## Designed for the Worst Dust Conditions New Choice for Construction and Off-Highway Applications

The SSG Air Cleaner offers design improvements and therefore replaces our older SRG Air Cleaner models.

| SRG Model | SSG Model |
|-----------|-----------|
| G200008   | G200087   |
| G200013   | G200086   |
| G290000   | G290057   |
| G290023   | G290052   |
| G290012   | G290053   |

### **Design Improvements**

 The SSG Air Cleaner has filters that use RadialSeal™ Sealing Technology, compared to axial seal style filters. This single design improvement eliminates the need to replace filter and cover gaskets - less service time and fewer parts to inventory.

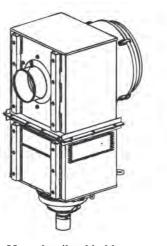


that connects the air cleaner

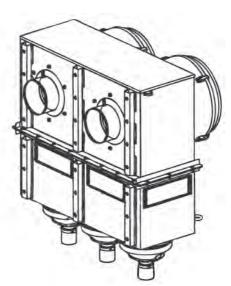




The large, massive mining vehicle in the picture above is an ideal match for the Donaldson SSG Air Cleaner.



Mounting (back) side view of an SSG 20 model



Mounting (back) side view of an SSG 29 model

Covered by issued and pending patents, both U.S. and Internationally



## Donaldson. SSG Donaclone Mair Cleaner

## Versatile SSG Provides Airflow to 135 m³/min. With Improved Design Features Compared to our Older SRG Model

#### **Applications**

- Allows 48 to 68 m³/min. airflow throughput for the SSG 20 model and 73 to 135 m³/min. airflow throughput for the SSG 29 models
- · Horizontal installation
- Off-road, heavy or extreme dust conditions
- Ideal for scrapers, earth movers, graders

#### **Air Cleaner Features**

- Single and dual outlet models two high-flow models available
- Inlet has perforated holes on three sides; rain shrouds available if required
- Filters have urethane end caps with radial seal sealing technology
- Built-in pre-cleaning tubes separate up to 97% of the in-coming dust
- Latch-style cover with attached safety chain for faster and simpler filter service
- Constructed of heavy-gauge steel with a primed, ready-to-paint finish
- Same overall package size as older Donaldson SRG axial seal style housings
- Drop down tube accessory available simplifies routine air cleaner inspections
- Indicator thread size = 1/8-27NPT (MALE)

#### **Filter Features**

- Replacement main filter choices: Standard life filters (for scheduled maintenance) and Donaldson Endurance™ extended service high efficiency filters. Air cleaners ship with the standard filters.
- Grab handles on the main filter to help remove

the loaded filter during service

 Safety filter on all models





The large, massive mining vehicle in the picture above is an ideal match for the Donaldson SSG Air Cleaner.

### **Powerful Two-Stage Filtration**

The first stage of this powerful air cleaner consists of hundreds of Donaclone<sup>TM</sup> pre-cleaner tubes (over 130 tubes in the SSG 20 and over 25 tubes in the SSG 29 models). Each tube spins the incoming air to create a centrifugal force that separates up to 97% of the dust and dirt in the airstream (see image on right). Donaclone<sup>TM</sup> tubes have no moving parts — so there is nothing to break down or maintain. They function properly whenever the engine is running.

The pre-cleaned dust is automatically ejected from the dust cup with a Vacuator Valve located below in the lower housing body, below the Donaclone tubes.

The second stage of filtration is the primary filter. A safety filter, which fits inside the primary filter, is standard on all models for protection during primary filter changeout.

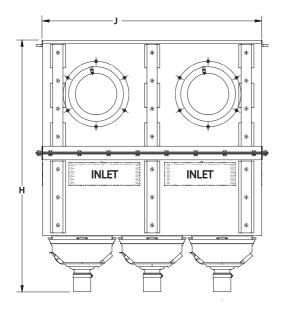


Side view of three Donaclone precleaning tubes.

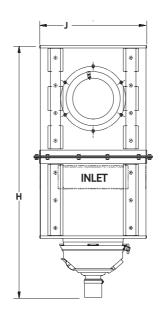


## **SSG Specifications**

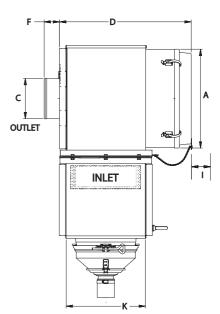
### **Front View Dual Outlet**



### **Front View Single Outlet**

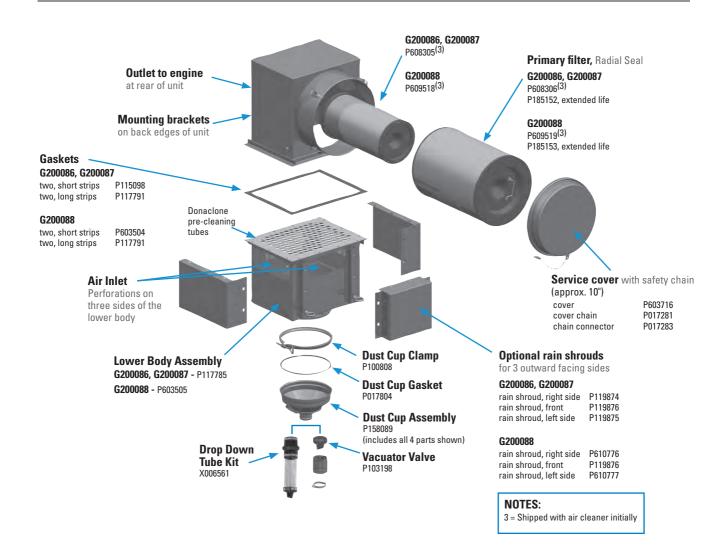


### **Side View Dual and Single**



| Air Cleaner   | Airflow      |     |     | Range | Dime | nsions ( | mm) |      |     |
|---------------|--------------|-----|-----|-------|------|----------|-----|------|-----|
| Model No.     | m³/min.      | Α   | С   | D     | F    | Н        | - 1 | J    | K   |
| Single Outlet | Models       |     |     |       |      |          |     |      |     |
| G200087       | 48 - 56      | 500 | 203 | 665   | 76   | 1274     | 559 | 533  | 400 |
| G200086       | 50 - 58      | 500 | 254 | 665   | 76   | 1274     | 559 | 533  | 400 |
| G200088*      | 59 - 68      | 500 | 254 | 798   | 76   | 1274     | 686 | 533  | 597 |
| Dual Outlet N | Nodels       |     |     |       |      |          |     |      |     |
| G290057       | 73 - 85      | 500 | 203 | 665   | 76   | 1255     | 559 | 1092 | 400 |
| G290052       | 95 - 108     | 500 | 203 | 665   | 76   | 1255     | 559 | 1092 | 400 |
| G290053       | 102 - 116    | 500 | 254 | 665   | 76   | 1255     | 559 | 1092 | 400 |
| G290055*      | 119 - 135    | 500 | 254 | 798   | 76   | 1255     | 686 | 1092 | 597 |
|               | comodate hig |     |     | . 30  | . 0  | .200     | 230 | .002 | 50  |

## Single Outlet Model - SSG 20 Service Parts



### **Drop Down Tube Extension**

**How it works:** When installed on the dust cups on the lower assembly, the rubber connector vibrates during normal vehicle operation and gravity expels the pre-cleaned dust.

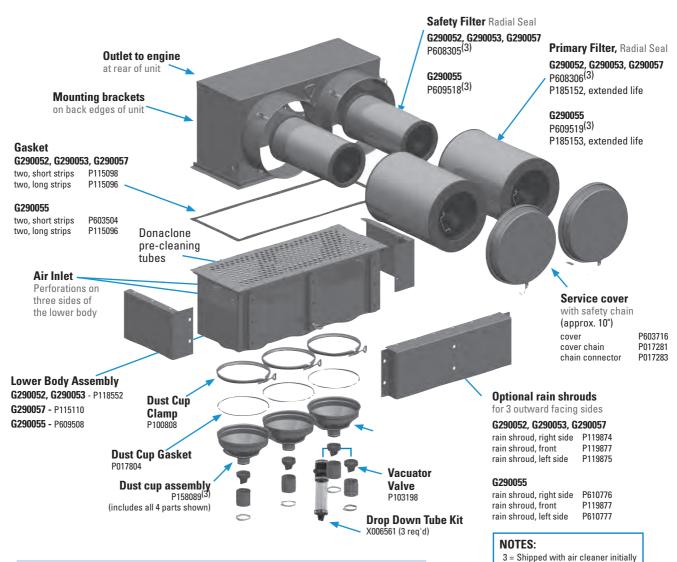
- Improves dust evacuation from the air cleaner
- Clear tube allows for visual inspection of dust collection
- · Reduces air cleaner inspection time
- · Ships fully assembled
- Proper conversion requires drop down tube for every dust cup

For more information features and dimensions, see the Accessories Section.





## Dual Outlet Model - SSG 29 Service Parts



### **Drop Down Tube Extension**

**How it works**: When installed on the dust cups on the lower assembly, the rubber connector vibrates during normal vehicle operation and gravity expels the pre-cleaned dust.

- · Improves dust evacuation from the air cleaner
- Clear tube allows for visual inspection of dust collection
- · Reduces air cleaner inspection time
- · Ships fully assembled
- Proper conversion requires drop down tube for every dust cup

For more information features and dimensions, see the Accessories Section.

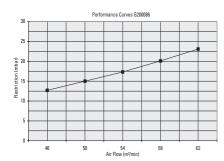


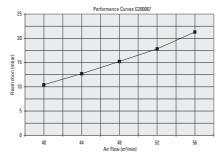


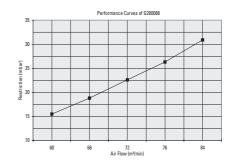
### When specifying an Air Cleaner...

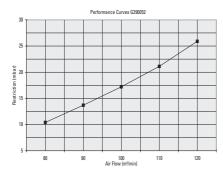
Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar - indicate the approximate initial restriction of each model air cleaner at that m³/min. If there are two air cleaner models that fit your paramaters, choosing the one with the lowest restriction will provide the longest service life. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc.

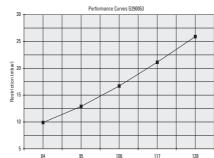
### **SSG Performance Curves**

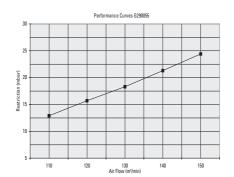


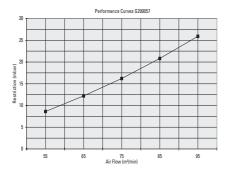












Restr. A/c Piezo

## **SSG Donaclone** TM **Service Instructions**



## Measure Restriction

Measure the restriction of the air cleaner with a Donaldson filter service indicator, service gauge, or a water manometer via the restriction tap provided on the air cleaner or the transfer pipe. Replace the filter only when the restriction level has reached the maximum recommended by the engine or equipment manufacturer.



## **2** Check Vacuator™ Valve

On dust cups with Vacuator Valve, dust cup service is minimal; just check the Vacuator Valve to see that it is not inverted, damaged or plugged. If it is damaged, replace it immediately.



## 3 Check Tubes for Plugging

When the dust cup is removed, check the tubes. Generally, Donaclone tubes are self-cleaning and need no service. Under rare circumstances, however, plugging can occur. Visual inspection is adequate. If the tubes carry light dust, remove it with a stiff brush.

Cleaning Note: Never clean
Donaclone tubes with compressed
air unless both the primary and
safety filters are installed in the
air cleaner. Do not steam-clean
Donaclone tubes.



## 4 Change the Filter

When restriction indicates that filter service is required, unfasten or unlatch the service cover. Because the filter fits tightly over the outlet tube to create the critical seal, there will be some initial resistance, similar to breaking the seal on a jar. Grasp the filter service handle and pull the filter out, gently moving the filter back and forth to break the seal.



Avoid knocking the filter against the housing during removal. If the new filter is not to be installed immediately, be sure to cover the seal tube with a cloth or the housing cover so that dirt is not ingested.

## **5** Inspect the New Filter before Installing

Inspect the new filter carefully, paying attention to the inside of the open end, which is the sealing area. NEVER install a damaged filter. A new Donaldson radial seal filter may have a dry lubricant on the seal to aide installation.

## 6 Insert New Radial Seal Filter Properly

If you are servicing the safety filter, this should be seated into position before installing the primary filter.

Insert the new filter carefully by hand, making certain it is completely seated into the air cleaner housing before securing the cover in place.



The critical sealing area will compress slightly, adjust itself and distribute the sealing pressure evenly. To complete a tight seal, apply pressure by hand at the outer rim of the filter, not the flexible center. (Avoid pushing on the center of the end cap.) No cover pressure is required to hold the seal. NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing or cover fasteners and will void the warranty.

If the service cover contacts the filter before it is fully in place, remove the cover and push the filter (by hand) further into the air cleaner and try again. The cover should go on with no extra force.

Once the filter is in place, secure the service cover.



NEVER use the service cover to push the filter into place! Using the cover to push the filter in could cause damage to the housing, cover fasteners and will void the warranty.



## Donaldson. STG Donaclone Mair Cleaner

## STG Donaclone: Field Proven and Reliable Heavy-Duty Workhorse for Construction & Off-Highway Applications

That Donaldson's STG Donaclone™ is arguably the most commonly used air cleaner, on the widest variety of heavy-duty equipment in the world, is a testament to its reliability and durability. With its two-stage air cleaning, heavy-duty construction, and variety of configurations, the STG works well in many heavy-duty applications like scrapers, crawlers, dumpers and haul trucks.

## Powerful Two-Stage Filtration

The first stage of this powerful air cleaner consists of a cluster of Donaclone ™ tubes. They spin the incoming air to create a centrifugal force that separates up to 95% of the dust and dirt in the airstream. Donaclone ™ tubes have no moving parts − so there is nothing to break down or maintain. They function properly whenever the engine is running.

This pre-cleaned dust is collected in a dust cup on the bottom of the air cleaner housing.

The second stage of filtration is the primary filter, a cylindrical-shaped unit of specially-developed pleated filter media, designed to trap and stop dust particles, both large and small. The result is air to your engine that is up to 99.9% contaminant free!



This STG Donaclone, mounted on a large mining machine, is protecting the engine from harmful dirt in this severely dusty environment.

A safety filter, which fits inside the primary filter, is standard on all models for protection during primary filter changeout. Physical orientation does not affect the proper functioning of either cleaning stage!

The STG operates well mounted horizontally or vertically. (Note that if mounting horizontally, the Vacuator™ Valve option on the dust cup is necessary.)

Mounting: Sturdy mounting brackets are attached to the top section of the STG; you will also need to order one separate mounting band for the lower body.

If you're replacing a worn out air cleaner, be sure to check ductwork, clamps, and other intake system parts that may also need replacing.

STG air cleaners feature a corrosion-resistant, chemical-resistant polymer coating. This black coating isn't paint, rather it's a pigmented polyester that provides a long-lived, hard protective finish.

# **STG** Donaclone Air Cleaner



## Versatile STG Provides Airflow to 50 m³/min. Choose Peripheral or Tubular Inlet, Horizontal or Vertical Mount

### **Applications**

- Allows 11 to 50 m³/min. airflow throughput per air cleaner
- · Horizontal or vertical installation
- · Off-road, high dust conditions

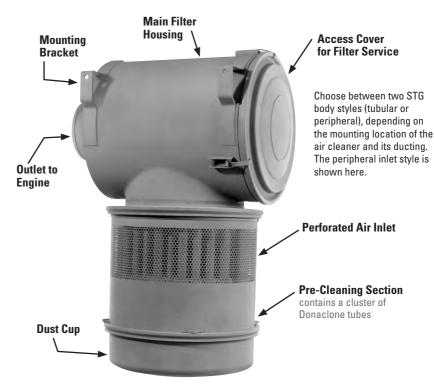
#### **Air Cleaner Features**

- Very reliable! Only one critical filter seal!
- Airflow throughput can be doubled by using two air cleaners
- Two body styles (peripheral inlet and tubular inlet) to accommodate location and ducting
- Optional inlet shroud available for peripheral style
- When the air cleaner is mounted directly on the engine and there is clearance around it for airflow, choose the peripheral inlet style (see photo on right)
- When the air cleaner is mounted above the cab or somewhere far from the engine to get above the dust cloud, choose the tubular inlet style, which will accept ducting into the inlet
- Built-in Donaclone pre-cleaning tubes separate up to 95% of incoming dust to dust cup before it reaches the filter, resulting in more thorough cleaning and fewer filter changes!
- Choose the dust cup best suited to your maintenance practices:

   (1) the quick-release style for easy, manual emptying, or (2) a dust cup with a Donaldson Vacuator Valve that expels the dust automatically
- All models include a fitting for a filter service indicator

#### **Filter Features**

- Replacement main filter choices: Standard life filters (for scheduled maintenance) and Donaldson Endurance extended service high efficiency filters
- · Safety filter on all models





# How the Two-Stage STG Donaclone Works

Air is drawn in through the perforations in the lower part of the unit and forced down through a bank of Donaclone tubes.

The Donaclone tubes spin the air so that centrifugal force causes the heavier dust particles to separate from the airstream.

While these particles fall into the dust cup at the bottom, the partially cleaned air is directed upward, into the primary filter in the upper portion of the unit.

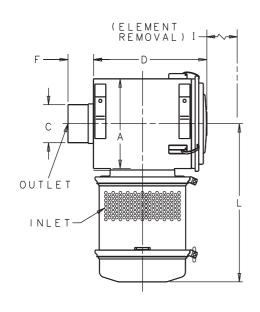
The specially-developed pleated media in the primary filter stops up to 99.9% of the remaining dust, allowing clean air to pass to the engine.



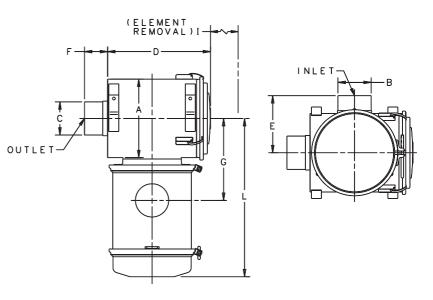
# Donaldson. STG Donaclone TM Air Cleaner

# **STG Specifications**

### **With Peripheral Inlet**



### **With Tubular Inlet**



| Air Cleaner<br>Model No.   |              | ow Range<br>³/min. |                  |     |     | Dir | nensi | ons (m | nm) |     |     |     |
|--|--------------|--------------------|------------------|-----|-----|-----|-------|--------|-----|-----|-----|-----|
| Wiodol IVo.  | 150 mm       | 200 mm             | 255 mm           | Α   | В   | С   | D     | Ε      | F   | G   | 1   | L   |
|  | $H_2O$       | H <sub>2</sub> O   | H <sub>2</sub> O |     |     |     |       |        |     |     |     |     |
| STG with P   | eripheral lı | nlet               |                  |     |     |     |       |        |     |     |     |     |
| G140076  | 20           | 24                 | 27               | 356 | _   | 152 | 441   | _      | 99  | 393 | 387 | 614 |
| G160077  | 29           | 33                 | 37               | 406 | -   | 178 | 500   | -      | 99  | 439 | 432 | 664 |
| G161006  | 38,5         | 44,5               | 50               | 406 | -   | 203 | 662   | -      | 89  | 439 | 594 | 684 |
| STG with Tubular Inlet   |              |                    |                  |     |     |     |       |        |     |     |     |     |
| G120332  | 11           | 13                 | 15               | 300 | 127 | 127 | 392   | 200    | 100 | 293 | 335 | 560 |
| G140445  | 17           | 19                 | 22               | 356 | 152 | 152 | 441   | 254    | 99  | 334 | 387 | 614 |
| G160445  | 26           | 30                 | 34               | 406 | 178 | 178 | 498   | 279    | 98  | 376 | 438 | 668 |
| G161020*   | 32           | 37                 | 41,5             | 406 | 152 | 203 | 662   | 255    | 89  | 257 | 594 | 668 |
| * G161020 has two inlets, each 152 mm in diameter. Note: All STG models are tapped to accept a filter service indicator. |              |                    |                  |     |     |     |       |        |     |     |     |     |

# **STG** Donaclone<sup>TM</sup> Air Cleaner



# STG Donaclone™ with Peripheral Inlet - Service Parts

#### G140076

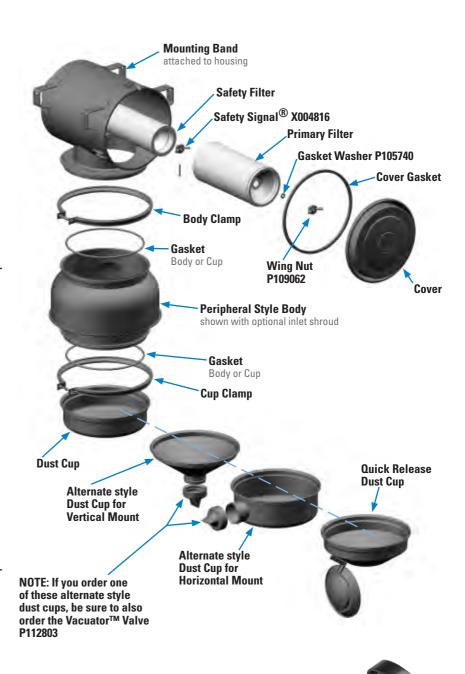
| body, lowerclamp, cupcover latch assembly | . P100866  |
|---|------------|
| dust cup                                  | . P1008603 |
| filter, primary - SM                      |            |
| filter, primary - ES & HE                 | . P185041  |
| filter, primary                           |            |
| filter, safety                            | . P119370  |
| gasket, body or cup                       | . P017335  |
| gasket, cover                             | . P016972  |
| gasket kit                                | . X0035389 |
| gasket washer                             | . P105740  |
| inlet shroud (optional)                   | . P102870  |
| mounting band                             | . H0003502 |
| safety signal indicator                   | . X004816  |
| spring clip & pin                         |            |
| wing nut                                  | . P109062  |

#### G160077

| clamp, body                       |  |
|-----------------------------------|--|
| coverP109153                      |  |
| cover latch assembly P017617      |  |
| dust cupP1007943                  |  |
| dust cup, quick release P107377   |  |
| dust cup, vac valve, horz P103530 |  |
| dust cup, vac valve, vert P104973 |  |
| filter, primary - SM P181039      |  |
| filter, primary - ES & HE P185039 |  |
| filter, primary P1820393          |  |
| filter, safety P114931            |  |
| gasket, body or cup P017336       |  |
| gasket, coverP017367              |  |
| gasket kit X0035399               |  |
| gasket washer                     |  |
| inlet shroud (optional) P101759   |  |
| mounting band                     |  |
| safety signal indicatorX004816    |  |
| spring clip & pin                 |  |
| wing nutP109062                   |  |

#### G161006

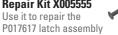
| clamp, bodydust cupdust cup, quick releasedust cup, vac valve, horzdust cup, vac valve, vertfilter, primary - SMfilter, primary - ES & HE | P100789<br>P1007943<br>P107377<br>P103530<br>P104973<br>P181042 |
|---|---|
| filter, primary   | P1820423 P128408 P017336 P017367 X0035399 P105740               |
| inlet shroud (optional)<br>mounting bandsafety signal indicatorwing nut   | H0003512<br>X004816   |



### NOTES:

- 2 = Two required for proper installation
- 3 = Shipped with air cleaner initially
- 9 = Gasket Kit includes all gaskets listed

ES = Extended Service HE = High Efficiency SM=Scheduled Maintenance Spring Clip & Pin Repair Kit X005555 Use it to repair the





# Donaldson. STG Donaclone M Air Cleaner

# STG Donaclone™ with Tubular Inlet - Service Parts

#### G120332

| body, lowerdust cup, quick release filter, primary - SMfilter, primary - ES & HE filter, primaryfilter, safetygasket, body or cupgasket, cover | P107375 P181044 P185044 P1820443 P119371 P017804 |
|--|--|
| gasket washer  | P105740  |
| mounting bandsafety signal indicator   |  |
| spring clip & pinwing nut  | X005555  |

#### G140445

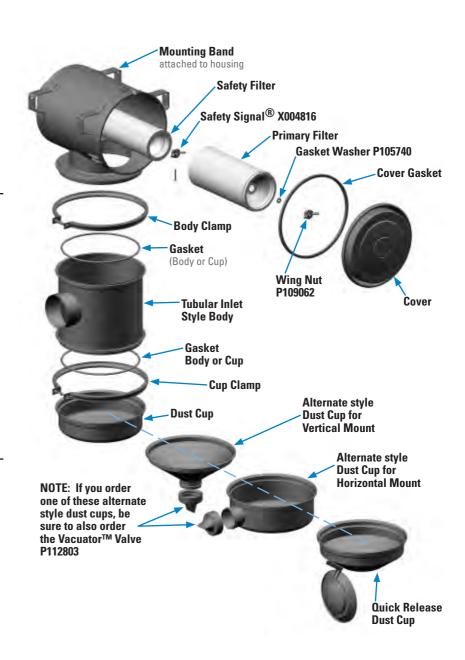
| air inlet hood lower body | P114100<br>P017617<br>P1008603<br>P107377<br>P103746<br>P105016<br>P181041<br>P185041<br>P1820413<br>P119370<br>P017335<br>P016972<br>X0035389<br>P105740 |
|---------------------------|---|
| gasket kitgasket washer   | P105740   |
| mounting band             | H0003502  |
| safety signal indicator   |   |
| spring clip & pin         | X005555   |
| wing nut                  | P109062   |

### G160445

| cover                     | P109153  |
|---------------------------|----------|
| cover latch assembly      | P017617  |
| dust cup                  | P1007943 |
| dust cup, quick release   | P107377  |
| dust cup, vac valve, horz | P103530  |
| dust cup, vac valve, vert | P104973  |
| filter, primary - SM      | P181039  |
| filter, primary - ES & HE | P185039  |
| filter, primary           | P1820393 |
| filter, safety            | P114931  |
| gasket, body or cup       | P017336  |
| gasket, cover             | P017367  |
| gasket kit                | X0035399 |
| gasket washer             | P105740  |
| mounting band             | H0003512 |
| safety signal indicator   | X004816  |
| spring clip & pin         | X005555  |
| wing nut                  |          |
|                           |          |

### G161020

| dust cup                 | 2107377<br>2103530<br>2104973<br>2181042<br>2185042<br>21820423<br>2128408<br>2017336<br>2017367<br>20035399<br>2105740 |
|--------------------------|---|
| safety signal indicatorX | (004816   |
| wing nutP                | 109062  |



- 2 = Two required for proper installation 3 = Shipped with air cleaner initially
- 9 = Gasket Kit includes all gaskets listed

ES = Extended Service HE = High Efficiency SM=Scheduled Maintenance

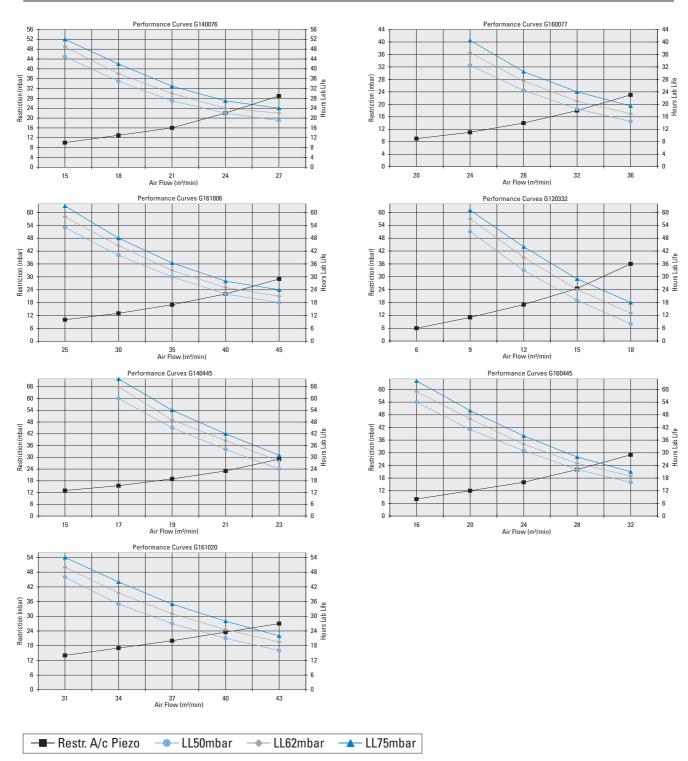
# **STG Donaclone**<sup>TM</sup> **Air Cleaner**



### When specifying an Air Cleaner...

Determine the Airflow Requirements of your engine, then find the corresponding m³/min. airflow in the charts below. The restriction numbers - shown in mbar at the left side of the chart - indicate the approximate initial restriction of each model air cleaner at that m³/min. When calculating total initial restriction of the entire air intake system, include the restriction caused by ducting, elbows, pre-cleaners, etc. The estimated lab life hours are indicated at the right side of the chart.

### **STG Performance Curves**



All performance curves are according ISO 5011 standards - Restriction measured at Piezo All tests are done with ISO Coarse at Dust Concentration of  $1g/m^3$ 



# **STG Donacione Service Instructions**

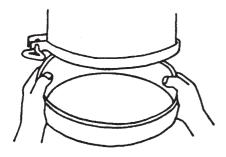
### **Measure Restriction**

Measure the restriction of the air cleaner with a Donaldson filter service

indicator, service gauge, or a water manometer via the restriction tap provided on the air cleaner or the transfer pipe. Replace the filter only when the restriction level has reached the maximum recommended by the engine or equipment manufacturer.



**Empty the Dust Cup** The dust cup should be dumped when 2/3 full. (Frequency of dust cup service varies with dust severity.) When reinstalling dust cup, be sure it



seals 360° around the air cleaner body. On dust cups with Vacuator™ Valve, dust cup service is minimal; just check the Vacuator™ Valve to see that it is not inverted, damaged or plugged. If it is damaged, replace it immediately.

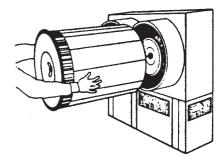


**Check Tubes for Plugging** When the dust cup is removed, check the tubes. Generally, Donaclone™ and Strata™ tubes are self-cleaning and need no service. Under special circumstances, however, plugging can begin. Visual inspection is adequate. If the tubes carry light dust, remove it with a stiff brush. If heavy plugging with fibrous material is evident, remove the Strata™ or Donaclone™ section and clean it with compressed air or

Cleaning Note: Never clean Donaclone™ tubes with compressed air unless both the primary and safety filters are installed in the air cleaner.

water no hotter than 72°C.

Do not steam-clean Donaclone™ or Strata<sup>™</sup> tubes.



Change the Filter When restriction indicates that filter service is required, loosen the wing nut and remove the primary

filter. If the new filter is not to be installed immediately, be sure to the cover the inlet with a cloth or the housing cover so that dirt is not ingested.

Before installing the new filter, inspect it for shipping damage and gasket integrity. If there is damage, DO NOT install it!

If the wing nut is held in place on the used filter with a C clip, remove it and reinstall on the new filter. Carefully install the new filter and the wing nut. Reset the filter service indicator to areen.

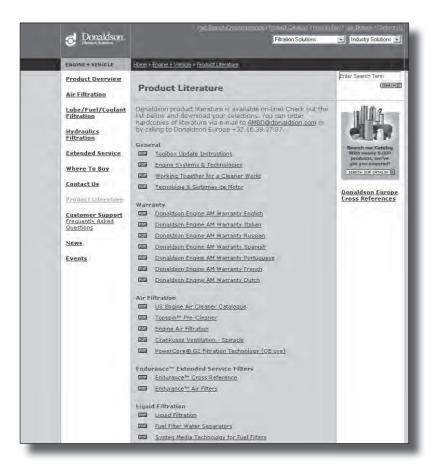
**Check System** Inspect and tighten all air cleaner system connections. If there are holes or damage, replace immediately. Inspect all gaskets for worn spots or damage. Annual replacement of

# On-Line Product Info is More Current

Than Printed Materials!

While we know printed product information will not disappear anytime soon, more and more people are choosing to use our on-line literature informational tools as a product resource. Not only is it the most current information and it's available 24/7!

http://www.emea.donaldson.com/en/engine/support/datalibrary/index.html



# Donaldson Air Intake Accessories

... help you solve problems and maintain your system

### When you need to, use...

#### Mount or install an air cleaner:

- Mounting Bands

Solve air intake water problems:

- In-line Moisture Skimmer
- In-line Moisture Separator
- Stack Top Moisture Eliminator

#### Pre-clean or protect air inlet from debris:

- Rain Caps
- TopSpin™ Pre-Cleaner
- Full-View Pre-Cleaner
- Donaspin™ Pre-Cleaner
- In-line separator

#### Know when to service a filter:

- Restriction Indicators

#### Aspirate (or scavenge) an intake system:

- Donaspin™ Pre-Cleaner
- Exhaust Ejectors
- Ejector Check Valve

### Improve dust evacuation from Vacuator™ Valves:

- Drop Down Tube Extension

### Connect intake components:

- Rubber Elbows and Connectors
- Clamps
- Rubber and Silicone Hump/Reducers
- Charge Air Connectors

# **Section Index**

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# **Clamps**



### **Worm-Drive Hose Clamps**

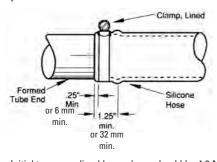
- · Versatile clamps for wide size range of hose connections.
- · Made of strong, durable, noncorrosive stainless steel.
- Inside of clamp is lined so that hose doesn't bulge through clamp holes.
- Narrow band enables easy installation in confined areas.



| Lined Hose Clamps |         |
|-------------------|---------|
| Part Number       | Size mm |
| P532919           | 14-21   |
| P532920           | 17-24   |
| P532921           | 21-27   |
| P532923           | 21-38   |
| P532924           | 21-44   |
| P532922           | 29-32   |
| P115200           | 40-62   |
| P115201           | 52-76   |
| P143422           | 71-95   |
| P115202           | 84-108  |
| P115203           | 109-133 |

# Recommended application up to 4.6 Nm torque

Donaldson lined hose clamps seal silicone and other soft hoses without damage. The inner liner extends under the perforations to protect the hose and prevents extrusions through the worm-gear perforations.



Initial torque on lined hose clamp should be 4.6 Nm. If retorquing is required, limit to 2.3 Nm.



| Constant Torque Clamps |         |  |  |  |
|------------------------|---------|--|--|--|
| Part Number            | Size mm |  |  |  |
| P532925                | 57-79   |  |  |  |
| P532926                | 70-92   |  |  |  |
| P532927                | 83-105  |  |  |  |
| P532928                | 95-117  |  |  |  |
| P532929                | 108-130 |  |  |  |

# Recommended application up to 10.4 Nm torque

Donaldson Constant Torque lined clamps are the best choice for systems where clamps cannot be retightened and have difficult access. Perfect for applications requiring higher torque, large diameters, temperature extremes, or where expansions and contractions within the system are common. This clamp is a good choice for critical coolant and charge-air connections.



| High Torque Clamps |         |
|--------------------|---------|
| Part Number        | Size mm |
| P788708            | 83-105  |
| P115204            | 108-130 |
| P115205            | 133-156 |
| P115206            | 159-181 |
| P115207            | 184-206 |
| P115208            | 210-232 |
| P115209            | 260-286 |
|                    |         |

# Recommended application up to 17.3 Nm torque

This extra heavy-duty clamp ensures total protection against leakage.....eliminates the need for double clamping.

## **T-Bolt Clamps**



| T-Bolt Clamps |              |         |
|---------------|--------------|---------|
| Part Number   | Nominal I.D. | Size mm |
| P148337       | 51           | 57-64   |
| P148338       | 57           | 63-70   |
| P148339       | 64           | 71-78   |
| P148340       | 70           | 78-85   |
| P148341       | 76           | 84-91   |
| P148342       | 89           | 98-104  |
| P148343       | 102          | 109-116 |
| P148344       | 114          | 122-129 |
| P148345       | 127          | 135-142 |
| P148346       | 140          | 151-158 |
| P148347       | 152          | 162-169 |
| P148348       | 178          | 187-198 |
| P148349       | 203          | 216-226 |
| P148350       | 254          | 267-277 |
|               |              |         |



# **SealClamps**<sup>TM</sup>

### **Preformed & Flat Styles**

Used to seal muffler inlets, outlets, elbow joints, flex pipes, and other system connections. Also minimizes noise and exhaust gas leaks.

SealClamps are easy to install! Theres no need to weld or disconnect your exhaust system.

When installed, the wide band conforms to the shape of straight or flex pipe, and seals without distorting the pipe.

- For overlapping I.D. to O.D. slotted joints and flex tube.
- Nuts and bolts fit both 9/16" and 14mm wrenches.
- Reduces noise and exhaust leaks.
- Installs easily no disconnecting or welding necessary.
- Available in aluminized and stainless steels.
- Stainless models have improved corrosion resistance and high temperature strength compared to aluminized.



Stepped Preformed SealClamp<sup>™</sup>

- Full 360º preformed
- · No flex pipe pinching
- · Available in stainless and aluminized

| Stepped Preformed SealClamps |         |     |  |  |  |  |  |  |  |  |
|------------------------------|---------|-----|--|--|--|--|--|--|--|--|
| Stainless Aluminized Pipe mm |         |     |  |  |  |  |  |  |  |  |
| X007829                      | X007832 | 64  |  |  |  |  |  |  |  |  |
| X007830                      | X007833 | 76  |  |  |  |  |  |  |  |  |
| X007831                      | X007834 | 89  |  |  |  |  |  |  |  |  |
| X007784                      | X007824 | 102 |  |  |  |  |  |  |  |  |
| X007785                      | X007805 | 127 |  |  |  |  |  |  |  |  |



| Flat Band | Flat Band SealClamps |         |  |  |  |  |  |  |  |  |
|-----------|----------------------|---------|--|--|--|--|--|--|--|--|
| Stainless | Aluminized           | Pipe mm |  |  |  |  |  |  |  |  |
| X004536   |                      | 51      |  |  |  |  |  |  |  |  |
| X004537   |                      | 57      |  |  |  |  |  |  |  |  |
| X004476   |                      | 64      |  |  |  |  |  |  |  |  |
| X004538   |                      | 70      |  |  |  |  |  |  |  |  |
| X004478   | X005921              | 76      |  |  |  |  |  |  |  |  |
| X004480   | X006204              | 89      |  |  |  |  |  |  |  |  |
| X004482   | X006203              | 102     |  |  |  |  |  |  |  |  |
| X004962   |                      | 114     |  |  |  |  |  |  |  |  |
| X004484   | X006202              | 127     |  |  |  |  |  |  |  |  |
| X004539   |                      | 152     |  |  |  |  |  |  |  |  |
|           |                      |         |  |  |  |  |  |  |  |  |



 $\textbf{Preformed SealClamp}^{\text{TM}}$ 

| Preformed SealClamps |         |  |  |  |  |  |  |
|----------------------|---------|--|--|--|--|--|--|
| Stainless            | Pipe mm |  |  |  |  |  |  |
| X005265              | 64      |  |  |  |  |  |  |
| X005921              | 76      |  |  |  |  |  |  |
| X005164              | 89      |  |  |  |  |  |  |
| X007057              | 152     |  |  |  |  |  |  |

# **Drop Down Tube Extension** (**Dust Dumpa**)



## **Replacement to Your Existing Dust Cup Assembly**

### **Application**

- Donaldson SSG Air Cleaners
- Donaldson PowerCore PSD Air Cleaners (10" and 12" models)

#### **How It Works**

When installed on the dust cups on the lower assembly, the rubber connector vibrates during normal vehicle operation and gravity expels the pre-cleaned dust.

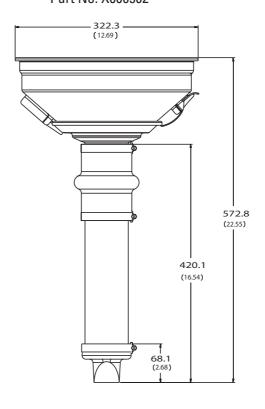
#### **Features**

- Improves dust evacuation from the air cleaner
- Clear tube allows for visual inspection of dust collection
- Improves safety of the air cleaner inspection process by eliminating the need for ladders or elevated platforms for daily inspections
- Allows operators to perform walk around inspections
- Keeps operators and maintenance personnel away from the nuisance dust normally encountered during air cleaner servicing operations.
- Improves vehicle up time by minimizing pre/post –shift air cleaner inspections, thus facilitating increased air cleaner service intervals.
- Reduces air cleaner inspection time
- Ships fully assembled
- Proper conversion requires drop down tube for every dust cup

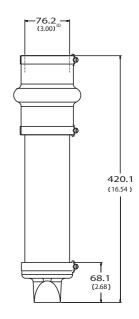




Part No. X006562



### Part No. X006561





# **Drop Down Tube Extension (Dust Dumpa)**

### **Available for SSG Air Cleaners**

### **Existing S Series Air Cleaner Dust Cup Styles**

Quick Release Dust Cup



Dust Cup - Original



Dust Cup - Newer Design



For Conversion Order Kit X006562



For Conversion Order Kit X006561



For Conversion Order Kit X006561



Available for PowerCore® Air Cleaners (PSD08 - 09 - 10 & 12)





Also works on all other Air Cleaners with 76 mm drop tube

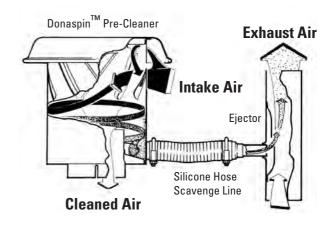
# **Exhaust Ejectors**



A Donaldson exhaust ejector removes dirt and debris from the air intake pre-cleaner through a scavenge hose that is routed out through the exhaust flow of your equipment.

It mounts as a stack at the end of exhaust system; stack caps or extension tubes may be added. There are three styles available — expanded, standard, compact — depending on the space and design of your equipment. Ejectors require no service and have no moving parts. A Donaldson T-Bolt Clamp, as show on page 120, is recommanded for installation.

All ejectors are constructed of heavy-gauge, aluminised steel. Select the appropriate ejector by the intake airflow (m³/min.) of your engine.



The Donaspin<sup>TM</sup> pre-cleaner uses a spinning motion of the airstream to force dirt and debris to the outside wall of the pre-cleaner body. The dirt and debris are forced to the bottom of the pre-cleaner and expelled by the secondary airflow developed by the ejector.



**Compact Style** 

### **Expanded I.D. End Style**

- Simplifies installation requires less parts to install
- No need for separate connector!
- Fits over most standard muffler outlet tubes
- Adds only 1000 2000 Pa to exhaust backpressure

#### **Standard Style**

- Can be used with any pre-cleaner style
- Adds only 1000 2000 Pa to exhaust backpressure

#### **Compact Style**

- Used primarily on agricultural equipment
- Adds 2500 3800 Pa to exhaust backpressure



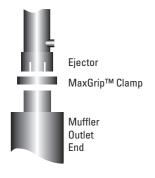
# **Exhaust Ejectors**

| Expanded Inlet End Style Ejectors |           |     |                        |              |   |    |     |                        |         |                     |  |  |
|-----------------------------------|-----------|-----|------------------------|--------------|---|----|-----|------------------------|---------|---------------------|--|--|
| Part<br>Number                    |           |     | Scavenge Tube ID<br>mm | Length<br>mm | m |    |     | m³/min. scavenge hose* |         | Lined<br>Hose clamp |  |  |
| H002129                           | 14 - 20   | 131 | 38                     | 749          |   | 86 | 51  | P171378                | P115200 |                     |  |  |
| H002132                           | 29,5 - 42 | 157 | 51                     | 826          | 7 | 4  | 105 | P171381                | P115200 |                     |  |  |

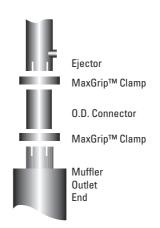
| Standard Style Ejectors |                   |                |                        |              |                    |     |                                  |                     |  |  |  |  |
|-------------------------|-------------------|----------------|------------------------|--------------|--------------------|-----|----------------------------------|---------------------|--|--|--|--|
| Part<br>Number          | Intake<br>m³/min. | Inlet ID<br>mm | Scavenge Tube ID<br>mm | Length<br>mm | Exhaust<br>m³/min. |     | 3-ply silicone<br>scavenge hose* | Lined<br>Hose clamp |  |  |  |  |
|                         |                   |                |                        |              | min                | max |                                  |                     |  |  |  |  |
| H001032                 | 7 - 10            | 77             | 38                     | 445          | 18                 | 25  | P171378                          | P115200             |  |  |  |  |
| H001033                 | 9 - 12,5          | 102            | 38                     | 610          | 22                 | 31  | P171378                          | P115200             |  |  |  |  |
| H001034                 | 11 - 15           | 102            | 38                     | 610          | 27,5               | 39  | P171378                          | P115200             |  |  |  |  |
| H001035                 | 14 - 20           | 128            | 38                     | 749          | 36                 | 51  | P171378                          | P115200             |  |  |  |  |
| H001039                 | 36 - 51,5         | 153            | 51                     | 826          | 92                 | 130 | P171381                          | P115200             |  |  |  |  |

| Compact St     | yle Ejectors      |                |                        |              |      |                     |                                  |                     |
|----------------|-------------------|----------------|------------------------|--------------|------|---------------------|----------------------------------|---------------------|
| Part<br>Number | Intake<br>m³/min. | Inlet ID<br>mm | Scavenge Tube ID<br>mm | Length<br>mm |      | aust<br>min.<br>max | 3-ply silicone<br>scavenge hose* | Lined<br>Hose clamp |
| H001282*       | 1 - 2             | 51             | 32                     | 178          | 3    | 4                   | P171376                          | P532924             |
| H001277*       | 2,5 - 3,5         | 57,5           | 32                     | 202          | 6    | 9                   | P171376                          | P532924             |
| H001283*       | 3 - 4,5           | 64             | 32                     | 226          | 8    | 11                  | P171376                          | P532924             |
| H001278*       | 5 - 6             | 70             | 32                     | 248          | 12   | 15                  | P171376                          | P532924             |
| H001280*       | 6 - 9,5           | 89             | 32                     | 318          | 16   | 24                  | P171376                          | P532924             |
| H001279*       | 8,5 - 11          | 77             | 32                     | 274          | 21,5 | 28                  | P171376                          | P532924             |
| H001281*       | 10,5 - 14         | 102            | 32                     | 365          | 26,5 | 34                  | P171376                          | P532924             |
| H001284*       | 13 - 17           | 102            | 32                     | 365          | 32   | 42,5                | P171376                          | P532924             |

<sup>\*</sup> Do not use in fibrous environment, e.g. Combine Harvestors



**EXPANDED STYLE INSTALLATION** 



**STANDARD OR COMPACT INSTALLATION** 

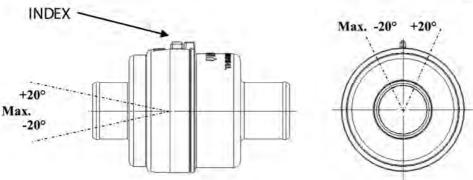
## **In-Line Check Valve**

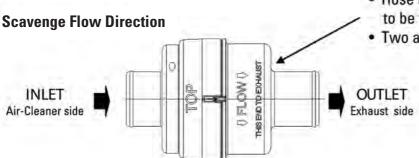


### **Installation Instructions**

- For proper function of the Valve the INDEX needs to be installed upwards
- Install inline check valve as close as possible to the air cleaner
- Temperature resistance of 200°C
- Different connection diameters: 32 38 50 mm







| Check Valve Assy | Inlet Diameter | Outlet Diameter |
|------------------|----------------|-----------------|
| P786337          | 32             | 32              |
| P786339          | 50             | 32              |
| P786338          | 38             | 32              |
| P786341          | 32             | 38              |
| P786342          | 50             | 38              |
| P786340          | 38             | 38              |
| P786345          | 32             | 50              |
| P786343          | 50             | 50              |
| P786344          | 38             | 50              |

· Two arrows indicate airflow direction



### Two-stage Cleaning for Unexpected Dust/Moisture Conditions

When your truck is being used in heavier-than-anticipated dust or moisture conditions, you may not have to replace the entire air cleaner. The problem may be solved by adding a Donaldson In-Line Separator.

Installing this unit on your one-stage system <u>creates a two-stage air filtration system.</u> This enables an over-highway vehicle, which usually sees only light-dust, to be easily andeconomically adapted to off-road conditions, where medium- to heavy-dust is encountered.

### **Applications**

Vertical model:

On/off road, mounted on inlet tubing or cowl mounted directly to air cleaner

- Compatible with engine airflows of 14 to 43 m³/min.

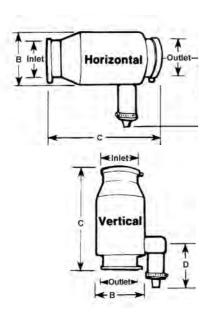
Horizontal model:

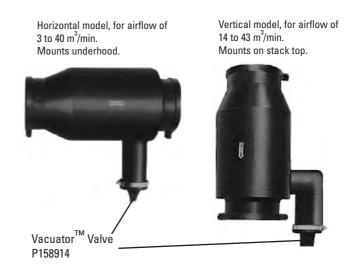
On/off road, typically mounted under hood

- Compatible with engine airflows of 3 to 40 m<sup>3</sup>/min.

### **Features**

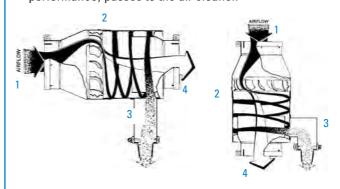
- 80% water removal efficiency
- 70% dust removal efficiency





### **How It Works**

- 1 When moisture and/or dust-filled air enters at one end, the built-in, stationary vanes cause the air to spin.
- 2 This spin creates centrifugal force, which pushes all moisture and dust to the outside wall where it separates from the air.
- 3 Moisture and dust are thrown into the Vacuator Valve tubing, then automatically released by the Vacuator Valve.
- 4 Clean air (acceptable for maximum filter life and engine performance) passes to the air cleaner.



| Part<br>Number                    | Airflow<br>Range              | Inlet<br>mm                        | Diameter<br>Outlet<br>mm   | Length<br>(B)<br>mm | (C)<br>mm         | (D)<br>mm         |
|-----------------------------------|-------------------------------|------------------------------------|----------------------------|---------------------|-------------------|-------------------|
| Horizontal Style                  |                               |                                    |                            |                     |                   |                   |
| H001474 (1)<br>H000875<br>H001906 | 3 - 11<br>14 - 28<br>20 - 40  | 102 OD (2)<br>152 ID (3)<br>178 ID | 102 OD<br>152 ID<br>178 ID | 140<br>217<br>244   | 292<br>438<br>432 | 182<br>294<br>305 |
| Vertical Style                    |                               |                                    |                            |                     |                   |                   |
| H000878<br>H000886<br>H001220     | 14 - 31<br>21 - 31<br>26 - 43 | 152 ID<br>178 ID<br>203 OD         | 152 ID<br>178 ID<br>203 OD | 217<br>217<br>244   | 438<br>438<br>432 | 198<br>198<br>116 |
| (1) Lightweight all               | uminium construction          | (2) OD = 0                         | uter Diameter              | (3) ID = Inner      | Diameter          |                   |

# **Moisture Skimmer & Eliminator**



### Horizontal, In Line Moisture Skimmer Removes Water

### **Applications**

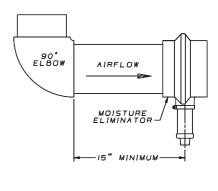
- Allows 17 to 34 m<sup>3</sup>/min. airflow.
- · Horizontal mount in engine air intake ducting.

#### **Features**

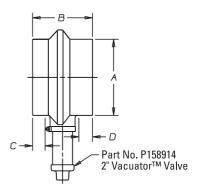
- Removes over 80% of water before it can reach and damage the filter.
- No service needed!
- · Made of durable rubber.
- Collected water is automatically released by Vacuator<sup>TM</sup> Valve.
- · Adds little or no restriction to airflow.
- Common inlet sizes fit most installations.



### **Mounting Position**



| Part<br>Number                 | Flow<br>m³/min    | Inner Dia.<br>(A)<br>mm | Length<br>(B)<br>mm | Tube<br>(C)<br>mm | Stops<br>(D)<br>mm |
|--------------------------------|-------------------|-------------------------|---------------------|-------------------|--------------------|
| X005822<br>X005900<br>X005901* | 17-28<br>23<br>23 | 152<br>178<br>178       | 152<br>152<br>152   | 32<br>32<br>32    | 35<br>35<br>35     |
| * Angled S                     |                   | .70                     | 132                 | - 02              | 33                 |



## **Stack-Top Moisture Eliminator Prevents Water Provers**

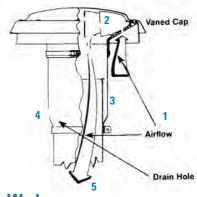
 For cabover trucks, on/off road, mounted on top of 7" (178mm) O.D. intake stack.

 For airflow range of 17 to 34 m³/min.

• Over 80% water removal efficiency.

Includes clamp for installation.





### **How They Work**

- (1) Moisture-filled air enters the moisture eliminator cap.
- (2) Built-in, stationary vanes cause the air to spin.
- (3) Moisture is forced to the outside wall, where it separates from the air and collects.
- (4) Water drains out through the drain hole.
- (5) As a result, drier air (acceptable for maximum filter life and engine performance) passes to the air cleaner.



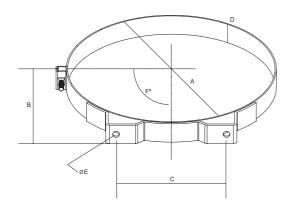
# **Metal Mounting Bands**

# Many sizes Designed to Fit all Donaldson Air Cleaners

- Durable, corrosion resistant, steel construction.
- Fully engineered and tested to resist the adverse effects of vibration.
- Mounting band feet are designed to ensure maximum torque pressure, continuously.
- Gauge of steel increases as diameter of mounting band increases.
- Bright stainless models available.
- Bolt and nut included with mounting band.
- Used on all Axial Seal Air Cleaners and FRG Radial Seal Air Cleaners.



Most of our Air Cleaners with metal housings require two mounting bands.



| Part Number     |     | Di    | mension | s (mm) |         |     |
|-----------------|-----|-------|---------|--------|---------|-----|
|                 | Α   | В     | С       | D      | Е       | F   |
| P004055         | 111 | 68    | 82,5    | 19     | 9,0     | 90  |
| P002348         | 134 | 81    | 82      | 22     | 9,0     | 90  |
| P002351         | 153 | 91    | 83      | 26     | 9,0     | 90  |
| P007191         | 165 | 99    | 95      | 22     | 11 X 16 | 90  |
| P004906         | 178 | 105   | 111     | 22     | 10 X 13 | 90  |
| E500206         | 203 | 114   | 108     | 25     | 12 X 17 | 90  |
| P004307         | 203 | 114   | 108     | 25     | 9       | 90  |
| P004073         | 229 | 130   | 114     | 32     | 12      | 90  |
| P004076         | 259 | 146   | 127     | 32     | 12      | 90  |
| H770025*        | 259 | 146   | 127     | 32     | 12      | 90  |
| P004079         | 279 | 156   | 127     | 32     | 11      | 90  |
| H000349         | 300 | 175   | 152     | 38     | 11      | 90  |
| P013722         | 330 | 184   | 152     | 38     | 10      | 90  |
| H770065         | 330 | 206   | 203     | 38     | 12      | 90  |
| H770059         | 345 | 191,5 | 142     | 38     | 10      | 90  |
| H000350         | 356 | 206   | 203     | 38     | 12      | 90  |
| P016845         | 381 | 203   | 203     | 38     | 12      | 90  |
| H000351         | 407 | 231   | 254     | 38     | 12      | 90  |
| H770037         | 457 | 234   | 400     | 50     | 14      | 105 |
| H770068         | 546 | 279   | 490     | 48     | 14      | 105 |
| * With cage nut |     |       |         |        |         |     |

# **Donaspin Pre-Cleaners**



# **Extends Filter Life in Extremely Heavy Dust Conditions**

The Donaspin Pre-Cleaner extends the life your air filter by removing up to 90% of the dirt and contaminant before it reaches the filter and ejecting it automatically via the exhaust. (See page 124-125 for Exhaust Ejectors.)

Donaspin is designed especially for equipment operating in very heavy dust/debris environments such as garbage trucks, agricultural vehicles and mining equipment.

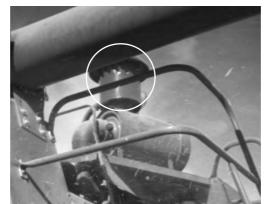


- For engine airflows of 9-22 m<sup>3</sup>/min.
- Recommended mounting: on top of the air inlet stack

#### **Features**

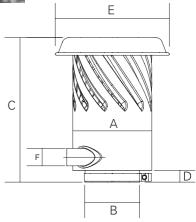
- Built-in louvers spin air to separate up to 90% of incoming dirt and debris from the air intake system
- Works as part of a scavenged flow system to continuously expel pre-cleaned contaminants through the exhaust flow
- Durable, corrosion-resistant steel construction
- High efficiency with low restriction
- No maintenance! Self-cleaning! No moving parts!
- · Mounting clamp is included





The Donaspin installed on this combine removes most of the incoming dirt, then directs the contaminant out of the system with the exhaust gases.

To create a scavenged flow system, combine the Donaspin with a Donaldson exhaust ejector and ejector check valve.



| Part Number |                               | Dimensions |              |         |         |         |         |
|-------------|-------------------------------|------------|--------------|---------|---------|---------|---------|
|             | (m³/min) @ 12,5<br>mbar added | A<br>mm    | B (ID)<br>mm | C<br>mm | D<br>mm | E<br>mm | F<br>mm |
| H001212     | 9                             | 203        | 76           | 304     | 55      | 305     | 32      |
| H001307     | 11                            | 203        | 96           | 292     | 42      | 305     | 32      |
| H001215     | 13                            | 203        | 115          | 284     | 28      | 305     | 32      |
| H001308     | 15                            | 203        | 128          | 283     | 33      | 305     | 32      |
| H001375     | 22                            | 229        | 154          | 373     | 34      | 330     | 32      |



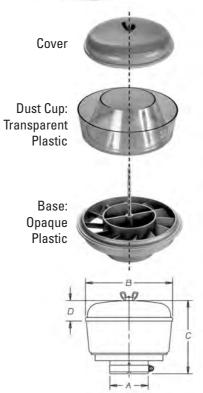
### **Extends Filter Life on Agricultural & Construction Equipment**

Donaldson has a new Pre-Cleaner called TopSpin<sup>TM</sup>. Before you consider replacing your Full-View Pre-Cleaner with another one, check out the TopSpin models on page 132 and 133.



### **Features**

- TopSpin<sup>TM</sup> Full-View **Pre-Cleaners Pre-Cleaners** H000820 H002425 H000821 H002426 H000822 H002394 H000823 H002427 H001250 H002435 H001251 H002436 H001249 H002437 H001823 H002434 H002043 H002433 H002044 H002432 H002045 H002431 H002223 H002438 H002224 H002439
- Recommended mounting: on top of the engine intake stack.
- Centrifugal force in bowl separates up to 75% of incoming dust before it enters the engine air intake system.
- Low maintenance!
- Durable, lightweight, noncorrosive construction.
- Full-View plastic bowl lets operator easily see when service is needed.
- One-bolt cover retention for service when dirt reaches the level of the arrow, remove top nut and plastic body then empty – no tools required.
- Mounting clamp included.



| Full-View  | Re      | placement Pa | rts     | Max Airflow |         | Inlet OD |         |         |
|------------|---------|--------------|---------|-------------|---------|----------|---------|---------|
| PreCleaner | Cover   | Bowl         | Clamp   | (m³/min.)   | A<br>mm | B<br>mm  | C<br>mm | D<br>mm |
| H002041    | P020116 | P020115      | P532924 | 2           | 35      | 142      | 142,5   | 44      |
| H002042    | P020116 | P020115      | P115200 | 2           | 44      | 142      | 142,5   | 44      |
| H002040    | P020116 | P020115      | P115200 | 2,5         | 51      | 142      | 142,5   | 44      |
| H001250    | P020648 | P020227      | P115201 | 4           | 57      | 186      | 157     | 44      |
| H001251    | P020648 | P020227      | P115201 | 4           | 64      | 186      | 157     | 44      |
| H001249    | P020648 | P020227      | P143422 | 5           | 77      | 186      | 157     | 44      |
| H000820    | P016548 | P016330      | P143422 | 9           | 77      | 270      | 190     | 47      |
| H000821    | P016548 | P016330      | P115202 | 9           | 96      | 270      | 188     | 47      |
| H000822    | P016548 | P016330      | P115202 | 9,5         | 102     | 270      | 189     | 47      |
| H000823    | P016548 | P016330      | P115203 | 10          | 115     | 270      | 188     | 47      |
| H002043    | P020345 | P020344      | P115203 | 21          | 127     | 306      | 195     | 51      |
| H002223    | P104691 | P158324      | -       | 37          | 152     | 412      | 258     | 70      |
| H002224    | P104691 | P158324      | -       | 42,5        | 178     | 412      | 258     | 70      |

# **TopSpin**<sup>TM</sup> **Pre-Cleaners**



### **Extends Filter Life in Extremely Heavy Dust Conditions**

Donaldson TopSpin™ will extend primary air filter life, boost system efficiency and extend engine life! We recently upgraded the cover material of the TopSpin Pre-Cleaner to **increase impact resistance**. Before it was a see-through unit, now it is **black**.

#### **Features**

# Separates up to 85% of incoming contaminant per ISO 5011/SAE J726

- · Greatly extends air filter life
- · Reduces air filter usage
- Lowers cost per operating hour
- · Automatically ejects mixed debris
- Separates more than 99% of 20 micron and above particles

### **Operates at a lower RPM**

- Less noise
- · Longer bearing life
- · Lower restriction

#### Self-cleaning/self-scavenging

- No maintenance to clean bowl
- No exhaust ejector required

#### **Easy installation**

- Quick installation
- One clamp to tighten
- No wires or power requirements

#### **Dual mounted bearings**

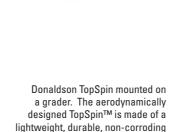
- More robust design
- · Extends bearing life

### **Lighter Weight**

- Lighter than competitive precleaners
- Lighter than Donaldson full-view pre-cleaner

### **Application**

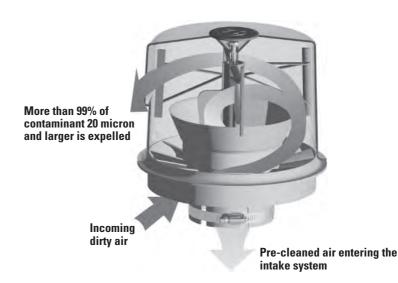
- Engine airflows of 2-43 m<sup>3</sup>/min.
- Primarily used in medium to heavy dust environments
- Great for off-road vehicles and equipment from crawler tractors to farm tractors to skid steer loaders
- Recommended mounting: on top of the air cleaner inlet stack



material which makes it tolerant to all weather and operating

conditions



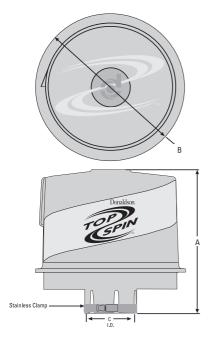


- Can be mounted horizontally or vertically
- Installation instructions, stainless clamp / warranty are included
- Operating temperature range: to 82°C



# **TopSpin**<sup>TM</sup> **Pre-Cleaners**

# **TopSpin™ Specifications**

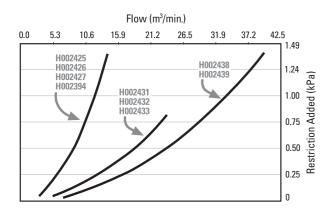


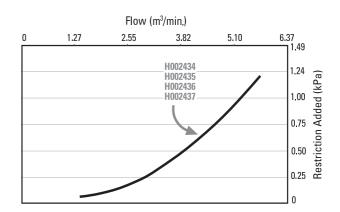
| Part<br>Number | Outlet<br>I.D. (C)<br>mm | Overall<br>Height (A)<br>mm | Body<br>Dia. (B)<br>mm | Operating<br>Flow Range<br>m³/min. |
|----------------|--------------------------|-----------------------------|------------------------|------------------------------------|
| H002434        | 51,5                     | 146                         | 162                    | 2,5 - 6                            |
| H002435        | 58                       | 146                         | 162                    | 2,5 - 6                            |
| H002436        | 64                       | 146                         | 162                    | 2,5 - 6                            |
| H002437        | 77                       | 146                         | 162                    | 2,5 - 6                            |
| H002425        | 78                       | 238                         | 242                    | 6 - 13                             |
| H002426        | 97                       | 238                         | 242                    | 6 - 13                             |
| H002394        | 103                      | 238                         | 242                    | 6 - 13                             |
| H002431        | 103                      | 287                         | 288                    | 13 - 21                            |
| H002427        | 116                      | 238                         | 242                    | 6 - 13                             |
| H002432        | 116                      | 287                         | 288                    | 13 - 21                            |
| H002433        | 128                      | 287                         | 288                    | 13 - 21                            |
| H002438        | 153                      | 345                         | 397                    | 21 - 42,5                          |
| H002439        | 179                      | 345                         | 397                    | 21 - 42,5                          |

Cross References from Full View to TopSpin<sup>™</sup> Pre-Cleaner can be found on page 131.

## **TopSpin™ Performance Curves**

Multiple tests conducted per ISO 5011/SAE J726 and average results are shown in charts below.





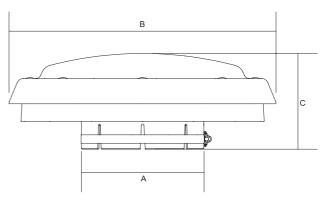
# **Rain Caps**



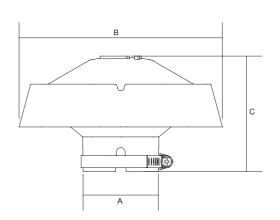
## **Rain Caps Protect Against Large Debris Ingestion**

- Protects engine air intake from rain, snow, birds, and other large contaminants.
- · Mounts on stack or directly to air cleaner for on-road and off-road equipment.
- Two styles in a wide variety of sizes.
- Installs easily with one clamp which is included.









| Style | Part    | Part Dimensions |     |     |
|-------|---------|-----------------|-----|-----|
|       | Number  | Α               | В   | С   |
| Α     | H770066 | 45              | 110 | 56  |
| В     | H001377 | 52              | 152 | 86  |
| В     | H001378 | 64              | 152 | 86  |
| В     | H001379 | 77              | 152 | 86  |
| В     | H770010 | 96              | 266 | 132 |
| В     | H770081 | 97              | 200 | 140 |
| В     | H770011 | 102             | 266 | 130 |
| В     | H770012 | 115             | 266 | 126 |
| В     | H770013 | 128             | 266 | 123 |
| В     | H770090 | 154             | 405 | 144 |
| В     | H770089 | 179             | 405 | 144 |
| Α     | H001053 | 207             | 405 | 157 |
| Α     | H770082 | 254             | 406 | 189 |

# Donaldson. Filtration Solutions

### **Restriction Indicators**

# Filter Service Indicators Maximize Filter Life Mounting Options: On air cleaner outlet tube, on intake duct or remote

Replacing filters based on restriction readings can reduce your maintenance costs significantly. Visual inspection of air filters is not adequate and should not dictate service life. Filters that appear very dirty may still contain a great amount of service life.

Over-servicing and excessive handling of the filter can result in serious consequences: filter damage, improper installation, intake contamination from ambient dust, and/or increased service cost, time and material. In contrast, filter service based on restriction readings can enable you to obtain: the longest life possible from the filter, and the best engine protection.

# Restriction Readings, Where & When

Restriction readings are normally taken at the air cleaner on the clean side of the air filter. If the air cleaner does not have a restriction tap, readings can be taken anywhere in the system between the air cleaner and the engine. To measure restriction of a naturally aspirated diesel engine, the reading is taken at full-governed RPM with no load.

Two methods are used to measure the restriction of turbocharged engines. The **first method** is to take the reading with the truck on a dynamometer under full load. This result is actual restriction.

A locking step gauge is the **second method**. This popular method will give actual, on-theroad peak readings.

# **Maximum Restriction Limits** for Engines

Maximum allowable restriction limits are set by the engine manufacturers. If your maximum limit is unknown, contact your engine manufacturer for the maximum limits.

Maximum levels are measured at high idle with no load for naturally aspirated and super-charged diesel engines. Turbo-charged diesel, gasoline and carbureted engines are measured at full load with a wide open throttle.

# Choose Restriction Measurement Tools that Best Fit Your Applications

Donaldson offers a variety of restriction measuring devices that help you get maximum filter utilization. All measure restriction in inches of water vacuum. All are resistant to vibration, breakage, weather, corrosion, dust and dirt to assure reliable filter restriction readings.

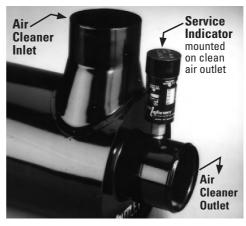
### **Types of Indicators**

**Continuous Reading** devises show how much life is left in the filter:

• The Informer<sup>™</sup> Mechanical Indicators

**Go/No-Go** restriction readings on heavy-duty vehicles:

- ServiSignal<sup>™</sup>
- Electrical Indicator
- Electrical Indicator with AMP Connector



Filter service indicators are very effective when mounted on the outlet tube of the air cleaner, as is The Informer TM above.

This gives the operator constant & accurate visibility of filter life.

### **Restriction Indicators**



| Mechanical Indicators                    |  |  |  |  |  |  |
|--|--|--|--|--|--|--|
| Part Restriction Limits Fitting          |  |  |  |  |  |  |
| Number mbar Pa mm H2o                    |  |  |  |  |  |  |
| ServiSignal <sup>™</sup> Mini Indicators |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| X002250 37 3700 380 1/8"-27 NPT          |  |  |  |  |  |  |
| X002251 50 5000 508 1/8"-27 NPT          |  |  |  |  |  |  |
| X002252 62 6200 635 1/8"-27 NPT          |  |  |  |  |  |  |
| X002254 75 7500 762 1/8"-27 NPT          |  |  |  |  |  |  |
| Informer <sup>™</sup> Indicators         |  |  |  |  |  |  |
| X002278 50 5000 508 1/8"-27 NPT          |  |  |  |  |  |  |
| X002277 62 6200 635 1/8"-27 NPT          |  |  |  |  |  |  |
| X002275 75 7500 762 1/8"-27 NPT          |  |  |  |  |  |  |

### ServiSignal™ Mini **Indicator**

Small enough to fit just about anywhere (only 42 mm high), the Donaldson ServiSignal™ Servisiona shows a highly visible, bright red flag in the full-view window when restriction limit is reached. Resets manually via top button after air cleaner service. Kit includes 1/8" NPT threaded brass fitting for mounting on the air cleaner. For remote mount, also order P105168 flange. Hoses are not included.

### The Informer<sup>™</sup> for Graduated, **Continuous Readings**

The Informer. when mounted on the air cleaner or the dashboard, provides a continuous reading whether the engine is running or is shut down. Reset button is on top. Kit includes ful installation instructions and a P100089 safety filter fitting. For remote mounting, order a P105168 flange and a P105622 90° elbow.

#### **Electrical Indicators**

Part **Fitting Restriction Limits** Number mbar Pa mm H2o

### **Electrical Indicators**

| X770037 | 37 | 3700 | 380 | 1/8"-27 NPT |
|---------|----|------|-----|-------------|
| X770050 | 50 | 5000 | 508 | 1/8"-27 NPT |
| X770052 | 50 | 5000 | 508 | M10 X 1     |
| X770061 | 62 | 6200 | 635 | M10 X 1     |
| X770062 | 62 | 6200 | 635 | 1/8"-27 NPT |
| X770075 | 75 | 7500 | 762 | 1/8"-27 NPT |

### **Electrical Indicators with AMP connectors**

X770225 6400 627 64 M10 X 1 X770301 5400 530 54 M10 X 1 X770316 5400 530 1/8"-27 NPT 54 X770317 6400 627 1/8"-27 NPT 64 X770526 75 7500 762 1/8"-27 NPT

### **Electrical Indicators Connects to Light, Buzzer, or Computer**

- Designed for a variety of on- and off-highway applications.
- Should be screwed on the air cleaner nipple by hand.
- Operating temperatures of -10°C to +100°C.
- When restriction level reaches the maximum recommended limit, an electrical signal activates a light, a buzzer, or a computer.
- The indicator automatically resets itself after the filter is serviced.
- 12-24 Volts.
- Maximum load: 6 watts (light or buzzer).
- Contacts have no polarity.
- Switch contacts are normally in the open position.
- If inductive load can occur, appropriate protection must be provided.
- Quick connectors and light, buzzer, or computer must be purchased separately.







# Rubber Elbows, Humps & Reducers

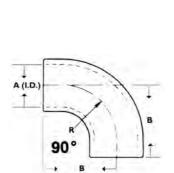
Flexible rubber adapters and elbows have smooth radii and inside surfaces to minimize flow resistance within the air intake system. These rubber products are havyy duty.

### **Specifications**

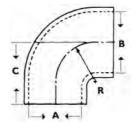
- EPDM rubber construction for improved heat resistance and low temperature flexibility (to 100°C).
- Non corrosive construction resists tears, punctures, and vacuum collapse under severe conditions.
- Ideal for light-, medium- and heavy-duty applications.
- Elbows ribbed or compounded for extra strength and durability.
   Rubber adapters help to absorb vibrations and reduce intake noise level.



### 90° Elbows & Elbow Reducers







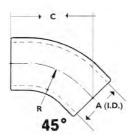
| 90° Elbows |       |         |           |     |
|------------|-------|---------|-----------|-----|
| Part       | Dimen | sion (m | m)Outer I | Dia |
| Number     | Α     | В       | R         | mm  |
| P781509    | 45    | 80      | 51        | 51  |
| P105529    | 50    | 89      | 51        | 61  |
| P105530    | 57    | 95      | 57        | 67  |
| P105531    | 63    | 102     | 64        | 76  |
| P105532    | 76    | 127     | 83        | 89  |
| P114318    | 89    | 140     | 102       | 102 |
| P105533    | 102   | 146     | 105       | 114 |
| P113733    | 114   | 140     | 89        | 127 |
| P107844    | 127   | 156     | 115       | 140 |
| P105534    | 140   | 165     | 121       | 153 |
| P105535    | 152   | 171     | 127       | 165 |
| P105536    | 178   | 192     | 141       | 194 |
| P112605    | 203   | 216     | 165       | 223 |
| P114314    | 254   | 267     | 216       | 273 |

| 90° Elbow Reducers |   |   |  |  |  |  |
|--------------------|---|---|--|--|--|--|
|                    | Dimensio  | n (mm)  |  | Outer Dia  |  |  |
| Α                  | В   | С   | R  | mm   |  |  |
| 40                 | 45  | 80  | 45   | 46 - 51  |  |  |
| 76                 | 60  | 65  | 70   | 71 - 87  |  |  |
| 76                 | 70  | 113   | 60   | 82 - 88  |  |  |
| 76                 | 89  | 89  | 57   | 89 - 102   |  |  |
| 127                | 102   | 146   | 95   | 114 - 140  |  |  |
| 152                | 127   | 178   | 108  | 140 - 165  |  |  |
| 178                | 127   | 178   | 108  | 140 - 190  |  |  |
| 178                | 140   | 146   | 111  | 156 - 194  |  |  |
| 152                | 140   | 170   | 127  | 152 - 165  |  |  |
|                    | A<br>40<br>76<br>76<br>76<br>127<br>152<br>178<br>178 | Dimension A B 40 45 76 60 76 70 76 89 127 102 152 127 178 127 178 140 | A     B     C       40     45     80       76     60     65       76     70     113       76     89     89       127     102     146       152     127     178       178     127     178       178     140     146 | Dimension (mm)           A         B         C         R           40         45         80         45           76         60         65         70           76         70         113         60           76         89         89         57           127         102         146         95           152         127         178         108           178         127         178         108           178         140         146         111 |  |  |

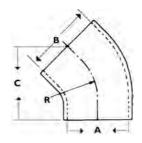
# Rubber Elbows, Humps & Reducers



# 45° Elbows & Elbow Reducers



| 45° Elbows |       |         |      |          |
|------------|-------|---------|------|----------|
| Part       | Dimen | sion (m | m) 0 | uter Dia |
| Number     | Α     | С       | R    | mm       |
| P105541    | 50    | 102     | 51   | 61       |
| P105542    | 56    | 105     | 57   | 67       |
| P105543    | 64    | 110     | 64   | 74       |
| P105544    | 76    | 140     | 95   | 89       |
| P109331    | 89    | 127     | 89   | 102      |
| P105545    | 102   | 140     | 108  | 114      |
| P114316    | 114   | 129     | 89   | 127      |
| P109021    | 127   | 143     | 115  | 140      |
| P105546    | 140   | 159     | 121  | 153      |
| P105547    | 153   | 165     | 127  | 165      |
| P105548    | 178   | 203     | 141  | 194      |
| P112606    | 203   | 203     | 165  | 222      |
| P114313    | 254   | 241     | 216  | 273      |

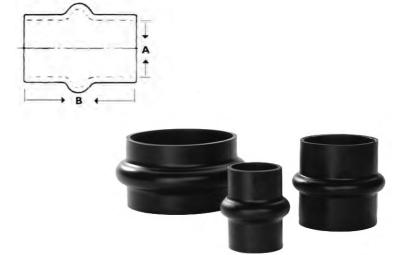


| 45° Elbow Reducers |     |          |      |     |           |  |  |
|--------------------|-----|----------|------|-----|-----------|--|--|
| Part               | Dim | ension ( | (mm) |     | Outer Dia |  |  |
| Number             | Α   | В        | С    | R   | mm        |  |  |
| P133338            | 152 | 140      | 164  | 124 | 153 - 165 |  |  |
| P133339            | 153 | 178      | 184  | 135 | 168 - 194 |  |  |



# **Straight Humps**

| Part<br>Number | Dimensio<br>A | on (mm)<br>B | Outer Dia<br>mm |
|----------------|---------------|--------------|-----------------|
| D701E11        | 45            | Ε0.          | F1              |
| P781511        | 45            | 50           | 51              |
| P105608        | 76            | 135          | 89              |
| P114319        | 89            | 134          | 102             |
| P105609        | 102           | 134          | 115             |
| P114317        | 114           | 153          | 127             |
| P105610        | 127           | 153          | 140             |
| P105611        | 140           | 153          | 153             |
| P105612        | 153           | 178          | 165             |
| P105613        | 178           | 178          | 191             |
| P112608        | 203           | 127          | 216             |
| P111414        | 254           | 153          | 267             |





# Rubber Elbows, Humps & Reducers

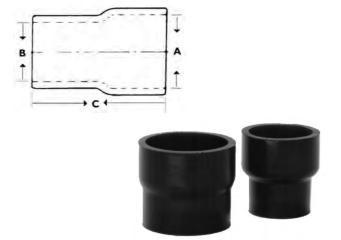
# **Hump Reducers**

| Part    | Dimens | ion Imm       |     | Outer Dia |
|---------|--------|---------------|-----|-----------|
| Number  | A      | ппп) поп<br>В |     |           |
| Number  | А      | Ь             | С   | mm        |
| P102820 | 76     | 64            | 114 | 75 - 89   |
| P520883 | 76     | 70            | 89  | 83 - 89   |
| P520882 | 89     | 70            | 102 | 80 - 99   |
| P101290 | 89     | 76            | 127 | 89 - 102  |
| P520884 | 102    | 70            | 102 | 80 - 111  |
| P101291 | 102    | 76            | 134 | 89 - 114  |
| P101292 | 102    | 89            | 134 | 102 - 114 |
| P101293 | 127    | 102           | 153 | 114 - 140 |
| P101891 | 140    | 102           | 153 | 114 - 153 |
| P103516 | 140    | 127           | 153 | 140 - 153 |
| P112611 | 153    | 127           | 153 | 140 - 165 |
| P101294 | 153    | 140           | 153 | 153 - 165 |
| P126530 | 178    | 140           | 178 | 153 - 191 |
| P112610 | 178    | 153           | 153 | 165 - 191 |
| P136494 | 178    | 127           | 178 | 140 - 191 |
| P129660 | 203    | 140           | 178 | 152 - 216 |
| P114315 | 203    | 153           | 153 | 165 - 216 |
| P112609 | 203    | 178           | 153 | 191 - 216 |
| P112607 | 254    | 203           | 153 | 216 - 267 |
|         |        |               |     |           |



# **Reducers**

| Part<br>Number | Dimens<br>A | ion (mm<br>B | ı)<br>C | Outer Dia<br>mm |
|----------------|-------------|--------------|---------|-----------------|
| P114411        | 38          | 26           | 64      | 36 - 49         |
| P114412        | 38          | 32           | 64      | 42 - 49         |
| P104087        | 51          | 38           | 64      | 49 - 61         |
| P102948        | 51          | 45           | 64      | 55 - 61         |
| P104088        | 57          | 51           | 64      | 61 - 68         |
| P104089        | 64          | 51           | 64      | 62 - 75         |
| P104090        | 64          | 58           | 64      | 68 - 74         |



# **Silicone Charge Air Connectors**



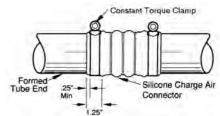
### **Isolate Intake Piping Vibration**

Our three styles of charge air connectors are designed to ease connections in air intake system piping: they compensate for slight misalignment and isolate vibration between hose connections. The silicone elastomer material resists chemicals, steam, ozone, coolants and aging conditions normally found in any engine operating environment.

All three charge air connectors are for installation on the pressure side with maximum operating temperatures up to 260°C. They are orange in color to be easily identifiable as tolerant of high temperatures.







Use the illustration as a guide for installing your Silicone Charge Air Connector.

| Connectors/Sleeves |                 |                 |              |  |  |  |
|--------------------|-----------------|-----------------|--------------|--|--|--|
| Part<br>Number     | Inner Dia<br>mm | Outer Dia<br>mm | Length<br>mm |  |  |  |
| P532946            | 32              | 38              | 914          |  |  |  |
| P532947            | 38              | 44              | 914          |  |  |  |
| P532948            | 51              | 57              | 914          |  |  |  |
| P532949            | 57              | 63              | 914          |  |  |  |
| P532950            | 64              | 69              | 914          |  |  |  |
| P532951            | 76              | 82              | 914          |  |  |  |
| P532952            | 86              | 92              | 89           |  |  |  |
| P532953            | 86              | 92              | 152          |  |  |  |
| P532954            | 86              | 92              | 914          |  |  |  |
| P532956            | 89              | 95              | 89           |  |  |  |
| P532957            | 89              | 95              | 114          |  |  |  |
| P532958            | 89              | 95              | 914          |  |  |  |
| P532959            | 102             | 107             | 914          |  |  |  |

| Hump Hose Connectors |           |           |        |  |  |  |
|----------------------|-----------|-----------|--------|--|--|--|
| Part                 | Inner Dia | Outer Dia | Length |  |  |  |
| Number               | mm        | mm        | mm     |  |  |  |
| P532960              | 63,5      | 72        | 140    |  |  |  |
| P532961              | 70        | 78        | 108    |  |  |  |
| P532962              | 76        | 85        | 111    |  |  |  |

| 4-Ply Bellows  |                                       |                                |   |                       |  |  |  |
|--|---------------------------------------|--------------------------------|---|-----------------------|--|--|--|
| Part<br>Number   | Inner Dia<br>mm                       | Outer Dia<br>mm                | Length<br>mm                                  | No of rings           |  |  |  |
| P535572<br>P532943<br>P535571<br>P532944<br>P532945<br>P535573 | 89<br>102<br>102<br>102<br>102<br>102 | 95<br>107<br>107<br>107<br>107 | 152<br>152<br>152<br>152<br>152<br>191<br>203 | 3<br>0<br>2<br>3<br>3 |  |  |  |



# **Vacuator**<sup>TM</sup> **Valves**

### Replace Damaged or Missing Vacuator™ Valves Immediately!

The Vacuator<sup>™</sup> Valve, standard on the majority of Donaldson air cleaners, is an important part of the functionality of the air cleaner. It is an integral part of the pre-cleaning stage on two-stage air cleaners.

The dust cup, where pre-cleaned dust is collected, is normally under a slight vacuum when the engine is running. The normal engine pulsing of the vacuum causes the Vacuator<sup>TM</sup> Valve to open and close. This action automatically expels any collected dust and water. The Vacuator Valve also unloads when the engine is stopped.



The Donaldson Vacuator Valve is made in a variety of sizes and shapes to fit various applications. The Donaldson part number is molded into each part for easy identification

### **Application Notes**

- For proper operation, the Vacuator<sup>™</sup> Valve should be located at the lowest point on the air cleaner or dust cup pointing down.
- Never paint the Vacuator Valve. Solvents and chemicals will shorten the usable life.
- If the Vacuator Valve is torn, shredded or turned inside out, its durometer may be too soft for the application. Choose a model with a harder durometer (higher number).
   Conversely, if the Vacuator Valve doesn't empty itself properly, the durometer may be too hard. Choose one with a softer durometer (lower number.)

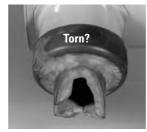
| Part<br>Number       | Diameter | Durometer |  |  |  |  |
|----------------------|----------|-----------|--|--|--|--|
| P103198              | 76       | 40        |  |  |  |  |
| P105220              | 76       | 60        |  |  |  |  |
| P106593              | 76       | 60        |  |  |  |  |
| P112803              | 76       | 40        |  |  |  |  |
| P149099              | 25       | 60        |  |  |  |  |
| P158914              | 51       | 50        |  |  |  |  |
| P522958              | 51       | 60        |  |  |  |  |
| P525956              | 25       | 60        |  |  |  |  |
| P775569 *            | 51       | 60        |  |  |  |  |
| P776008              | 51       | 60        |  |  |  |  |
| * 45° Vacuator Valve |          |           |  |  |  |  |

## For the longest filter service life, replace damaged or missing Vacuator <sup>™</sup> Valves immediately!

If your valve is cracked, torn, remains open or is missing, dust particles that are normally expelled can deposit themselves onto the filter and will shorten air filter service life. Replace it!







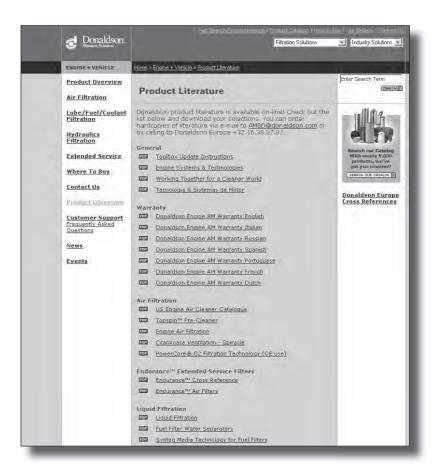


# On-Line Product Info is More Current

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While we know printed product information will not disappear anytime soon, more and more people are choosing to use our on-line literature informational tools as a product resource. Not only is it the most current information and it's available 24/7!

http://www.emea.donaldson.com/en/engine/support/datalibrary/index.html



# Proper Air Cleaner Service is Essentiel

Proper air cleaner servicing results in maximum engine protection against the ravages of dust.

Proper servicing can also save you time and money by maximizing filter life and air cleaning efficiency.

Two of the most common problems are:

### **Over Servicing**

New filters increase in dust cleaning efficiency as dust builds up on the media. Don't be fooled by filter appearance! A used filter should look dirty. By using proper filter measurement tools, you will use the full life of the filter at maximum efficiency.

### **Improper Servicing**

Your engine is vulnerable to abrasive dust contaminants during the servicing process. The most common cause of engine damage is improper servicing procedures.

By following the steps listed in this section, you can avoid unnecessary risk to the engine.

# **Section Index**

| Air Filter Cleaning   | 144 |
|-----------------------|-----|
| Air Filter Inspection | 145 |
| General Tips          | 146 |

Check out at the end of each
Air Cleaner Section
the Service Instructions.

# **Air Filter Cleaning**



# Donaldson recommends to service Air Filters by monitoring the airflow restriction levels in the air intake system

Some vehicle owners and maintenance supervisors, concerned with lowering their operating costs, clean and reuse their heavy-duty air filter.

# Factors to consider before you decide whether cleaning or washing of air filters is appropriate for your vehicle or fleet:

- Heavy-duty air filter manufacturers do not recommend any type of cleaning process be used on their products. Donaldson, like other heavy-duty air filter manufacturers, does not warrant the air filter once it has been cleaned.
- Damaged filters should not be cleaned or reused.
   If the filter is damaged in service, investigate the source of damage and make corrections to avoid future damage.



Rather than cleaning or reusing filters, consider upgrading to an extended service filter and service the
filter by restriction indicators. Donaldson recommends, when the specified maximum service limits are
reached, to follow the proper service procedures and replace the used filter with a new Donaldson filter.
Dispose of the used filter in a responsible manner.

### Filter dirt holding capacity is reduced 20-40% with each cleaning.

There is a risk of dirt reaching the clean side of the filter while cleaning, plus possible filter damage from high pressure water or compressed air, makes cleaning or washing a gamble. Add the cost of cleaning to the danger of filter damage when determining the risk versus the value of filter cleaning process.

Reuse of cleaned heavy duty filters increases the likelihood of improper air cleaner servicing because of the shortened service life. Each time the air intake system is serviced, it is exposed to the possibility of contamination.



# Donaldson. Filtration Solutions

# **Air Filter Inspection**

### What is a Hole and What is a False Alarm?

Donaldson receives filters for inspection each year that customers believe have developed holes. Upon inspection and testing in our labs, most of these suspect filters prove to have no holes or leaks. Most often these filters have areas with low dust buildup where light comes through the media when inspected with a light inside the filter, but in fact the filter functions perfectly.

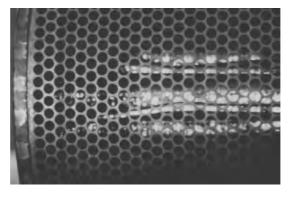
### How do you tell the difference between a hole and low dust buildup?

The problem is that normal dust buildup shuts out light completely, while low dust buildup permits light to shine through the media. The contrast is significant and therefore looks like a crack or hole in the media. The contrast between a leak and low dust buildup is not as pronounced, which accounts for mis-identifications.

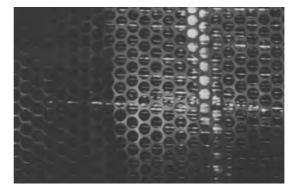
The deceiving low dust areas appear most often at the fold or at the adhesive beading present on some filters.

The secret to identifying a hole in the filter is to realize that when a hole is present you actually see the bright lamp filament shining through the hole, while low dust buildup is merely a bright area where the media is folded and not covered with dust.

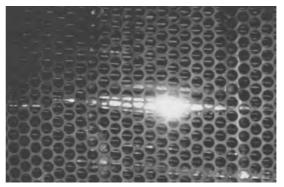
Another basic sign of a hole is dust on the liner or endcap of the clean air side of the filter. If there is no sign of dust on the clean-side liner of the filter you can be quite sure that there is no leak in the filter.



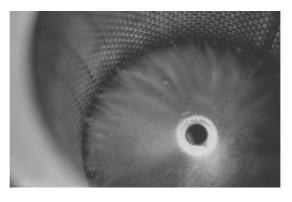
On this photo, it is apparent that the filter has low dust buildup on the pleats or folds, but is functioning efficiently - no holes, no leaks.



Here, light is coming through the adhesive beaded area as well as at the folds. Again no holes, no leaks.



As you look at the photo on the left, you can see it shows a hole in the media. The other light areas are not holes, but rather more low dust areas on the adhesive beading, which is used for pleat spacing.



In this last example, there are obvious dust trails on the liner or endcap of the clean air side of the filter. A dust trail usually indicates a leak.

# **General Maintenance & Service Tips**



### 1 Don't Remove Filter for Inspection

Such a check will always do more harm than good. Ridges of dirt on the gasket sealing surface can drop on the clean filter side when the gasket is released. Stick with the regular maintenance schedule, or, if you service by restriction, believe the gauge or restriction indicator. Get a new indicator if you don't trust vour current one.



# **2** Never Rap a Filter to Clean It

Rapping hard enough to knock off dust damages the filter and destroys your engine protection. Deeply embedded dirt is never released by tapping. It is always safer to keep operating until you can change to a new filter.



### **3** Never Judge the Filters Life by looking at it. **Measure the Airflow Restriction**

A dirty-looking filter may still have plenty of life left, while carbon contamination may not be visible to the eye. You can't see the dirt that's embedded deep within the filter paper. Your best bet for lowest filter maintenance costs and best engine protection is to follow a restriction indicator. It's a smart, low-cost investment.



### 4 Never Leave an Air Cleaner open longer than necessary

Your open air cleaner is a direct entry to the engine! Keep it protected during filter changes. Contaminants smaller than we can see will cause damage to a diesel engine. If the housing is not going to be reassembled immediately, cover the opening. The only way to be sure nothing got in, is to make sure nothing can get in!



### **5** Don't Ignore a Worn or Damaged Gasket in the Housing

If your air cleaner has a cover gasket, replace it with a new one. Always check to be sure that no piece of the old gasket remains in the housing and that the gasket is not worn. If your filter model calls for a new gasket with each use, never reuse the old one.



## **6** Don't Use a Damaged or Bunched Filter

Never install a dented or punctured filter because it cannot protect properly against contamination. A dent can make a firm seal impossible or can indicate damaged media. A filter with bunched pleats saps engine power and fuel euros.



### **I** Replace Missing or Damaged Parts

Check to ensure that there is no damage to the air cleaner housing that could cause a leak. Replace any missing or damaged Vacuator Valves and air cleaner fasteners. Never attempt to repair a damaged filter.



### **8** Never Substitute an Incorrect **Filter Model Number**

Filters may look almost identical, but even a fraction of a mm difference in size can prevent a good seal or affect airflow. Selecting a filter by size may give you the wrong media area and grade and therefore affect service life and filter efficiency.





# Service Parts by Air Cleaner Model

| Style      | Air Cleaner<br>Model No. | Main<br>Element    | Safety<br>Element  | Cover<br>Assembly  | Vacuator <sup>™</sup><br>Valve | Gasket   | Wing<br>Nut Assy   | Mounting<br>Band   | Rain<br>Cap        | Status                   |
|------------|--------------------------|--------------------|--------------------|--------------------|--------------------------------|----------|--------------------|--------------------|--------------------|--------------------------|
| EBA        | A092029                  | P129472            |                    | P141787            |                                | P120597  |                    | P004073            |                    | Production               |
| EBA        | A092040                  | P140822            |                    |                    |                                | P120597  |                    | P004073            |                    | Cancelled                |
| EBA        | A110029                  | P772512            |                    |                    |                                |          |                    |                    |                    | Cancelled                |
| EBA        | A130071                  | P182007            |                    |                    |                                |          |                    | P013722            |                    | Cancelled                |
| FWA        | A140003                  | P181000            |                    | P118808            | D                              | P017335  | P018464            | H000350            | H770013            | Cancelled                |
| FWA        | A140033                  | P181000            |                    | P118807            | P103198                        | P017335  | P018464            | H000350            | H770013            | Cancelled                |
| FWA        | A140206                  | P181000            |                    | P118807            | P103198                        | P017335  | P018464            | H000350            | H770013            | Cancelled                |
| FWA        | A140208                  | P181000            |                    |                    |                                |          |                    |                    |                    | Cancelled                |
| FGA        | A144800                  | P016688            |                    | D010000            |                                |          |                    |                    |                    | Cancelled                |
| FGA<br>FGA | A144900                  | P016688            |                    | P016996<br>P782268 |                                |          |                    |                    |                    | Cancelled<br>Production  |
| FKB        | A161500<br>B045008       | P782261<br>P604457 | P603729            | P606497            | P158914                        |          |                    |                    |                    | Production               |
| FKB        | B055006                  | P609218            | P602427            | P609219            | P158914                        |          |                    |                    |                    | Production               |
| FKB        | B065045                  | P609221            | P608599            | P608592            | P158914                        |          |                    |                    |                    | Production               |
| ELB        | B065011                  | P772552            | 1 000333           | 1 000332           | 1 130314                       |          |                    | P007191            | H001379            | Production               |
| ELB        | B065012                  | P772552            | P770181            |                    |                                |          |                    | P007191            | H001379            | Production               |
| FLB        | B065018                  | P772565            | P770207            |                    |                                |          | P138403            | P007191            | 11001070           | Production               |
| EPB        | B070005                  | P772579            | P775300            | P778758            |                                |          | 1 100 100          | P777731            | H001379            | Production               |
| ELB        | B080009                  | P772529            |                    |                    |                                |          |                    | P004307            | H770010            | Production               |
| ELB        | B080010                  | P772529            | P119410            |                    |                                |          |                    | P004307            | H770010            | Production               |
| ELB        | B080017                  | P774517            | P771363            |                    |                                |          |                    |                    |                    | Cancelled                |
| ERB        | B080018                  | P770829            | P770735            |                    |                                |          | P101870            |                    |                    | Cancelled                |
| ERB        | B080019                  | P770828            | P127787            |                    |                                |          | P101870            | E500206            | H770010            | Cancelled                |
| FLB        | B080022                  | P772556            | P119410            |                    |                                |          | P138403            | P004307            |                    | Production               |
| ELB        | B080024                  | P774517            | P771363            |                    |                                |          | P101870            |                    | H001379            | Production               |
| ELB        | B080031                  | P772529            |                    |                    |                                |          |                    | E500206            | H770011            | Cancelled                |
| ELB        | B080033                  | P772529            | P119410            |                    |                                |          | P101870            | P004307            |                    | Cancelled                |
| ELB        | B080039                  | P776146            | P776147            |                    |                                |          | P181070            | E500206            | H770010            | Cancelled                |
| ELB        | B080040                  | P774517            | P771363            |                    |                                |          | P101870            |                    | H770010            | Production               |
| FLB        | B080046                  | P778702            | P775457            |                    |                                |          | P138403            | E500206            |                    | Production               |
| EPB        | B080067                  | P772580            | P775302            | P775305            |                                |          |                    | P777732            | H770010            | Production               |
| XRB        | B080080                  | P611190            | P611189            | P605731            | P158914                        |          |                    |                    |                    | Production               |
| ERB        | B090010                  | P182092            | P119778            | P134945            |                                |          | P101870            | P004073            | H770012            | Cancelled                |
| ERB        | B090019                  | P182092            | D440770            | P134945            |                                | D407000  | P101870            | P004073            | H770012            | Cancelled                |
| ERB        | B090023                  | P182092            | P119778            | P134945            |                                | P137368  | P101870            | P004073            | H770012            | Cancelled                |
| ELB        | B090047                  | P777230            | P777247            | D700170            |                                |          | P101870            | P004073            | H770011            | Cancelled                |
| SRB        | B095437                  | P780522            | P780523            | P782176            |                                | D120707  | D101070            | P004073            | 11770010           | Production               |
| ERB<br>ERB | B100035<br>B100037       | P182090            | P119375            | P128443            |                                | P128707  | P101870            | P004076            | H770012            | Production<br>Cancelled  |
| ERB        | B100037                  | P182090<br>P117439 | P119375<br>P123828 | P128443            |                                |          | P101870            | P004076            | H770012            | Cancelled                |
| ERB        | B100041                  | P182090            | P119375            | P128443            |                                | P128707  | P101870            | P004076            | H770012            | Production               |
| ERB        | B100044                  | P182090            | P119375            | 1 120440           |                                | 1 120707 | 1 101070           | 1 004070           | 11770012           | Cancelled                |
| ELB        | B100057                  | P772522            | P133138            |                    |                                |          | P138403            | P004076            | H770012            | Production               |
| FLB        | B100067                  | P772530            | P133138            |                    |                                |          | P138403            | P004076            | 11770012           | Production               |
| ELB        | B100068                  | P772522            |                    |                    |                                |          | 1 100 100          | P004076            | H770012            | Production               |
| ELB        | B100071                  | P772522            | P133138            |                    |                                |          | P138403            | P004076            | H770012            | Production               |
| ELB        | B100072                  | P772527            | P123828            |                    |                                |          | P775455            | P004076            | H770013            | Production               |
| ELB        | B100075                  | P774538            | P775005            |                    |                                |          | P138403            | P004076            | H770012            | Production               |
| ELB        | B100078                  | P774547            | P775035            |                    |                                |          | P138403            | P004076            | H770012            | Cancelled                |
| ERB        | B100120                  | P778214            | P777639            | P777998            |                                |          |                    | P004076            | H770012            | Cancelled                |
| SRB        | B100121                  | P778214            | P777639            | P777998            |                                |          |                    | P004076            |                    | Production               |
| ERB2       | B100126                  | P785388            | P770685            | P784954            |                                |          |                    | P004076            | H770012            | Production               |
| XRB        | B100127                  | P611539            | P611540            | P609942            | P158914                        |          |                    |                    |                    | Production               |
| ERB        | B110154                  | P778905            | P778906            | P783014            |                                |          |                    | P004079            | H770013            | Cancelled                |
| SRB        | B110155                  | P778905            | P778906            | P783014            |                                |          | Decon              | P004079            | 11==00:-           | Production               |
| ERB        | B120153                  | P182091            | P130772            |                    |                                |          | P130501            | H000349            | H770013            | Cancelled                |
| ERB        | B120190                  | P182091            | P130772            |                    |                                |          | P130501            | H000349            | H770013            | Cancelled                |
| ERB        | B120246                  | P182091            | D770070            |                    |                                |          | D100400            | Цооодео            |                    | Cancelled                |
| FLB        | B120260                  | P772520            | P770678<br>P770678 |                    |                                |          | P138403            | H000349            | <b>Ц770010</b>     | Production               |
| ELB<br>ELB | B120265                  | P772524<br>P772524 | F//U0/8            |                    |                                |          | P138403            | H000349            | H770013            | Production               |
| ELB        | B120268<br>B120290       | P772524<br>P772524 | P770678            |                    |                                |          | P138403            | H000349<br>H000349 | H770013<br>H770013 | Production<br>Production |
| STB        | B120290<br>B120319       | P772524<br>P772524 | P770678            |                    |                                |          | P138403<br>P138403 | H000349<br>H000349 | 11/70013           | Production               |
| ERB        | B120319                  | P536315            | P529286            | P529798            |                                |          | 1 130403           | 11000343           |                    | Cancelled                |
| XRB        | B120395                  | P608116            | P608391            | P608117            | P158914                        |          |                    |                    |                    | Production               |
| ERB        | B130010                  | P777279            | 1 000031           | P777300            | 1 130314                       |          |                    | P013722            | H770089            | Cancelled                |
| ERB        | B130013                  | P777279            | P777414            | P777300            |                                |          |                    | P013722            | H770089            | Cancelled                |
| ERB        | B130013                  | P781768            |                    | P781784            | P533226                        |          |                    | P013722            | H770089            | Production               |
| SRB        | B130046                  | P777409            | P777414            | P781124            |                                |          |                    | P013722            |                    | Production               |
| SPB2       | B130048                  | P783543            | X770684            | P783693            |                                |          |                    | Integrated         |                    | Production               |
| ERB2       | B130057                  | P785610            |                    | P783693            |                                |          |                    | P013722            | H770089            | Production               |
| ERB2       | B130058                  | P785610            | X770686            | P783693            |                                |          |                    | P013722            | H770089            | Production               |
| SPB2       | B130060                  | P783543            | X770684            | P783693            |                                |          |                    | Integrated         |                    | Production               |
| ERB        | B140139                  | P182002            | P119373            | P770605            |                                | P017335  | P775455            | H000350            | H000606            | Production               |
| EGB        | B140159                  | P772523            |                    | P776172            |                                | P017335  |                    | H000350            | H000606            | Production               |
| EGB        | B140167                  | P772523            | P119373            | P776172            |                                | P017335  | P775455            | H000350            | H000606            | Production               |
| EGB        | B140175                  | P772521            |                    | P776172            |                                | P017335  |                    | H000350            | H000606            | Production               |
| EGB        | B140176                  | P772521            | P119373            | P776172            |                                | P017335  | P775455            | H000350            | H000606            | Production               |
|            | D140017                  | P775026            | P776102            | P782130            |                                | P017335  | P770920            | H000350            | H770089            | Production               |
| EGB        | B140317                  | 1 773020           | 1770102            | 1702100            |                                | 1 017000 | 1770020            | 11000000           | 11770000           | 110000000                |

### **Service Parts by Air Cleaner Model**



| Style      | Air Cleaner        | Main               | Safety             | Cover              | Vacuator <sup>™</sup> | U-Clip             | Wing     | Mounting | Rain     | Status                   |
|------------|--------------------|--------------------|--------------------|--------------------|-----------------------|--------------------|----------|----------|----------|--------------------------|
| Style      | Model No.          | Element            | Element            | Assembly           | Valve                 | Mounting (x4)      | Nut Assy | Band     | Сар      | Status                   |
| ERB        | B150028            | P777871            |                    | P777861            |                       |                    |          | P016845  | H770089  | Cancelled                |
| ERB        | B150020            | P777871            |                    | P777920            | P158914               |                    |          | P016845  | H770089  | Production               |
| ERB2       | B150058            | P785426            | X770687            | P784869            |                       |                    |          | P016845  | H770089  | Production               |
| ERB2       | B150059            | P785426            |                    | P784869            |                       |                    |          | P016845  | H770089  | Production               |
| ETB        | B180002            | P182042            | P128408            | P780042            |                       |                    | P109062  | H770037  | H001053  | Production               |
| ERB        | B180011            | P781098            |                    | P783186            |                       |                    |          | H770037  | H770082  | Cancelled                |
| ERB        | B180012            | P781098            | P781102            | P783186            |                       |                    |          | H770037  | H770082  | Cancelled                |
| ERB2       | B180016            | P785394            |                    | P785546            |                       |                    |          | H770037  | H770082  | Production               |
| ERB2       | B180017            | P785394            | X770688            | P785546            |                       |                    |          | H770037  | H770082  | Production               |
| PSD        | D080020            | P608533            | P600975            | P602985            | P158914               |                    |          |          |          | Production               |
| PSD        | D080026            | P608533            | P600975            | P601735            | P158914               |                    |          |          |          | Production               |
| PSD        | D080069            | P608533            | P600975            | P785236            | P112803               | P786050            |          |          |          | Production               |
| PSD        | D080070            | P608533            | P600975            | P785237            | P112803               | P786050            |          |          |          | Production               |
| PSD        | D090019            | P608665            | P606121            | P609550            | P158914               |                    |          |          |          | Production               |
| PSD        | D090020            | P608665            | P606121            | P609550            | P158914               |                    |          |          |          | Production               |
| PSD        | D090021            | P608675            | P606121            | P609552            | P158914               |                    |          |          |          | Production               |
| PSD        | D090022            | P608675            | P606121            | P609552            | P158914               | D704F17            |          |          |          | Production               |
| PSD        | D090073            | P608665            | P606121            | P785651            | P112803               | P784517            |          |          |          | Production               |
| PSD        | D090074<br>D090086 | P608665            | P606121            | P785651            | P112803               | P784517            |          |          |          | Production               |
| PSD<br>PSD | D090087            | P608665<br>P608665 | P606121<br>P606121 | P785651<br>P785651 | P112803<br>P112803    | P784517            |          |          |          | Production               |
| PSD        | D090088            | P787281            | P606121            | P785978            | P112803<br>P112803    | P784517<br>P784517 |          |          |          | Production<br>Production |
| PSD        | D090089            | P787281            | P606121            | P785978            | P112803               | P784517            |          |          |          | Production               |
| PSD        | D090089            | P608675            | P606121            | P786989            | P112803               | P784517            |          |          |          | Production               |
| PSD        | D090090            | P608675            | P606121            | P786989            | P112803               | P784517            |          |          |          | Production               |
| PSD        | D090098            | P787281            | P606121            | P785978            | P112803               | P784517            |          |          |          | Production               |
| PSD        | D090099            | P787281            | P606121            | P785978            | P112803               | P784517            |          |          |          | Production               |
| PSD        | D090100            | P608675            | P606121            | P786989            | P112803               | P784517            |          |          |          | Production               |
| PSD        | D090101            | P608675            | P606121            | P786989            | P112803               | P784517            |          |          |          | Production               |
| PSD        | D100029            | P608666            | P601560            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D100030            | P608666            | P601560            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D100031            | P608676            | P601560            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D100032            | P608676            | P601560            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D100121            | P608676            | P601560            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D100122            | P608676            | P601560            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D100123            | P608666            | P601560            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D100124            | P608666            | P601560            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D120035            | P608667            | P607557            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D120036            | P608667            | P607557            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D120037            | P608677            | P607557            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| PSD        | D120038            | P608677            | P607557            | Upon Request       | P112803               | P784517            |          |          |          | Production               |
| HFD        | D770065            | P772506            | P139293            | L012244            |                       |                    | P126054  |          |          | Production               |
| HFD        | D770098            | P772506            | P139293            |                    |                       |                    | P126054  |          |          | Cancelled                |
| HFD        | D770099            | P772506            | P139293            |                    |                       |                    | P126054  |          |          | Cancelled                |
| HFD        | D770100            | P770035            |                    |                    |                       |                    |          |          |          | Cancelled                |
| HFD        | D770105            | P770991            | D100000            |                    |                       |                    |          |          |          | Cancelled                |
| HFD        | D770106            | P772506            | P139293            |                    |                       |                    |          |          |          | Cancelled                |
| HFD        | D770108            | P182041            | P119370            |                    |                       |                    |          |          |          | Cancelled                |
| HFD<br>HFD | D770109            | P772506            | P139293<br>P139293 |                    |                       |                    |          |          |          | Cancelled                |
| HFD        | D770112<br>D770117 | P772506<br>P772506 | P139293            | L016193            |                       |                    | P126054  |          |          | Cancelled                |
| HFD        | D770117            | P772506            | P139293            | LU10193            |                       |                    | F 120034 |          |          | Production<br>Cancelled  |
| FWA        | G042503            | P102745            | 1 133233           | P102755            |                       |                    | P102783  | P004055  | H770066  | Production               |
| FPG        | G042546            | P822686            |                    | P777153            | P522958               |                    | 1 102/03 | P777151  | H770066  | Production               |
| FPG        | G042575            | P822686            | P535396            | P777153            | P522958               |                    |          | P777151  | H770066  | Production               |
| FHG        | G050003            | P182050            | 1 303030           | P129355            | 1 322330              |                    | P101870  | P002348  | H001377  | Production               |
| FHG        | G052567            | P108736            | P118745            | 20000              |                       |                    |          | 302010   |          | Cancelled                |
| FHG        | G052568            | P108736            | P120949            | E500171            | P522958               |                    | P101870  | P002348  |          | Production               |
| FHG        | G052595            | P182050            |                    | P129355            |                       |                    | P101870  | P002904  | H001377  | Production               |
| FHG        | G052596            | P182050            | P120949            | P129355            |                       |                    | P101870  | P002904  | H001377  | Production               |
| FHG        | G052667            | P182050            | P120949            | P129355            |                       |                    | P181070  | P002904  | H001377  | Cancelled                |
| FPG        | G057502            | P772578            | P775298            | P775308            | P522958               |                    |          | P777730  | H771377  | Production               |
| FPG        | G057504            | P772578            |                    | P775308            | P522958               |                    |          | P777730  | H001377  | Production               |
| FPG        | G057505            | P775631            |                    | P775308            | P522958               |                    |          | P777730  | H001377  | Production               |
| FWA        | G065008            | P181052            |                    | P102805            |                       |                    | P101870  | P007191  | H001378  | Production               |
| FWA        | G065055            | P101222            |                    |                    |                       |                    |          |          |          | Cancelled                |
| FHG        | G065100            | P119135            | P114500            | P111857            | P522958               |                    | P101870  | P007191  | H001379  | Cancelled                |
| FHG        | G065101            | P119135            | P114500            | P102805            |                       |                    | P101870  | P002940  | H001379  | Production               |
| FWA        | G065110            | P182052            |                    | P102805            |                       |                    | P101870  | P002940  | H001378  | Cancelled                |
| FHG        | G065124            | P119135            |                    | P102805            |                       |                    | P101870  | P002940  | H001379  | Cancelled                |
| FHG        | G065188            | P119135            | P114500            | P103836            | P105220               |                    | P101870  | P002940  | H001379  | Cancelled                |
| FHG        | G065207            | P130760            | P126984            | P111857            | P522958               |                    | P101870  | P002940  | H001379  | Cancelled                |
| FHG        | G065211            | P130760            | <b>D</b>           | P111857            | P522958               |                    | P101870  | P002940  | H001379  | Cancelled                |
| FHG        | G065221            | P774510            | P770049            | P111857            | P522958               |                    | P181070  | P002940  |          | Cancelled                |
| FKG        | G065222            | P137293            | P137285            |                    |                       |                    |          |          |          | Cancelled                |
| FKG        | G065223            | P137293            |                    | P                  | DECOS                 |                    | Dance    | Deces    |          | Cancelled                |
| FHG        | G065228            | P100760            |                    | P111857            | P522958               |                    | P181070  | P002940  |          | Cancelled                |
| FKG        | G065229            | P137293            | D370010            |                    |                       |                    |          |          |          | Cancelled                |
| FHG        | G065251            | P774510            | P770049            |                    | DECOSE                |                    | D400460  | Decease  | 11004070 | Cancelled                |
|            | G065259            | P772549            | P770181            |                    | P522958               |                    | P138403  | P002940  | H001379  | Production               |
| FLB        | Cheeses            | D770E40            |                    |                    |                       |                    |          |          |          |                          |
| FLB<br>FHG | G065260<br>G065310 | P772549<br>P130760 | P126984            | P111857            | P522958<br>P522958    |                    | P101870  | P002940  | H001379  | Production<br>Cancelled  |



## Service Parts by Air Cleaner Model

| Style      | Air Cleaner        | Main                                    | Safety             | Cover              | Vacuator™          | Gasket             | Wing               | Mounting           | Rain               | Status                   |
|------------|--------------------|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------------|
|            | Model No.          | Element                                 | Element            | Assembly           | Valve              |                    | Nut Assy           | Band               | Сар                |                          |
| FLB        | G065311            | P772549                                 | P770181            |                    |                    |                    |                    |                    |                    | Cancelled                |
| FHG        | G065322            | P130760                                 | P126984            | P111857            | P522958            |                    | P101870            | P002940            | H001379            | Cancelled                |
| FLB        | G065337            | P771250                                 | P771270            |                    | P522958            |                    | P130501            |                    |                    | Production               |
| FLB        | G065346            | P771549                                 | D771460            |                    | P522958            |                    | D120402            | P002940            |                    | Production               |
| FKG<br>FTG | G065350<br>G065357 | P771459<br>P775140                      | P771460<br>P121643 |                    | P522958            |                    | P138403<br>P138403 | P002940            |                    | Production<br>Cancelled  |
| FWA        | G065390            | P182052                                 | 1 121043           | P102805            |                    |                    | P101870            | P002940            |                    | Cancelled                |
| FWA        | G065401            | P132978                                 |                    | P527908            | P522958            |                    | P101870            | 1 002340           |                    | Cancelled                |
| FLB        | G065425            | P776675                                 | P776676            | . 027000           | P522958            |                    | P138403            | P002940            | H001379            | Cancelled                |
| FPG        | G065497            | P822768                                 | P822769            | P780401            | P522958            |                    |                    | P778810            | H001378            | Production               |
| FPG        | G065498            | P822768                                 |                    | P780401            | P522958            |                    |                    | P778810            | H001378            | Production               |
| FPG        | G065499            | P822768                                 | P822769            | P780401            | P522958            |                    |                    | P778810            | H001378            | Production               |
| FPG        | G065500            | P822768                                 |                    | P780401            | P522958            |                    |                    | P778810            | H001378            | Production               |
| FPG        | G065539            | P532410                                 | D77E200            | P780466            | P522958            |                    |                    | P778810            | H001378            | Production               |
| FPG<br>FPG | G070006<br>G070009 | P772579<br>P772579                      | P775300            | P775311<br>P775311 | P522958<br>P522958 |                    |                    | P777731<br>P777731 | H001379<br>H771379 | Production<br>Production |
| FPG        | G070003            | P776156                                 |                    | P775311            | P522958            |                    |                    | P777731            | H771379            | Cancelled                |
| FPG        | G070059            | P772579                                 | P775300            | P778758            | P522958            |                    |                    | P777731            | H001379            | Production               |
| FPG        | G070060            | P772579                                 |                    | P778758            | P522958            |                    |                    | P777731            | H001379            | Production               |
| FPG        | G070135            | P783498                                 | P775300            | P778758            | P522958            |                    |                    | P777731            | H001379            | Production               |
| FWA        | G080026            | P182054                                 |                    |                    | P112803            |                    |                    | P004307            | H001379            | Cancelled                |
| FWA        | G080119            | P182054                                 |                    |                    |                    |                    |                    |                    |                    | Cancelled                |
| FHG        | G080195            | P182059                                 |                    | P103113            |                    |                    | P101870            | P003951            | H770010            | Cancelled                |
| FHG        | G080200            | P182059                                 | P119410            | P103113            |                    |                    | P101870            | P003951            | H770010            | Production               |
| FHG        | G080227            | P182059                                 | P119410            |                    |                    |                    |                    |                    |                    | Cancelled                |
| FHG        | G080307            | P182059                                 | P119410            |                    |                    |                    |                    |                    |                    | Cancelled                |
| FHG<br>FHG | G080308<br>G080322 | P182059<br>P772564                      | P119410            | D110711            | P158914            |                    | D101070            | P004307            |                    | Cancelled                |
| FHG        | G080364            | P772564<br>P774572                      | P127787<br>P775284 | P119711<br>P103840 | P158914<br>P112803 |                    | P101870<br>P101870 | P004307<br>P004307 |                    | Cancelled<br>Cancelled   |
| FHG        | G080365            | P774572                                 | P775284            | P103113            | 1 112003           |                    | P101870            | P004307            | H770010            | Cancelled                |
| FLB        | G080377            | P772550                                 | P119410            | . 100110           | P158914            |                    | P101870            | P004307            | H770010            | Production               |
| FHG        | G080394            | P182059                                 | P119410            |                    |                    |                    |                    |                    |                    | Cancelled                |
| FHG        | G080395            | P772564                                 | P127787            |                    | P158914            |                    | P101870            | P004307            |                    | Cancelled                |
| FLB        | G080430            | P772550                                 |                    |                    | P158914            |                    |                    | P004307            | H770010            | Production               |
| FLB        | G080433            | P772553                                 | P127787            |                    |                    |                    |                    |                    |                    | Cancelled                |
| FHG        | G080440            | P182059                                 |                    |                    |                    |                    |                    |                    |                    | Cancelled                |
| FLB        | G080442            | P772554                                 |                    |                    |                    |                    |                    |                    |                    | Production               |
| FHG        | G080458            | P772564                                 | P127787            |                    |                    |                    |                    |                    |                    | Cancelled                |
| FLB        | G080459            | P772550                                 | D110410            | D100007            | D110000            |                    | D101070            | D004007            | 11770010           | Cancelled                |
| FHG<br>FWA | G080463<br>G080466 | P182059<br>P181054                      | P119410            | P103837            | P112803            |                    | P101870            | P004307            | H770010            | Cancelled<br>Cancelled   |
| FWA        | G080467            | P181054                                 |                    | P781341            |                    |                    |                    |                    |                    | Cancelled                |
| FHG        | G080513            | P182059                                 | P119410            | P103840            | P112803            |                    | P101870            | P004307            |                    | Cancelled                |
| FLB        | G080516            | P772550                                 | 1110110            | 1 100010           | P158914            |                    | 1 101070           | P004307            |                    | Production               |
| FLB        | G080536            | P772550                                 | P119410            |                    | P158914            |                    | P101870            | P004307            | H770010            | Production               |
| FLB        | G080538            | P776677                                 | P776678            |                    | P158914            |                    | P101870            | P004307            | H770010            | Cancelled                |
| FPG        | G082503            | P772580                                 | P775302            | P775305            | P775569            |                    |                    | P777732            | H770010            | Production               |
| FPG        | G082505            | P772580                                 |                    | P775305            | P775569            |                    |                    | P777732            | H770010            | Production               |
| FPG        | G082508            | P772580                                 | P775302            | P775305            | P522958            |                    |                    | P777732            | H770010            | Production               |
| FPG        | G082511            | P772580                                 | Donoono            | P775305            | P522958            |                    |                    | P777732            | H770010            | Cancelled                |
| FPG        | G082580            | P828889                                 | P829333            | P780403            | P158914            |                    |                    | P780580<br>P780580 | H770010            | Production               |
| FPG<br>FPG | G082581<br>G082582 | P828889<br>P828889                      | P829333            | P780403<br>P780403 | P158914<br>P158914 |                    |                    | P780580            | H770010<br>H770010 | Production<br>Production |
| FPG        | G082583            | P828889                                 | 1 023333           | P780403            | P158914            |                    |                    | P780580            | H770010            | Production               |
| FPG        | G082671            | P828889                                 |                    | P782865            | P775569            |                    |                    | P777732            | H770010            | Production               |
| FPG        | G082677            | P828889                                 |                    | P782865            | P775569            |                    |                    | P777732            | H770010            | Production               |
| FHG        | G090022            | P182063                                 | P119778            | P112667            |                    |                    | P101870            | P102025            | H770012            | Production               |
| FHG        | G090024            | P182063                                 |                    | P112667            |                    |                    | P101870            | P102025            | H770012            | Production               |
| FHG        | G090031            | P182063                                 | P119778            | D. COST            |                    |                    | Descri             | Destate            |                    | Cancelled                |
| FHG        | G090046            | P182063                                 | P119778            | P128968            | D# 40000           | D407022            | P101870            | P004073            | 11270000           | Cancelled                |
| EKG        | G090148            | P138428                                 | D775000            | D110007            | P149099            | P137368            | D101070            | P004073            | H770090            | Cancelled                |
| FHG        | G090185            | P774569                                 | P775283<br>P119778 | P112667            | P112803            |                    | P101870            | P004073            | H770012            | Cancelled                |
| FHG<br>FHG | G090190<br>G090203 | P182063<br>P182063                      | P119778<br>P119778 | P775725<br>P112667 | F112003            |                    | P101870<br>P101870 | P004073<br>P004073 |                    | Cancelled<br>Cancelled   |
| FPG        | G090203<br>G090219 | P780522                                 | P780523            | P780524            | P776008            |                    | 1 1010/0           | P780532            | H770012            | Production               |
| FPG        | G090219            | P780522                                 | 1 700020           | P780524            | P776008            |                    |                    | P780532            | H770012            | Production               |
| FPG        | G090225            | P780522                                 | P780523            | P780524            | P776008            |                    |                    | P780532            | H770012            | Production               |
| FPG        | G090226            | P780522                                 |                    | P780524            | P776008            |                    |                    | P780532            | H770012            | Production               |
| FWA        | G100003            | P182045                                 |                    | P103519            |                    | P101401            |                    | P004076            | H770011            | Cancelled                |
| FWA        | G100004            | P182045                                 |                    | P103827            | P103198            | P101401            |                    | P004076            | H770011            | Production               |
| FHG        | G100028            | P182064                                 |                    | P103519            |                    | E500589            | P101870            | P106071            | H770012            | Cancelled                |
| FHG        | G100029            | P182064                                 | P119375            | P103519            | Dancoco            | E500589            | P101870            | P106071            | H770012            | Cancelled                |
| FHG        | G100035            | P182064                                 | D11007F            | P103827            | P105220            | E500589            | P101870            | P004076            | H770012            | Cancelled                |
| FHG        | G100036            | P182064                                 | P119375            | P103827            | P103198            | P101401            | P111852            | P004076            | H770012            | Cancelled                |
| STB        | G100129            | P182090                                 | P119375            | P128443            | P103198            | E500589            | P101870            | P002940            | H770012            | Cancelled                |
| FHG<br>STB | G100143<br>G100154 | P772545<br>P182090                      | P133138<br>P119375 | P133141<br>P128443 | F103198            | P128707<br>E500589 | P101870<br>P101870 | P004076<br>P002940 | H770012            | Cancelled<br>Cancelled   |
| STB        | G100180            | P182090<br>P182090                      | P119375<br>P119375 | 1 120443           |                    | F300368            | 1 1016/0           | 1 002540           |                    | Cancelled                |
|            | G100184            | P772503                                 | 1 113373           | P103827            | P105220            | E500589            | P101870            | P004076            | H770012            | Cancelled                |
|            |                    | . , , , , , , , , , , , , , , , , , , , |                    |                    |                    |                    |                    |                    |                    |                          |
| FWA        |                    | P182064                                 | P133138            | P103519            |                    | E500589            | P101870            | P004076            | H//0012            | Cancelled                |
|            | G100185<br>G100220 | P182064<br>P772555                      | P133138<br>P133138 | P103519            | P103198            | E500589            | P101870<br>P138403 | P004076<br>P004076 | H770012<br>H770012 | Cancelled<br>Production  |

### **Service Parts by Air Cleaner Model**



| Ct-d       | Air Cl                   | 14.1                    | 0-6-               | 0                  | V- TM                          | Code               | \\\\'              | Manuel             | D-: -              | Charle                   |
|------------|--------------------------|-------------------------|--------------------|--------------------|--------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------------|
| Style      | Air Cleaner<br>Model No. | Main<br>Element         | Safety<br>Element  | Cover<br>Assembly  | Vacuator <sup>™</sup><br>Valve | Gasket             | Wing<br>Nut Assy   | Mounting<br>Band   | Rain<br>Cap        | Status                   |
|            |                          |                         |                    |                    |                                |                    |                    |                    |                    |                          |
| FLB        | G100254                  | P776301                 | P133138            |                    | P103198                        |                    | P138403            | P004076            | H770012            | Cancelled                |
| FLB<br>FLB | G100257<br>G100258       | P772555<br>P776679      | P133138<br>P776680 |                    | P103198<br>P103198             |                    | P138403<br>P138403 | P004076<br>P004076 | H770012<br>H770012 | Production<br>Cancelled  |
| FRG        | G100258                  | P770079<br>P777389      | P777388            | P777455            | P776008                        |                    | P136403            | P004076            | H770012            | Cancelled                |
| FPG        | G100271                  | P777588                 | 1777300            | P777589            | P158914                        |                    |                    | INTEGRATED         | P776343            | Production               |
| FPG        | G100275                  | P777592                 |                    | P777593            | P158914                        |                    |                    | INTEGRATED         | P776343            | Production               |
| FPG        | G100280                  | P777588                 | P777779            | P776182            | P158914                        |                    |                    | INTEGRATED         | P776343            | Production               |
| FRG        | G100281                  | P777638                 | P777639            | P777455            | P776008                        |                    |                    | P004076            | H770012            | Cancelled                |
| FRG        | G100284                  | P777638                 |                    | P777455            | P776008                        |                    |                    | P004076            | H770012            | Cancelled                |
| FPG        | G100285                  | P777592                 | P778776            | P777593            | P158914                        |                    |                    | INTEGRATED         | P776343            | Cancelled                |
| FLB        | G100315                  | P772555                 | P133138            |                    | P103198                        |                    | P138403            | P004076            | H770012            | Cancelled                |
| FPG        | G100317                  | P781039                 | P777639            | P780578            | P776008                        |                    |                    | P780594            | H770012            | Production               |
| FPG        | G100318                  | P781039                 | D777620            | P780578            | P776008                        |                    |                    | P780594            | H770012            | Production               |
| FPG<br>FPG | G100319<br>G100320       | P781039<br>P781039      | P777639            | P780578<br>P780578 | P776008<br>P776008             |                    |                    | P780594<br>P780594 | H770012<br>H770012 | Production<br>Production |
| FLB        | G100362                  | P780067                 | P780068            | 1700370            | 1 770000                       |                    |                    | 1 700334           | 11770012           | Production               |
| FPG        | G100302                  | P781039                 | P777639            | P780578            | P775569                        |                    |                    | P780594            | H770012            | Production               |
| FRG2       | G100420                  | P785589                 | X770689            | P784944            | P776008                        |                    |                    | P004076            | H770012            | Production               |
| FRG2       | G100428                  | P785589                 |                    | P784944            | P776008                        |                    |                    | P004076            | H770012            | Production               |
| FRG        | G110211                  | P778905                 | P778906            | P778366            | P158914                        |                    |                    | P004079            | H770013            | Cancelled                |
| FRG        | G110269                  | P778905                 | P778906            | P778366            | P158914                        | P782257            |                    | P004079            | H770013            | Cancelled                |
| FRG2       | G110381                  | P785396                 | X770690            | P784923            | P158914                        |                    |                    | P004079            | H770013            | Production               |
| FRG2       | G110382                  | P785396                 | X770690            | P784923            | P158914                        |                    |                    | P004079            | H770013            | Production               |
| FRG        | G118329                  | P821938                 | P821963            | P821825            | P806891                        | P830922            | D1110F0            | P004079            | 11770010           | Cancelled                |
| FHG        | G120012                  | P182034<br>P182034      | D110274            | P106589            |                                | P017804<br>P017804 | P111852            | H000349            | H770013            | Production               |
| FHG<br>FHG | G120014<br>G120036       | P182034<br>P182034      | P119374<br>P119374 | P106589<br>P109296 | P103198                        | P017804<br>P017804 | P111852<br>P111852 | H000349<br>H000349 | H770013<br>H770013 | Production<br>Cancelled  |
| FHG        | G120036                  | P182034                 | 1 113374           | P109296<br>P109296 | P103198<br>P105220             | P017804<br>P017804 | P111852            | H000349            | H770013            | Cancelled                |
| FHG        | G120037                  | P182034                 | P119374            | P106589            | 1 103220                       | P017804            | P111852            | P100808            | H770013            | Production               |
| FWA        | G120305                  | P772504                 | 1110071            | 1 100000           |                                | 1017001            | 1 111002           | 1 100000           | 11770010           | Cancelled                |
| FLB        | G120309                  | P772531                 | P770678            |                    | P105220                        |                    | P138403            | H000349            | H770013            | Production               |
| FLB        | G120310                  | P772531                 |                    |                    | P105220                        |                    |                    | H000349            | H770013            | Production               |
| STG        | G120332 - 3              | See page 115            |                    |                    |                                |                    |                    |                    |                    | Production               |
| FLB        | G120359                  | P772531                 | P770678            |                    |                                |                    |                    |                    |                    | Production               |
| FLB        | G120368                  | P772531                 | P770678            |                    | P105220                        |                    | P138403            | H000349            | H770013            | Cancelled                |
| STB        | G120369                  | P182044                 | P119371            | P109194            |                                | P017804            | X004816            |                    |                    | Cancelled                |
| FLB        | G120386                  | P781301                 | P781302            | D777400            | P105220                        |                    | P138403            | H000349            | H770013            | Production               |
| FRG        | G130061                  | P777409                 | P777414            | P777408            | P776008                        |                    |                    | P013722            | H770090            | Cancelled                |
| FRG<br>FRG | G130087<br>G130088       | P777409<br>P777409      | P777414            | P777408<br>P777408 | P776008<br>P776008             |                    |                    | P013722<br>P013722 | H770090<br>H770090 | Cancelled<br>Cancelled   |
| FRG        | G130113                  | P777409                 | F///414            | P777408            | P775569                        |                    |                    | P013722            | H770090            | Cancelled                |
| FRG        | G130113                  | P780331                 | P780332            | P777408            | P776008                        |                    |                    | P013722            | H770090            | Cancelled                |
| FRG        | G130164                  | P781822                 | P781826            | P777408            | P776008                        |                    |                    | P013722            | H770090            | Production               |
| FRG2       | G130232                  | P785390                 | X770691            | P784892            | P776008                        |                    |                    | P013722            | H770090            | Production               |
| FRG2       | G130233                  | P785390                 |                    | P784892            | P776008                        |                    |                    | P013722            | H770090            | Production               |
| FRG2       | G130234                  | P785390                 | X770691            | P784892            | P776008                        |                    |                    | P013722            | H770090            | Production               |
| FRG2       | G130235                  | P785390                 |                    | P784892            | P775569                        |                    |                    | P013722            | H770090            | Production               |
| FRG2       | G130236                  | P785398                 | X770692            | P784892            | P776008                        |                    |                    | P013722            | H770090            | Production               |
| ERG        | G132034                  | P777579                 | DECOECA            | P776947            | P158914                        | D770000            |                    | D010700            | 11770010           | Cancelled                |
| ERG        | G132036                  | P532503                 | P532504            | P780533            | D000001                        | P778220            | D1200E4            | P013722            | H770013            | Cancelled                |
| FTG<br>FHG | G138217<br>G140022       | P777776<br>P182046      | P777777<br>P119373 | P777709<br>P106773 | P806891                        | P017335            | P126054<br>P775455 | P013722<br>P100866 | H770090            | Cancelled<br>Production  |
| FHG        | G140022<br>G140023       | P182046                 | 1 1133/3           | P106773<br>P106773 |                                | P017335<br>P017335 | P111852            | P100866            | H770090            | Cancelled                |
| FHG        | G140054                  | P182046                 | P119373            | P109297            | P105220                        | P017335            | P775455            | P100866            | H770090            | Production               |
| FHG        | G140055                  | P182046                 | 10070              | P109297            | P103198                        | P017335            | P111852            | H000350            | H770090            | Cancelled                |
| STB        | G140059                  | P182041                 | P119370            | P109084            |                                | P017335            | X004816            |                    |                    | Production               |
| STG        |                          | See page 114            |                    |                    |                                |                    |                    |                    |                    | Production               |
| FWA        | G140181                  | P117331                 |                    |                    |                                |                    |                    |                    |                    | Cancelled                |
| FHG        | G140393                  | P182046                 |                    |                    |                                |                    |                    |                    |                    | Cancelled                |
| EBA        | G140420                  | P772523                 |                    | P770597            |                                |                    |                    |                    |                    | Cancelled                |
| FHG        | G140435                  | P182046                 | D110070            | D140704            |                                | D01700F            | D775455            | LIONCOFO           | 11770000           | Cancelled                |
| FHG        | G140436                  | P182046                 | P119373            | P118784            |                                | P017335            | P775455            | H000350            | H770090            | Cancelled                |
| FHG<br>STG | G140442                  | P182046<br>See page 115 | P119373            |                    |                                |                    |                    |                    |                    | Cancelled<br>Production  |
| EBA        | G140445 - 3              | P772523                 | P119373            | P775240            |                                | P017335            | P775455            | H000350            | H770090            | Cancelled                |
| EBA        | G140494                  | P772523                 | P119373            | P775240            |                                | P017335            | P775455            | H000350            | H770090            | Production               |
| FTG        | G140570                  | P182046                 | 1 113070           | P771385            | P105220                        | P017335            | P111852            | 11000000           | 1177000            | Cancelled                |
| FTG        | G150029                  | P772536                 | P771073            | P771178            | P103198                        |                    | P111852            | P016845            | H770089            | Production               |
| FTG        | G150032                  | P774537                 |                    | P771178            | P103198                        | P771179            | P111852            | P016845            | H770089            | Production               |
| FTG        | G150033                  | P772567                 |                    | P771178            | P103198                        | P771179            | P111852            | P016845            | H770089            | Production               |
| FTG        | G150034                  | P772567                 |                    | P771178            | P103198                        | P771179            | P111852            | P016845            | H770089            | Cancelled                |
| FTG        | G150035                  | P772536                 | P771073            | P771178            | P103198                        |                    | P111852            | P016845            | H770089            | Production               |
| FTG        | G150037                  | P772536                 | D====              | P771178            | P103198                        | B                  | P111852            | P016845            | H770089            | Production               |
| FTG        | G150043                  | P772581                 | P775339            | P771178            | P103198                        | P771179            | P111852            | P016845            | H770089            | Production               |
| FTG        | G150076                  | P772567                 | D777000            | P771178            | P103198                        | P771179            | P111852            | P016845            | 11770000           | Cancelled                |
| FRG        | G150092                  | P777868                 | P777869            | P777920            | P776008                        | D771170            | D1110E0            | P016845            | H770089            | Cancelled                |
| FTG<br>FRG | G150096<br>G150097       | P772567<br>P777868      | P777938            | P771178<br>P777920 | P103198<br>P776008             | P771179            | P111852            | P016845<br>P016845 | H770089<br>H770089 | Cancelled<br>Cancelled   |
| SSG        | G150104                  | P777871                 | P777875            | P777861            | P112803                        | P017336            |                    | 1 010040           | 11770003           | Production               |
| FRG        | G150104                  | P777868                 | P777869            | P777920            | P776008                        | . 017000           |                    | P016845            | H770089            | Production               |
|            |                          |                         |                    |                    |                                |                    |                    |                    |                    |                          |



# Service Parts by Air Cleaner Model

| Style       | Air Cleaner<br>Model No. | Main<br>Element    | Safety<br>Element  | Cover<br>Assembly  | Vacuator <sup>™</sup><br>Valve | Gasket  | Wing<br>Nut Assy | Mounting<br>Band   | Rain<br>Cap        | Status                   |
|-------------|--------------------------|--------------------|--------------------|--------------------|--------------------------------|---------|------------------|--------------------|--------------------|--------------------------|
| FRG         | G150112                  | P777868            | P777869            | P777920            | P776008                        |         |                  | P016845            | H770089            | Cancelled                |
| FRG         | G150117                  | P778764            | P778765            |                    |                                |         |                  |                    |                    | Cancelled                |
| FTG         | G150165                  | P772536            |                    | P771178            | P103198                        | P771179 | P111852          | P016845            | H770089            | Cancelled                |
| FRG         | G150168                  | P781187            | P777875            | P777861            |                                |         |                  | P016845            | H770089            | Cancelled                |
| FRG         | G150169                  | P781187            | P777875            | P777861            | D370000                        |         |                  | P016845            | H770089            | Cancelled                |
| FRG         | G150207                  | P781909            | D77707E            | P777920            | P776008                        |         |                  | P016845            | H770089            | Cancelled                |
| FRG<br>FRG2 | G150215<br>G150255       | P778674<br>P785590 | P777875<br>X770693 | P777920<br>P785551 | P158914<br>P776008             |         |                  | P016845<br>P016845 | H770089<br>H770089 | Cancelled<br>Production  |
| FRG2        | G150256                  | P785590            | X110093            | P785551            | P776008                        |         |                  | P016845            | H770089            | Production               |
| FRG2        | G150259                  | P785590            | X770693            | P785551            | P776008                        |         |                  | P016845            | H770089            | Production               |
| FHG         | G160048                  | P182002            | P119372            | P106639            | 1770000                        | P017336 | P111852          | P100789            | H770089            | Production               |
| FHG         | G160057                  | P182002            | 1110072            | P106621            |                                | P017336 | P111852          | H000351            | H770089            | Cancelled                |
| STG         | G160077 - Se             |                    |                    |                    |                                |         |                  |                    |                    | Production               |
| FHG         | G160078                  | P182002            | P119372            | P106952            | P103198                        | P017336 | P111852          | H000351            | H770089            | Cancelled                |
| STG         | G160445 - Se             | e page 115         |                    |                    |                                |         |                  |                    |                    | Production               |
| FHG         | G160609                  | P182002            |                    | P106621            |                                | P017336 | P111852          | H000351            | H770089            | Cancelled                |
| STG         | G161006 - Se             | e page 114         |                    |                    |                                |         |                  |                    |                    | Production               |
| STG         | G161020 - Se             |                    |                    |                    |                                |         |                  |                    |                    | Production               |
| FTG         | G180011                  | P182042            | P128408            | P775715            | P105220                        |         | P116175          | H770037            | H001053            | Production               |
| FTG         | G180013                  | P182042            |                    | P775715            | P105220                        |         | P116175          | H770037            | H001053            | Cancelled                |
| FTG         | G180014                  | P182042            | P128408            | P775715            | P105220                        | P105740 | P116175          | H770037            | H001053            | Cancelled                |
| FTG         | G180015                  | P182042            |                    |                    | P105220                        | P105740 | P116175          | H770037            | H001053            | Cancelled                |
| FTG         | G180019                  | P182042            | P128408            | P775715            | P105220                        | P105740 | P116175          | H770037            |                    | Cancelled                |
| FRG         | G180026                  | P531988            | P531995            | D70040E            | P112803                        |         |                  | 1177007            | 11004050           | Cancelled                |
| FRG         | G180031                  | P781098            | P781102            | P783185            | P105220                        |         |                  | H770037            | H001053            | Cancelled                |
| FRG         | G180033                  | P781398            | P781399            | P783185            | P105220                        |         |                  | H770037            | H001053            | Cancelled                |
| FRG<br>FRG  | G180035<br>G180038       | P781098<br>P781098 | P781102            | P783185<br>P781084 | P105220<br>P105220             |         |                  | H770037            | H001053<br>H001053 | Cancelled<br>Cancelled   |
| FRG2        | G180073                  | P785394            | P781102<br>X770688 | P784792            | P105220                        |         |                  | H770037<br>H770037 | H001053            | Production               |
| FRG2        | G180074                  | P785394            | X770688            | P784792            | P105220                        |         |                  | H770037            | H001053            | Production               |
| FRG2        | G180075                  | P785394            | X770688            | P784792            | P105220                        |         |                  | H770037            | H001053            | Production               |
| FRG2        | G180087                  | P786197            | X770683            | P784792            | P105220                        |         |                  | H770037            | H001053            | Production               |
| SRG         | G200008                  | . , , , , , ,      | 71.70000           | . 70 . 702         |                                |         |                  |                    |                    | by SSG200087             |
| SRG         | G200013                  |                    |                    |                    |                                |         |                  |                    |                    | by SSG200086             |
| SSG         | G200086                  | P608306            | P608305            | P603716            | P103198                        |         |                  |                    | ·                  | Production               |
| SSG         | G200087                  | P608306            | P608305            | P603716            | P103198                        |         |                  |                    |                    | Production               |
| SSG         | G200088                  | P609519            | P609518            | P603716            | P103198                        |         |                  |                    |                    | Production               |
| FTG         | G210007                  | P182040            | P117781            |                    | P105220                        |         | P116175          | H770068            | H770082            | Production               |
| FTG         | G210010                  | P182040            | P117781            |                    | P105220                        |         | P116175          | H770068            | H770082            | Production               |
| FTG         | G210009                  | P182040            | P117781            | P777862            | P105220                        |         | P116175          | H770068            |                    | Production               |
| FTG         | G210012                  | P182040            | P117781            | P781411            | P105220                        |         | P116175          | H770068            |                    | Production               |
| SRG         | G290000                  |                    |                    |                    |                                |         |                  |                    |                    | by SSG290057             |
| SRG         | G290012                  |                    |                    |                    |                                |         |                  |                    |                    | by SSG290053             |
| SRG         | G290023                  | Dengage            | Dengane            | DC02710            | D102100                        |         |                  |                    | Replaced           | by SSG290052             |
| SSG         | G290052<br>G290053       | P608306            | P608305            | P603716            | P103198<br>P103198             |         |                  |                    |                    | Production               |
| SSG         | G290055                  | P608306<br>P609519 | P608305<br>P609518 | P603716<br>P603716 | P103198                        |         |                  |                    |                    | Production<br>Production |
| SSG         | G290057                  | P608306            | P608305            | P603716            | P103198                        |         |                  |                    |                    | Production               |
| STB         | G770001                  | P182039            | P114931            | 1 000710           | 1 100100                       |         |                  |                    |                    | Cancelled                |
| SRG         | G772001                  | P182040            | P117781            | L015444            |                                | P105740 | P116175          |                    |                    | Production               |
| SRG         | G772002                  | P182038            | P115070            | 20.0111            |                                | P105740 | P116175          |                    |                    | Cancelled                |
| SRG         | G772003                  | P184040            | P136659            |                    |                                |         |                  |                    |                    | Cancelled                |
| SRG         | G772004                  | P182048            | P120879            |                    |                                |         |                  |                    |                    | Cancelled                |
| SRG         | G772006                  | P182038            | P115070            |                    |                                |         |                  |                    |                    | Cancelled                |
| SRG         | G772901                  | P182040            | P117781            |                    |                                |         |                  |                    |                    | Production               |
| SRG         | G772902                  | P182038            | P115070            |                    |                                | P105740 | P116175          |                    |                    | Production               |
| SRG         | G772906                  | P182038            | P115070            |                    |                                | P105740 | P116175          |                    |                    | Production               |
| SRG         | G772910                  | P182038            | P115070            |                    |                                |         |                  |                    |                    | Cancelled                |
| SRG         | G772911                  | P182040            | P117781            |                    |                                | P105740 | P116175          |                    |                    | Production               |
| SRG         | G772912                  | P182040            | P117781            |                    |                                | P105740 | P116175          |                    |                    | Production               |





| Dest               | Product                          |                         | D              |
|--------------------|----------------------------------|-------------------------|----------------|
| Part<br>Number     | Product<br>Description           |                         | Page<br>Number |
| B045008            | FKB                              | Air Cleaner             | 50-54          |
| B055006            | FKB                              | Air Cleaner             | 50-54          |
| B065018            | FLB                              | Air Cleaner             | 90-92          |
| B065045            | FKB                              | Air Cleaner             | 50-54          |
| B070005<br>B080022 | EPB<br>FLB                       | Air Cleaner Air Cleaner | 90-92          |
| B080067            | EPB                              | Air Cleaner             | 43-48          |
| B080080            | XRB                              | Air Cleaner             | 56-59          |
| B085001            | ECB Duralite™                    | Air Cleaner             | 38-42          |
| B085011            | ECB Duralite™                    | Air Cleaner             | 38-42          |
| B085046            | ECB Duralite™                    | Air Cleaner             | 38-42          |
| B085048<br>B085056 | ECB Duralite™<br>ECB Duralite™   | Air Cleaner Air Cleaner | 38-42          |
| B095437            | SRB                              | Air Cleaner             | 100-103        |
| B100067            | FLB                              | Air Cleaner             | 90-92          |
| B100094            | ECB Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| B100120            | ERB                              | Air Cleaner             | 45             |
| B100121            | SRB                              | Air Cleaner             | 100-103        |
| B100126            | ERB2                             | Air Cleaner             | 43-48          |
| B100127            | XRB                              | Air Cleaner             | 56-59          |
| B105002            | ECB Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| B105006            | ECB Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| B105012            | ECB Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| B110155            | SRB                              | Air Cleaner             | 100-103        |
| B120260            | FLB                              | Air Cleaner             | 90-92          |
| B120376            | ECB Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| B120470            | XRB                              | Air Cleaner             | 56-59          |
| B125003            | ECB Duralite <sup>TM</sup>       | Air Cleaner             | 38-42          |
| B125005            | ECB Duralite <sup>TM</sup>       | Air Cleaner             | 38-42          |
| B125011<br>B130010 | ECB Duralite <sup>™</sup><br>ERB | Air Cleaner Air Cleaner | 38-42          |
| B130010            | ERB                              | Air Cleaner             | 45<br>45       |
| B130046            | SRB                              | Air Cleaner             | 100-103        |
| B130048            | SPB2                             | Air Cleaner             | 97-99          |
| B130057            | ERB2                             | Air Cleaner             | 43-48          |
| B130058            | ERB2                             | Air Cleaner             | 43-48          |
| B130060            | SPB2                             | Air Cleaner             | 97-99          |
| B150025            | ERB                              | Air Cleaner             | 45             |
| B150028            | ERB                              | Air Cleaner             | 45             |
| B150058            | ERB2                             | Air Cleaner             | 43-48          |
| B150059            | ERB2                             | Air Cleaner             | 43-48          |
| B180011            | ERB                              | Air Cleaner             | 45             |
| B180012            | ERB                              | Air Cleaner             | 45             |
| B180016            | ERB2                             | Air Cleaner             | 43-48          |
| B180017            | ERB2                             | Air Cleaner             | 43-48          |
| C045001            | ECC Duralite™<br>ECC Duralite™   | Air Cleaner             | 38-42          |
| C045002<br>C055002 | ECC Duralite  ECC Duralite       | Air Cleaner             | 38-42<br>38-42 |
| C055002            | ECC Duralite™                    | Air Cleaner Air Cleaner | 38-42          |
| C055008            | ECC Duralite <sup>TM</sup>       | Air Cleaner             | 38-42          |
| C065001            | ECC Duralite <sup>TM</sup>       | Air Cleaner             | 38-42          |
| C065002            | ECC Duralite TM                  | Air Cleaner             | 38-42          |
| C065003            | ECC Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| C065004            | ECC Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| C065015            | ECC Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| C085001            | ECC Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| C085002            | ECC Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| C085003            | ECC Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| C085004            | ECC Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
| C085005            | ECC Duralite <sup>TM</sup>       | Air Cleaner             | 38-42          |
| C085006            | ECC Duralite <sup>TM</sup>       | Air Cleaner             | 38-42          |
| C105003            | ECC Duralite <sup>™</sup>        | Air Cleaner             | 38-42          |
|                    |                                  |                         |                |

| Part<br>Number     | Product<br>Description         |                         | Page<br>Number |
|--------------------|--------------------------------|-------------------------|----------------|
| C105004            | ECC Duralite TM                | Air Cleaner             | 38-42          |
| C125003            | ECC Duralite <sup>™</sup>      | Air Cleaner             | 38-42          |
| C125004            | ECC Duralite <sup>™</sup>      | Air Cleaner             | 38-42          |
| D045003            | ECD Duralite <sup>™</sup>      | Air Cleaner             | 38-42          |
| D045004            | ECD Duralite <sup>™</sup>      | Air Cleaner             | 38-42          |
| D055004            | ECD Duralite <sup>™</sup>      | Air Cleaner             | 38-42          |
| D065003            | ECD Duralite <sup>™</sup>      | Air Cleaner             | 38-42          |
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| P785546         ERB2         Cover Assy         45           P785551         FRG2         Main Element         84           P785589         FRG2         Main Element         84           P785590         FRG2         Main Element         45           P785610         ERB2         Main Element         45           P785611         PSD         Cover Assy         26           P785978         PSD         Cover Assy         26           P786197         FRG2         Main Element         84           P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786786         PSD         Adapter         26           P786788         PSD         Adapter         26<  |         |                                       |                                       |          |
| P785551         FRG2         Cover Assy         84           P785583         FRG2         Main Element         84           P785590         FRG2         Main Element         48           P785610         ERB2         Main Element         45           P785610         ERB2         Main Element         45           P785651         PSD         Cover Assy         26           P786578         PSD         U-Clip Mounting (x4)         26           P786197         FRG2         Main Element         84           P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P7867865         PSD         Adapter         26           P786778         PSD         Adapter   |         |                                       |                                       |          |
| P785589         FRG2         Main Element         84           P785590         FRG2         Main Element         84           P785510         ERB2         Main Element         45           P785611         PSD         Cover Assy         26           P785978         PSD         U-Clip Mounting (x4)         26           P786030         PSD         U-Clip Mounting (x4)         26           P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786355         In-Line Check Valve         126           P786685         PSD         Adapter         26           P786778         PSD         Adapter         26           P787878         PSD         Adapter         26           P787281         PSD         Main Element  | P785546 | ERB2                                  | Cover Assy                            | 45       |
| P785590         FRG2         Main Element         84           P785510         ERB2         Main Element         45           P785551         PSD         Cover Assy         26           P785551         PSD         U-Clip Mounting (x4)         26           P786050         PSD         U-Clip Mounting (x4)         26           P786197         FRG2         Main Element         84           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786786         PSD         Adapter         26           P7867878         PSD         Adapter         26           P786789         PSD         Adapter         26           P787281         PSD         Main Element         67, 72           P822769         FPG Alexin™  | P785551 | FRG2                                  | Cover Assy                            | 84       |
| P785610         ERB2         Main Element         45           P785661         PSD         Cover Assy         26           P785978         PSD         Cover Assy         26           P786050         PSD         U-Clip Mounting (x4)         26           P786197         FRG2         Main Element         84           P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786788         PSD         Adapter         26           P786778         PSD         Adapter         26           P786789         PSD         Cover Assy         26           P7878708         High Torque Clamp         120           P822768         FPG, PG Alexin™         Main Element         7   | P785589 | FRG2                                  | Main Element                          | 84       |
| P785651         PSD         Cover Assy         26           P786978         PSD         U-Clip Mounting (x4)         26           P786050         PSD         U-Clip Mounting (x4)         26           P786197         FRG2         Main Element         84           P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786685         PSD         Adapter         26           P7866865         PSD         Adapter         26           P786788         PSD         Adapter         26           P786789         PSD         Adapter         26           P787281         PSD         Main Element         26           P7872878         High Torque Clamp         120           P822768         FPG, FPG Alexin™         Main Element <td>P785590</td> <td>FRG2</td> <td>Main Element</td> <td>84</td>   | P785590 | FRG2                                  | Main Element                          | 84       |
| P785978         PSD         Cover Assy         26           P786050         PSD         U-Clip Mounting (x4)         26           P786197         FRG2         Main Element         84           P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P7866865         PSD         Adapter         26           P786778         PSD         Adapter         26           P786789         PSD         Adapter         26           P786789         PSD         Adapter         26           P787221         PSD         Main Element         26           P787281         PSD         Main Element         73           P822768         FPG, FPG Alexin™         Main Element   | P785610 | ERB2                                  | Main Element                          | 45       |
| PFBO         U-Clip Mounting (x4)         26           P786197         FRG2         Main Element         84           P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786778         PSD         Adapter         26           P786778         PSD         Adapter         26           P786789         PSD         Adapter         26           P786780         PSD         Adapter         26           P786781         PSD         Main Element         26           P7878708         High Torque Clamp         120           P822766         FPG, FPG Alexin™         Main Element         73           P822768         FPG Alexin™         Main Element         73   | P785651 | PSD                                   | Cover Assy                            | 26       |
| P786197         FRG2         Main Element         84           P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786788         PSD         Adapter         26           P786789         PSD         Adapter         26           P786789         PSD         Cover Assy         26           P787281         PSD         Main Element         26           P788708         High Torque Clamp         120           P822768         FPG, FPG Alexin™         Main Element         67, 72           P822769         FPG Alexin™         Main Element         73           P822769         FPG Alexin™         Main Element         73           P829333         FPG Alexin™         Main Ele  | P785978 |                                       | Cover Assy                            | 26       |
| P786337         In-Line Check Valve         126           P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786346         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786385         PSD         Adapter         26           P786787         PSD         Adapter         26           P786788         PSD         Adapter         26           P787281         PSD         Main Element         26           P787281         PSD         Main Element         67, 72           P822268         FPG Alexin™         Main Element         73           P822769         FPG Alexin™         Main Element         73           P828889         FPG Alexin™         Main Element         73 <td></td> <td></td> <td></td> <td></td>  |         |                                       |                                       |          |
| P786338         In-Line Check Valve         126           P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786685         PSD         Adapter         26           P7866881         PSD         Adapter         26           P786788         PSD         Adapter         26           P786789         PSD         Cover Assy         26           P787281         PSD         Main Element         26           P788708         High Torque Clamp         120           P822686         FPG, FPG Alexin™         Main Element         67, 72           P822769         FPG Alexin™         Main Element         73           P822889         FPG Alexin™         Main Element         73           P829333         FPG Alexin™         Main Element         73           X002250         Mechanical, ServiSign  |         |                                       | Main Element                          |          |
| P786339         In-Line Check Valve         126           P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786355         In-Line Check Valve         126           P786685         PSD         Adapter         26           P786778         PSD         Adapter         26           P786789         PSD         Cover Assy         26           P787281         PSD         Main Element         26           P788708         High Torque Clamp         120           P822666         FPG, FPG Alexin™         Main Element         67, 72           P822768         FPG Alexin™         Main Element         73           P822769         FPG Alexin™         Main Element         73           P822889         FPG Alexin™         Main Element         73           P829333         FPG Alexin™         Main Element         73           X002250         Mechanical, ServiSignal™         Indicator         136           X0  |         |                                       |                                       |          |
| P786340         In-Line Check Valve         126           P786341         In-Line Check Valve         126           P786342         In-Line Check Valve         126           P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786685         PSD         Adapter         26           P786778         PSD         Adapter         26           P786789         PSD         Cover Assy         26           P787281         PSD         Main Element         26           P788708         High Torque Clamp         120           P822686         FPG, FPG Alexin™         Main Element         67,72           P822768         FPG Alexin™         Main Element         73           P822769         FPG Alexin™         Safety Element         73           P829333         FPG Alexin™         Main Element         73           X002250         Mechanical, ServiSignal™         Indicator         136           X002251         Mechanical, ServiSignal™         Indicator         136   |         |                                       |                                       |          |
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| P786343         In-Line Check Valve         126           P786344         In-Line Check Valve         126           P786345         In-Line Check Valve         126           P786685         PSD         Adapter         26           P786778         PSD         Adapter         26           P786989         PSD         Cover Assy         26           P787281         PSD         Main Element         26           P7877281         PSD         Main Element         26           P788708         High Torque Clamp         120           P822686         FPG, FPG Alexin™         Main Element         67, 72           P822768         FPG Alexin™         Main Element         73           P822769         FPG Alexin™         Safety Element         73           P828889         FPG Alexin™         Main Element         73           P829333         FPG Alexin™         Safety Element         73           X002250         Mechanical, ServiSignal™         Indicator         136           X002251         Mechanical, ServiSignal™         Indicator         136           X002252         Mechanical, Informer™         Indicator         136           X002275   |         |                                       |                                       |          |
| P786345         In-Line Check Valve         126           P786685         PSD         Adapter         26           P786778         PSD         Adapter         26           P786788         PSD         Cover Assy         26           P787281         PSD         Main Element         26           P787281         PSD         Main Element         26           P788708         High Torque Clamp         120           P822686         FPG, FPG Alexin™         Main Element         67, 72           P822769         FPG Alexin™         Main Element         73           P828889         FPG Alexin™         Main Element         73           P829333         FPG Alexin™         Safety Element         73           X002250         Mechanical, ServiSignal™         Indicator         136           X002251         Mechanical, ServiSignal™         Indicator         136           X002252         Mechanical, ServiSignal™         Indicator         136           X002254         Mechanical, Informer™         Indicator         136           X002275         Mechanical, Informer™         Indicator         136           X002278         Mechanical, Informer™         Indicator <td< td=""><td></td><td></td><td></td><td></td></td<>                                     |         |                                       |                                       |          |
| P786685         PSD         Adapter         26           P786778         PSD         Adapter         26           P786989         PSD         Cover Assy         26           P787281         PSD         Main Element         26           P787281         PSD         Main Element         26           P78708         High Torque Clamp         120           P822686         FPG, FPG Alexin™         Main Element         67, 72           P822768         FPG Alexin™         Main Element         73           P822769         FPG Alexin™         Safety Element         73           P828889         FPG Alexin™         Safety Element         73           P829333         FPG Alexin™         Safety Element         73           X002250         Mechanical, ServiSignal™         Indicator         136           X002251         Mechanical, ServiSignal™         Indicator         136           X002252         Mechanical, ServiSignal™         Indicator         136           X002275         Mechanical, Informer™         Indicator         136           X002277         Mechanical, Informer™         Indicator         136           X002278         Mechanical, Informer™         In   | P786344 | In-Line Check Valve                   |                                       | 126      |
| P786778         PSD         Adapter         26           P786989         PSD         Cover Assy         26           P787281         PSD         Main Element         26           P788708         High Torque Clamp         120           P822686         FPG, FPG Alexin™         Main Element         67, 72           P822768         FPG Alexin™         Main Element         73           P822769         FPG Alexin™         Safety Element         73           P828889         FPG Alexin™         Main Element         73           P829333         FPG Alexin™         Safety Element         73           X002250         Mechanical, ServiSignal™         Indicator         136           X002251         Mechanical, ServiSignal™         Indicator         136           X002252         Mechanical, ServiSignal™         Indicator         136           X002254         Mechanical, Informer™         Indicator         136           X002275         Mechanical, Informer™         Indicator         136           X002277         Mechanical, Informer™         Indicator         136           X003538         STG Gasket Kit         114, 115           X003691         Moisture Eliminator         <  | P786345 | In-Line Check Valve                   |                                       | 126      |
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| P822768         FPG Alexin™         Main Element         73           P822769         FPG Alexin™         Safety Element         73           P828889         FPG Alexin™         Main Element         73           P8289333         FPG Alexin™         Safety Element         73           X002250         Mechanical, ServiSignal™         Indicator         136           X002251         Mechanical, ServiSignal™         Indicator         136           X002252         Mechanical, ServiSignal™         Indicator         136           X002254         Mechanical, Informer™         Indicator         136           X002275         Mechanical, Informer™         Indicator         136           X002277         Mechanical, Informer™         Indicator         136           X003538         STG Gasket Kit         114, 115           X003539         STG Gasket Kit         114, 115           X003691         Moisture Eliminator         128           X004476         Flat Band SealClamp™         121           X004478         Flat Band SealClamp™         121           X004480         Flat Band SealClamp™         121           X004481         Flat Band SealClamp™         121           X004536   |         |                                       |                                       |          |
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