



Donaldson®

*Filtration Solutions*

*for Gas Turbines,*

*Generators, and Compressors*

Doble Entrada GDS Filtro de Aire para Operación de  
circulación de aire 9,000-79,000 cfm/255 - 2237 m<sup>3</sup>/min

### Separación de humedad, malla contra insectos/aves...sensores de presión

Sistemas de filtración GDS de Donaldson protege el compresor de la turbina a gas y el generador en una variedad de ambientes lo cual incluye; urbana, industrial, costero, y marina.

#### Como Funciona

El sistema GDS tiene doble entradas por dos lados, cubierta por capas de lluvia con panales para la separación de humedad lo cual quita 99.5% de gotas mas de 60mm de la entrada de aire. Malla contra insectos/aves es opcional en la foto a la derecha.

Serie de catuchos de filtros ofrece una barea de eficiencia alta contra polvo, polen, tierra y otras partículas de aire. Filtros Donaldson tiene 99.9% eficiencia en la separación de AC polvo fina, mientras ofreciendo una vida extendida de filtro.

El filtro corriente de GDS son hechos de un forro sintético registrado por Donaldson, lo cual ofrece una eficiencia muy alta y una vida extendida.

**Nota: Ambientes con una concentración pesada en polvo como la desierta o areas de construcción recomendamos el sistema Donaldson GDx de limpieza de pulso.**



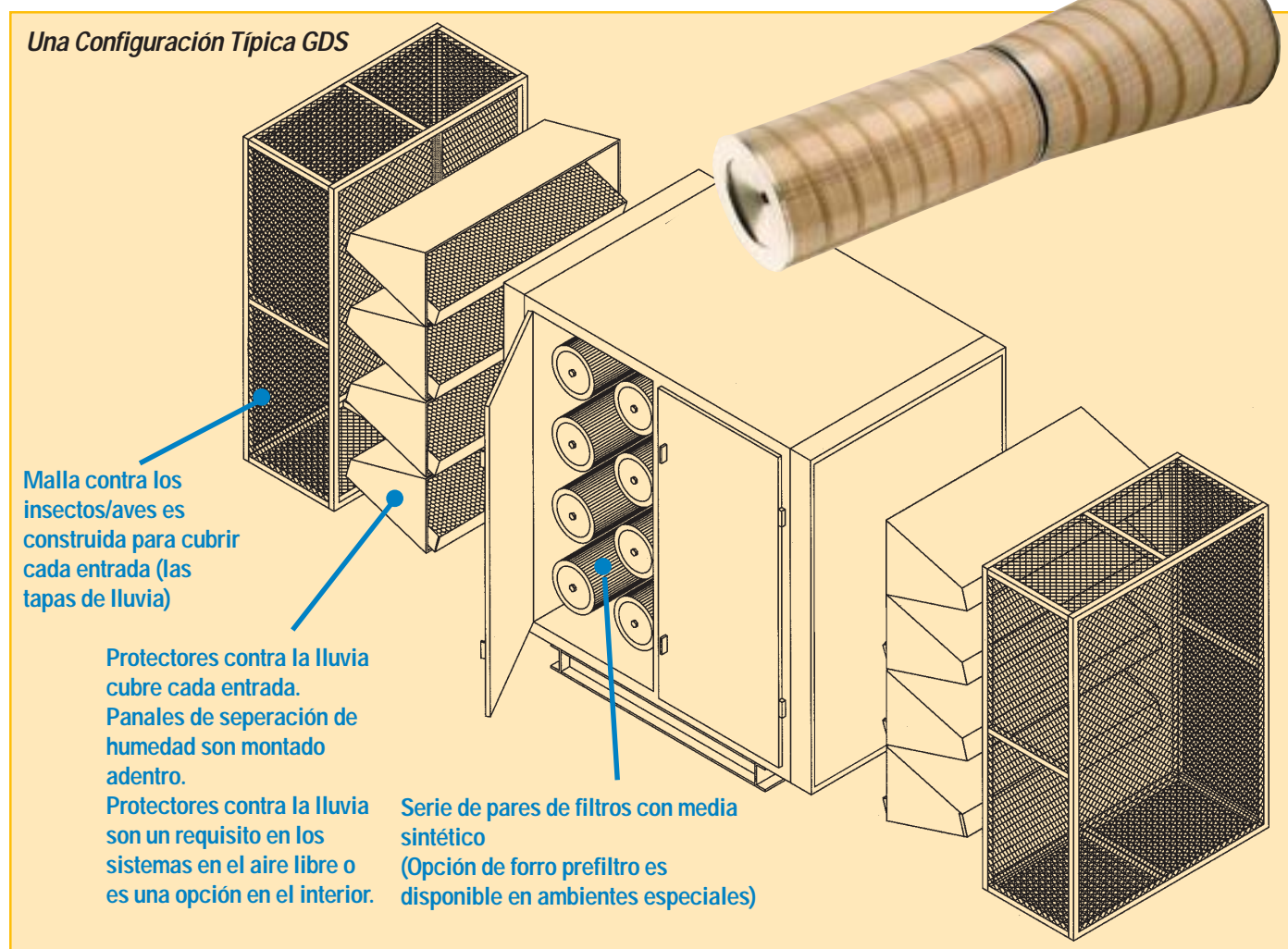
Estos sistemas de filtro doble entrada de GDS protege las turbinas de los daños de arena y polvo cerca de Tucson, Arizona USA. Nota: Hay malla contra los insectos/aves sobre las tapas de lluvia. Sistemas GDS de Donaldson protege el aire de combustión en todos partes del mundo!



Los pares del filtro de GDS contienen medios sintéticos del filtro

## El Sistema- Doble aire entrada GDS- Caracteristicas y ventajas

- Construcción de viento 120 mph.
- Medida de presión.
- Acceso de las puertas al frente- lo cual es mas fácil hacer los inspecciones y el servicio.
- Componentes de sensores presión están conectados antes a una caja comun lo cual es fácil tener acceso atras . Se puede escoger (NEMA 7, NEMA 4x etc.)
- Tapas contra la lluvia con panales de separadores de humedad ofrece protección contra la lluvia, el nieve y la neblina.
- Malla contra los insectos/aves ofrece protección contra tipo de partículas para que los filtros no se atasca.
- Opción de prefiltros- (forro) se puede extender la vida de los filtros contra los elementos de estacion (semillas etc.)
- Alta proporción de media filtrante al aire representa una vida extendida y menos gastos de manteniamie
- Pares de filtros cónicos y cilindricos son el corazón del sistema, lo cual ofrece eficiencia alta y alta capacidad de retener el polvo. Instalados horizontal, es muy faciles remover y reemplazar en servicio.
- Media filtrante sintético elaborado por Donaldson, es un media de alta rendimiento lo cual puede soportar ambientes de alta contaminación.



### Where to Find Us:

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[website: www.donaldson.com](http://www.donaldson.com)  
[email: filterinfo@mail.donaldson.com](mailto:filterinfo@mail.donaldson.com)

**Se habla español**

## Dual-Inlet GDS for Indoor or Sheltered Environments

Typically configured without weather hoods, this style of GDS filtration system is designed for use in sheltered areas. Each basic system includes filter

elements with synthetic media and moisture eliminator panels. Choose carbon steel or, for extra corrosion resistance, stainless steel.

**Begin by** choosing the airflow range your application requires, and carbon or stainless steel material.

**Next Steps:** Choose insect screens from page 6, then review pressure-sensing options on page 7.

Airflow Range (actual) <sup>(1)</sup>	Part No. for Carbon Steel <sup>(2)</sup>	Part No. for 316L Stainless	Filter Rows High x Wide <sup>(3)</sup>	Dimensions (shown in inches & mm)								
				A	B	C	D	E	F	G	H	J
9,500-13,500 <i>cfm</i> 269-382 <i>m³/min</i>	GDS-AD57939-01	GDS-AD57939-03	2 H x 3 W	54 1372	73.87 1876	76.26 1937	32.88 835	24 610	48 1219	46 1168	36 914	26.5 673
13,500-20,000 <i>cfm</i> 382-566 <i>m³/min</i>	GDS-AD57940-01	GDS-AD57940-03	3 H x 3 W	72 1829	73.87 1876	65.36 1660	39 991	48 1219	48 1219	46 1168	36 914	16 406
18,500-27,000 <i>cfm</i> 510-765 <i>m³/min</i>	GDS-AD28233-01	GDS-AD28233-03	3 H x 4 W	72 1829	88.62 2251	65.76 1670	39 991	48 1219	72 1829	64 1626	36 914	16 406
24,000-36,000 <i>cfm</i> 680-1019 <i>m³/min</i>	GDS-AD28234-01	GDS-AD28234-03	4 H x 4 W	90 2286	88.62 2251	65.76 1670	48 1219	60 1524	72 1829	64 1626	36 914	16 406
30,000-45,000 <i>cfm</i> 850-1274 <i>m³/min</i>	GDS-AD28235-01	GDS-AD28235-03	4 H x 5 W	90 2286	110.62 2810	65.76 1670	48 1219	72 1829	72 1829	82 2083	36 914	16 406
37,500-56,000 <i>cfm</i> 1062-1586 <i>m³/min</i>	GDS-AD57941-01	GDS-AD57941-03	5 H x 5 W	108 2743	110.62 2810	64.45 1637	57 1448	84 2134	84 2134	82 2083	36 914	14.5 368
45,000-67,500 <i>cfm</i> 1274-1911 <i>m³/min</i>	GDS-AD28236-01	GDS-AD28236-03	6 H x 5 W	128 3251	110.62 2810	74.76 1899	67 1702	90.55 2300	90.55 2300	82 2083	36 914	25 635
52,500-79,000 <i>cfm</i> 1487-2237 <i>m³/min</i>	GDS-AD57942-01	GDS-AD57942-03	7 H x 5 W	148 3759	110.62 2810	110.26 2801	56.25 1429	96 2438	96 2438	82 2083	36 914	50.5 1283

### APPLICATION NOTES:

(1) Airflows are based on a range of 1500 - 2250 *cfm* (42.5 - 63.7 *m³/min*) per filter pair.  $\Delta P$  ranges for GDS indoor systems with new filter elements installed are:

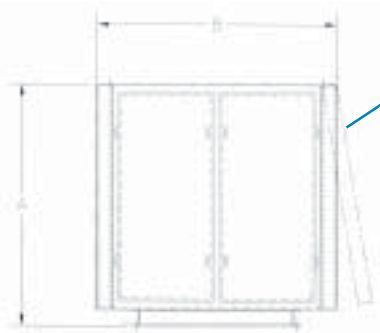
0.7 inches/18 mm H<sub>2</sub>O @ 1500 *cfm*/42.5 *m³/min*

1.6 inches/41 mm H<sub>2</sub>O @ 2250 *cfm*/ 63.7 *m³/min*

$\Delta P$  is the measured static pressure from ambient condition through installed filter elements.

(2) The carbon steel GDS filtration system is painted with two coats of protection: zinc epoxy followed by a polyurethane topcoat.

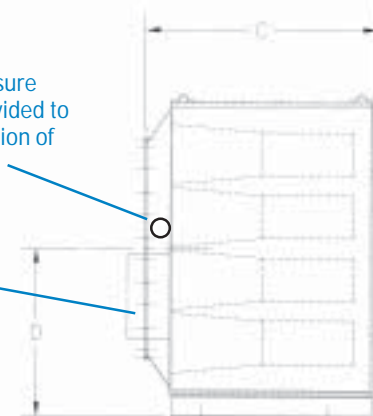
(3) Filter elements are installed in pairs (see photo on last page), which are arranged in rows within the filter house.



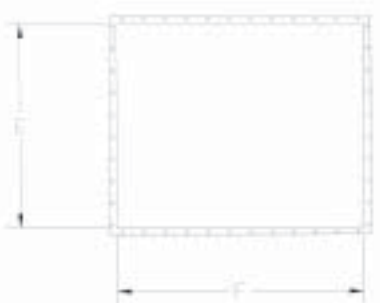
Vertical Mist Eliminator Panels are included on the indoor GDS style.

A differential pressure sight gauge is provided to indicate the condition of the filter elements

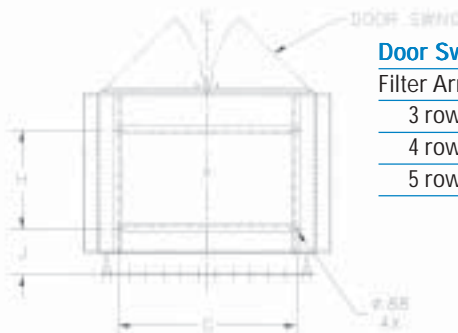
This is the typical location for the pressure-sensing kit



### Outlet Dimensions:



### Mounting Location



### Door Swing Area Allowance

Filter Arrangement Width:

3 rows wide, 1 door -- allow 57 inches/ 1448 mm

4 rows wide, 2 doors -- allow 35 inches/ 889 mm

5 rows wide, 2 doors -- allow 53 inches/ 1346 mm

## Dual-Inlet GDS for Use Outdoors

GDS filtration systems to be installed outdoors require weather hoods with moisture eliminator panels and possibly insect screens to protect the filter elements.

Choose carbon steel construction, or for extra corrosion resistance, choose stainless steel.

**Begin by** choosing the airflow range your application requires, and carbon or stainless steel material

**Next Steps:** Choose weather hoods and possibly insect screens from page 6.

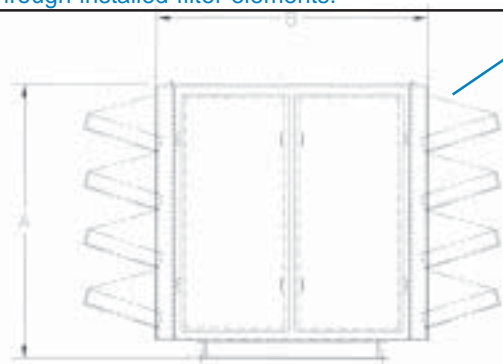
Airflow Range (actual) <sup>(1)</sup>	Part No. for Carbon Steel <sup>(2)</sup>	Part No. for 316L Stainless	Filter Rows High x Wide <sup>(3)</sup>	Dimensions (shown in inches & mm)								
				A	B	C	D	E	F	G	H	J
9,500-13,500 <i>cfm</i> 269-382 <i>m<sup>3</sup>/min</i>	GDS-85640-01	GDS-85640-03	2 H x 3 W	54 1372	73.87 1876	76.26 1937	32.88 835	24 610	48 1219	46 1168	36 914	26.5 673
13,500-20,000 <i>cfm</i> 382-566 <i>m<sup>3</sup>/min</i>	GDS-AD57938-01	GDS-AD57938-03	3 H x 3 W	72 1829	73.87 1876	65.36 1660	39 991	48 1219	48 1219	46 1168	36 914	16 406
18,500-27,000 <i>cfm</i> 510-765 <i>m<sup>3</sup>/min</i>	GDS-84840-01	GDS-84840-03	3 H x 4 W	72 1829	88.62 2251	65.76 1670	39 991	48 1219	72 1829	64 1626	36 914	16 406
24,000-36,000 <i>cfm</i> 680-1019 <i>m<sup>3</sup>/min</i>	GDS-84842-01	GDS-84842-03	4 H x 4 W	90 2286	88.62 2251	65.76 1670	48 1219	60 1524	72 1829	64 1626	36 914	16 406
30,000-45,000 <i>cfm</i> 850-1274 <i>m<sup>3</sup>/min</i>	GDS-84845-01	GDS-84845-03	4 H x 5 W	90 2286	110.62 2810	65.76 1670	48 1219	72 1829	72 1829	82 2083	36 914	16 406
37,500-56,000 <i>cfm</i> 1062-1586 <i>m<sup>3</sup>/min</i>	GDS-85641-01	GDS-85641-03	5 H x 5 W	108 2743	110.62 2810	64.45 1637	57 1448	84 2134	84 2134	82 2083	36 914	14.5 368
45,000-67,500 <i>cfm</i> 1274-1911 <i>m<sup>3</sup>/min</i>	GDS-84846-01	GDS-84846-03	6 H x 5 W	128 3251	110.62 2810	74.76 1899	67 1702	90.55 2300	90.55 2300	82 2083	36 914	25 635
52,500-79,000 <i>cfm</i> 1487-2237 <i>m<sup>3</sup>/min</i>	GGDS-AD52246-01	GDS-AD52246-03	7 H x 5 W	148 3759	110.62 2810	110.26 2801	56.25 1429	96 2438	96 2438	82 2083	36 914	50.5 1283

### APPLICATION NOTES:

(1) Airflows are based on a range of 1500 - 2250 *cfm* (42.5 - 63.7 *m<sup>3</sup>/min*) per filter pair.  $\Delta P$  ranges for GDS outdoor systems with new filter elements installed are:  
0.8 inches/21 mm H<sub>2</sub>O @ 1500 *cfm*/42.5 *m<sup>3</sup>/min*  
1.7 inches/43 mm H<sub>2</sub>O @ 2250 *cfm*/ 63.7 *m<sup>3</sup>/min*  
 $\Delta P$  is the measured static pressure from ambient condition through installed filter elements.

(2) The carbon steel GDS filtration system is painted with two coats of protection: zinc epoxy followed by a polyurethane topcoat.

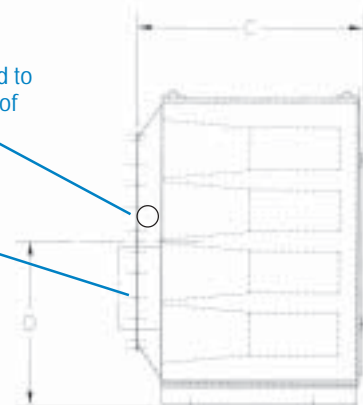
(3) Filter elements are installed in pairs (see photo on last page), which are arranged in rows within the filter house.



Note that hood kits are ordered separately.... see page 6.

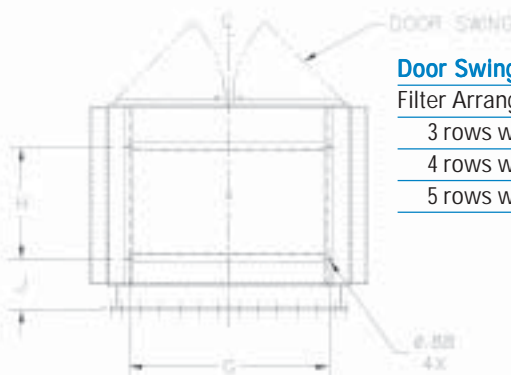
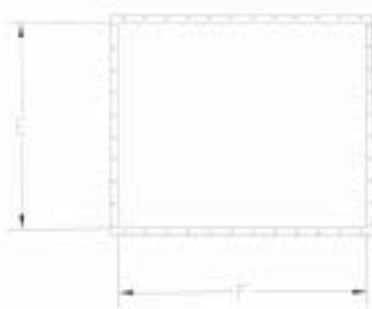
A differential pressure sight gauge is provided to indicate the condition of the filter elements

This is the typical location for the pressure-sensing kit



Mounting Location

Outlet Dimensions:



### Door Swing Area Allowance

Filter Arrangement Width:

3 rows wide, 1 door -- allow 57 inches/ 1448 mm

4 rows wide, 2 doors -- allow 35 inches/ 889 mm

5 rows wide, 2 doors -- allow 53 inches/ 1346 mm

## Weather Hoods with Moisture Eliminator Panels

The GDS weather hoods provide protection against rain, mist, fog and snow, and are **required** for Dual-Inlet GDS systems that will be used outdoors.

The inlet areas face downward to prevent direct entry of moisture. For 99.5% moisture removal from the

airstream, each hood section contains a moisture eliminator panel that works constantly without moving parts, is self-draining, and is made of a highly durable polymer.

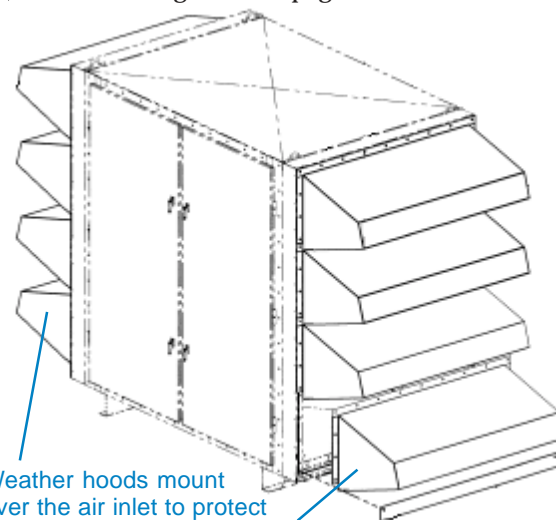
Weather hoods can be used alone or in conjunction with the Donaldson extended area insect screens shown below.

**Begin by** matching the filter arrangement you've chosen from page 5, then select the part number for either carbon or stainless steel.

**Next Steps:** Choose insect screens (below), if needed, then a pressure-sensing kit from page 7.

### Weather Hood Kits (1 kit contains everything you need for both GDS inlets)

Fits Filter Arrangement	Carbon Steel Part Number	316L Stainless Part Number	WIDTH: Air Filter with Hoods
2 High x 3 Wide	2SG-84341-01	2SG-84341-03	121.77 inches / 3093 mm
3 High x 3 Wide	2SG-84342-01	2SG-84342-03	121.77 inches / 3093 mm
3 High x 4 Wide	2SG-84342-01	2SG-84342-03	136.53 inches / 3468 mm
4 High x 4 Wide	2SG-84343-01	2SG-84343-03	136.53 inches / 3468 mm
4 High x 5 Wide	2SG-84343-01	2SG-84343-03	158.53 inches / 4027mm
5 High x 5 Wide	2SG-84344-01	2SG-84344-03	158.53 inches / 4027 mm
6 High x 5 Wide	2SG-84345-01	2SG-84345-03	158.53 inches / 4027 mm
7 High x 5 Wide	2SG-97906-01	2SG-97906-03	158.53 inches / 4027 mm



Weather hoods mount over the air inlet to protect the filters. One kit contains hoods for both inlet areas.

## Optional Insect Screens

GDS insect screens protect the filters from insect inundation and thereby guard against premature filter replacement. The stainless steel screens prevent insects and other debris from entering the inlet of the filter house.

Primarily used in operating environments with large quantities of insects, they are designed for both indoor and outdoor base units. The extended area design reduces the velocity of the

airflow through the screen enough to create only a minimal increase in system  $\Delta P$  and to allow many insects to fly away.

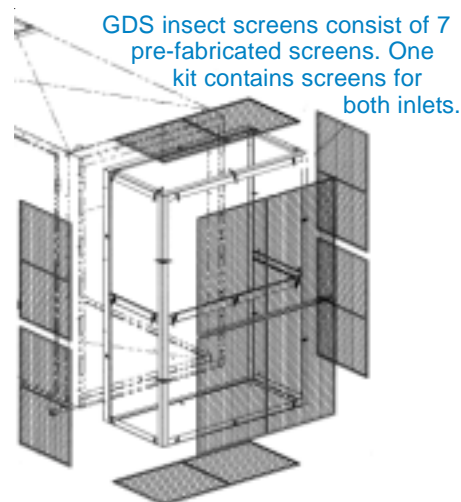
During cold weather operation insect screens should be removed and stored, due to potential icing conditions. The extended area insect screen can be used as a stand alone accessory or in conjunction with Donaldson weather hoods.

**Begin by** matching the filter arrangement you've chosen from page 4 or 5, then select the part number for either carbon steel frame or stainless steel frame. (Note that the screen portions are stainless steel for all part numbers.)

**Next Steps:** Choose a pressure-sensing kit from page 7.

### Insect Screen Kits (1 kit contains everything you need for both GDS inlets)

Fits Filter Arrangement	Carbon Steel Frame Part Number	316L Stainless Frame Part Number	WIDTH: Air Filter with Screen Kit
2 High x 3 Wide	2SG-85292-01	2SG-85292-03	129.88 inches/ 3299 mm
3 High x 3 Wide	2SG-84598-01	2SG-84598-01	129.88 inches/ 3299 mm
3 High x 4 Wide	2SG-84598-01	2SG-84598-03	144.62 inches / 3673 mm
4 High x 4 Wide	2SG-84599-01	2SG-84599-03	144.62 inches / 3673 mm
4 High x 5 Wide	2SG-84599-01	2SG-84599-03	166.62 inches / 4232 mm
5 High x 5 Wide	2SG-85606-01	2SG-85606-03	166.62 inches / 4232 mm
6 High x 5 Wide	2SG-84601-01	2SG-84601-03	166.62 inches / 4232 mm
7 High x 5 Wide	2SG-97910-01	2SG-97910-03	166.62 inches / 4232 mm



GDS insect screens consist of 7 pre-fabricated screens. One kit contains screens for both inlets.

## Pressure-Sensing Kit Options

We offer two pressure-sensing kit options:

**(1)** A pair of pressure switches that monitor the  $\Delta P$  across the filters. These switches are pre-wired to terminals in a junction box and can be used to send an alarm when pressure increases to a pre-set point, or to shut down the entire system in case of extremely high  $\Delta P$ . Kits are shown in figures A, B, C.

**(2)** A pressure transmitter that sends a constant signal for a digital readout. See figure D.

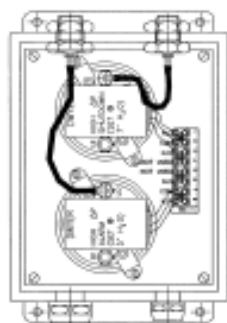
The pressure-sensing kit is mounted near the outlet of the filter house, on either the left- or right-hand side, as illustrated in the drawings on pages 4 & 5.

**Begin by** choosing the type of pressure-sensing equipment you need, then select the part number for either right- or left-hand mounting.

**Next Steps:** Consider pre-filter wraps, page 8. Complete your part number list on page 2 and call or fax it to Donaldson.

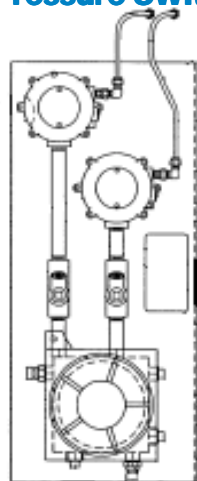
Pressure-Sensing Equipment Assembly Description Mount	See Figure	Part Number for <b>Left-Hand</b> Mount	Part Number for <b>Right-Hand</b>
NEMA 4 rated control box and pressure switches. Switches have adjustable setpoints from 3 to 11.75 inches (76 to 299 mm) H <sub>2</sub> O.	A	3EA-82271-01	3EA-82271-02
NEMA 4X control box with NEMA 4 rated pressure switches. Switches have adjustable setpoints from 3 to 11.75 inches (76 to 299 mm) H <sub>2</sub> O.	A	3EA-AD26596-01	3EA-AD26596-02
NEMA 7 rated control box and pressure switches. Switches have adjustable setpoints from 3 to 11 inches (76 to 279 mm) H <sub>2</sub> O.	B	3EA-81596-01	3EA-81596-02
CENELEC rated control box with NEMA 4 rated pressure switches. Adjustable setpoints from 3 to 11.75 inches (76 to 299 mm) H <sub>2</sub> O.	C	3EA-84092-01	3EA-84092-02
Rosemount transmitter, CSA & CENELEC approved. Calibration range: 0 inches/mm H <sub>2</sub> O = 4 ma, -10 inches (254 mm) H <sub>2</sub> O = 20 ma.	D	3EA-84091-01	3EA-84091-02
Rosemount transmitter, CSA & FM approved. Calibration range: 0 inches/mm H <sub>2</sub> O = 4 ma, --10 inches (254 mm) H <sub>2</sub> O = 20 ma.	D	3EA-AD50736-01	3EA-AD50736-02

**Figure A:  
Pressure Switch**



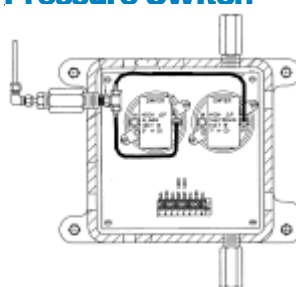
NEMA 4 or NEMA 4X enclosure.

**Figure B:  
Pressure Switch**



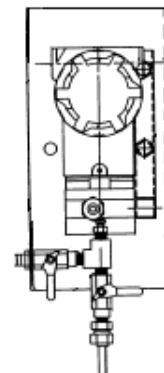
NEMA 7 Explosion-proof enclosure.

**Figure C:  
Pressure Switch**



CENELEC rated. Switches with set points.

**Figure D:  
Transmitter**



CSA & CENELEC or CSA & FM approved. Analog signal for constant digital readout. No set points.

**NEMA 4** = Enclosure is made of painted carbon steel. This is for indoor/outdoor use, with some protection against windblown dust, water, external ice.

**NEMA 4X** = Enclosure is made of stainless steel. This is for indoor/outdoor use, with some protection against corrosion, windblown dust, water, external ice.

**NEMA 7** = For hazardous locations defined as Class I, Div 1&2, Groups C&D, per the (US) National Electrical Code.

**CENELEC EEx'd'** marking = Same as NEMA 7, but per the safety standards in Europe. The 'd' indicates the device is flameproof.

**APPLICATION NOTES:**

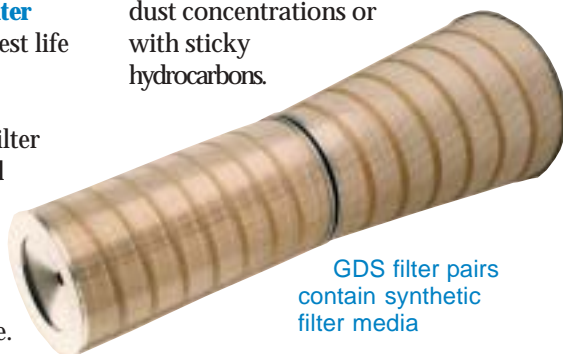
As you face the filter elements, the inlet that's on your right is considered the right-hand side. Choose the side that is most convenient for electrical connections and for a service person to reach.

## GDS Filter Media: Synthetic

Dual-Inlet GDS Filtration Systems include filter elements made with our specially-developed **synthetic filter media**, which provides the longest life and best filtration efficiency.

Fibers in Donaldson synthetic filter media are uniform in shape and distribution (unlike cellulose media fibers, which are irregular and rough), allowing low  $\Delta P$  to be maintained over the full life of the filter cartridge. And, because the media is synthetic, it is moisture-resistant and

durable enough even for difficult environments, including those with high dust concentrations or with sticky hydrocarbons.



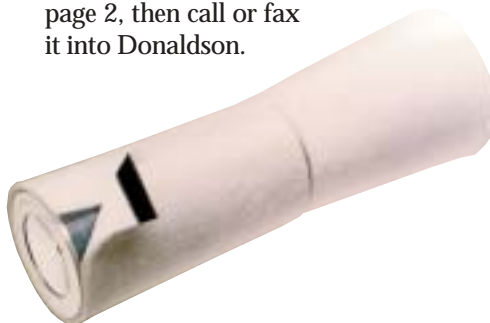
## Does Your GDS Need Pre-Filter Wraps?

If your GDS Dual Inlet filter system is in an area where seasonal debris is likely to shorten the life of the primary filters, use our pre-filter wraps. These synthetic pre-filters are designed to protect primary filters from a temporary influx of insects, seeds, ash, etc. They simply wrap around the filter pair, closing easily and securely with Velcro®, and are disposable when the season is over.

You'll need one kit for each element pair. Note that these must be ordered as a separate item.

**Begin by** considering whether you need pre-filter wraps.

**Next Steps:** Add the pre-filter wrap kit number to your configuration list on page 2, then call or fax it into Donaldson.



### Pre-filter Wrap Kit

3EA-45848-01 1 conical + 1 cylindrical wrap

### Where to Find Us:

Donaldson Company, Inc.

Gas Turbine Systems

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Minneapolis, MN 55440 USA

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Fax: 01-952-703-4712

Parts/Elements:  
01- 800-431-0555

website:

[www.donaldson.com](http://www.donaldson.com)

email:

[filterinfo@mail.donaldson.com](mailto:filterinfo@mail.donaldson.com)

**Se habla español**