Donaldson®

Filtration Solutions

for Gas Turbines,

Generators, and Compressors

Self-Cleaning TTD Air Filter for Operating Airflows up to 88,000 cfm/2492 m³/min

Stainless or Painted Carbon Steel....Choice of Filter Media ....Electric Options

Donaldson's TTD provides highly efficient air filtration for gas turbines operating in a variety of environments. Our TTD *Huff 'n Puff* system has been protecting turbines all over the world since 1976.

How It Works

The system requires little maintenance because it is self-cleaning: a reverse pulse of air back through the filters knocks off accumulated dirt, dust, larger particulate, and even frost.

Three Airflow Ranges

Systems are sized according to the airflow your turbine needs. Using this document, you can find TTD air inlet systems for turbines needing airflows:

☑ up to 19,500 *acfm*,
☑ up to 39,000 *acfm*, and
☑ up to 88,000 *acfm*.

Start on page 4 with the guidelines on how to configure a system tailored for your site.

High-Efficiency Filters

Filter elements provide high-efficiency barrier filtration against dust, pollen, dirt and other airborne particulate. Independent test results show that Donaldson filter elements have >99% efficiency on sub-micron particles. Media choice details begin on page 2.

Donaldson TTD *Huff 'n Puff* Filtration Systems have been protecting turbines from the ravages of sand, dust, and snow all over the world since 1976. The air enters the system from below (shown at left) and is directed from the outside of the filter element to the inside. The cleaned air then goes to the turbine.

WHY Choose Donaldson Spider-Web®? Field Tests Tell the Story

General Electric says that on the Frame 7EA turbine, every 4" of pressure drop (ΔP) at the filter costs 1.4% turbine output. That's why we at Donaldson know that the edge you get with Donaldson Spider-Web® filters is worth their premium price. With its advanced nanofiber media technology, Donaldson Spider-Web® helps maintain low ΔP for the life of the filter. However, beware of less efficient filters that may offer low initial ΔP while actually letting more contaminant pass through the filter (and into your turbine!) Donaldson Spider-Web® provides powerful filtration on even sub-micron (<5µm) particulate and good airflow for low ΔP over the life of the filter.

EXAMPLE:
GE Frame 7EA Turbine
0.1" ΔP = .025 X 1.4% X 86 MW
= 0.03 MW or 30 KWhr
Assume 1 KWhr = 5¢
Figure:
30 KWhr X 5¢ = $1.50 per hour.

If a set of premium replacement filters (Donaldson Spider-Web®) helps maintain lower ΔP over the life of the filters, but costs about $8000 more than 'brand X' filters, divide $8000 by the $1.50/hr. This results in 5333 hours, or only about 7½ months of operational time, to make up the extra outlay. If the average pressure drop is 0.2" less, the payback is less than 4 months! **Not much when you consider the premium performance of the filter, with their average life of 2 to 3 years!**

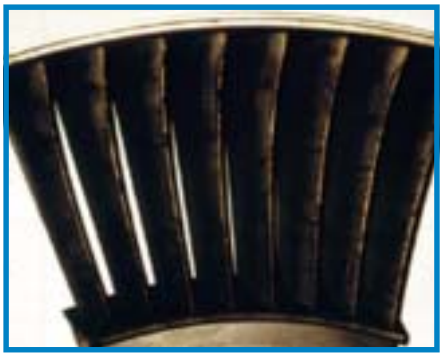
PROBLEM: Fast fouling on compressor blades leads to loss of turbine output -- which means loss of revenue!

SOLUTION: Donaldson filter cartridges made with Spider-Web®, (our exclusive fine fiber media technology), which captures the majority of the very fine dirt particles that foul compressor blades.

EXAMPLE: One of our customers in Canada tested Donaldson Spider-Web® filters side-by-side next to 'brand X.' After 2360 operating hours, the compressor blades on the turbine behind brand X were black with fouling (see photo A below.) At the same time, the blades behind Spider-Web® were clean & shiny! (photo B below)

The conclusion is simple: Donaldson Spider-Web® filters protect your turbine and its output capacity better than other filters can!

Actual photos taken by our customer of a section of blade from the 3rd stage of the compressor



A) After 2360 operational hours, the blades behind 'brand X' are fouled -- and causing turbine output loss!

B) After 2360 operational hours, the blades behind the filters with Donaldson Spider-Web® are still clean -- and maintaining turbine output at optimal levels!

Filter Media -- The Heart of the System

In TTD system part numbers, the last digit of the root part number indicates the filter media. For TTD's, we strongly recommend Donaldson Spider-Web®.

The numbers are:

Synthetic/Spider Web® ..... Identifier 1
Duratek®/Spider Web® ..... Identifier 2
Synthetic ..... Identifier 3
Duratek® ..... Identifier 4

Filter Length: 26" / 660mm
Diameter: 12.75" / 324mm

Outstanding Protection: Duratek® Media

Our special blend of synthetic and natural fibers, which we call Duratek®, is designed to resist the intermittent moisture that power plants and oil/gas field operations so often encounter. Because of the synthetic fibers and the addition of certain resins, Duratek® withstands a variety of conditions, including high humidity and tropical environments. This cost-effective blend offers low ΔP, little or no media swelling or bunching, and high dust holding capacity.

Premium Protection: Synthetic Media

Our man-made fibers, with their controlled fiber diameter and pore size, result in superior dust-holding capacity and low impedance to airflow. Synthetic media maintains low ΔP throughout the entire life of the filter, which is typically 2 to 4 years, depending on the harshness of the environment. Synthetic media is sturdy and durable, even under extreme conditions such as consistent or prolonged high humidity, sticky/wet hydrocarbons, salt, or extreme dust.

Synthetic media is the basis for the best filtration performance in most cases.

Increase Media Power with Donaldson Spider-Web®

Spider-Web® is Donaldson's proprietary nanofiber technology that stops very fine and sub-micron-size particulate before they reach the media substrate. Donaldson Spider-Web® is a treatment that is bonded to a substrate -- either to our synthetic or Duratek® filter media.

The Donaldson Spider-Web® layer is made of fibers so fine that they don't impede airflow, yet are strong enough to capture very small particles. This is important for most turbine installations because the particles smaller than 5µm are the ones that cause fouling of the compressor blades.

We recommend Donaldson Spider-Web® for TTD's because it promotes dust loading on the surface of the media, which is important in self-cleaning filtration units because the particulate is more easily released during the pulse-cleaning. This reduces compressed air consumption and extends filter life.

Match Filter Media to Your Environment

If you're in:	*Choose:*
Desert: Arid; heavy dust concentration; sandy; mostly quite fine particulate	Synthetic/Spider-Web® XP, Synthetic/Spider-Web or Duratek®/Spider-Web®
Arctic: very cold, dry air; any moisture turns to frost and builds up on filter elements; heavy insects in warm seasons	Synthetic/Spider-Web® or Duratek®/Spider-Web®
Urban/industrial areas; heavy hydrocarbons in the air; variety of particulates, both large & very small	Synthetic (on sticky/wet hydro-carbons) or Synthetic/Spider-Web® (dry hydrocarbons)
Industrial, high concentrations of a variety of particulate, both large and very fine	Synthetic/Spider-Web® XP, Synthetic, Synthetic/Spider-Web®, Duratek®, or Duratek®/Spider-Web®
Marine, coastal, humid, moisture-laden air	Synthetic/Spider-Web® or Synthetic
Light particulate concentration, dry operating conditions	Synthetic/Spider-Web® or Duratek®/Spider-Web®

Webster says: "Be sure to choose filter media that is engineered to conquer your environment, to best protect your turbine from the ravages of dust and moisture."

Configuring your TTD

Donaldson offers the performance and functional advantages of custom-engineered TTD *Huff 'n Puff* Air Inlet Filtration Systems -- but with the convenience and shorter leadtime of standard systems!

Via a few easy steps, you can configure exactly the filtration system you need. You'll end up with up to 3 part numbers (filter house, leg kit, adaptor kit) specific for your TTD filter system.

Of course, we can accommodate special orders, as well. Call us directly with your special requirements.

Begin by choosing the electrical option you need (this page), and the filter media that's best for your environment (page 3.)

Next step: Choose your TTD filter house based on the airflow requirement of your equipment. See pages 6-11.

TTD System Features

- 120 *mph* **windload construction**.
- Choose **either carbon or stainless steel** for your TTD filter house. The carbon steel is painted with two coats of protection: zinc epoxy followed by a polyurethane topcoat. The stainless is 316L.
- Electrical components for the pulse-cleaning system are **pre-wired** to a common junction box, easily accessible on the side of the filter house. Configurations with various ratings are available (NEMA 7, NEMA 4X, etc.)
- **Pressure switches** for monitoring the condition/life of the filter elements.
- Pressure sight **gauge**.
- **Low filter media velocity** means long filter service life and reduced filter maintenance costs.
- **Filter media choices**, specially developed by Donaldson, offer a range of performance levels for all environments -- from light to heavy particulate conditions.

Electrical Options

Donaldson offers different electrical packages to help you meet worldwide 50/60 Hz voltage input and electrical enclosure requirements.

The option you choose has a 2-digit identifier number associated with it (see red numerals below) that becomes the suffix on your final TTD part number.

Begin by choosing the option you need and noting the number on the work-sheet on page 5.

Electrical Option	P/N Identifier
NEMA 4, 24 VDC*	10
NEMA 4, 110-120 VAC	11
NEMA 4, 220-240 VAC	12
NEMA 4X, 24 VDC*	20
NEMA 4X, 110-120 VAC	21
NEMA 4X, 220-240 VAC	22
NEMA 7, 24 VDC*	30
NEMA 7, 110-120 VAC	31
NEMA 7, 220-240 VAC	32
CENELEC, 24 VDC*	40
CENELEC, 110-120 VAC	41
CENELEC, 220-240 VAC	42

* 24 VDC options are not available on TTD's with more than 64 filter elements.

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 European safety standards. The 'd' indicates the device is flameproof.

How to Configure a Donaldson TTD Air Filter for Your Application

Configure a Donaldson TTD self-cleaning filtration system exactly the way you want it. By making just a few choices, as illustrated below, you'll determine specific part numbers for your virtually custom-engineered TTD.

Begin by choosing the electrical option you need (this page), and the filter media that's best for your environment (page 3.)

Next step: Choose your TTD filter house based on airflow the requirements of your equipment. See pages 6-11.

Example:
A TTD sized for 2500 ACFM made of carbon steel with synthetic/Spider-Web® elements + NEMA 7 + 115 VAC electricals = **TTD-AD64321-31**

Base Part Number reflects material choice

1 Determine Airflow Range

2 Select Material for Filter House

- Painted Carbon Steel → TTD-ADXXXX**1**-XX
- 316L Stainless Steel → TTD-ADXXXX**2**-XX

3 Select Filter Media *(Explanation on page 3)*

- Synthetic Spider Web® (Identifier # **1**)
- Duratek® Spider Web® (Identifier # **2**)
- Synthetic (Identifier # **3**)
- Duratek® (Identifier # **4**)

4 Select Electrical *(Explanation in blue box on page 4)*

- NEMA 4, 24 VDC (Identifier # **10**)
- NEMA 4, 110-120 VAC (Identifier #**11**)
- NEMA 4, 220-240 VAC (Identifier # **12**)
- NEMA 4X, 24 VDC (Identifier # **20**)
- NEMA 4X, 110-120 VAC (Identifier # **21**)
- NEMA 4X, 220-240 VAC (Identifier # **22**)
- NEMA 7, 24 VDC (Identifier # **30**)
- NEMA 7, 110-120 VAC (Identifier # **31**)
- NEMA 7, 220-240 VAC (Identifier # **32**)
- CENELEC, 24VDC (Identifier # **40**)
- CENELEC, 110-120 VAC (Identifier # **41**)
- CENELEC, 220-240 VAC (Identifier # **42**)

5 Choose Supporting Leg Kit

6 *Option:* Outlet Adaptor Kit for Compressors

List your desired part numbers below, then call or fax this page to the Donaldson office nearest you.

1 Your Airflow Range: _____

2 3 4 Base Part Number for Filter House with dentifiers for choices in Filter Media and Electrical: _____

5 Leg Kit Part Number: _____

6 (If needed) Outlet Adaptor Kit Part Number: _____

Call or fax us this page with your TTD configuration numbers

In North/South America,
call 01-952-887-3131**or fax 1-952-887-3843**

In Europe/Middle East/Africa,
call +32-16-38-3940
or fax +32-16-38-3939

In Asia/Pacific,
call 65-6546-4400
or fax 65-6546-4325

Your Name: _____

Company: _____

Site Name: _____

Date System Needed: _____

Your Phone: _____

TTD Air Filters for Airflow up to 19,500 ACFM

TTD's can be configured with as few as 4 filter elements, and up to 32 elements for this airflow range. For the filter house construction, choose our 2-coat painted 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 support leg kit from next page. Note that outlet adaptors for mating to cylindrical ducting are detailed on page next page.

Airflow Range ACFM Design	Max.	Filter House Steel *	Base Part Number		No. of Elements	ΔP ** (H_2O)	Dimensions (shown in inches & mm) A	B	C	D	E	Installed Weight
		Painted Carbon	**TTD-AD6423**	-		0.8 *in*	60.88	37.00	44.00	20.00	24.00	781 lbs
	2,440	Stainless	**TTD-AD6424**	-	4	20 mm	1546.4	939.8	1117.6	508.0	609.6	355 kg
		Painted Carbon	**TTD-AD6425**	-		0.6-0.8 *in*	60.88	53.00	44.00	37.00	24.00	1028 lbs
4,400	4,880	Stainless	**TTD-AD6426**	-	8	15-20 mm	1546.4	1346	1117.6	863.6	609.6	467 kg
		Painted Carbon	**TTD-AD6427**	-		0.6-0.8 *in*	60.88	71.00	44.00	54.50	24.00	1268 lbs
6,600	7,320	Stainless	**TTD-AD6428**	-	12	15-20 mm	1546.4	1803.4	1117.6	1384.3	609.6	576 kg
		Painted Carbon	**TTD-AD6429**	-		0.5-0.8 *in*	60.88	89.00	44.00	72.00	24.00	1305 lbs
8,800	9,760	Stainless	**TTD-AD6430**	-	16	15-20 mm	1546.4	2260.6	1117.6	1828.8	609.6	592 kg
		Painted Carbon	**TTD-AD6431**	-		0.6-0.8 *in*	91.27	89.00	44.00	72.00	24.00	2011 lbs
13,200	14,640	Stainless	**TTD-AD6432**	-	24	15-20 mm	2318.3	2260.6	1117.6	1828.8	609.6	913 kg
		Painted Carbon	**TTD-AD6433**	-		0.5-0.8 *in*	122.13	89.00	44.00	72.00	24.00	2514 lbs
17,600	19,520	Stainless	**TTD-AD6434**	-	32	15-20 mm	3102.1	2260.6	1117.6	1828.8	609.6	1141 kg

Enter single digit number for filter element choice (see page 3 for options)

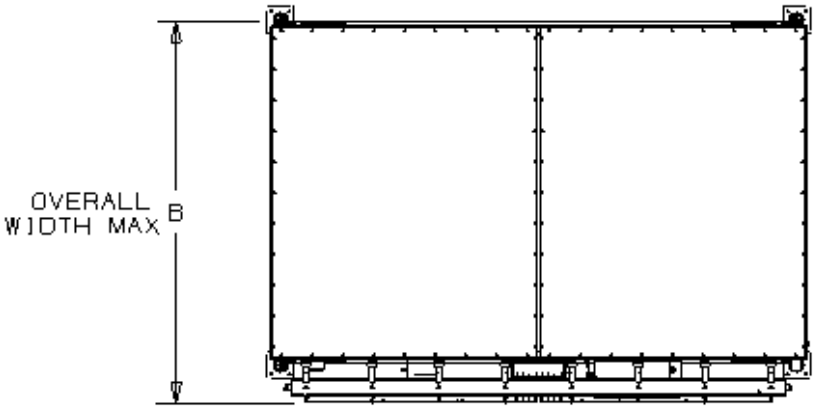
Enter 2 digit number for electrical choice (See list in blue box on page 5)

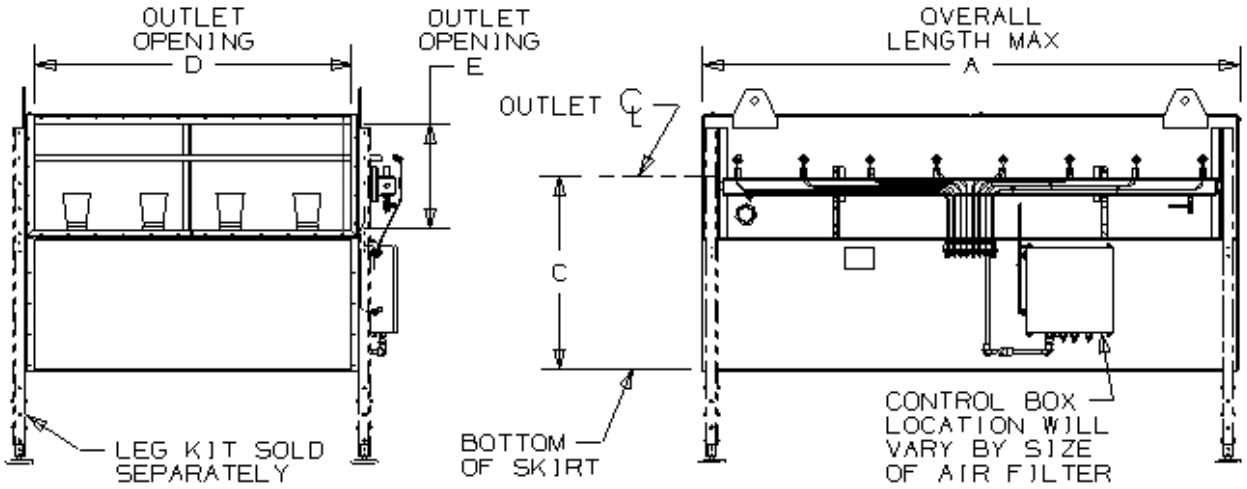
NOTES:

* The carbon steel is painted with two coats of protection: zinc epoxy followed by a polyurethane topcoat. (Other options available.) The stainless is 316L.

**Initial Restriction when system is new & clean

SEE page 7 for outlet adaptors for compressors





Adjustable Leg Kits for TTD up to 19,500 ACFM

TTD support structures are comprised of steel legs that are height-adjustable in 2-inch increments, designed to fit a range of height requirements.

Minimum clearance of 60"/1524*mm* between skirt and ground is strongly recommended for optimal performance.

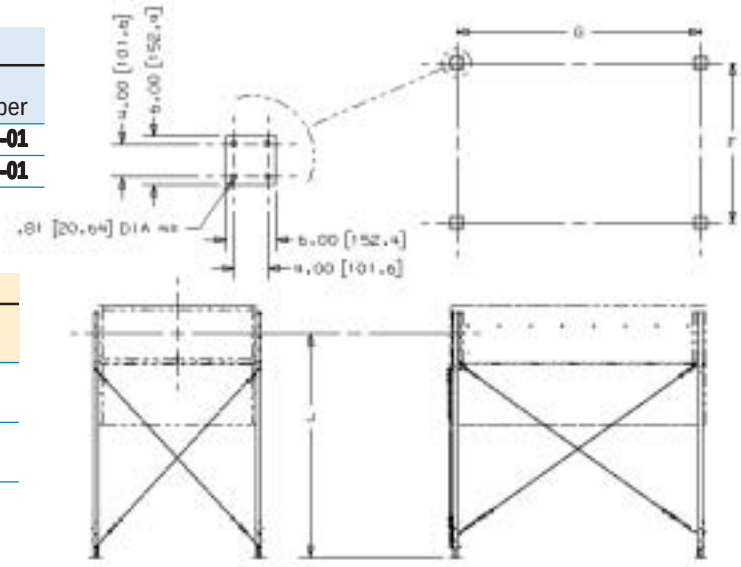
Order one kit per system.

Begin by finding the number of filter elements in your base system, then choose the height range you need to reach the turbine ducting.

Leg Kit Part Numbers for TTD Systems with 4 - 32 Filter Elements

Adjustment Range *(dimension J on drawing below)*	Installed Weight	Part Number
65" - 100" / 1651 - 2540 mm	200 lb /91 kg	**2SG-98252-01**
112" - 168.5" / 2844 - 4280 mm	323 lb /147 kg	**2SG-96631-01**

Note: Optional fixed height leg kits may be ordered. Please contact Donaldson for more information.

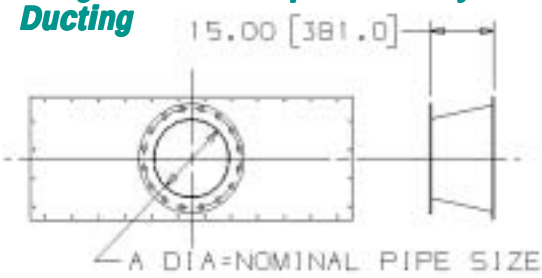


Footprint Dimensions

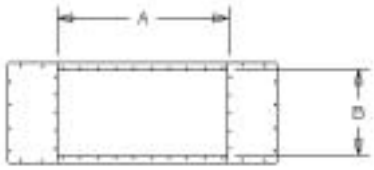
	Number of filter elements in system: 4	8	12	16	24	32
F	26.50 673.1	43.50 1104.9	61.00 1549.4	78.50 1993.9	78.50 1993.9	78.50 1993.9
G	56.25 1428.8	56.25 1428.8	56.25 1428.8	56.25 1428.8	86.50 2197.1	117.50 2984.5

Outlet Adaptor Kits for Mating to Alternative Ducting

Flanged Outlet Adaptors for Cylindrical Ducting



Flanged outlet adaptors connect the TTD to cylindrical inlet ducting. The models listed here fit most standard systems; however, if you need a different size or configuration, we can accommodate. Please call us.



Outlet Adaptors for Rectangular Ducting

Panel-style outlet adaptors connect the TTD to rectangular inlet ducting.

Panel Outlet Kit for 24-Element TTD

Type of Steel	Kit Part Number	A	B
Painted Carbon	**2SG-88321-01**	48"	24"
316L Stainless	**2SG-88321-03**	1219.2 mm	609.6 mm

Flanged Outlet Adaptor Kits

Fits TTD with	Type of Steel	Kit Part Number	A - Flange Diameter	Bolt Circle Diameter	Hole Diameter	Number of Holes	Weight
4 Elements	Painted Carbon	**4MA-AD56821-01**	10"	14.25"	1"	12	55 lbs
	Stainless	**4MA-AD56821-03**	254 mm	362 mm	25.4 mm		25 kg
8 Elements	Painted Carbon	**4MA-77694-01**	12"	17"	1"	12	126 lbs
	Stainless	**4MA-77694-03**	304.8 mm	431.8 mm	25.4 mm		57 kg
12 Elements	Painted Carbon	**4MA-AD64490-01**	14"	18.75"	1.12 "	12	128 lbs
	Stainless	**4MA-AD64490-03**	355.6 mm	476.25 mm	28.45 mm		58 kg
16 Elements	Painted Carbon	**4MA-AD22692-01**	18"	22.75"	1.25"	16	135 lbs
	Stainless	**4MA-AD22692-03**	457.2 mm	577.85 mm	31.75 mm		61 kg
24 Elements	Painted Carbon	**4MA-AD22695-01**	20"	25"	1.25"	20	141 lbs
	Stainless	**4MA-AD22695-03**	508 mm	635 mm	31.75 mm		64 kg
32 Elements	Painted Carbon	**4MA-AD22701-01**	24"	29.5 "	1.38 "	20	154 lbs
	Stainless	**4MA-AD22701-03**	609.6 mm	749.3 mm	35.05 mm		70 kg
40 Elements	Painted Carbon	**4MA-AD64491-01**	30"	39.25"	1.38"	28	175 lbs
	Stainless	**4MA-AD64491-03**	762 mm	996.9 mm	35 mm		79 kg
48 Elements	Painted Carbon	**4MA-AD64492-01**	30"	39.25"	1.38"	28	175 lbs
	Stainless	**4MA-AD64492-03**	762 mm	996.9 mm	35 mm		79 kg

TTD Air Filters for Airflow up to 39,000 ACFM

TTD's in the 19,500 to 39,000 ACFM airflow range contain 40, 48, 56, or 64 filter elements. For the filter house construction, choose our 2-coat painted carbon steel or, for extra corrosion resistance, stainless steel.

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

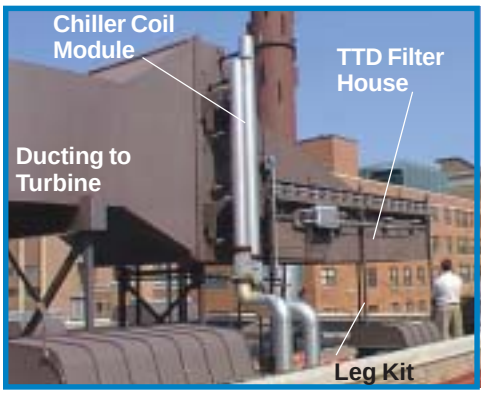
Next Steps: Choose support leg kit from next page.

Airflow Range ACFM Design	Max.	Filter House Steel *	Base Part Number		No. of Elements	ΔP ** (H_20)	Dimensions (shown in inches & mm) A	B	C	D	E	Installed Weight
		Painted Carbon	**TTD-AD6435**	-		0.6-0.8 in	152.1	89	54	72	48	3700
22,000	24,400	Stainless	**TTD-AD6436**	-	40	15.2-20.3 mm	3864	2261	1371.6	1828.8	1219.2	1,680
		Painted Carbon	**TTD-AD6437**	-		0.6-0.8 in	182.1	89	54	72	48	3,800
26,400	29,280	Stainless	**TTD-AD6438**	-	48	15.2-20.3 mm	4626	2261	1371.6	1828.8	1219.2	1,725
		Painted Carbon	**TTD-AD6439**	-		0.6-0.8 in	213.1	89	54	72	48	4,600
30,800	34,160	Stainless	**TTD-AD6440**	-	56	15.2-20.3 mm	5414	2261	1371.6	1828.8	1219.2	2,088
		Painted Carbon	**TTD-AD6441**	-		0.6-0.8 in	244.1	89	62	72	60	5,500
35,200	39,040	Stainless	**TTD-AD6442**	-	64	15.2-20.3 mm	6201	2261	1574.8	1828.8	1524	2,497

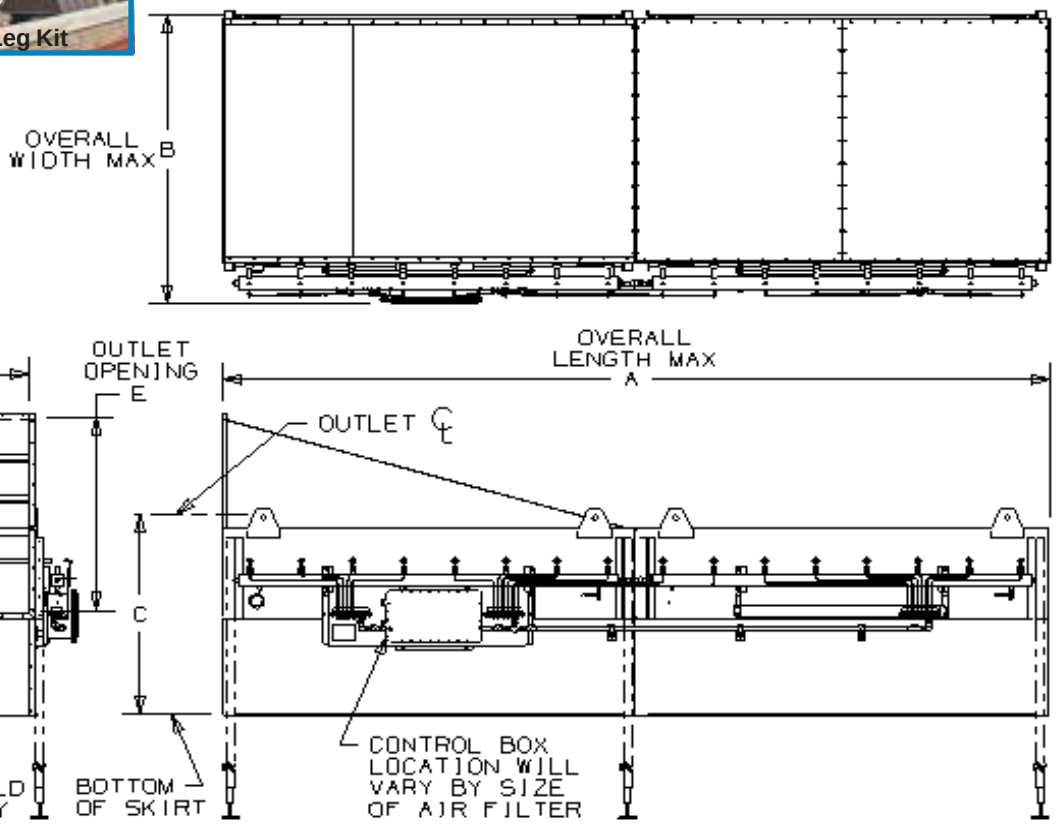
Enter 2 digit number for electrical choice (See list in blue box on page 5)

Enter single digit number for filter element choice (see page 3 for options)

NOTES:
* The carbon steel is painted with two coats of protection: zinc epoxy followed by a polyurethane topcoat. (Other options available.) The stainless is 316L.
**Initial Restriction when system is new & clean



Donaldson can also provide inlet cooling, ducting, and silencing equipment for your standard TTD. Please call us for details.



Adjustable Leg Kits for TTD up to 39,000 ACFM

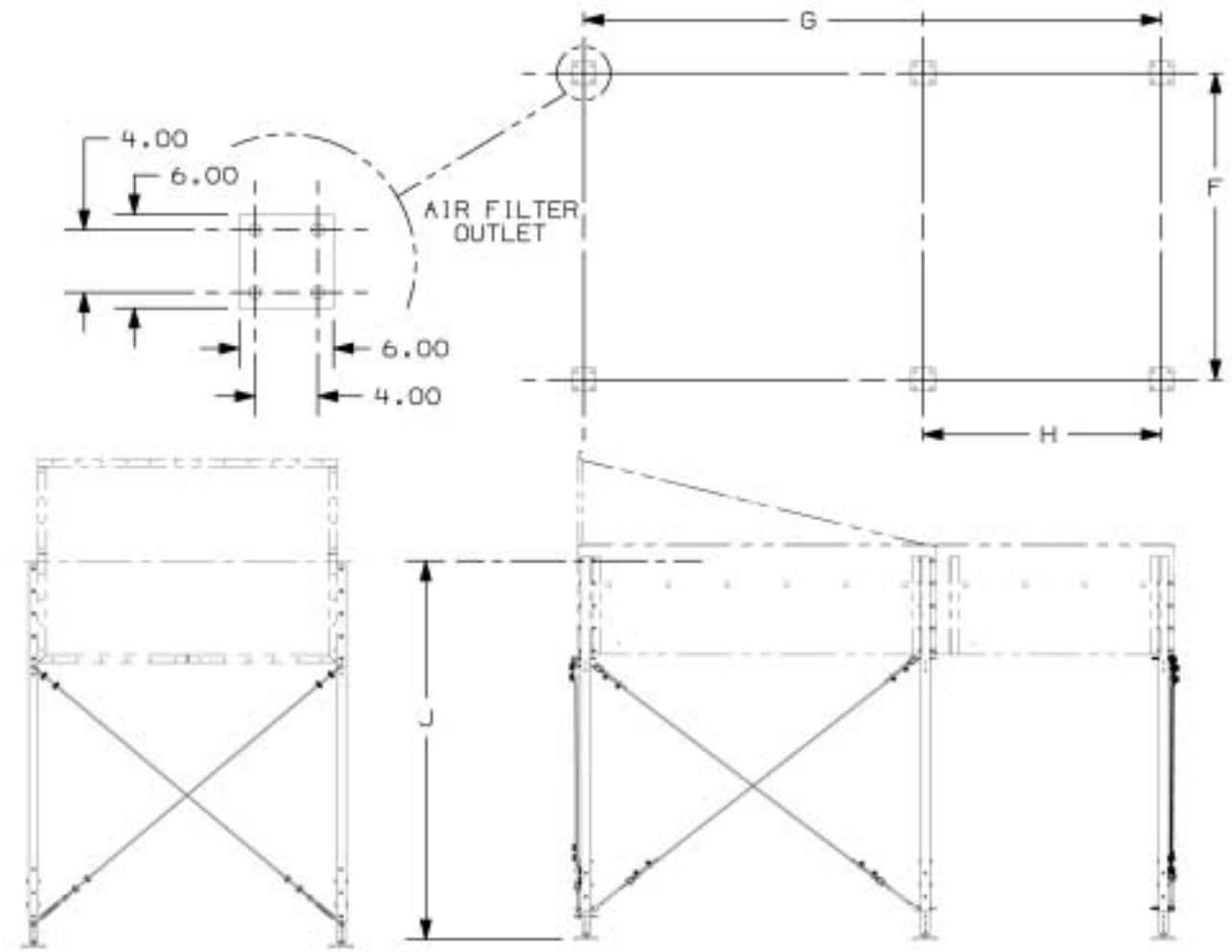
Your TTD will be supported by steel legs that are grossly adjustable (in 2-inch increments) in height, and finely adjustable via footpads. Heights range up to 180 inches/ 4572 mm. Reference the "J" dimension in the drawing below.

Minimum clearance of 60"/1524*mm* between skirt and ground is strongly recommended for optimal performance.

Begin by finding the number of filter elements in your base system, then choose the height range you need to reach the turbine ducting.

Order one kit per system.

For System with	Height Adjustment Range (Dimension J)		Dim F	Dim G	Dim H	**Part Number** Approx Weight
40 elements	shorter kit	98" - 131" 2849 - 3327 mm	78.5 1993.9	147.5 3746.5	86.5 2197.1	**2SG-99155-01** 200 lbs/ 91 kg
	taller kit	124" - 180" 3150 - 4572 mm	78.5 1993.9	147.5 3746.5	86.5 2197.1	**2SG-97419-01** 323 lbs/ 147 kg
48 elements	shorter kit	98" - 131" 2849 - 3327 mm	78.5 1993.9	177.50 4508.5	86.5 2197.1	**2SG-99155-01** 200 lbs/ 91 kg
	taller kit	124" - 180" 3150 - 4572 mm	78.5 1993.9	177.50 4508.5	86.5 2197.1	**2SG-97419-01** 323 lbs/ 147 kg
56 elements	shorter kit	98" - 131" 2849 - 3327 mm	78.5 1993.9	208.5 5295.9	117.5 2984.5	**2SG-99155-01** 200 lbs/ 91 kg
	taller kit	124" - 180" 3150 - 4572 mm	78.5 1993.9	208.5 5295.9	117.5 2984.5	**2SG-97419-01** 323 lbs/ 147 kg
64 elements	shorter kit	104" - 137" 2642 - 3480 mm	78.5 1993.9	239.50 6083.3	117.5 2984.5	**2SG-99155-01** 200 lbs/ 91 kg
	taller kit	130" - 186 " 3302 - 4724 mm	78.5 1993.9	239.50 6083.3	117.5 2984.5	**2SG-97419-01** 323 lbs/ 147 kg



TTD Air Filters for Airflow up to 88,000 ACFM

TTD's in the 40000 to 88000 acfm airflow range contain 80, 128, or 144 filter elements. For the filter house construction, choose our 2-coat painted carbon steel or, for extra corrosion resistance, stainless steel. Support structure is included with the filter house.

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

Next Steps: Choose leg kit from next page. Don't forget electrical options on page 2, and filter media choices on page 3.

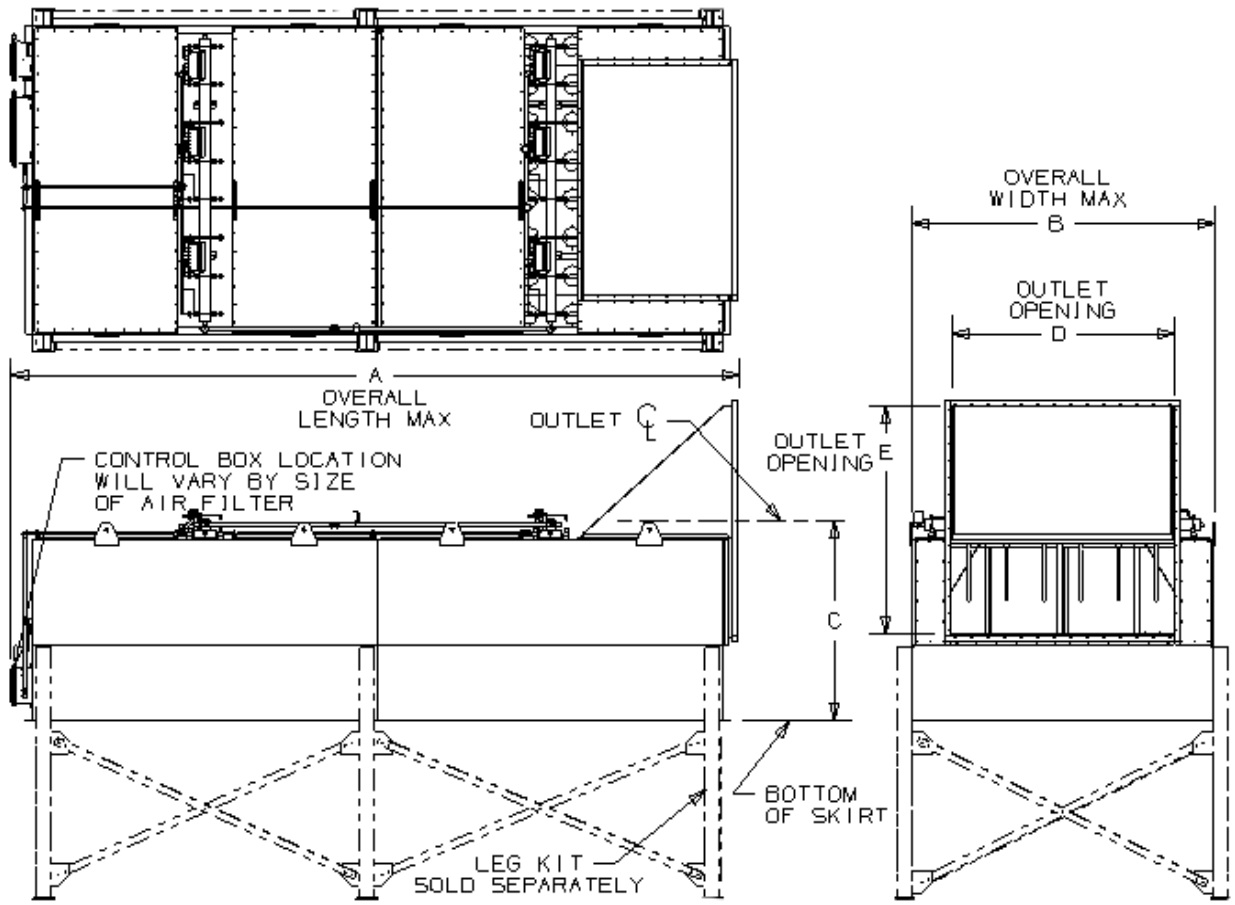
Airflow Range ACFM Design	Max.	Filter House Steel *	Base Part Number	No. of Elements	ΔP ** (H_20)	Dimensions (shown in inches & mm) A	B	C	D	E	Installed Weight
44,000	48,800	Painted Carbon	**TTD-AD6443 -**	80	0.6-0.8 in	196	122	69.5	72	72	7,100 lbs
		Stainless	**TTD-AD6444 -**		15-20 mm	4978.4	3098.8	1765.3	1828.8	1828.8	3,223 kg
52,800	58,560	Painted Carbon	**TTD-AD6521 -**	96	0.6-0.8 in	230	122	76	84	84	8,200 lbs
		Stainless	**TTD-AD6522 -**		15-20 mm	5842	3098.3	1930.4	2133.6	2133.6	3,727 kg
70,400	78,080	Painted Carbon	**TTD-AD6445 -**	128	0.6-0.8 in	298	122	79.28	90.56	90.56	9,300 lbs
		Stainless	**TTD-AD6446 -**		15-20 mm	7569.2	3098.8	2013.7	2300.2	2300.2	4,222 kg
79,200	87,840	Painted Carbon	**TTD-AD6447 -**	144	0.6-0.8 in	298	137.12	82	96	96	12,250 lbs
		Stainless	**TTD-AD6448 -**		15-20 mm	7569.2	3482.8	2082.8	2438.4	2438.4	5,557 kg

Enter single digit number for filter element choice (see page 3 for options)

Enter 2 digit number for electrical choice (See list in blue box on page 5)

Note that 24 VDC is not available for these TTD models.

NOTES:
* The carbon steel is painted with two coats of protection: zinc epoxy followed by a polyurethane topcoat. (Other options available.) The stainless is 316L.
**Initial Restriction when system is new & clean



Fixed-Height Leg Kits for TTD up to 88,000 ACFM

Large TTD's are supported by steel legs that are available in various heights, as shown in the "J" dimension in the table and the drawing below. Custom leg kits are also available.

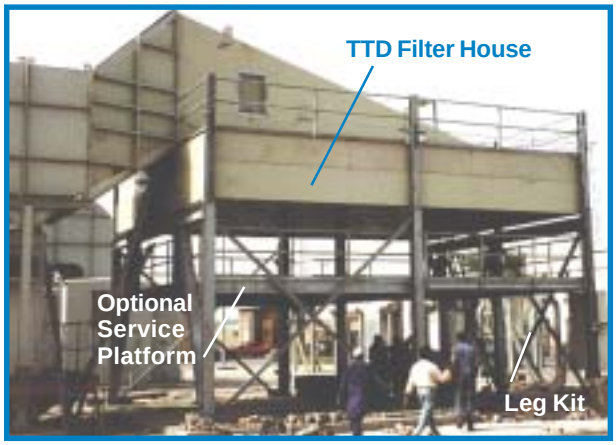
Minimum clearance of 60"/1524*mm* between skirt and ground is strongly recommended for optimal performance.

Begin by finding the number of filter elements in your base system, then choose the height you need ("J" dimension) to reach the turbine ducting.

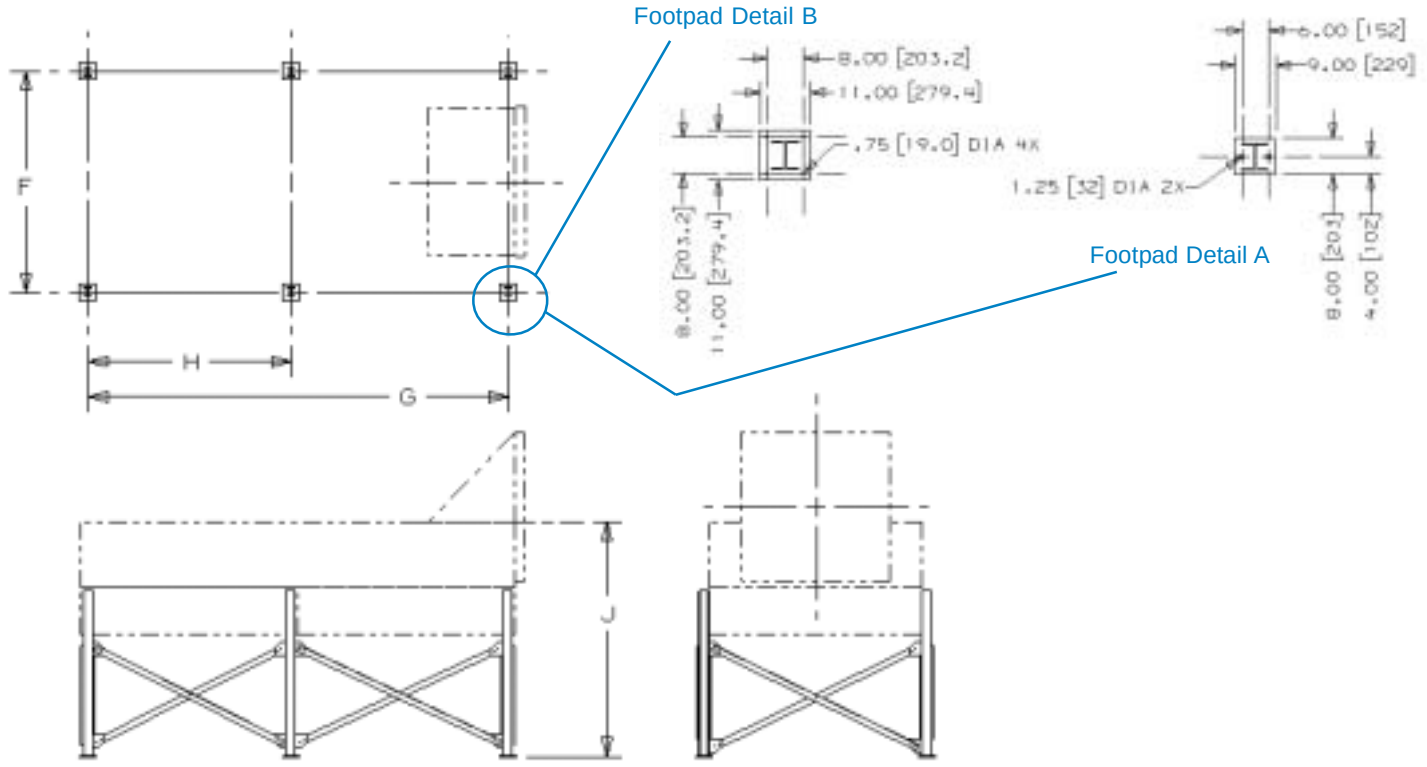
Order one kit per system.

No. of Elements		Dim J	Dim F	Dim G	Dim H	Footpad Detail	Installed Weight	Leg Kit Part Number
80	in:	195	128	168.00	N/A	A	1619 lbs	**2SG-AD25361-01**
	mm:	4953	3251.2	4267.2			734 kg	(shorter)
80	in:	256	128	168.00	N/A	A	2050 lbs	**2SG-77970-01**
	mm:	6502	3251.2	4267.2			930 kg	(taller)
128	in:	154	128	271.00	131	A	1650 lbs	**2SG-57349-01**
	mm:	3912	3251.2	6883.4	3327.4		748 kg	(shorter)
128	in:	255.84	128	271.00	131	A	2500 lbs	**2SG-57736-01**
	mm:	6498	3251.2	6883.4	3327.4		1134 kg	(taller)
144	in:	161.25	143.12	271.00	131	B	2192 lbs	**2SG-AD60304-01**
	mm:	4096	3635.2	6883.4	3327.4		994 kg	(shorter)
144	in:	294.5	143.12	271.00	131	B	3799 lbs	**2SG-AD60305-01**
	mm:	7480	3635.2	6883.4	3327.4		1723 kg	(taller)

Dimension J = Outlet Centerline Height



The custom designed TTD filter house shown at left is a double-wide configuration with 256 elements. Single-level TTD's are available up to 384 elements. Call us for details.



Spare/Replacement Parts for Your TTD System

Element Retention Hardware

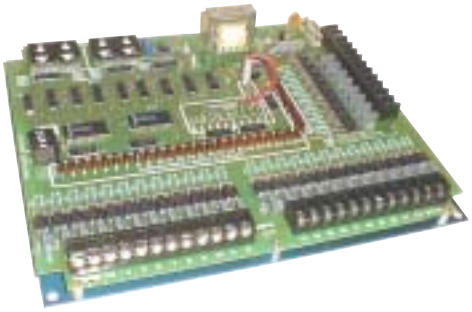
Element Crank
P14-9555

Gasket Washer
P52-4740

Timer Board

Sequences the pulses to the solenoids for the TTD self-cleaning mechanism.

P12-5888	10 (115VAC) outputs
P15-6458	32 (115VAC) outputs
P13-5057	10 (24VDC) outputs



ΔP Measurement

Pressure gauges tell you when to change filter elements in your Donaldson TTD Filtration System. As the filters do their job and load up with dust and dirt, the differential pressure (ΔP) across the filters gradually increases. When the upper limit of acceptability is reached on the gauge, you know it's time to change out the filter elements. It's a good idea to keep a spare on hand for quick replacement if needed.

Pressure Gauge + Switch:
Measures the differential pressure (or ΔP) across the inlet/outlet of the filters, and starts/stops the pulse-cleaning mechanism.

Pressure Gauge:
Measures the differential pressure (or ΔP) across the inlet/outlet of the filters.

Differential Pressure Transmitter:
Provides a continuous analog signal. Typically connected to remote instrument to provide continuous readings of pressure.

Where to Find Us:

website: www.donaldson.com
email:
filterinfo@mail.donaldson.com
gts-europe@mail.donaldson.com
gts-asiapacific@donaldson.com.sg

Donaldson Company, Inc.
Gas Turbine Systems
P.O. Box 1299
Minneapolis, Minnesota 55440 USA
Phone 952-887-3543
Fax 952-887-3843
Parts/Elements 800-431-0555

Donaldson Europe N.V.
Research Park Zone 1
Interleuvenlaan, 1
B-3001 Leuven, Belgium
Phone 32-16-38-3940
Fax 32-16-38-3939

Donaldson Filtration Asia Pacific Pte Ltd
No. 9, Changi South Street 3, #07-01
Singapore 486361
Phone 65-6546-4400
Fax 65-6546-4325

Donaldson Far East Ltd.
Unit A, B & C, 21/F CDW Bld.
388 Castle Peak Road
Tsuen Wan, N.T. Hong Kong
Phone 852-2402-2830
Fax 852-2493-2928

Donaldson Shanghai
Unit F2, 6/F
Zhao Feng Universe Building
1800 Zhong Shan West Road
Shanghai 200233
Phone 86-21-6440-1808
Fax 86-21-6440-1639

DI Filter Systems Pvt. Ltd.
D-44, Gulmohar Park
New Delhi 110-049 India
Phone 91-11-124-6290350
Fax 91-11-124-6290311

Nippon Donaldson Ltd.
13-2, 5-chome, Imadera
Ome City, Tokyo 198 Japan
Phone 81-428-31-6399
Fax 81-428-31-7076

Donaldson Australasia Pty. Ltd.
Lucca Rd, Wyong, New South Wales
Australia 2259
Phone 61-02-4352-2022
Fax 61-02-4351-2036

Donaldson
Filtration Solutions