Gardner Denver

High efficiency compressed air filtration & water separation

GDF Series & GDWS Range

SUSTAINABLE MANUFACTURING



Innovative Compressed Air Purification



A filter range you can trust

The reliability of compressed air filtration is paramount to the ongoing fight against problems caused through contamination entering the air system. Contamination in the form of dirt, oil and water can lead to:

- **Pipescale and corrosion within pressure vessels**
- **Damage to production equipment, air motors, air tools, valves and cylinders**
- **Premature and unplanned desiccant replacement for adsorption dryers**
- **Spoiled product**

The Gardner Denver filtration series offers various products and grades of filtration to provide peace of mind whatever the air quality requirement. It has been designed with focus on reliability and efficiency.

Designed and built for exceptional performance

The advanced compressed air filter series from Gardner Denver reduces contamination in your air stream to help protect your critical processes and valuable equipment. These filters are rigorously tested and engineered with superior components to provide years of reliable performance and consistently high-quality air.

Gardner Denver filtration solutions that pay off

Gardner Denver's commitment to providing energy efficient products does not end with the compressor ranges. The air treatment products are perfectly balanced to provide compressed air users with a wide choice of products to gain the right level of performance with optimum energy savings.

The standard for high-quality air

The Gardner Denver filter series provides clean, high-quality air as defined by ISO 8573.1:2010 and are certified by a third party under ISO 12500-1.

Compressed air contamination will ultimately lead to:

- Inefficient production processes
- Spoiled, damaged or reworked products
- Reduced production efficiency
- Increased manufacturing costs



"By guaranteeing air quality and ensuring energy consumption is kept to a minimum, Gardner Denver purification products can reduce the total cost of ownership and help improve profitability through improved manufacturing efficiencies."

Compressed Air Purification – The perfect choice!

Water Separation – GDWS series

The GDWS range of water separators provide bulk condensed water and liquid oil removal and are used to protect coalescing filters against bulk liquid contamination.

0.5 – 200 m³/min*
Up to 80°C
Up to 16 bar



Air Filtration – High temperature series

For higher temperatures, the filters are available in the standard grades to cover dust, general purpose and high efficiency filtration.

0.5 – 516 m³/min*
Up to 150°C
Peak: up to 210°C
Up to 12 bar

* Flow rate at 20° C, 7 bar



Air Filtration – GDF series

The GDF Series of filters efficiently removes water and oil aerosols, atmospheric dirt and solid particles, rust, pipescale and micro-organisms.

0.5 - 516 m³/min*
Up to 80°C
Up to 16 bar



Air Filtration – High pressure series

The strong mechanical resistance makes these filters the ideal protection of an high pressure compressed air system.

1.8 – 41.6 m³/min
Up to 100°C
Up to 45 bar

Silicon Free and FDA – Water separators and CF standard series die-cast



Air Filtration – Sterile series

For where aseptic compressed air is required to satisfy medical, pharmaceutical and food & beverage sectors. This range features high quality 3-A Sanitary Polish stainless-steel housing and borosilicate glass microfibre elements, all developed in accordance with EU1935/2004. They grant particle removal down to 0.01 um, with DOP penetration < 0.0001% and can both handle sterilisation-in-place and autoclave methods of sterilisation.

0.7 - 48 m³/min
Up to 50°C inlet temperature
Up to 16 bar





Energy savings without compromised performance

High efficiency bulk liquid removal

Water separators remove bulk liquids such as condensate, water and liquid oil from the air flow through directional and centrifugal separation. Installed before a coalescing filter the water separator can provide added protection against bulk liquid contamination enabling the filter to operate more efficiently. The GDWS Series water separator range from Gardner Denver can operate across various flow conditions and have been optimised to reduce differential pressure with very low maintenance.

Air quality and energy efficiency through design

The benefit of energy saving without compromised performance is achieved through a number of unique and patented design features which minimise differential pressure.

The Gardner Denver compressed air filter range combine filter housing and element to work together in maximising energy savings and provide low lifetime costs without compromising on air quality.

Large range of filtration grades to match the applications air quality needs.

Annual service is easy and clean to carry out thanks to and easy to grip housing bowl and no need for the user to directly handle the contaminated element.

The pressure drop indicator monitors the efficiency of the filter and indicates when pressure drop is getting too high and element replacement is recommended.

Maintaining air quality & efficiency through regular maintenance

The benefits of annual filter element changes

- **Guaranteed optimised performance**
- **Air quality continues to meet international standards**
- **Protection of downstream equipment, personnel and processes**
- **Low operational costs**
- **Increased productivity and profitability**
- **Continued piece of mind**



"The Gardner Denver filter series has been constantly innovated and has become a leading technology, providing the exact balance between air quality, energy efficiency and low lifetime costs."

Superior Filtration Technology



- **A** **Patented dual indicator (standard for all filters, except carbon filters and water separators)** shows differential pressure drop and economical operating efficiency
- **B** **Patented smooth bore flow insert** directs air into the filter element, minimising turbulence and pressure losses
- **C** **All-aluminum, precision die cast body** suitable for 80°C and 17 bar g maximum working pressure applications
- **D** **Proprietary coating** applied to the inside and outside surfaces provides corrosion protection in harsh industrial environments
- **E** **Filter element with stainless steel mesh** withstands high differential pressure while minimizing flow restriction through the element
- **F** **Ergonomic bowl design with no-touch filter element** simplifies element replacement
- **G** **Time strip label** indicates when it's time to change the element (GDF Grade only)
- **H** **Reliable condensate drain** The G and H grade filters and water separators are equipped with internal float drain. The Particulate (P) and Activated Carbon (V) filters have a manual unloader
- **I** **Deep-pleated filter media** reduces air flow velocity to maximise filtration efficiency and minimise pressure losses
- **J** **High-efficiency drainage layer** improves liquid drainage properties and enhances chemical compatibility
- **K** **Simple visual alignment** of the filter head and bowl ensures accurate assembly of components and helps to improve safety

Available options



Zero drain

Specifically designed to reduce to zero:
- the air consumption thanks to the capacitive control;
- the maintenance thanks to the Replacement kit;
- the space for the installation underneath the tank. Max. Pressure: 16 bar.



Sc-12m – float discharger

This simple type of automatic drain is used to discharge the condensate from air tanks, filters, air dryers, etc. It is supplied with manual testing drain and connection nipple with compensation tube. Max. Pressure: 16 bar.



GTDV – timed drain

Thanks to the use of a timer that controls interval and duration of operation, this drain is widely used in compressed air industry. Max. Pressure: 16 bar.



Automatic float discharger

Standard for G and H filters as well as for water separators. Completed with manual testing drain.



Manual unloader

½" manual ball valve unloader.



GMNL - magnetically operated drains



Technical data

Compressed Air Filters – GDF Series

	Separator Model	Grade	Connection Size	Flow Rate		Max. Pressure		Dimensions (mm)		Weight
				m³/min	cfm	bar	psi	W	H	kg
Die-Cast Body	GDF005	V, G, H, P	⅜"	0.5	18	17	250	76	225	0.55
	GDF007	V, G, H, P	½"	0.7	24	17	250	76	225	0.55
	GDF013	V, G, H, P	¾"	1.3	44	17	250	98	280	1.07
	GDF018	V, G, H, P	¾"	1.8	65	17	250	98	280	1.09
	GDF025	V, G, H, P	1"	2.5	88	17	250	129	319	2.06
	GDF032	V, G, H, P	1"	3.2	112	17	250	129	319	2.06
	GDF038	V, G, H, P	1"	3.8	135	17	250	129	319	2.06
	GDF067	V, G, H, P	1 ½"	6.7	235	17	250	129	409	2.36
	GDF082	V, G, H, P	1 ½"	8.2	288	17	250	129	409	2.36
	GDF100	V, G, H, P	2"	10.0	353	17	250	170	518	5.2
	GDF0133	V, G, H, P	2"	13.3	471	17	250	170	518	5.24
	GDF0167	V, G, H, P	2"	16.7	589	17	250	170	518	5.26
	GDF0200	V, G, H, P	3"	20.0	706	17	250	205	600	9.31
	GDF0260	V, G, H, P	3"	26.0	918	17	250	205	700	10.69
	GDF0305	V, G, H, P	3"	30.5	1077	17	250	205	700	10.69
	GDF0383	V, G, H, P	3"	38.3	1354	17	250	205	930	13.7
	GDF0450	V, G, H, P	3"	45.0	1589	17	250	205	930	13.7
	Separator Model	Grade	Connection Size	Flow Rate		Max. Pressure		Dimensions (mm)		Weight
				m³/min	cfm	bar	psi	W	H	kg
Flanged Body	GDF0128F	V, G, H, P	DN50	12.8	453	16	232	285	500	8
	GDF0220F	V, G, H, P	DN65	22.0	777	16	232	285	690	11
	GDF0350F	V, G, H, P	DN80	35.0	1236	16	232	340	880	16
	GDF0466F	V, G, H, P	DN100	46.7	1648	16	232	485	1264	125
	GDF0700F	V, G, H, P	DN125	70.0	2472	16	232	630	1274	196
	GDF0950F	V, G, H, P	DN150	95.0	3355	16	232	630	1384	210
	GDF1250F	V, G, H, P	DN150	125.0	4414	16	232	676	1434	264
	GDF1550F	V, G, H, P	DN150	155.0	5474	16	232	724	1503	314
	GDF1833F	V, G, H, P	DN200	183.3	6474	16	232	724	1503	320
	GDF2366F	V, G, H, P	DN200	236.7	8358	16	232	885	1565	530
	GDF3316F	V, G, H, P	DN250	331.7	11713	16	232	950	1573	670
	GDF5166F	V, G, H, P	DN300	516.7	18246	16	232	1050	1702	1083

Compressed Air Condensate Separators – GDWS Series

	Separator Model	Connection Size	Flow Rate		Max. Pressure		Dimensions (mm)		Weight
			m³/min	cfm	bar	psi	W	H	kg
Die-Cast Body	GDWS005	⅜"	0.50	18	17	250	76	175	0.6
	GDWS007	½"	0.66	23	17	250	76	175	0.6
	GDWS018	¾"	1.8	64	17	250	98	230	1.2
	GDWS040	1"	4.0	141	17	250	129	268	2.2
	GDWS085	1 ½"	8.5	300	17	250	129	268	2.1
	GDWS170	2"	17.0	600	17	250	170	467	5.1
	GDWS380	3"	38.0	1342	17	250	205	548	20.0
	Separator Model	Connection Size	Flow Rate		Max. Pressure		Dimensions (mm)		Weight
			m³/min	cfm	bar	psi	W	H	kg
Flanged Body	GDWS0400	DN100	40	1413	16	232	420	778	40
	GDWS0500	DN125	50	1766	16	232	420	784	54
	GDWS1100	DN150	110	3885	16	232	524	841	80
	GDWS1750	DN175	125	4414	16	232	606	856	116
	GDWS2000	DN200	200	7063	16	232	657	848	156

Grade V - Activated Carbon Filtration

Oil vapor and hydrocarbon odor removal, providing a maximum remaining oil content of <0.003 mg/m³ (<0.003 ppm) @ 21°C (Precede with Grade H filter)

Grade G - General Purpose Protection

Particle removal down to 0.1 micron including coalesced liquid, water and oil, providing a maximum remaining oil aerosol content of 0.03 mg/m³ @ 21°C

Grade H - High Efficiency Removal Filtration

Particle removal down to 0.01 micron including water and oil aerosols, providing a maximum remaining oil aerosol content of 0.01 mg/m³ @ 21°C (Precede with Grade G filter)

Grade P - Dust Filtration

Dust particle removal down to 1 micron

Operating Limitations:

Max Operating Pressure	17.2 bar g	Max Recommended Operating Temp	50°C (Grade V)
Max Recommended Operating Temp	80°C (Grade G, H, P)	Min Recommended Operating Temp	1°C

Technical data

Compressed Air Filters – High Temperature GDF Series

	Separator Model	Grade	Connection Size	Flow Rate		Max. Pressure		Dimensions (mm)		Weight
				m³/min	cfm	bar	psi	W	H	kg
High Temp	GDF005L-HT	G, H, P	⅜"	0.5	17	17	250	76	552	0.55
	GDF007L-HT	G, H, P	½"	0.7	22	17	250	76	552	0.55
	GDF013L-HT	G, H, P	¾"	1.3	45	17	250	98	606	1.1
	GDF018L-HT	G, H, P	¾"	1.8	65	17	250	98	606	1.1
	GDF025L-HT	G, H, P	1"	2.5	88	17	250	129	645	2.1
	GDF032L-HT	G, H, P	1"	3.2	112	17	250	129	645	2.1
	GDF038L-HT	G, H, P	1"	3.8	135	17	250	129	645	2.1
	GDF067L-HT	G, H, P	1 ½"	6.7	235	17	250	129	735	2.4
	GDF082L-HT	G, H, P	1 ½"	8.2	288	17	250	129	735	2.4
	GDF100L-HT	G, H, P	2"	10.0	350	17	250	170	844	5.2
	GDF0133L-HT	G, H, P	2"	13.3	471	17	250	170	844	5.2
	GDF0167L-HT	G, H, P	2"	16.7	589	17	250	170	844	5.2
	GDF0200L-HT	G, H, P	3"	20.0	706	17	250	205	1027	9.3
	GDF0260L-HT	G, H, P	3"	26.0	918	17	250	205	1256	13.7
	GDF0305L-HT	G, H, P	3"	30.5	1078	17	250	205	1256	13.7
	GDF0383L-HT	G, H, P	3"	38.3	1354	17	250	205	1256	13.7
	GDF0450L-HT	G, H, P	3"	45.0	1600	17	250	205	1256	13.7

Compressed Air Filters - High Pressure GDF Series

	Filter Model	Flow Rate			Volume	Connection	Dimensions (mm)		Weight
		SCFM	l/min	m³/h	l	A (INCH)	W	H	kg
High Pressure	GDF018L 3/8"E-HP	65	1833	110	0.5	3/8 BSPP	94	194	1.35
	GDF018L 3/8"B-HP	65	1833	110	0.5	3/8 BSPP	94	194	1.35
	GDF018L 3/8"C-HP	65	1833	110	0.5	3/8 BSPP	94	194	1.35
	GDF018L 3/8"D-HP	65	1833	110	0.5	3/8 BSPP	94	194	1.35
	GDF036L 1/2"E-HP	127	3583	215	0.5	1/2 BSPP	94	194	1.4
	GDF036L 1/2"B-HP	127	3583	215	0.5	1/2 BSPP	94	194	1.4
	GDF036L 1/2"C-HP	127	3583	215	0.5	1/2 BSPP	94	194	1.4
	GDF036L 1/2"D-HP	127	3583	215	0.5	1/2 BSPP	94	194	1.4
	GDF072L 3/4"E-HP	256	7250	435	0.7	3/4 BSPP	94	256	1.5
	GDF072L 3/4"B-HP	256	7250	435	0.7	3/4 BSPP	94	256	1.5
	GDF072L 3/4"C-HP	256	7250	435	0.7	3/4 BSPP	94	256	1.5
	GDF072L 3/4"D-HP	256	7250	435	0.7	3/4 BSPP	94	256	1.5
	GDF125L 1"E-HP	441	12500	750	1.7	1 BSPP	120	358	3.1
	GDF125L 1"B-HP	441	12500	750	1.7	1 BSPP	120	358	3.1
	GDF125L 1"C-HP	441	12500	750	1.7	1 BSPP	120	358	3.1
	GDF125L 1"D-HP	441	12500	750	1.7	1 BSPP	120	358	3.1
	GDF250L 1"E-HP	883	25000	1500	1.7	1 BSPP	120	358	3.1
	GDF250L 1"B-HP	883	25000	1500	1.7	1 BSPP	120	358	3.1
	GDF250L 1"C-HP	883	25000	1500	1.7	1 BSPP	120	358	3.1
	GDF250L 1"D-HP	883	25000	1500	1.7	1 BSPP	120	358	3.1
	GDF416L1 1/2"E-HP	1472	41667	2500	1.7	1 1/2 BSPP	120	358	3.3
	GDF416L1 1/2"B-HP	1472	41667	2500	1.7	1 1/2 BSPP	120	358	3.3
	GDF416L1 1/2"C-HP	1472	41667	2500	1.7	1 1/2 BSPP	120	358	3.3
	GDF416L1 1/2"D-HP	1472	41667	2500	1.7	1 1/2 BSPP	120	358	3.3

Compressed Air Filters - Sterile Filters

	Filter Model	Flow Rate		Connection Size	Max. Pressure	Dimensions (mm)			Replacement Element
		m³/h	l/min		bar	L	D	H	
Sterile	NES 33	42	700	½"	16	87	84	290	ESO433HST
	NES 36	105	1750	½"	16	87	84	290	ESO436HST
	NES 39	150	2500	½"	16	87	84	290	ESO439HST
	NES 53	270	4500	1"	16	136	100	405	ESO553HST
	NES 58	360	6000	1"	16	136	100	405	ESO558HST
	NES 68	720	12000	1 ½"	16	147	114	500	ESO768HST
	NES 73	1080	18000	2"	16	187	138	710	ESO873HST
	NES 78	1440	24000	2"	16	187	138	710	ESO878HST
	NES 86	2160	36000	3"	11	257	185	940	ESO1186HST
	NES 88	2880	48000	3"	11	257	185	940	ESO1188HST

	Specifications (ISO 8573.1)						
	Particle removal	DOP penetration	Recomm. air temp.	Sealent & o-rings material	ΔP clean & dry	ΔP change element	Max sterilising temp.
	µ	%	°C		mbar	L	P
HST	0.01	≤ 0.0001	50	silicone	100	350	138 (200 per NES)

Line Pressure bar g	1	2	3	5	7	9	11	13	15	17
Correction Factor	0.38	0.53	0.65	0.85	1.00	1.13	1.25	1.36	1.46	1.56

To use correction factors, multiply the filter's capacity by the correction factor to get the new filter flow capacity at the non-standard operating pressure. For example, a 190 m³/h filter operating at 11 bar has a correction factor of 1.25. 1.25 x 190 = 237.5 m³/h capacity at 11 bar.

Global Expertise

The GD rotary screw compressor range from 2.2 – 500 kW, available in both variable and fixed speed compression technologies, are designed to meet the highest requirements which the modern work environment and machine operators place on them.



The oil-free EnviroAire range from 15 – 355 kW provides high quality and energy efficient compressed air for use in a wide range of applications. The totally oil-free design eliminates the issue of contaminated air, reducing the risk and associated cost of product spoilage and rework.



A modern production system and process demands increasing levels of air quality. Our complete **Air Treatment Range** ensures the highest product quality and efficient operation.



Compressor systems are typically comprised of multiple compressors delivering air to a common header. The combined capacity of these machines is generally greater than the maximum site demand. To ensure the system is operated to the highest levels of efficiency, the **GD Connect** air management system is essential.



gdcompressors.eu@gardnerdenver.com
www.gardnerdenver.com/gdproducts

For additional information please contact Gardner Denver or your local representative.

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