

Gardner
Denver

Modular Adsorption Dryers

Innovative compressed air treatment
GDX Series



Compressed air dryers - **The heart** of the compressed air treatment solution

At the heart of any compressed air treatment solution is the dryer, it's purpose, to remove water vapour, stop condensation, corrosion and in the case of adsorption dryers, inhibit the growth of micro-organisms.

Heatless adsorption dryers (also known as PSA dryers) are the simplest type of adsorption dryer available and have long been the dryer of choice for many industries and applications. They are simple, reliable and cost effective and for small to medium flow systems, often the only viable technology available. Additionally, modular heatless dryers such as GDX Series provide

an even more reliable, smaller, more compact & lightweight dryer which can be installed in both the compressor room or at the point of use.

Benefits of heatless adsorption dryers

- Industry proven design
- Suitable for all industries and applications - some adsorption dryer regeneration methods prevent their use in certain industries / applications
- Lower capital investment compared to other adsorption dryer regeneration methods
- Reduced complexity compared to other adsorption dryer regeneration methods
- Robust & reliable
- Uses clean, dry compressed air for regeneration making them suitable for all industries and applications
- Lower maintenance costs compared to other adsorption dryer regeneration methods
- No heat / heaters / heat related issues



Gardner Denver GDX series of modular compressed air dryers - a **dedicated solution** for every application

By combining the proven benefits of desiccant drying with modern design, Gardner Denver provides an extremely compact and reliable system to totally dry and clean compressed air.

The Gardner Denver GDX series of heatless regenerative dryers are the ideal solution for many thousands of compressed air

users worldwide in a wide variety of industries.

Compressed air purification equipment must deliver

uncompromising performance and reliability whilst providing the right balance of air quality with the lowest cost of operation.

Benefits

Highest quality air

- Clean, oil-free and dry compressed air in accordance with all editions of ISO8573-1, the international standard for compressed air quality

Energy efficient

- Maximising savings

Dry air eliminates microbiological growth

- Preventing product spoilage, recall and litigation

Dry air means zero corrosion

- Preventing product spoilage and damage

Smaller, more compact and lightweight

- Modular construction means less than half the size of conventional dryers

Modular design

- 100% standby at a fraction of the cost of twin tower designs
- 10 year guarantee on pressure envelope
- Corrosion resistance due to alochroming and epoxy painting
- Constant dewpoint performance thanks to snowstorm filling

Approvals to international standards

- PED, CE, CSA (US+Canada), CRN

Easy and flexible installation

- Minimal space required

Simple maintenance

- Giving reduced downtime

Reduced noise pollution

- Super quiet operation



GDX1L - GDX7L
Flowrates from 0.09m³/min



GDX7 - GDX50
Flowrates from 0.68m³/min



GDX68 - GDX 340
Flowrates from 6.8m³/min

Clean, dry air improves production efficiency and reduces maintenance costs and downtime. Only an adsorption dryer can provide the highest levels of dry compressed air.

Gardner Denver air treatment - four key features **guarantee** air quality

Gardner Denver filtration

Adsorption dryers are designed for the removal of water vapour and not liquid water, water aerosols, oil, particulates or micro-organisms. Only by using Gardner Denver pre and after filtration can the removal of these contaminants be assured and air quality in accordance with all editions of ISO8573-1 be guaranteed.



Modular aluminium design

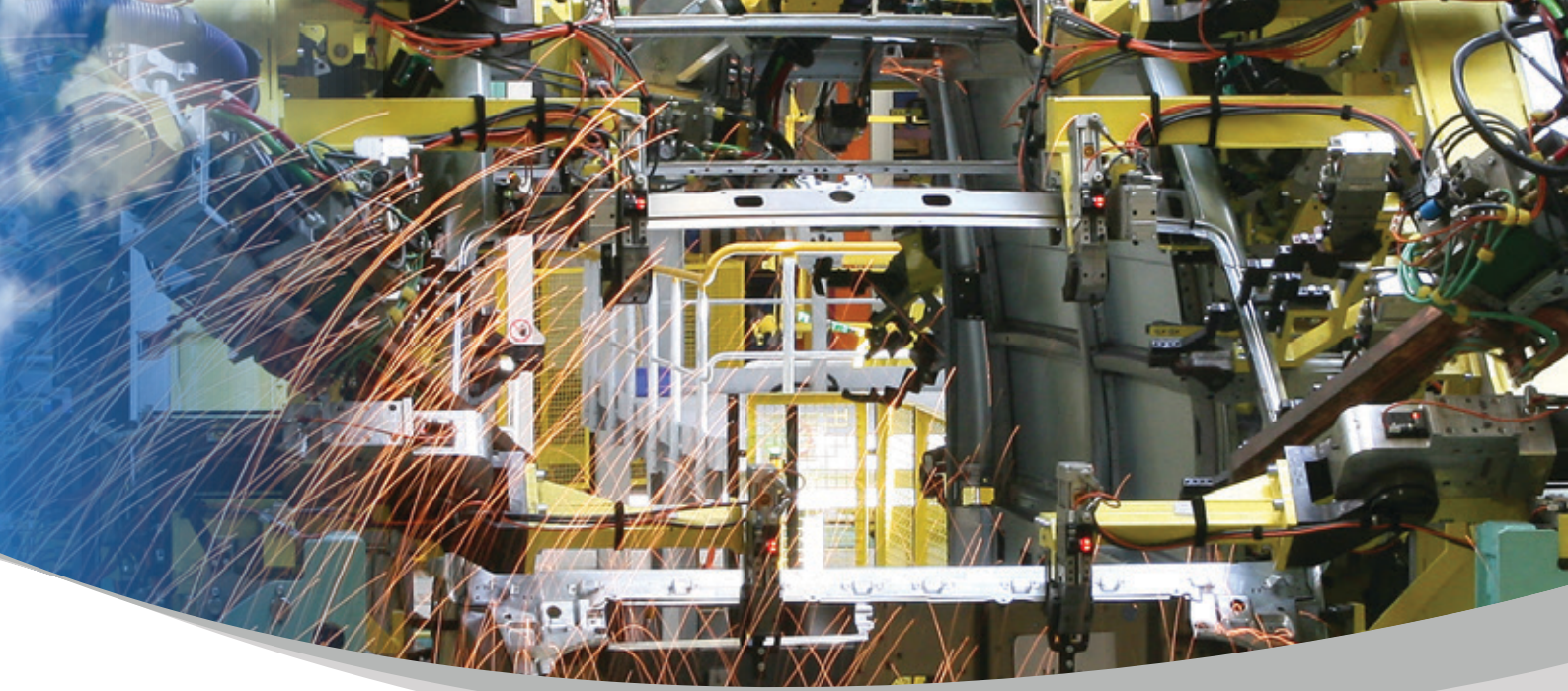
Aluminium extrusions are used throughout for drying chambers and distribution manifolds. This design allows the desiccant material to be retained within the drying chambers. 'Snowstorm' filling, prevents movement of the desiccant material during operation and also eliminates desiccant attrition and breakdown which could lead to a loss of pressure dewpoint.

Adsorbent desiccant material

Specially selected desiccant materials provide:

- Optimum adsorption and regeneration capacity - to ensure consistent dewpoint
- Low dusting - to prevent blockage of downstream filtration
- High crush strength - to prevent breakdown of the desiccant during operation
- High resistance to aggressive and oil-free condensate - for compatibility with all types of air compressor, their lubricants and condensate

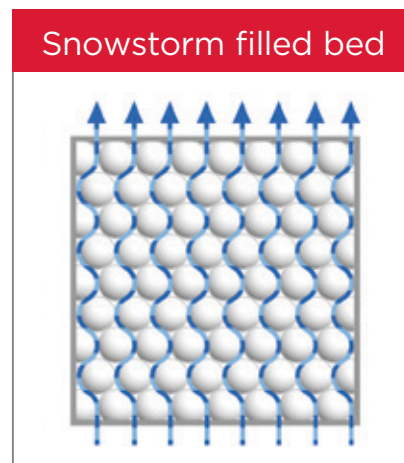




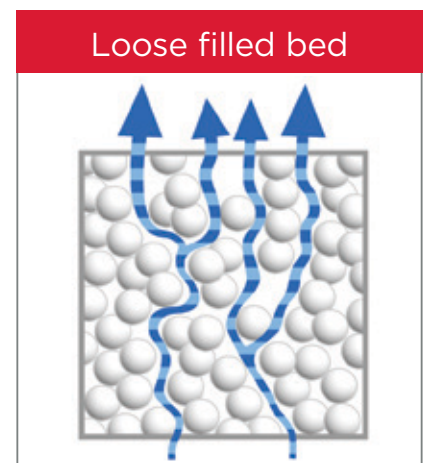
Maximum Packing Density

'Snowstorm' filling method

Gardner Denver modular dryers utilise snowstorm filling techniques to charge the drying chambers with adsorbent desiccant material.



Consistent drying with no desiccant attrition



Inconsistent drying and desiccant attrition

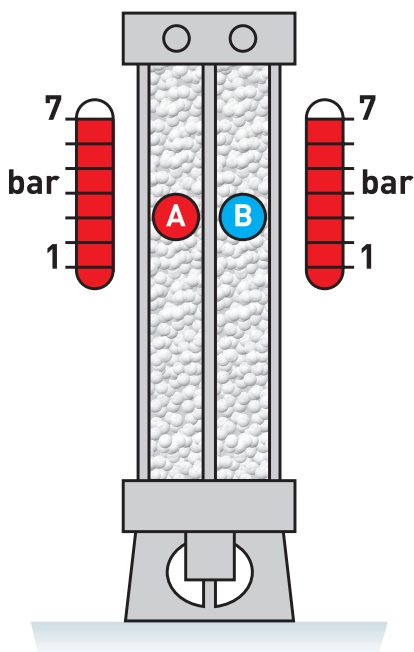
'Snowstorm' filling ensures consistent dewpoint performance

The benefits are:

- Achieves maximum packing density for the desiccant material, fully utilising all of the available space envelope
- Prevents air channelling through the desiccant as experienced with twin tower designs. Due to channelling, twin tower designs require more desiccant to achieve an identical dewpoint, increasing physical size, operational and maintenance costs
- Prevents desiccant attrition which can lead to dusting, blocked filters and loss of dewpoint
- Allows 100% of the available desiccant material to be used for drying, therefore reducing the amount of desiccant required and maintenance costs
- 100% of the desiccant is regenerated ensuring consistent dewpoint
- Provides a low, equal resistance to air flow allowing multiple drying chambers and multiple dryer banks to be used.



Dewpoint Dependent Switching (DDS) Energy Management System



The energy required to regenerate the off-line desiccant bed in an absorption dryer is constant, and based upon the assumption that the dryer is operating at its full capacity and the desiccant bed requiring regeneration has been fully saturated. In reality, a dryer is rarely operating at full capacity all of the time, for example during shift work and periods of low demand. Daily and seasonal fluctuations in ambient temperature and humidity also change the moisture loading placed upon the dryer.

Under such conditions, at the point in the drying cycle where the air flow is switched from one drying chamber to the other, there is the potential for drying capacity to remain in the desiccant material about to undergo regeneration. As the energy used to regenerate this partially saturated bed is based upon the assumption that the bed is fully saturated, more energy (purge air) is consumed than is actually necessary.

DDS Operation - Energy Saving Cycle (Heatless Dryer example shown)

Time (minutes)	DDS Drying / Regeneration Cycle									
	0	2.5	3	changeover time dictated by outlet dewpoint	changeover	0	2.5	3	changeover time dictated by outlet dewpoint	changeover
Side A	Regeneration	Re-pressurisation	Energy Saving			Drying				
Side B	Drying				Regeneration		Re-pressurisation	Energy Saving		

DDS Energy Saving (Heatless Dryer example shown)

Air Demand %	Energy Saving %	Energy Saving		Environmental Saving	
		P/A kW		P/A Kg CO ₂	
100	33.00	95,040		50,371	
90	40.00	115,200		61,056	
80	47.00	135,360		71,741	
70	53.00	152,640		80,899	
60	60.00	172,800		91,584	
50	66.00	190,080		100,742	

System pressure 6 bar g. Max Temp 35°C. System flow 1700 m³/hr (1000 cfm). Average pressure 6.5 bar g. Average Temp 30°C.

Technical data

GDX Series GDX1L - GDX7L

Product Selection

Model	Pipe Size	Inlet Flowrates			
		m ³ /min	m ³ /hr	L/S	cfm
GDX1L	3/8"	0.09	5.1	1	3
GDX2L	3/8"	0.14	8.5	2	5
GDX3L	3/8"	0.23	13.6	4	8
GDX4L	3/8"	0.28	17.0	5	10
GDX5L	3/8"	0.37	22.1	6	13
GDX6L	3/8"	0.43	25.5	7	15
GDX7L	3/8"	0.57	34.0	9	20



Stated flows are for operation at 7 bar g (100 psi g) with reference to 20°C, 1 bar a, 0% relative water vapour pressure. For flows at other pressures, apply the correction factors shown.

Dryer Performance

Dryer Models	*Dewpoint (Standard)		ISO8573-1:2010 Classification (standard)	*Dewpoint (Option 1)		ISO8573-1:2010 Classification (Option 1)
	°C	°F		m ³ /min	m ³ /hr	
GDX_L	-40	-40	Class 2	-70	-100	Class 1

Technical Data

Dryer Models	Min Operating Pressure		Max Operating Pressure		Min Inlet Temperature		Max Inlet Temperature		Max Ambient Temperature	
	bar g	psi g	bar g	psi g	°C	°F	°C	°F	°C	°F
GDX_L	4	58	12	175	2	35	50	122	55	131

Dryer Models	Electrical Supply (Standard) Tolerance ± 10%	Electrical Supply (Optional) Tolerance ± 10%	Thread Connection	Noise Level (average)	Electronic Controller Options	Function	
				dB(A)		Power On Indication	Service Interval Indication
GDX_L	230 / 1ph / 50Hz	115 / 1ph / 60Hz	BSP or NPT	<75	GDX_L	•	•

For fully pneumatic applications, a GDX Series MINI range is available. Please contact Gardner Denver for further information.

Correction Factors

Temperature Correction Factor CFT							
Maximum Inlet Temperature	°C	25	30	35	40	45	50
	°F	77	86	95	104	113	122
	CFT	1.00	1.00	1.00	1.04	1.14	1.37

Pressure Correction Factor CFP											
Maximum Inlet Pressure	bar g	4	5	6	7	8	9	10	11	12	
	psi g	58	73	87	102	116	131	145	160	174	
	CFP	1.60	1.33	1.14	1.00	1.03	0.93	0.85	0.78	0.71	

Dewpoint Correction Factor CFD			Standard	Option 1
Maximum Inlet Pressure	bar g		-40	-70
	psi g		-40	-100
	CFD		1.00	1.43

Weights and Dimensions

Model	Pipe Size	Dimensions						Weight	
		Height (H)		Width (W)		Depth (D)		Kg	lbs
		mm	ins	mm	ins	mm	ins		
GDX1L	3/8"	422	16.6	289	11.4	149	5.9	11	24.2
GDX2L		500	19.7					13	28.7
GDX3L		616	24.2					16	35.3
GDX4L		692	27.2					18	39.7
GDX5L		847	33.3					20	44.1
GDX6L		906	35.7					23	50.7
GDX7L		1098	43.2					28	61.7

Recommended Filtration

Model	Filter Pipe Size BSPT or NPT	Inlet General Purpose Pre-filter	Inlet High Efficiency Filter	Outlet Dust Filter
GDX1L	3/8"	GDF0006G3/8"G	Built into dryer	Built into dryer
GDX2L				
GDX3L				
GDX4L				
GDX5L				
GDX6L				
GDX7L				

*GDX_L dryers include integral high efficiency pre and general purpose dust filters.

GDX 7 - GDX50

Product Selection

Model	Pipe Size	Inlet Flowrates			
		m ³ /min	m ³ /hr	L/S	cfm
GDX7	¾"	0.68	41	11	24
GDX9		0.91	55	15	32
GDX12		1.19	71	20	42
GDX15		1.50	90	25	53
GDX18		1.84	110	31	65
GDX25		2.49	149	42	88
GDX30	1"	3.01	180	50	106
GDX37		3.69	221	61	130
GDX50		4.99	299	83	176



Stated flows are for operation at 7 bar g (100 psi g) with reference to 20°C, 1 bar a, 0% relative water vapour pressure. For flows at other pressures, apply the correction factors shown.

Dryer Performance

Dryer Models	Dewpoint (Standard)		ISO8573-1:2010 Classification (standard)	Dewpoint (Option 1)		ISO8573-1:2010 Classification (Option 1)
	°C	°F		°C	°F	
GDX7 - 50	-40	-40	Class 2	-70	-100	Class 1

Technical Data

Dryer Models	Min Operating Pressure		Max Operating Pressure		Min Operating Temperature		Max Operating Temperature		Max Ambient Temperature		Electrical Supply (Standard)	Electrical Supply (Optional)	Thread Connection	Noise Level dB(A)
	bar g	psi g	bar g	psi g	°C	°F	°C	°F	°C	°F				
GDX7 - GDX25	4	58	16	232	5	41	50	122	55	131	230V 1ph 50/60Hz	110V 1ph 50/60Hz	BSPP or NPT	<75
GDX30 - GDX50			13	190										

Controller Options

Controller Options	vFunction								
	Power On Indication	Fault Indication	Display Fault Condition Values	Service Interval Indication	Service Countdown Timers	Configurable Alarm Settings	Remote Volt Free Alarm contacts	Filter Service Timer	DDS Energy Management System
GDX7 - 50 (Electronic control)	•	•					•		•
GDX7DS - 50DS									

*ATEX compliant option available. For hazardous environments, a fully pneumatic ATEX compliant version of GDX Series is available. ATEX Directive 94/9/EC Group II, Category 2GD, T6.

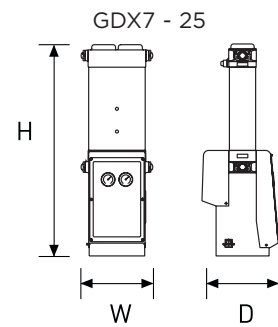
Correction Factors

Temperature Correction Factor CFT							
Maximum Inlet Temperature	°C	25	30	35	40	45	50
	°F	77	86	95	104	113	122
	CFT	1.00	1.00	1.00	1.04	1.14	1.37

Pressure Correction Factor CFP														
Minimum Inlet Pressure	bar g	4	5	6	7	8	9	10	11	12	13	14	15	16
	psi g	58	73	87	100	116	131	145	160	174	189	203	218	232
	CFP	1.60	1.33	1.14	1.00	0.89	0.80	0.73	0.67	0.62	0.57	0.54	0.5	0.47

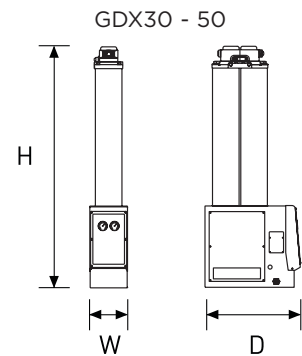
Dewpoint Correction Factor CFD		Standard	Option 1
Required Dewpoint	PDP °C	-40	-70
	PDP °F	-40	-100
	CFD	1.00	1.43

Models 7 - 25 only



Weights and Dimensions

Model	Pipe Size Inlet / Outlet	Dimensions						Weight	
		Height (H)		Width (W)		Depth (D)		kg	lbs
		mm	ins	mm	ins	mm	ins		
GDX7	¾"	837	33.0	284	11.2	302	11.9	32	70
GDX9		1003	39.5					37	81
GDX12		1168	46.0					42	92
GDX15		1333	52.5					47	103
GDX18		1499	59.0					52	114
GDX25		1747	68.8					60	132
GDX30	1"	1433	56.4	220	8.7	566	22.3	80	176
GDX37		1599	63.0					90	198
GDX50		1847	72.7					104	229



Recommended Filtration

For Dryer Model	Filter Pipe Size BSPT or NPT	Inlet General Purpose Pre-filter	Inlet High Efficiency Filter	Outlet Dust Filter			
GDX7	¾"	GDF0018G3/4"G	GDF0018G3/4"H	GDF0018G3/4"G			
GDX9							
GDX12							
GDX15							
GDX18							
GDX25					GDF0036G3/4"G	GDF0036G3/4"H	GDF0036G3/4"G
GDX30	1"	GDF0036G1"G	GDF0036G1"H	GDF0036G1"G			
GDX37							
GDX50					GDF0066G1"G	GDF0066G1"H	GDF0066G1"G

Inlet High Efficiency Filter and Outlet Dust Filter are included with these dryers as standard.

GDX Series GDX068 - GDX340

Product Selection

	Model	Pipe Size	Flowrates			
			m ³ /min	m ³ /hr	L/S	cfm
Single Bank	GDX068	2"	6.81	408	113	240
	GDX102		10.22	612	170	360
	GDX127		12.78	765	213	450
	GDX170		17.03	1020	283	600
	GDX212	2 1/2"	21	1275	354	750
	GDX255		26	1530	425	900
	GDX297		30	1785	496	1050
	GDX340		34	2040	567	1200
Multi-Bank	2 x GDX212	2 1/2"	43	2550	708	1500
	2 x GDX255		51	3060	850	1800
	2 x GDX297		60	3570	992	2100
	2 x GDX340		68	4080	1133	2400
	3 x GDX255		77	4590	1275	2700
	3 x GDX297		89	5355	1488	3150
	3 x GDX340	G 2 1/2"	102	6120	1700	3600



Stated flows are for operation at 7 bar g (100 psi g) with reference to 20°C, 1 bar a, 0% relative water vapour pressure. For flows at other pressures apply the correction factors shown.

Dryer Performance

Dryer Models	Dewpoint (Standard)		ISO8573-1:2010 Classification (standard)	Dewpoint (Option 1)		ISO8573-1:2010 Classification (Option 1)	Dewpoint (Option 2)		ISO8573-1:2010 Classification (Option 2)
	°C	°F		°C	°F		°C	°F	
GDX068 - GDX340	-40	-40	Class 2	-70	-100	Class 1	-20	-4	Class 3

Technical Data

Dryer Models	Min Operating Pressure		Max Operating Pressure		Min Operating Temp		Max Operating Temp		Max Ambient Temp		Electrical supply (standard)	Electrical supply (optional)	Thread Connections	Noise Level
	bar g	psi g	bar g	psi g	°C	°F	°C	°F	°C	°F				
GDX_S	4	58	13	190	5	41	50	122	55	131	85 - 265 V 1ph 50/60Hz	N/A	BSPP or NPT	<75
GDX_E														

Controller Options

Controller Options	Function								
	Power on Indication	Fault Indication	Display Fault Condition Values	Service Interval Indication	Service Countdown Timers	Configurable Alarm Settings	Remote Volt Free Alarm Contacts	Filter Service Timer	DDS Energy Management System
GDX_S									
GDX_SDS	•	•		•			•		
GDX_E			•		•	•		•	•

*ATEX compliant option available. For hazardous environments, a fully pneumatic ATEX compliant version of GDX Series is available. ATEX Directive 94/9/EC, Group II, Category 2GD, T6.

Correction Factors

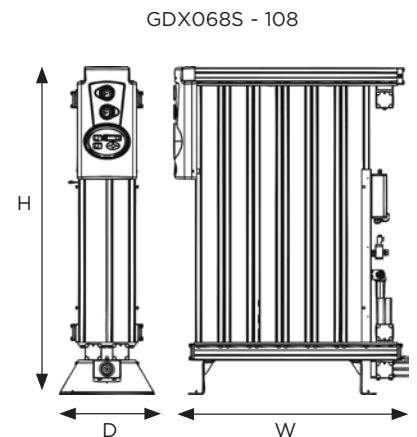
Temperature Correction Factor CFT							
Maximum Inlet Temperature	°C	25	30	35	40	45	50
	°F	77	86	95	104	113	122
	CFT	1.00	1.00	1.00	1.04	1.14	1.37

Pressure Correction Factor CFP											
Minimum Inlet Pressure	bar g	4	5	6	7	8	9	10	11	12	13
	psi g	58	73	87	100	116	131	145	160	174	189
	CFP	1.60	1.33	1.14	1.00	0.89	0.80	0.73	0.67	0.62	0.57

Dewpoint Correction Factor CFD		Option 2	Standard	Option 1
Required Dewpoint	PDP °C	-20	-40	-70
	PDP °F	-4	-40	-100
	CFD	0.91	1.00	1.43

Weights and Dimensions

Model	Pipe Size	Dimensions						Weight	
		Height (H)		Width (W)		Depth (D)		kg	lbs
		mm	ins	mm	ins	mm	ins		
GDX068	2"	1647	64.8	687	27.0	550	21.7	235	518
GDX102				856	33.7			316	696
GDX127		1892	74.5	1025	40.3			355	782
GDX170				1194	47.0			450	992
GDX212	1363			53.6	543			1197	
GDX255	1532			60.3	637			1404	
GDX297	1701			67.0	731			1611	
GDX340					825			1818	



Recommended Filtration

For Dryer Model	Filter Pipe Size BSPT or NPT	Inlet General Purpose Pre-filter	Inlet High Efficiency Filter	Outlet Dust Filter
GDX068	2"	GDF0132G2"G	GDF0132G2"H	GDF0132G2"G
GDX102				
GDX127		GDF0198G2"G	GDF0198G2"H	GDF0198G2"G
GDX170				
GDX212	2½"	GDF0258G2 1/2"G	GDF0258G2 1/2"H	GDF0258G2 1/2"G
GDX255		GDF0372G2 1/2"G	GDF0372G2 1/2"H	GDF0372G2 1/2"G
GDX297				
GDX340				

Inlet High Efficiency Filter and Outlet Dust Filter are included with these dryers as standard.

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 – 160 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.gardnerdenverproducts.com

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

Specifications subject to change without notice.