

Compressed Air Purification System



National toll-free service hotline

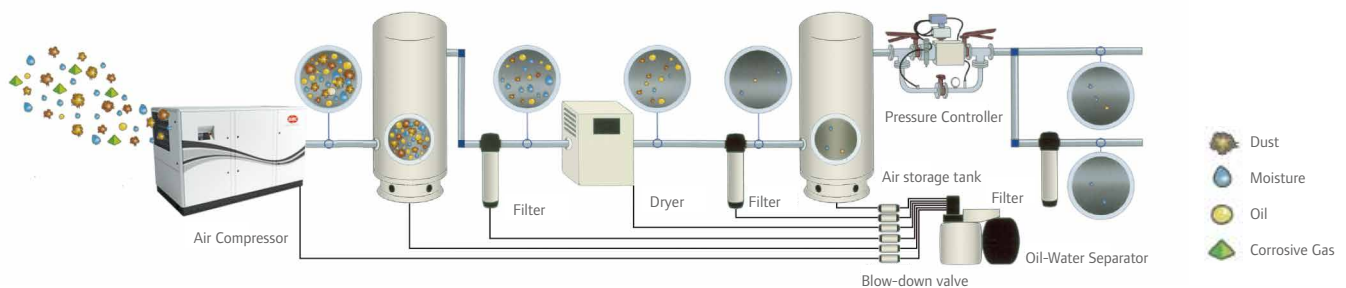
400-820-9290

400-168-8866

Gardner
Denver

What is a clean, environmentally friendly and high-quality compressed air system?

- Owing to its safety, energy saving and stability, compressed air has become an indispensable power source in modern industry. However, condensates and contaminants in the compressed air are mixed with rust and bacteria in the pipeline to form harmful corrosive turbid liquid, which would lead to system corrosion and cause economic losses to users.
- Each cubic meter of air contains about 140 million dust particles and water vapor, 80% of which are less than 2 microns in diameter and brought into various systems of the process via the compressed air. These particles are a huge threat to the compressed air system.
- Gardner Denver provides industry-leading products to help enterprises reduce energy consumption and costs, while obtaining cleaner and drier air through more efficient, reliable and environmentally friendly solutions, thus substantially reducing failure rates and costs, bringing tangible benefits to customers and the environment.



As it is of great significance to maintain air quality, the International Organization for Standardization (ISO) specially classifies the levels of solid dust, water, oil and other contaminants in compressed air as follows:

ISO 8573-1:2001 Air Quality Classes

Quality Class	Solid - Largest Number of Particles Per Cubic Meter			Pressure Dew Point °C	Oil Content mg/m ³
	0.1 to 0.5 microns	0.5 to 1 microns	1 to 5 microns		
0	Specified by different end users or manufacturers and more stringent than Class 1				
1	100	1	0	-70°C	0.01
2	100,000	1,000	10	-40°C	0.1
3	N/A	10,000	500	-20°C	1
4	N/A	N/A	1,000	3°C	5
5	N/A	N/A	20,000	7°C	N/A
6	N/A	N/A	N/A	10°C	N/A

Compressed Air Filter

Standard filter supply range:

- The filter element designed with stainless steel internal and external supporting net provides a high filtration capacity
- The advanced filter element design concept allows for a more compact and smaller filter structure
- Easy installation allows the housings to be connected in series, thus reducing the installation and maintenance space
- Comes standard with an automatic drain (built-in drain for GDF540V* and below, and external drain for GDF690V* and above)



Available with four filtration accuracy modes: G, D, H and A

- G- Main pipeline filter, which filters water and oil mist larger than 1 μm , with water removal efficiency exceeding 95%
- D- De-dusting filter, which filters dust particles larger than 1 μm
- H- De-oiling filter, which filters particles larger than 0.01 μm , water and oil mist, with residual oil content of 0.01ppm at 7barg
- A- Precision de-oiling filter, which filters oil mist larger than 0.001 μm , with the residual oil content not exceeding 0.001mg/m³

Working medium: compressed air or non-corrosive gas

Rated working pressure: 0.7 MPa

Intake air temperature: 80°C or below

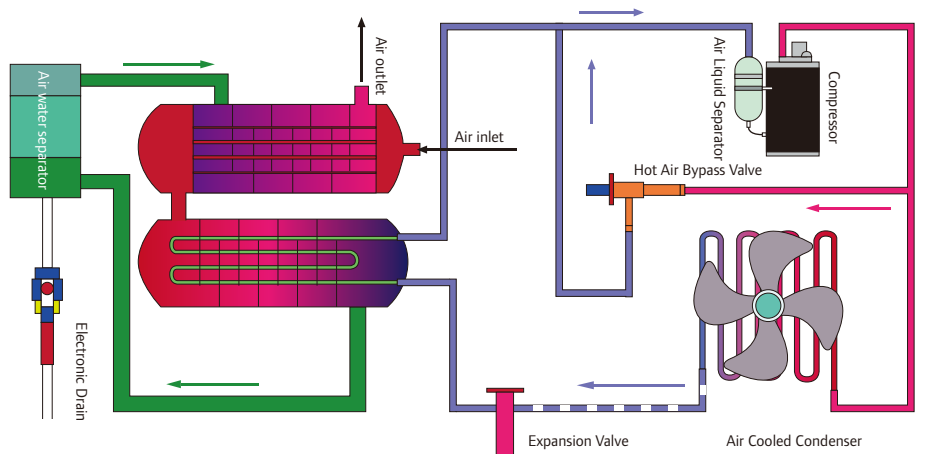
Maximum working pressure: 1.0 MPa

Model	Flow 100 psig	Air Connection Pipe Diameter	Dimensions (mm)		Weight	Blow-Down Connection	Drainer
	m ³ /min	(Inlet\Outlet)	Height	Diameter	kg		
GDF42*-E	0.7	0.5" BSPT	266	90	1.1	∅ 6	Built-in drainer
GDF72*-E	1.2	0.5" BSPT	266	90	1.1	∅ 6	Built-in drainer
GDF108*-E	1.8	0.75" BSPT	300	90	1.4	∅ 6	Built-in drainer
GDF216*-E	3.6	1" BSPT	420	120	3.2	∅ 6	Built-in drainer
GDF294*-E	4.9	1.5" BSPT	520	120	5.2	∅ 6	Built-in drainer
GDF342*-E	5.7	1.5" BSPT	520	120	5.2	∅ 6	Built-in drainer
GDF390*-E	6.5	1.5" BSPT	520	120	5.2	∅ 6	Built-in drainer
GDF444*-E	7.4	1.5" BSPT	520	120	5.2	∅ 6	Built-in drainer
GDF540*-E	9	2" BSPT	730	160	7.6	G1/2	Electronic drainer
GDF690*-E	11.5	2" BSPT	730	160	7.6	G1/2	Electronic drainer
GDF810*-E	13.5	2" BSPT	730	160	7.6	G1/2	Electronic drainer
GDF990*-E	16.5	2.5" BSPT	1010	160	9.5	G1/2	Electronic drainer
GDF1050*-E	17.5	2.5" BSPT	1010	160	9.5	G1/2	Electronic drainer
GDF1170*-E	19.5	2.5" BSPT	1010	160	9.5	G1/2	Electronic drainer
GDF1380*-E	23	3" BSPT	770	200	10.6	G1/2	Electronic drainer
GDF1590*-E	26.5	3" BSPT	770	200	10.6	G1/2	Electronic drainer
GDF1740*-E	29	3" BSPT	1035	200	12.8	G1/2	Electronic drainer
DGF2100*-E	35	3" BSPT	1035	200	12.8	G1/2	Electronic drainer
GDF2340*-E	39	3" FLG	1140	440	76	G1/2	Electronic drainer
GDF2700*-E	45	4" FLG	900	500	91	G1/2	Electronic drainer
GDF3090*-E	51.5	5" FLG	930	500	98	G1/2	Electronic drainer
GDF3480*-E	58	5" FLG	930	500	103	G1/2	Electronic drainer
GDF4080*-E	68	5" FLG	950	540	118	G1/2	Electronic drainer
GDF4200*-E	70	5" FLG	950	540	120	G1/2	Electronic drainer
GDF4560*-E	76	6" FLG	990	560	124	G1/2	Electronic drainer
GDF4800*-E	80	6" FLG	990	560	127	G1/2	Electronic drainer
GDF5520*-E	92	6" FLG	1040	640	132	G1/2	Electronic drainer
GDF5940*-E	99	6" FLG	1040	640	136	G1/2	Electronic drainer
GDF7680*-E	128	6" FLG	1040	640	165	G1/2	Electronic drainer
GDF8700*-E	145	8" FLG	1140	700	228	G1/2	Electronic drainer

*Available with four filtration accuracy modes: G, D, H and A. The performance level complies with ISO 8573.1. For larger dimensions or special needs, contact your sales representative

Refrigeration Dryer

The refrigeration dryer cools down the compressed air via the cooling medium so that the water vapor in the compressed air is condensed into liquid droplets, which are discharged after separating from the compressed air, thus achieving the purpose of drying the compressed air.



Working Principle Diagram of Refrigeration Dryer

Features of Refrigeration Dryer

- The heat exchanger is of a three-barrel structure that integrates the precooler, the evaporator and the preheater, greatly reducing the number of pipes
- Reduced volume and weight
- A three-in-one anti-corrosion aluminum alloy condensing and purifying device is designed to remove corrosion and rust of internal pipes caused by conventional materials
- The inner-core tubular structure of the precooler and the evaporator makes full use of the principle of aerodynamics to ensure efficient heat transfer and achieve the purpose of energy saving
- The high efficiency air water separator has remarkable water removal effect, separating over 99% of liquid water in a timely manner
- The condenser is mounted on the top, and the special design ensures that it delivers an excellent cooling effect and is not prone to clogging under various working conditions
- One-button start for easy maintenance; temperature-controlled fan auto start and stop, compressor operation controlled by the system, comprehensive safety guarantee

Performance Features

- Air flow: 0.7 to 145 m³/min
- Rated working pressure: 0.7 MPa
- Standard intake air temperature: ≤45°C
- Ambient temperature: 2°C to 40°C
- Maximum working pressure: 1.0 MPa
- Pressure dew point: 3 to 10°C



Refrigeration Dryer

Performance Parameters Table

Air-Cooled Unit

Model	Flow	Voltage	Air Connection Pipe Diameter		Dimensions L*W*H (mm)	Weight kg	Drainer
	m ³ /min	V/Ph/hz					
GD42INR-A-E	0.7	220/1/50	0.75"	BSPT	500*380*600	43	Electronic
GD72INR-A-E	1.2	220/1/50	1"	BSPT	600*400*650	46	Electronic
GD108INR-A-E	1.8	220/1/50	1.5"	BSPT	620*480*720	61	Electronic
GD216INR-A-E	3.6	220/1/50	1.5"	BSPT	700*520*850	102	Electronic
GD294INR-A-E	4.9	220/1/50	1.5"	BSPT	700*520*850	102	Electronic
GD342INR-A-E	5.7	220/1/50	1.5"	BSPT	700*520*850	133	Electronic
GD390INR-A-E	6.5	220/1/50	1.5"	BSPT	700*520*850	135	Electronic
GD444INR-A-E	7.4	220/1/50	1.5"	BSPT	854*614*960	177	Electronic
GD540INR-A-E	9.0	220/1/50	2"	BSPT	950*600*1200	207	Electronic
GD690INR-A-E	11.5	220/1/50	2"	BSPT	950*600*1200	246	Electronic
GD810INR-A-E	13.5	380/3/50	2.5"	BSPT	1160*650*1300	273	Electronic
GD990INR-A-E	16.5	380/3/50	2.5"	BSPT	1160*650*1300	298	Electronic
GD1050INR-A-E	17.5	380/3/50	2.5"	BSPT	1160*650*1300	365	Electronic
GD1170INR-A-E	19.5	380/3/50	3"	BSPT	1260*760*1400	425	Electronic
GD1380INR-A-E	23.0	380/3/50	3"	BSPT	1260*760*1400	492	Electronic
GD1590INR-A-E	26.5	380/3/50	3"	BSPT	1320*800*1400	498	Electronic
GD1740INR-A-E	29.0	380/3/50	3"	BSPT	1320*800*1400	540	Electronic
GD2100INR-A-E	35.0	380/3/50	4"	FLG	1320*1040*1800	613	Electronic
GD2340INR-A-E	39.0	380/3/50	4"	FLG	1320*1040*1800	659	Electronic
GD2700INR-A-E	45.0	380/3/50	4"	FLG	1320*1040*1800	726	Electronic
GD3090INR-A-E	51.5	380/3/50	5"	FLG	1600*1280*1900	829	Electronic
GD3480INR-A-E	58.0	380/3/50	5"	FLG	1600*1280*1900	915	Electronic
GD4080INR-A-E	68.0	380/3/50	6"	FLG	1860*1350*1900	1100	Electronic
GD4200INR-A-E	70.0	380/3/50	6"	FLG	1860*1350*1900	1233	Electronic
GD4560INR-A-E	76.0	380/3/50	6"	FLG	1900*1480*2360	1445	Electronic
GD4800INR-A-E	80.0	380/3/50	6"	FLG	1900*1480*2360	1496	Electronic

Water-Cooled Unit

Model	Flow	Voltage	Air Connection Pipe Diameter		Dimensions L*W*H (mm)	Weight kg	Drainer
	m ³ /min	V/Ph/hz					
GD690INR-W-E	11.5	220/1/50	2"	BSPT	850*500*920	255	Electronic
GD810INR-W-E	13.5	380/3/50	2.5"	BSPT	1010*600*1020	288	Electronic
GD990INR-W-E	16.5	380/3/50	2.5"	BSPT	1010*600*1020	297	Electronic
GD1050INR-W-E	17.5	380/3/50	2.5"	BSPT	1010*660*1020	376	Electronic
GD1170INR-W-E	19.5	380/3/50	3"	BSPT	1110*630*1070	442	Electronic
GD1380INR-W-E	23.0	380/3/50	3"	BSPT	1110*630*1070	502	Electronic
GD1590INR-W-E	26.5	380/3/50	3"	BSPT	1200*660*1120	505	Electronic
GD1740INR-W-E	29.0	380/3/50	3"	BSPT	1200*660*1120	572	Electronic
GD2100INR-W-E	35.0	380/3/50	4"	FLG	1310*960*1470	648	Electronic
GD2340INR-W-E	39.0	380/3/50	4"	FLG	1310*960*1470	696	Electronic
GD2700INR-W-E	45.0	380/3/50	4"	FLG	1310*960*1470	762	Electronic
GD3090INR-W-E	51.5	380/3/50	5"	FLG	1360*1020*1520	875	Electronic
GD3480INR-W-E	58.0	380/3/50	5"	FLG	1360*1020*1520	977	Electronic
GD4080INR-W-E	68.0	380/3/50	6"	FLG	1560*1200*1550	1188	Electronic
GD4200INR-W-E	70.0	380/3/50	6"	FLG	1560*1200*1550	1276	Electronic
GD4560INR-W-E	76.0	380/3/50	6"	FLG	1560*1480*1550	1432	Electronic
GD4800INR-W-E	80.0	380/3/50	6"	FLG	1560*1480*1550	1467	Electronic

Notes

1. Standard conditions: Inlet P = 7Barg; Inlet T = 45°C, cooling water T = 30°C. Dewpoint conform to ISO 8573-1 Class 5
2. For any special requests, please contact with IR sales representative

Adsorption Dryer

The adsorption dryer is mainly composed of two adsorption towers filled with adsorbents. When the compressed air flows through the adsorption towers, the water is absorbed by the adsorbents, thus achieving the purpose of drying the compressed air. The two towers perform drying and regeneration alternately through the air-flow switching valve so that the adsorbents can be recycled.

Features of Adsorption Dryer

- High adsorption capacity and long service life owing to the use of high efficiency active adsorbents
- A consistent quality of the outlet air source is ensured with the intelligent control system of single chip microcomputer, which features the functionality of switching at reasonable time
- The unique sump structure design can preserve 98% of the adsorbed heat, thus improving the desorption capacity and allowing for a more thorough regeneration
- The superior air distribution design allows the air to evenly pass through the adsorption layer, thus avoiding the formation of voids
- The high quality pneumatic switching valve features sensitive action and reliable performance

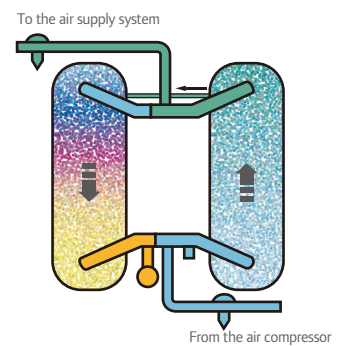


The adsorption dryer is divided into two types, i.e. heatless type and micro-heat type, depending on the process used. The basic difference between the two processes lies in the way in which the moisture is removed from the desiccant, i.e. the way in which the adsorbent is regenerated. How to choose the adsorption dryer technology depends on the requirements on the compressed air flow and quality of the system, the service cycle cost and other factors.

Heatless Adsorption Dryer

This process regenerates the adsorbents by introducing some dry compressed air. The compressed air is discharged through the muffler after absorbing the moisture. This type of dryer requires some dry compressed air to be separated from the system for desiccant regeneration. As no external power supply is required, the initial investment is lower despite the relatively high operating cost.

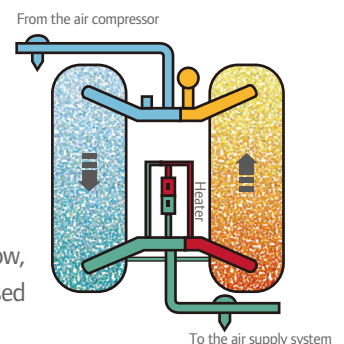
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|--|---|
| <ul style="list-style-type: none"> ■ Air flow: 1.1 to 127 m³/min ■ Rated working pressure: 0.7 MPa ■ Maximum working pressure: 1.0 MPa ■ Maximum intake air temperature: 45°C ■ Pressure dew point: -40°C/-20°C for two product types ■ Regeneration air consumption: 14% | <ul style="list-style-type: none"> ■ Low initial investment cost ■ No external power supply ■ Low-temperature running ■ Safe and reliable ■ Recommended places of application: small flow, intermittent air usage. Remote control, power plants or laboratories, etc |
|--|---|



Micro-Heat Adsorption Dryer

It works in a way similar to that of a heatless adsorption regenerative dryer, but the compressed air from the system first passes through an efficient external heater before entering the regeneration tower to regenerate the desiccant, allowing the heated compressed air to absorb more moisture. For this type of dryer, the initial investment cost is relatively high because of the added heater and related parts, but the operating cost is lower because of the reduced regeneration air consumption.

- | | |
|---|--|
| <ul style="list-style-type: none"> ■ Air flow: 1.1 to 145 m³/min ■ Rated working pressure: 0.7 MPa ■ Maximum working pressure: 1.0 MPa ■ Maximum intake air temperature: 45°C ■ Pressure dew point: -40°C/-20°C for two product types ■ Regeneration air consumption: 8% | <ul style="list-style-type: none"> ■ Low operating cost ■ Less regeneration air consumption ■ Large-flow air usage ■ Lower pressure dew point ■ Recommended places of application: large flow, continuous air usage, requiring drier compressed air, availability of external power supply, etc |
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Adsorption Dryer

Performance Parameters Table

Heatless Adsorption Dryer

Model	Flow	Voltage	Air Connection Pipe Diameter		Dimensions L*W*H (mm)		Weight kg	
	m ³ /min	V/Ph/hz	VLi	VLi20	VLi	VLi20	VLi	VLi20
GD66VLi / GD66VLi20	1.1	220/1/50	3/4"BSPT	3/4"BSPT	730*480*1550	730*480*1550	132	132
GD126VLi / GD126VLi20	2.1	220/1/50	3/4"BSPT	3/4"BSPT	950*550*1630	850*500*1610	168	144
GD198VLi / GD198VLi20	3.3	220/1/50	1"BSPT	3/4"BSPT	1050*600*1680	950*550*1630	321	168
GD282VLi / GD282VLi20	4.7	220/1/50	1-1/2"BSPT	1"BSPT	1050*600*1680	1050*600*1680	342	321
GD426VLi / GD426VLi20	7.1	220/1/50	1-1/2"BSPT	1-1/2"BSPT	1250*650*1760	1050*600*1680	405	342
GD660VLi / GD660VLi20	11	220/1/50	2"BSPT	1-1/2"BSPT	1350*700*1840	1250*650*1760	485	405
GD780VLi / GD780VLi20	13	220/1/50	2"BSPT	2"BSPT	1350*700*1840	1350*700*1840	565	485
GD960VLi / GD960VLi20	16	220/1/50	2-1/2"BSPT	2"BSPT	1450*800*1930	1350*700*1840	814	565
GD1260VLi / GD1260VLi20	21	220/1/50	3"BSPT	2-1/2"BSPT	1680*950*2060	1450*800*1930	955	814
GD1560VLi / GD1560VLi20	26	220/1/50	3"BSPT	3"BSPT	1750*950*2080	1680*950*2060	1112	955
GD1860VLi / GD1860VLi20	31	220/1/50	3"BSPT	3"BSPT	1850*1000*2150	1750*950*2080	1238	1112
GD2520VLi / GD2520VLi20	42	220/1/50	DN100FLG	3"BSPT	2000*1100*2260	1850*1000*2150	1537	1238
GD3060VLi / GD3060VLi20	51	220/1/50	DN125FLG	DN100FLG	2100*1200*2430	2000*1100*2260	1818	1537
GD3720VLi / GD3720VLi20	62	220/1/50	DN125FLG	DN125FLG	2200*1265*2430	2100*1200*2430	2156	1818
GD4920VLi / GD4920VLi20	82	220/1/50	DN150FLG	DN125FLG	2320*1400*2680	2200*1265*2430	2860	2156
GD6780VLi / GD6780VLi20	113	220/1/50	DN150FLG	DN150FLG	2420*1450*2680	2320*1400*2680	3820	2860
GD7620VLi / GD7620VLi20	127	220/1/50	DN150FLG	DN150FLG	2620*1500*2750	2420*1450*2680	4226	3820

Micro-Heat Adsorption Dryer

Model	Flow	Voltage V/Ph/hz		Heater Power Kw		Air Connection Pipe Diameter		Dimensions L*W*H (mm)		Weight kg	
	m ³ /min	VEi	VEi20	VEi	VEi20	VEi	VEi20	VEi	VEi20	VEi	VEi20
GD66VEi / GD66VEi20	1.1	220/1/50	220/1/50	0.5	0.5	3/4"BSPT	3/4"BSPT	730*480*1550	730*480*1550	145	145
GD126VEi / GD126VEi20	2.1	220/1/50	220/1/50	1	1	3/4"BSPT	3/4"BSPT	950*550*1650	850*500*1600	186	152
GD198VEi / GD198VEi20	3.3	220/1/50	220/1/50	1.5	1	1"BSPT	3/4"BSPT	1050*600*1720	950*550*1650	347	186
GD282VEi / GD282VEi20	4.7	220/1/50	220/1/50	2.1	1.5	1-1/2"BSPT	1"BSPT	1050*600*1720	1050*600*1720	385	347
GD426VEi / GD426VEi20	7.1	220/1/50	220/1/50	3	2.1	1-1/2"BSPT	1-1/2"BSPT	1250*650*1800	1050*600*1720	447	385
GD660VEi / GD660VEi20	11	380/3/50	220/1/50	4.2	3	2"BSPT	1-1/2"BSPT	1350*700*1900	1250*650*1800	533	447
GD780VEi / GD780VEi20	13	380/3/50	380/3/50	4.8	4.2	2"BSPT	2"BSPT	1350*700*1900	1350*700*1900	611	533
GD960VEi / GD960VEi20	16	380/3/50	380/3/50	6	4.8	2-1/2"BSPT	2"BSPT	1450*800*1980	1350*700*1900	867	611
GD1260VEi / GD1260VEi20	21	380/3/50	380/3/50	7.8	6	3"BSPT	2-1/2"BSPT	1680*950*2100	1450*800*1980	1009	867
GD1560VEi / GD1560VEi20	26	380/3/50	380/3/50	9	7.8	3"BSPT	3"BSPT	1750*950*2110	1680*950*2100	1145	1009
GD1860VEi / GD1860VEi20	31	380/3/50	380/3/50	10.8	9	3"BSPT	3"BSPT	1850*1000*2190	1750*950*2110	1302	1145
GD2520VEi / GD2520VEi20	42	380/3/50	380/3/50	15	10.8	DN100FLG	3"BSPT	2000*1100*2300	1850*1000*2190	1611	1302
GD3060VEi / GD3060VEi20	51	380/3/50	380/3/50	18	15	DN125FLG	DN100FLG	2100*1200*2450	2000*1100*2300	1912	1611
GD3720VEi / GD3720VEi20	62	380/3/50	380/3/50	21	18	DN125FLG	DN125FLG	2200*1265*2470	2100*1200*2450	2280	1912
GD4920VEi / GD4920VEi20	82	380/3/50	380/3/50	30	21	DN150FLG	DN125FLG	2320*1400*2720	2200*1265*2470	3046	2280
GD6780VEi / GD6780VEi20	113	380/3/50	380/3/50	37.5	30	DN150FLG	DN150FLG	2420*1450*2720	2320*1400*2720	3982	3046
GD7620VEi / GD7620VEi20	127	380/3/50	380/3/50	42	37.5	DN150FLG	DN150FLG	2620*1500*2800	2420*1450*2720	4396	3982
GD8700VEi / GD8700VEi20	145	380/3/50	380/3/50	51	42	DN200FLG	DN150FLG	3000*1700*2900	2620*1500*2800	5060	4396

* The performance level complies with ISO 8573.1

The performance parameters are designed with the ambient temperature 40 °C, the intake air temperature below 45 °C and the working pressure 7 barg

The front end of the adsorption regenerative dryer must be equipped with an H Class de-oiling filter, and the outlet end must be equipped with a G Class filter or a D Class high efficiency de-dusting filter

For larger or special models, contact your Ingersoll Rand sales representative

Gardner Denver Manages Your System with Heart and Soul

Gardner Denver has been manufacturing air compressors, blowers, vacuum pumps and related accessories for over 160 years. We are committed to helping customers achieve greater success by constantly improving the quality of our products and services through self-iteration and continuous innovation.

Gardner Denver is always ready to provide you with efficient, reliable and energy-saving compressed air and system solutions.

Oil-flooded Fixed Speed Air Compressor

Single-state air compressor

0.81-64.00m³/min
7~14barg

Two-state air compressor

29.60-70.10m³/min
7~14barg

Integrated Air compressor with
inbuilt refrigerated dryer

0.81-3.70m³/min
7~12.5barg



Oil-flooded PM VSD Air Compressor

0.15-31.00m³/min
7~10barg



Oil-flooded general VSD air compressor (non-permanent magnet)

12.10-70.10m³/min
7~14barg



Oil-free Air Compressor

Oil-free scroll air compressor

0.21-3.78m³/min
8~10barg



Water lubricating oil-free permanent magnetic VSD air compressor

Normal-pressure model

0.30-27.00m³/min
7~10barg



Water lubricating oil-free permanent magnetic VSD air compressor

Low-pressure model

0.60-70.00m³/min
3-4barg

Medium-pressure model

1.40-40.00m³/min
20-40barg



Compressed Air Purification System

- Pipelined filter
- Refrigerated dryer
- Desiccant dryer



After-sales Services for Peace of Mind

- 24-hour toll-free service hotline
- Genuine spare parts
- Customized services



System Solutions

- Heat recovery system
- iConn intelligent connected platform



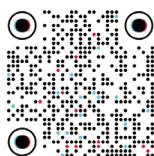
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