

GLOBAL EQUIPMENT



Compressed Air Dryer

GDA & GDN Series

with 2 years warranty on freon compressor and evaporator

GDA Series – for High Temperature Applications with Built-In After-Cooler

GDN Series – for Normal Temperature Applications with Bigger Heat Exchanger



Digital Controller

The main advantages of GLOBAL Refrigerant Dryer

- High inlet temperature applications (GDA Series)
- Environmental friendly gas R134a / R407c
- Advance digital control
- Dry air down to 3°C pressure dew-point
- Oversized condenser and heat exchanger
- Reliable automatic drain
- High efficiency of moisture separator
- Compact and robust design
- Fully insulated to prevent sweating on cold surface
- Simple and easy maintenance
- 2 years warranty on freon compressor and evaporator.

Operation

The process of drying compressed air by GLOBAL refrigerant air dryer goes through the following stages:

Step 1

Compressed air enters the GLOBAL refrigeration dryer, loaded with moisture, passes through the air-to-air heat exchanger and is pre-cooled by the chilled out going compressed air prior to entering the air-to-refrigerant heat exchanger.

Step 2

The pre-cooled air is channelled towards the second phase of cooling, where it reaches below 3°C through the air-to-refrigerant heat exchanger. At this moment, the moisture contained in the compressed air in the form of vapour condenses and is dragged to next stage by gravity and airflow.

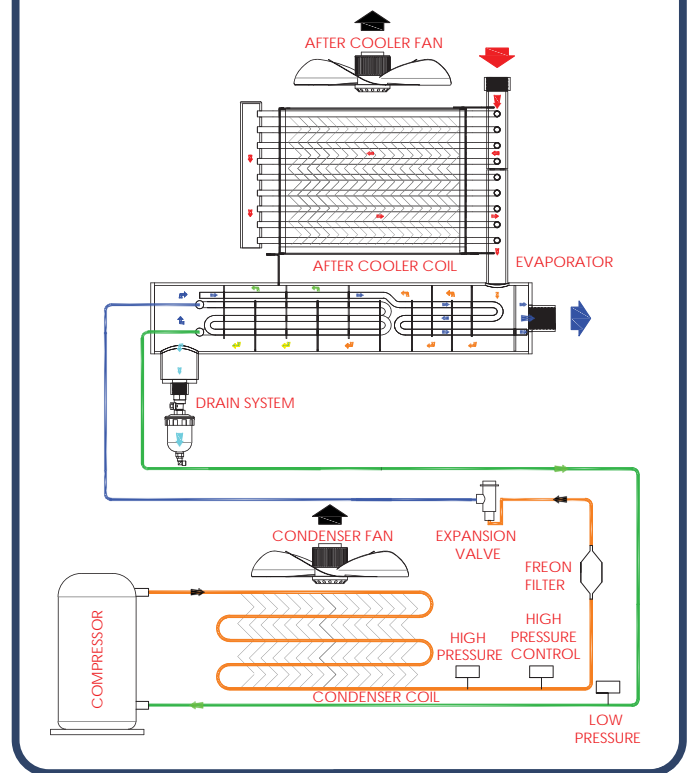
Step 3

The compressed air, which was cooled during the previous step, goes through a high efficiency separator which separate out the water from the compressed air. The water is then discharged from the system by the timer controlled automatic drain. The compressed condensation, goes on to the next stage.

Step 4

The chilled and dry compressed air then leaves the high efficiency separator, passes through the secondary side of the air-to-air heat exchanger and gets reheated by the in-coming compressed air before leaving the dryer.

Flow Diagram



Internal Feature for GDA Series



GDN Series

For Normal Temperature Application

Technical Specification of GD-N Series Compressed Air Dryer with bigger heat exchanger



Dryer Model	Refri. Type	Flowrate Capacity (FAD)		Conn. Size inch	Nominal Power kW	Power Supply V/Ph/Hz	Dimension and Weight			
		m3/min	cfm				Width mm	Depth mm	Height mm	Wt. kg
GDN0025	R134a	0.46	16	1/2"	0.22	220/1/50	380	500	490	34
GDN0035	R134a	0.67	24	1/2"	0.22	220/1/50	380	500	490	36
GDN0055	R134a	0.95	34	1/2"	0.27	220/1/50	380	500	490	50
GDN0085	R134a	1.40	49	1"	0.47	220/1/50	388	718	600	73
GDN0105	R134a	1.90	67	1"	0.51	220/1/50	388	718	600	76
GDN0165	R407c	2.80	99	1"	0.84	220/1/50	388	718	600	82
GDN0255	R407c	4.40	155	1 1/2"	0.97	220/1/50	388	868	740	93
GDN0335	R407c	5.60	198	1 1/2"	1.08	220/1/50	388	868	740	103
GDN0405	R407c	7.00	247	1 1/2"	1.42	220/1/50	388	868	740	112
GDN0485	R407c	8.30	293	2"	1.68	220/1/50	450	1200	875	155
GDN0665	R407c	11.00	388	2"	2.51	220/1/50	450	1200	875	165
GDN0905	R407c	15.40	544	2 1/2"	3.09	380/3/50	600	1200	880	227
GDN1085	R407c	18.50	653	2 1/2"	3.49	380/3/50	600	1200	880	239
GDN1385	R407c	24.00	847	2 1/2"	4.44	380/3/50	600	1200	880	305
GDN1685	R407c	29.00	1024	2 1/2"	4.81	380/3/50	600	1200	880	327
GDN1805	R407c	30.80	1087	3"	5.68	380/3/50	800	1500	1300	435
GDN2165	R407c	37.00	1306	3"	6.29	380/3/50	800	1500	1300	486
GDN2585	R407c	43.40	1532	4" FL	8.59	380/3/50	800	1800	1400	557
GDN2885	R407c	48.50	1712	4" FL	10.04	380/3/50	800	1800	1400	618
GDN3665	R407c	61.50	2171	4" FL	11.21	380/3/50	800	1800	1400	723
GDN4325	R407c	72.70	2566	6" FL	12.41	380/3/50	900	1800	1600	907
GDN5345	R407c	79.00	2788	6" FL	15.02	380/3/50	900	1800	1600	1080

The airflow rate shown refer to the free air delivery from the compressor (suction 20°C and 1 bar absolute) and at the following rated operating conditions: Working pressure 7 bar g, compressed air inlet temperature 45°C, ambient temperature 35°C and pressure dew-point 3°C
Maximum operating conditions: Maximum designed pressure 16 bar g, maximum room temperature 45°C, maximum inlet temperature 65°C

The GLOBAL dryer correction factors should be used for calculating performance in different condition from the above. The correction factors in the following table should be used as a guide only.
CAPACITY correction factors (indicative values) CAPACITY = RATED VALUE (7bar) x K1 X K2 X K3 X K4

Flowrate Correction Factor for Different **Pressure Dewpoint**

Dewpoint, °C	3	5	7	8	10
Factor (K1)	1.00	1.06	1.10	1.14	1.16

Flowrate Correction Factor for Different **Inlet Temperature**

Temp, °C	40	45	55	65
Factor (K2)	1.08	1.00	0.84	0.68

Flowrate Correction Factor for Different **Operating Pressure**

Pressure, Bar g	4	6	7	8	10	12	14	16
Factor (K3)	0.80	0.94	1.00	1.04	1.10	1.12	1.14	1.16

Flowrate Correction Factor for Different **Ambient Temperature**

Temp, °C	28	32	35	38	40	43
Factor (K4)	1.14	1.08	1.00	0.96	0.89	0.78

Internal Feature for GDN Series



GDA Series

For High Temperature Application

Technical Specification of GDA Series Compressed Air Dryer with Built-In After-Cooler



Dryer Model	Refri. Type	Flowrate Capacity (FAD)		Conn. Size	Nominal Power	Power Supply	Dimension and Weight			
		m3/min	cfm				Width mm	Depth mm	Height mm	Wt. kg
GDA0040	R134a	0.62	22	1"	0.29	220/1/50	388	718	880	75
GDA0060	R134a	0.92	32	1"	0.31	220/1/50	388	718	880	80
GDA0080	R134a	1.43	50	1"	0.51	220/1/50	388	718	880	83
GDA0110	R134a	1.84	65	1"	0.54	220/1/50	388	718	880	86
GDA0160	R407c	2.75	97	1"	0.96	220/1/50	388	718	880	90
GDA0210	R407c	3.57	126	1 1/2"	1.08	220/1/50	388	868	1200	100
GDA0260	R407c	4.39	155	1 1/2"	1.12	220/1/50	388	868	1200	105
GDA0330	R407c	5.61	198	1 1/2"	1.23	220/1/50	388	868	1200	115
GDA0410	R407c	6.94	245	1 1/2"	1.57	220/1/50	388	868	1200	135
GDA0480	R407c	8.26	292	2"	1.83	220/1/50	450	1200	1350	170
GDA0660	R407c	11.22	396	2"	2.66	220/1/50	450	1200	1350	185
GDA0900	R407c	15.30	540	2 1/2"	3.28	380/3/50	600	1200	1600	250
GDA1100	R407c	18.27	645	2 1/2"	3.68	380/3/50	600	1200	1600	263
GDA1400	R407c	23.35	824	2 1/2"	4.63	380/3/50	600	1200	1600	307
GDA1700	R407c	28.42	1003	2 1/2"	5.03	380/3/50	600	1200	1600	320
GDA1800	R407c	30.45	1075	3"	5.92	380/3/50	1000	1500	1850	380
GDA2200	R407c	36.54	1290	3"	6.53	380/3/50	1000	1500	1850	455
GDA2600	R407c	43.65	1540	4"FL	9.11	380/3/50	1000	1800	2000	593
GDA2900	R407c	47.98	1693	4"FL	10.56	380/3/50	1000	1800	2000	643

The airflow rate shown refer to the free air delivery from the compressor (suction 20°C and 1 bar absolute) and at the following rated operating conditions: Working pressure 7 bar g, compressed air inlet temperature 55°C, ambient temperature 35°C and pressure dew-point 3°C. Maximum operating conditions: Maximum designed pressure 16 bar g, maximum room temperature 45°C, maximum inlet temperature 80°C

The GLOBAL dryer correction factors should be used for calculating performance in different condition from the above. The correction factors in the following table should be used as a guide only.

CAPACITY correction factors (indicative values) CAPACITY = RATED VALUE (7bar) x K1 X K2 X K3 X K4

Flowrate Correction Factor for Different Pressure Dewpoint

Dewpoint, °C	3	5	7	8	10
Factor (K1)	1.00	1.03	1.07	1.09	1.13

Flowrate Correction Factor for Different Inlet Temperature

Temp, °C	45	50	55	65	70	80
Factor (K2)	1.20	1.10	1.00	0.83	0.76	0.63

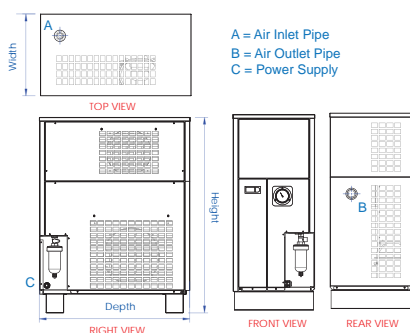
Flowrate Correction Factor for Different Operating Pressure

Pressure, Bar g	4	6	7	8	10	12	14	16
Factor (K3)	0.79	0.94	1.00	1.05	1.12	1.18	1.22	1.26

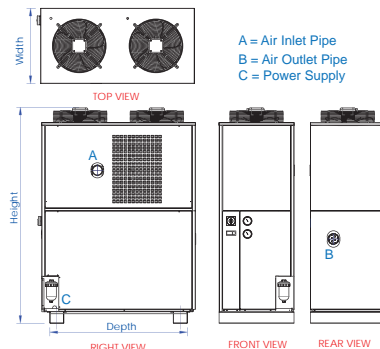
Flowrate Correction Factor for Different Ambient Temperature

Temp, °C	28	32	35	38	40	43
Factor (K4)	1.14	1.06	1.00	0.94	0.91	0.86

Dimension of GDA0040 - GDA0660



Dimension of GDA0900 - GDA2900



Distributor