CHAMPION®

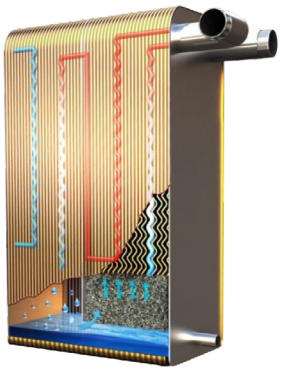
7–1200 SCFM | NON-CYCLING DRYER

CGD Series

Refrigerated Global Design

CGD series refrigerated air dryers offer the perfect balance between technology and simplicity to dry compressed air systems to a stable ISO 8573-1 Air Quality, Class 5 to 6 pressure dew point.

Copper “Tube-on-Tube” Heat Exchanger



Stainless Steel Demister/Separator

Design Features

CGDA 7–15 SCFM

- Smooth bore, copper tube-on-tube heat exchangers
- Static condenser design provides trouble free, quiet operation
- Electronic drain valve
- Sustainable R513a refrigerant

CGDA 25–50 SCFM

- Microprocessor Controller, with alarm display and record history
- Compact three-in-one heat exchanger
- Electronic drain valve with controller test capabilities
- Sustainable R513a refrigerant

CGD 75–1200 SCFM

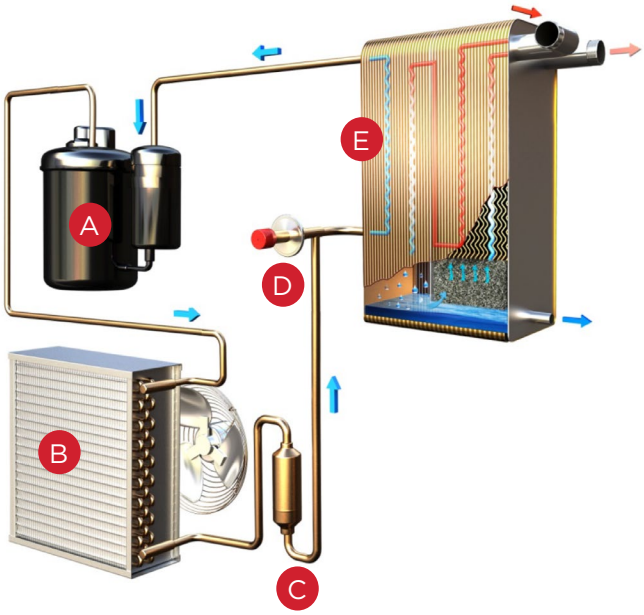
- Stainless steel, cross flow heat exchangers optimize heat transfer and service life
- Compact design saves floor space
- Stainless steel inlet/outlet connections to prevent corrosion
- Timed electric condensate drain
- Integral demister/separator

How it Works

Refrigeration Circuit

A hermetically sealed refrigerant compressor (A) takes in evaporated refrigerant and compresses it to a higher pressure. The air cooled condenser (B) turns the high pressure gas into a high pressure refrigerant. An in-line filter dryer (C) removes contaminants from the high pressure refrigerant gas. A constant pressure valve (D) reduces the pressure and regulates the flow of refrigerant into the heat exchanger (E).

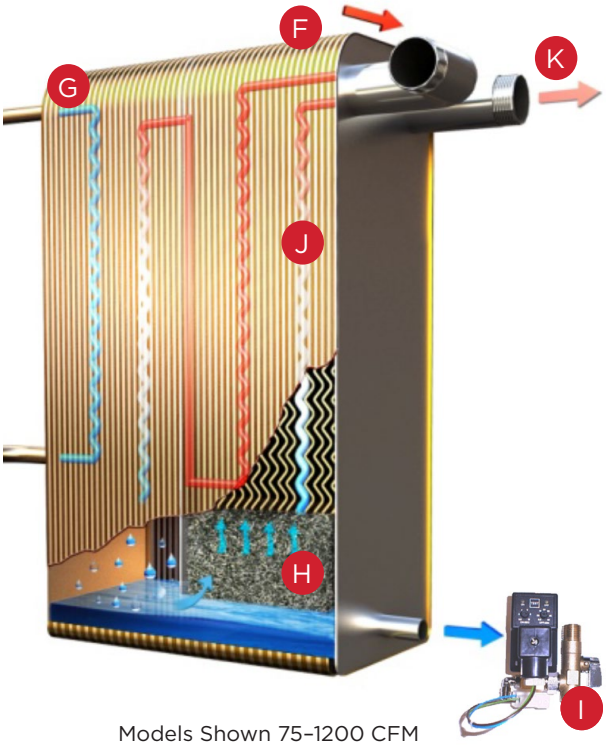
Refrigerant is continuously circulated through the system



Models Shown 75–1200 CFM

Air Circuit

Warm, saturated compressed air enters the air to air heat exchanger (F) and is cooled by the exiting air. The precooled air (G) then enters the air to refrigerant heat exchangers and is further chilled causing water vapor to condense. Condensed moisture is collected from the air stream by an integral separator (H) with stainless steel demister. Liquid condensate is removed from the separator by a (I) high performance drain. Cold air is then reheated in the air-to-air heat exchanger (J) to eliminate pipe line sweat. Clean dry air exits (K) the dryer and is now conditioned for use.



Models Shown 75–1200 CFM

Value at its Best

Efficient Condensate Management

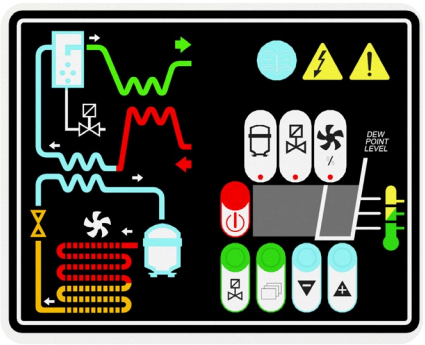
- Increased calming zone and integral demister/separator captures liquid condensate and solid particles
  - Effectively removes condensate from 0–100% flow conditions without moisture carry-over
- Furnished with condensate drain
  - Electronic or timed electric (dependent on scfm range)

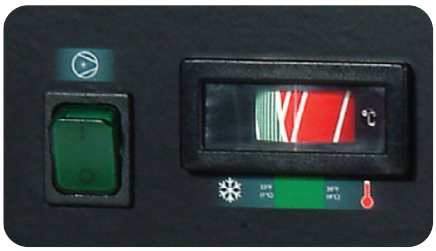
Safety First – Environmentally Friendly

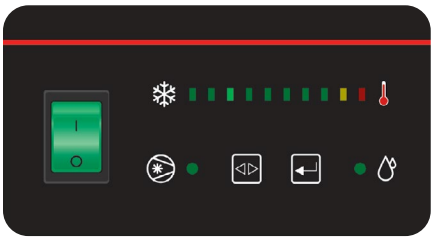
- Models 7–50 scfm CFC free R513A refrigerant
- Models 75–1200 scfm R134A & R407C refrigerant
- CSA approved

1. Fan motor and blade assembly
2. Rugged, epoxy coated cabinet
3. Timed electric drain
4. Controls—models shown are 200–500 scfm
5. Stainless steel heat exchanger with integral demister separator
6. Refrigerant compressor
7. Constant expansion valve
8. Air-cooled condenser core

Take Control







Models 25–50 SCFM

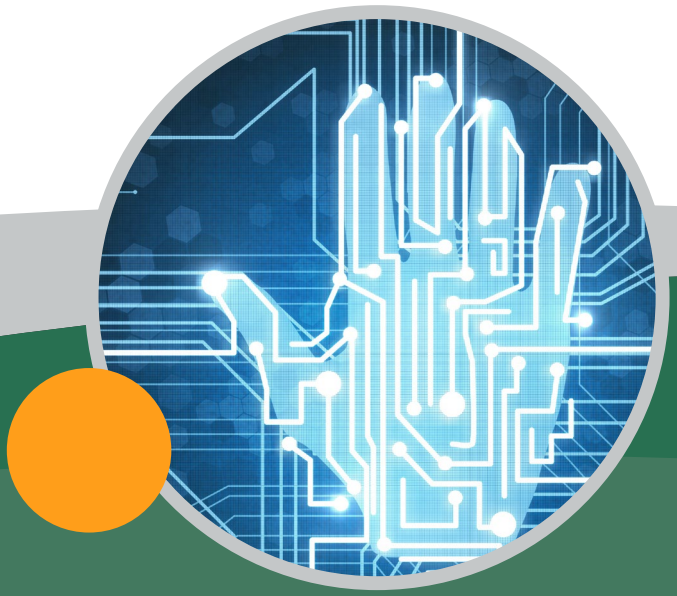
- LED Indicator for refrigerant compressor, drain, and fan power
- Drain Test Button
- Alarm Display & History Record

Models 75–150 SCFM

- Illuminated on/off switch
- Dew point temperature display to monitor inlet load conditions

Models 200–1200 SCFM

- Illuminated on/off switch
- LED dew point temperature display
- EDV control
- Dry alarm contact
- Equipped with panel mounted drain timer control



International Air Quality Class Standards

ISO 8573-1, the international standard for compressed air quality, defines the amount of contamination permissible in compressed air. The ISO standard identifies three primary forms of contamination: solid particles, water and oil contaminants. These forms are classified and assigned to a quality class, ranging from Class 0 being the highest purity level to a Class 6, which is the most relaxed level.

Gardner Denver's CGD series refrigerated air dryers provide dry compressed air at a stable ISO 8573-1 Air Quality Class 5 to 6 pressure dew point.

Pre-Filtration Option

CFL Series—Grade C Filtration removes solids and oil contaminants from the air stream before entering the dryer.

ISO Air Quality Class

- Solids – Class 2
- Remaining Oil – Class 4
- Removes solids 1.0 micron & larger
- Remaining oil content 2.0 mg/m^3

After-Filtration Option

CFL Series—Grade E Filtration provides high efficiency oil removal protecting downstream equipment.

ISO Air Quality Class

- Solids – Class 1
- Remaining Oil – Class 1
- Removes 99.999+% of solids ≥ 0.01 micron
- Remaining oil content < 0.01 mg/m^3

CGD SPECIFICATIONS

MODEL	INLET FLOW		PRESSURE DROP	VOLTAGE	DIMENSIONS						REFRIGERANT	IN/OUT CONNECTIONS	POWER CONSUMPTION	WEIGHT
					HEIGHT		WIDTH		DEPTH					
	SCFM	NM^3/H	PSI		IN	MM	IN	MM	IN	MM		NPT	KW	LBS
CGDA7A1	7	11.9	3.5	115/1/60	18	445	15	366	17	425	R 513a	⅜" MNPT	0.15	47
CGDA11A1	11	18.7	6.0	115/1/60	18	445	15	366	17	425	R 513a	⅜" MNPT	0.16	47
CGDA15A1	15	25.5	8.5	115/1/60	18	445	15	366	17	425	R 513a	⅜" MNPT	0.16	47
CGDA25A1	25	42.5	0.5	115/1/60	21	534	18	455	21	514	R 513a	½" FNPT	0.27	63
CGDA32A1	32	54.4	0.6	115/1/60	21	534	18	455	21	514	R 513a	½" FNPT	0.27	63
CGDA42A1	42	71.4	1.0	115/1/60	21	534	18	455	21	514	R 513a	½" FNPT	0.51	74
CGDA50A1	50	85.0	1.3	115/1/60	21	534	18	455	21	514	R 513a	½" FNPT	0.52	74
CGD75A1	75	127	2.5	115/1/60	24	609	15	381	33	838	R 134a	1"	0.52	123
CGD100A1	100	170	3.3	115/1/60	24	609	15	381	33	838	R 134a	1"	0.65	129
CGD125A1	125	212	3.7	115/1/60	24	609	15	381	33	838	R 134a	1"	0.68	135
CGD150A1	150	255	3.0	115/1/60	21	533	13	330	30	762	R 134a	1"	1.11	161
CGD200A4	200	340	2.6	460/3/60	30	762	20	493	37	932	R 134a	1½"	1.42	183
CGD250A4	250	424	2.8	460/3/60	30	762	20	493	37	932	R 134a	1½"	1.98	211
CGD300A4	300	509	3.1	460/3/60	32	812	20	493	44	1112	R 134a	1½"	2.05	219
CGD400A4	400	680	2.5	460/3/60	30	762	21	787	38	965	R 134a	2"	2.5	232
CGD500A4	500	849	3.0	460/3/60	32	812	22	558	48	1218	R 407c	2"	3.18	328
CGD600A4	600	1019	3.7	460/3/60	32	812	22	558	50	1270	R 407c	2"	3.8	353
CGD600W4	600	1019	3.7	460/3/60	32	812	22	558	50	1270	R 407c	2"	3.8	353
CGD800A4	800	1359	2.8	460/3/60	59	1450	30	762	42	1067	R 407c	3" FLG	5.4	687
CGD800W4	800	1359	2.8	460/3/60	59	1450	30	762	42	1067	R 407c	3" FLG	5.4	687
CGD1000A4	1000	1699	2.9	460/3/60	64	1626	29	737	45	1143	R 407c	4" FLG	6.6	786
CGD1000W4	1000	1699	2.9	460/3/60	64	1626	29	737	45	1143	R 407c	4" FLG	6.6	786
CGD1200A4	1200	2038	3.9	460/3/60	64	1626	29	737	45	1143	R 407c	4" FLG	8.66	810
CGD1200W4	1200	2038	3.9	460/3/60	64	1626	29	737	45	1143	R 407c	4" FLG	8.66	810

Maximum Inlet Air Temperature: 120°F (49°C) Maximum Operating Pressure: 203 psig (Models CGDA7–50), 232 psig (Models CGD75–500).
Above conditions tested at 100°F inlet air temperature, 100% saturated inlet air, 100 psig operating pressure and 100°F ambient air temperature.

CAPACITY CORRECTION FACTORS

To adjust the dryer capacity for non-standard conditions, use the Capacity Correction Factors (multipliers) from the tables below. **Sizing Example:** What is the capacity of an CGD100 at 100°F inlet air temperature, 150 psig working pressure and 110°F ambient air temperature? **Answer:** 100 scfm (rated flow from CGD specifications table) × 1.08 (correction factor for inlet air temperature, table 1) × 0.94 (correction factor for ambient air temperature, table 2) = 102 scfm

INLET AIR PRESSURE		INLET AIR TEMPERATURE			
PSIG	BARG	90°F/32°C	100°F/38°C	110°F/43°C	120°F/49°C
80	5.6	1.19	0.95	0.77	0.63
100	6.9	1.25	1	0.82	0.68
125	8.6	1.3	1.05	0.86	0.72
150	10.3	1.34	1.08	0.9	0.75
175	12.1	1.37	1.11	0.92	0.78
200	13.8	1.39	1.14	0.95	0.8
250	17.2	1.43	1.17	0.98	0.83

AMBIENT AIR TEMPERATURE	80°F/27°C	90°F/32°C	100°F/38°C	110°F/43°C
Multiplier	1.12	1.06	1	0.94

Champion is committed to delivering superior products built with the exceptional standards you expect.

CHAMPION®

1301 North Euclid Avenue
Princeton, IL 61356
www.ChampionPneumatic.com

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001

MEMBER OF 100 YEARS OF INDUSTRY LEADERSHIP CAGI Compressed Air & Gas Institute www.cagi.org

KNOW PRESSURE COMPRESSED AIR CHALLENGE

Printed in U.S.A.
CA-CGD 3rd Ed. 1/26

Please recycle after use.