

# Atlas Copco

## Heatless Adsorption Compressed Air Dryers

### CD 1+-22+ Series



- 1 High-quality components provide fail-safe operation. Designed for low pressure drop and increased reliability
- 2 As standard, filled with high-performance molecular sieves, allowing use for the various pressure dewpoints required (-40°C and -70°C). Overfilled cartridges protect against desiccant ageing and overflow peaks. Integrated after-filters ensure fast and clean maintenance
- 3 Multi-port inlet and outlet ensure easy connection to air system. The dryer can be installed vertically or horizontally
- 4 Integrated silencers ensure extremely low noise
- 5 Full electronic controller with purge saver function. Sophisticated electrical panel IP65 protected against water and dust

## Features and Benefits

### Enduring Performance

- ▶ Designed, built and tested to meet the toughest conditions in the compressor room and at point-of-use applications
- ▶ Non-return valves and purge orifices are built into the polycarbonate cartridges. The extrusions are made from aluminium to prevent corrosion
- ▶ Each desiccant cartridge includes an integrated after-filter, which saves space, simplifies installation and decreases the chance of leaks through fittings and connections. Working pressures up to 16 barg and temperatures up to 50°C

### Energy Saving & Cost Efficient

- ▶ Low pressure drop across the whole range
- ▶ Purge Saver function included as standard
- ▶ Adjustable purge to tune down the purge air consumption according to the actual working conditions (option)

### Ease of Operation

- ▶ The sophisticated controller enables complete annunciation of the dryer and cycle status and automatic fault diagnosis, including alarms
- ▶ No need to disconnect the dryer from the compressed air network for servicing
- ▶ The inlet and outlet can be reversed and the dryer can be operated remotely

# Technical Specifications

TYPE	Inlet capacity			Pressure drop		Filter size
	l/s	m <sup>3</sup> /h	cfm	mbar(e)	psi(g)	
CD 1*	1	3.6	2.1	12	0.17	3
CD 1.5*	1.5	5.4	3.2	50	0.73	3
CD 2*	2	7.2	4.2	75	1.09	3
CD 2.5*	2.5	9.0	5.2	110	1.60	3
CD 3*	3	10.8	6.4	185	2.68	3
CD 5*	5	18.0	10.6	10	0.15	9
CD 7*	7	25.2	14.8	40	0.58	9
CD 10*	10	36.0	21.2	75	1.09	9
CD 12*	12	43.2	25.4	125	1.81	17
CD 17*	17	61.2	36.0	210	3.05	17
CD 22*	22	79.2	46.6	340	4.93	17

TYPE	Dimensions (L x W x H)						Weight	
	mm	mm	mm	inch	inch	inch	kg	lbs
CD 1*	106	197	540	4.2	8	21.2	7	15.4
CD 1.5*	106	197	590	4.2	8	23.2	8	17.6
CD 2*	106	197	720	4.2	8	28.3	9	19.8
CD 2.5*	106	197	835	4.2	8	32.9	10	22.0
CD 3*	106	197	855	4.2	8	33.7	11	24.3
CD 5*	149	320	640	5.9	13	25.2	19	41.8
CD 7*	149	320	725	5.9	13	28.5	22	48.5
CD 10*	149	320	875	5.9	13	34.4	25	55.1
CD 12*	149	320	1015	5.9	13	39.9	29	63.9
CD 17*	149	320	1270	5.9	13	49.9	35	77.2
CD 22*	149	320	1505	5.9	13	59.3	44	97.0

**Reference conditions:**

Compressed air inlet temperature: 35°C/95°F  
 Compressed air inlet pressure: 7 bar(g)/102 psi(g)  
 Inlet relative humidity: 100%  
 Pressure dewpoint: -40°C / -40°F

To adjust the performance of each dryer for different inlet conditions, use the correction factors below:

## Pressure Dewpoint Correction (Kd):

CD 1*-22*	°C	-40	-70
	°F	-40	-100
	Kd	1	0.7

## Inlet temperature correction factor (Kt):

CD 1*-22*	°C	20	25	30	35	40	45	50
	°F	68	77	86	95	104	113	122
	Kt	1.07	1.08	1.04	0.98	0.88	0.67	0.55

## Inlet pressure correction factor (Kp):

CD 1*-22*	bar(g)	4	5	6	7	8	9	10	11	12	13	14	15	16
	psi(g)	58	73	87	102	116	131	145	160	174	189	203	218	232
	Kp	0.62	0.75	0.87	1.00	1.12	1.25	1.37	1.50	1.62	1.75	1.87	2	2.12

**Example:**

What is the capacity of a CD 7\*, working at 8 bar(g)/116 psi(g), with an inlet temperature of 40°C/104°F and with a required pressure dew point of -70°C/100°F?

Find each correction factor: Kd=0.7      Actual capacity = Normal capacity x Kd x Kp x Kt  
 Kt=0.88      7 x 0.7 x 0.88 x 1.12  
 Kp=1.12      4.8 l/s or 10.2 cfm

