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 bar(g) 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

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Technical Specifications

TYPE	Inlet capacity			Pressure drop		Filter size
	l/s	m^3/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	1.06	1.04	1	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	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*
Kt=0.88
Kp=1.12

Actual capacity = *Norminal capacity x Kd x Kp x Kt*
7 x 0.7 x 0.88 x 1.12
4.8 l/s or 10.2 cfm

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