

# PORTABLE HEATLESS DESICCANT DRYERS

Capacity up to 5940 NI/S @ 35 bar  
12500 Scfm @ 507 psi



*Atlas Copco*



# Heatless desiccant dryers Technical Data

Low Pressure Models		CDE 400+R			CDE 550+R			CD 780+R			
		(*)	STD	HIT	HIT TD	STD	HIT	HIT TD	STD	HIT	HIT TD
Maximum inlet pressure	bar/psi						16 / 232				
Minimum inlet pressure	bar/psi						4,5 / 65				
Max air inlet temperature	°C/°F	45 / 113	60 / 140	110 / 230	45 / 113	60 / 140	110 / 230	45 / 113	60 / 140	110 / 230	
Minimum air inlet temperature	°C/°F						1 / 34				
Maximum ambient air temperature	°C/°F						50 / 122				
Pressure Dew Point up 40°C/104°F ambient	°C/°F						-40 / -40				
Pressure Dew Point at 55°C/131°F ambient ****	°C/°F						-20 / -4				

Volume flow at dryer inlet		N/S	Scfm	Av.Purge	N/S	Scfm	Av.Purge	N/S	Scfm	Av.Purge
flow correction factors - 0.75	5 Bar / 72 psi	300	635	24.0%	412	873	24.0%	585	1239	24.0%
0.88	6 Bar / 87 psi	350	741	20.6%	481	1019	20.6%	682	1445	20.6%
1.00	7 Bar / 100 psi	400	847	18.0%	550	1165	18.0%	780	1652	18.0%
1.44	10 Bar / 145 psi	480	1017	15.0%	660	1398	15.0%	936	1983	15.0%
1.68	14 Bar / 200 psi	648	1373	11.1%	891	1888	11.1%	1263	2676	11.1%
1.79	16 Bar / 232 psi	688	1457	10.6%	946	2004	10.6%	1341	2841	10.6%
Minimum volume flow at dryer inlet		30% of the volume flow mentioned above								
Desiccant type (**)		AA	MS	MS	AA	MS	MS	AA	MS	MS
Dimensions Container size / Crash frame size		only crash frame			only crash frame			only crash frame		
L x W x H	mm / inch	3000 x 1350 x 3000 / 118 x 53 x 118			3000 x 1350 x 3000 / 118 x 53 x 118			1740 x 2360 x 2316 / 69 x 93 x 91		
Weight - Crash frame dryer (Approx weights)	kg / lbs	2200 / 4850			2500 / 5512			3080 / 6790		

High Pressure Models		CDE 300+ HP			CDE 400+ HP			CDE 550+ HP			CDE 850+ HP			CDE 2200+ HP			
		(*)	STD	HIT	HIT TD	STD	HIT	HIT TD	STD	HIT	HIT TD	STD	HIT	HIT TD	STD	HIT	HIT TD
Maximum inlet pressure	bar/psi								40 / 507								
Minimum inlet pressure	bar/psi								7 / 100								
Max air inlet temperature	°C/°F	45/113	60/140	110/230	45/113	60/140	110/230	45/113	60/140	110/230	45/113	60/140	70/158 <sup>(†)</sup>	45/113	60/140	70/158 <sup>(†)</sup>	
Minimum air inlet temperature	°C/°F								1 / 34								
Maximum ambient air temperature	°C/°F								50 / 122								
Pressure Dew Point up 40°C/104°F ambient	°C/°F								-40 / -40								
Pressure Dew Point at 55°C/131°F ambient ****	°C/°F								-20 / -4								

Volume flow at dryer inlet		N/S	Scfm	Av.Purge	N/S	Scfm	Av.Purge	N/S	Scfm	Av.Purge	N/S	Scfm	Av.Purge	N/S	Scfm	Av.Purge
flow correction factors	7 bar / 100 psi	300	635	18.0%	400	847	18.0%	550	1165	18.0%	850	1801	18.0%	2200	4661	18.0%
1.44	10 bar / 145 psi	432	915	12.5%	576	1220	12.5%	792	1678	12.5%	1224	2593	12.5%	3168	6712	12.5%
1.68	14 bar / 200 psi	504	1067	10.7%	672	1423	10.7%	924	1957	10.7%	1428	3025	10.7%	3696	7831	10.7%
1.79	16 bar / 232 psi	537	1137	10.1%	716	1517	10.1%	984	2085	10.1%	1521	3222	10.1%	3938	8344	10.1%
1.99	20 bar / 290 psi	597	1265	9.1%	796	1686	9.1%	1094	2318	9.1%	1691	3583	9.1%	4378	9276	9.1%
2.21	25 bar / 362 psi	663	1404	8.2%	884	1873	8.2%	1215	2574	8.2%	1878	3979	8.2%	4862	10302	8.2%
2.44	30 bar / 435 psi	732	1551	7.4%	976	2068	7.4%	1342	2843	7.4%	2074	4394	7.4%	5368	11374	7.4%
2.70	35 bar / 507 psi	810	1716	6.7%	1080	2288	6.7%	1485	3146	6.7%	2295	4863	6.7%	5940	12586	6.7%
Minimum volume flow at dryer inlet		30% of the volume flow mentioned above														
Desiccant type (**)		AA	MS	MS	AA	MS	MS	AA	MS	MS	AA	MS	MS	AA	MS	MS
Dimensions Container size / Crash frame size		10ft			10ft			10ft			10ft			20ft		
L x W x H	mm / inch	2991x2438x2591 / 118x96x102			2991x2438x2591 / 118x96x102			2991x2438x2591 / 118x96x102			2991x2438x2591 / 118x96x102			6058x2438x2591 / 238x96x102		
Weight - Crash frame dryer (Approx weights)	kg / lbs	2800 / 6173			3100 / 6834			3500 / 7716			4000 / 8818			16500 / 36376		
Weight - Containerized dryer (Approx weights)	kg / lbs	3800 / 8378			4100 / 9039			4500 / 9921			5500 / 12125			20500 / 45195		

(\*) STD = Standard version, HIT = High Inlet Temperature version, TD = High inlet Temperature version combined with pneumatic driven TD air pre-cooler, (\*\*) AA = Activated Alumina, MS = Molecular sieves

(\*\*\*) If a PDP of -40°C/-40°F is required at 55°C/131°F ambient the flow should be reduced by 15%

Nl/s are defined as 1 bar, 20 °C, 0% RH. Scfm are defined as 14,5 psi, 68 °F, 0%RH

Features	
<b>Air pre-treatment</b>	1 coalescing filter for removal of water, oil and particles High differential pressure alarm on filters SS316 zero loss water drains
<b>Desiccant towers</b>	Properly sized and with stainless steel internals
<b>Air after-treatment</b>	Dust particle afterfilter for maximum contaminant removal and minimum pressure drop
<b>Sonic nozzle</b>	Protects the dryer from excessive mass flow
<b>Control system</b>	Atlas Copco Elektronikon controller for timer based or dew point based control
<b>Noise level</b>	Max 85dB(a) noise level (dual stage blow off)
<b>Valves</b>	Low maintenance double excentric butterfly valves with SS316 disc
<b>Fully CE compliant</b>	
<b>15 years continuous operation design lifetime</b>	

Heatless desiccant dryers have very low dew point levels, which makes them perfect to dry pipelines or to generate instrumentation air. Our purge control system results in high energy savings. The high quality components and protection frame make it a robust portable unit for use in extreme outdoor conditions.

## Options

- Protection frame / CSC container / DNV2.7-1 crashframe / DNV2.7-1 container
- Dryer pre-cooler if feed-air compressor has no aftercooler
- High ambient version (60°C / 140°F air inlet)
- Cold weather version -25°C / -13°F
- Pressure dew point -70°C / -94°F with molecular sieve desiccant
- Active coal filter for oil content <0.003 mg/m<sup>3</sup>
- Dewpoint controlled system
- Pneumatically controlled system
- ASME compliant (dual approval)
- ATEX Zone2 certified
- AS1210, ARH or MOM approval

## Customer responsibilities

- Electrical power supply requires 2 Amps @ 24V DC.

