DESICCANT AIR DRYER

DD Series

delair®

The Compressed Air Treatment System Company

www.delairindia.com

PNEUMATECH GROUP

Innovation is life

DESICCANT DRYER

Range:
6 m³/hr to 2030 m³/hr (3.5 cfm to 1200 cfm)
Higher Capacity available on request

Features

- Available in 19 standard models
- Best atmospheric dew point achievable (-)40°C to (-)60°C
- Special graded desiccant Delsorb™ 10 and Delsorb™ 21 for optimum performance and long life
- Electronic controls/solid state timers for automatic and reliable operation
- Equipped with muffler on purge air outlet to reduce noise level

Optional Features

- Humidity indicator
- Filters and/or total dryer bypass line with valves.
- Special Delair filters for removal of water, oil mists, oil vapour and dust particles with electronically operated drain valves
- Explosion proof controls for offshore application
- Construction according to various codes
- Delair also manufactures standard high pressure Desiccant Dryers for PET industry/PET blowing application

Std. Working Parameters

- Working Pressure : 5 to 14 kg/cm²(g)
- Air inlet temperature : 40°C
- Ambient temperature : 40°C

How does it work?

Desiccant Dryer is based on the principle of heatless regeneration and the physical properties of desiccant to adsorb and desorb the water vapour. It uses pressure swing principle/purge air to generate the desiccant bed.

The Desiccant Dryer has two pressure vessels/towers filled with desiccant. While the air is dried in one tower/vessel, the desiccant in the other is regenerated, thus maintaining a continuous and automatic operation.

Drying :

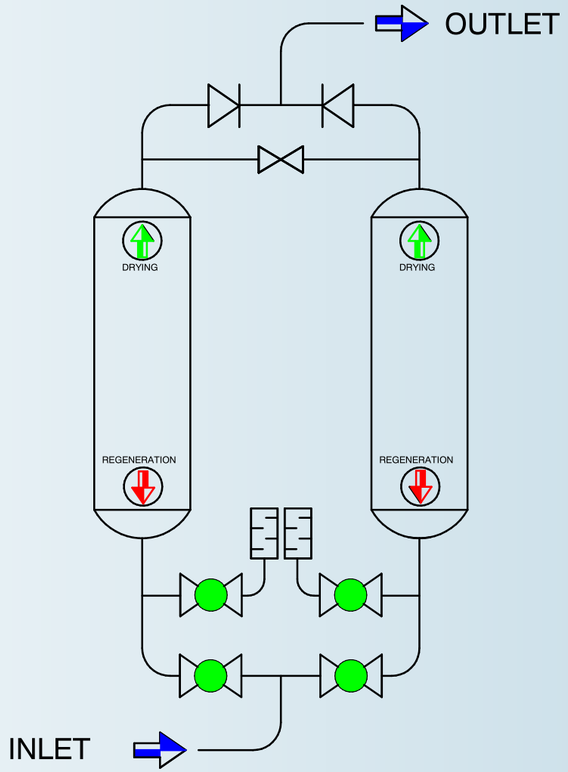
The wet compressed air is led into one of the adsorber towers through solenoid valves in the smaller models, and through pneumatically controlled valves in the bigger models. This wet compressed air is passed through a specially designed sieve tube for uniform flow of air through the desiccant tower, where it is dried. Part of this dried air is taken out and used for purging or reactivating the desiccant of the tower saturated with moisture. The balance dry air leaves the dryer through a check valve.

Regeneration :

The purge air with a low water vapour pressure is passed over the desiccant (saturated with adsorbed moisture). The desiccant loses the adsorbed moisture which is expelled into the atmosphere via outlet valve through a muffler. Now the desiccant is dry and ready for adsorption. The heat of adsorption released during this process raises the temperature of the desiccant, which in turn stimulates the liberation of the adsorbed water vapour and thus, the regeneration.

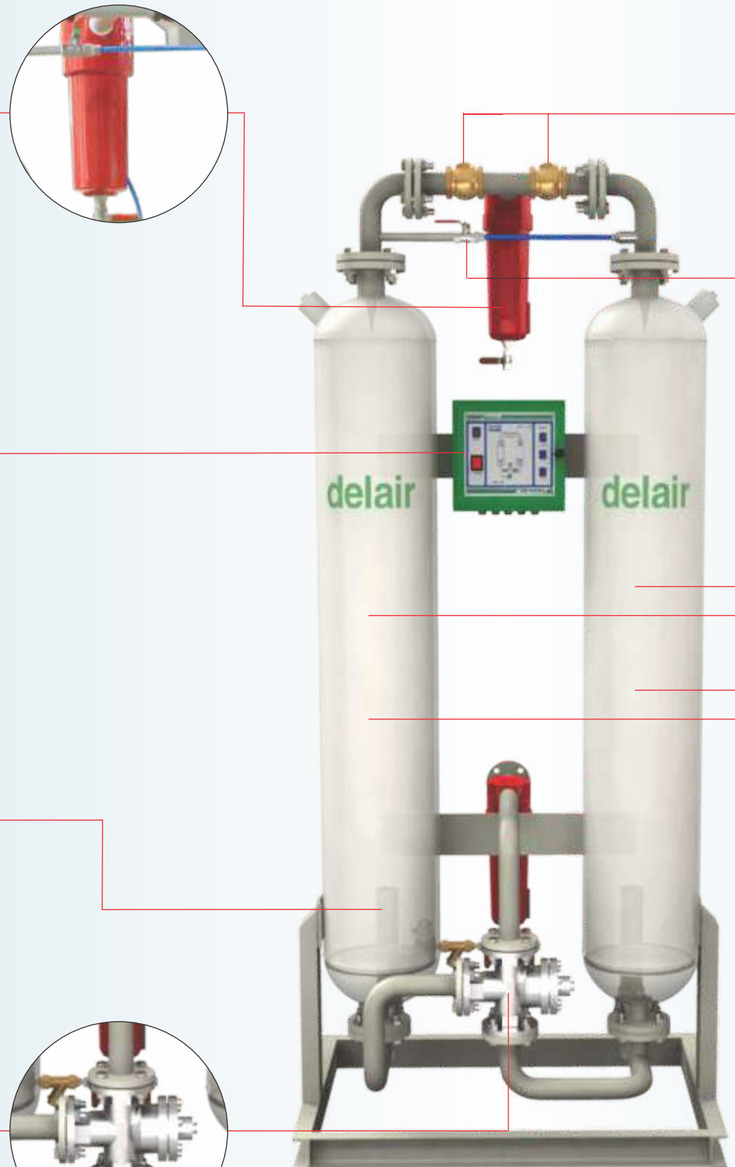
Change Over :

After a preset time, the desiccant in the first tower needs to be regenerated as it is saturated with the adsorbed moisture. The outlet purge air valve of the second tower is energised in a sequence, where the outlet valve closes first to pressurize the adsorbent in the tower in regeneration mode. The second tower now becomes the adsorber while the first changes to regeneration mode. The wet compressed air now passes through the fresh regenerated adsorber tower thus setting up a continuous process.



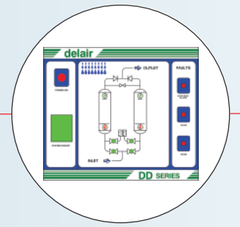
Specifications are subject to change without notice

BEST PERFORMANCE WITH RELIABILITY



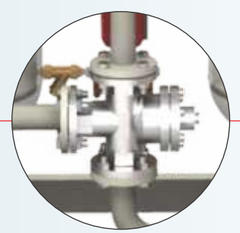
AIR FILTER
- Uses SB and BSGF filter element
- DPI (optional)

DELSMART CARD
- Display fault indications
- LED display indicator
- Advanced DelSmart Card
- CNC manufactured powder coated control panel box

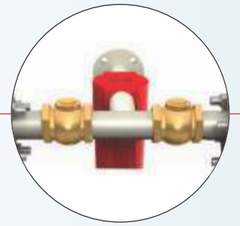


SILENCER
- Purge air outlet to reduce noise level

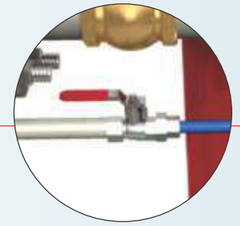
PISTON VALVE
- Non lubricant
- Pilot operated



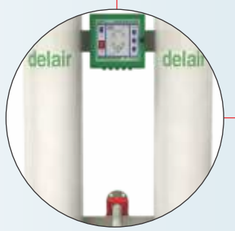
delcare™
Quick response for spare & service need supported by experienced team of qualified engineers.



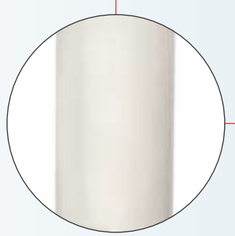
CHECK VALVE
- Non return valve/water type check valve

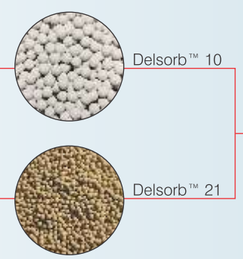


PURGE VALVE
- Controls Purge



ADSORBER TOWER
- Outlet with sieve tube
- Inlet with perforated plate and SS mesh sheet
- Provision for desiccant filling and removal

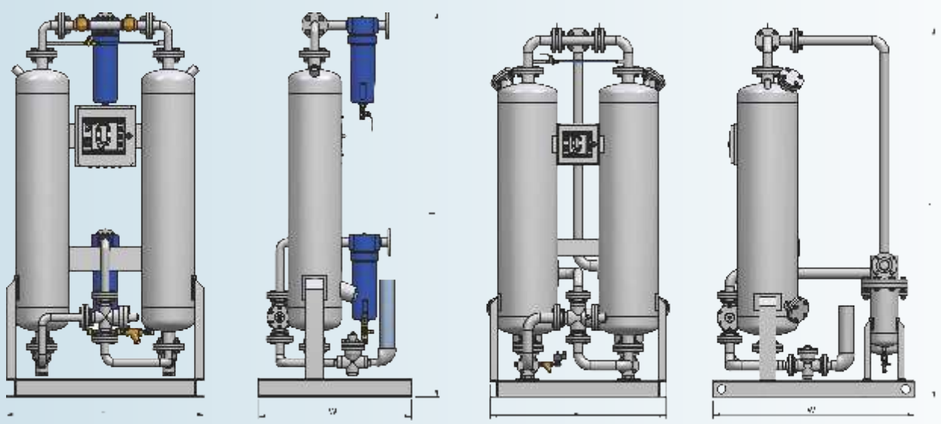




DESICCANT
- Specially graded desiccant Delsorb™ 10 or Delsorb™ 21 for optimum performance and long life

Technical Specification

MODEL	CAPACITY IN M3/HR. PRESSURE IN BAR (G)										CONNECTION BSP FEMALE / FLANGE (IN INCHES)	DIMENSIONS (IN MM)			WEIGHT (IN KGS)
	5	6	7	8	9	10	11	12	13	14		L	W	H	
DD-6	4.5	5.4	6.3	7.1	8.0	8.9	9.8	10.7	11.6	12.5	1/4" BSP	410	350	690	20
DD-12	8.9	10.7	12.5	14.3	16.1	17.9	19.6	21.4	23.2	25.0	1/4" BSP	420	350	700	22
DD-25	17.9	21.4	25.0	28.6	32.1	35.7	39.3	42.9	46.4	50.0	1/4" BSP	455	350	760	29
DD-55	38.9	46.6	54.4	62.2	70.0	77.7	85.5	93.3	101.1	108.8	1/2" BSP	665	400	1320	110
DD-85	60.4	72.4	84.5	96.6	108.6	120.7	132.8	144.9	156.9	169.0	1/2" BSP	690	450	1440	123
DD-110	78.2	93.9	109.5	125.1	140.8	156.4	172.1	187.7	203.4	219.0	3/4" FLANGE	760	500	1685	158
DD-170	120.7	144.9	169.0	193.1	217.3	241.4	265.6	289.7	313.9	338.0	1" FLANGE	945	620	1555	205
DD-255	181.1	217.3	253.5	289.7	325.9	362.1	398.4	434.6	470.8	507.0	1" FLANGE	945	620	2000	250
DD-340	241.4	289.7	338.0	386.3	434.6	482.9	531.1	579.4	627.7	676.0	1.1/2" FLANGE	1055	700	1940	335
DD-425	301.8	362.1	422.5	482.9	543.2	603.6	663.9	724.3	784.6	845.0	1.1/2" FLANGE	1055	700	2220	380
DD-555	394.7	473.7	552.6	631.6	710.5	789.5	868.4	947.4	1026.3	1105.3	1.1/2" FLANGE	1135	850	2110	460
DD-680	482.9	579.4	676.0	772.6	869.1	965.7	1062.3	1158.9	1255.4	1352.0	2"FLANGE	1305	950	2235	645
DD-850	603.6	724.3	845.0	965.7	1086.4	1207.1	1327.9	1448.6	1569.3	1690.0	2"FLANGE	1360	1200	2230	845
DD-1100	784.6	941.6	1098.5	1255.4	1412.4	1569.3	1726.2	1883.1	2040.1	2197.0	2"FLANGE	1410	1250	2280	970
DD-1235	877.6	1053.1	1228.6	1404.1	1579.7	1755.2	1930.7	2106.2	2281.7	2457.3	2.1/2" FLANGE	1660	1350	2500	1130
DD-1400	994.7	1193.6	1392.6	1591.5	1790.4	1989.4	2188.3	2387.2	2586.2	2785.1	2.1/2" FLANGE	1660	1350	2690	1180
DD-1520	1086.4	1303.7	1521.0	1738.3	1955.6	2172.9	2390.1	2607.4	2824.7	3042.0	2.1/2" FLANGE	1705	1350	2525	1270
DD-1700	1207.1	1448.6	1690.0	1931.4	2172.9	2414.3	2655.7	2897.1	3138.6	3380.0	3" FLANGE	1875	1550	2740	1500
DD-2030	1448.6	1738.3	2028.0	2317.7	2607.4	2897.1	3186.9	3476.6	3766.3	4056.0	3" FLANGE	1935	1550	2690	1675



DD-6 TO 425 SKID MOUNTED DD-680 TO 2030

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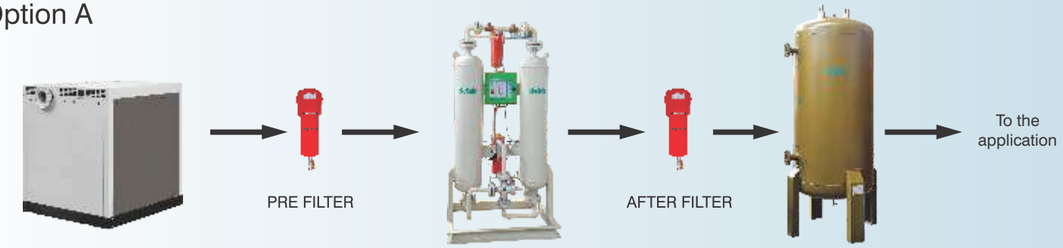
Installation Options

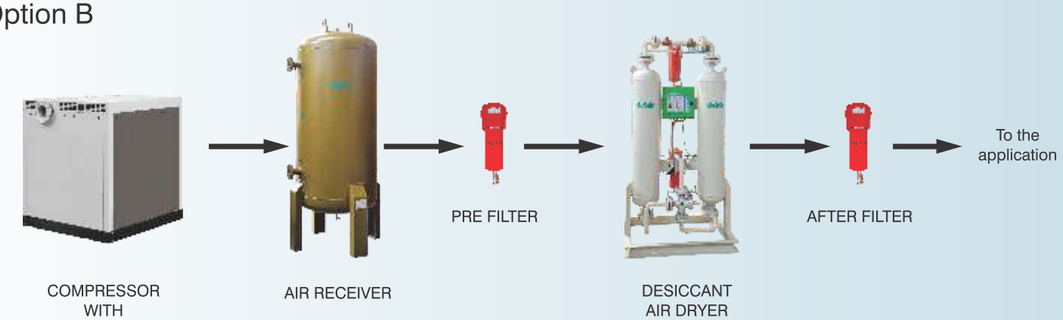
Option A



Dryer ahead of Air Receiver

- Flow through Dryer = Maximum flow of Compressor
- Inlet temperature Dryer = Outlet temperature of After Cooler

Option B



Dryer after Air Receiver

- Flow through Dryer can be more than maximum flow of Compressor
- Inlet temperature Dryer lower than outlet temperature of After Cooler

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Bry-Air® DRI® delair® TDS®

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Refrigeration Dryer FDI Series


FDI-LP SERIES


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