

DESICCANT AIR DRYER

DD Series

delair[®]

The Compressed Air Treatment System Company



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 :

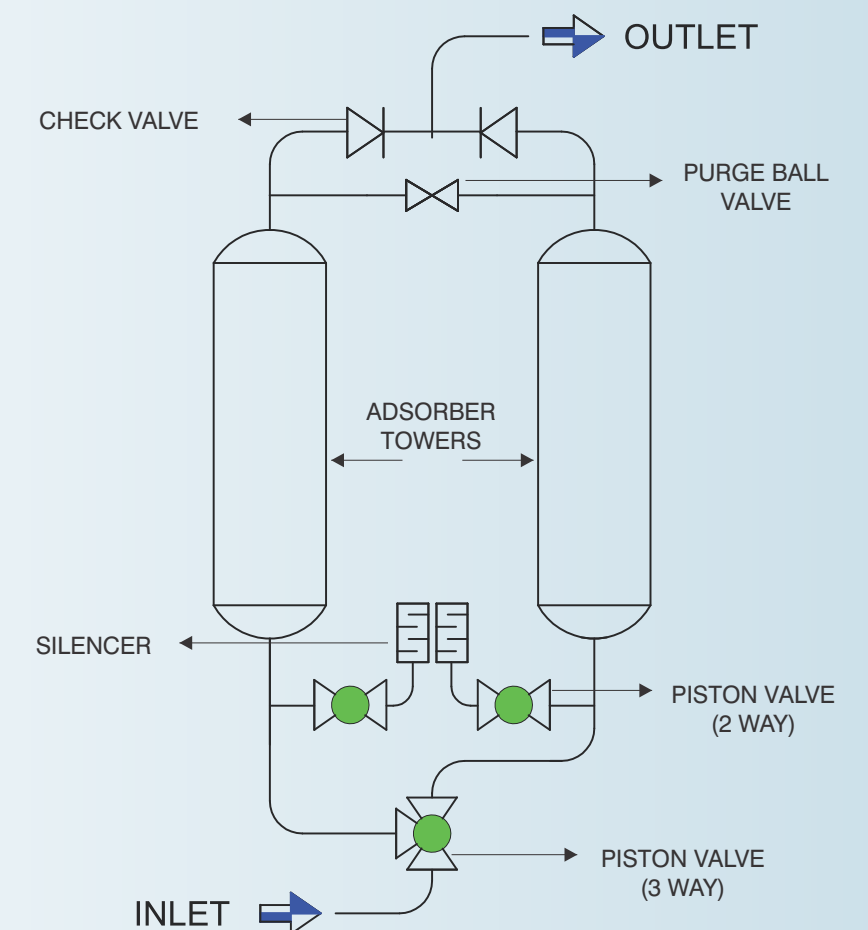
The wet compressed air is led into one of the adsorber towers through solenoid valves in the smaller models, and through pneumatically controlled valves in the bigger models. This wet compressed air is passed through a specially designed sieve tube for uniform flow of air through the desiccant tower, 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.



BEST PERFORMANCE WITH RELIABILITY

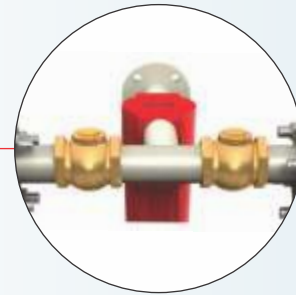
AIR FILTER

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



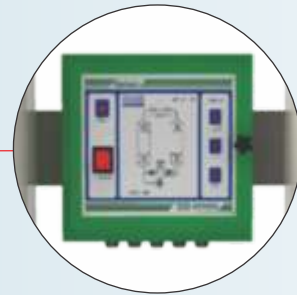
CHECK VALVE

- Non return valve/water type check valve



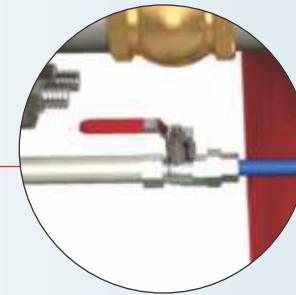
DELSMART CARD

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



PURGE VALVE

- Controls Purge



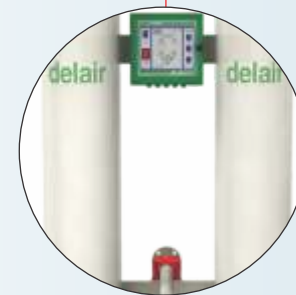
SILENCER

- Purge air outlet to reduce noise level



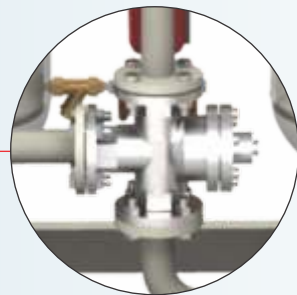
ADSORBER TOWER

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



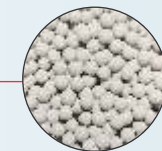
PISTON VALVE

- Non lubricant
- Pilot operated

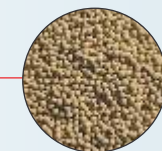


DESICCANT

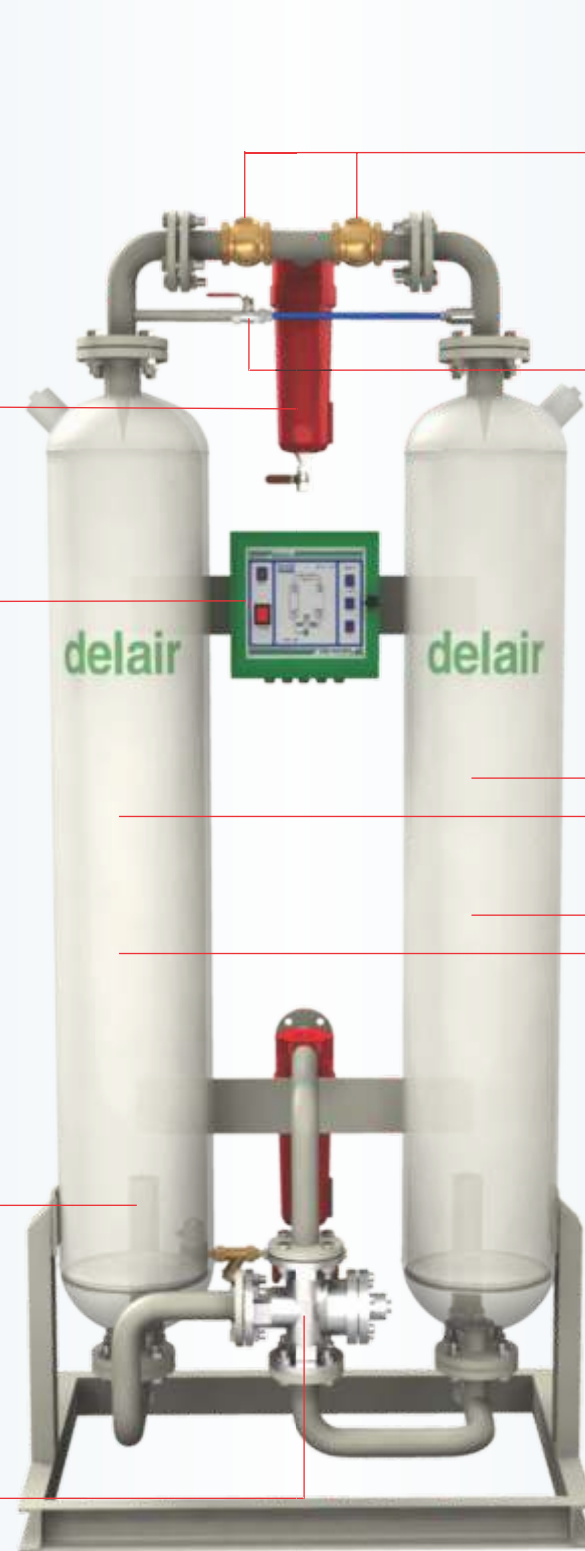
- Specially graded desiccant Delsorb™ 10 or Delsorb™ 21 for optimum performance and long life



Delsorb™ 10



Delsorb™ 21

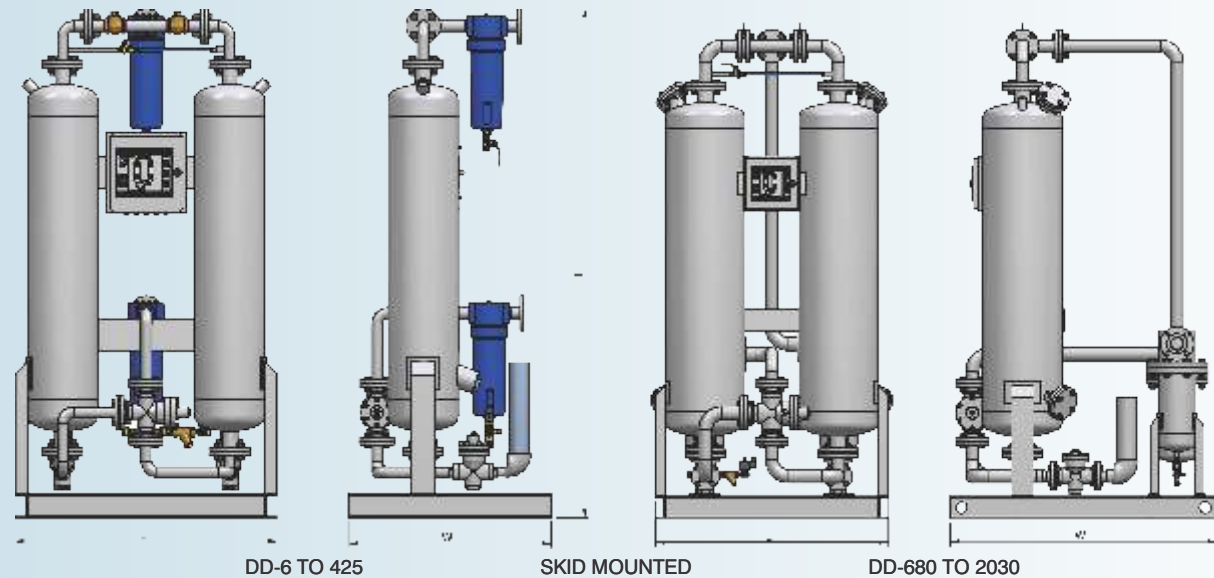


delcare™

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

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	660	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	585	400	1560	100
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	1480	120
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	735	500	2025	160
DD-170	120.7	144.9	169.0	193.1	217.3	241.4	265.6	289.7	313.9	338.0	1" FLANGE	815	630	1585	190
DD-255	181.1	217.3	253.5	289.7	325.9	362.1	398.4	434.6	470.8	507.0	1" FLANGE	815	630	2025	230
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	855	680	1925	305
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	855	680	2200	345
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	1060	750	2100	420
DD-680	482.9	579.4	676.0	772.6	869.1	965.7	1062.3	1158.9	1255.4	1352.0	2" FLANGE	1055	1200	2200	710
DD-850	603.6	724.3	845.0	965.7	1086.4	1207.1	1327.9	1448.6	1569.3	1690.0	2" FLANGE	1205	1200	2200	800
DD-1100	784.6	941.6	1098.5	1255.4	1412.4	1569.3	1726.2	1883.1	2040.1	2197.0	2" FLANGE	1260	1250	2270	910
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	1260	1350	2465	1030
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	1260	1350	2650	1100
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	1260	1350	2800	1150
DD-1690	1207.1	1448.6	1690.0	1931.4	2172.9	2414.3	2655.7	2897.1	3138.6	3380.0	3" FLANGE	1455	1550	2750	1430
DD-2030	1448.6	1738.3	2028.0	2317.7	2607.4	2897.1	3186.9	3476.6	3766.3	4056.0	3" FLANGE	1515	1550	2660	1560



DD-6 TO 425

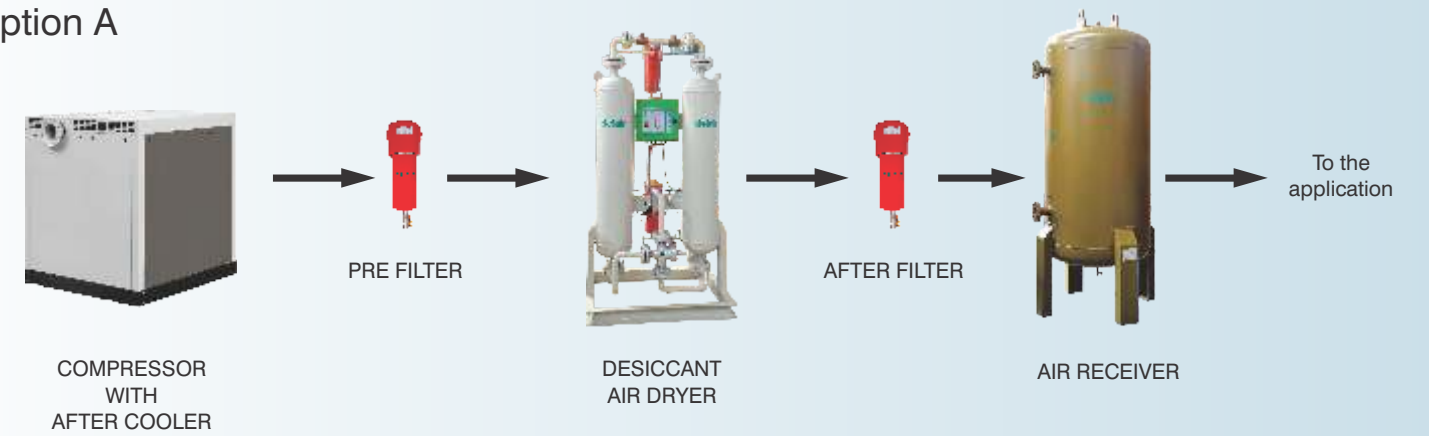
SKID MOUNTED

DD-680 TO 2030

Specifications are subject to change without notice

Installation Options

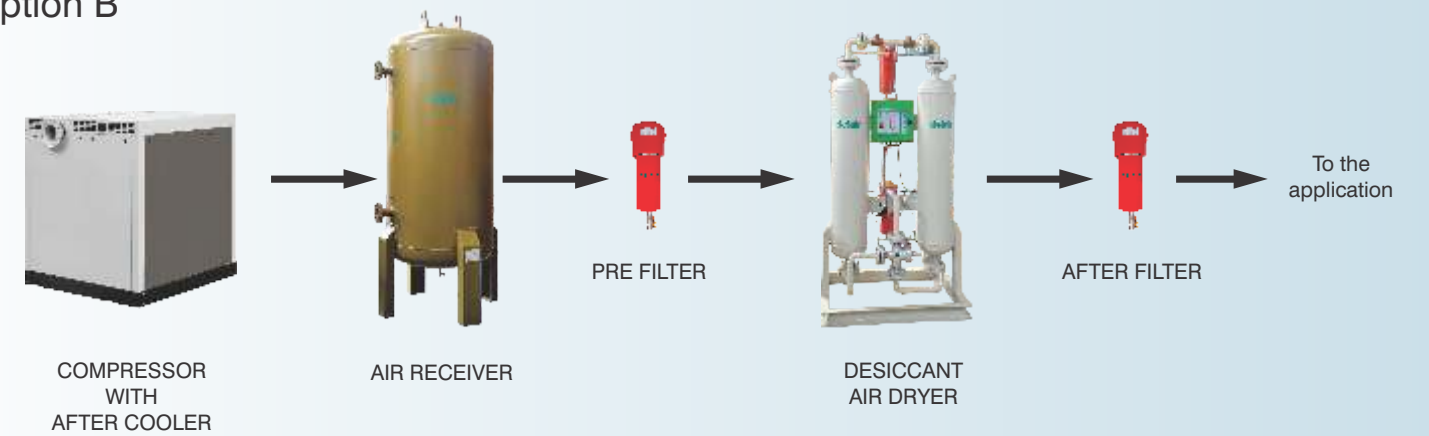
Option A



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

PAHWA™ GROUP

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PRODUCTS & ACCESSORIES



Refrigeration Dryer



Adsorption Dryer



Customised / Engineered Adsorption Dryers



Air Filter



Air Receiver



Water Cooled-After Cooler



Air Cooled After Cooler



Moisture Separator



Auto Drain Valve ZL series



Auto Drain Valve EO series



Auto Drain Valve BF series

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