

delair®

The Compressed Air Treatment System Company



Born in Netherlands... made with pride in India for India...and for the world

Delair India was formed in 1988 as a joint venture between **Delair B.V. Netherlands** (founded in 1936) and **Bry-Air India** (now, Bry-Air Asia). With over 80 years of experience, Delair India specializes in designing, engineering and manufacturing of compressed air and gas dryer and accessories.

We are the largest Compressed Air Treatment brand in terms of:

- Number of units sold
- Customer base
- Sales and service network
- Capacity of single unit



World class
state-of-the-art
manufacturing
with highly precise machines

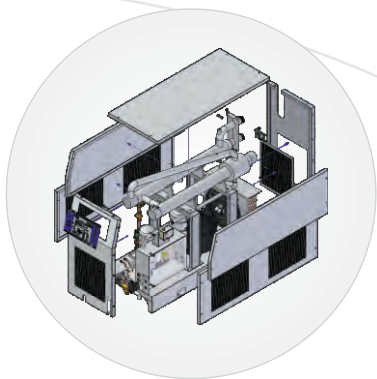


Continuous R&D
for serving better product

delcare™

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

LEAN
KAIZEN
5S



3D Designing



Well finished product enclosure through powder coating process



Heat Exchanger design
Certified by HTRI



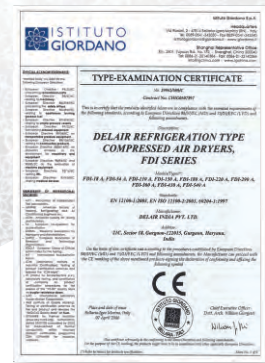
ISO 9001:2015
Certified Company

Refrigeration Dryer

New



Range: 18 m³/hr to 6,000 m³/hr (10.6 cfm to 3540 cfm)
Higher capacity available on request



CE certificate

Features

- Available in 45 standard models
- Provides best pressure dew point from +3°C to +4°C
- Delsmart card MIMIC display to read out dew point, operating parameters faults indication
- Proprietary Heat Exchanger
- Filled with Eco-friendly refrigerant
- Energy saving
- Designed specially for tropical conditions
- Unique Volume Liquid Accumulator
- Compact design
- According to ISO 7183 Compressed Refrigerant Air Dryer

How does it work?

Delair Refrigeration type Dryer operates on the method of cooling the air to near freezing point to remove the moisture and the cold air is reheated by the incoming air to approximately 10°C below the incoming compressed air temperature at nominal conditions. The Refrigeration Dryer consists of an air drying unit with centrifugal cum demister pad condensate separator and a refrigeration circuit. The refrigeration circuit consists mainly of a compressor, a condenser, a receiver, a volume liquid accumulator with liquid refrigerant and an evaporator. The air drying unit consists of two kinds of heat exchangers, one is air to air heat exchanger and second is refrigerant to air heat exchanger.

Std. Working Parameters

- Pressure : 7.0 kg/cm²(g)
- Max. Working Pressure : 14kg/cm²(g)
- Air Inlet Temperature : 38°C
- Ambient Temperature : 38°C
- Water Pressure : 3-6 kg/cm²(g)
- Water Inlet Temperature : 32°C

Optional Features

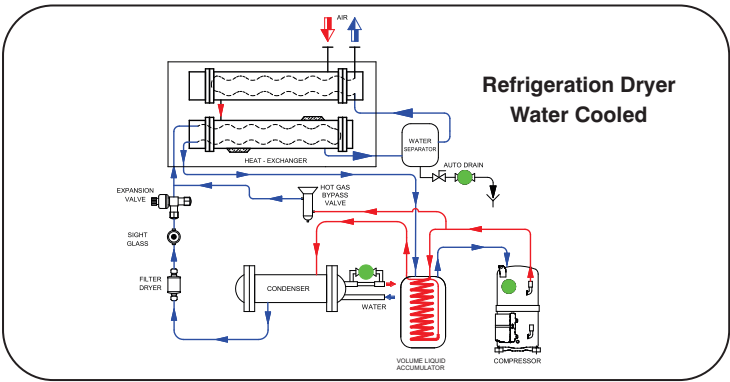
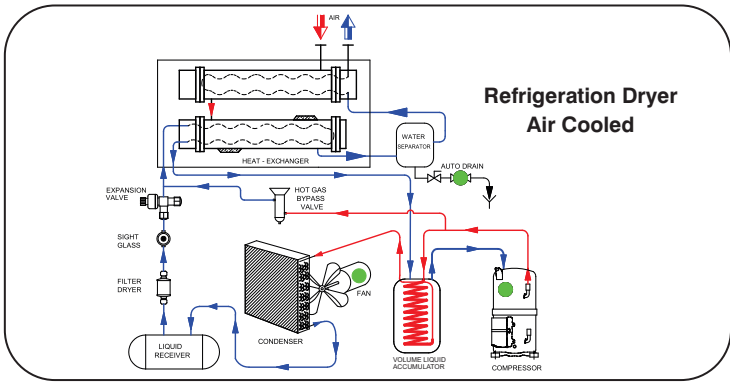
- Available in both option with automatic expansion valve and with thermostatic expansion valve
- Explosion proof controls for offshore application
- Delair also manufactures standard high pressure Refrigeration Dryers for PET industry/PET blowing application.

THE HEART OF THE SYSTEM IS THE PROPRIETARY HEAT EXCHANGER WHICH MAKES IT OUTPERFORM OTHER DRYERS. The function of the air to air heat exchanger is to lower the load on the refrigerant system and secondly by warming the outgoing cold air pipelines to the required temperature. The refrigerant to air heat exchanger(s) further cools the air to the required temperature thus condensing the water vapour from the air, which is automatically drained.

Range

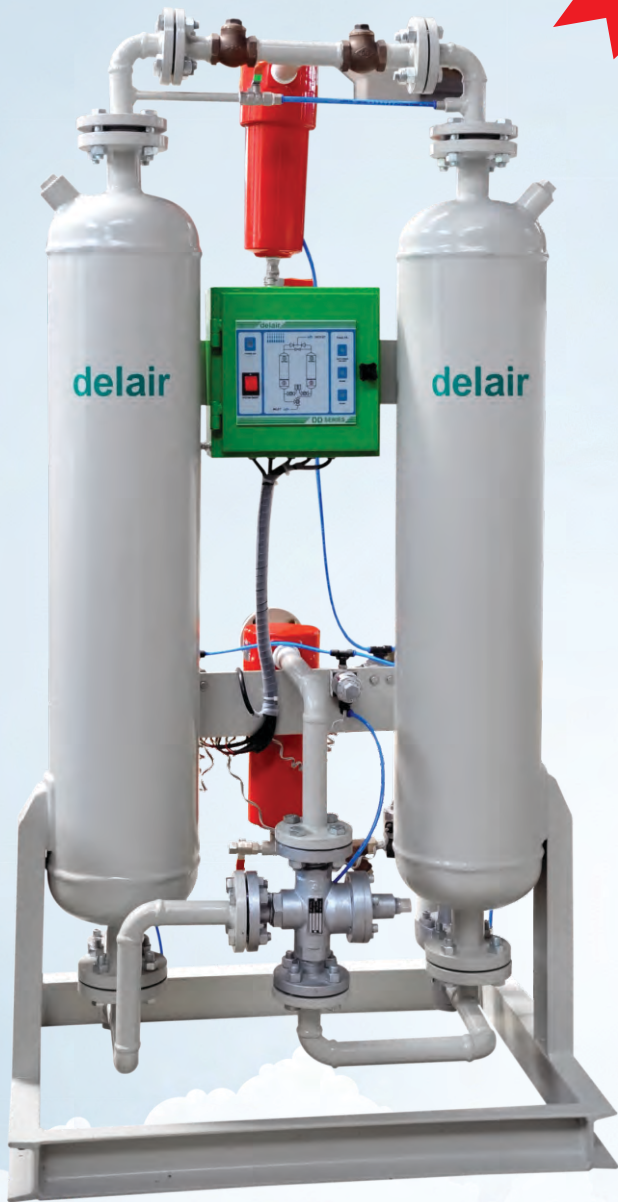
REFRIGERATION DRYER - RD Series		
Air Cooled		
MODEL	FLOW CAPACITY	
	M ³ /HR	CFM
RD-18 A	18	10.6
RD-54 A	54	32
RD-110 A	110	65
RD-150 A	150	88
RD-180 A	180	106
RD-220 A	220	130
RD-290 A	290	170
RD-360 A	360	212
RD-430 A	430	254
RD-540 A	540	318
RD-600 A	600	355
RD-720 A	720	424
RD-850 A	850	500
RD-970 A	970	572
RD-1060 A	1060	624
RD-1150 A	1150	678
RD-1270 A	1270	749
RD-1350 A	1350	795
RD-1690 A	1690	996
RD-1910 A	1910	1124
RD-2160 A	2160	1271
RD-2550 A	2550	1500
RD-2880 A	2880	1695
RD-3000 A	3000	1770
RD-3340 A	1971	3340
RD-4310 A	2543	4310
RD-6000 A	3540	6000

REFRIGERATION DRYER - RD Series		
Water Cooled		
MODEL	FLOW CAPACITY	
	M ³ /HR	CFM
RD-540 W	3540	6000
RD-600 W	600	355
RD-720 W	720	424
RD-850 W	850	500
RD-970 W	970	572
RD-1060 W	1060	624
RD-1150 W	1150	678
RD-1270 W	1270	749
RD-1350 W	1350	795
RD-1690 W	1690	996
RD-1910 W	1910	1124
RD-2160 W	2160	1271
RD-2550 W	2550	1500
RD-2880 W	2880	1695
RD-3000 W	3000	1770
RD-3340 W	3340	1971
RD-4310 W	4310	2543
RD-6000 W	6000	3540



Desiccant Dryer

New



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?

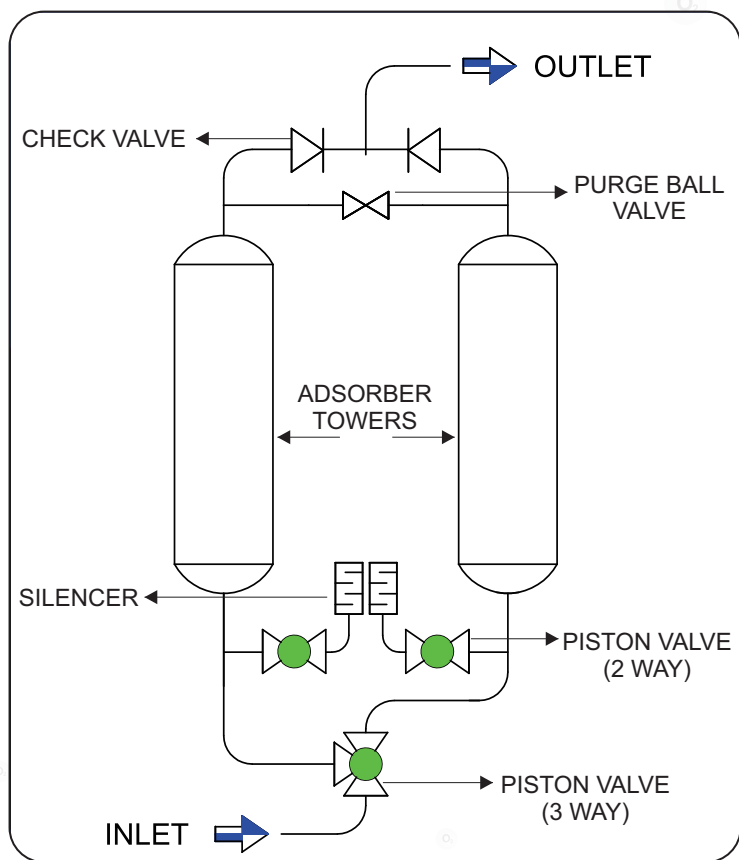
Desiccant Dryer is based on the principle of heatless regeneration and the physical properties of desiccant to adsorb and desorb the water vapour. It uses pressure swing principle/purge air to generate the desiccant bed.

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.



Range

DESICCANT DRYER - DD Series		
MODEL	FLOW CAPACITY	
	M ³ /HR	CFM
DD-6	6	3.5
DD-12	12	7.5
DD-25	25	15
DD-55	55	30
DD-85	85	50
DD-110	110	65
DD-170	170	100
DD-255	255	150
DD-340	340	200
DD-425	425	250
DD-555	555	327
DD-680	680	400
DD-850	850	500
DD-1100	1100	650
DD-1235	1235	727
DD-1400	1400	824
DD-1520	1520	900
DD-1700	1700	1000
DD-2030	2030	1200

Customised / Engineered Dryers

No Loss Split Flow



RANGE : 1700 – 17000 m³/hr (1000 cfm – 10,000 cfm)

In this Dryer, the wet compressed air gets split into two streams. 60% of air is passed through an external heater to regenerate desiccant beds.

How does it work?

The compressed air coming from the compressor gets collected in the after cooler and passes through the pre-filter to a distributor. The distributor passes part of the air through a heater before going to one adsorber for regeneration. This compressed air is then passed through an after cooler for condensation and moisture separator for removal of moisture.

This air is then mixed with the remaining air and passed on to the other adsorber for drying and passes out of the dryer as dry air. The adsorber after regeneration becomes hot and needs to be cooled during the cooling cycle when the heater are switched off. The two adsorbers are switched over automatically on a cycle basis so that when the first adsorber will dry the compressed air the other will be in regeneration mode.

Blower Reactivated



RANGE : 1700 – 17000 m³/hr (1000 cfm to 10,000 cfm)

In this Dryer, a blower provides atmospheric air to be heated by a heater upto 180°C and is used to regenerate desiccant beds.

How does it work?

DRYING

The wet compressed air entering through butterfly valve is dried by the desiccant in one of the adsorber towers and leaves as dry air through butterfly valve and filter, after which the desiccant has adsorbed water vapour during prefixed time, it has to be regenerated.

REGENERATION

After the drying the regeneration period follows. Ambient air is sucked in by a blower and heated by a heater till temperature reached at prefixed values and subsequently led through the adsorber. The adsorbed water vapour is liberated from the desiccant again by the hot air prefixed intervals or set values after which the heater will be switched off.

The blower will still run upto preset intervals to lower the temperature of the desiccant to such a value that it is suitable again for the drying process. Before the automatic switchover takes place the regenerated adsorber is pressurized. The compressed air is directed to the other adsorber to maintain a continuous drying process.

Heat of Compression



RANGE : 170 – 6800 m³/hr (100 cfm – 4000 cfm)

In this Dryer the heat energy of compressed air is used to regenerate desiccant beds. This Dryer is designed to conserve maximum energy.

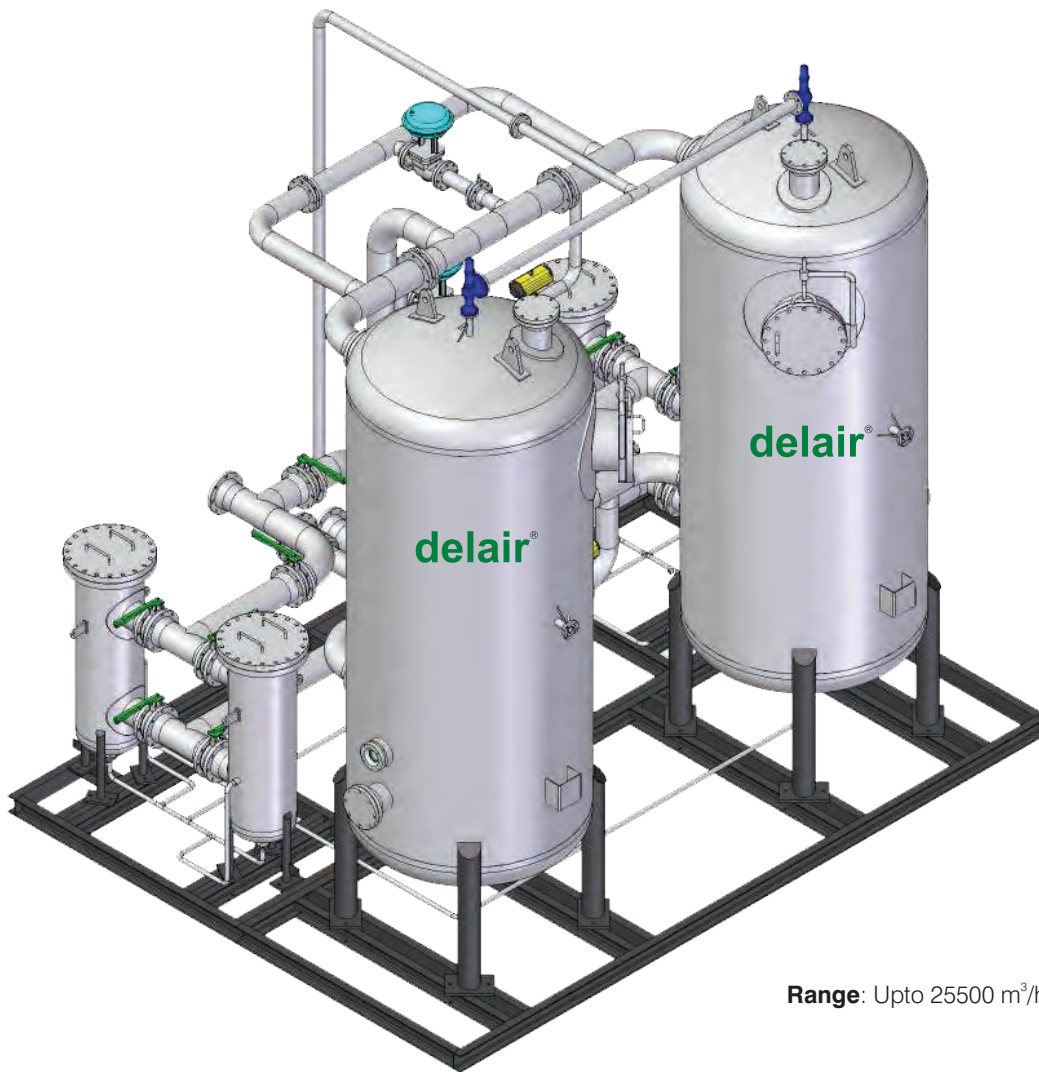
How does it work?

The hot compressed air from the compressor passes through one of the absorbers where the desiccant is regenerated by heat. The compressed air is then cooled in the aftercooler while condensation takes place in moisture separator at the same time. The compressed air then flows to the other adsorber for drying. The desiccant adsorbs the water vapour and dried air leaves the adsorber.

The desiccant is very hot after regeneration and cannot adsorb moisture unless it is cooled. The hot compressed air is cooled in the regn. Cooler. The cooled air is then guided through 4 way valve into the regenerated adsorber for removal of moisture.

When one adsorber has been regenerated and cooled (i.e. is ready for compressed air drying) and the other adsorber has reached the maximum adsorption capacity, the adsorbers can be switched over. The first adsorber will dry the compressed air while the other will be generated.

Gas Dryer



Range: Upto 25500 m³/hr (15,000 cfm)

Gas Dryers are engineered to remove moisture content from natural gas.

Natural gas discovered in the earth comes with a slight over pressure up to 80 bars, depending on the source of the natural gas. It is found at low pressure locked in the structure of coal and at high pressure below thick layers of rock and other soil.

Water vapour is one of the ingredients present, which forms the natural gas, this gas is always saturated with water vapour. When the natural gas is expanded to a lower pressure for using it in burners or compressed to higher pressure, hydrates can be formed from the natural gas and the water vapour, which will clog pipelines and instrumentation in the pipelines.

To prevent the formation of hydrates the natural gas has to be dried before processing it in pipelines and compressors or expander machines.

The most common and economical way of drying the natural gas is by reducing the dew point temperature which can be done by installing a Compressed Gas Dryer.

Delair is the 1st company in India to manufacture Compressed Gas Dryer.

Air Filter



Air Filter protects compressed air Dryers, pneumatic equipment and instrumentation by removing oils, dust, rust and other type of contaminates present in compressed air.

Range:

- Flow - 18 m³/hr to 6,000 m³/hr
- Pressure - 7 to 14 kg/cm² (g)
- Temperature - 40°C to 60°C

Features

- Aluminum/Mild Steel housing and compact design
- Low pressure drop
- Filter housing in accordance with international standard
- Design code - ASME, IS-2825
- Duly tested pneumatically & hydrostatically.
- Standard DIN or BS thread or flange connection.
- Chemically, biologically & biochemically neutral & inert
- Filter media sintered bronze & borosilicate glass fibre for filtration efficiency upto 99.98% and residual oil upto 0.01 ppm
- Instrumentation such as auto and manual drain valve etc.

Specifications

MODEL	CAPACITY IN M³/HR	MICRON RATING FOR FILTRATION			CONNECTION
		PRE/AFTER FILTER (PF/AF)	FINE FILTER (FF)	MICRO FILTER (OF)	
FTR-18*	18	05/05	1	0.01	½" BSP
FTR-25*	25	05/05	1	0.01	½" BSP
FTR-54*	54	05/05	1	0.01	½" BSP
FTR-110*	110	05/05	1	0.01	½" BSP
FTR-150*	150	05/05	1	0.01	1" BSP
FTR-180*	180	05/05	1	0.01	1" BSP
FTR-220*	220	05/05	1	0.01	1" BSP
FTR-290*	290	05/05	1	0.01	1" BSP
FTR-360*	360	05/05	1	0.01	1" BSP
FTR-430*	430	05/05	1	0.01	1" BSP
FTR-540*	540	05/05	1	0.01	2" BSP
FTR-600*	600	05/05	1	0.01	2" BSP
FTR-720*	720	05/05	1	0.01	2" BSP
FTR-850**	850	05/05	1	0.01	3" FLANGE
FTR-1150**	1150	05/05	1	0.01	3" FLANGE
FTR-1350**	1350	05/05	1	0.01	3" FLANGE
FTR-2160**	2160	05/05	1	0.01	4" FLANGE
FTR-3000**	3000	05/05	1	0.01	4" FLANGE
FTR-4310**	4310	05/05	1	0.01	6" FLANGE
FTR-6000**	6000	05/05	1	0.01	8" FLANGE

*Aluminum Housing. **M S Housing

High Pressure Air Filter



High pressure air filter is for application where pressure is required upto 40 bar

Range:

- Flow - 18 m³/hr to 850 m³/hr
- Pressure - 25 to 40 kg/cm² (g)
- Temperature - 40°C to 60°C

Features

- Mild Steel housing and compact design
- Low pressure drop
- Filter housing in accordance with international standard
- Design code - ASME, IS-2825
- Duly tested pneumatically & hydrostatically.
- Standard DIN or BS thread or flange connection.
- Chemically, biologically & biochemically neutral & inert
- Filter media sintered bronze & borosilicate glass fibre for filtration efficiency upto 99.98% and residual oil upto 0.01 ppm

Specifications

MODEL	CAPACITY IN M³/HR	MICRON RATING FOR FILTRATION			CONNECTION
		PRE/AFTER FILTER (PF/AF)	FINE FILTER (FF)	MICRO FILTER (OF)	
FTR-P-18	18	5/5	1	0.01	½" BSP
FTR-P-25	25	5/5	1	0.01	½" BSP
FTR-P-54	54	5/5	1	0.01	½" BSP
FTR-P-110	110	5/5	1	0.01	¾" BSP
FTR-P-150	150	5/5	1	0.01	1" BSP
FTR-P-180	180	5/5	1	0.01	1" BSP
FTR-P-220	220	5/5	1	0.01	1" BSP
FTR-P-290	290	5/5	1	0.01	1" BSP
FTR-P-360	360	5/5	1	0.01	2" FLANGE
FTR-P-430	430	5/5	1	0.01	2" FLANGE
FTR-P-540	540	5/5	1	0.01	2" FLANGE
FTR-P-600	600	5/5	1	0.01	2" FLANGE
FTR-P-720	720	5/5	1	0.01	2" FLANGE
FTR-P-850	850	5/5	1	0.01	3" FLANGE

Air Receiver



Air Receivers stores the compressed air and delivers it when the compressor is not running, and also serves as a pulsation damper and moisture trap.

Range - 0.5 m³ to 15.0 m³
Pressure - 0.7 kg/cm² (g)
Temperature - Up to 60°C

Features

- Compact design
- Receivers in accordance with international design code like - ASME, IS-2825 etc.
- Instrumentation such as – pressure gauge, safety relief valve, manual drain etc. with receiver.
- Duly tested – pneumatically & hydrostatically
- Higher capacities available on request

Specifications

MODEL	CAPACITY IN M³	DIMENSIONS (IN MM)		CONNECTION (IN MM)	WEIGHT (IN KG)
		D	H		
REC - 0.5	0.5	700	1915	50	240
REC - 1.0	1	850	2385	50	390
REC - 1.5	1.5	1050	2440	50	500
REC - 2.0	2	1150	2570	50	560
REC - 3.0	3	1150	3590	65	735
REC - 4.0	4	1300	3635	65	840
REC - 5.0	5	1350	4180	65	990
REC - 6.0	6	1500	4135	80	1400
REC - 7.5	7.5	1600	4275	100	1550
REC - 10.0	10	1850	4420	100	2280
REC - 15.0	15	2250	4530	150	3400

Moisture Seperator



Moisture separator removes bulk water and oil from compressed air stream.

Range - 50 m³/hr to 6,000 m³/hr
Pressure - Up to 14 kg/cm² (g)
Temperature - 35°C

Features

- Compact design
- Moisture separator in accordance with international design code like-ASME, IS-2825, etc.
- Instrumentation such as manual drain valve
- Duly tested pneumatically & hydrostatically
- Available in baffle type, if required demister pad and cyclone type then contact factory
- Higher capacities available on request

Specifications

MODEL	CAPACITY IN M³/HR	DIMENSIONS IN (MM)		CONNECTION (IN MM) N1 & N2
		D	H	
MS-50	50	100	475	15
MS-100	100	100	475	20
MS-250	250	100	475	32
MS-500	500	150	560	50
MS-750	750	150	625	50
MS-1000	1000	200	700	80
MS-1250	1250	200	750	80
MS-1500	1500	250	850	100
MS-1750	1750	250	900	100
MS-2000	2000	250	950	100
MS-2500	2500	300	1000	100
MS-3000	3000	300	1000	100
MS-3500	3500	350	1050	150
MS-4500	4500	350	1100	150
MS-6000	6000	400	1100	150

*Demister pad is optional

After Coolers - Water Cooled



Compressed air leaving the compressor is hot and full of moisture. Delair After Coolers installed at the compressor outlet rapidly cool this hot compressed air to reduce the moisture load on the downstream equipment.

Features

- Wide range of 15 standard models
- Capacities from 50 m³/hr to 6,000 m³/hr
- Higher capacities available on request
- Compact design
- Cooler in accordance with international design code like TEMA-C, ASME, IS-2825, etc.
- Duly tested pneumatically & hydrostatically

Specifications

MODEL	CAPACITY IN M ³ /HR	DIMENSIONS (IN MM)		CONNECTION (IN MM)		WATER QTY. IN LPM
		ØD	H~	AIR (N1 & N2)	WATER (N3 & N4)	
AC-50	50	65	1550	20	15	5
AC-100	100	80	1560	25	20	10
AC-250	250	125	1580	40	15	25
AC-500	500	150	1600	50	20	50
AC-750	750	150	1600	50	32	75
AC-1000	1000	150	1800	80	40	100
AC-1250	1250	150	2265	80	40	125
AC-1500	1500	200	1700	100	50	150
AC-1750	1750	200	2000	100	50	175
AC-2000	2000	200	2300	100	50	200
AC-2500	2500	250	1875	100	65	250
AC-3000	3000	250	2340	100	65	300
AC-3500	3500	250	2490	150	80	350
AC-4500	4500	300	2350	150	80	450
AC-6000	6000	300	2350	150	100	600

After Cooler - Air Cooled



Air cooled - After Cooler cools incoming compressed air using an axial flow electric fan, which draws air from the atmosphere and passes it through a fin and tube type heat exchanger.

MODEL	AIR FLOW		AIR CONNECTION (MM)	CONNECTED LOAD (kW)
	APPROACH TEMP			
	5°C	10°C		
AC-100-A	180 m³/hr	290 m³/hr	25	0.35
AC-200-A	220 m³/hr	-	25	0.37
AC-300-A	290 m³/hr	540 m³/hr	32	0.37
AC-400-A	600 m³/hr	-	32	0.37

Auto Drain Valves

Zero Air Loss Type

Zero Air Loss type Auto Drain Valves works on level based principle. Valve opening / closing takes place as per preset (factory set) levels.

Features

- Direct acting
- Zero energy loss
- Fully automatic
- Maintenance free
- Easy to install



MODEL	SIZE	SUITABLE FOR
ADV-ZL-ASY-06	1/4"	Air Receiver, Air Filter, After Cooler, Moisture Separator, Air Dryer
ADV-ZL-ASY-12	1/2"	Air Receiver, Air Filter, After Cooler, Moisture Separator, Air Dryer

Adjustable Drain Timer Based

This Auto Drain Valve works on a preset / adjusted (on/off) time based built in timer.

Time interval for valve opening and closing the chamber is easily adjusted on site to meet site need.

Features

- Direct acting
- Fully Automatic
- Maintenance free
- Easy to install
- Built in solenoid valve and strainer
- More durable / Reliable



MODEL	SIZE	SUITABLE FOR
ADV-ADT-ASY-06	1/4"	Air Receiver, Air Filter, After Cooler, Moisture Separator, Air Dryer
ADV-ADT-ASY-12	1/2"	Air Receiver, Air Filter, After Cooler, Moisture Separator, Air Dryer

Level Based Mechanical Ball Float Type

Ball float operated Auto Drain Valve works on a pre-adjusted moisture level.

When the moisture content reaches a certain level, it starts continuously draining out the entire moisture

Features

- Zero energy loss
- Fully automatic
- Easy to install



MODEL	SIZE	SUITABLE FOR
ADV-BF-ASY-06	1/4"	Air Receiver, Air Filter, After Cooler, Moisture Separator, Air Dryer
ADV-BF-ASY-12	1/2"	Air Receiver, Air Filter, After Cooler, Moisture Separator, Air Dryer
ADV-BF-ASY-20	3/4"	Air Receiver, Air Filter, After Cooler, Moisture Separator, Air Dryer

Applications

APPLICATIONS	PRESSURE DEW POINT	REFRIGERATION DRYER	DESICCANT DRYER	ENGINEERED DRYER		
				HOC	BR	NLSF
Pneumatic Conveying	2-10°C	✓				
Ash handling system		✓				
CNC machines		✓				
Plant Air		✓				
Pneumatic transportation		✓				
Welding		✓				
Blow moulding process		✓				
Spray painting in Paint booth		✓				
Electronic assemblies		✓				
Blasting		✓				
Powder coating		✓				
Aluminium Smelter		✓				
Sugar processing	0 - (-) 20°C					✓
Blowing in PET industry		✓				
Food processing			✓			
Spraying in food processing		✓				
Spray painting in Paint booth		✓				
Instrument Air at Power & Steel plant				✓	✓	✓
Pneumatic tools			✓			
Blasting			✓			
Metal				✓		✓
Welding			✓			
Powder coating			✓			
packaging		✓				
Gas liquidification		✓				
General Instrumentation		✓				
Controls		✓				
Coating of Tablets		✓	✓			
Instrumentation laboratory	(-)20 to (-)40°C		✓			
Health care			✓			
Oil & Gas processes			✓			
Petrochemical processed			✓			
Wind tunnels		✓				
Space research		✓				
CNC machines		✓				
Specialized instrumentation			✓			
Plant Air		✓				
Dryness application in Transformer	(-)40°C and below		✓			
Cryogenic system			✓			
Breathing Air			✓			

Applications & Our Customers

	Automobile							
	Cement							
	Health Care							
	Pharmaceutical							
	Printing & Paper							
	Sugar							
	Food & Beverages							
	Ash Handling System							
	Power							
	PET/Plastics							
	Textile							
	Petrochemical							
	Oil and Gas							
	Consultants							
	Steel							
								
								

PAHWA™ GROUP
Innovation is life



delair® India Pvt. Ltd.

Gurugram : 21-C, Sector-18, Gurugram-122015, Ph: 0124-4091111, Fax: 0124-4091100, E-mail: delairmarketing@pahwa.com

Kolkata : 168, Linton Street, 2nd Floor, Kolkata-700 014, Ph: +91 8527390905, 033-22896834, E-mail: delairkolkata@pahwa.com

Mumbai : 319, TV Tower, INDS. Estate, Worli, Mumbai-400 030, Ph: 022-24935155, 24947475, E-mail: delairmumbai@pahwa.com

Vadodara : 22, GIDC Estate, Makarpura, Vadodara - 390010, Gujarat, Ph : 0265-6567666, Fax : 0265-2638770, E mail : puriflair@pahwa.com

Chennai : New-5 (old 20), 2nd Street, E-Block, Anna Nagar-East, Chennai-600 102, Ph: 044-42693761/62, Fax: 044-42693764, E-mail: delairchennai@pahwa.com