

REFRIGERATION AIR DRYER

FDI Series

delair[®]

The Compressed Air Treatment System Company



REFRIGERATION DRYER



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



CE Certificate

Features

- o Available in 45 standard models
- o Provides best pressure dew point from +3°C to +4°C
- o Digital microprocessor Del-Smart to read out performance and operating parameters & all fault indications
- o Proprietary designed Heat Exchanger
- o Filled with Eco-friendly refrigerant gas ie, R 134A, 407C,410A
- o Energy saving controls
- o Designed specially for tropical conditions
- o Unique Volume Liquid Accumulator
- o Robust & reliable design
- o Following quality standards of ISO 8573-1:2010

Std. Design Parameters

- o Operating Pressure : 7.0 kg/cm²(g)
- o Max. Working Pressure : 16kg/cm²(g)
- o Air Inlet Temperature : 45°C
- o Ambient Temperature : 45°C
- o Cooling Water Inlet Pressure : 3-6 kg/cm²(g)
- o Cooling Water Inlet Temperature : 32°C

Optional Features & Advantages

- o Available in both option with automatic expansion valve and with thermostatic expansion valve
- o Explosion proof controls for offshore application
- o Delair also manufactures standard high pressure Refrigeration Dryers for PET industry/PET blowing application for up to 45 kg/cm²(g)
- o Top exhaust systems available on request
- o Available with fully electronic hot gas bye-pass valves for frequent load variations in demand.

How does it work?

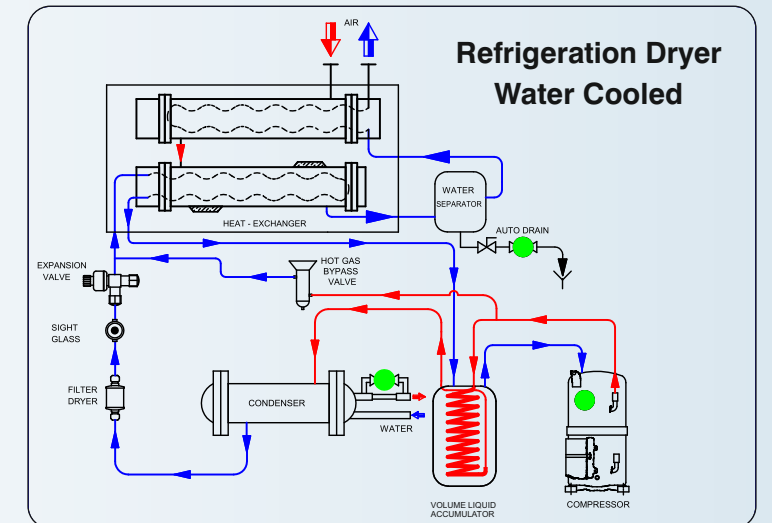
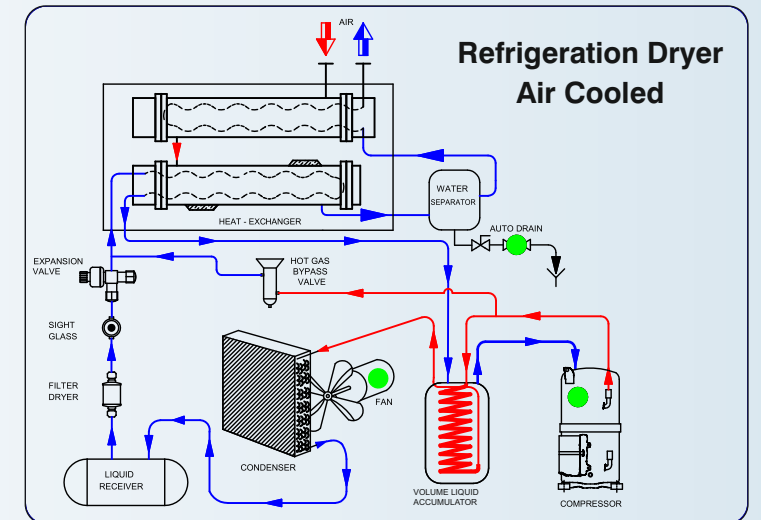
Delair Refrigeration type Dryer operates on the method of cooling the air to near freezing point to remove the moisture. The cold air is reheated by the incoming air to approximately 10°C below the incoming compressed air temperature at nominal conditions.

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.

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.

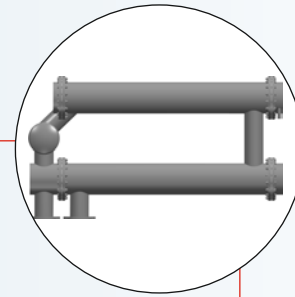
The refrigerant to air heat exchanger(s) further cools the air to the required temperature thus condensing the water vapour from the air, which is automatically drained.



BEST PERFORMANCE WITH RELIABILITY

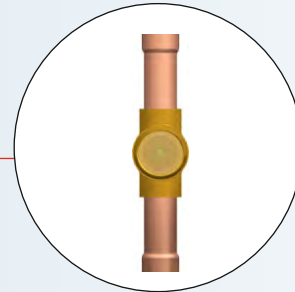
AIR TO AIR AND AIR TO REFRIGERANT HEAT EXCHANGER

- Proprietary heat exchanger
- Minimum pressure drop
- Excellent heat transfer
- Universal corrosion resistance



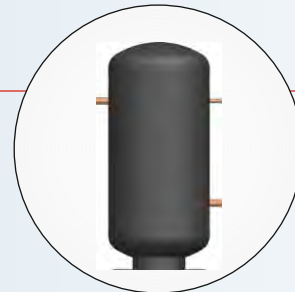
SIGHT GLASS

- Provides fast and easy indication
- Moisture indicator



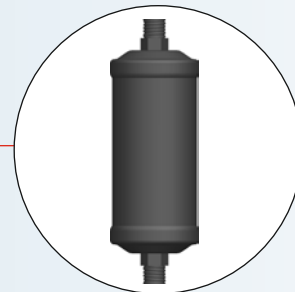
LIQUID RECEIVER

- A pressure vessels which contains the liquid refrigerant coming from the condenser
- It ensure steady pressure to the expansion valve



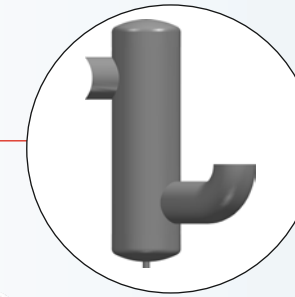
FILTER DRYER

- 100% molecular sieve core
- Highly efficient



CANOPY

- 7 tank process powder coating
- CRCA canopy

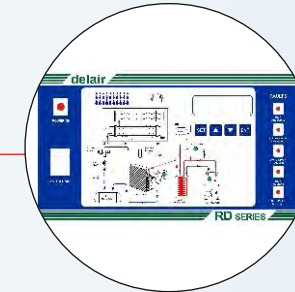


MOISTURE SEPARATOR

- Centrifugal cum demister pad manufactured Moisture Separator which leads to efficient moisture separation

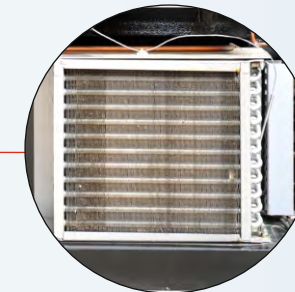
MICROPROCESSOR BASED DELSMART CARD

- Displays process parameters
- Displays faults indications
- Displays component on/off indication
- User defined setting



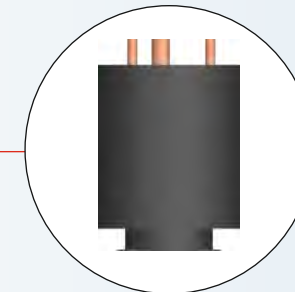
AIR COOLED CONDENSER

- Higher thermal efficiency
- Lower fan power consumption
- Higher corrosion resistance



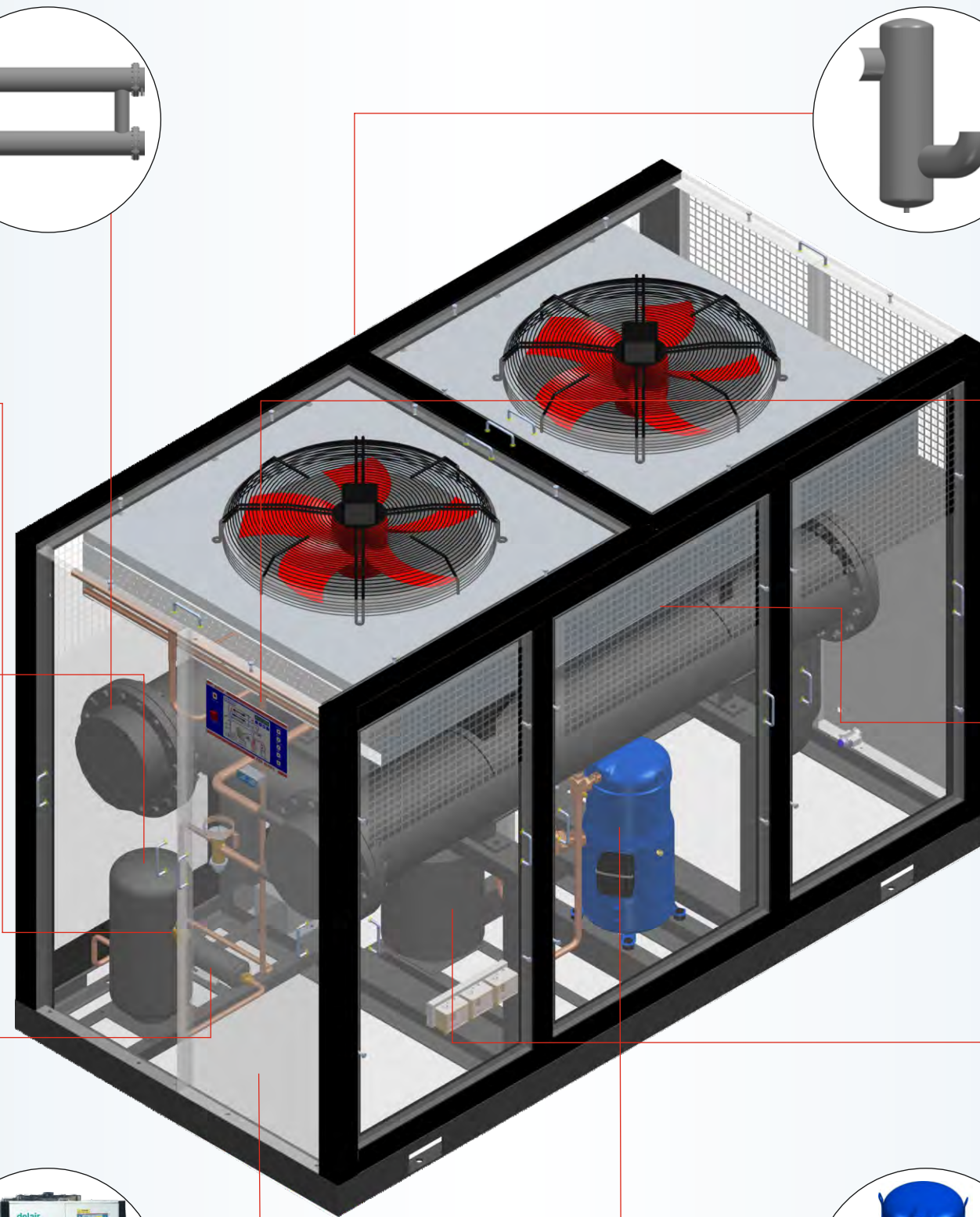
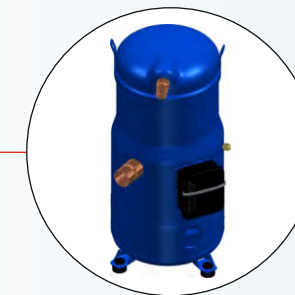
VOLUME LIQUID ACCUMULATOR

- With high pressure line
- Unique design



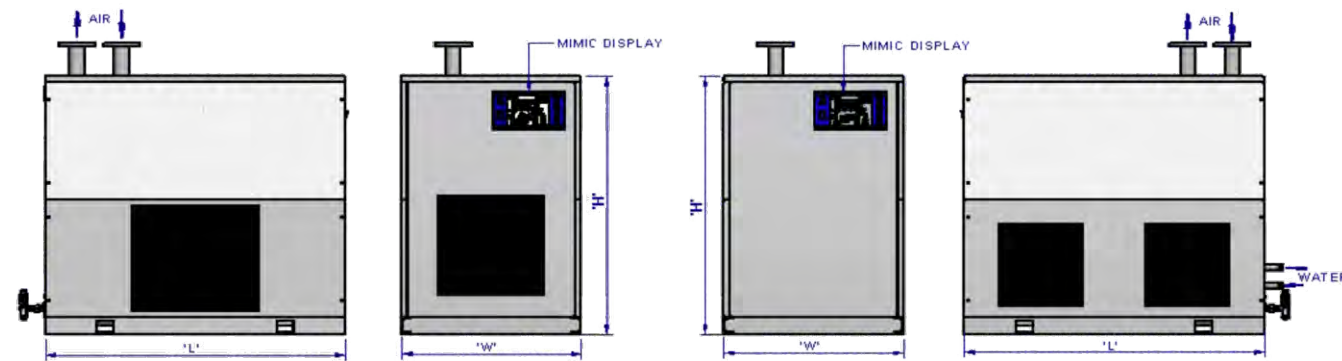
COMPRESSOR

- High duty cycle
- High efficiency
- Proven reliability
- Low power consumption



Technical Specification

MODEL	CAPACITY			DIMENSIONS (IN MM)			APPROX. WT. (IN KG.)	CONNECTION (IN INCHES)		CONN. LOAD (IN KW)	WATER QTY. (IN M3/HR)
	CFM	CMH	Ltr./SEC	L	W	H~		AIR	WATER		
FDI-18 A	10.6	18	5	880	465	700	90	1/2" BSP.	---	0.30	---
FDI-54 A	32	54	15	880	465	700	90	1/2" BSP.	---	0.53	---
FDI-110 A	65	110	31	880	465	830	100	3/4" BSP.	---	0.70	---
FDI-150 A	88	150	42	1100	465	930	270	1" BSP.	---	0.75	---
FDI-180 A	106	180	50	1100	465	930	270	1" BSP.	---	0.75	---
FDI-220 A	130	220	62	1100	465	930	270	1" BSP.	---	0.97	---
FDI-290 A	170	290	81	1100	465	930	270	1" BSP.	---	0.97	---
FDI-360 A	212	360	101	1250	750	1150	400	2" F	---	1.70	---
FDI-430 A	254	430	120	1250	750	1150	400	2" F	---	2.23	---
FDI-540 A	318	540	151	1250	750	1150	400	2" F	---	2.63	---
FDI-600 A	355	600	168	1676	725	1210	500	2" F	---	2.82	---
FDI-720 A	424	720	202	1676	725	1210	600	3" F	---	3.16	---
FDI-850 A	500	850	238	1676	725	1210	600	3" F	---	3.94	---
FDI-970 A	572	970	272	1676	725	1210	600	3" F	---	4.24	---
FDI-1060 A	624	1060	297	1700	1000	1375	780	3" F	---	4.74	---
FDI-1150 A	678	1150	322	1700	1000	1375	780	3" F	---	5.44	---
FDI-1270 A	749	1270	356	1700	1000	1375	780	3" F	---	5.44	---
FDI-1350 A	795	1350	378	1700	1000	1375	780	3" F	---	5.44	---
FDI-1690 A	996	1690	473	1720	1050	1375	850	4" F	---	7.62	---
FDI-1910 A	1124	1910	535	1800	1200	1600	1100	4" F	---	10.84	---
FDI-2160 A	1271	2160	605	1800	1200	1600	1200	4" F	---	10.84	---
FDI-2550 A	1500	2550	714	2200	1200	1600	1400	4" F	---	12.00	---
FDI-2880 A	1695	2880	806	2400	1200	1600	1700	6" F	---	14.41	---
FDI-3000 A	1770	3000	840	2400	1200	1600	1700	6" F	---	16.32	---
FDI-3340 A	1971	3340	935	2500	1300	1800	2200	6" F	---	16.32	---
FDI-4310 A	2543	4310	1207	2500	1300	1800	2600	6" F	---	21.21	---
FDI-6000 A	3540	6000	1680	3000	1400	2000	3200	8" F	---	26.15	---
FDI-540 W	318	540	151	1250	750	1150	380	2" F	3/4" BSP.	1.87	1.1
FDI-600 W	355	600	168	1676	725	1210	380	2" F	3/4" BSP.	1.87	1.8
FDI-720 W	424	720	202	1676	725	1210	520	3" F	3/4" BSP.	2.19	1.8
FDI-850 W	500	850	238	1676	725	1210	520	3" F	3/4" BSP.	2.48	1.8
FDI-970 W	572	970	272	1676	725	1210	520	3" F	3/4" BSP.	2.93	1.8
FDI-1060 W	624	1060	297	1350	750	1270	620	3" F	3/4" BSP.	2.93	3.0
FDI-1150 W	678	1150	322	1350	750	1270	620	3" F	3/4" BSP.	3.63	3.0
FDI-1270 W	749	1270	356	1350	750	1270	620	3" F	3/4" BSP.	3.63	3.0
FDI-1350 W	795	1350	378	1350	750	1270	620	3" F	3/4" BSP.	3.99	3.0
FDI-1690 W	996	1690	473	1680	840	1380	850	4" F	1" F	4.64	3.4
FDI-1910 W	1124	1910	535	1800	950	1500	1000	4" F	1.1/2" F	5.10	4.1
FDI-2160 W	1271	2160	605	1800	950	1500	1000	4" F	1.1/2" F	6.28	4.1
FDI-2550 W	1500	2550	714	2100	1000	1500	1300	4" F	1.1/2" F	7.28	5.1
FDI-2880 W	1695	2880	806	2400	1000	1530	1500	6" F	1.1/2" F	7.28	6.1
FDI-3000 W	1770	3000	840	2400	1000	1530	2000	6" F	1.1/2" F	8.03	6.1
FDI-3340 W	1971	3340	935	2100	1100	1650	2500	6" F	1.1/2" F	8.03	6.9
FDI-4310 W	2543	4310	1207	2300	1100	1650	2800	6" F	2" F	11.00	8.4
FDI-6000 W	3540	6000	1680	2600	1150	1900	3000	8" F	2" F	18.25	11.1



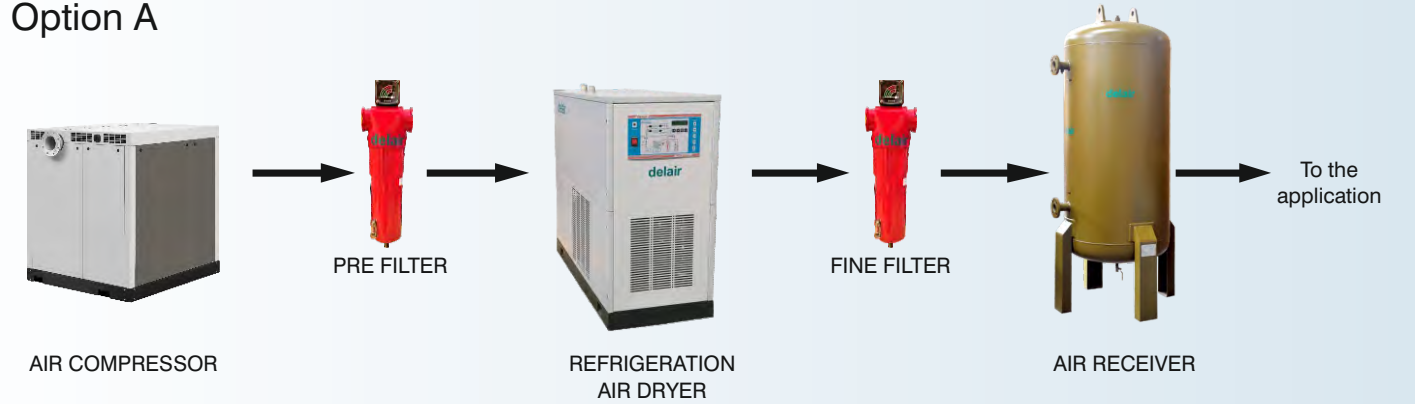
NOTE:-

- MODELS RANGE FROM FDI-18A TO FDI-720A/W ARE SUPPLIED WITH SINGLE PHASE POWER SUPPLIES i.e. 1PH, 230V, 50 HZ
- MODELS RANGE FROM FDI-850A/W TO ONWARDS ARE SUPPLIED WITH THREE PHASE POWER SUPPLIES i.e. 3PH, 415V, 50 HZ
- MODELS RANGE FDI 360A/W TO FDI 720A/W ARE ALSO AVAILABLE WITH 3 PHASE POWER SUPPLY ON REQUEST
- PLEASE CONTACT HO/FACTORY FOR CUSTOMISED OR ADD-ONS OR SPECIAL SPECIFICATIONS OR ANY SPECIFIC MATERIALS

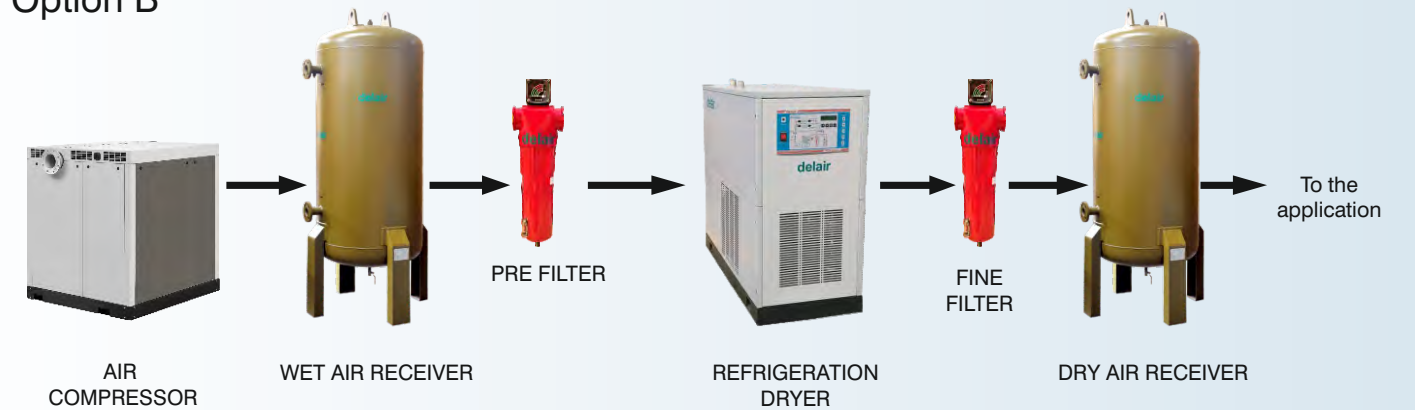
ALL DATAS ARE SUBJECT TO CHANGE WITHOUT NOTICE

Installation Options

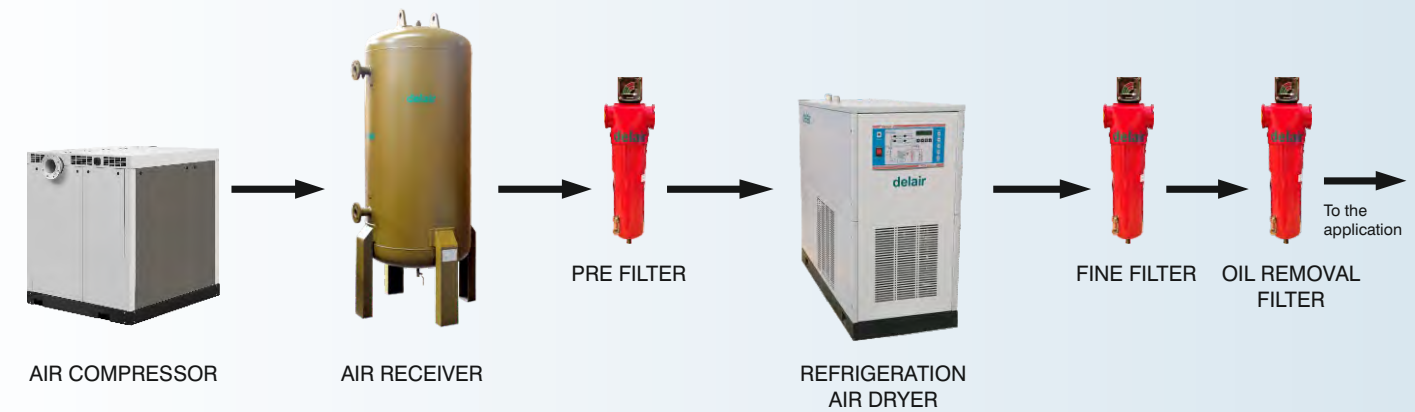
Option A



Option B



Option C



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