



REFRIGERATED AIR DRYER

RANGING FROM : 15 TO 2000 CFM

PROGRESSIVE ENGINEERING WORKS

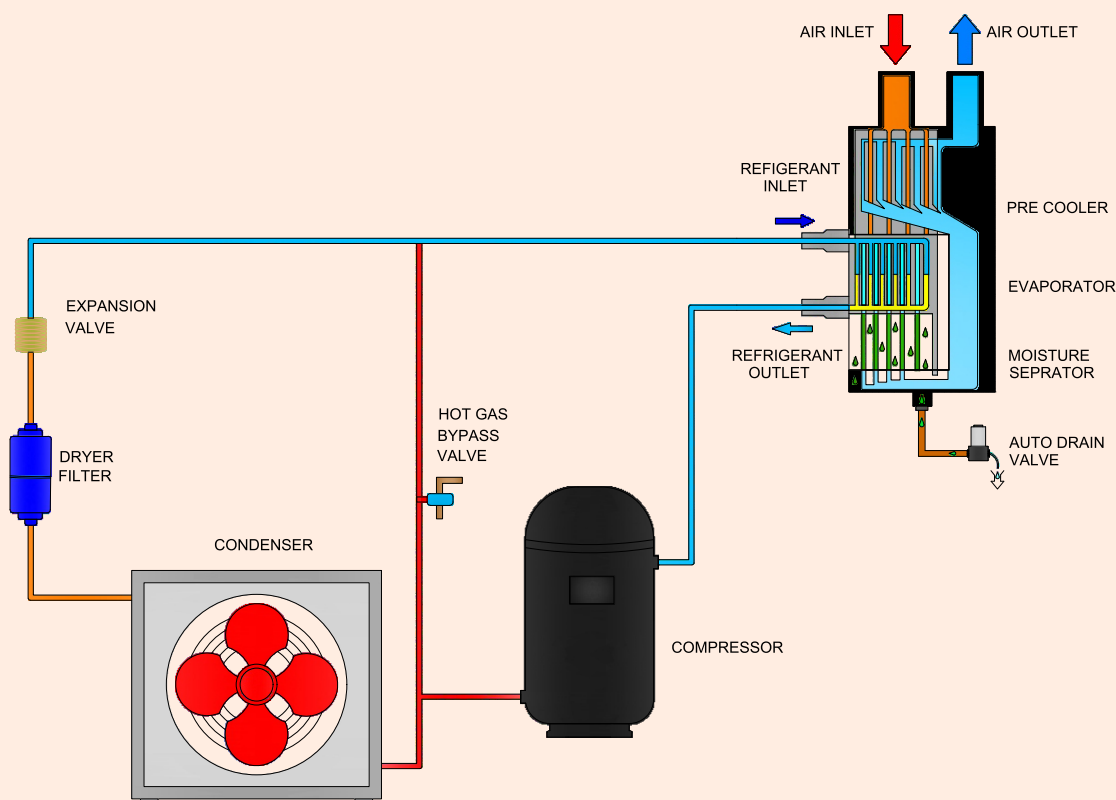
Progressive Engineering Works, located in Faridabad, manufactures premium Refrigerated Air Dryers. Additionally, filtration and storage systems for compressed air. We are dedicated to meeting customer expectations and ensuring the highest quality of compressed air classification. With an extensive service network, we are committed to providing top - class support and a superior customer experience.

DO WE REALLY NEED AN AIR DRYER ?

Compressed air delivered by air compressors often contains contaminants like moisture, dirt, and oil particles, which impact air quality. Many applications involving compressed air require clean and dry air, though the level of air quality depends on the specific application. Untreated air can lead to significant productivity losses due to production issues, increased rejections, and high maintenance costs caused by contamination. According to ISO 8573 - 1, air quality can be improved to varying levels through filtration, water separation, and oil removal.

WORKING PRINCIPLE

Compressed air from the air compressor exits with high moisture content and a temperature exceeding the ambient level. It then enters the air dryer's cooling assembly, where it first goes through a pre - cooler that transfers heat to the outgoing dry air, which has been cooled to a much lower temperature. This serves two purposes: the incoming air gets cooled, allowing the dryer to be smaller in size, and the outgoing air is warmed slightly to prevent condensation on the exterior of the piping. After passing through the pre - cooler, the air enters the evaporator, where it is cooled to the desired dew point. The moisture from this condensed air is released through an automatic drainage system. This cooling process is maintained by a closed coolant system that uses refrigerant.



SALIENT FEATURES

- **Design for High ambient temperatures** - The condenser, evaporator, and canopy are designed to ensure the dryer operates efficiently at higher ambient temperatures.
- **Low Pressure Drop** - The evaporator is carefully engineered to maintain a pressure drop of less than 0.2 bar.
- **Serviceability** - The canopy offers ample space and modular design to ensure easy access to both critical and non-critical components.
- **Safeties** - Comprehensive safety measures are in place to ensure the dryer automatically trips to prevent damage to any core component.



TECHNICAL SPECIFICATIONS

MODEL	CAPACITY	WORKING PRESSURE	POWER SUPPLY	CONDENSER	END CONN.	DIMENSIONS (MM)		
	CFM	BARG	V/PH/Hz	VERSION	INCH"	L	D	H
ADR-50	50	14	220/1/50	Air Cooled	1"	685	800	1190
ADR-75	75	15	220/1/50	Air Cooled	1"	685	800	1190
ADR-100	100	15	220/1/50	Air Cooled	1.5"	685	800	1190
ADR-150	150	15	220/1/50	Air Cooled	1.5"	685	800	1190
ADR-200	200	15	220/1/50	Air Cooled	2"	1060	810	1100
ADR-250	250	15	415/3/50	Air Cooled	2"	1060	810	1100
ADR-300	300	15	415/3/50	Air Cooled	2"	1060	810	1100
ADR-350	350	15	415/3/50	Air Cooled	2"	1060	810	1100
ADR-400	400	15	415/3/50	Air Cooled	2"	1060	810	1100
ADR-450	450	15	415/3/50	Air Cooled	2"	1290	820	1260
ADR-500	500	15	415/3/50	Air Cooled	2"	1290	820	1260
ADR-550	550	15	415/3/50	Air Cooled	2"	1290	820	1260
ADR-650	650	15	415/3/50	Air Cooled	2"	1290	820	1260
ADR-750	750	15	415/3/50	Air Cooled	3"	1450	850	1260
ADR-850	850	15	415/3/50	Air Cooled	4"	1450	850	1260
ADR-1100	1100	15	415/3/50	Air Cooled	4"	1450	850	1260

DESIGN PARAMETERS

Max. Ambient Temperature : 45 Deg.Cel.

Max. Inlet Temperature : 55 Deg.Cel.

Max Inlet Pressure : 15 Kgf/cm²

FLOW CORRECTION FACTOR

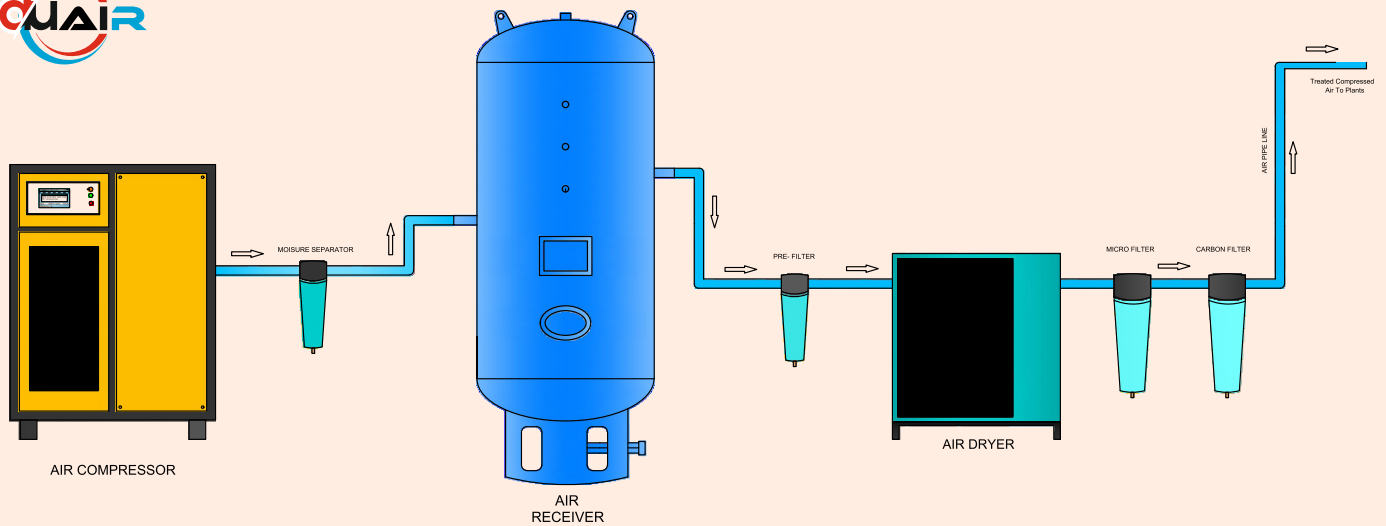
Ambient Temp. (Deg.Cel.)	25	30	35	40	45
Correction Factor	1.12	1.08	1.04	1	0.96

Inlet Temp. (Deg.Cel.)	30	40	45	50	55
Correction Factor	1.06	1.03	1	0.9	0.75

Inlet Pressure (Kgf/cm ²)	5	6	7	8	9	10	12
Correction Factor	0.75	0.88	1	1.1	1.15	1.2	1.25

Note: Correction factors are applied to calculate the required capacity of dryer for a given flow rate of compressed air at the demand side. To determine the appropriate capacity for the dryer, divide the flow capacity by the product of all correction factors.

Note: Dimensions may change without notice due to continued product development.



COMPRESSED AIR LINE FILTERS

- Atmospheric air contains contaminants such as solid particles, water, gases, and hydrocarbons, which become more concentrated and hazardous after compression. This can damage end products, hinder applications, and create problems in pipelines and processes. Compressed air must be treated according to application requirements, and proper filtration can eliminate contamination risks.
- Progressive offers a range of filters that ensure air quality as per ISO 8573.1, upto quality class 1 and better than that for dust and oil.

FILTER MODEL	FLOW RATE		PRESSURE (BARG)	CONNECTION	H (mm)	W (mm)
		CFM				
PE-008*	2.3	80.0	16	1"	280	95
PE-012*	3.4	120.0	16	1.5"	302	125
PE-020*	5.7	200.0	16	1.5"	421	125
PE-028*	7.9	280.0	16	1.5"	421	125
PE-040*	11.3	400.0	16	2"	550	170
PE-055*	15.6	550.0	16	2"	550	170
PE-075*	21.2	750.0	16	2.5"	640	205
PE-100*	31.1	1100.0	16	3"	792	205
PE-140*	39.6	1400.0	16	4"	840	208



- *P Dust Removal Capacity < 1 Micron & oil residual < 1ppm
- *F Dust Removal Capacity < 0.01 Micron & oil residual < 0.01 ppm
- *A Activated carbon filter, filtration capacity < 0.01 micron & oil residual < 0.003 ppm

AIR RECEIVER

Vertical Air Receivers for Compressed Air from 100 Ltr to 30000 Ltr, pressure upto 40 Barg.



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