# Refrigerated Air Dryer







## OPERATING COST COMPRESSED AIR DRYER

A refrigerated air dryer is the most commonly used. type of compressed air dryer / Gas Dryer for most plant applications for the drying of plant air and other utility gases like Seal gas , hydrogen gas for generator cooling , nitrogen Gas drying etc. where a dew point of (+2) Deg. C. at line pressure i.e. (-22 )Deg. C. at atmospheric pressure) is an acceptable norm. This Type of dryer finds application in Fly ash conveying / Cement conveying / Powder conveying / Pneumatic conveying of materials / Dense phase conveying / Lean phase conying , Seal gas Dryer, General plant air , hydrogen gas dryer used in generator cooling application & Pneumatic tools operation.

As much as 2300 gallons of moisture can be removed from a100 cfm pneumatic system operating at 100 psi in 12 months of 3 shift operation, moisture which without a refrigerant air dryer, would have passed through the delicate pneumatic equipments & instruments

## FEATURES OF REFRIGERATED AIR DRYER

A full range of aircooled as well as water cooled refrigerant air dryers are available for moisture removal & to provide dry clean air to any size and type of compressed air & pneumatic systems

## ENERGY EFFICIENT HEAT EXCHANGER

Power consumption reduced by upto 10% over conventional refrigerated dryer system.

## ADVANCED DESIGN

Moisture Dirt and oil contamination is removed by either impaction or integral filtration-ensures maximum protection for pneumatic compressed air equipment at all times

## CONTAMINANT REMOVAL DOWN TO 1 MICRON

Minimal additional filtration is required after the refrigerated dryer for most applications.

## TRIED AND TESTED CONTROL SYSTEM

Ensures maximum reliability of the refrigerated air dryer at all times.

## DEW POINT INDICATOR (AT LINE PR.)

At - a - glance monitoring of dryer performance thru an online digital dew point temperature indicator.

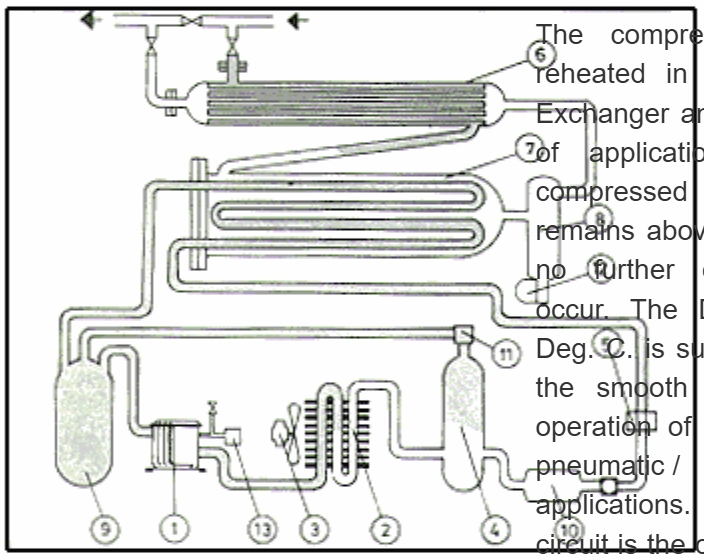
air equipment at all times

## LOW NOISE LEVELS- 60 DB (A)

Suitable for location in indoor working environment

Wet Compressed air undermines efficiency of smallest to the largest pneumatic system. Therefore,moisture removal in compressed air system installation is a must. The drying of Compressed air by Mellcon Refrigerated Air Dryer is the most economical and reliable process of compressed air treatment. The incoming saturated, moist air is precooled in the Air - to - Air Heat Exchanger (6) by the outgoing dry chilled air. In the process, a greater part of Water Vapour gets condensed into liquid moisture. Further moisture separation takes place in the Freon -to- Air Heat Exchanger (7) where air is chilled to a temperature of +2 Deg. C. and moisture condenses. This temperature is termed as pressure 'Dew Point'. The Moisture Separator (8) removes the condensate by an Automatic Condensate Trap (12) i e. auto drain.

- Refrigeration Compressor
- Refrigerant Condensor
- Electric Fan
- Liquid Receiver
- Thermostatic Expansion Valve
- Air-to-AirheatExchanger
- Freon-to-AirHeatExchanger
- Centrifugal Condensate Separator
- Accumulator
- Moisture Removal Filter
- By-PassValve
- Automatic Condensate Trap i. e. auto drain
- Press for Fan (AC only )




The compressed dry air is reheated in Air -to- Air Heat Exchanger and fed to the point of application. As long as compressed air temperature remains above the +2 Deg. C., no further condensation will occur. The Dew Point of +2 Deg. C. is sufficient enough for the smooth and trouble free operation of most of industrial pneumatic / process applications. The refrigeration circuit is the conventional circuit comprising refrigerant Compressor (1), air or water cooled Condenser (2), Expansion Valve (5) etc. using Freon R-22 as refrigerant gas. Use of R-22 as a refrigerant is permissible up to the year 2030 AD. as per Montreal Protocol. System with Ecofriendly Refrigerant like R-134 A, R-404 A, R-407C are also offered. Air Cooled (AC) models are available up to 2750 CFM and higher models are available with water cooled condenser.

| TECHNICAL SPECIFICATION | | | | | | |
|---|---|---|---|---|---|---|
| MODELNO. | CAPACITY | | | PIPELINESIZE (MM) | AIRCOOLED(AC) PowerConsumptionKW | WATER COO |
| | CFM | M3 HR | NM3 HR | | | Powerconsumption KW |

| | | | | | | |
|---|---|---|---|---|---|---|
| RF-01 | 30 | 51 | 42 | 15 | 0.15 | - |
| RF-02 | 60 | 102 | 84 | 25 | 0.38 | - |
| RF-03 | 100 | 170 | 140 | 25 | 0.55 | - |
| RF-04 | 160 | 272 | 224 | 25 | 0.80 | 0.48 |
| RF-05 | 200 | 340 | 280 | 40 | 1.14 | 0.61 |
| RF-06 | 300 | 510 | 420 | 40 | 1.40 | 0.86 |
| RF-07 | 400 | 680 | 560 | 40 | 1.88 | 1.00 |
| RF-08 | 500 | 850 | 700 | 50 | 2.14 | 1.40 |
| RF-09 | 600 | 1020 | 840 | 50 | 2.51 | 1.60 |
| RF-10 | 700 | 1190 | 980 | 65 | 3.02 | - |
| RF-11 | 750 | 1275 | 1050 | 65 | - | 1.94 |
| RF-12 | 900 | 1530 | 1260 | 65 | 3.56 | 3.02 |
| RF-13 | 1000 | 1700 | 1400 | 80 | 4.78 | 3.17 |
| RF-14 | 1100 | 1870 | 1540 | 80 | - | 3.45 |
| RF-15 | 1250 | 2175 | 1750 | 80 | 5.22 | 3.66 |
| RF-16 | 1350 | 2295 | 1890 | 80 | 6.06 | 4.25 |
| RF-17 | 1500 | 2550 | 2100 | 100 | 6.85 | 4.93 |
| RF-18 | 1750 | 2975 | 2450 | 100 | - | 5.88 |
| RF-19 | 1850 | 3145 | 2590 | 100 | 8.32 | - |
| RF-20 | 2000 | 3400 | 2800 | 100 | - | 6.76 |
| RF-21 | 2100 | 3570 | 2940 | 125 | 10.00 | - |
| RF-22 | 2300 | 3910 | 3220 | 125 | 10.20 | 7.60 |
| RF-23 | 2750 | 4675 | 3850 | 125 | 11.00 | 8.37 |
| RF-24 | 3000 | 5100 | 4200 | 150 | - | 9.20 |
| RF-25 | 3250 | 5525 | 4550 | 150 | - | 10.60 |
| RF-26 | 3500 | 5950 | 4900 | 150 | - | 11.86 |
| RF-27 | 3750 | 6375 | 5250 | 150 | - | 11.00 |
| RF-28 | 4000 | 6800 | 5600 | 150 | - | 12.67 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| RF-29 | 4250 | 7225 | 5950 | 200 | - | 13.80 | |
| RF-30 | 4500 | 7650 | 6300 | 200 | - | 14.00 | |
| RF-31 | 4750 | 8075 | 6650 | 200 | - | 14.15 | |
| RF-32 | 5250 | 8925 | 7350 | 200 | - | 17.11 | |

Above Ratings are at the following conditions :Inlet Air Temperature : 40 $^0$C
Inlet Air Pressure : 7.0 Kg/cm$^2$g ( 0.7 Mpa)
Pressure Dew Point : 2 $^0$C

NOTE : Refrigerated Air Dryers based on eco-friendly refrigerants like R-134a / 404a / 407c are available on request. For a QUOT please contact us

| HIGH PRESSURE REFRIGERATED TYPE AIR DRYER | | | | | | |
|---|---|---|---|---|---|---|
| SL.NO. | MODEL NO. | CAPACITY | | PRESSURE KG / CM$^2$G | PIPE LINE SIZE (MM) | APPROX. DIMENSIONS(MM) |
| | | CFM | M$^3$ / HR | | | |
| 01. | RF-HPR-01 | 35 | 60 | 35 | 15 | 1000 X 800 X 1000 |
| 02. | RF-HPR-02 | 70 | 120 | 35 | 15 | 1000 X 800 X 1000 |
| 03. | RF-HPR-03 | 35 | 60 | 70 | 09 | 1000 X 800 X 1000 |
| 04. | RF-HPR-04 | 70 | 120 | 70 | 15 | 1000 X 800 X 1000 |

The above Refrigerated Air Dryer capacities are rated at an inlet temp. of 40°C.,and at an outlet dew point of (+2)°C at line Pressure, Supply Voltage of 220 V-1 PH- 50 HZ or 415V-3PH-50 Hz.

For cost comparison of operating of a Heat of Compression Type Air Dryers Vs. Heated Type/Heatless/Refrigerated Type Air Dryers please clickhere.

Above data is only for estimation and can be changed without notice


## Marketing Dryers

E-mail: mellcon@mellcon.com
Phone : +91 9313227567