

# HEATLESS AIR DRYERS

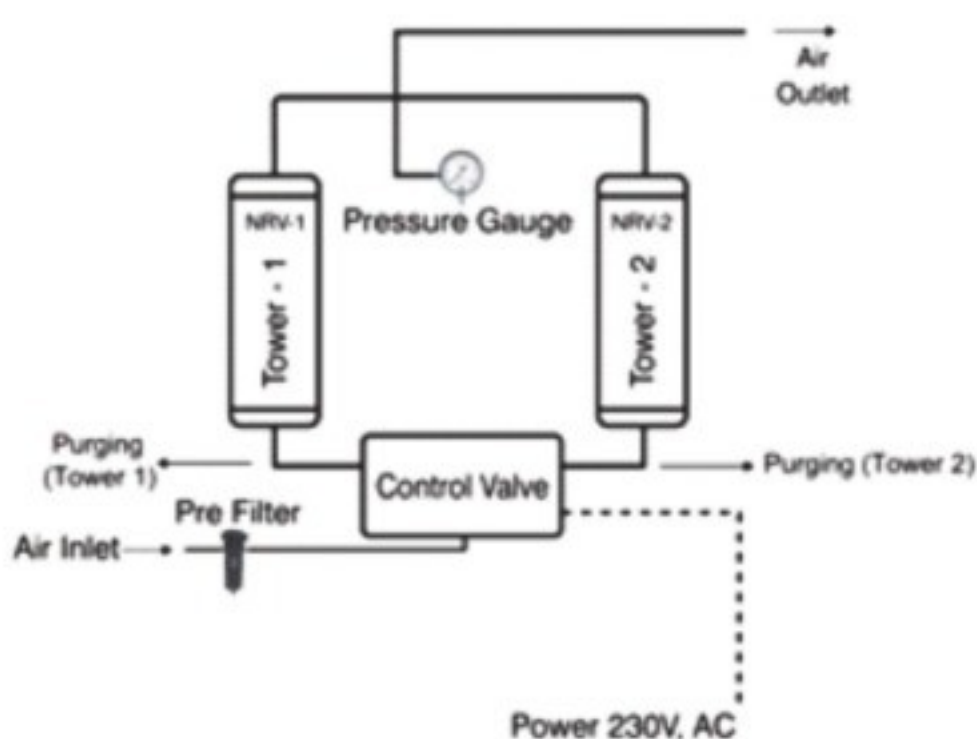
## WORKING PRINCIPAL

Heatless Air Dryer often referred as pressure swing adsorption dryer. The compressed air is passed through a coalescing type Pre filter. Here dust particles, water and oil coalesce and removed from the stream. Then the air is passed through a pressure vessel with two "towers" filled with a media such as activated alumina, molecular sieve or other Desiccant material. This desiccant material attracts the water from the compressed air via adsorption. As the water clings to the desiccant, the desiccant "bed" becomes saturated. The dryer is timed to switch towers based on a standard cycle, once this cycle completes some compressed air from the system is used to "purge". The duty of the desiccant is to bring the pressure dew point of the compressed air to a level in which the water will no longer condense. A standard dew point that is expected by a Heatless Air Dryer is  $-40^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$ ), required dew point is dependant on application and  $70^{\circ}\text{C}$  required in some applications.

## SPECIFICATIONS

Working Pressure Range	4 to 12 Bar
Working Temperature Range	$5^{\circ}\text{C}$ to $45^{\circ}\text{C}$
Pre Filter (Coalescing Type)	0.1 Micron
Post Filter (in built -2 Nos)	20 Micron
Purge Loss	08 to 10%
Atmospheric Dew Point	$-40^{\circ}\text{C}$
Desiccant	Alumina Balls
Voltage Range	230 V/ 1Ph/50Hz

## SCHEMATIC DIAGRAM



## TECHINICAL SPECIFICATION

### HEATLESS AIR DRYERS ( LHD SERIES )

Model	Cap-acity	Working Pressure Kg/cm <sup>2</sup>	Conn-ections BSP	Power Supply w/ph	Overall Dime-nsions in mm			Approx Weight (Kgs.)
					H	L	D	
LHD-05	05	12	1/2"	220/1	570	240	100	12
LHD-10	10	12	1/2"	220/1	670	240	100	15
LHD-20	20	12	1/2"	220/1	990	240	100	20
LHD-30	30	12	1/2"	220/1	900	350	350	30
LHD-40	40	12	1/2"	220/1	1100	350	350	35
LHD-70	70	12	3/4"	220/1	1530	590	590	100
LHD-100	100	12	1"	220/1	1650	800	800	130

Model	Cap-acity	Working Pressure Kg/cm <sup>2</sup>	Conn-ections BSP	Power Supply w/ph	Overall Dime-nsions in mm		
					H	L	D
SLHD-200	200	12	1 1/2"	220/1	2200	1000	1000
SLHD-300	300	12	1 1/2"	220/1	2400	1200	1200
SLHD-400	400	12	1 1/2"	220/1	2400	1400	1200
SLHD-500	500	12	2"	220/1	2400	1400	1400
SLHD-600	600	12	2"	220/1	2400	1400	1400
SLHD-750	750	12	3"	220/1	1500	1500	2500
SLHD-1000	1000	12	3"	220/1	1600	1600	2600

### APPLICATION

- Automobile Industry
- Beverages Industry
- Spray Painting
- Hospitals
- Tools Room
- Powder Coating Plants
- General Instrumentations
- Pharmaceutical Industry and Many More

### SALIENT FEATURES

- Proven trouble-free
- All aluminum rust-free
- Construction
- Easy and Flexible Installation
- Simple Maintenance
- Compact & Lightweight
- Outlet Air Quality According to ISO 8573-1, Table 3, Class 2



## AUTOMATIC DRAIN VALVE

Auto drain valves are used to remove accumulated water particles from the air line equipment. SKE has developed different varieties of auto drain valves with respect to the application and ease of operation.

- Due timer, solenoid operated
- Single timer, solenoid operated
- Zero air loss/float type
- High Pressure (40 Bar) Drain valve
- High discharge, pilot air operated

## AIR FILTER

YF series is the latest designed by SKE with a capability of withstanding air temperature upto 90C. It can remove dust, moisture, rust scales & oil particles from compressed air. • Flow ranges from 15 CFM •  $1\mu$   $5\mu$   $0.01\mu$  & activated carbon filters • Borosilicate fibre glass filtration media • Coalescing elements covered with hydrophobic material Aluminum die cast body upto 350 CFM • MS construction with multiple element for higher flow capacities • Models are available for 16 bar & 45 bar range • Auto drains & gauges are optional.

## SIZING CONVERSION FACTORS

OPERATION CONDITION	IDEAL	MAXIMUM
INLET TEMPERATURE	45°C	60°C
AMBIENT TEMPERATURE	40°C	50°C
INLET PRESSURE	07 bar g	16 bar g
Dryer Nominal Capacity = Compressor Actual Capacity F1 x F2 x F3		

### INLET TEMPERATURE (F1)

INLET TEMPERATURE (°C)	35	40	45	50	55	60
CORRECTION FACTOR (F1)	1.35	1.14	1.00	0.88	0.79	0.71

### AMBIENT TEMPERATURE (F2)

AMBIENT TEMPERATURE (°C)	25	30	35	40	45	50
CORRECTION FACTOR (F2)	1.18	1.10	1.09	1.00	0.91	0.83

### INLET PRESSURE (F3)

INLET PRESSURE (BAR)	04	05	06	07	08	10	12	16
CORRECTION FACTOR (F3)	0.82	0.89	0.95	1.00	1.04	1.08	1.12	1.19

## M/S S K ENGINEERING COMPANY

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## OTHER PRODUCTS RANGE

