

WALRUS™

INDUS MAKE AMMONIA REFRIGERATION PACKAGE (RefPak™)





Our Vision

To act ethically to protect the environment and improve quality of life through sustainable energy efficient cooling and freezing solutions.

INDUS make WALRUS™ **RefPak™** is Complete Refrigeration system on compact structural steel base Frame.

The **RefPak™** will consists of the following components mounted, inter connected, electrically wired and pressure tested at factory.

- ❖ **MYCOM** Reciprocating Compressor with Oil Heater.
- ❖ Oil Separator with Automatic Oil Return.
- ❖ Water Cooled Oil Cooler.
- ❖ IE2, IP 55 Motor.
- ❖ LP Receiver.
- ❖ Refrigerant Pumps.
- ❖ Oil Collecting Vessel.
- ❖ Shell & Plate (or) Plate Type Condenser.
- ❖ HP Receiver.
- ❖ Economizer (If Necessary).
- ❖ Electro Mechanical Control Panel with Motor Starters (Star Delta / DOL).

OPTIONS :

- ❖ Screw Compressor with Three Stage Horizontal Oil Separator.
- ❖ Thermosyphon Oil Cooler.
- ❖ Evaporative / Shell and Tube Condenser.
- ❖ IE3 Motor.
- ❖ Soft Starter / VFD.
- ❖ PLC Based Fully Automatic Control Panel.

MYCOM (Japan) make ammonia Reciprocating / Screw compressors are used in **INDUS** make "WALRUS" RefPaks™.

This ensures the heart of the package has high reliability and High energy Efficiency.

FEATURES :

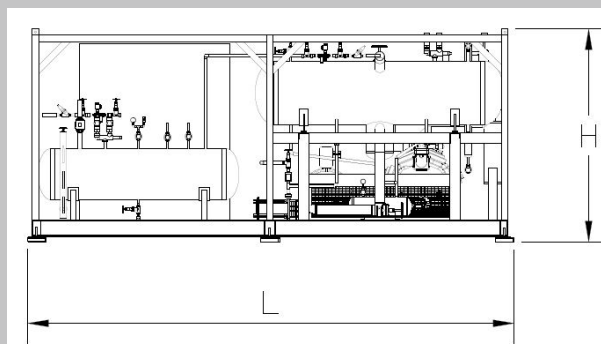
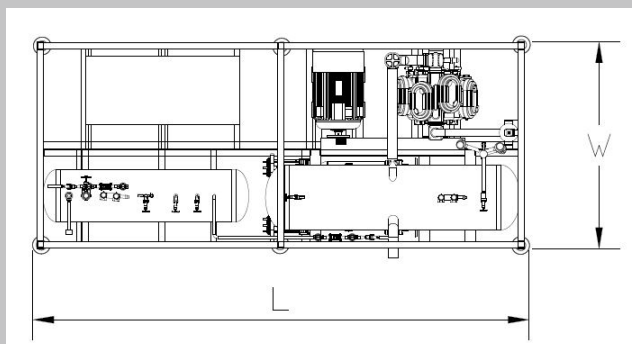
- ❖ Quick, efficient and less expensive installation – onsite work will consist of connecting Refrigeration Package to Air Cooling Coil (Evaporators), Installation of cooling tower with interconnecting water piping and bringing Power into Control Panel.
- ❖ Compact design means that the Refrigeration Systems (RefPak™) will occupy Minimum Space.
- ❖ Better quality end product – since most of the fitting and welding work is done in a shop environment versus out in the field, coupled with **INDUS** rigid quality control program, the Refrigeration System (RefPak™) will be of the highest Quality.
- ❖ RefPak™ can be shipped in a standard 20' / 40' open top container.
- ❖ **MYCOM** Japan compressors offer the latest in efficiency and technology.
- ❖ Shell and tube economizer for added performance and efficiency. (If Necessary)
- ❖ Electro Mechanical Control Panel with Danfoss / Equivalent Make Pressure Switches, Temperature / Pressure Sensor and Step capacity Controller.
- ❖ The Low pressure receiver sized large enough to hold the ammonia charge of the whole system along with the use of a pilot receiver does away with the need for a high pressure receiver at the same time lowering the operating charge of ammonia.
- ❖ A standby ammonia pump ensures production in the event of a pump failure.



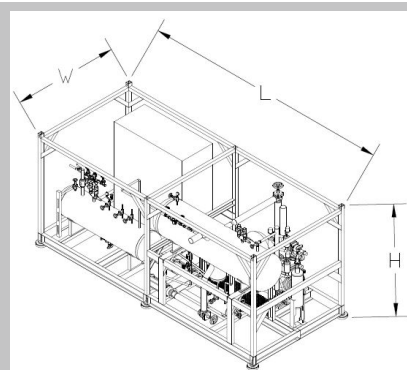
RefPak™ With Reciprocating Compressor



RefPak™ With Screw Compressor



REFPAK™ DIMENSION



INDUS Make Refpak™ is a customised equipment, we can make design and develop the Refpak™ for all the Heat - Transfer Applications based on customers' needs / requirements

RefPak™ @ (-) 5 Deg C

CAPACITIES with DIMENSIONS							
RefPak Model No	WALRUS - 2000	WALRUS - 3000	WALRUS - 4000	WALRUS - 5000	WALRUS - 6000	WALRUS - 8000	WALRUS - 10000
Compressor Model and Qty (MYCOM L' & K' Series of Reciprocating Compressor)	N4K @ 1350 RPM x 2 Nos	N6K @ 1210 RPM x 2 Nos	N4L @ 970 RPM x 2 Nos	N4L @ 1210 RPM x 2 Nos	N4L @ 1350 RPM x 2 Nos	N6L @ 1260 RPM x 2 Nos	N6L @ 1400 RPM x 2 Nos
Capacity (kW) @ (-) 5°C SST and 40°C SCT	140	210	284	350	422	562	700
Compressor Motor (HP)	2 Nos x 30	2 Nos x 40	2 Nos x 60	2 Nos x 75	2 Nos x 75	2 Nos x 100	2 Nos x 120
Cold Store Capacity (Metric Ton)	2000 MT	3000 MT	4000 MT	5000 MT	6000 MT	8000 MT	10000 MT
No. of Chamber	2	3	4	5	6	8	10
Chamber Dimension (Mtr) - (length x Width x Height)	18 x 16 x 10	18 x 16 x 10	18 x 16 x 10	18 x 16 x 10	18 x 16 x 10	18 x 16 x 10	18 x 16 x 10
Refrigerant	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia
Ammonia Pump (HP) - 1No. Working 1No. Stand by	2 Nos. x 3	2 Nos. x 5	2 Nos. x 5	2 Nos. x 5	2 Nos. x 7.5	2 Nos. x 10	2 Nos. x 10
Condenser Water Pump (HP)	1 No. x 5	1 No. x 7.5	1 No. x 10	1 No. x 10	1 No. x 12.5	1 No. x 15	1 No. x 20
Condenser Heat Rejection (kW)	230	300	370	455	550	740	910
Water Flow Rate @30°C Inlet Temp / Temp Diff : 5°C	40 M³ / Hr.	51.5 M³ / Hr.	63.4 M³ / Hr.	78.2 M³ / Hr.	94.5 M³ / Hr.	127.2 M³ / Hr.	156.4 M³ / Hr.
Overall Dimension							
Length (mm)	7000	7000	7000	7000	7000	8000	8000
Width (mm)	2400	2400	2400	2400	2400	2400	2400
Height (mm)	3000	3000	3000	3000	3000	3000	3000
Estimated Shipping Weight (Kgs)	7500	7500	7500	7500	7500	8800	8800

Note

- 1) The above capacities and dimensions are subject to change without notice.
- 2) The capacities are based on (-) 5°C SST and (+) 38°C SDT.
- 3) Refrigeration capacity of above RefPak at other SST will be provided on request.
- 4) We can design and build "Custom-Made" RefPak as per enduser requirements and applications.

RefPak™ @ (-) 40 Deg C

CAPACITIES with DIMENSIONS						
RefPak Model No	WALRUS - 100	WALRUS - 125	WALRUS - 150	WALRUS - 200	WALRUS - 250	WALRUS - 300
Compressor Model and Qty (MYCOM M' Series Reciprocating Compressor)	N62MII @ 900 RPM x 1 Nos	N62MII @ 1100 RPM x 1 Nos	N62MII @ 1350RPM x 1 Nos	N62MII @ 900 RPM x 2 Nos	N62MII @ 1100 RPM x 2 Nos	N62MII @ 1350RPM x 2 Nos
Capacity (kW) @ (-) 40°C SST and 38°C SCT	100	125	150	200	250	300
Compressor Motor (HP)	1 Nos x 100	1 Nos. x 120	1 Nos. x 150	2 Nos. x 100	2 Nos. x 120	2 Nos. x 150
Refrigerant	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia	Ammonia
Ammonia Pump (HP) - 1No. Working 1No. Stand by	2 Nos. x 3	2 Nos. x 3	2 Nos. x 3	2 Nos. x 3	2 Nos. x 3	2 Nos. x 3
Condenser Water Pump (HP)	1 No. x 3	1 No. x 3	1 No. x 3	1 No. x 5	1 No. x 5	1 No. x 5
Condenser Heat Rejection (kW)	200	300	300	400	500	400
Water Flow Rate @ 30°C Inlet Temp / Temp Diff : 5°C	35 M³ / Hr.	52.5 M³ / Hr.	52.5 M³ / Hr.	70 M³ / Hr.	85 M³ / Hr.	95 M³ / Hr.
Overall Dimension						
Length (mm)	7000	7500	7500	8500	8500	8500
Width (mm)	2400	2400	2400	2400	2400	2400
Height (mm)	3000	3000	3000	3000	3000	3000
Estimated Shipping Weight (Kgs)	7500	8200	8200	9300	9300	9300

Note

- 1) The above capacities and dimension are subject to change without notice.
- 2) The capacities are based on (-) 40°C SST, and (+) 38°C SDT the same RefPak can be used for (-) 25°C SST and (-) 35°C SST also.
- 3) Refrigeration capacity of above RefPak at other SST will be provided on request.
- 4) We can design and built "Custom-Made" RefPak as per enduser requirements and applications.

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