

metalex™

**ENERGIZING
EFFICIENCIES**



LIQUID REFRIGERANT RECIRCULATION SYSTEM



Metalex Cryogenics Limited
www.metalexgroup.com

LIQUID REFRIGERATION RECIRCULATION SYSTEM

HOW METALEX BENEFITS FROM AMMONIA REFRIGERATION SYSTEM

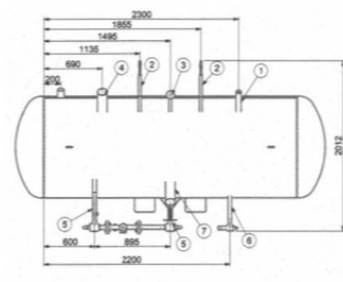
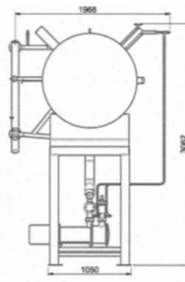
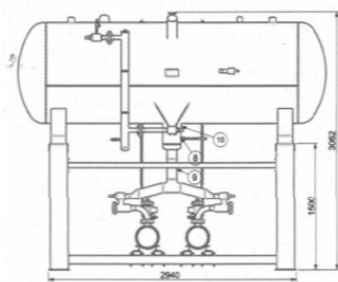
Evaporators never starve because of at least 3 times NH₃ is circulated through evaporator against the design load.

Control of Suction Vapor conditions result in best compressor efficiency & consistent protection from liquid hammer.

Uniform Liquid Pressure is maintained regardless of condenser pressure fluctuations.

The system assures adequate liquid ammonia overfeed & Max. Evaporator efficiency under all fluctuating load conditions.

- The efficacy and benefits of Refrigerant Re-Circulation throughout all evaporators of multi circulated refrigeration system are now accepted world over by industrial users of Ammonia refrigerant.
- Pumped Liquid Ammonia is the ideal method of evaporator feed because of its simplicity and high performance.
- In this LPR system, maximum heat transfer rates are achieved by completely wetting the inner surface of evaporator coils with an excessive flow of sub-cooled liquid refrigerant. This results in higher system efficiency and reduced operating cost. Over Feeding, especially in long coils, not only assures wetted Surface from one end of the coil to the other end but also tends to sweep gas bubbles out of the evaporator at an accelerated pace.
- The formation of ostentatious gas, caused by the change from high pressure to low pressure conditions, takes place in the low pressure receiver rather than in the evaporator.



ACCESSORIES

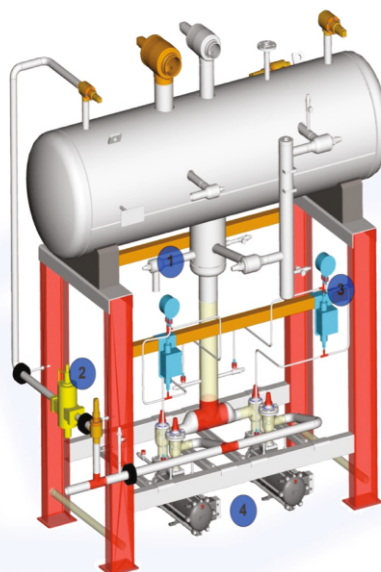
Each Metalex Re-Circulation system is equipped with following accessories:

- Dual Safety Relief Valve as per ASME standard.
- Low & High side Liquid Floats.
- High Pressure Liquid Sight Glass.
- Purge Valve.
- Drain Valve.
- Interconnecting Piping.
- Stop Valves as per requirement.
- Solenoid Valve.
- Non Return Valves.
- Filters.
- Ammonia Pumps: Metalex Low Pressures Receivers are equipped with TH. WITT Ammonia Pumps which gives an edge and the best power savings, when compared with other locally manufactured systems.

UNIQUE FEATURES

Metalex Ammonia Re-Circulation Systems (LPR Systems) are designed and built with accurate engineering calculations that provides customer a total reliable and trouble-free system.

Each Metalex LPR System is completely packaged in its factory with all components integrally mounted on one sturdy structural steel base and developed as per internationally accepted Global Standards. Every unit includes all the necessary system components for optimal efficiency.



Each Metalex LPR System is sized for low velocity separation of liquid Ammonia from wet return vapor - even under abnormal liquid surge conditions caused by evaporator defrosting or plant run down.

Only dry gas is returned to the compressor suction on, thus protecting the compressor from liquid hammer. Since the suction gas enters the compression system with negligible super heat, discharge temperature is kept low thus protecting the compressor from liquid-hammer.

Metalex Cryogenics Ltd.

**EQUIPMENT MANUFACTURING &
PROJECT ENGINEERING COMPANY.**



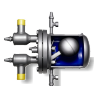
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