

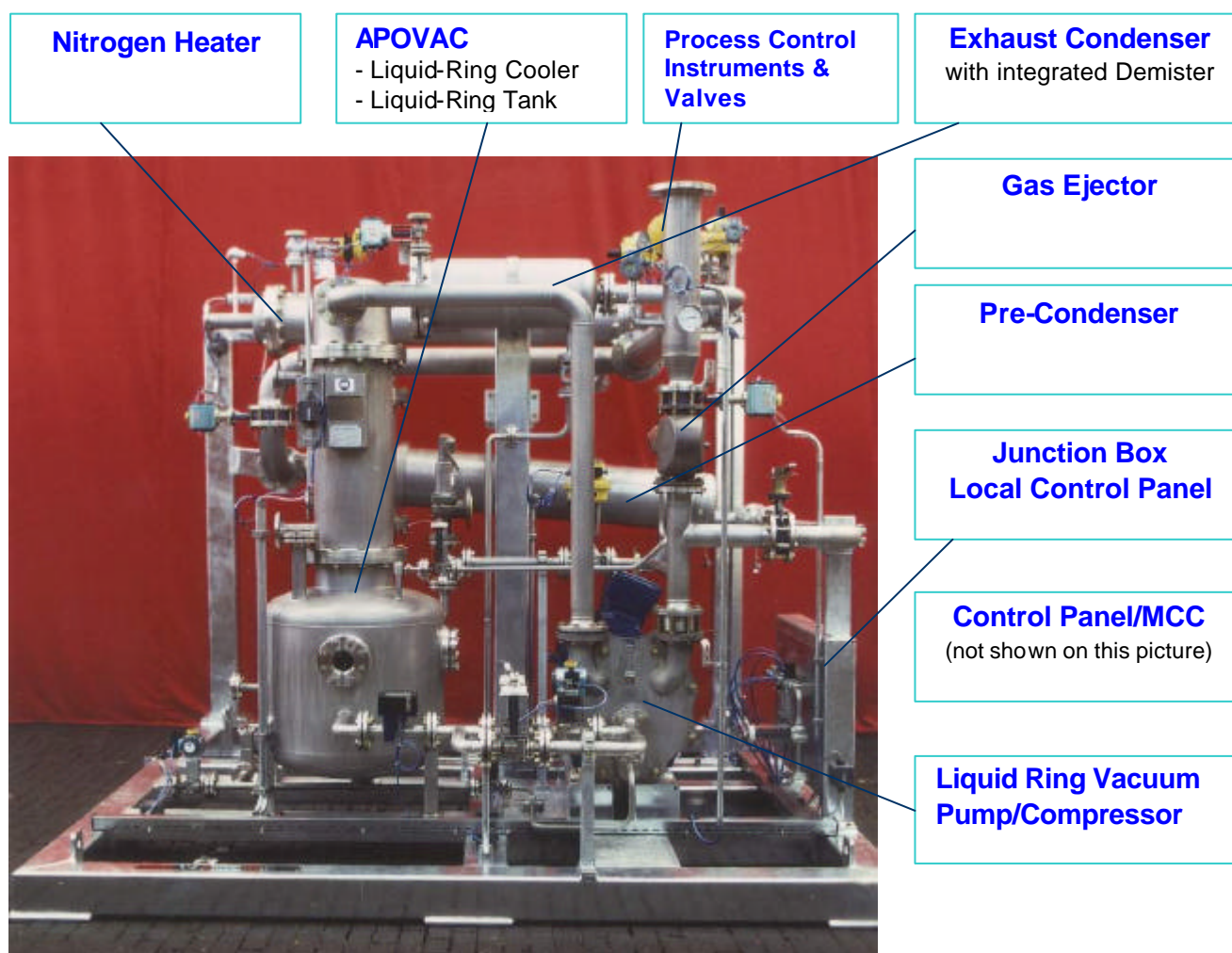
APOREC^â GAS RECIRCULATION SYSTEM for Nutsch Filters/Dryers

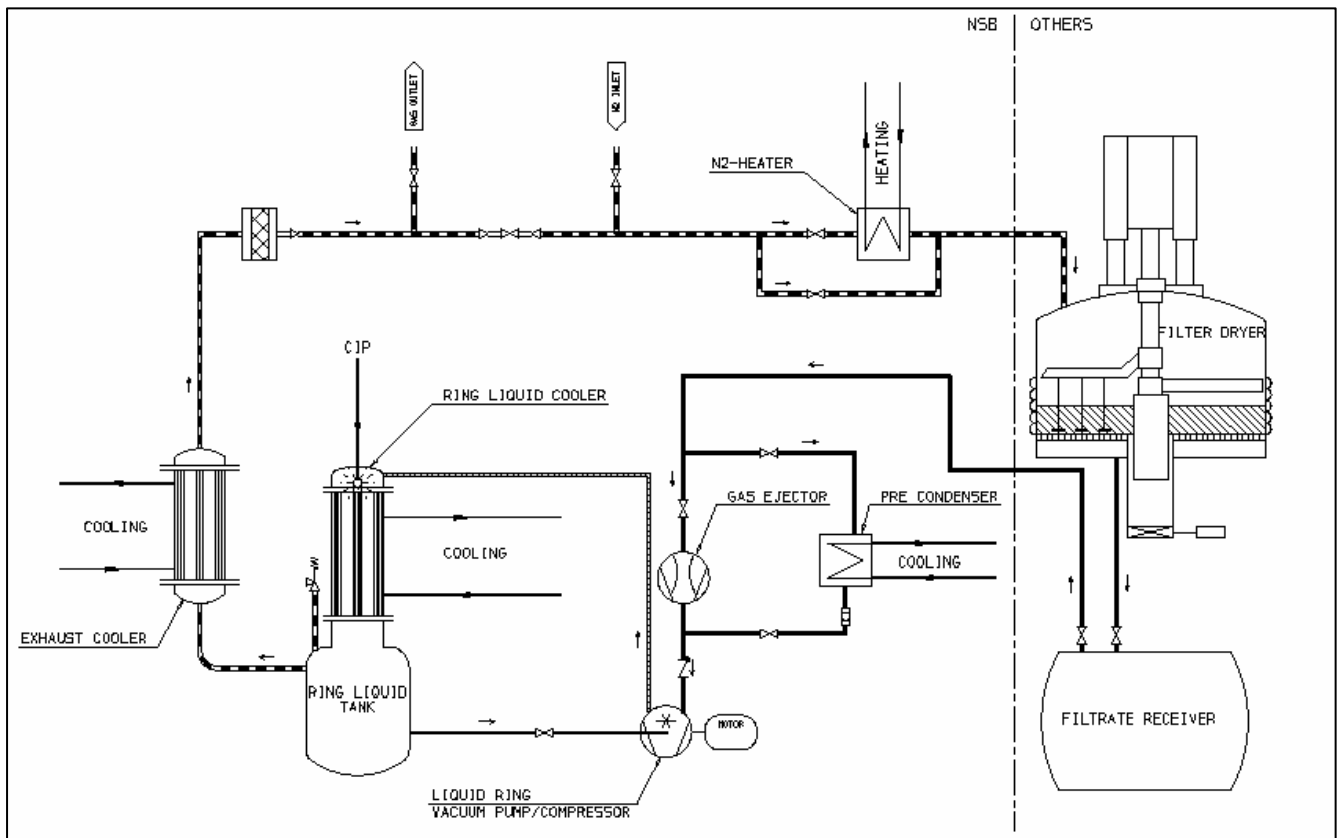
APPLICATION

Supporting system for product filtration and/or drying in all types of pharmaceutical filter/dryer.

FEATURES & BENEFITS

- Generation of vacuum and/or pressure by using a Liquid-Ring Pump
- Reduce solvent emissions caused by the pressure filter operation
- Recovery of residual process solvent from Nitrogen stream through condensation
- Reduction of Nitrogen consumption due to re-circulation
- Recycling of Nitrogen gas back into the production cycle
- Heating of Nitrogen to higher temperature to give Nitrogen more loading capacity
- Integrated CIP facility gives easy package cleanability to GMP standards
- Proven and reliable technology, long service life, low maintenance costs
- Skid-mounted system
- Process Control System, validated software



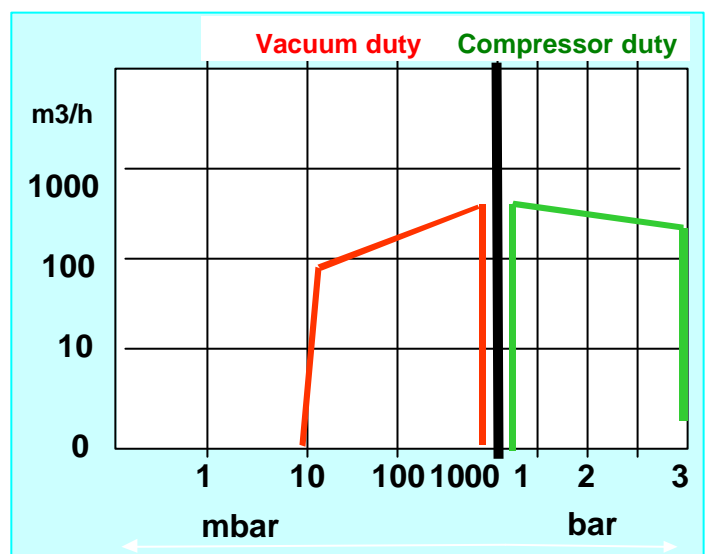


FUNCTION

Incondensable gases and solvent vapours evacuated from a filter dryer and filtrate receiver are drawn either via the inlet condenser or gas ejector into the liquid ring pump. Ring liquid for the pump is provided from the APOVAC tank. The APOVAC ring liquid cooler cools the associated gas and remaining vapour. Incondensable gases saturated with vapour are delivered through the exhaust gas branch. Further condensation is achieved in the exhaust gas condenser. The solvent loading capacity of the Nitrogen stream is increased by the N2-heater. The nitrogen is recirculated between the filter system and the APOVAC unit until the product is dry.

SERVICE & SUPPORT DUTIES

- **System inerting**
Drawing out of Oxygen and avoiding hazardous conditions inside filter vessel by pulling vacuum.
- **High pressure, low pressure or push-pull filtration.**
- **Power blow through**
Remove free liquid in the filter cake by blowing Nitrogen in the closed loop.
- **Drying feature**
Faster drying using the optional Pre-Condenser and Nitrogen Heater. Both pressure or vacuum drying mode possible.
- **CIP cleaning**



Notes

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