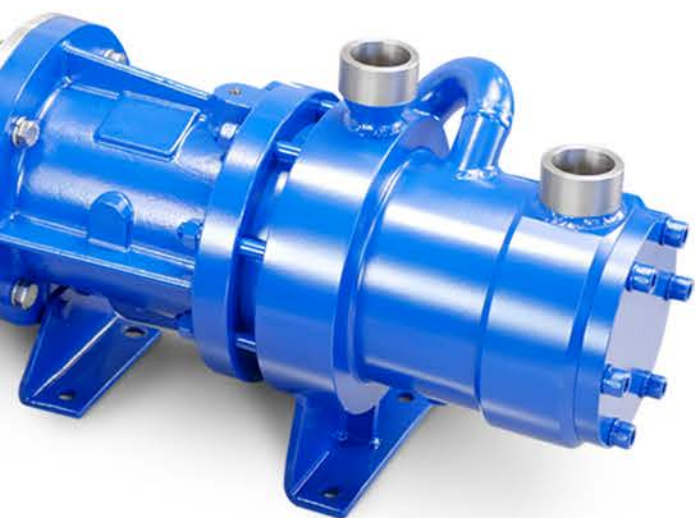




RESERVE SEALTM FREON PUMP

Freon, CO2 & NH3 Leak-Free Recirculation Pumps

Seal-Less Mag-Drive Pumps Ensure
Zero (0) Leakage

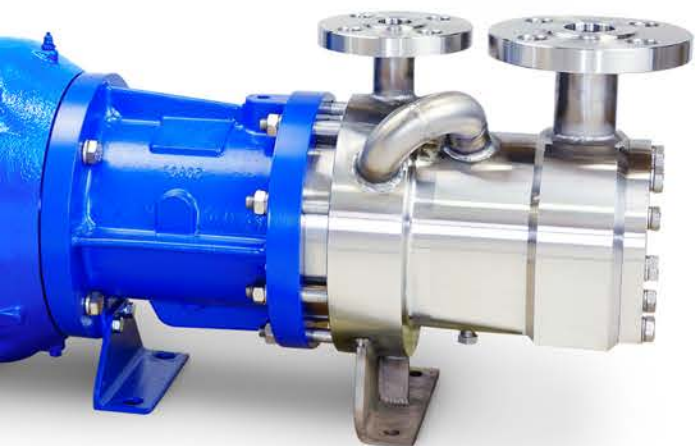
Freon, CO2 & NH3 recirculation pumps must be capable of pumping unstable pressurized gases without leakage or interruption in critical refrigeration systems. This type of service has been problematic for conventional pumps due to the risks of extremely low NPSHa, potential entrained gas, and highly reactive and penetrating refrigerants.

STM pumps are dynamic designs that can develop high head without over pressurizing systems as with P.D. pumps. Turbine pumps generate much higher heads (3-5X) than centrifugals and withstand up to 20% vapor as opposed to <1%. **STM** pumps feature a steep performance curve to accommodate varying head conditions. Thus avoiding high head cavitation and pump damage due to frictional heat from internally circulated process liquid.

STM pumps meet EPA zero (0) emissions regulations. **STM** mag-drive pumps are extremely versatile with independent NEMA motors and field repairable quick change cartridge assemblies.

Heat induction sources for canned motor pumps include TELC motor stator windings, motor armature slippage, eddy current losses, internal recirculation and bushing friction. Mag-drive pumps employ external TEFC motors, eliminating the first two heat sources. Both canned motor pumps and magnetic pumps generate eddy currents (electromagnetic and permanent magnetic fields, respectively) that diminishes exponentially with speed. However, the heat load of the TELC liquid cooled canned motor pump windings is constant regardless of pump speed. Therefore, the heat load is typically five to 10 times higher than with the corresponding air cooled mag-drive pumps.

Intermittent cycling in stand-by systems can flash refrigerants in canned motor pumps, accelerating wear and damage. Minimized heat in **STM** mag-drive pumps stops during idle periods, avoiding vapor locking.



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Guaranteed Performance for Approved Applications



Regenerative Turbine Pumps

SERIES | STM
for Refrigerants



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STM Regenerative Turbine Pumps

STM Series Regenerative Turbine Seal-less Mag-Drive Pumps are designed for low flow/ high head applications. Equipped with zero leakage magnetic couplings **STM** meets the latest toxic emissions regulations. The absence of mechanical seals eliminates process exposure, pump maintenance and costly down-time.

Process Capabilities:

- Thin, non-lubricating liquids
- High differential pressures
- Entrained vapor
- Low NPSH systems

STM pumps and couplings are equipped with engineered gaskets for bubble tight sealing

Design Features

- High head/low flow capability minimizes by-pass requirements
- Heavy duty casing and containment shell
- No metal to metal contact or galling
- Impeller design handles up to 20% entrained gases
- Self-balancing impeller w/ no axial thrust loading
- High torque magnets, suitable for low temperatures
- Close coupled standard NEMA or IEC motors

Specifications

- Differential Heads: to 500 feet (150 m)
- Flows: to 40 GPM
- Temperatures: -150°F (-100°C) to +600°F (315°C)
- System Pressures (MAWP): 350 PSIG (25 Bar) - to 2200 PSIG (150 Bar)
- Electrically reversible rotation & flow direction
- VFD rated TEFC motors w/ 10:1 turndown ratio
- Specific gravities: to 2.0

Available Materials of Construction

- All 316-SS
- All 304-SS
- All Titanium
- All Hastelloy-C

Options

- Dual static seals – Reserve Seal™
- Seal-welded liquid ends
- Flanges and adapter couplings
- Silicon carbide sleeve bearings
- High temperature design

Applications

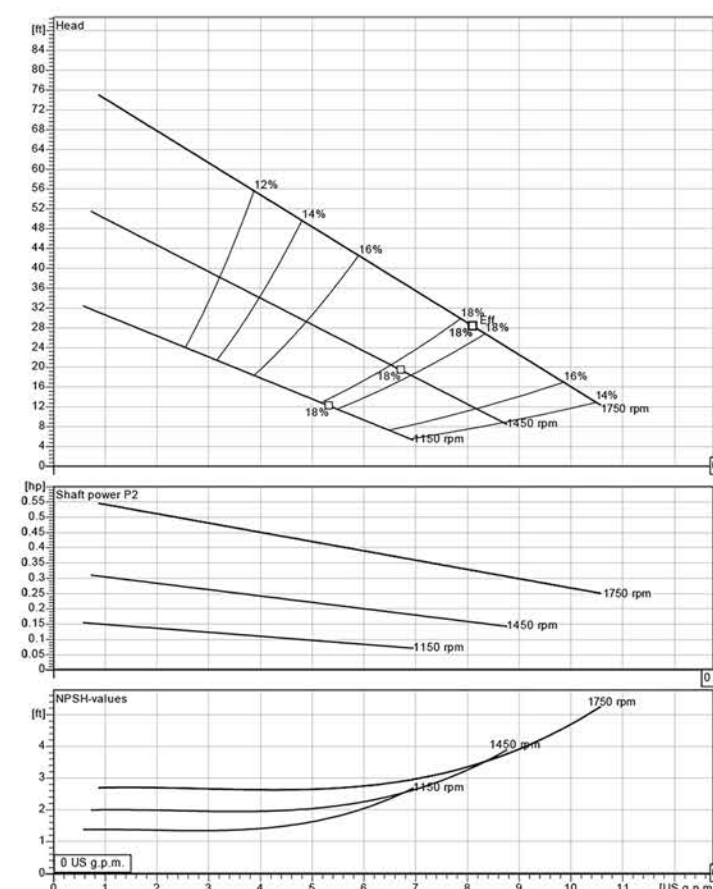
- Freon, CO2 & NH3
- Refrigerants, liquefied gases, hydrocarbons, solvents
- Heat transfer oil
- Corrosive chemicals
- Electrically conductive liquids



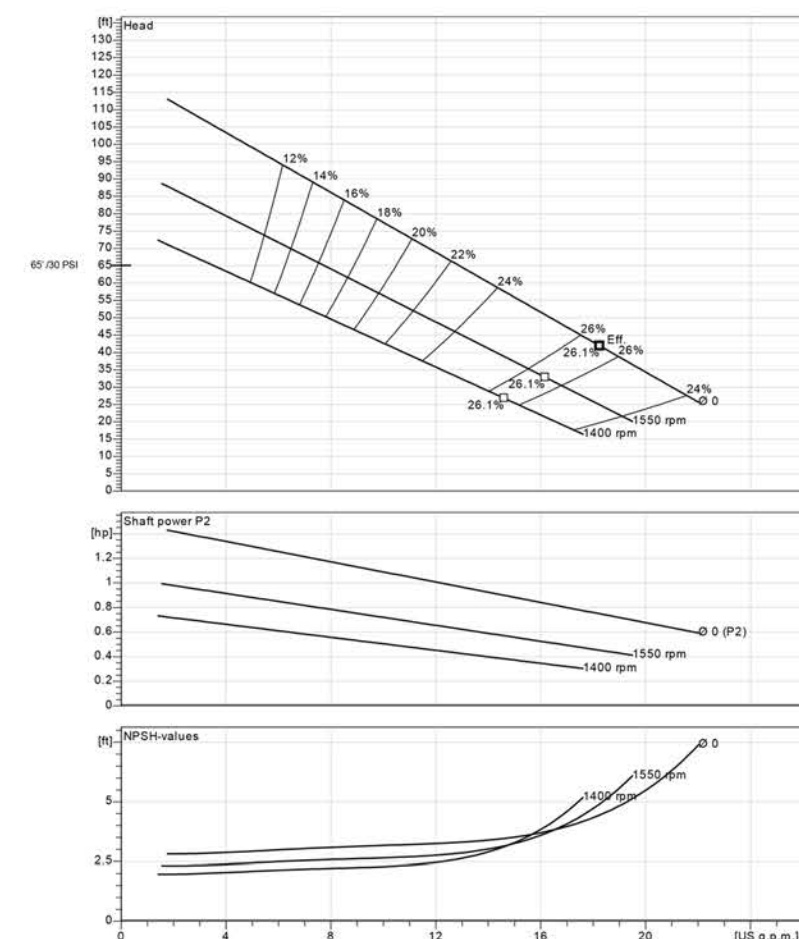
STM self-balancing impellers eliminate axial thrust loads



STM3 Performances



STM5 Performances



THE **EFFICIENT**
SEAL-LESS PUMP™



Energy Savings | Field Repairable | Standardized Motors

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