



Magnetic Drive Pumps

Safe, leak-free handling of hazardous and environmentally sensitive liquids

Designed for demanding marine, industrial, and defense applications

DESMI magnetic drive pumps are engineered for safe, leak-free handling of hazardous and environmentally sensitive liquids such as ammonia, methanol, and ethanol. They are also well suited for liquid and immersion cooling systems and facility water applications, including water intake for data centres.

Unlike conventional pumps with mechanical seals, the DESMI mag-drive design is sealless, eliminating one of the most common sources of leakage and failure. This ensures higher reliability, reduced maintenance requirements, and safer operation in critical environments.

Key features and benefits

- Sealless design for leak-free operation
- Safe handling of hazardous and sensitive liquids
- High-efficiency magnetic coupling for optimal performance
- Reliable operation with reduced maintenance requirements



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Engineered for the future of fluid handling

The transition to greener fuels is transforming requirements for liquid handling across marine and industrial sectors. Fuels such as ammonia and methanol introduce new safety challenges due to their toxicity, corrosiveness, and environmental impact.

In conventional pump systems, mechanical seals represent a critical risk point. Even minor wear can lead to leakage, increasing safety risks, maintenance demands, and operational downtime.

DESMI magnetic drive pumps eliminate this challenge entirely.

By replacing mechanical seals with a fully enclosed magnetic coupling, the pump provides complete containment of the liquid, significantly enhancing safety and reliability.



Magnetic drive solutions are often considered when:

- Process containment is critical
- Hazardous or valuable liquids require a minimized leakage risk
- Long service intervals are required
- Downtime and service costs are high
- Maintenance access is limited
- Built-in dual seal flushing is difficult or impractical to implement



**Designed for
safety, built for
performance**

The DESMI mag-drive pump is built to perform in demanding environments where failure is not an option:



Sealless design removes leakage risk at the source



Compact design enables installation in confined or enclosed spaces



An composite canister minimizes eddy current losses and reduces energy consumption



Possibility of PT100 temperature monitoring ensures operational control



Robust construction supports working pressures up to 25 bar

The result is a pump solution that combines operational safety, energy efficiency, and long-term reliability — even in the most challenging applications.

Key advantages when choosing magnetic drive



- ✓ **Leak-free operation**
Sealless design eliminates the risk of leakage
- ✓ **Enhanced safety**
Secure handling of hazardous and toxic liquids
- ✓ **High reliability**
Fewer components reduce wear and failure risk
- ✓ **Low maintenance**
Minimal servicing requirements and reduced downtime
- ✓ **Energy-efficient performance**
Optimized design lowers energy consumption
- ✓ **Full Drainage Capable**
Support system purging and gas freeing
- ✓ **Environmental protection**
Prevents emissions and fluid loss

Magnetically driven pumps

Multistage

DESMI Centrifugal Pump



| Vertical Multistage In-line Centrifugal Pump MV | |
|--|--|
| Nominal Diameter (DN) | 25 to 40 |
| Flow rate - 50 Hz | Up to 13 m ³ /h (57 US gpm) |
| Flow rate - 60 Hz | Up to 16 m ³ /h (70 US gpm) |
| Head | Up to 250 m (820 ft) |
| Pressure | Up to 25 bar (363 psi) |
| Temperature | Min. -40°C / Max. 140°C (-40°F / 284°F) |
| Motor | Standard and Ex motor |
| ATEX approved | |
| Common Applications: Where no pumping medium leakage is allowed | |

Pumping of: Methanol, Ethanol, Hydrocarbons (fuels), Ammonia, Amine/Water Mixtures, Water, Sea water, Glycol and other coolant mixtures

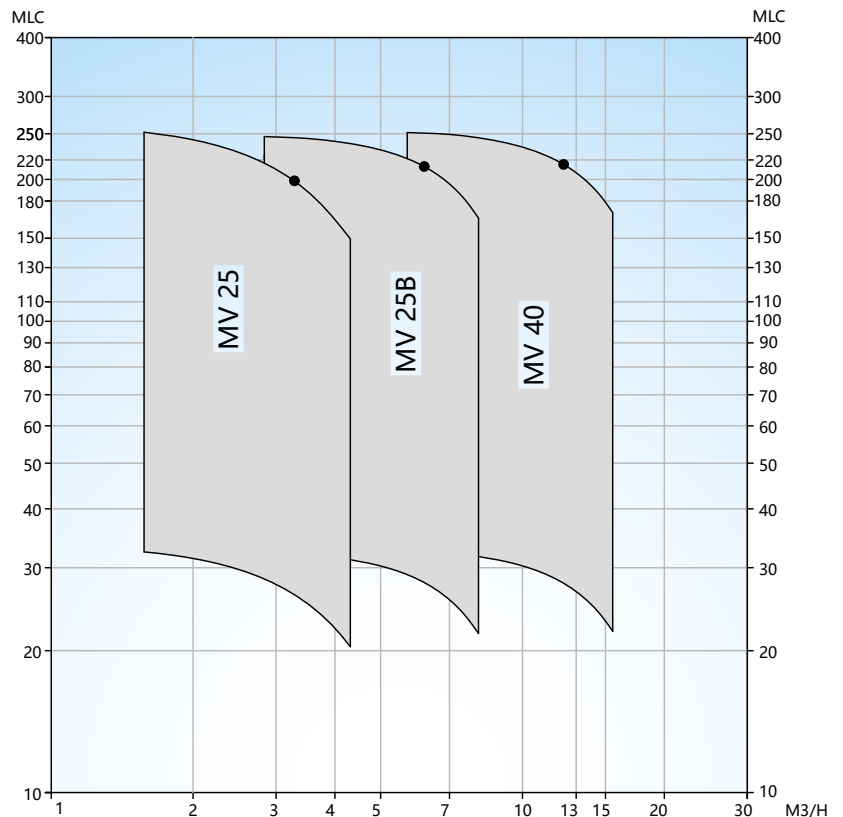
Note:

The pumps are designed for pumping liquids without solid/clogging particles. These could cause premature failure of the pump bearings and/or mag-drive.

MV benefits

- ✓ Compact design
- ✓ Low maintenance
- ✓ Complete drainage
- ✓ High reliability
- ✓ Multi directional nozzle orientation

MV 3500RPM



CAPACITY: 1 M³/H = 4.4 USGPM

TOTAL HEAD: 1 M = 3.28 FEET

● MAX EFFICIENCY

Magnetically driven pumps

ESL

DESMI Centrifugal Pump



ESL benefits

- ✓ High efficiency
- ✓ Low NPSH values
- ✓ Compact design
- ✓ Easy installation
- ✓ Low maintenance costs

Vertical In-line Single Suction / Centrifugal Pump ESL

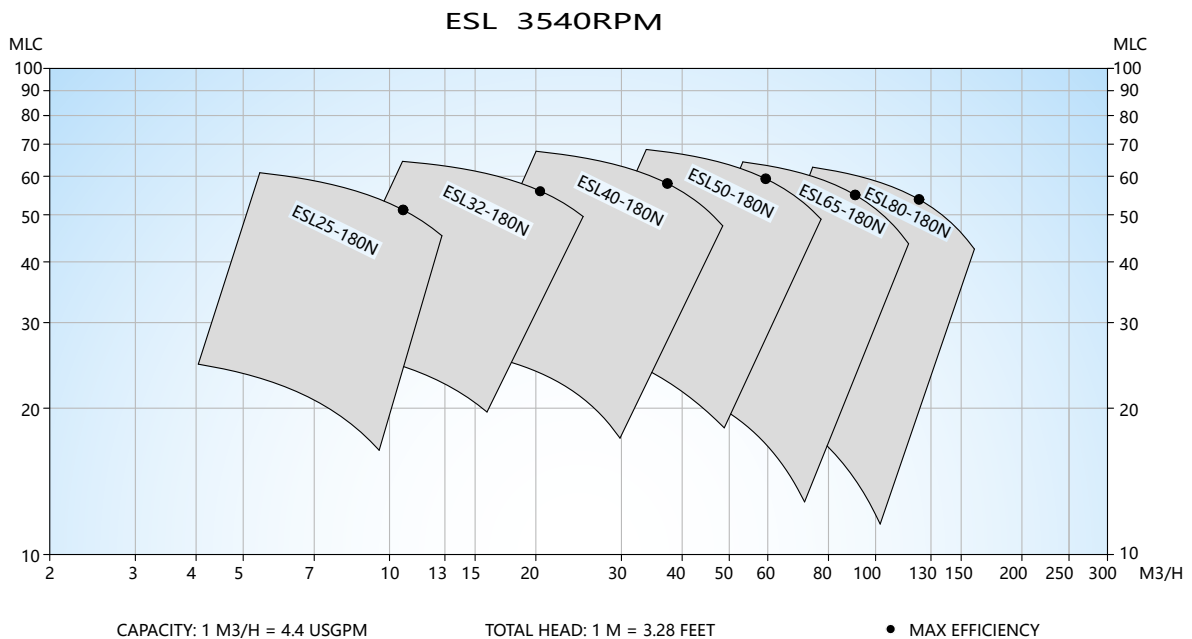
| | |
|-----------------------|--|
| Nominal Diameter (DN) | 25 to 80 |
| Flow rate - 50 Hz | Up to 135 m ³ /h (594 US GPM) |
| Flow rate - 60 Hz | Up to 163 m ³ /h (718 US GPM) |
| Head | Up to 68 m (223 ft) |
| Pressure | Up to 16 bar |
| Temperature | Min. -40°C / Max. 120°C (-40°F / 248°F) |
| Motor | Standard and Ex motor |
| Viscosity Range | Min. 0.3 / Max. 300 cSt |

ATEX approved

Common Applications:
Where no pumping medium leakage is allowed

Pumping of: Methanol, Ethanol, Hydrocarbons (fuels), Ammonia, Amine/Water Mixtures, Water, Sea water, Glycol and other coolant mixtures

Note:
The pumps are designed for pumping liquids without solid/clogging particles. These could cause premature failure of the pump bearings and/or mag-drive.



Magnetically driven pumps

TSL

DESMI Vertical 2-stage in-line Centrifugal Pump



TSL benefits

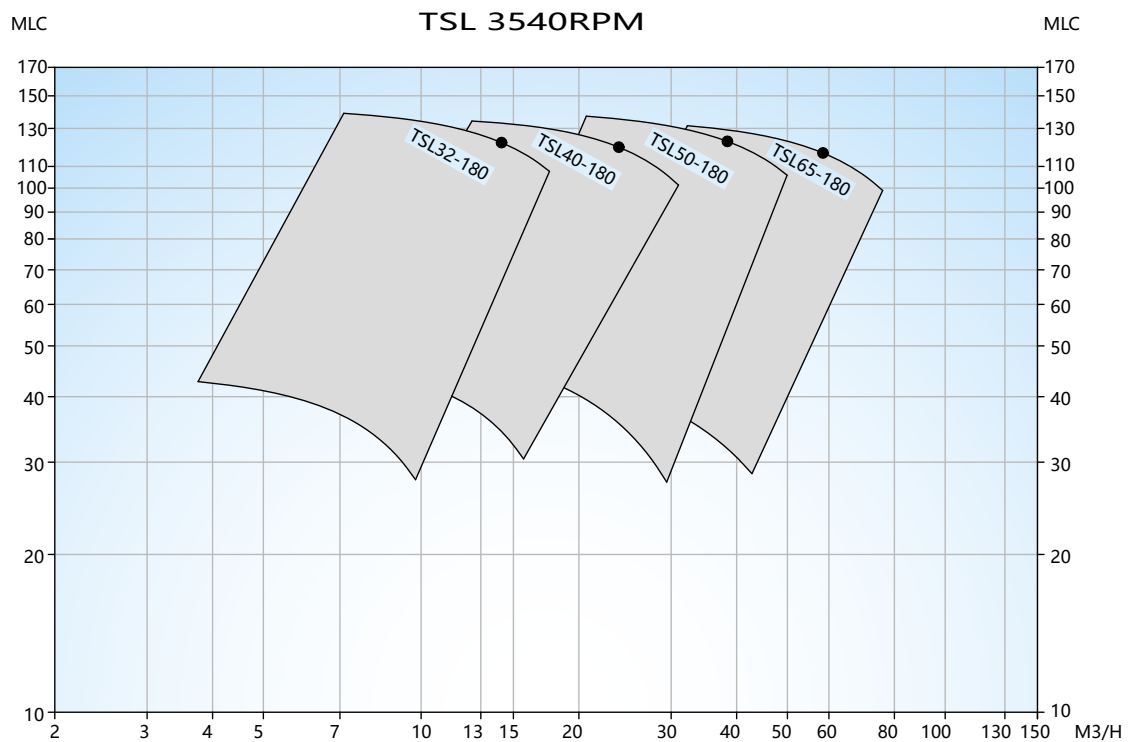
- ✓ Two-stage, single-suction -
Vertical or horizontal
- ✓ High differential pressure
- ✓ Flow up to 48 m³/h

| Vertical 2-stage in-line Centrifugal Pump TSL | |
|--|--|
| Nominal Diameter (DN) | 25 to 65 |
| Flow rate - 50 Hz | Up to 65 m ³ /h (286 US gpm) |
| Flow rate - 60 Hz | Up to 78 m ³ /h (343 US gpm) |
| Head | Up to 131 m (430 ft) DOL |
| Pressure | Up to 16 bar |
| Temperature | Min. -40°C / Max. 140°C (-40°F / 284°F) |
| Motor | Standard and Ex motor |
| Viscosity Range | Min. 0.3 / Max. 300 cSt |
| ATEX approved | |
| Common Applications: Where no pumping medium leakage is allowed | |

Pumping of: Methanol, Ethanol, Hydrocarbons (fuels), Ammonia, Amine/Water Mixtures, Water, Sea water, Glycol and other coolant mixtures

Note:

The pumps are designed for pumping liquids without solid/clogging particles. These could cause premature failure of the pump bearings and/or mag-drive.



CAPACITY: 1 M³/H = 4.4 USGPM

TOTAL HEAD: 1 M = 3.28 FEET

● MAX EFFICIENCY

Magnetically driven pumps

NSL

DESMI Centrifugal Pump



NSL benefits

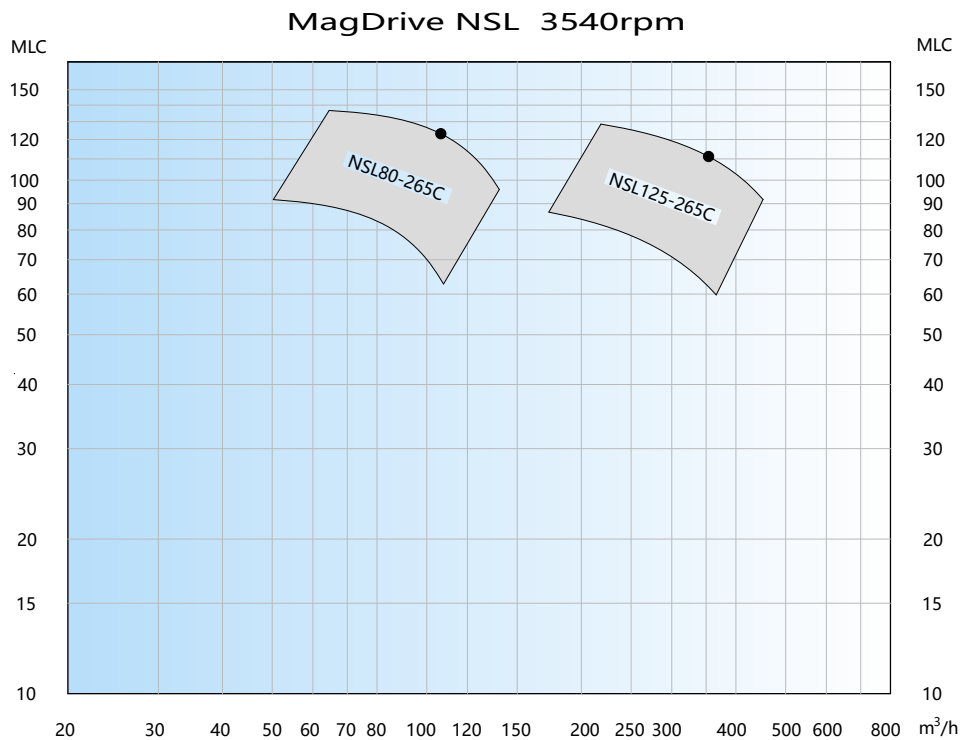
- ✓ High efficiency
- ✓ Low NPSH values
- ✓ Easy installation/service
- ✓ Various materials

| Vertical In-line Single Suction / Centrifugal Pump NSL | |
|--|--|
| Nominal Diameter (DN) | 80 to 125 |
| Flow rate - 50 Hz | Up to 379 m ³ /h (1669 US gpm) |
| Flow rate - 60 Hz | Up to 455 m ³ /h (2003 US gpm) |
| Head | Up to 138 m (453 ft) |
| Pressure | Up to 16 bar |
| Temperature | Min. -40°C / Max. 140°C (-40°F / 284°F) |
| Motor | Standard and Ex motor |
| Viscosity Range | Min. 0.3 / Max. 300 cSt |
| ATEX approved | |
| Common Applications: Where no pumping medium leakage is allowed | |

Pumping of: Methanol, Ethanol, Hydrocarbons (fuels), Ammonia, Amine/Water Mixtures, Water, Sea water, Glycol and other coolant mixtures

Note:

The pumps are designed for pumping liquids without solid/clogging particles. These could cause premature failure of the pump bearings and/or mag-drive.



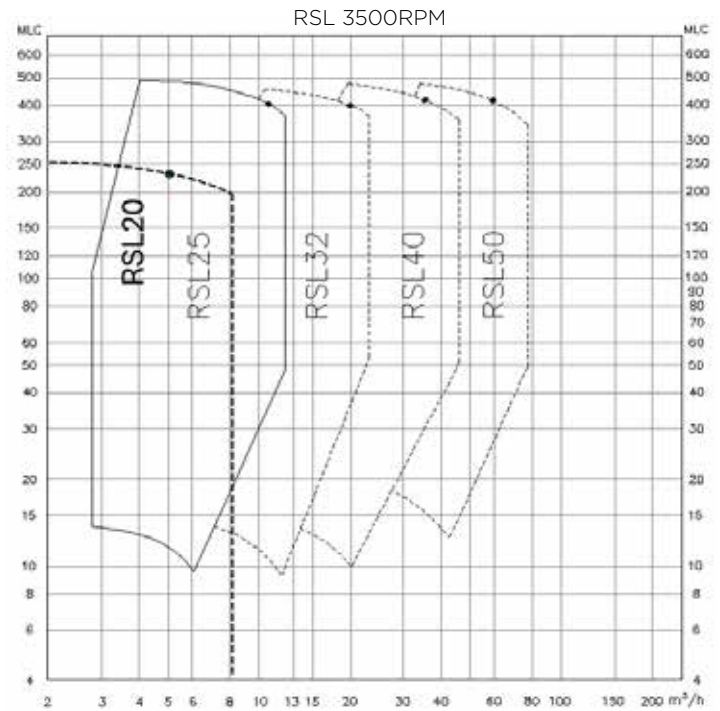
RSL

DesFuel Deepwell Pump



DesFuel benefits

- ✓ For alternative fuels
- ✓ Low maintenance
- ✓ Safe operation
- ✓ Long-term flexibility at sea



DesFuel Deepwell Pump

| Pump | RSL 20 | RSL 25 | RSL 32 | RSL 40 | RSL 50 |
|-------------------------------|--------|--------|--------|--------|--------|
| Capacity m ³ /hr | 0.5-6 | 1-13 | 2-24 | 5-45 | 7-80 |
| Max. Head per stage [mic]* | 20 | 58 | 58 | 58 | 58 |
| Max. No of stage | 9 | 9 | 9 | 9 | 9 |
| Max. tank pressure [bar]* | 20 | 20 | 20 | 20 | 20 |
| Max. Outlet pressure [bar] ** | 40 | 40 | 55 | 55 | 55 |
| Max. Motor size [kW] ** | 9 | 19 | 57 | 100 | 124 |
| Mag-drive Max. Torque [Nm] | 60 | 150 | 280 | 280 | 280 |
| Nominal speed [rpm]*** | 3500 | 3500 | 3500 | 3500 | 3500 |

(*) This represents the maximum performance of each impeller stage. The static pressure rating of the pump will be a different value.

(**) Based on the maximum stages and a specific gravity (SG) of 800.

(***) The actual maximum speed varies depending on several factors, including the maximum flow rate, maximum cargo density and viscosity, maximum intermediate shaft length, actual number of pump stages, and impeller diameters.

Magnetically driven pumps

ROTAN® ED

DESMI Internal Gear Pump

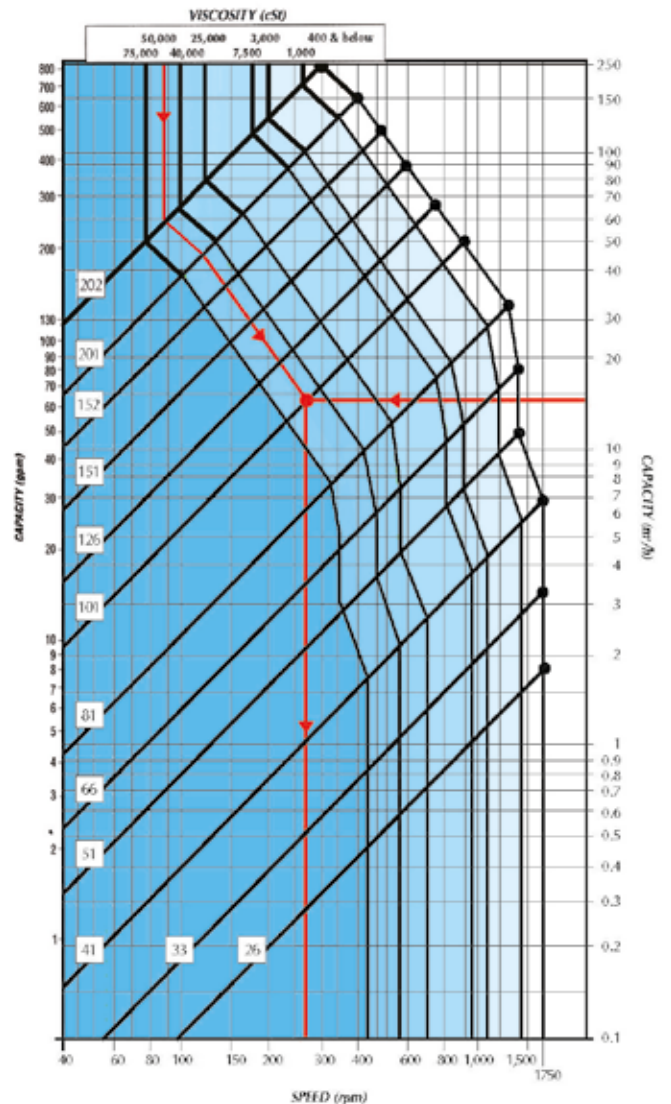


ROTAN® benefits

Reversible direction of flow with double acting relief valve option available High efficiency and long service life

Adjustable rotor end clearance without opening the system to the atmosphere

| ROTAN® ED – Environmental Duty | |
|--------------------------------|--|
| Capacity range | Up to 90 m ³ /h / 396 gpm |
| Speed | Up to 1750 rpm |
| Differential pressure | Up to 16 bar / 232 psi |
| Suction lift | Up to 0.5 bar / 7.25 psi vacuum while priming Up to 0.8 bar / 11.6 psi vacuum while pumping |
| Viscosity range | Up to 10,000 cSt |
| Temperature | Up to 250°C / 482°F |
| Pump medium | Where no leakage, liquid or gaseous, is allowed. Fuel, diesel, gas, and lube oil. |



Magnetically driven pumps

Triple Screw Pumps

K series



KV model



KF model

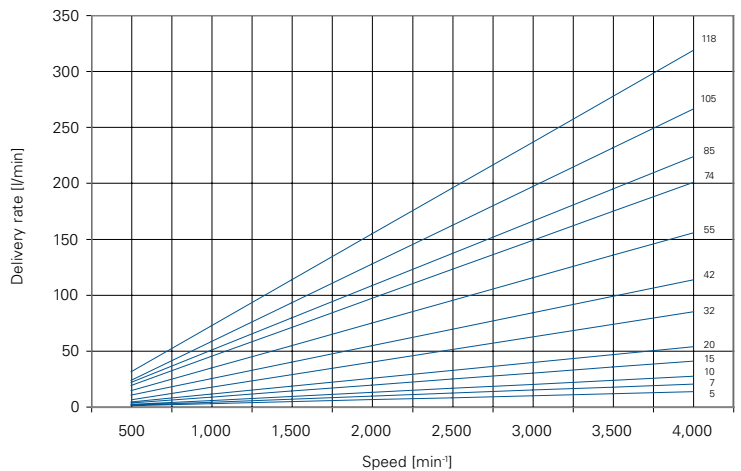
K Series benefits

Low maintenance costs
High efficiency and long service life

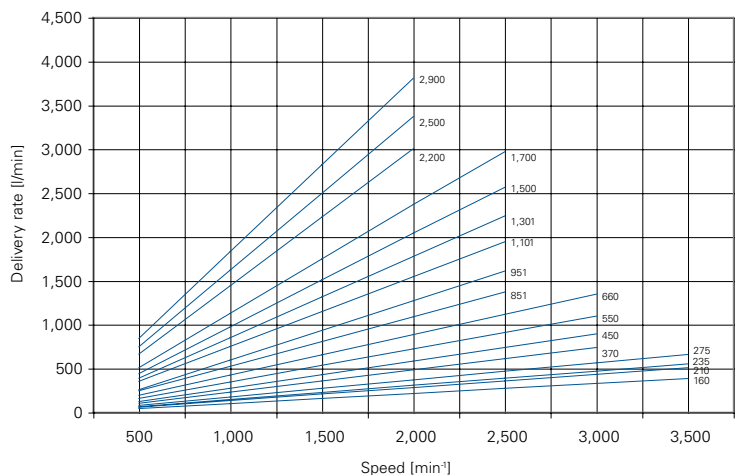
Low noise and vibration
Low NPSH values

| Triple Screw Pump - K Series | |
|------------------------------|--|
| Capacity range | Up to 174 m ³ /h / 766 gpm (at 1450 rpm) |
| Speed | Up to 3600 rpm |
| Differential pressure | Up to 16 bar / 232 psi |
| Viscosity range | Up to 10,000 cSt |
| Temperature | Up to 180°C / 356°F (300°C / 572°F magnetic coupling) |
| Motor | Standard and Ex motor |
| Pump medium | For clean, non-abrasive liquids and clean oil. Fuel, diesel, gas, and lube oil |

Size 5 to 118



Size 160 to 2900



After-sales and service solutions

Optimization and long-term performance for your systems



Call the
DESMI Service
Hotline round
the clock at
+45 96 32 81 10



The purpose of DESMI Service is to provide our customers with the very best service! Covering maintenance, repairs, upgrades, training, and technical support, DESMI Service offers services that optimize your critical flow processes.

We offer spare part kits that cover several pumps and contain the parts you need when overhauling your pumps, for example shaft seals, bearings, and O-rings. You can order individual spare parts as needed, too.

And for gas and cargo systems, our specialists at Nordan Marine A/S (a DESMI company) are on hand to provide dedicated support.

Our highly experienced and factory trained service teams provide a long list of services on your ship while it is in port or dry dock: pre-dock inspection, installation, commissioning, on-site service, repair, maintenance, and more.

For some parts or products, we ship within 48 hours with our fast-track concept. Through our global parts database, we can also often locate the necessary part in one of our regional warehouses and ship from day to day, helping you keep operational disruptions to a minimum.



Overhaul
Videos



We exist to keep your business flowing

DESMI magnetic drive pumps are developed to meet the highest standards of safety, reliability, and performance in critical applications. We work closely with vessel owners, operators, system designers, and industrial partners to deliver pump solutions that ensure safe handling of challenging liquids — from conventional fluids to next-generation fuels.

At DESMI, our focus has never been on discovering what we can do - it's about pushing the boundaries of what we can do for you. Our class-leading equipment, solutions, and services are designed specifically for your applications and help you contribute to a digital infrastructure that is available 24/7 whilst ensuring optimal use of the available energy.

Founded in Denmark in 1834, we have provided the expertise, solutions, and aftermarket support our customers need for nearly two centuries. We help you reduce your climate impact and keep servers running whilst realising your ambitions for reliable performance, compliance, and growth.

Together, we can make a difference, whatever the future holds. Because we, like you, are here to **make life flow**. For more information, visit desmi.com.

DESMI A/S

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