



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 fully seal-less, 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

- 100% seal-less design for true 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.





**Designed for
safety, built for
performance**

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



A 100% seal-less design removes leakage risk at the source



Compact design enables installation in confined or enclosed spaces



An insulated 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



Optional leakage detection adds an extra layer of safety

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

Leak-free operation

Why magnetic drive over conventional pumps

Where the mechanical seals is replaced with a fully enclosed magnetic coupling.



Key advantages

- ✓ **Leak-free operation**
Seal-less 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



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 15 m ³ /h (66 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

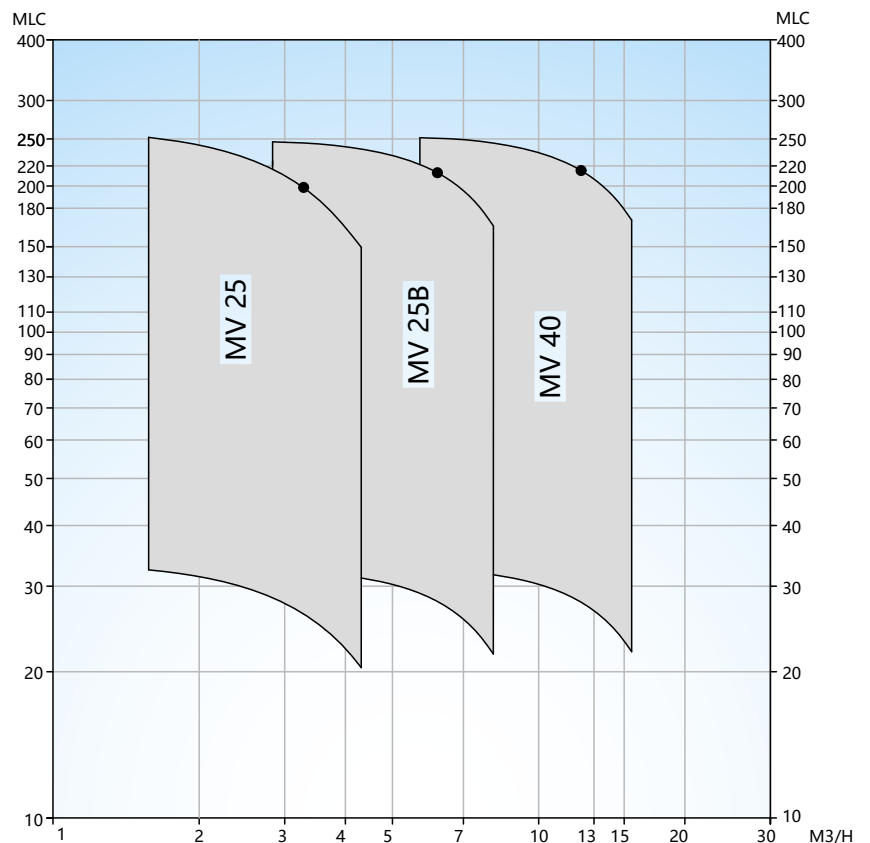
Note:

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

MW benefits

- ✓ 100% seal-less design
- ✓ No leakage
- ✓ Full / Quick drainage
- ✓ Ideal for toxic, hazardous, flammable, or valuable liquids

MV 3500RPM



Magnetically driven pumps

ESL

DESMI Centrifugal Pump



ESL benefits

- ✓ Leak free
- ✓ Efficient and low-maintenance operation
- ✓ Reduce emissions, downtime and operating costs

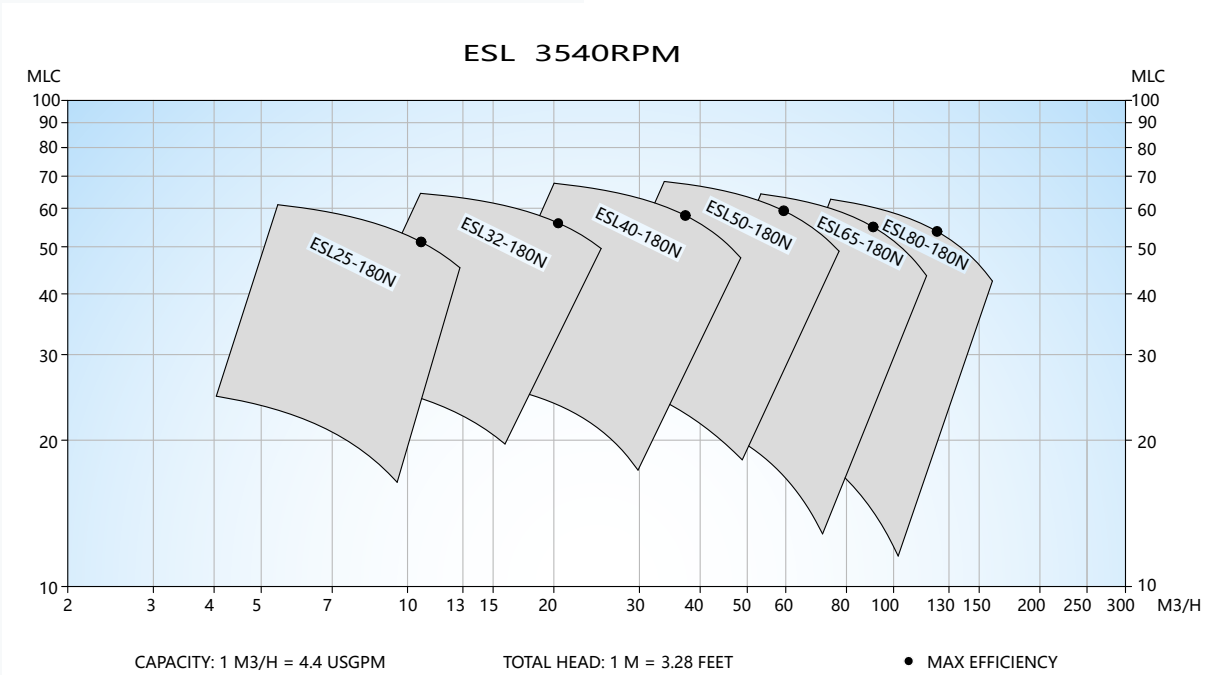
Vertical In-line Single Suction / Centrifugal Pump ESL

Nominal Diameter (DN)	25 to 80
Flow rate - 50 Hz	Up to 163 m ³ /h (718 US gpm)
Flow rate - 60 Hz	Up to 193 m ³ /h (850 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

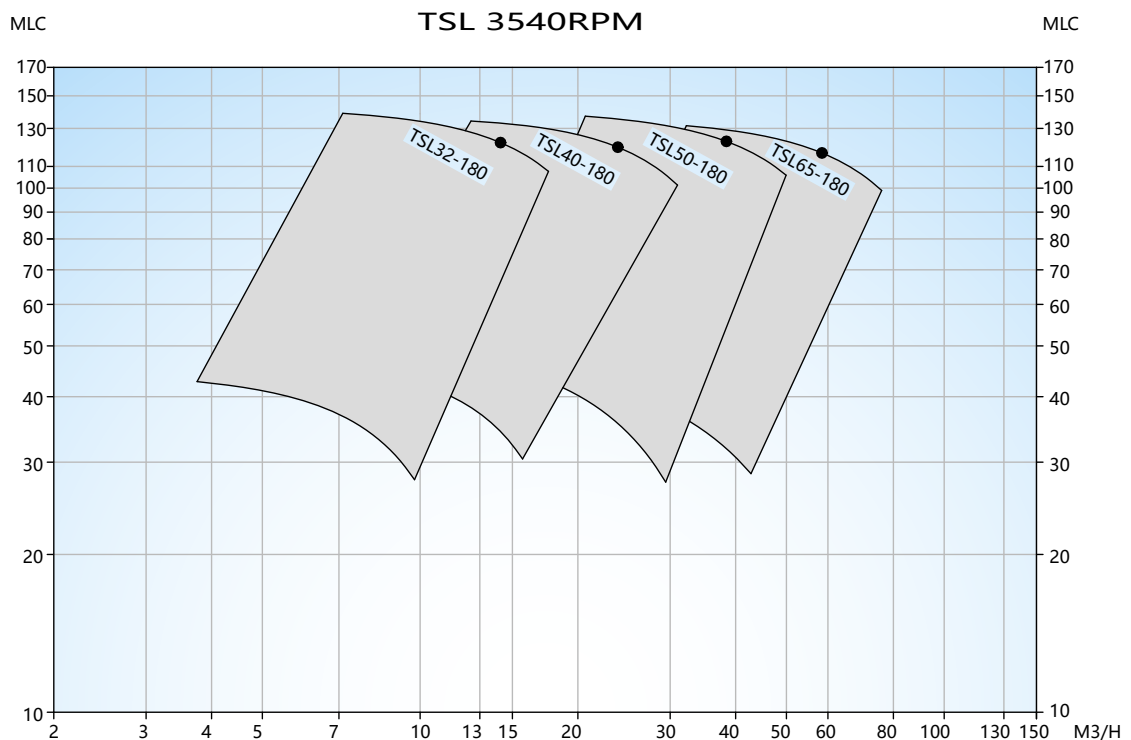
- ✓ Low-maintenance
- ✓ Seal-less pumping
- ✓ Efficient magnet coupling for demanding duties

Vertical 2-stage in-line Centrifugal Pump TSL	
Nominal Diameter (DN)	25 to 65
Flow rate - 50 Hz	Up to 71 m ³ /h (313 US gpm)
Flow rate - 60 Hz	Up to 84 m ³ /h (370 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.



Magnetically driven pumps

NSL

DESMI Centrifugal Pump



NSL benefits

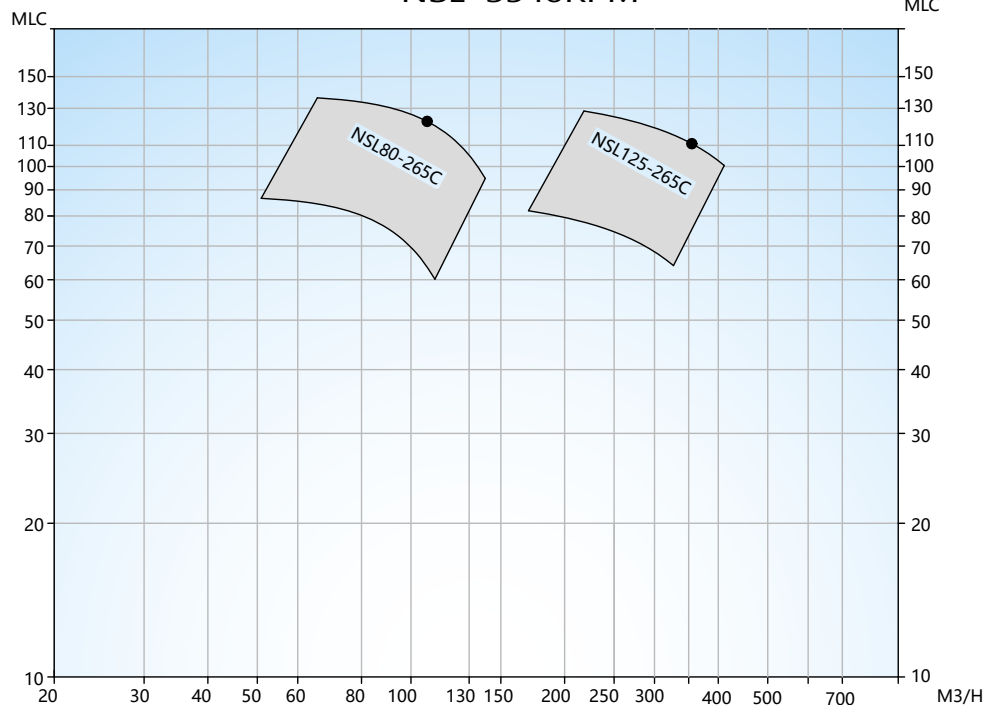
- ✓ Energy-efficient
- ✓ Low maintenance
- ✓ Leak free

Vertical In-line Single Suction / Centrifugal Pump NSL	
Nominal Diameter (DN)	80 to 125
Flow rate - 50 Hz	Up to 320 m ³ /h (1400 US gpm)
Flow rate - 60 Hz	Up to 385 m ³ /h (1700 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.

NSL 3540RPM



CAPACITY: 1 M³/H = 4.4 USGPM

TOTAL HEAD: 1 M = 3.28 FEET

• MAX EFFICIENCY

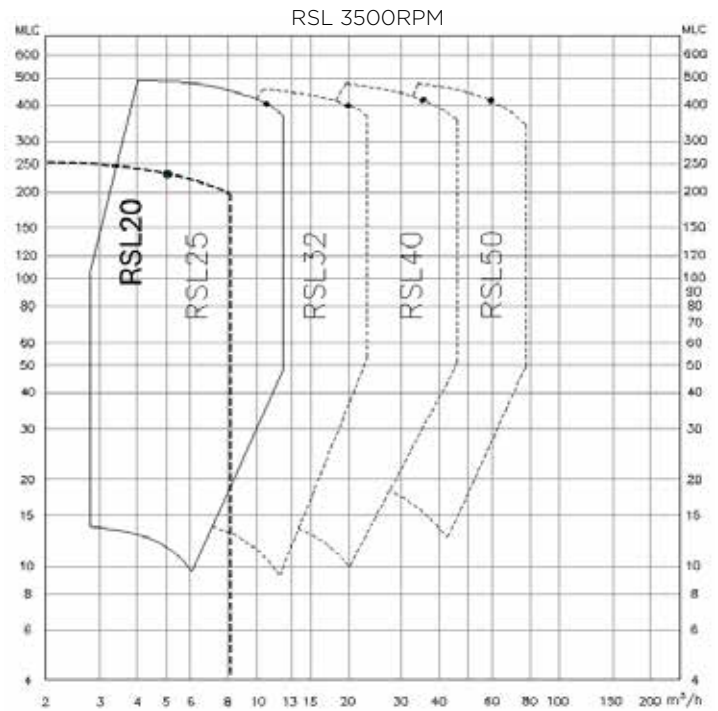
RSL

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 m³/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

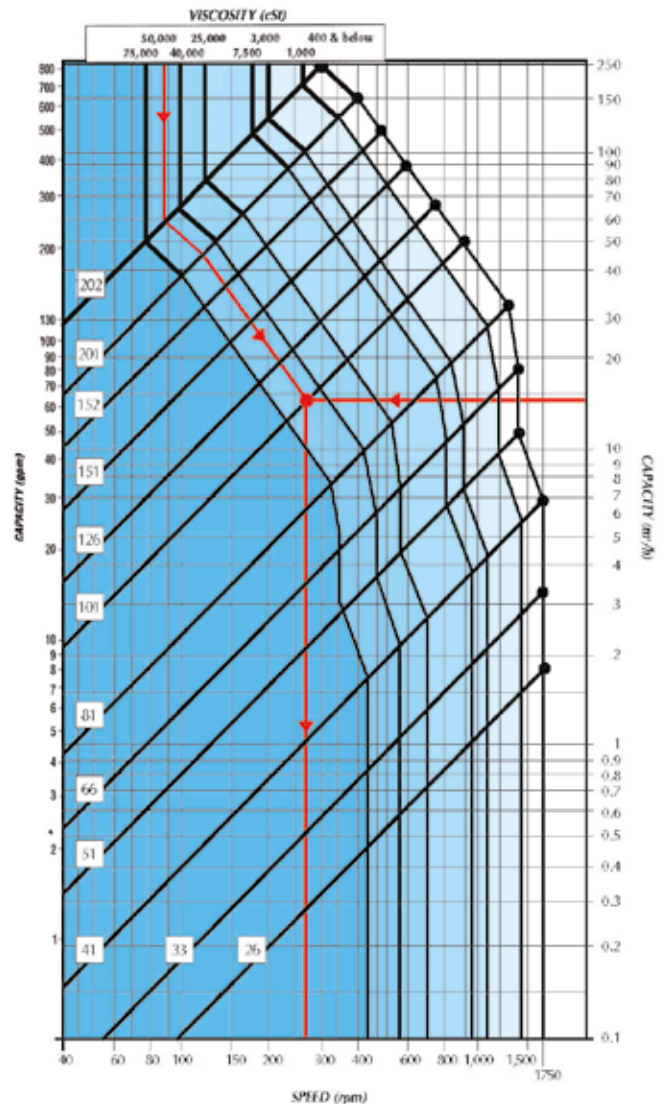


ROTAN® benefits

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.



Triple Screw Pumps

K series



KV model



KF model

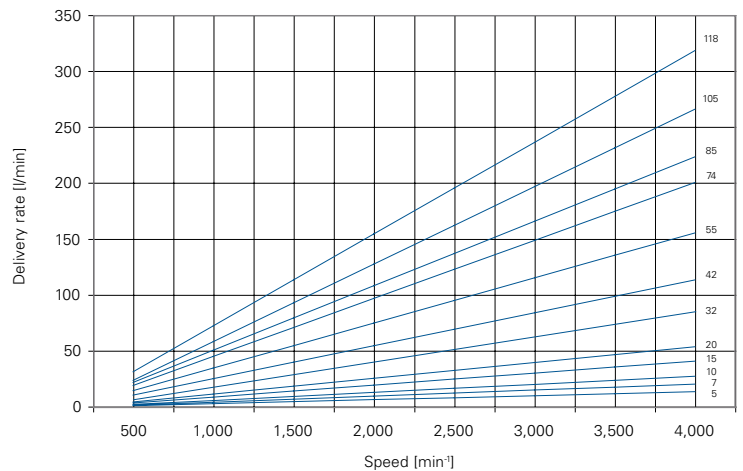
K Series benefits

Low maintenance costs
High efficiency and long service life

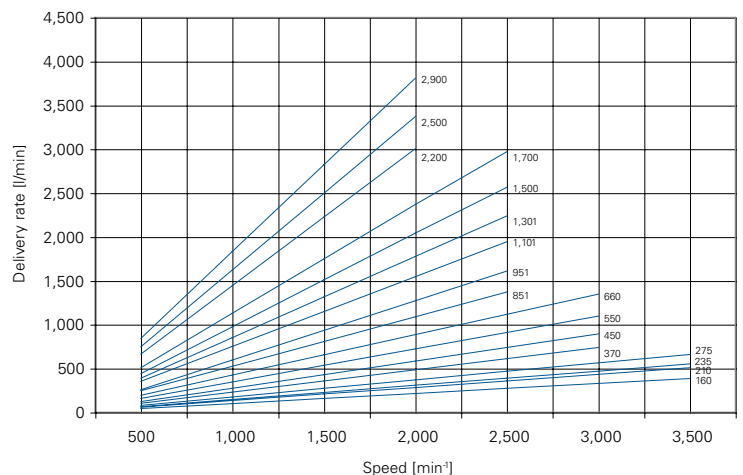
Low noise and vibration
Low NPSH values

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



Aftermarket Support

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

Keep all systems running with DESMI global service

The DESMI Service after-sales organization, supported by our global network of authorized service partners offers tailor-made, global services to ensure optimization and long-term performance of your DESMI products.



**No matter where you're
located, DESMI is always
ready to support you at
moment's notice**

Our global service organisation supplies the expertise, spare parts, and knowledge to keep vital pumping systems running.

Our tailored global services cover maintenance, repairs, upgrades, training, and technical support. They minimise unplanned downtime, optimise pump performance, and ensure high energy-efficiency.



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

Tagholm 1
DK-9400 Nørresundby
Tel.: +45 96 32 81 11