



Magnetic Drive Pumps

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

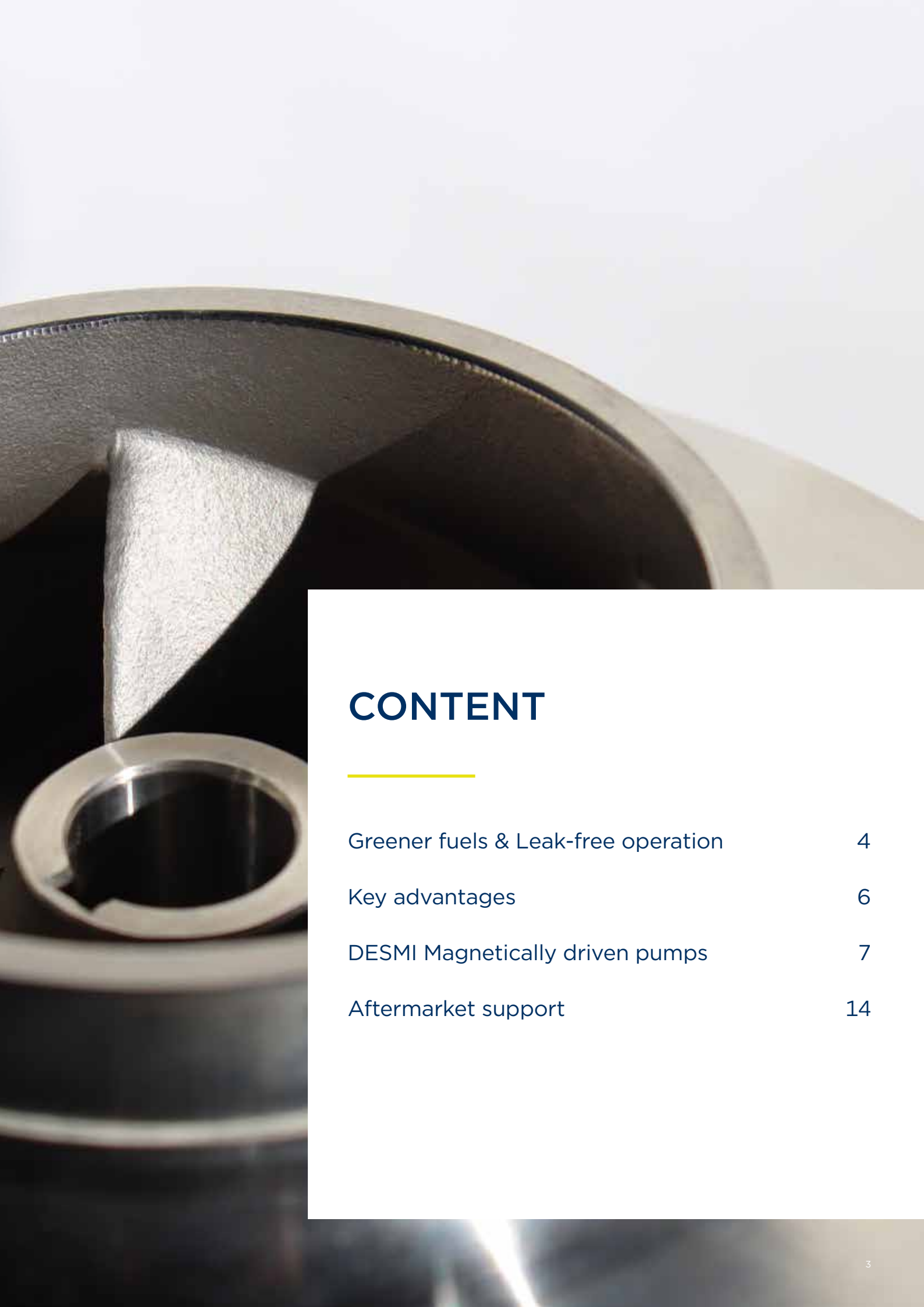
Designed for demanding marine, industrial, and defense applications

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



CONTENT

Greener fuels & Leak-free operation	4
Key advantages	6
DESMI Magnetically driven pumps	7
Aftermarket support	14

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



MV benefits

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

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

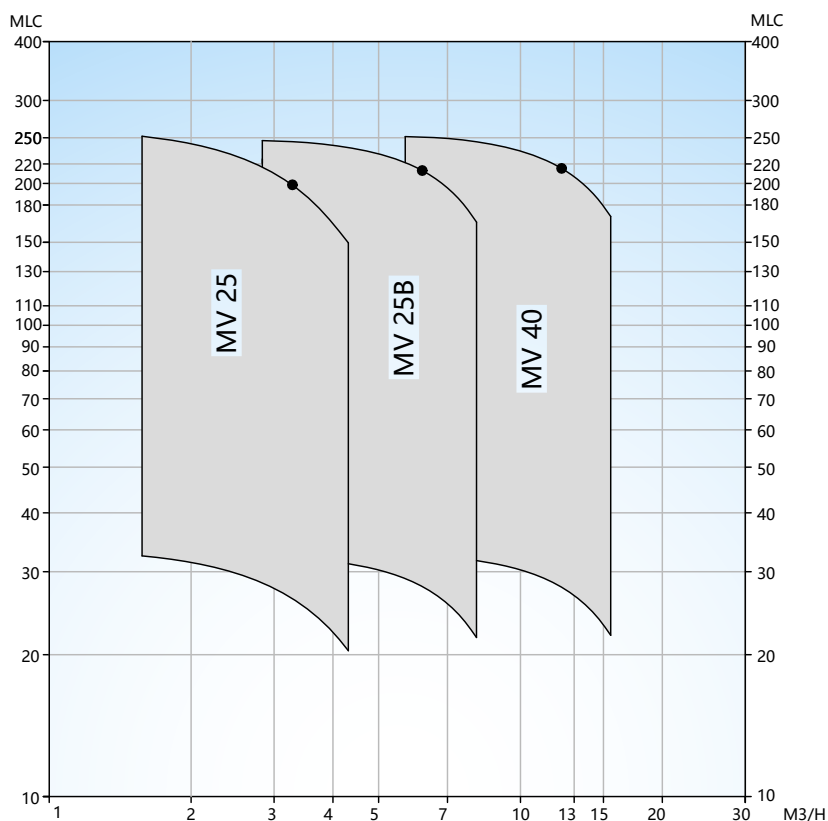
Common Applications:
Where no pumping medium leakage is allowed

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 3500RPM



CAPACITY: 1 M3/H = 4.4 USGPM

TOTAL HEAD: 1 M = 3.28 FEET

● MAX EFFICIENCY

Magnetically driven pumps

ESL

DESMI Centrifugal Pump



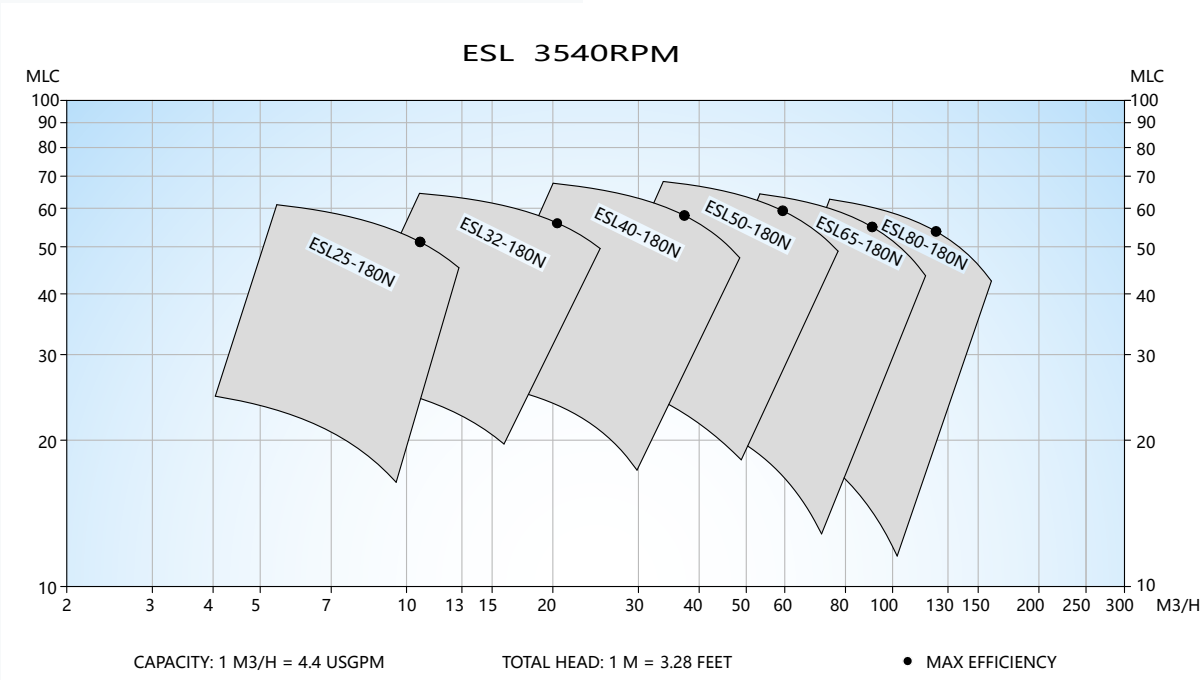
ESL benefits

- ✓ 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

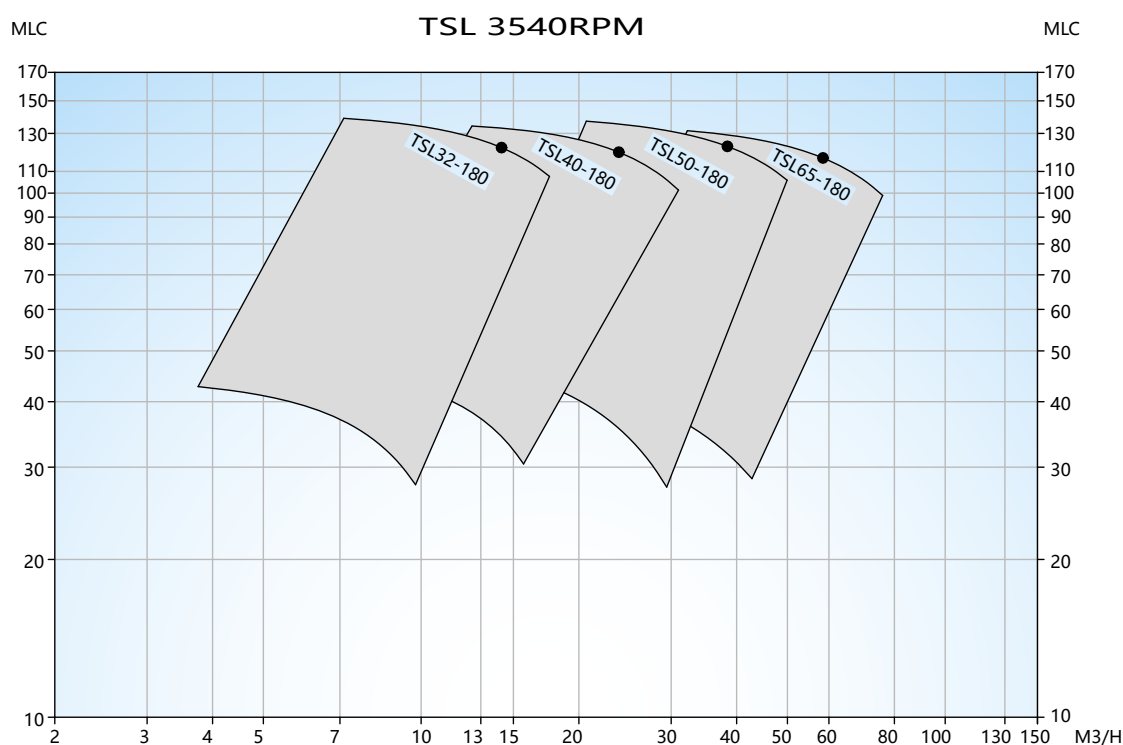
Vertical 2-stage in-line Centrifugal Pump TSL

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



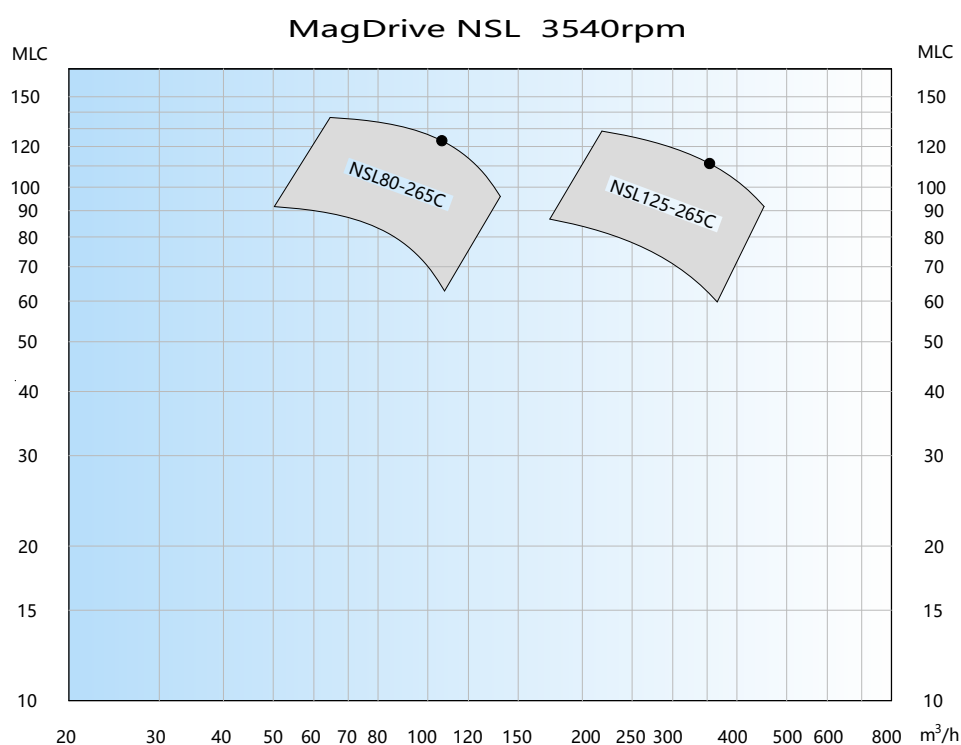
NSL benefits

- ✓ 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.



Magnetically driven pumps

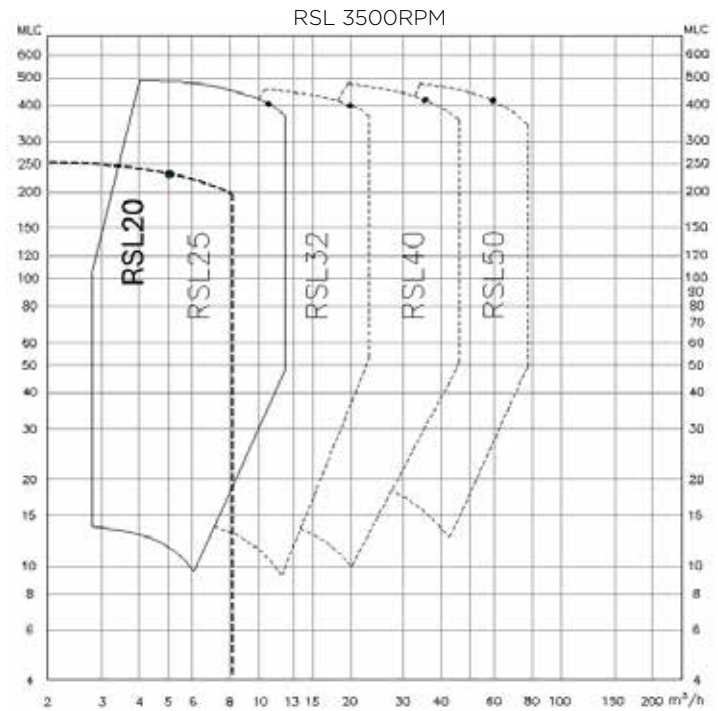
RSL

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

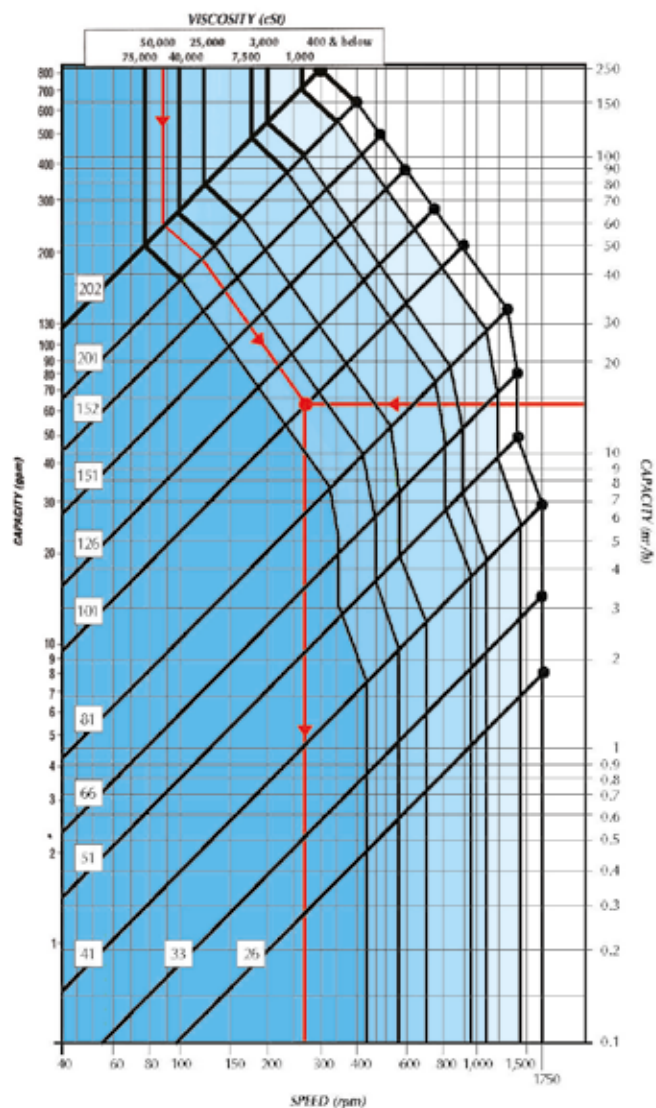


ROTAN® benefits

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.



Magnetically driven pumps

Triple Screw Pumps

K series



KV model



KF model

K Series benefits

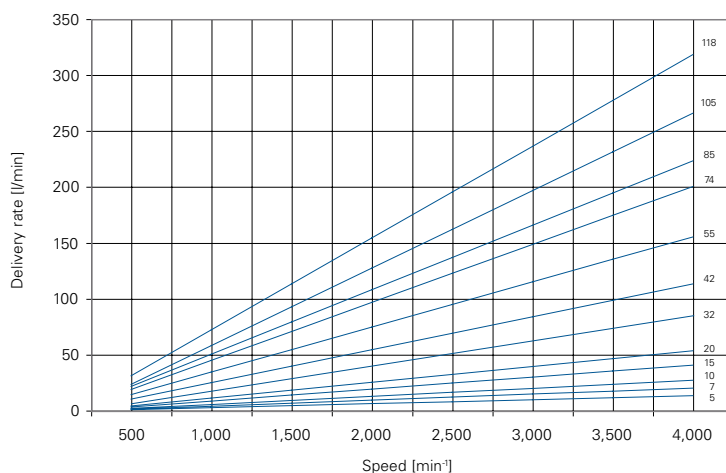
Low maintenance costs
High efficiency and long service life

Low noise and vibration
Low NPSH values

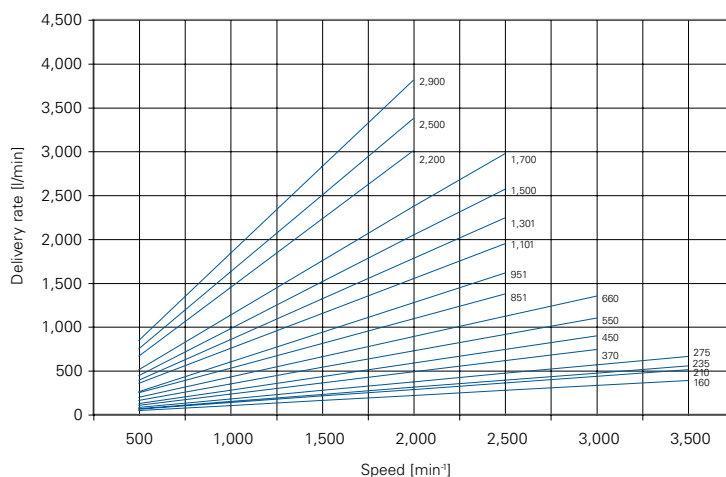
Triple Screw Pump – K Series

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



A large red ship hull dominates the background. A white ladder with orange safety netting is extended from the ship. A worker in a black uniform and white hard hat stands on the deck in the foreground, holding a bag with the DESMI DeServe logo. Two white circular symbols with an 'X' are visible on the red hull. The deck has yellow safety markings.

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

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