Vertical In-line Centrifugal Pump
NSL

DESMI

NSL

Material specification	A	D
Pump casing	Cast iron	Bronze
Impeller	Bronze	NiAl-bronze
Wear ring	Bronze	NiAl-bronze
Shaft seal cover	Cast iron	Bronze
Shaft	Stainless	Stainless
Shaft seal	Mechanical	Mechanical

Capacity range:
10-1500 m^3/h ~ 50-6600 US gpm at 50 Hz
10-1800 m^3/h ~ 50-7900 US gpm at 60 Hz

Pressure range:
5-150 mLC ~ 15-500 ft at 50 Hz
5-220 mLC ~ 15-720 ft at 60 Hz

Temperature range:
With standard mech. shaft seal max. 80°C ~ 176°F
With special mech. shaft seal max. 140°C ~ 284°F

Vertical In-line Centrifugal Pump

The DESMi NSL pump is a further range development of the well-known SL pump which has been supplied for marine and industrial applications for more than fifty years.

The NSL range is a series of sturdy and reliable pumps, and the development of the pumps has been based on the latest methods for the calculation of strength and optimum performance. At the same time we have attached great importance to developing a pump type that meets the special marine and industrial market requirements for high efficiency, low NPSH values, easy installation/service, specific materials, and further, an attractive price.

Design Features

The pump is a vertical in-line, radially split, single-stage centrifugal pump with connecting flanges according to international standards. The pump is designed for mounting with electric motors having different international flange dimensions.

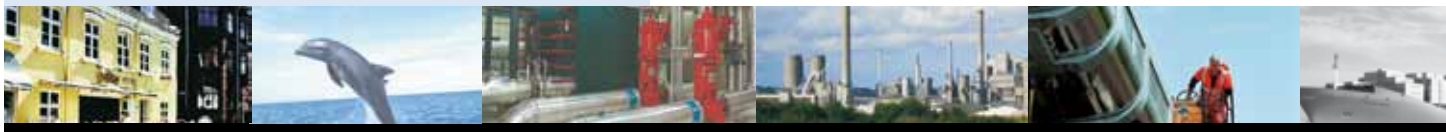
The pump casing has no feet but is available with a mounted base plate. If the pumps (especially small pumps) are mounted directly in the piping system, the base plate can be omitted. As regards the traditional mounting on a base plate, the fastening holes of this plate are placed in such a way that mounting is very easy and further, the base plate is carefully secured to the pump casing. This type of base plate, which is available in cast iron, has also made it possible to design a simplified pump casing as regards the casting technique.

The pump casing is equipped with a replaceable sealing ring.

The impeller is made with double-curved blades to ensure low NPSH-values and high efficiency.

The bearing unit is equipped with sturdy ball bearings and the small types are fitted with lifetime-lubricated bearings. In the lager types the lower bearing is a double bearing for which a lubrication point is provided.

A shaft in stainless steel with mechanical shaft seal of an approved brand is standard.



NSL

NSL pump - rotating parts removed for inspection.

Applications

Within marine industry the pumps are suitable as fresh and seawater cooling pumps, bilge and ballast pumps, fire-fighting and general service pumps, and further for transport of slightly aggressive liquids with low viscosity such as diesel and lubricating oils. Further, the pumps can be supplied in a special version for pumping brine and similar media. Many other applications can be found for these pumps within industry.

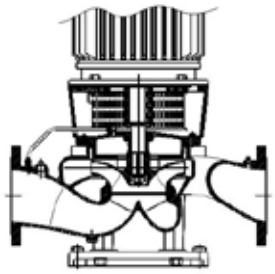
All pump sizes are available as self-priming pumps with a separate built-on priming pump of the water ring type, complete with suction strainer and water feed tank.

The priming pump is equipped with its own electric motor and is suitable for manual or automatic start/ stop.

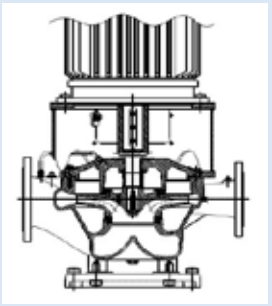
The pump can also be equipped with an air-operated ejector priming unit.

Design Details

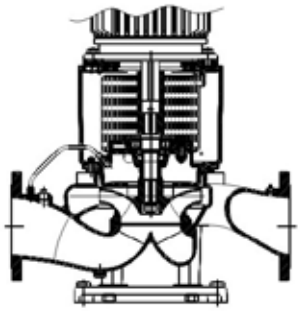
Pumps With Ø 215 And Ø 265 Impeller
Suction and discharge flange dimensions are identical. The line through inlet and outlet is flush with the centre line of the shaft. The pumps are mounted with one impeller wear ring.

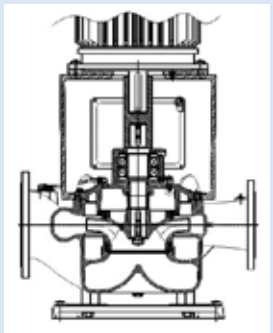


Pumps With Ø 330 And Ø 415 Impeller
Dimension of the suction flange is one size larger than that of the discharge flange. The line through inlet and outlet is tangential offset in relation to the centre line of the shaft. The pumps have two impeller wear rings.

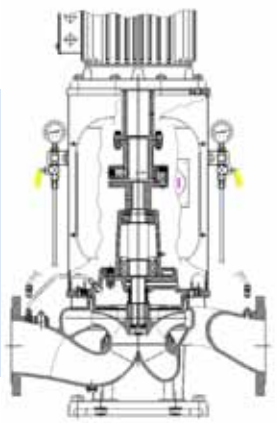


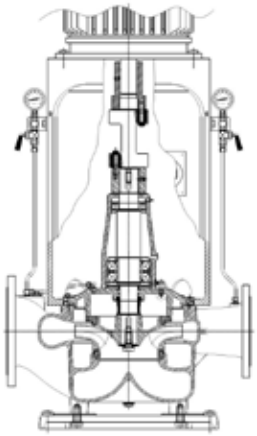
Monobloc Without Bearing
The pump is for small capacities and limited space. This version has no pump bearings, only the ball bearings in the standard electric motor. The power transmission is by rigid coupling. Dismantling of the pump parts is possible without removing the pump casing from the piping.



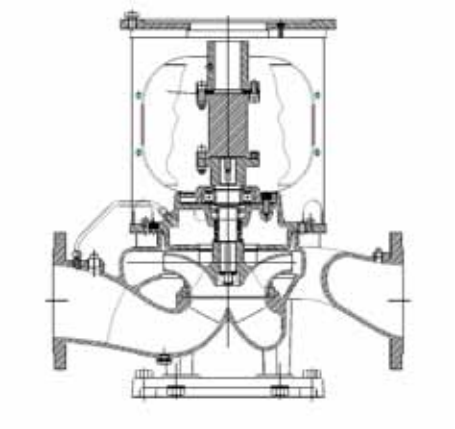


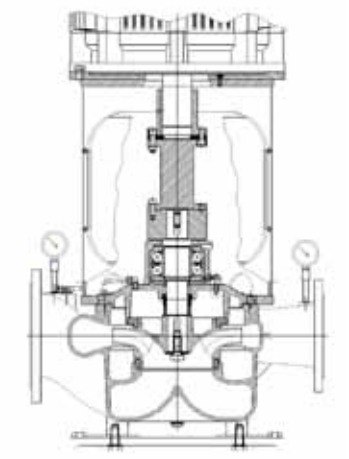
Monobloc With Bearing
The pump is for major capacities and heavy loads, especially recommended where the advantage of the spacer coupling is of no importance and where a small overall height is required.
The pump is equipped with a separate rear cover with a ball bearing and a separate motor bracket. Dismantling of the rotating pump parts is possible without removing the pump casing from the piping.





Spacer
The pump is for high capacities, heavy loads, and high pump speeds. As a special feature the pump is equipped with a spacer coupling which is a combined distance and flexible coupling. This makes it possible to remove the complete bearing housing with shaft, bearings, shaft seal, and impeller without dismantling or loosening the motor or piping. For high capacities and the resulting larger and heavier electric motors we recommend this pump version because of the easy dismantling of the rotating pump parts in connection with inspection and repair. This special feature is often a requirement within the marine industry where installations must be easy to service.





Compact Spacer
The COMPACT SPACER version of the NSL pump combines the existing monobloc and spacer designs using a shorter motor bracket and a flexible disc coupling. The flexible disc coupling transmits torque while compensating for the angular misalignments between pump and motor shaft. This minimizes the loads on the bearings in both pump and motor. The high radial stiffness of the coupling guides the pump shaft. The coupling is an all metal construction with stainless steel discs and cast iron hubs giving the coupling a long life with low maintenance. The spacer design makes it possible to remove the complete bearing housing with shaft seal and impeller without dismantling or loosening the motor or piping.

DESMI A/S
Tagholm 1
DK-9400 Nørresundby
Phone: + 45 96 32 81 11
Fax: + 45 98 17 54 99
Internet: www.desmi.com
E-mail: desmi@desmi.com

DESMI