

NL-S SERIES



SPLIT COUPLED VERTICAL IN-LINE PUMPS



60Hz

www.northam-inc.com

SPLIT COUPLED VERTICAL IN-LINE PUMPS

PREFACE

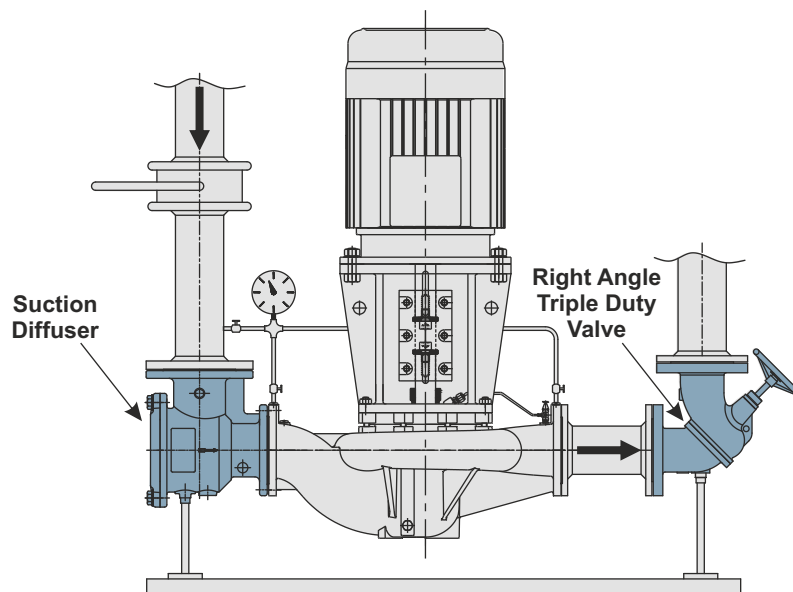
The **NORTHAM** NL-S pumps are single-stage, vertical in-line, split-coupled centrifugal pumps. They have radial suction & discharge port, and are coupled with standard NEMA frame electric motors suitable for vertical operation. The motor shaft is coupled with pump shaft using a self aligning split coupling which facilitates easy maintenance of mechanical shaft seal.

Vertical in-line pumps offer largest amount of floor space savings compared to equivalent End suction & Horizontal split case pumps offering similar performance. When these pumps are installed with Northam Suction Diffusers and Triple Duty Valves then space saving in installation is even more.

The in-line construction offers easy pipe work. There is no need for foundation or alignment after installation. Pipe hangers sized for the weight of the pump, piping & fittings offers adequate supports for most installations. Pipe supports with anti vibration pads may be installed under suction and discharge pipes or under Suction Diffuser on Suction side and Triple Duty Valve under the discharge side for additional support.

Standard flanges for suction & discharge ports will be ANSI 125 or ANSI 250 as per ASME B16.1. PN 16 & PN 25 as per DIN standard EN 1092-2 are available on request.

These pumps are provided with NEMA premium efficiency motors complying to meet or exceed the efficiency requirements of the U.S. Department of Energy.



TYPICAL INSTALLATION WITH SUCTION DIFFUSER & TRIPLE DUTY VALVE

APPLICATIONS

- ▶ Heating, Ventilation and Air-conditioning (HVAC)
- ▶ Pressure boosting
- ▶ Industrial applications
- ▶ Water supply
- ▶ Fire protection systems.

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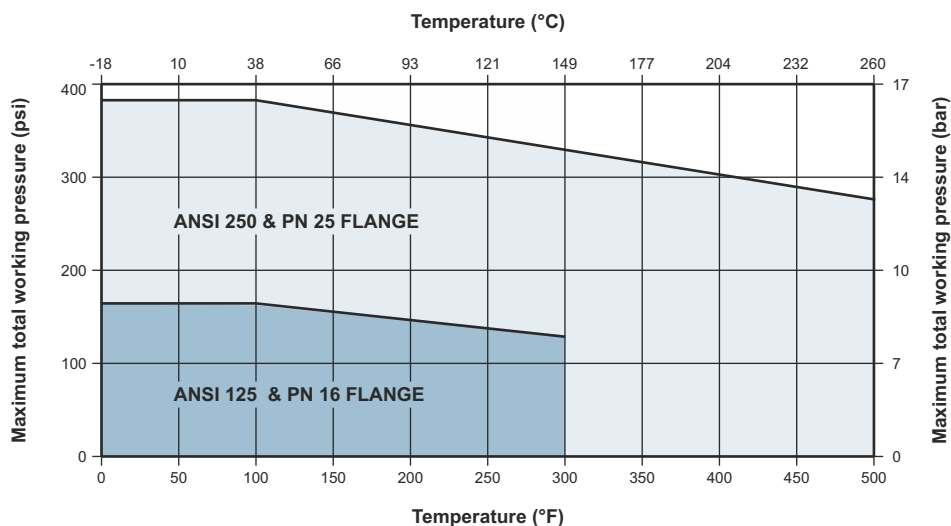
FEATURES

- ▶ The axially split, spacer type rigid coupling allows for the mechanical shaft seal maintenance without disturbing pump or motor or pipe connections. The split coupling once removed allows for removal of the entire mechanical seal for servicing or replacement. Reassembly of the split coupling after servicing of mechanical seal ensures that shaft alignment between pump and motor shaft is restored as per required specifications.
- ▶ Heavy and robust design motor adapter provides a rigid connection between the pump casing & motor flange.
- ▶ Generous venting of seal chamber & liquid flushing at seal faces is provided by gland plate flush connections.
- ▶ The pump impellers are dynamically balanced to grade 6.3 of ISO 1940.
- ▶ Rigid volute casing with ribs integrally cast and provided with gauge, flush and drain connections.
- ▶ The pumps can be coupled with NEMA or IEC standard motors suitable for Vertical application.
- ▶ Flow straightening vanes in suction area of pump casing ensures superior performance and quiet operation.

OPERATING RANGE & CONDITIONS

Flow range	Up to 9700 GPM
Head range	Up to 490 feet
Ambient temperature	Max. +140°F for Premium efficiency motors.

PRESSURE vs TEMPERATURE RATINGS



MOTOR

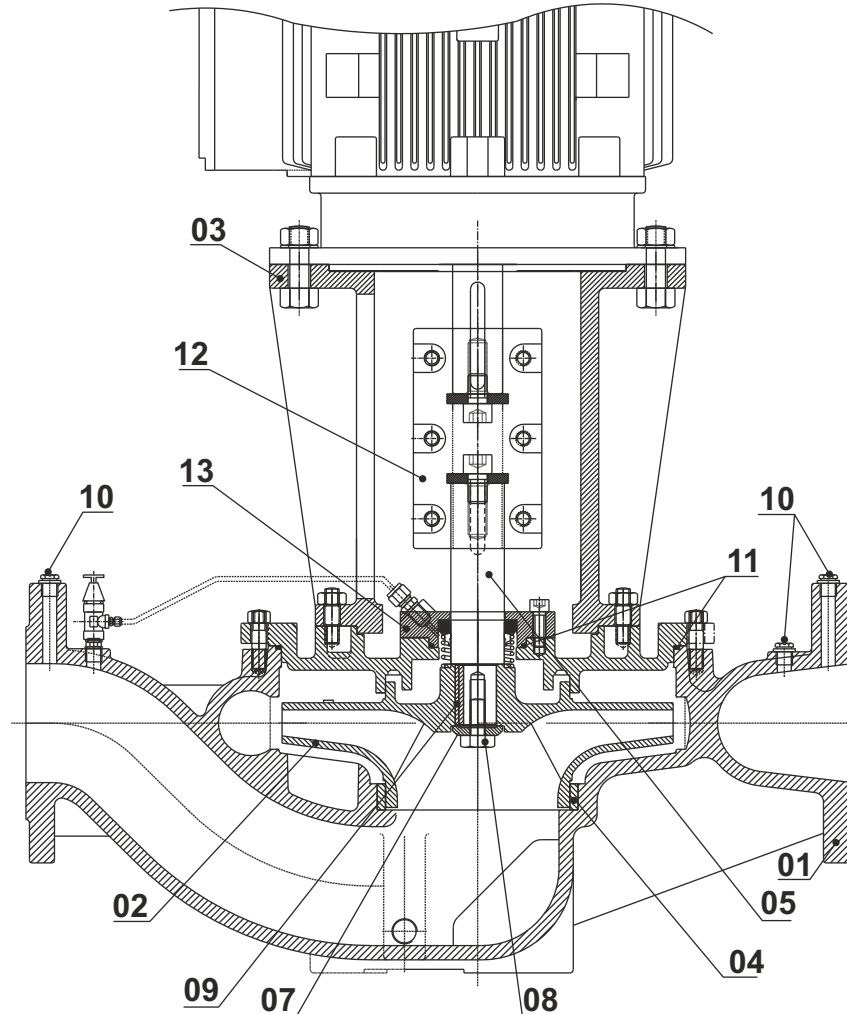
Motor type	NEMA standard induction motor
Ratings	Up to 250 HP
Rated speed	1750 or 3450 rpm
Enclosure class	IP 55
Insulation class	F
Nominal voltages	230/460 volts 3 phase
Supply frequency	60 Hz
Duty / Rating	S1 / Continuous
Direction of rotation	Clockwise as seen from the motor rear end

PUMPED LIQUIDS

The liquids for which the pump is used should be compatible with wetted parts material of construction including mechanical seal.

SPLIT COUPLED VERTICAL IN-LINE PUMPS

SECTIONAL DRAWING & MATERIAL OF CONSTRUCTION



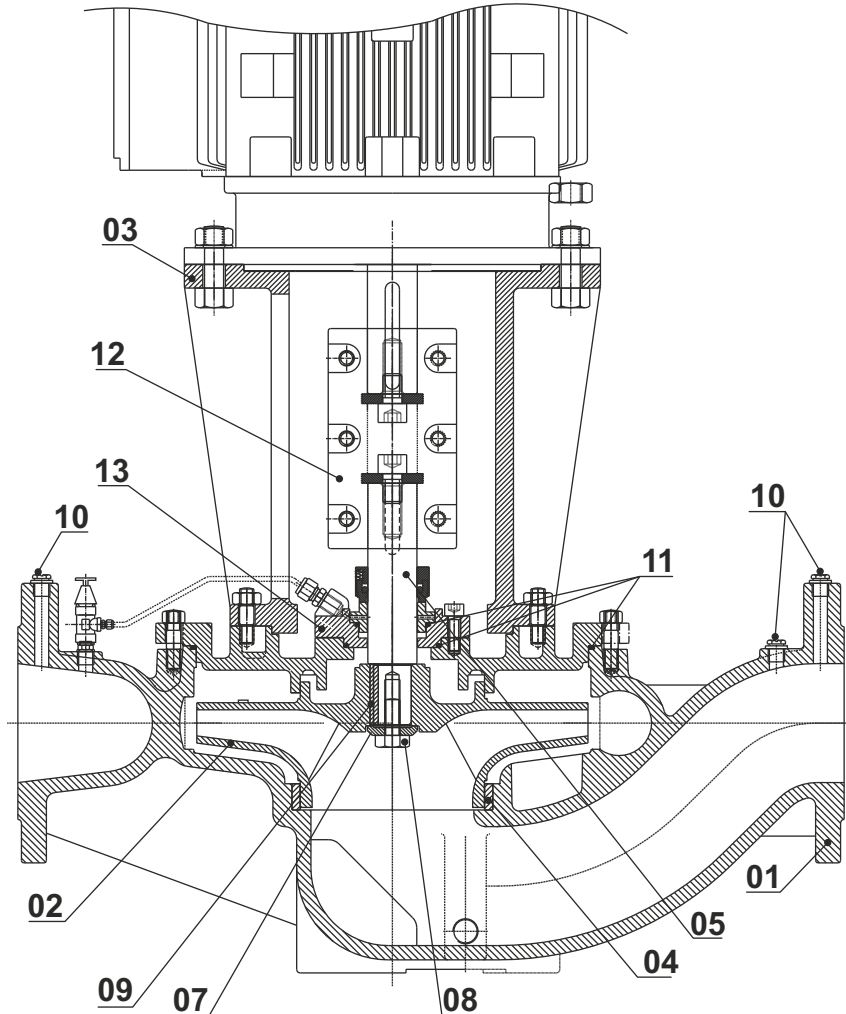
**SPLIT COUPLED VERTICAL IN-LINE PUMP
ARRANGEMENT WITH INTERNALLY MOUNTED UNBALANCED MECHANICAL SHAFT SEAL**

Pos.	Component	Code-A	Code-B
1	Volute casing	Cast iron*	Cast iron*
2	Impeller	Cast iron	Bronze
3	Adaptor	Cast iron	Cast iron
5	Pump shaft	410 Stainless steel	410 Stainless steel
7	Impeller washer	410 Stainless steel	410 Stainless steel
8	Impeller locking screw	410 Stainless steel	410 Stainless steel
9	Impeller key	410 Stainless steel	410 Stainless steel
10	Plugs	Carbon steel	Carbon steel
11	O-ring	NBR	NBR
4	Wear ring	Cast Iron	Bronze
12	Coupling	Aluminum alloy	Aluminum alloy
13	Seal housing	410 Stainless steel	410 Stainless steel

* Volute Casing material shall be ductile iron when class 250 or PN 25 flanges are provided.

SPLIT COUPLED VERTICAL IN-LINE PUMPS

SECTIONAL DRAWING & MATERIAL OF CONSTRUCTION



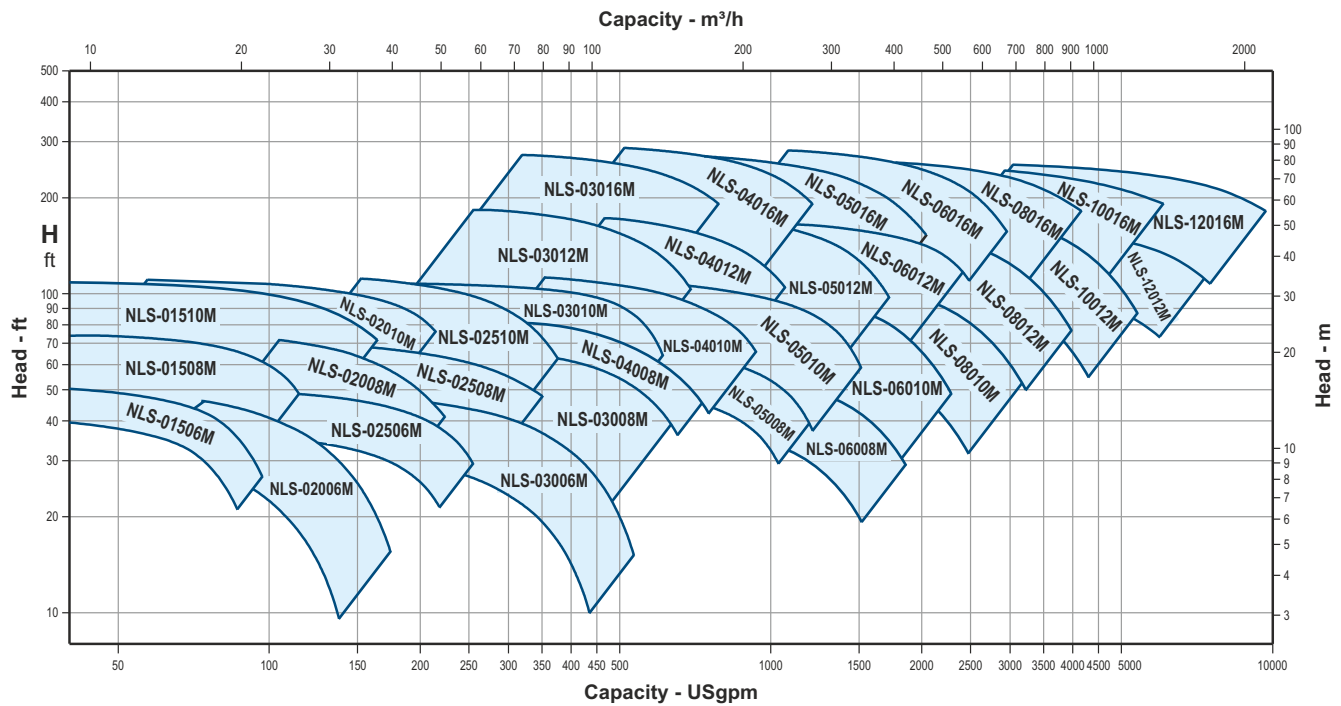
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PERFORMANCE RANGE - 60 Hz, 1750 rpm



PERFORMANCE RANGE - 60 Hz, 3450 rpm

