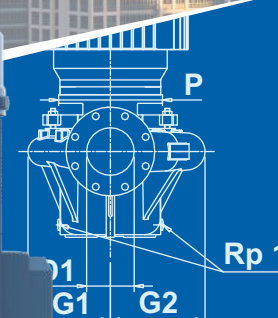
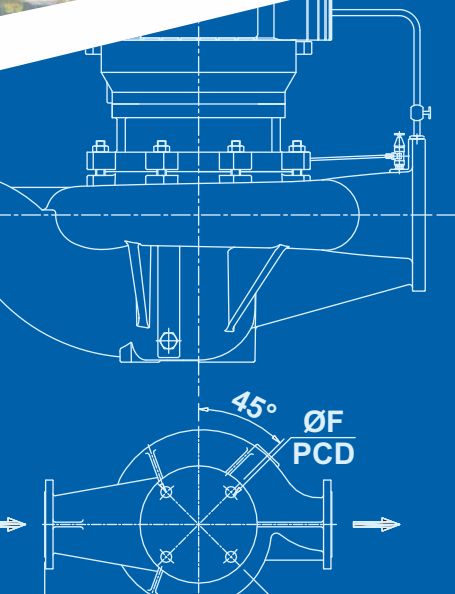


# NL-C SERIES



## CLOSE COUPLED VERTICAL IN-LINE PUMPS



60Hz

[www.northam-inc.com](http://www.northam-inc.com)

## CLOSE COUPLED VERTICAL IN-LINE PUMPS

### PREFACE

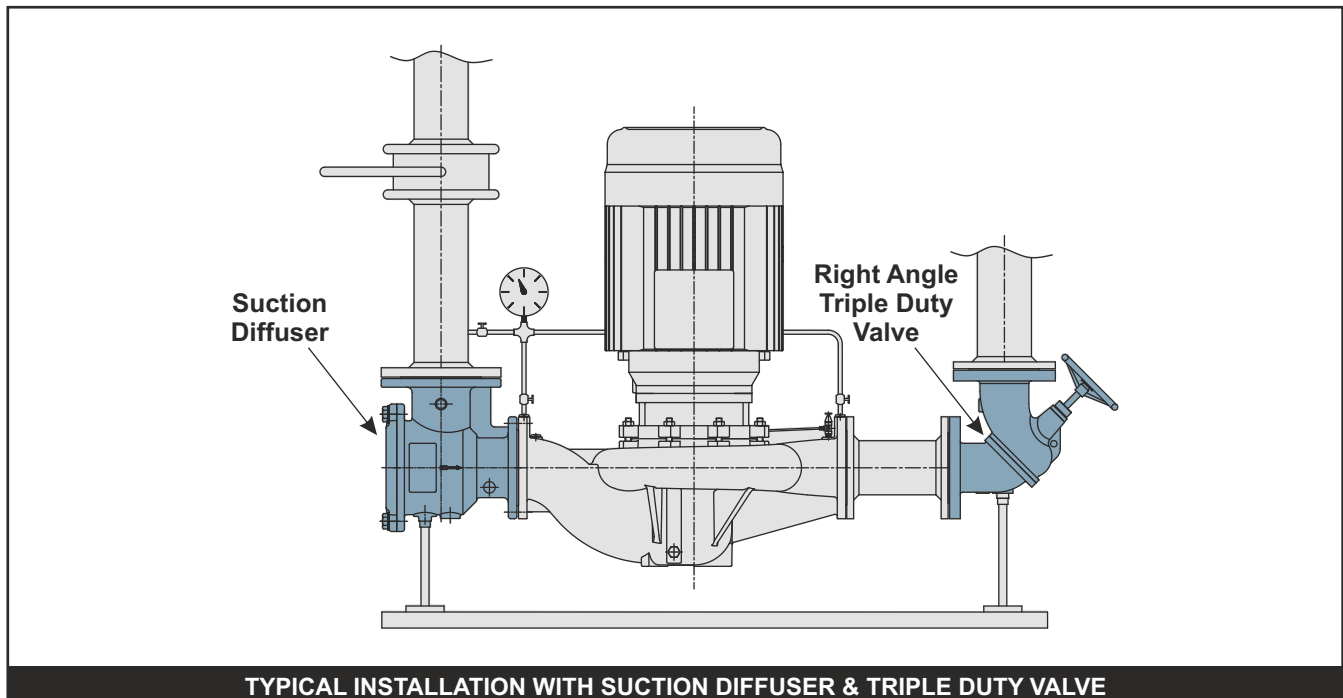
The **NORTHAM** NL-C pumps are single-stage, vertical in-line, close-coupled centrifugal pumps. They have radial suction & discharge port, and are coupled with standard NEMA frame electric motors suitable for vertical operation.

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 and 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.



### APPLICATIONS

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

## CLOSE COUPLED VERTICAL IN-LINE PUMPS

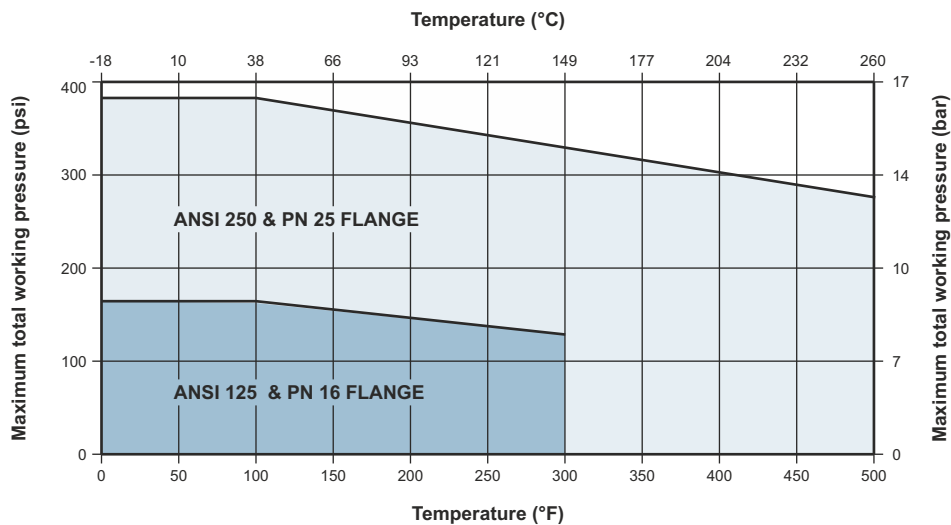
### FEATURES

- ▶ The close coupled pumps are provided with internal mechanical shaft seal which can be replaced without disturbing pump or pipe connections.
- ▶ 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 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 3000 GPM
Head range	Up to 400 feet
Ambient temperature	Max. +140°F for Premium efficiency motors.

### PRESSURE vs TEMPERATURE RATINGS



### MOTOR

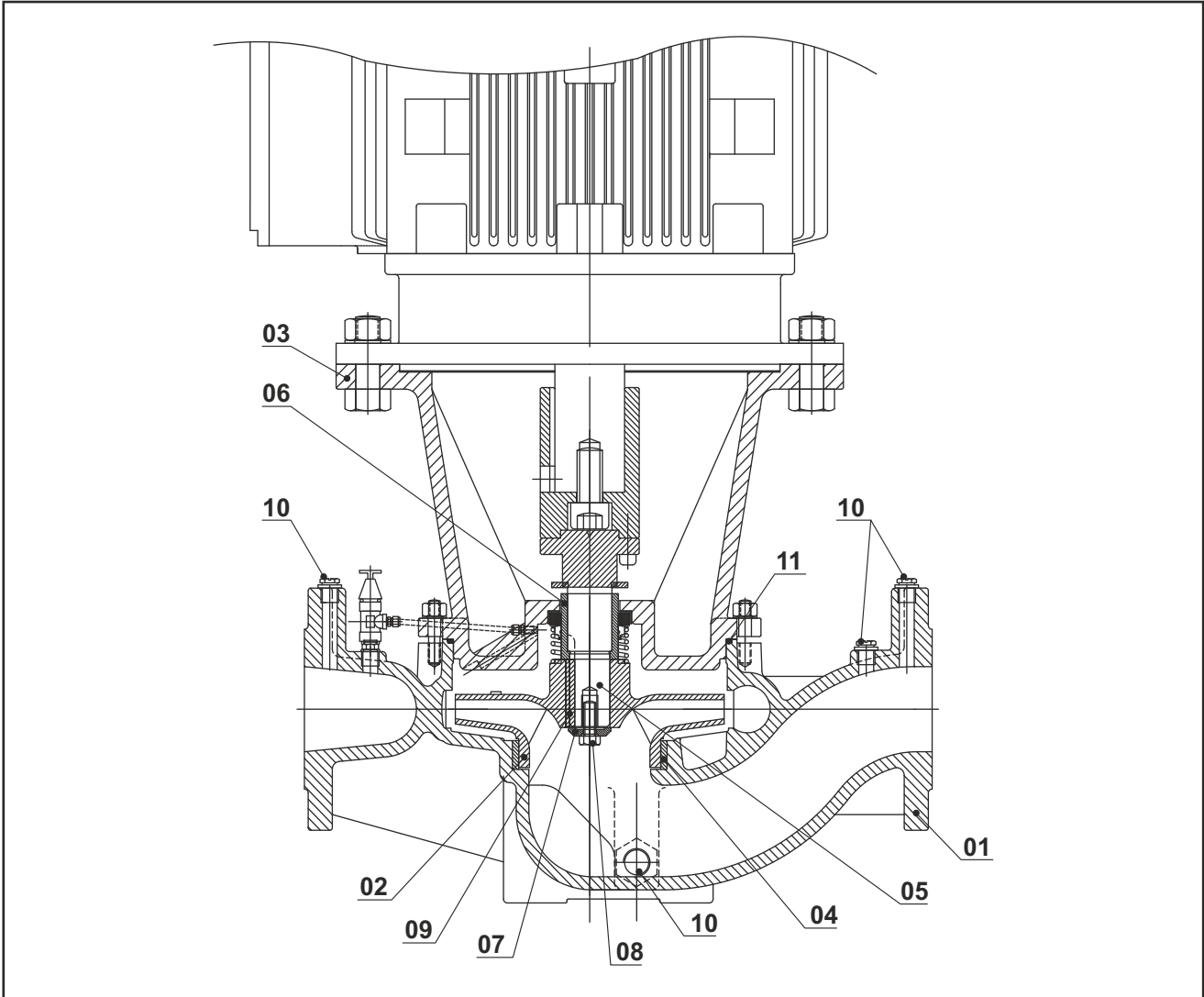
Motor type	NEMA standard induction motor
Ratings	Up to 50 HP
Rated speed	1750 or 3450 rpm
Enclosure class	IP 55
Insulation class	F
Nominal voltages	230/460 volts 3 phase
Supply frequency	60 Hz
Duty / Rating	S1 / Continuous
Direction of rotation	Clockwise as seen from the motor rear end

### PUMPED LIQUIDS

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

## CLOSE COUPLED VERTICAL IN-LINE PUMPS

### SECTIONAL DRAWING & MATERIAL OF CONSTRUCTION



**CLOSE COUPLED VERTICAL IN-LINE PUMP  
404TC TO 505TC FRAME AND 404TSC TO 505TSC FRAME**

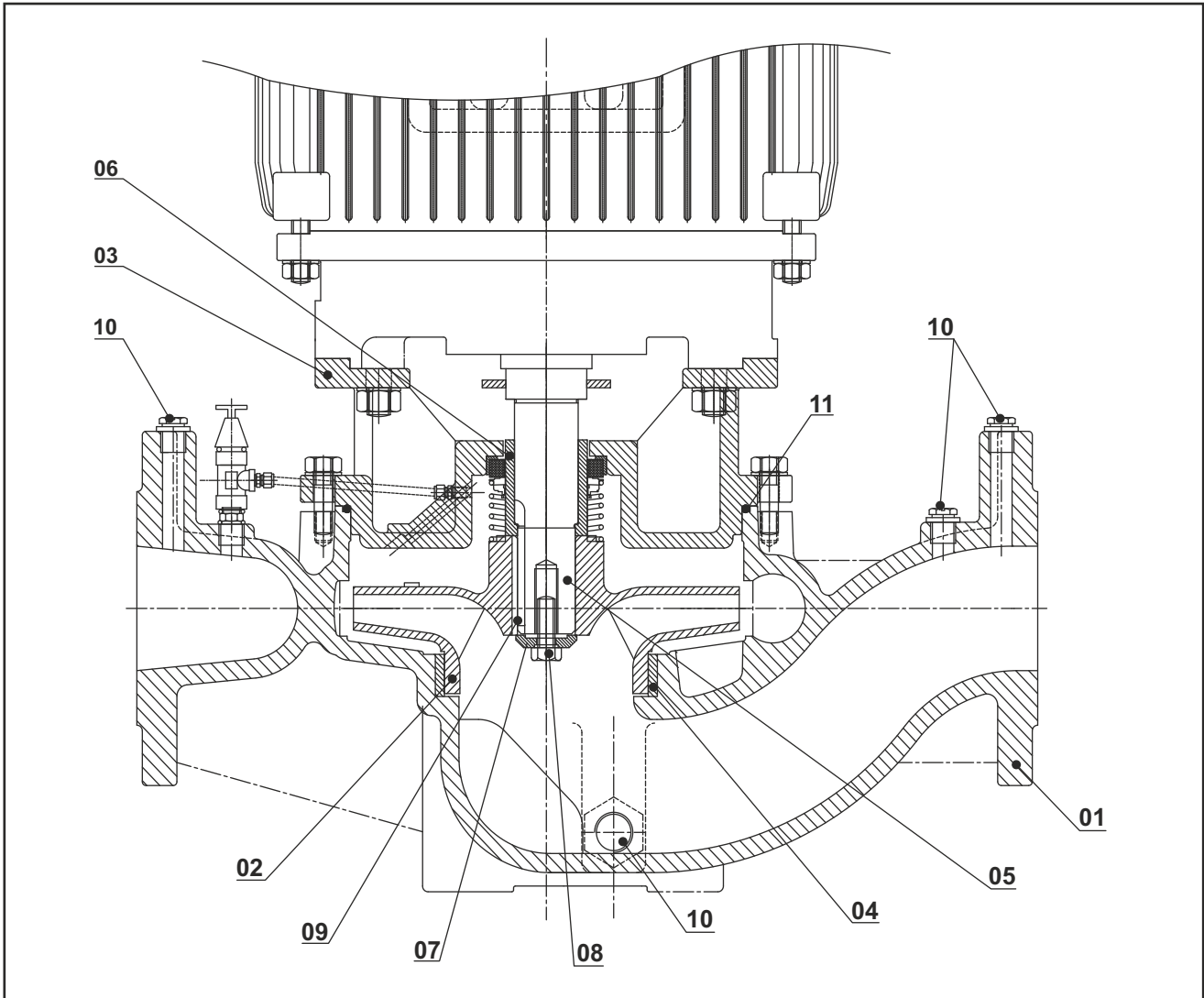
Pos.	Component	Code-A	Code-B	Code-C
1	Volute casing	Cast iron*	Cast iron*	Cast iron*
2	Impeller	Cast iron	Bronze	CF8**
3	Adaptor	Cast iron	Cast iron	Cast iron
4	Wear ring	Cast Iron	Bronze	304 Stainless steel
5	Pump shaft	410 Stainless steel	410 Stainless steel	304 Stainless steel
6	Shaft sleeve	410 Stainless steel	410 Stainless steel	304 Stainless steel
7	Impeller washer	410 Stainless steel	410 Stainless steel	304 Stainless steel
8	Impeller lock pin	410 Stainless steel	410 Stainless steel	304 Stainless steel
9	Impeller key	410 Stainless steel	410 Stainless steel	304 Stainless steel
10	Plugs	Carbon steel	Carbon steel	Carbon steel
11	O-ring	NBR	NBR	NBR

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

\*\* Available only on model NLC-04008, NLC-04010, NLC-04012, NLC-05010, NLC-02506, NLC-03010, NLC-03012.

## CLOSE COUPLED VERTICAL IN-LINE PUMPS

### SECTIONAL DRAWING & MATERIAL OF CONSTRUCTION



**CLOSE COUPLED VERTICAL IN-LINE PUMP  
143JM TO 215JM FRAME**

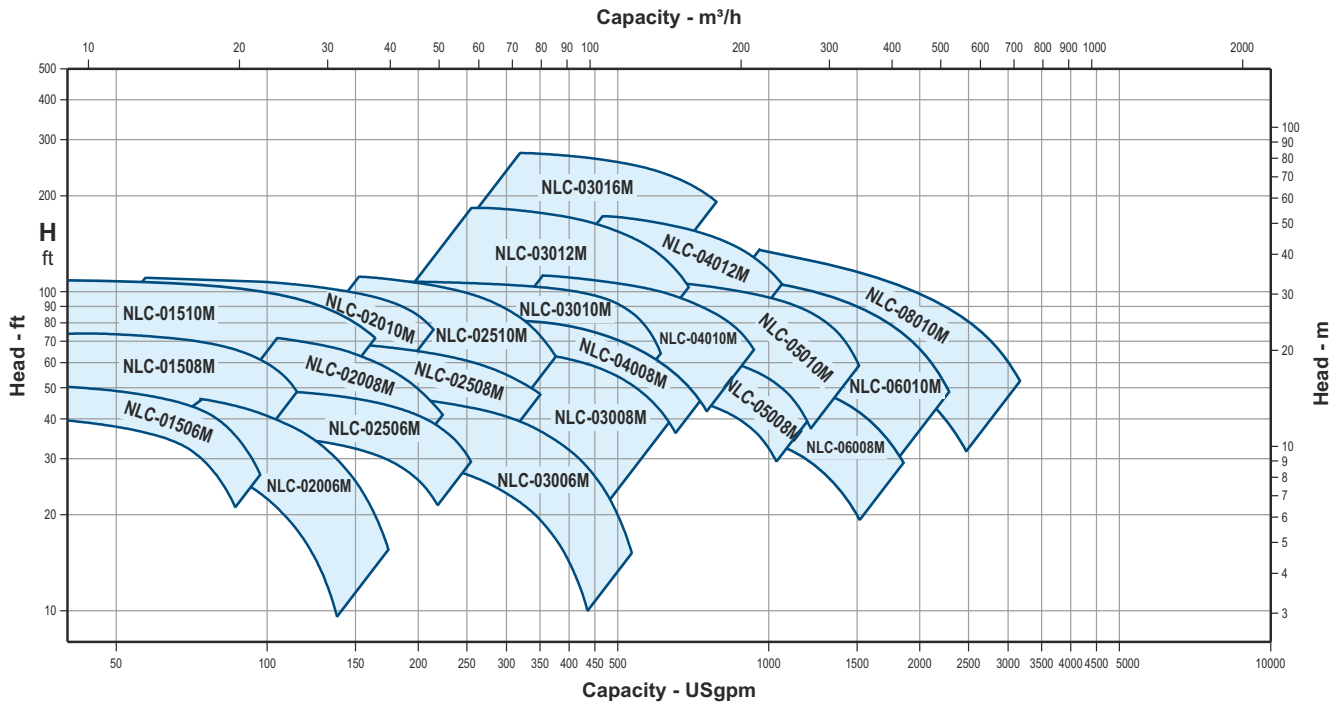
Pos.	Component	Code-A	Code-B	Code-C
1	Volute casing	Cast iron*	Cast iron*	Cast iron*
2	Impeller	Cast iron	Bronze	CF8**
3	Adaptor	Cast iron	Cast iron	Cast iron
4	Wear ring	Cast iron	Bronze	304 Stainless steel
5	Pump shaft	410 Stainless steel	410 Stainless steel	304 Stainless steel
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11	O-ring	NBR	NBR	NBR

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

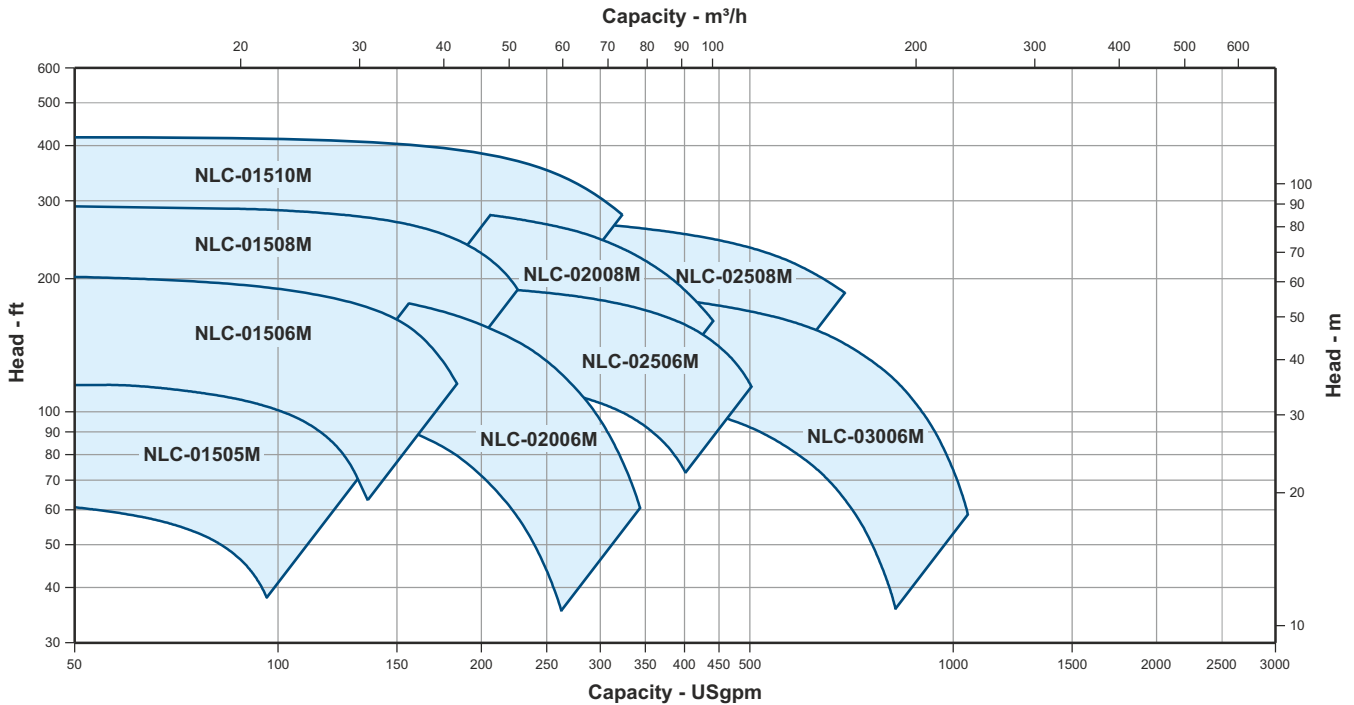
\*\* Available only on model NLC-04008, NLC-04010, NLC-04012, NLC-05010, NLC-02506, NLC-03010, NLC-03012.

## CLOSE COUPLED VERTICAL IN-LINE PUMPS

### PERFORMANCE RANGE - 60 Hz, 1750 rpm



### PERFORMANCE RANGE - 60 Hz, 3450 rpm



**Northam Inc.**

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*Product Improvement and changes are a continuous process at 'Northam'. The data given in this publication is therefore subject to revision.*