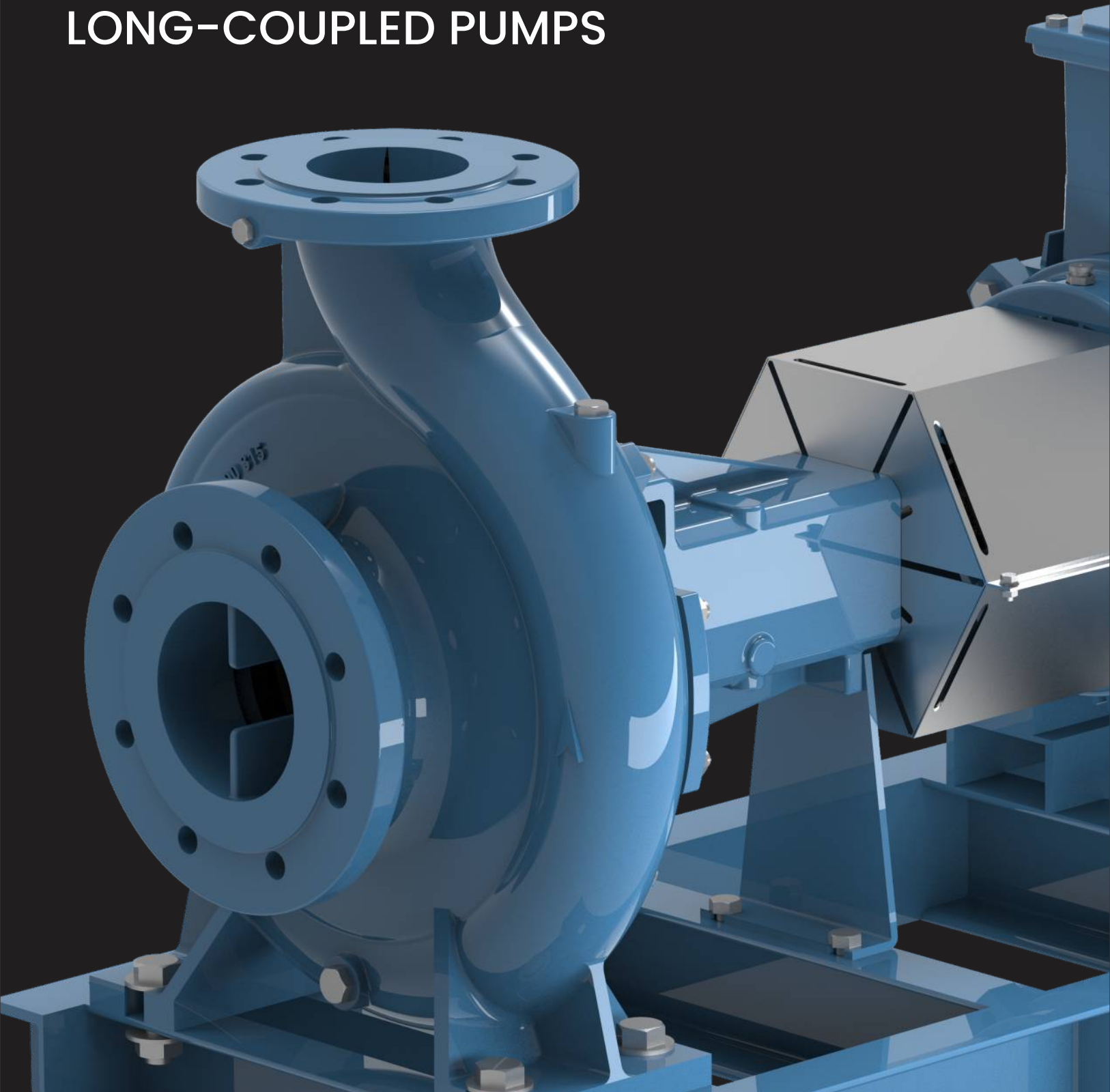




NE-L SERIES

END-SUCTION
LONG-COUPLED PUMPS



60Hz

www.northam-inc.com

END-SUCTION LONG-COUPLED PUMPS

PREFACE

The **NORTHAM** NE-L series are non-self priming, horizontal, single-stage, centrifugal volute casing, end-suction pumps with axial suction port & radial discharge port. Pumps are long coupled with NEMA Premium Efficiency TEFC squirrel cage induction motor with main dimensions complying to NEMA standards MG 1-2006.

APPLICATIONS

- ▶ Water supply & Pressure boosting
- ▶ Heating, Ventilation and Air-conditioning (HVAC)
- ▶ Industrial washing & cleaning systems
- ▶ Irrigation systems
- ▶ Boiler feed and condensate transfer system

FEATURES

- ▶ Pumps can be supplied as **bare shaft pump** or **electric motor coupled pump** completely mounted on a fabricated steel base frame, with flanges, coupling & coupling guard.
 - ▶ Available with **wide range** of material of construction for a large number of applications.
 - ▶ **Interchangeable components** across the entire range of models for easier spare parts management.
 - ▶ **Robust bearing housing** with bearings selected to withstand radial & axial thrust load and thus give longer service life.
 - ▶ **Optional wear ring** is available in bronze and stainless steel to reduce wear and ease of maintenance.
 - ▶ The pumps are highly efficient and have been optimized for **low life cycle costs** to reduce the total cost of ownership.
 - ▶ Northam pump **selection tool** makes pump selection, submittals and techno-commercial offers to be prepared accurately & swiftly.
 - ▶ We provide **excellent pre and post sales experience**.
 - ▶ We provide **best-in-class delivery** times in the industry.
- ▶ **Back pull-out design** simplifies inspection & maintenance. Motor, bearing bracket & impeller can be removed for servicing without disturbing the pump casing and the suction & discharge pipelines.
 - ▶ Available with **gland packing** as well as **mechanical shaft seal** (For F and G material of construction pumps gland packing is not available).
 - ▶ Rotating parts are **dynamically balanced** which ensure vibration free performance and enhanced bearing life.
 - ▶ Suction & Discharge port flanges shall be ANSI 125 or ANSI 250 as per **ASME B16.1**. Flanges as per DIN standard **EN 1092-2** (PN 16 or PN 25) are available on request.
 - ▶ Each pump is **Hydrostatic and Performance tested** at factory before dispatch.
 - ▶ **Gauge taps** on the suction and discharge flanges provide enhanced insight into the performance of your pumps.

OPERATING RANGE & CONDITIONS

Flow range	35 to 3350 GPM
Head range	12 to 470 feet
Ambient temperature	Max. +140°F
Liquid temperature range	+32°F to +194°F (with Carbon/Ceramic/NBR/304 Stainless steel shaft seal) +32°F to +194°F (with Sic/Sic/Viton/316 Stainless steel shaft seal) +32°F to +284°F (with Carbon/Sic/Viton/316 Stainless steel shaft seal)

MOTOR

Motor type	NEMA Standard Premium Efficiency TEFC squirrel cage induction motor
Ratings	Up to 300 HP
Rated speed	3450, 1750 rpm
Enclosure class	IP 55
Insulation class	F
Nominal voltages (Tolerance ±10%)	230/460 Volts 3 phase as standard
Supply frequency	60 Hz
Duty / Rating	S1 / Continuous
Direction of rotation	Clockwise as seen from the motor rear end

END-SUCTION LONG-COUPLED PUMPS

PUMPED LIQUIDS

These pumps are designed for non flammable and non explosive liquids which are clean and thin without any solid particles. For aggressive liquids please ensure that material of construction is suitable for liquid to be pumped.

If liquids with a viscosity higher than that of water, are to be pumped the power consumption of the pump will increase with increase in viscosity. This will require a larger motor for the pump. Head, discharge and pump efficiency will reduce with increase in viscosity. When pumping liquids with a density higher than that of water, the power consumption of the pump will increase at a ratio corresponding to increase in density.

VOLUTE CASING

The volute casing of the pumps are designed to be robust in construction to take the undue stresses offered by the pipe work. They have an axial suction port and radial discharge port. Standard flanges are ANSI 125 and ANSI 250 as per ASME B16.1. PN 16 and PN 25 flanges are available on request. The volute casing is provided with a priming & drain hole closed by plugs. They are also provided with gage taps on suction and delivery flanges.

CASING BACK COVER

Back covers are provided with flushing line plug for external cooling of mechanical seal.

SHAFT & BEARING BRACKET

The bearing bracket is provided with 2 properly sized antifriction ball bearings which are permanently lubricated for life. The bearing bracket is made of cast iron of high tensile strength. The shaft is available in carbon steel as well as stainless steel. A shaft sleeve of stainless steel is provided in the stuffing box to protect the shaft from wear and corrosion.

All pumps are provided with one of four shaft, shaft seal and bearing brackets. As shaft and bearings are strong and properly sized, the pump can be driven by a belt drive or diesel engine without any problem. A water thrower is provided on the shaft to prevent liquid from entering the bearing bracket and damaging the bearing.

COUPLING

All pumps can be provided with two types of coupling options.

- ▶ Standard coupling
- ▶ Spacer coupling

The use of spacer coupling is helpful since pumps fitted with them can be serviced without dismantling the motor from the base frame & also without removing the pipe work or volute casing. Realignment of pump and motor is also not necessary after servicing.

IMPELLER

The impellers are closed impellers with extra smooth surface finish and machined completely from outside to ensure high efficiency. They are dynamically balanced to grade 6.3 of ISO 1940. All impellers can be trimmed to adopt them for the duty point requested by the customer. Suggested trimmed impeller diameter as shown on the performance curves are theoretical.

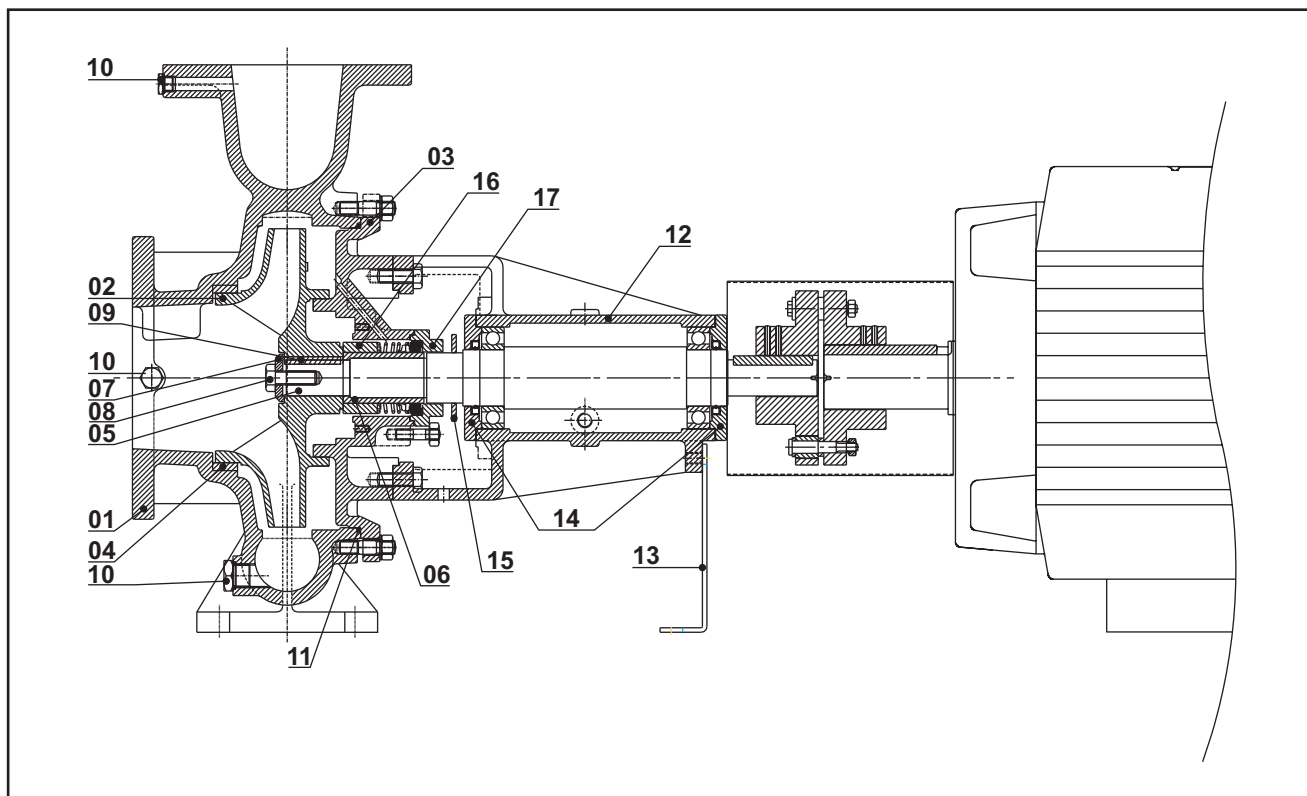
TEST PRESSURE

All pumps are hydrostatic tested for leakage as per the following test pressure using water containing corrosion inhibitor at room temperature.

Pressure rating	Operating pressure	Test pressure
ANSI 125	125 psi	188 psi
ANSI 250	250 psi	375 psi

END-SUCTION LONG-COUPLED PUMPS

SECTIONAL DRAWING & MATERIAL OF CONSTRUCTION



Pos.	Component	Code-A	Code-B	Code-C ²	Code-F ²	Code-G ²
1	Volute casing	Cast iron	Cast iron	Cast iron	CF8	CF8M
2	Impeller	Cast iron	Bronze	CF8	CF8	CF8M
3	Back cover	Cast iron	Cast iron	Cast iron	CF8	CF8M
5	Shaft	Carbon Steel	410 Stainless steel	304 Stainless steel	304 Stainless steel	316 Stainless steel
6	Shaft sleeve	410 Stainless steel	410 Stainless steel	304 Stainless steel	304 Stainless steel	316 Stainless steel
7	Impeller washer	410 Stainless steel	410 Stainless steel	304 Stainless steel	304 Stainless steel	316 Stainless steel
8	Impeller lock pin	410 Stainless steel	410 Stainless steel	304 Stainless steel	304 Stainless steel	316 Stainless steel
9	Impeller key	410 Stainless steel	410 Stainless steel	304 Stainless steel	304 Stainless steel	316 Stainless steel
10	Plugs	Carbon Steel	Carbon Steel	Carbon Steel	304 Stainless steel	316 Stainless steel
11	O-ring	NBR	NBR	NBR	Viton	Viton
12	Bearing bracket	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
13	Foot	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel
14	Bearing cover	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
15	Water thrower	NBR	NBR	NBR	NBR	NBR
16	Spacer	410 Stainless steel	410 Stainless steel	304 Stainless steel	304 Stainless steel	316 Stainless steel
17	Gland follower	Cast iron	Cast iron	Cast iron	CF8	CF8M
4	Wear ring ¹	Cast iron	Bronze	CF8	CF8	CF8M

¹ Wear ring is available on request only.

² Suitable models with these material of construction are marked on performance range provided on last page of this brochure.

END-SUCTION LONG-COUPLED PUMPS

MODEL CODE

NE L - 020 05 M - 1 010 4 - A A G

Bearing type

Code	Bearing type
P	Permanent lubricated bearing
G	Greasable bearing
O	Oil lubricated bearing

Sealing arrangement

Code	Materials
A	Carbon/Ceramic/NBR/304 Stainless steel
B	Carbon/Sic/Viton/316 Stainless steel
C	Sic/Sic/Viton/316 Stainless steel
G	Gland packing

Material of construction

Code	Casing	Impeller	Shaft
A	Cast iron	Cast iron	Carbon steel
B	Cast iron	Bronze	410 SS
C	Cast iron	CF8	410 SS
F	CF8	CF8	304 SS
G	CF8M	CF8M	316 SS

Motor voltage

Code	Volts	Code	Volts
0	Bare shaft/without motor pump	4	220/460V, 3 phase, 60 Hz
2	220/380V, 3 phase, 60 Hz	7	380-415V, 50 Hz
3	380V, 3 phase, 60 Hz	8	220-240/380-415V, 50 Hz

Motor HP

Code	HP	Code	HP	Code	HP
000	Bare shaft/without motor pump	002	2 HP	010	10 HP
001	1.5 HP	007	7.5 HP	100	100 HP

Motor RPM / Pole / Frequency

Code	RPM / Pole / Frequency	Code	RPM / Pole / Frequency
0	Bare shaft / without motor pump	5	2900 rpm / 2 pole / 50 Hz
1	3450 rpm / 2 pole / 60 Hz	6	1450 rpm / 4 pole / 50 Hz
2	1750 rpm / 4 pole / 60 Hz		

Head category

Code	Head	Code	Head	Code	Head
L	Low head	M	Medium head	H	High head

Nominal impeller diameter

Code	inch (mm)	Code	inch (mm)	Code	inch (mm)	Code	inch (mm)
05	5" (125 mm)	08	8" (200 mm)	12	12.4" (315 mm)	16	16" (400 mm)
06	6.3" (160 mm)	10	10" (250 mm)	13	13" (330 mm)	20	20" (500 mm)

Discharge size (outlet size)

Code	inch (mm)	Code	inch (mm)	Code	inch (mm)	Code	inch (mm)
012	1.25" (32 mm)	025	2.5" (65 mm)	050	5" (125 mm)	100	10" (250 mm)
015	1.5" (40 mm)	030	3" (80 mm)	060	6" (150 mm)	120	12" (300 mm)
020	2" (50 mm)	040	4" (100 mm)	080	8" (200 mm)		

Classification

Code	Type
L	Long-coupled

Series name

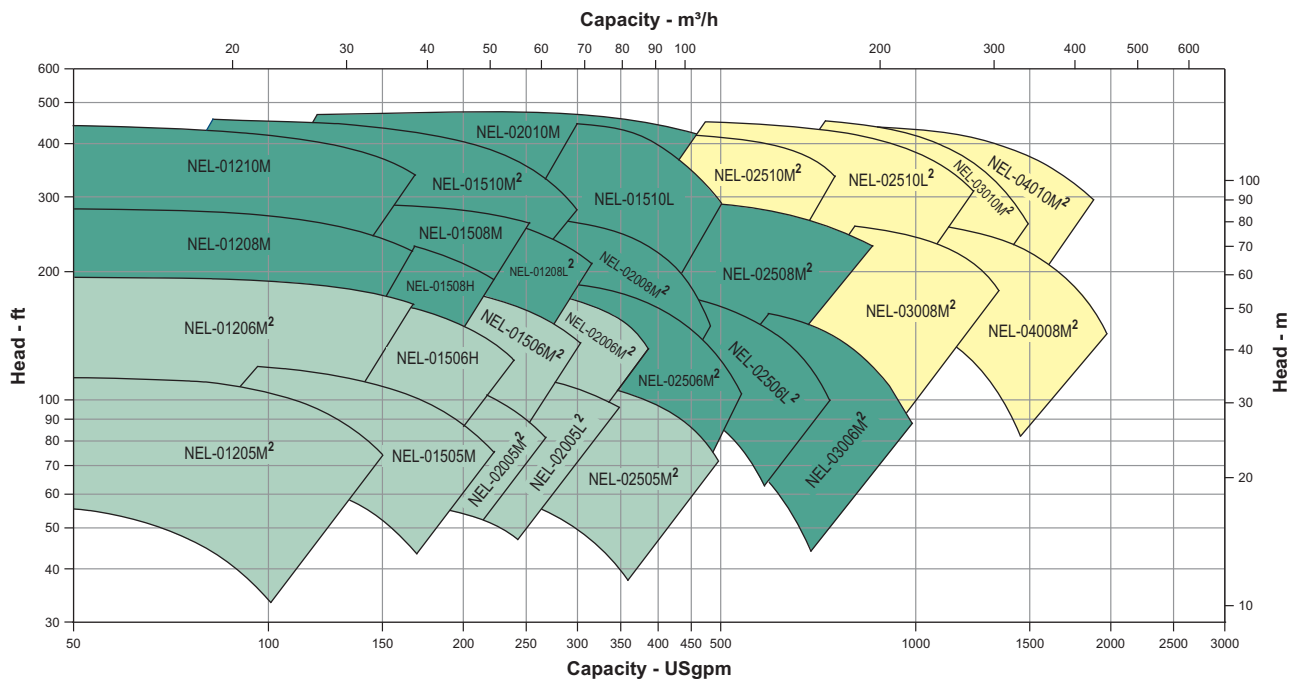
Code	Series
NE	End-suction pump

SAMPLE CODE - **NEL-02005M-10104-AAG**

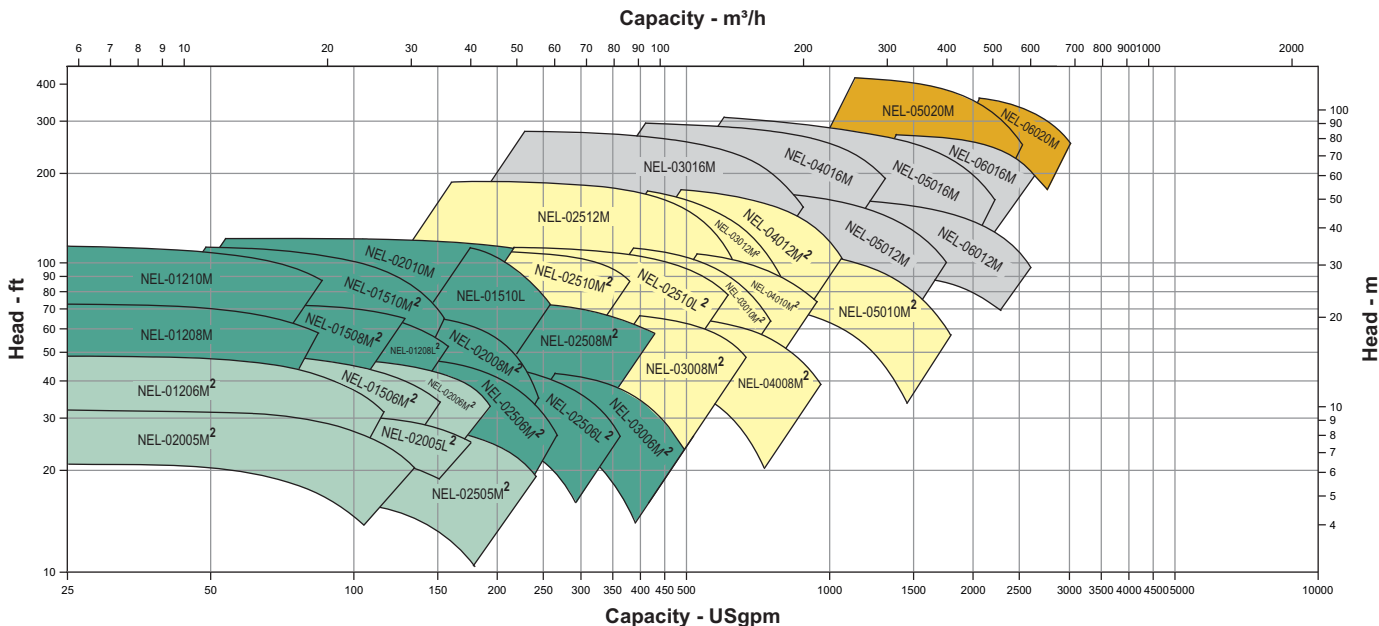
END-SUCTION LONG-COUPLED PUMPS

PERFORMANCE RANGE - 60 Hz, 3450 rpm

- Bracket type 1
- Bracket type 2
- Bracket type 3
- Bracket type 4
- Bracket type 6



PERFORMANCE RANGE - 60 Hz, 1750 rpm



² Code-C/F/G material of construction are available in these models only.