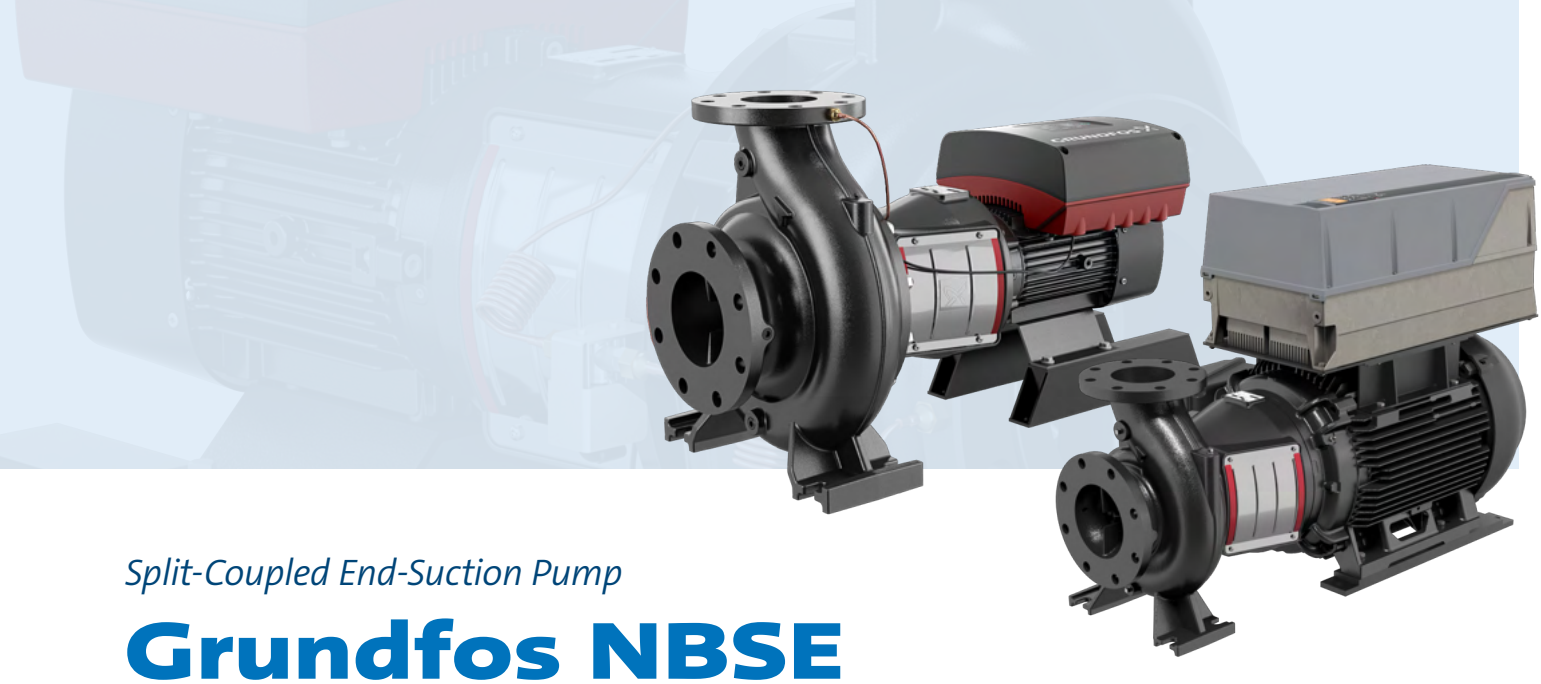


Split-Coupled End-Suction Pump

Grundfos NBSE

The Grundfos NBSE split-coupled, end-suction pump with integrated permanent magnet motor, drive, and control serves as the industry standard in performance, quality, and durability. These products allow for dynamic and intelligent solutions to many commercial building and industrial applications. With a selection of forty-one sizes available, the NBSE provides all the benefits of an NBS pump, enhanced by a ultra high-efficiency permanent magnet motor and variable frequency drive. The combination of a permanent magnet motor with integrated variable frequency drive exceeds IE5 efficiency levels set by the International Electrotechnical Commission (IEC), currently the highest efficiency worldwide for electrical motors. NEMA Premium Efficient motors are equivalent to IE3, meaning these motors are two levels above NEMA Premium Efficiency. The combined motor and VFD efficiency is higher than a NEMA Premium motor alone.

Key Features and Benefits

Installation

- Intelligent control options, including constant differential pressure and proportional differential pressure control that optimize the system based on actual demand
- No baseplate or grouting required, reducing installation costs
- No shaft alignment is required — eliminating laser alignment costs and reducing installation time
- Optimized, space-saving design has up to a 35% smaller footprint compared to traditional frame-mounted design pumps

Efficiency and Reliability

- Advanced Computational Fluid Dynamics (CFD) provides reliable industry-leading efficiencies, reduce vibration, and noise providing for prolonged seal and bearing life and quiet operation
- New Silicon Carbide (SiC)/Silicon Carbide (SiC) hard faced seal's robust design offers increased temperature range, better abrasives handling and longer life versus standard designs (standard on all N-Series pumps)
- Grundfos Lifetime Alignment Guarantee means your pump will never need an alignment, eliminating undue wear and tear on mechanical seals and bearings.
  A pump that never needs alignment will use less energy and require significantly less maintenance.
- Optimized, stainless-steel impeller design increases efficiency and reduces NPSH required

Serviceability

- Foot-mounted volute for increased pump stability
- Split-coupling design allows for easy access to mechanical seal without removing the motor or disturbing piping

Applications

- Hot water systems
- Chilled water systems
- Condenser water
- District heating/cooling
- Water Utility
- Process water and Light industrial

GRUNDFOS

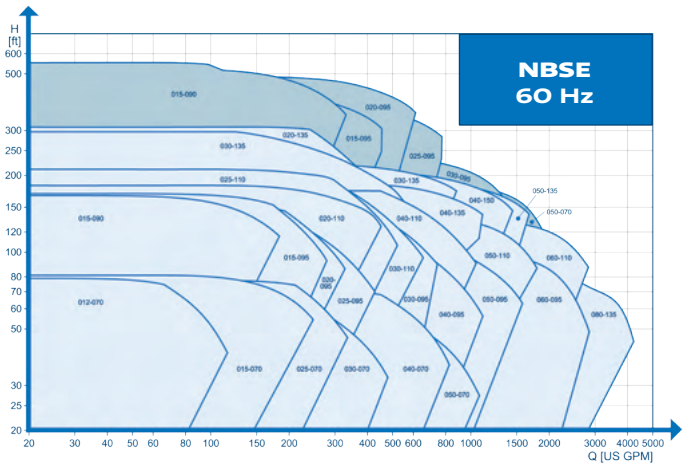
Possibility in every drop

Technical Data

NBSE	
Flow, Q :	max. 4230 gpm
Head, H:	max. 532 ft
Liquid Temperature:	-13°F to 248°F
Working Pressure:	max. 175 psi
HP Range / Speed:	3 to 75 hp /4000 rpm
	1.5 to 75 hp /2200 rpm
Discharge Sizes:	1.25 to 8 in.

NBSE Control Modes	
Proportional Pressure	•
Constant Flow	•
Constant Pressure	•
Constant Differential Pressure	•
Constant Temperature	•

Performance Data NBSE 60Hz



The perfect motor is half the solution

Our ultra high efficiency motors and frequency converter have been designed specifically for use with Grundfos pumps, and they feature unique functionalities that allow for complete system optimization. The ultra high efficiency permanent magnet (ECM) motor offers an additional 7-10% decrease in energy cost over NEMA Premium motors with industry standard variable frequency drives.

Ultimate flexibility and efficiency

The NBSE can be operated to meet any individual needs for a specific solution. This makes them an excellent choice for a number of applications within heating, cooling and industrial processes – each of which are characterized by varying demands, different control needs, and varying number of operating hours.

Advanced Solution Functionalities	
Real Time Clock Allows for calendar function for e.g. automatic system stop during weekends	**Manual Speed Operation Mode** Even while under external signal control, you can switch to manual speed operation mode to test the pump's operation
2 Analog Inputs Get Delta P and Delta T control with two sensors	**Intuitive Built-In Start-Up Guide** Setting up your pump is quick and easy with the start-up guide that is built into the MLE and CUE
Timer Functions on Digital Inputs For each digital input you can activate and set a delay time and a duration time	**Predefined Set-Point** Get dynamic response to different operation profiles
1 Analog Output Get relevant parameter information in real time	**Advanced Communication** BACnet MS/TP is standard in externally mounted drive and is available through CIM card attached to Grundfos MLE

Visit grundfos.us/pei to learn more about Department of Energy (DOE) pump energy index (PEI) requirements and PEI ratings on specific Grundfos models.

© Grundfos Holding A/S 09.2025 LNBSESL01

Grundfos Americas
Brookshire, TX 77423

grundfos.us | grundfos.ca | grundfos.mx