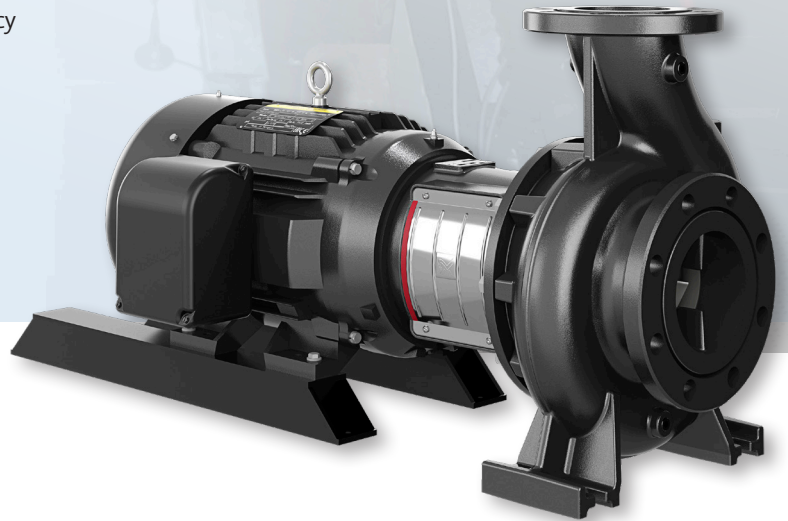


Split-Coupled End-Suction Pump

GRUNDFOS NBS

The N-series offers three different end-suction models: the frame-mounted NK, close-coupled NB and split-coupled NBS.

The N-series delivers industry leading efficiencies that future-proof them against government efficiency regulations. The NBS is designed to bring faster installation, greater efficiency and reliability, along with easier serviceability throughout the pump's life. With up to a 35% smaller footprint, Lifetime Alignment Guarantee, back-pull out design and a new and revolutionary hard-faced seal designed to improve reliability and reduce service costs, the NBS delivers on our promise that HVAC from Grundfos — it's everyone's comfort zone.



KEY FEATURES AND BENEFITS

Installation

- No baseplate or grouting required reducing installation costs
- No alignment required between the pump and motor with our Lifetime Alignment Guarantee — 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
- Top centerline discharge design allows for self-venting and more compact piping designs

Efficiency and Reliability

- Industry leading efficiencies you can count on, because of advanced Computational Fluid Dynamics (CFD)
- 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)
- Backed by our Lifetime Alignment Guarantee so you never have to worry about undue wear and tear on mechanical seals, bearings and energy losses due to misalignment
- Optimized, stainless-steel impeller design increases efficiency and reduces NPSH required
- Balanced impellers reduce noise and vibration for quiet operation and prolong seal and bearing life

- 4" and above models have a internal dual-volute design for increased efficiency, lower life-cycle costs and prolonged seal and bearing life
- Integrally cast diffuser vane reduces turbulence

Serviceability

- Foot-mounted volute for increased pump stability
- Spacer-coupling design allows for back pull-out and easy access to mechanical seal without removing the motor or disturbing piping

APPLICATIONS

- HVAC (Cooling/Heating)
- District Energy
- Industrial
- Water Utility

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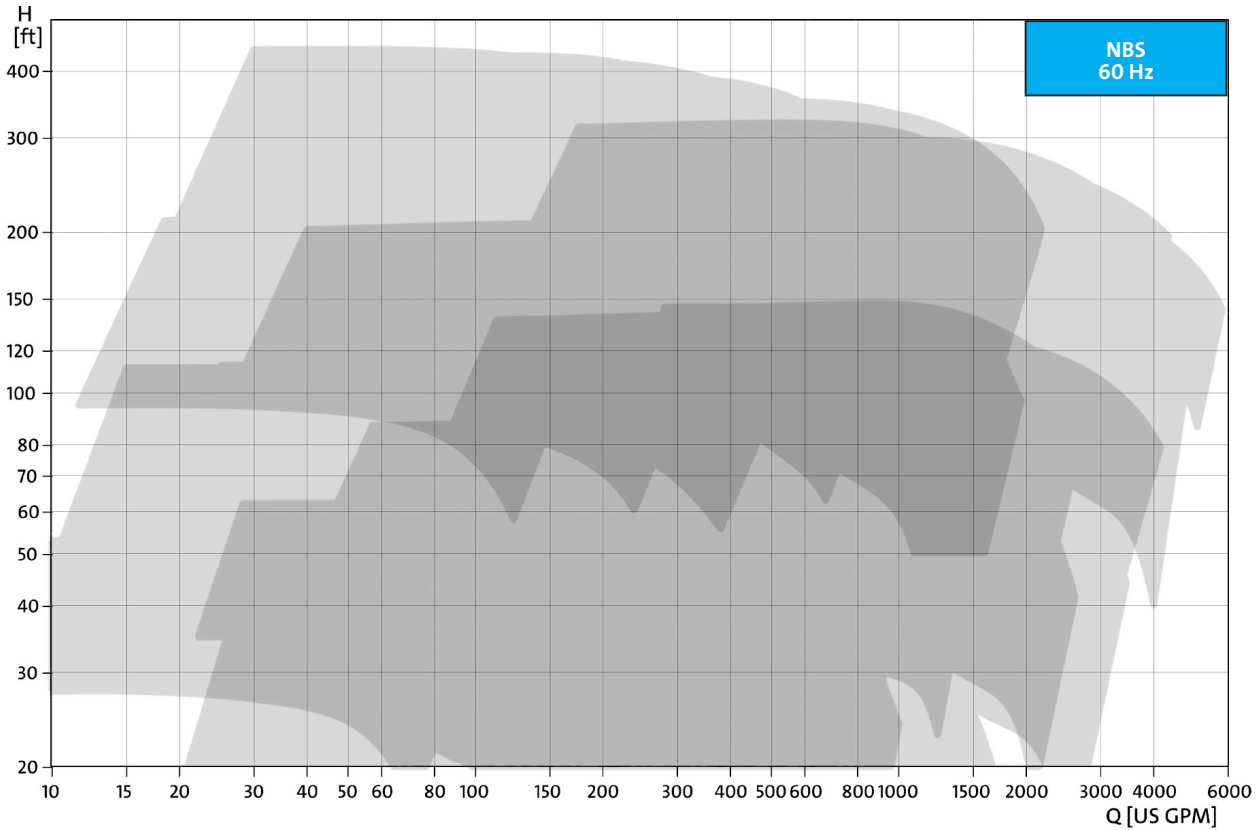
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TECHNICAL DATA

NBS	
FLOW, Q:	max. 5,800 gpm
HEAD, H:	max. 450 ft
LIQUID TEMPERATURE:	-13°F to 248°F (Optional: 284°F)
WORKING PRESSURE:	max. 232 psi (Optional: 362 psi)
HP RANGE	max. 250 hp
SPEED	3600, 1800, and 1200 RPM
DISCHARGE SIZES:	1.25 to 10 in. <ul style="list-style-type: none"> • Centerline: 1.25–6 in • Tangential: 8–10 in



PERFORMANCE DATA



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

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NBS PUMP QUICK GUIDE

Questions? Grundfos Has Answers!



Is 3x208V available?

Though we do not have standard part numbers created, users should be able to select alternative voltage variants in Grundfos Express (GXS). GXS will provide the list pricing and a product number will be created during the order process.

What is the standard seal for NBS?

The standard seal is a rubber bellows with Silicon Carbide/Silicon Carbide faces and EPDM Elastomers (BQQE). The silicon carbide is an advanced type specifically designed to reduce friction and provide optimum hydrodynamic properties resulting in longer seal life and short periods of dry running.

Is 575V available?

Though we do not have standard part numbers created, users should be able to select alternative voltage variants in Grundfos Express. GXS will provide the list pricing; however, the part number will be created upon receipt of order.

Does NBS has NSF-50 or NSF-61?

Not yet but it is coming.

Will we have replacement parts?

We have a complete Service Kit Catalogue. The kits part numbers should be extended by July timeframe.

Are there motor frame size restrictions similar to LCS?

On the LCS we have a minimum from size of 182TC. On the NBS we can go as low as 145TC. We are not offering fractional HP motors on the NBS range. For these much smaller pumps we can offer CM/CME pumps if end suction configuration is desired.



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NBS Pump Q & A



What is the coating for the NBS?

The pumps are painted same as LCS today; however, the casting themselves are a higher quality so there will be a resulting higher finish quality.

Can they be epoxy coated?

We do have a scotchkote option that can be configured by the CSU.

Are NSF pumps scotchkoted?

Not by default. The NSF pumps will be sandblasted. They can also be coated internally if requested by customer.

What motors will be used?

The motors are NEMA C-face motors. The default motor supplier for the Brookshire plant is Baldor.

Will NBS pumps be available in Product Center?

Initially NBS will only be in Grundfos Express. Grundfos Product Center will be updated in a couple months to also include the NBS pumps.

Where are these being built?

The NBS will be assemble in our plant in Brookshire Texas.

Are there more motor options?

Changes to insulation class, adding heaters, etc. can be handled by the Customer Support Centers.

What is the standard impeller material?

The impeller is cast 304SS as standard.

Is the Double Volute on the whole range?

No. The double volute is only included on certain pump models where needed to balance some of the forces. The double volute marginally reduces efficiency so we did not include it when not necessary.

Can we order with a different motor manufacture?

Not directly in Grundfos Express but the Customer Support Centers are capable of supporting custom requests.

Will 50Hz be available?

Just like motor voltage variants we can also build the pumps with a 50Hz motor. However, these are NEMA pumps and motor stools. If an IEC motor and DIN flanges are required then we have the global NB and NK platform which serves the global 50Hz market today.

Is NBS available in all stainless?

Stainless steel variants will come sometime around 2023.

NBS Pump Q & A



Are Viton elastomers an option?

Yes, if a Viton shaft seal (BBQV, BQQV) is chosen the elastomers in the complete pump will default to Viton.

What is the difference between BQQE and DQQE?

BQQE is a rubber bellows with Silicon Carbide/Silicon Carbide faces. DQQE is a balanced seal with Silicon Carbide/Silicon Carbide faces. The balance seal is used on the Class 300 high pressure variants.

What will happen to LCS?

Over time LCS will be phased out but it will take time. We of course have orders and selections out today that customers will expect to be honored. The LCS also shares many components with our other end suction and in-line products so we have a steady component supply chain. In time we will transition the LCS to an aftermarket offering.

How is pricing relative to LCS?

In general, the NBS is lower than the LCS pricing.

Is the seal a cartridge style?

No, however the NBS utilizes an easy to replace bellows mechanical seal.

Will we be able to order standard product with a 8 digit number?

Yes, you can order a standard pump with an 8 digit part number. Configured variants will have a price but not a part number in GXS.

Is a Suction Diffuser required?

Installers need to adhere to good piping practices and standards and utilize suction diffusers when needed.

Approximately how long to change a seal on a 10hp pump? 30 minutes? 60 minutes? Other?

A repair person with average mechanical aptitude should be able to replace the seal in 10-15 minutes.

Since we don't have a frame, if the concrete pad isn't flat, how would bolting of the cast foot and motor feet at slightly different heights effect the shaft and seal?

A good installation will include leveling the pump shaft and the flanges by using a level and adjusting with wedges or shims as required before tightening anchor bolts.

Will these be treated similar to CR's with only standard impeller sizes, or will they be trimmed as required similar to LCS?

There will be standard impeller trims to line up with standard nominal motor sizes (by hp).

Major difference between NBS and LCS?

NBS has improved efficiencies and NPSHr. The NBS footed volute allows for true back pull out design. Additionally, the shaft seal is improved and comes standard with hard face seals.

NBS Pump Q & A



What material is the clam shell coupling?

Ductile iron

How do the motor base rails attach to the building structure?

The motor rails are anchored to the concrete housekeeping pad via anchor bolts.

Why will the base not be needed? I foresee this to be an obstacle in specifications.

Frame mounted pumps have a flexible coupling between the motor and pump. Because it is a flexible coupling you need a rigid base to support the coupling, motor, and pump. On our NBS we have a rigid coupling and rigid motor adapter. The benefit here is being able to maintain the rigidity of a close coupled pump but with a split coupled version that allows for easier servicing.

Can it be mounted vertically?

While the pump can operate vertically (motor above pump) the pump is not designed to be supported by its suction flange. In theory, an Engineered Solution could be to create a support however this would be at cost and extensive.

Is this pump line compliant with all versions of the Buy America Act?

In Regards to Buy America there have been some recent changes via EO that we will have to monitor prior to being able to provide clarity. In the mean time we can review these on a case by case basis as the amount of funding and government agency providing the funding will have an effect.

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

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