

1600 SERIES

# SINGLE STAGE END SUCTION PUMPS



MODEL 1620



MODEL 1650



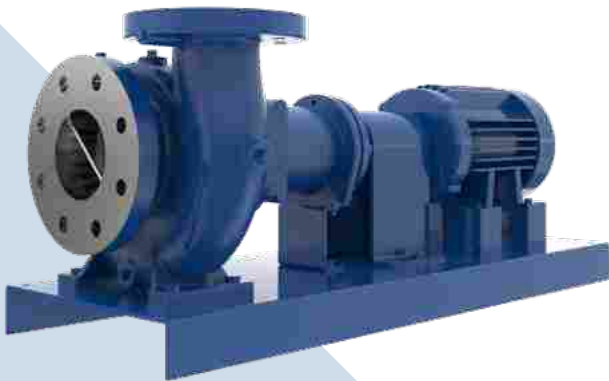
- ◆ NSF372 CERTIFIED
- ◆ NSF61 CERTIFIED
- ◆ NSF50 CERTIFIED

# 1600 SERIES SINGLE STAGE END SUCTION PUMPS

Capacities to 4200 gpm (954 m<sup>3</sup>/hr)  
Heads to 520 feet (158 meters)  
Temperatures to 300°F (149°C)

## Setting New Standards of Efficiency

Pentair Fairbanks Nijhuis is delivering over a century of innovation for constant peace of mind. Our years of experience in the design, sales and manufacturing of centrifugal pumps has led to the new Pentair Fairbanks Nijhuis® 1600 Series. Liquid handling requirements have evolved over the years and have increased along with temperatures and pressures. Today's installations demand sturdy but quiet, smooth running pumps with longer life cycles. These modern pumps with a clean, straightforward and updated design were developed with upgraded materials of construction and a simplified offering without limiting ranges and keeping maximum interchangeability in mind. These pumps not only exceed U.S. Department of Energy (U.S. DOE) pump efficiency standards, but also feature shared hydraulics and premium materials as standard offering. The new Pentair Fairbanks Nijhuis 1600 series offer industry-leading durability and reliability to support your liquid handling needs.



### STANDARD FEATURES

- ◆ Offered in two configurations:
  - 1650 Close coupled
  - 1620 Flexible coupled-frame mounted
- ◆ Ductile Iron ASTM A536 Casings provide higher strength and durability
- ◆ Flange dimensions match the largest installed base for maximum interchangeability
- ◆ 316 Stainless Steel impellers and shaft sleeves provide less corrosion, additional chemical resistance and durability
- ◆ Shared Hydraulics with Pentair Fairbanks Nijhuis 1590 Vertical In-line Pumps to streamline parts inventories
- ◆ Heavy duty power frames with bearing life of 100,000 hours (Pentair Fairbanks Nijhuis 1600 only)
- ◆ Double volute on some 4" and all 5" and larger discharge to reduce bearing loads and increase durability. Note: Not available on 4x5x11 and 4x5x13.5. Note: Single volute also available.
- ◆ Gauge taps on suction and discharge on flanged models
- ◆ 4 Power frame sizes
- ◆ Standard back pullout design reduces downtime
- ◆ Internal self-flushing mechanical seal for continuous lubrication and extended durability, eliminates the need for exterior lubricating and tubing
- ◆ Regreaseable bearings (Pentair Fairbanks Nijhuis 1620 only)
- ◆ Coupling guard (Pentair Fairbanks Nijhuis 1620 only)
- ◆ Working pressures up to 175 PSI
- ◆ Rigid baseplate design (Pentair Fairbanks Nijhuis 1600 only)
- ◆ NSF 372 listing standard

### OPTIONAL FEATURES

- ◆ 316 Stainless Steel shaft
- ◆ Unique drip rim base that is easier to grout than fabricated bases (Pentair Fairbanks Nijhuis 1600 only)
- ◆ Drip pan (Pentair Fairbanks Nijhuis 1600 only)
- ◆ Braided hose of Stainless Steel construction
- ◆ Epoxy coating for NSF50
- ◆ Several mechanical seal options for maximum temperatures up to 275°F
- ◆ Oil lube bearings (Pentair Fairbanks Nijhuis 1600 only)
- ◆ 416 Stainless Steel case wear ring
- ◆ Certified performance testing

### APPLICATIONS

- ◆ HVAC Systems
- ◆ Boosting
- ◆ Chilled and Hot Water
- ◆ Commercial Pools
- ◆ Industrial Uses
- ◆ Municipal

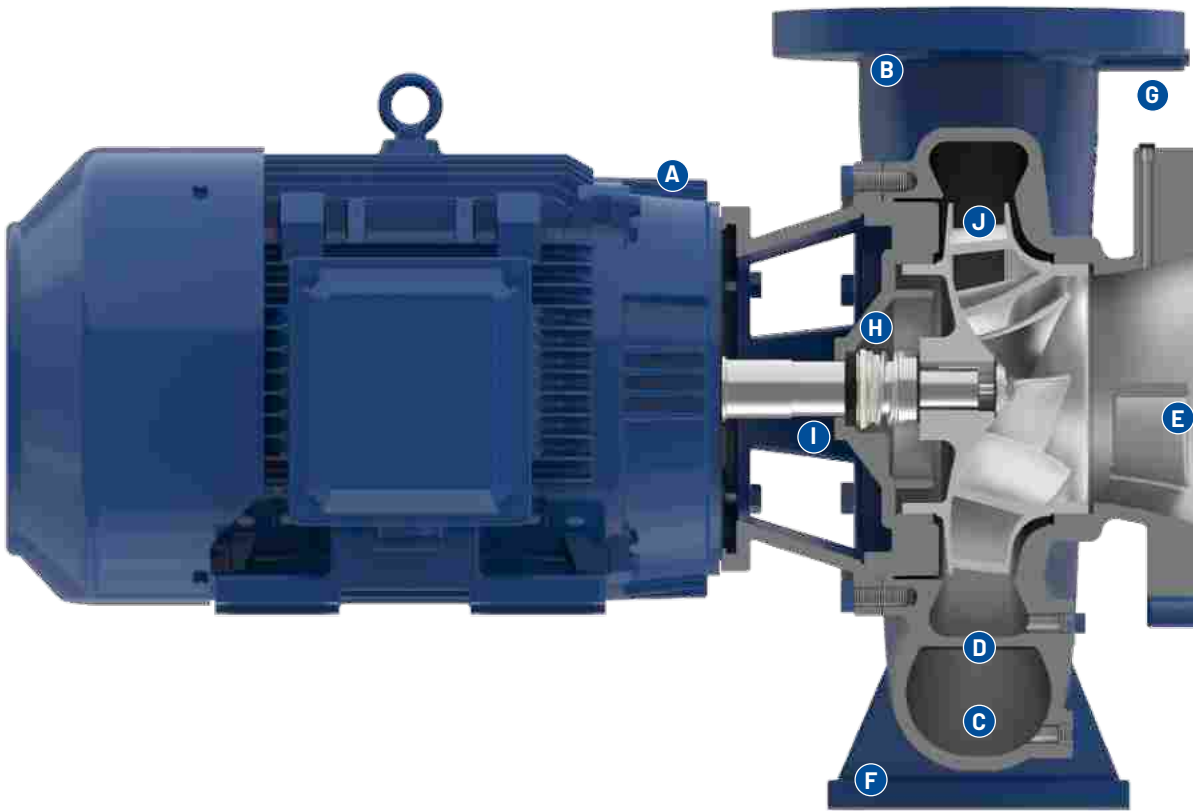
# PUMP SIZE OFFERING

Pump Sizes
1.5"16X2
2"16X3
3"16X3
4"16X3A
5"16X3
6"16X2A
1.25"16X1
1.5"16X1
2"16X1A
2.5"16X1
3"16X1A*
4"16X1A*
5"16X1*
1.25"16X2
1.5"16X4
2"16X2
2.5"16X2
3"16X2
4"16X2
5"16X2A
6"16X1*
2"16X4
2.5"16X3
3"16X4
4"16X4
5"16X4
6"16X3
8"16X2
1.5"16X3
3"16X1A*
5" 16X1A*
6" 16X1*

\*Temporarily unavailable until further notice.

Close Coupled: X is replacing 5  
 Flexible Coupled: X is replacing 2

# PENTAIR FAIRBANKS NIJHUIS® 1650 CLOSE COUPLED



**A.** Standard JM and JP motors provide low noise level pump operation.

**B.** Ductile Iron casing long life with higher working pressures.

**C.** Factory Hydro test guarantees casing and seal integrity.

**D.** Double volute discharge on some 4" and all 5" and larger discharge to reduce bearing loads (exceptions: 4x5x11 and 4x5x13.5).  
Note: Single Volute also available

**E.** Suction splitter on some 4" and all 5" and larger suction to eliminate pre-rotation.

**F.** Casing feet for easy back pull out  
allows servicing of pump without disturbing suction and discharge pipelines.

**G.** Gauge taps on suction and discharge flanges

**H.** Mechanical seal has carbon against ceramic face for optimum hot water performance. Long life is assured with 303 SST metal parts and Buna-N flexible elastomers.

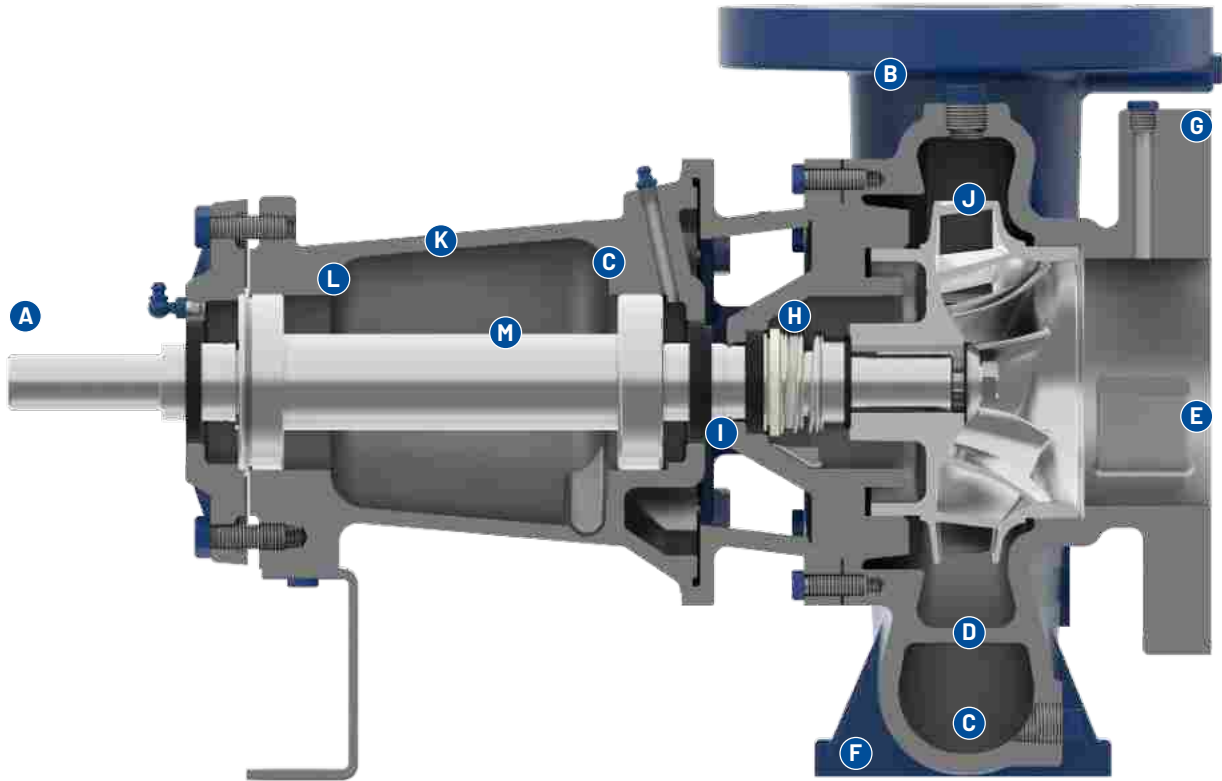
**I.** Shaft sleeve to protect the motor shaft.

**J.** Stainless Steel impeller keyed to shaft extension and secured by a capscrew and washer. Gaskets are used to prevent leakage to shaft end.

**K.** Optional casing wear rings

**L.** Optional seal materials flange to flange matching largest installed base.

# PENTAIR FAIRBANKS NIJHUIS® 1620 FLEXIBLE COUPLED



**A. Standard T and TS base type motors**

provide low noise level pump operation.

**B. Ductile Iron casing**

long life with higher working pressures.

**C. Factory Hydro test**

guarantees casing and seal integrity.

**D. Double volute discharge**

on some 4" and all 5" and larger discharge to reduce bearing loads.

Note: Single Volute also available

**E. Suction splitter**

on some 4" and all 5" and larger suction to eliminate pre-rotation.

**F. Casing feet for easy back pull out**

allows servicing of pump without disturbing suction and discharge pipelines.

**G. Gauge taps on suction and discharge flanges**

**H. Mechanical seal**

has carbon against ceramic face for optimum hot water performance. Long life is assured with 303 SST metal parts and Buna-N flexible elastomers.

**I. Shaft sleeve**

to protect the pump shaft.

**J. Stainless Steel impeller**

keyed to shaft extension and secured by a capscrew and washer. Gaskets are used to prevent leakage to shaft end.

**K. Optional casing wear rings**

**L. Re-greaseable bearings**

**M. Stainless Steel shaft**

Designed for minimum deflection.

**N. Heavy duty power frame**

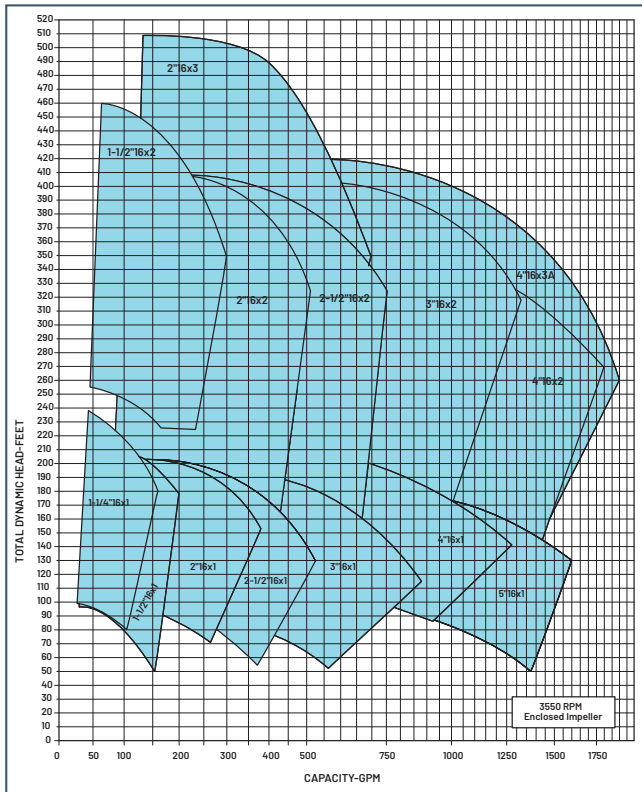
with re-greaseable bearing for 100,000 hours.

**O. Optional seal materials**

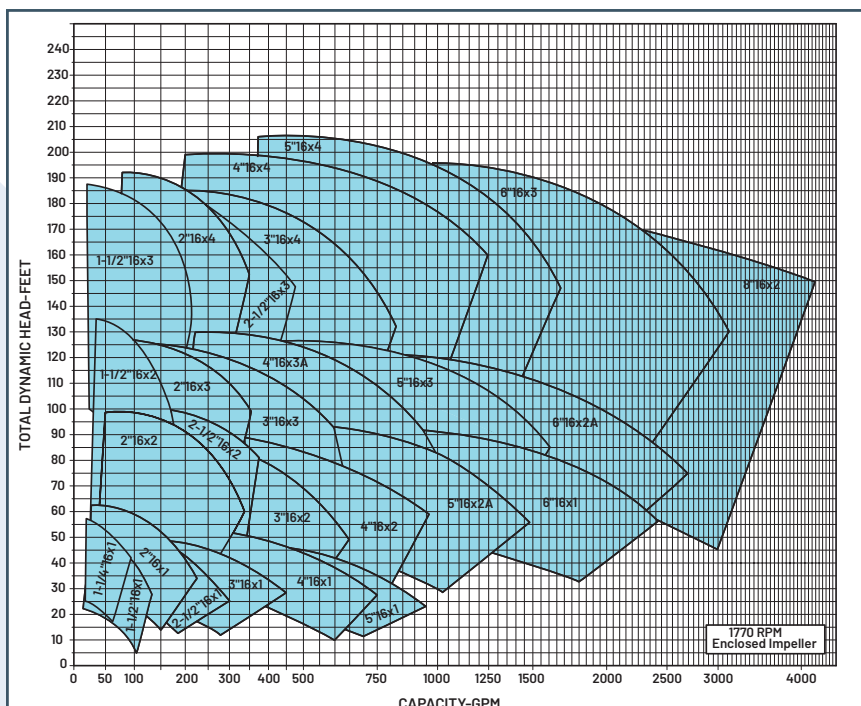
flange to flange matching largest installed base.

# 1600 PUMP PERFORMANCE CURVES

## 3550 RPM, 60 Hz RANGE CHART



## 1770 RPM, 60 Hz RANGE CHART



Reference only: For the most current information, refer to the Pentair Encompass Pump Selection Tool.

# PUMP FEATURES

## MAXIMUM LIMITATION BASED ON STANDARD MATERIALS AND PUMPING CLEAR WATER

Speed (RPM)		3600 RPM
Horsepower (HP)	1200 RPM	60 HP
	1800 RPM	200 HP
	3600 RPM	250 HP
Temperature (°F/°C)		Standard 225 °F (107 °C) Optional 275 °F (135 °C)
Case Working Pressure (PSI)		175' PSI

<sup>1</sup>Refer to factory for pump size 1.5"1622, 2"1653, 3"1623 & 4"1653A

## MATERIALS OF CONSTRUCTION

Pump Part	Stainless Steel Impeller Fitted
Casing	Ductile Iron ASTM A536
Impeller	Stainless Steel ASTM A743 Type 316
Seal plate/motor bracket	Cast Iron ASTM A48
Shaft (Pentair Fairbanks Nijhuis 1620 only)	Stainless Steel AISI C1045
Sleeve	Stainless Steel ASTM A743 Type 316
Power frame (Pentair Fairbanks Nijhuis 1620 only) (PF1, PF2, PF3 or PF21A)	Cast Iron ASTM A48
Mechanical seal	
Washer	Carbon
Seat	Ceramic
Elastomer	Buna-N
Metal Parts	303 SST
Spring	303 SST



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