



JOHNSON PUMP
AN SPX BRAND

CombiBloc

Close-coupled centrifugal pumps



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CombiBloc

CombiBloc is the premier solution for pumping clean thin liquids in a very cost-effective way. The pump is part of Johnson Pump's Combi-system, a modular programme of single stage centrifugal pumps with a high degree of interchangeability of parts between the different pump constructions.



CombiBloc represents a range of horizontal centrifugal pumps close-coupled to electric motors. The pump is suitable for handling low-viscosity, clean or slightly contaminated and aggressive liquids.

Characteristic of the CombiBloc is the compact configuration of the pump and the electric motor assembly. The use of a stub shaft allows standard IEC electric motors to be used.

Thanks to the small number of components and the use of a mechanical seal, the CombiBloc requires little maintenance. This is further supported by Back Pull Out of the rotating assembly.

The CombiBloc has applications in crop farming and market gardening, on board ships and in handling various chemicals.

Technical data

| | |
|-----------------------|-----------------------|
| Max. capacity | 850 m ³ /h |
| Max. head | 105 m |
| Max. working pressure | 10 bar |
| Max. temperature | 120 °C |
| Max. speed | 3600 rpm |



Test bed Johnson Pump in Assen

From know-how to finding solutions



General industry

The CombiBloc can be applied as a general duty pump in many industrial applications. Because of its economic features and ease of construction this pump is also ideally suited for space saving OEM skid mounting.



Shipbuilding

CombiBloc pumps can handle both clean and slightly contaminated fresh water and sea water. Their compact, space saving build makes them ideal pumps for engine rooms and general duty.



Utility

Applications of the CombiBloc within utility buildings are as general duty pumps, circulation pumps in heating and air-conditioning systems and pumps in water purification plants.



Horticulture

In horticulture the CombiBloc is used as a transport pump for hot water heating systems.

Features and *benefits*

Pump casing

- flanges according to ISO 7005
- max. working pressure 10 bar
- drain opening
- *wide range of applications*
- *complete and fast draining of the casing*

Pump cover

- flat gasket, fully chambered
- machined fits
- *no gasket blow-out*
- *perfectly aligned*

Suction capabilities

- smooth suction entry in pump casing
- smooth surface
- anti rotation vane
- *optimum suction capabilities*
- *minimal flow distortion giving better suction capabilities*

Impeller locking

- impeller nut with spring washer
- *reliable locking*

Hydraulic balancing

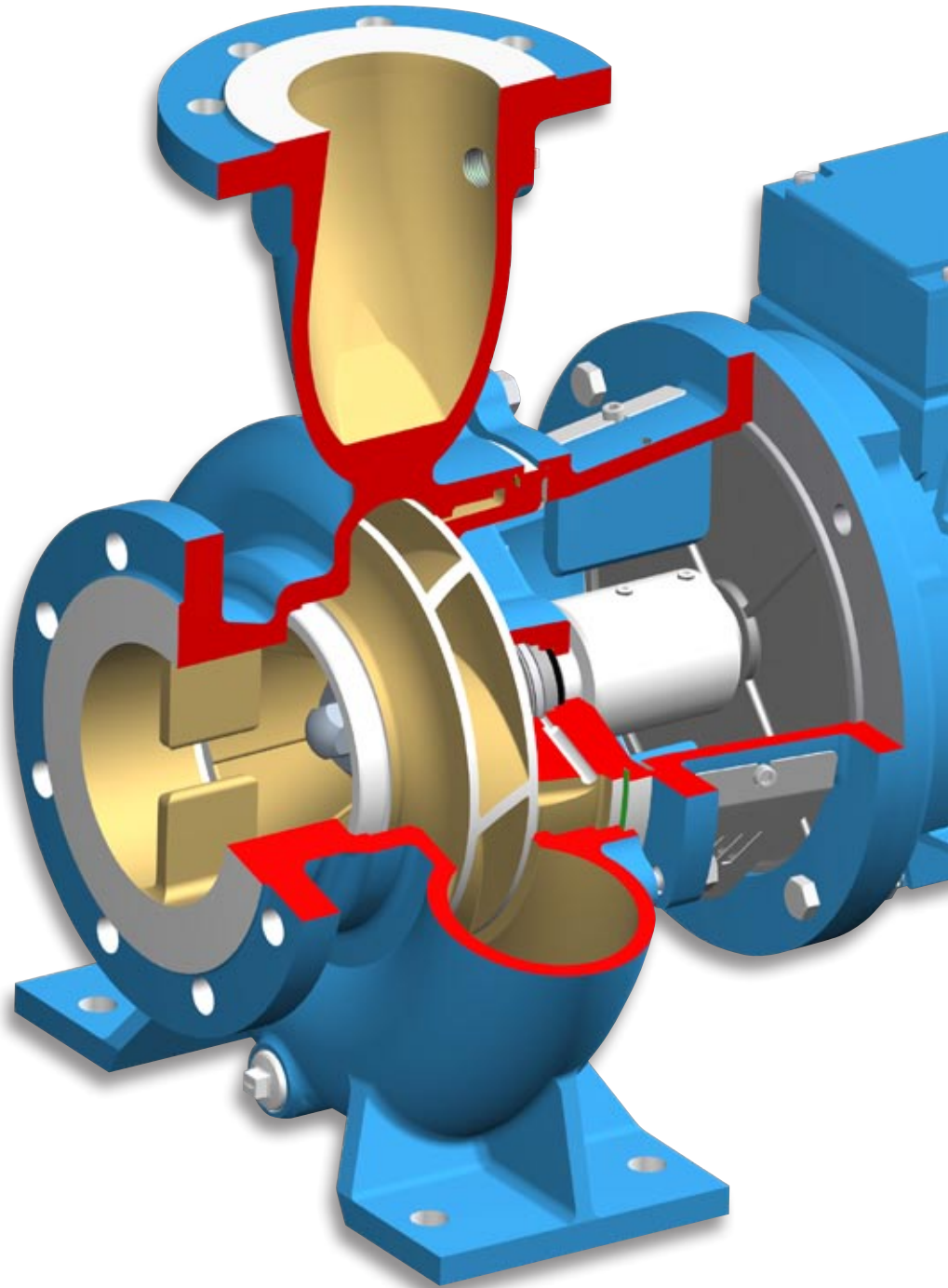
- flat cover for hydraulic balancing
- back vanes for hydraulic balancing
- *extended bearing life time*

Foot

- machined foot
- *exact positioning on base and in pipework*

Materials

- pump casing: cast iron - bronze - stainless steel
- impeller: cast iron - bronze - stainless steel
- stub shaft: stainless steel

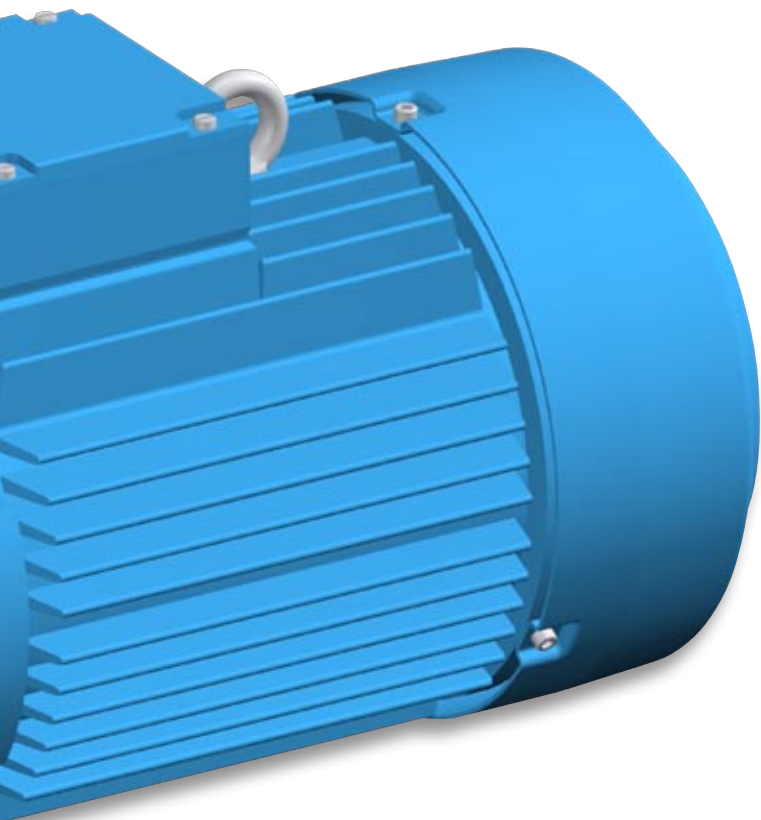


Coupling guard

- consisting of 2 identical parts with snap fit
- aluminium
- *quick and easy mounting*
- *for increased safety*
- *non sparking*

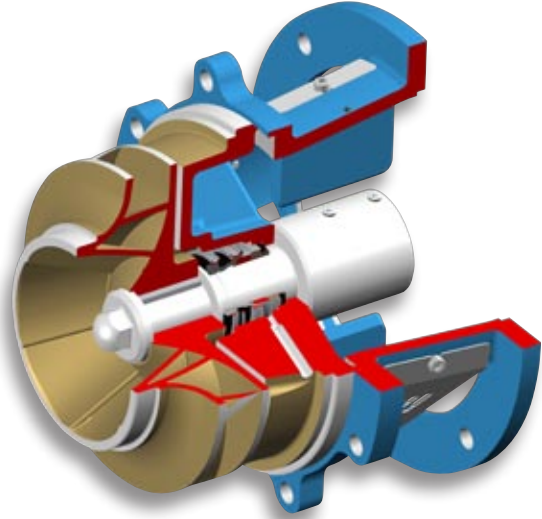
Electric motor

- standard IEC size flange motor
- fixed bearings
- larger pump sizes mounted with foot-flange motor
- *independence of motor make*
- *economic*
- *reliable*
- *readily available*



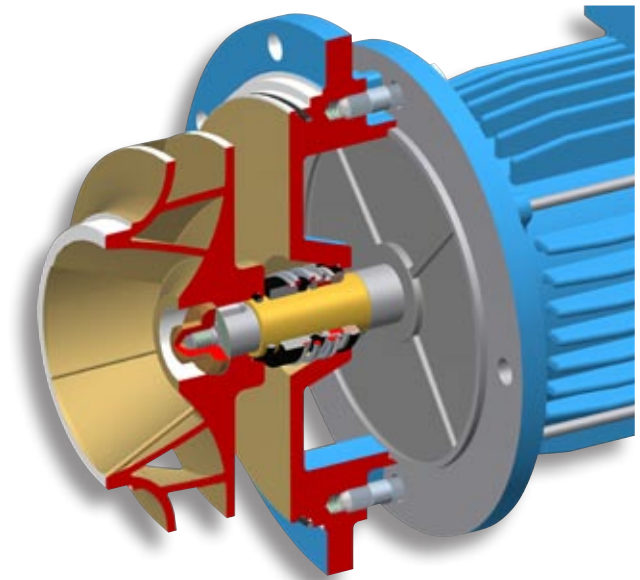
Seal chamber

- seal chamber integrated in pump cover
- large and tapered shape
- internal seal flushing bore to seal chamber
- *perfect alignment resulting in increased seal life*
- *better drainage of seal chamber*
- *ample seal flushing*
- *no external flushing piping needed*



Shaft sealing

- mechanical bellows seal according to EN 12756 (DIN 24960 L_{1k})
- several material combinations
- *no O-ring lock up*
- *interchangeable with other EN (DIN) seal makes*
- *suitable for many liquids*



Easy and low cost maintenance

- pump cover and lantern piece mounted to pump casing as one unit, no separate bolting
- quick and easy impeller replacement
- only 3 mechanical seal sizes
- changeable wear ring (only bearing bracket 2 and 3)
- *easy to disassemble pump cover*
- *economic maintenance*
- *extended pump life time*

Lantern piece

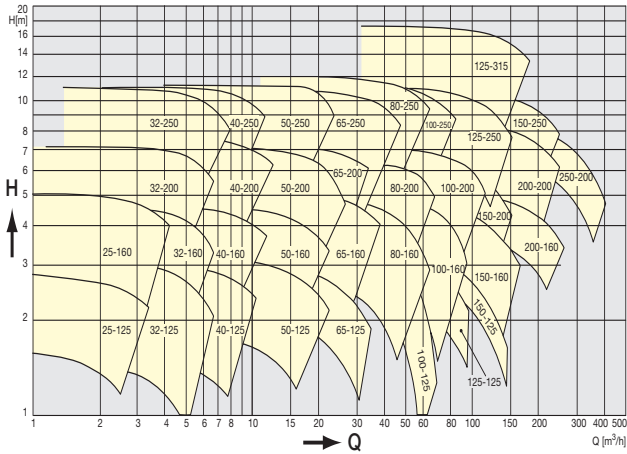
- rigid cast iron construction
- machined fits
- large openings
- *exact alignment*
- *easy access for inspection and service*

Stub shaft

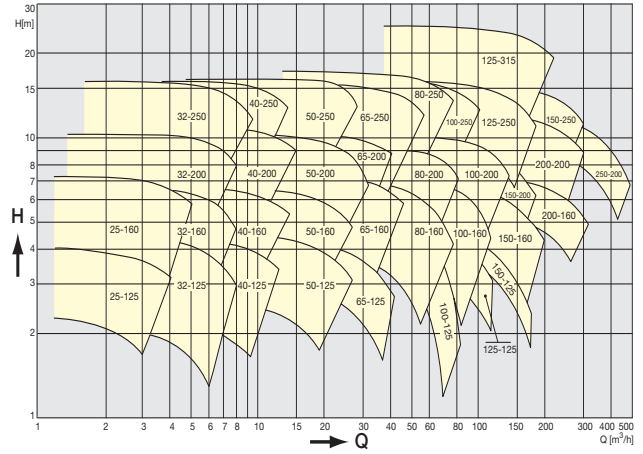
- stainless steel AISI 316
- fits to IEC electric motors
- axial fixation with set screws
- 3 shaft diameters
- *no shaft sleeve needed*
- *easy impeller replacement*
- *adjustable axial impeller position*
- *low maintenance cost*

Hydraulic performance data

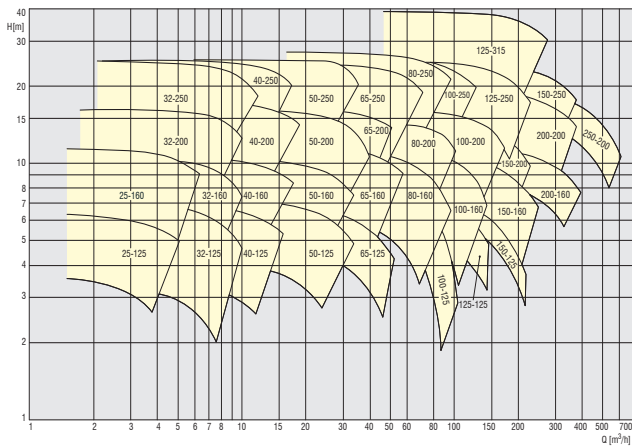
These curves are based upon *nominal* electric motor speeds. The actual pump performance curves may vary from these curves, depending on the actual electric motor speed.



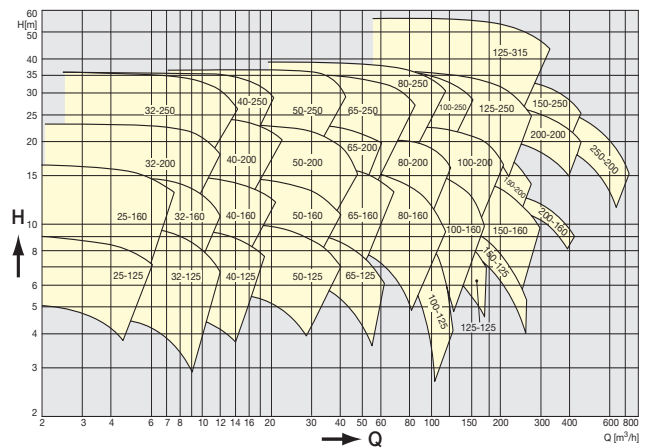
$n_{nom} = 1000 \text{ rpm}$ (6 pole electric motor - 50 Hz)



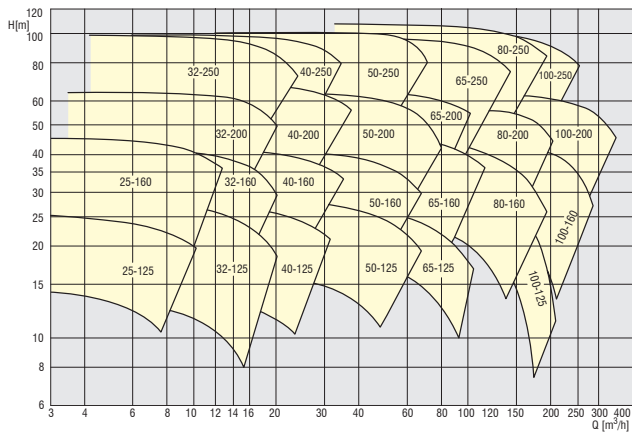
$n_{nom} = 1200 \text{ rpm}$ (6 pole electric motor - 60 Hz)



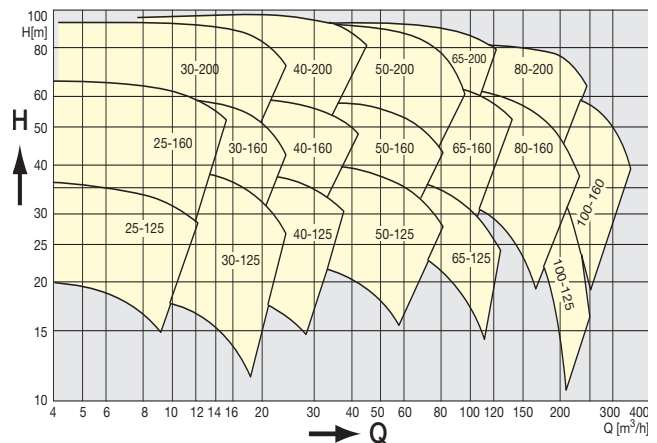
$n_{nom} = 1500 \text{ rpm}$ (4 pole electric motor - 50 Hz)



$n_{nom} = 1800 \text{ rpm}$ (4 pole electric motor - 60 Hz)

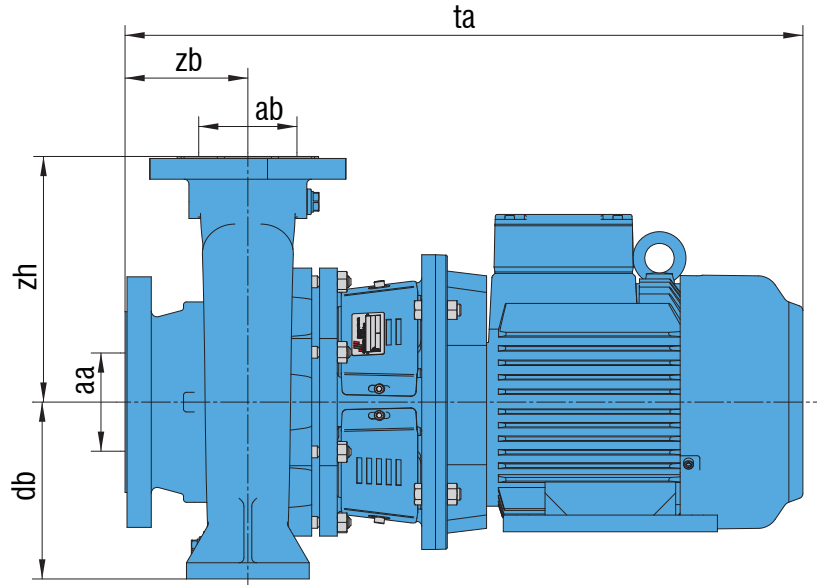


$n_{nom} = 3000 \text{ rpm}$ (2 pole electric motor - 50 Hz)



$n_{nom} = 3600 \text{ rpm}$ (2 pole electric motor - 60 Hz)

Dimensions



ta: based on DIN 42677, actual size depending on motor make
 ISO 7005 PN 16 \cong EN 1092-2 (EN 1092-1 stainless steel)
 * = ISO 7005 PN 6 \cong EN 1092-2 (EN 1092-1 stainless steel)
 ** = ISO 7005 PN 10 \cong EN 1092-2
 *** = stainless steel
 - = not available in stainless steel

| CombiBloc | ISO 7005 PN 16 | | | | db | zb | zh | ta (max) |
|-----------|----------------|-------|-----|-------|-----|--------------|-----|--------------|
| | aa | aa*** | ab | ab*** | | | | |
| 25-125 | 32* | 32* | 25* | 25* | 100 | 62 | 115 | 537 |
| 25-160 | 25 | 25 | 25 | 25 | 132 | 64.5/94.5*** | 142 | 607/637*** |
| 32-125 | 50 | 50 | 32 | 32 | 112 | 80 | 140 | 628 |
| 32-160 | 50 | 50 | 32 | 32 | 132 | 80 | 160 | 706 |
| 32-200 | 50 | 50 | 32 | 32 | 160 | 80 | 180 | 834 |
| 32-250 | 50 | 50 | 32 | 32 | 180 | 100 | 225 | 932 |
| 40-125 | 65 | 65 | 40 | 40 | 112 | 80 | 140 | 706 |
| 40-160 | 65 | 65 | 40 | 40 | 132 | 80 | 160 | 834 |
| 40-200 | 65 | 65 | 40 | 40 | 160 | 100 | 180 | 854 |
| 40-250 | 65 | 65 | 40 | 40 | 180 | 100 | 225 | 932 |
| 50-125 | 65 | 80 | 50 | 50 | 132 | 100 | 160 | 726 |
| 50-160 | 65 | 80 | 50 | 50 | 160 | 100 | 180 | 854 |
| 50-200 | 65 | 80 | 50 | 50 | 160 | 100 | 200 | 1060 |
| 50-250 | 65 | 80 | 50 | 50 | 180 | 100/125*** | 225 | 1080/1105*** |
| 65-125 | 80 | 100 | 65 | 65 | 160 | 100 | 180 | 854 |
| 65-160 | 80 | 100 | 65 | 65 | 160 | 100 | 200 | 1060/1070*** |
| 65-200 | 80 | 100 | 65 | 65 | 180 | 100 | 225 | 1060/1070*** |
| 65-250 | 80 | 100 | 65 | 65 | 200 | 100/125*** | 250 | 1142/1167*** |

| CombiBloc | ISO 7005 PN 16 | | | | db | zb | zh | ta (max) |
|-----------|----------------|-------|-------|-------|------------|-----|-----|--------------|
| | aa | aa*** | ab | ab*** | | | | |
| 80-160 | 100 | 125 | 80 | 80 | 180 | 125 | 225 | 1085/1095*** |
| 80-200 | 100 | 125 | 80 | 80 | 180 | 125 | 250 | 1536 |
| 80-250 | 100 | 125 | 80 | 80 | 200/225*** | 125 | 280 | 1555 |
| 100-125 | 100 | - | 100 | - | 180/- | 125 | 250 | 879 |
| 100-160 | 125 | - | 100 | - | 200/- | 125 | 315 | 1100 |
| 100-200 | 125 | 125 | 100 | 100 | 200 | 125 | 280 | 1536 |
| 100-250 | 125 | 125 | 100 | 100 | 225 | 140 | 280 | 1585/1570*** |
| 125-125 | 125 | - | 125 | - | 225/- | 140 | 300 | 894 |
| 125-250 | 150 | 150 | 125 | 125 | 250 | 140 | 355 | 1134 |
| 125-315 | 150 | - | 125 | - | 280/- | 140 | 355 | 1136 |
| 150-125 | 150 | - | 150 | - | 280/- | 160 | 400 | 786 |
| 150-160 | 150 | - | 150 | - | 250/- | 160 | 315 | 1411 |
| 150-200 | 150 | - | 150 | - | 250/- | 160 | 315 | 929 |
| 150-250 | 200 | - | 150 | - | 280/- | 160 | 400 | 1050 |
| 200-160 | 200** | - | 200** | - | 280/- | 200 | 400 | 969 |
| 200-200 | 200** | - | 200** | - | 280/- | 200 | 400 | 1194 |
| 250-200 | 250 | - | 250 | - | 315/- | 200 | 450 | 1202 |

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PROCESS EQUIPMENT

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For more information about our worldwide locations, approvals, certifications, and local representatives, please visit www.johnson-pump.com and www.spxpe.com.

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