

# Endsuction Pumps

## Vogel Series LS, LC, LCP

# Design LS

## Technical Data

### Performance Range:

- Capacity up to 4600m<sup>3</sup>/h (20.250 USgpm)
- Head up to 170m (560 feet)
- Speed up to 1750 rpm

### Sizes:

- DN 125 up to DN 600 (5" up to 24") discharge,
- Size DN 32 up to DN 150 (1 1/4" up to 6"), refer to design LSN

### Temperature:

- max. 180°C (350°F)

### Casing pressure:

- up to 16bar (174/230 psig)  
For higher casing pressures refer to design LC/LCP

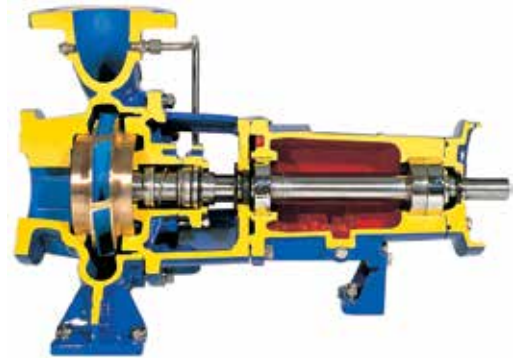
### Handled liquids:

- Clean or slightly contaminated liquids (without bigger solids)
- Cold and hot water
- Condensate and deionized water
- Oil brine and acid
- Paper stock suspensions up to 1,2%

### Materials:

Code	Impeller	Casing, Casing cover	Wear rings	Bearing frame	Shaft	Shaft sleeve
NL	Cast iron 0.6025	Ductile iron 0.7040	Cast iron 0.6025	Cast iron 0.6025	Stainless steel 1.4021	Stainless steel 1.4021
SL	Bronze CC480 K					
VL	Stainless steel 1.4408					
NF	Cast iron 0.6025	Carbon steel 1.0619	Cast iron 0.6025	Cast iron 0.6025	Stainless steel 1.4021	Stainless steel 1.4021
SF	Bronze CC480 K					
VF	Stainless steel 1.4408					
VV	Stainless steel 1.4408	Stainless steel 1.4408	Duplex 1.4462/ 1.4517			Duplex 1.4462
WW	Duplex 1.4517	Duplex 1.4517				

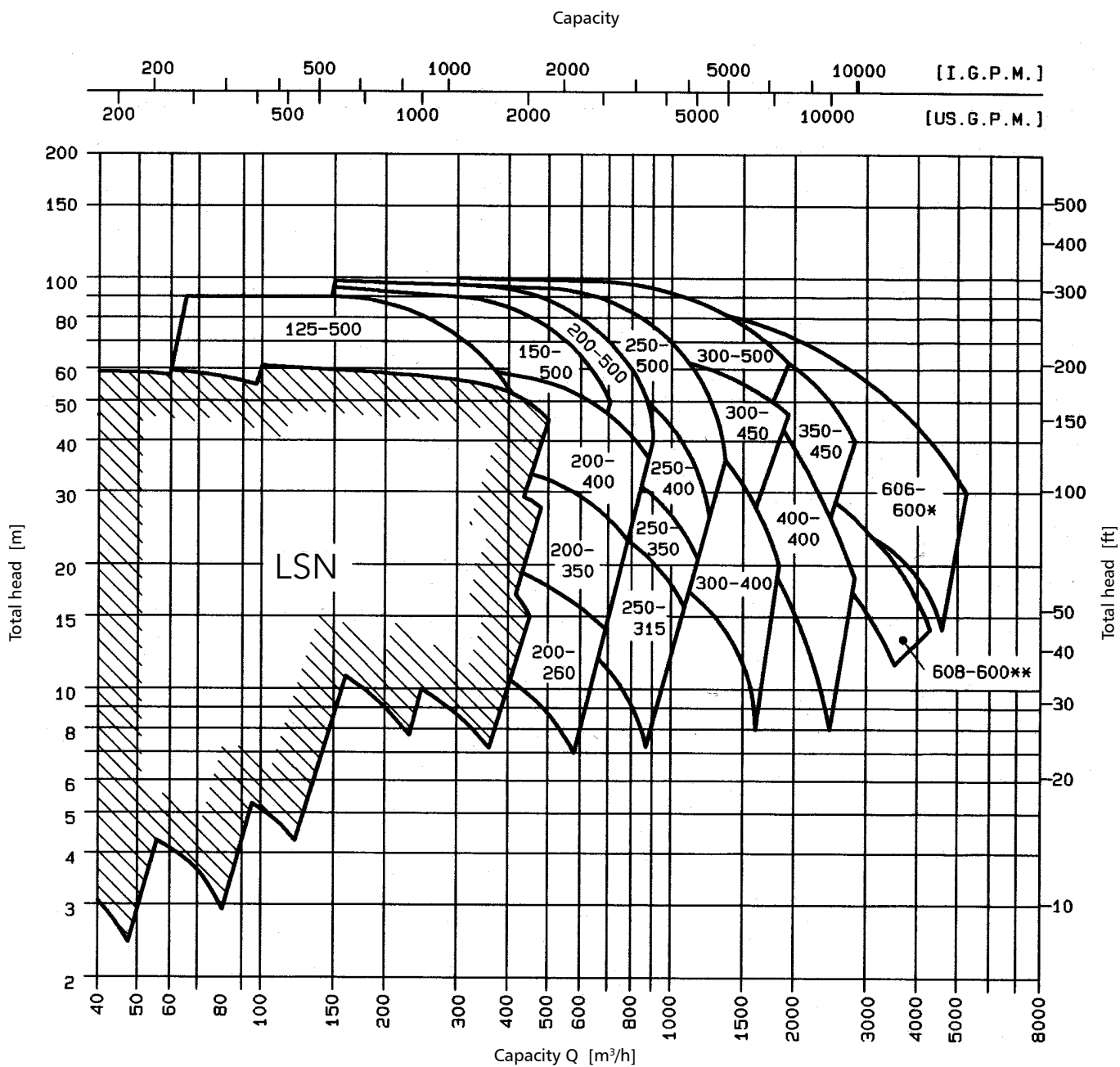
Other materials upon request



### Applications:

- General industry
- Chemical industry
- Steel mills and mining
- Sugar industry
- Pulp and paper mills

# Performance Range 1450rpm, 950rpm, 750rpm



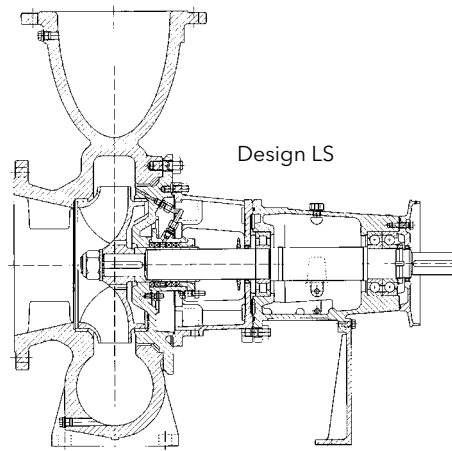
Design LSN refer to separate brochure

# Design Variations

## Design LS:

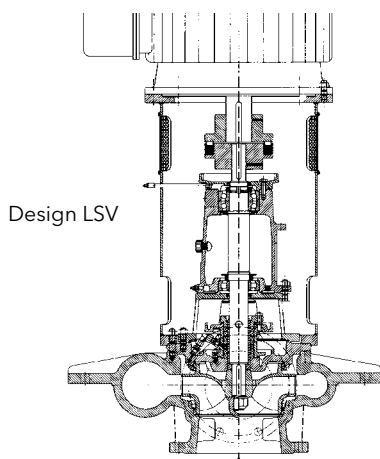
Horizontal single stage endsuction pump with closed impeller and oil lubricated bearing frame. Process design, back pull out for easy maintenance. Disassembly of impeller and bearing frame without dismantling of pump casing and motor possible (spacer type coupling required). Suction branch axial, discharge radial upwards (optional horizontal possible).

Drive by electric motor and flexible coupling arranged on common base plate.



## Design LSV:

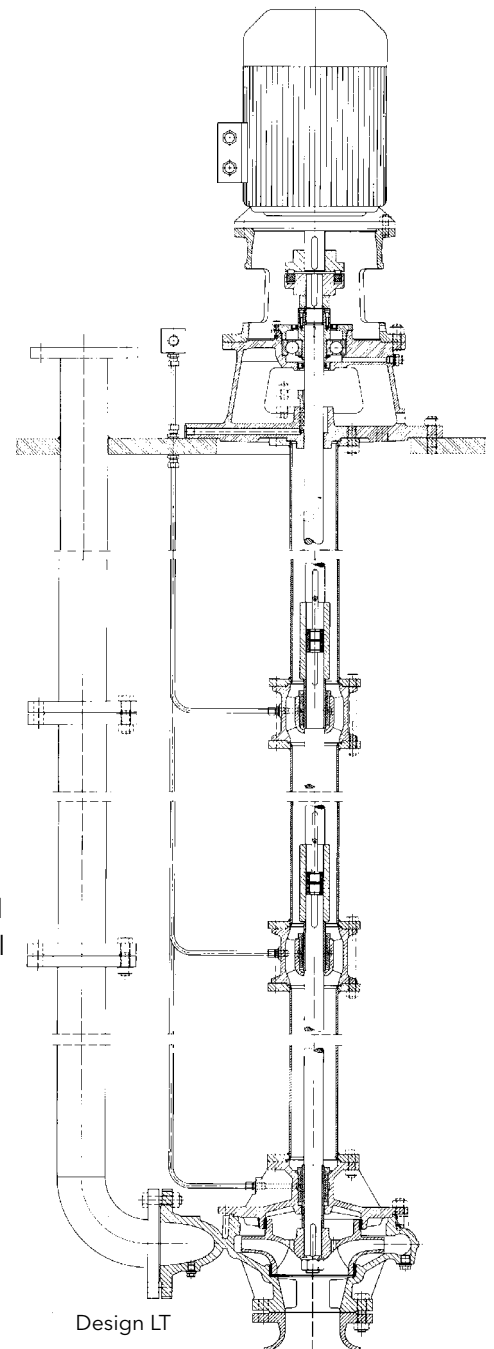
Vertical design with short shaft for dry installation. Bearing frame with grease lubricated antifriction bearings. Motor-adaptor welded design, drives IEC electric motors, design V1 and flexible coupling.

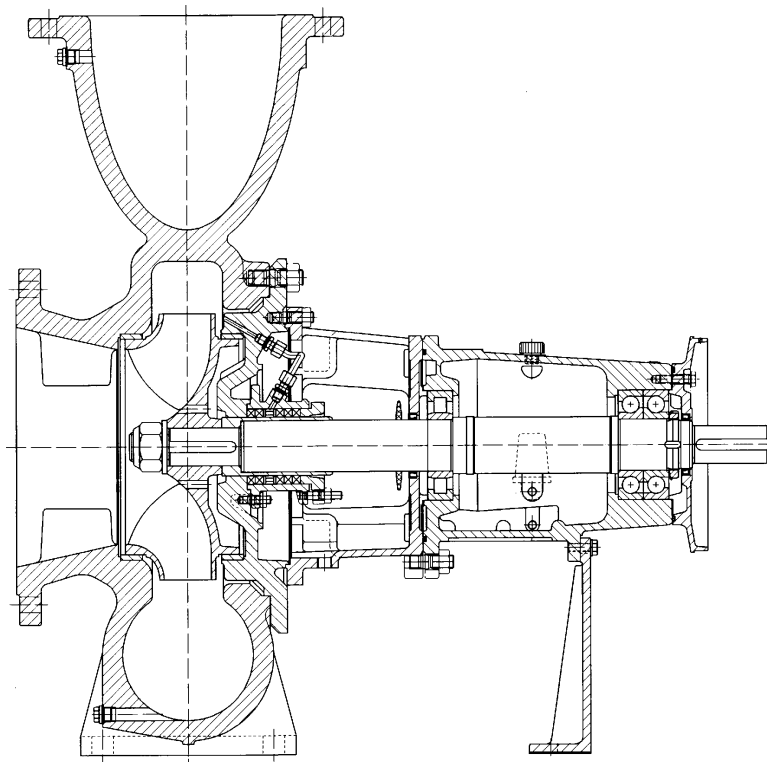


## Design LT:

Vertical line shaft version. Bearing frame and motor above pit for dry installation. Pumpend flooded by the handled liquid. Radial friction bearing lubricated by handled liquid or with external clean water lubrication.

Installation length up to 10m.





## Design features LS:

- Horizontal single stage end suction pump with closed impeller.
- Process design, back pull out for easy and safe maintenance. Disassembly of impeller and bearing frame without dismantling of pump casing and motor possible (spacer type coupling required).
- Thrust bearing at drive side (pair of angular contact bearings) for high load capability in both directions, roller bearing at pump side.
- Solid shaft dimension for low shaft deflection and heavy duty oil lubricated bearings for continuous operation.
- Stainless steel version in dry shaft design, shaft and threads protected by closed impeller nut and shaft sleeve.
- Distance between bearings bigger than impeller overhung.
- Shaft sealing stuffing box with internal or external flush or cooled stuffing box. Mechanical seals according to EN 12756 (DIN 24960), inner single mechanical seal, double mechanical seals or cartridge seals.

# Design LC casing foot mounted

# Design LCP with centerline casing feet

## Technical Data

### Performance Range:

- Capacity up to 2800m<sup>3</sup>/h (20250USgpm)
- Head up to 100m (330feet)
- Speed up to 1750 rpm

### Sizes:

- DN 125 up to DN 400 (5" up to 24") discharge,
- Size DN 32 up to DN 150 (1 1/4" up to 6"), refer to design ICP

### Temperature:

- Design LC max. 180°C (350°F)
- Design LCP max. 210°C (410°F)

### Casing pressure:

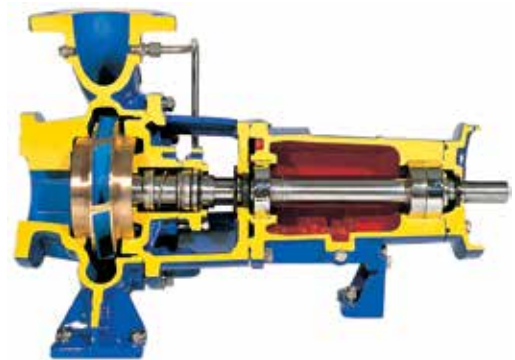
- max. 25bar (360psig)

### Handled liquids:

- Clean and slightly contaminated liquids (without bigger solids)
- Cold and hot water
- Condensate and deionized water
- Oil brine and acid

### Applications:

- General industry, power stations, district heating
- Chemical industry
- Sugar mills
- Pulp and paper mills

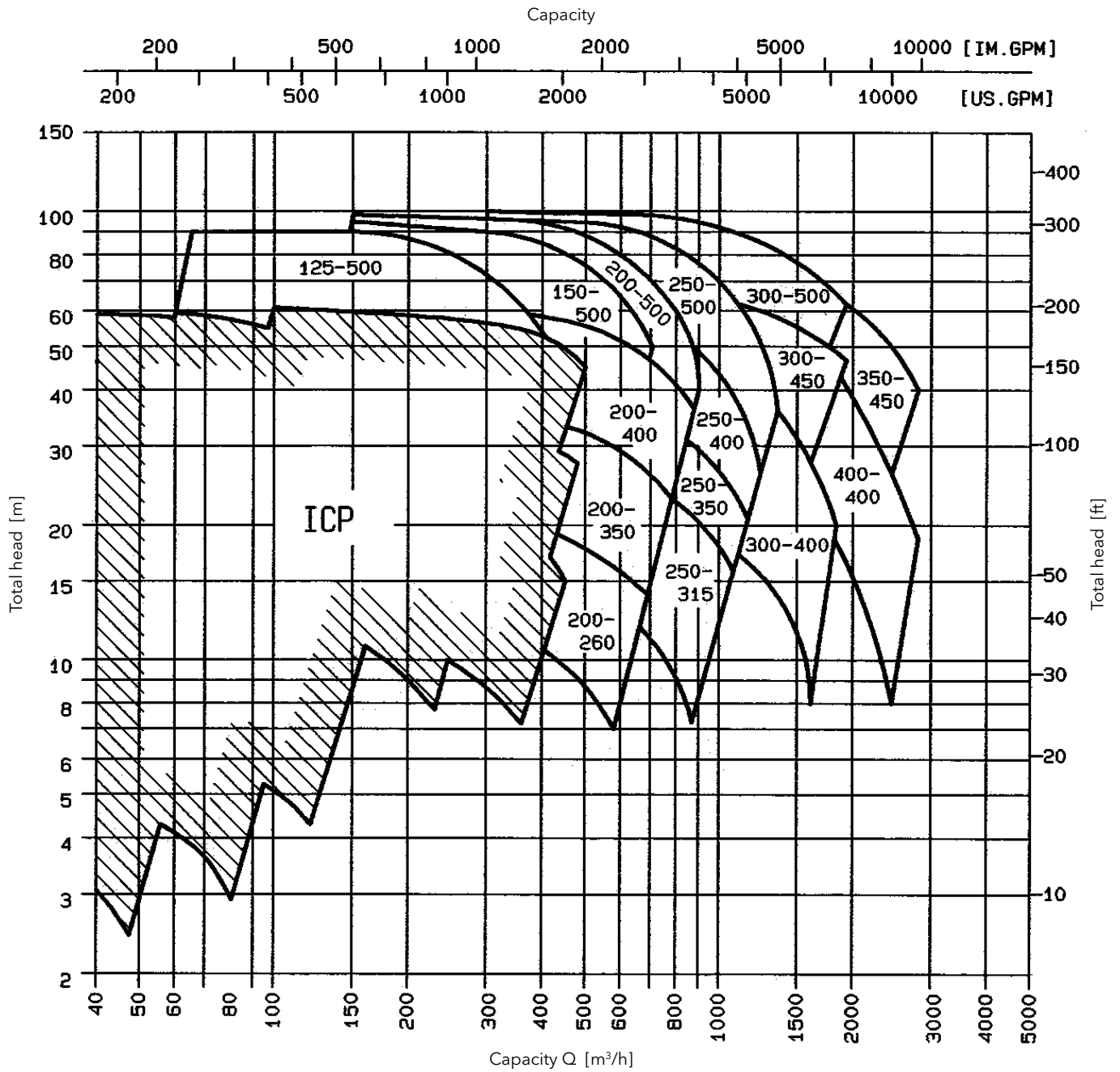


### Materials:

Code	Impeller	Casing, Casing cover	Wear rings	Bearing frame	Shaft	Shaft sleeve
NL	Cast iron 0.6025	Sphäroguss 0.7040	Cast iron 0.6025	Cast iron 0.6025	Stainless steel 1.4021	Stainless steel 1.4021
VL	Stainless steel 1.4408					
NF	Cast iron 0.6025	Carbon steel 1.0619				
VF	Stainless steel 1.4408					
VV	Stainless steel 1.4408	Stainless steel 1.4408	Duplex 1.4462/1.4517			Duplex 1.4462
WW	Duplex 1.4517	Duplex 1.4517				

Other materials upon request

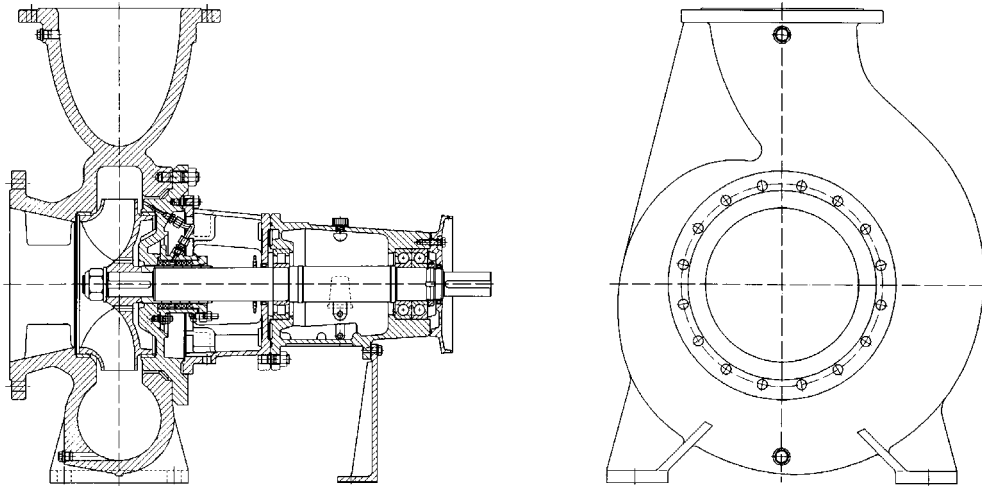
Performance Range 1450rpm, 950rpm, 750rpm



Design ICP refer to separate brochure

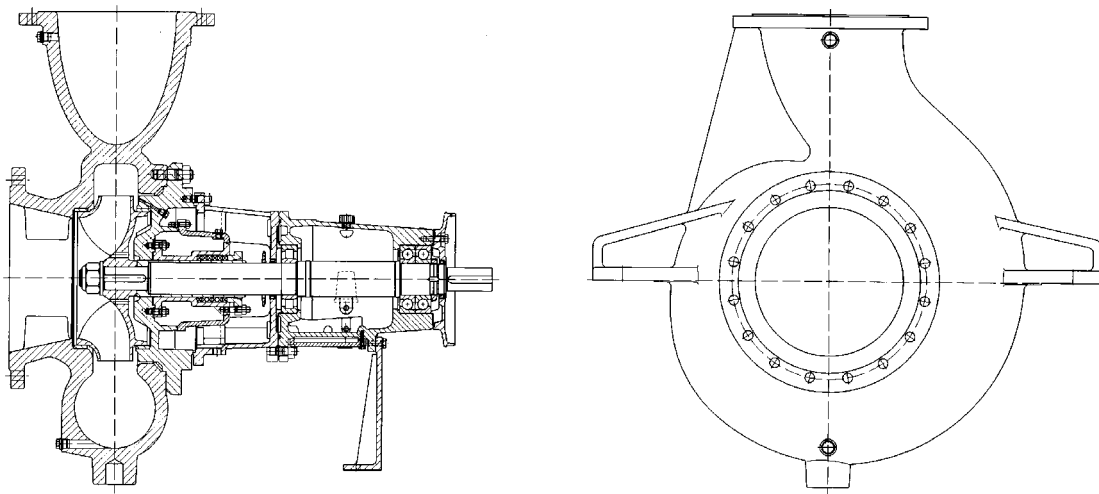
## Design LC:

Foot mounted casing design for operating temperatures up to max. 180°C (350°F) / 25bar (360psig).



## Design LCP:

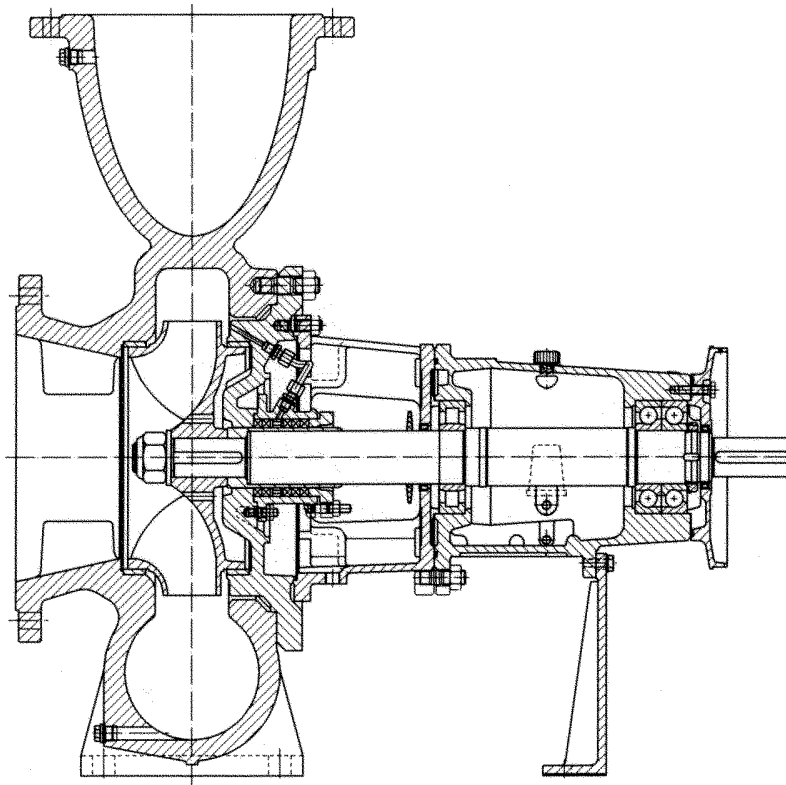
Process design with centerline casing feet for operating temperatures up to max. 210°C (410°F) / 25bar (360psig).



Due to the centerline casing feet and the additional support feet a negative influence is avoided on the coupling alignment caused by thermal expansion of the casing at high operating temperatures.

At operating temperatures above 180°C (350° F) oil sump cooling of the bearing frames is required.

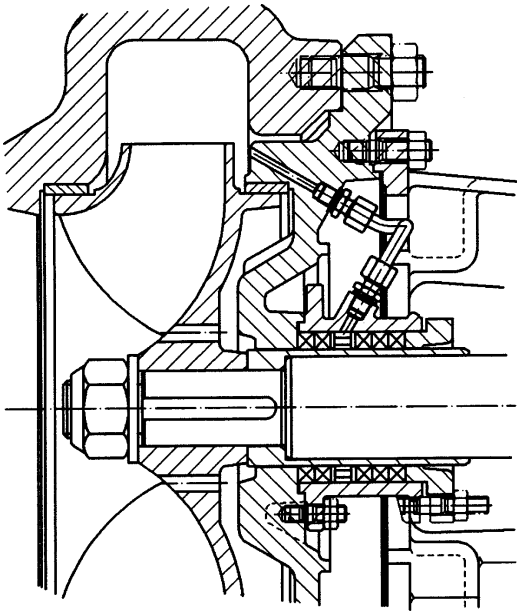




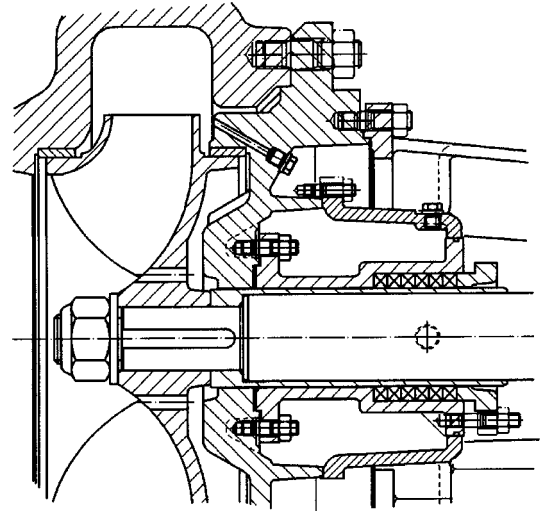
### Design features LC, LCP:

- Horizontal single stage endsuction pump with closed impeller.
- Design IC with foot mounted casing for operating temperatures up to 180°C (350°F).  
Design LCP with centerline casing feet for operating temperatures up to 210°C (410°F).
- Process design, back pull out for easy and safe maintenance. Disassembly of impeller and bearing frame without dismantling of pump casing and motor possible (spacer type coupling required).
- Thrust bearing at drive side (pair of angular contact bearings) for high load capability in both directions, roller bearing at pump side.
- Solid shaft dimension for low shaft deflection and heavy duty oil lubricated bearings for continuous operation.
- Stainless steel version in dry shaft design, shaft and threads protected by closed impeller nut and shaft sleeve.
- Distance between bearings bigger than impeller overhung.
- Shaft sealing stuffing box with internal or external flush or cooled stuffing box. Mechanical seals acc. to EN 12756 (DIN 24960), inner single mechanical seal, double mechanical seals or cartridge seals.

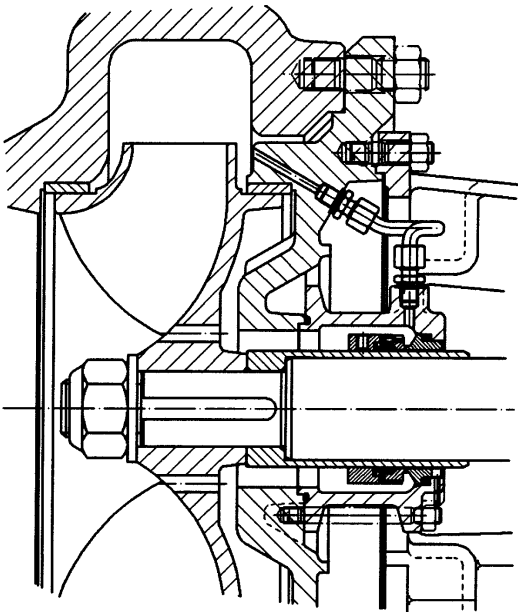
## Shaft sealing:



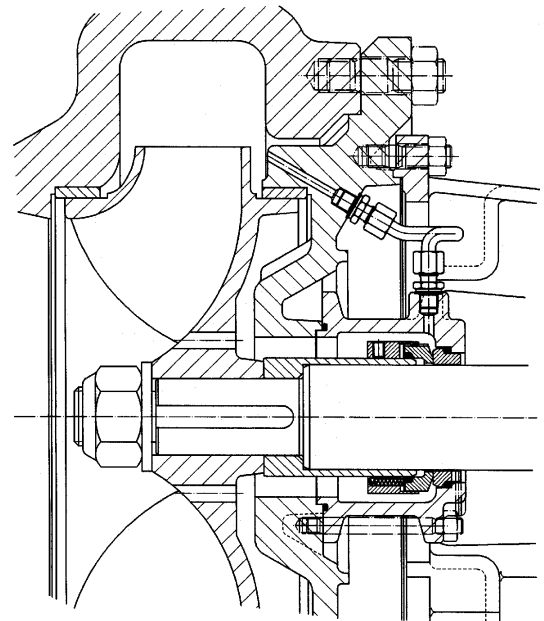
Design LS, LC, LCP  
Stuffing box optional with internal  
or external flush for  
temperatures up to 140°C (280°F)



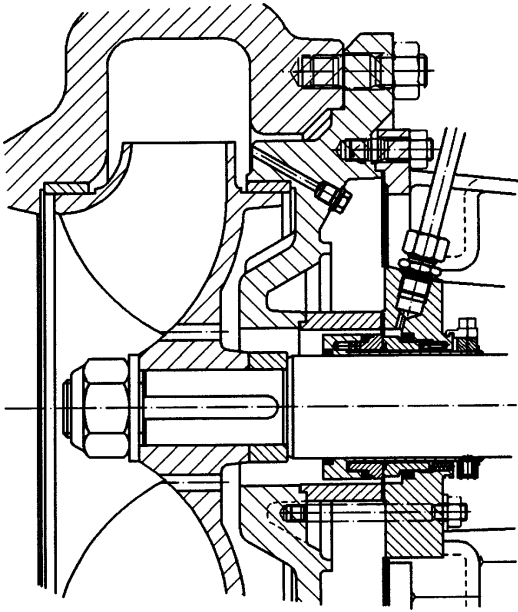
Design LS, LC, LCP  
Stuffing box with cooling jacket  
for temperatures up to 180°C (350°F)



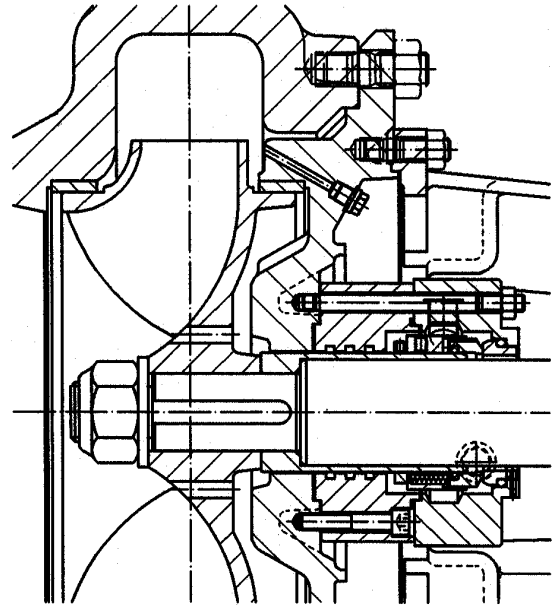
Design LS  
Single mechanical seal  
acc. to EN 12756 (DN 24960) unbalanced



Design LS, LC, LCP  
Single mechanical seal  
acc. to EN 12756 (DN 24960) balanced



Design LS, LC, LCP  
 Cartridge seal, single mechanical seal  
 (Optional with quench or double mechanical seal)



Design LS, LC, LCP  
 Single balanced mechanical seal  
 in „dead end“ configuration  
 for hot water applications

ISO 9001 + 14001 certifications guarantee high quality standards and reliability of our products as well as environmentally friendly production process.



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- 2) a leading global water technology company.

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