

VSMK, VSMKD, VND
Vertical Sump Pumps

VS4 Type

API-610, 10th edition full compliant
ISO 13709

MARELLI



Sundyne Marelli

More than 45 years of experience in centrifugal pump design, development, manufacturing and service, to fulfill the latest standards for petroleum, petrochemical process and heavy duty processing industries, as full compliance machinery.

Applications

Sundyne Marelli, develops tailor made solutions for the medium-pressure movement of water, hydrocarbon, CO₂ and other process liquids. Our solutions meet the most stringent customer specifications for the following heavy industries:

- Refineries
- Desalination plants
- Process charge
- API basins
- Condensate extraction
- Tank Farms
- Tanks fluid transfer
- Petrochemical plants
- Fertilizers
- Oil fields and terminals
- Off-shore and on-shore installations for petroleum and gas
- Reverse osmosis
- Synfuels
- Paper mills
- Pharmaceutical industry
- Other intensive high-pressure services and systems, that demand high reliability and efficient equipment

Design

Sundyne Marelli VS4 type sump pump series are vertical process pumps, single volute, radial split, self-venting, vertical split casing and single stage. End suction, top discharge. Hydraulically balanced impeller, easy to remove without disconnecting the piping. Shaft completely covered with shaft-sleeve. Oil lubricated bearing support. Semi-open impeller construction is also available.

Operating Data

- Capacities: to 3180 usgpm (800m³/hr)
- Heads: to 656 feet (200 m)
- Temperature Range: to 450 °F (232 °C)
- Pit Depths: to 30 feet (10 m)

Materials

PART	According to Table H1 - API-610 10th Edition						
	S1	S5	S6	S8	C6	A8	D1
Pressure Casing	Carbon Steel (A216 WCB)				12% CHR	316 AUS	Duplex
Impeller	Cast Iron	Carbon Steel	12% CHR	316 AUS	12% CHR	316 AUS	Duplex
Wear Rings	Cast Iron	12% CHR Hardened		Hard-faced 316 AUS	12% CHR Hardened	Hard-faced 316 AUS	Hard-faced Duplex
Shaft	Carbon Steel	AISI 4140		316 AUS	12% CHR	316 AUS	Duplex
Bearing Housing	Carbon Steel (A216 WCB)						
Case Gasket	AUS, Spiral Wound			316 AUS Spiral Wound	AUS, Spiral Wound	316 AUS Spiral Wound	Duplex SS Spiral Wound
Column Discharge Pipe	Carbon Steel					316 AUS	Duplex

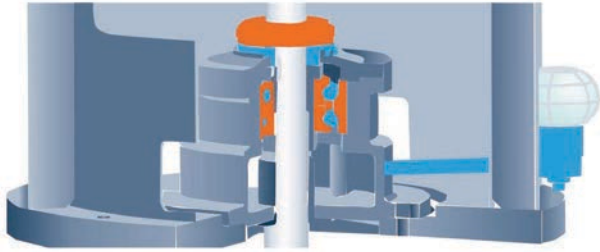
OTHER MATERIALS AND METALURGIES AVAILABLE UPON REQUEST

Optional Features

Sundyne Marelli provides sump pump series with a range of customized features, to meet specific application requirements.

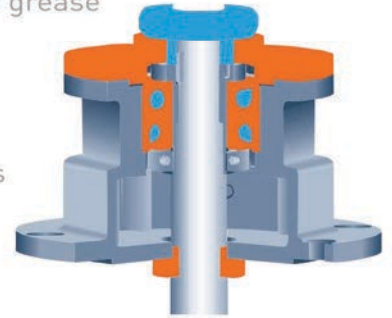
Lubrication with constant level oiler:

Optional lubrication with pure or purge oil mist - Optional lubrication with grease

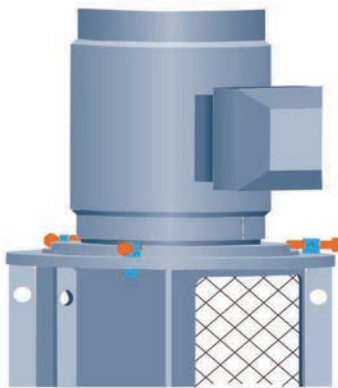


Labyrinth seal to avoid external contamination.

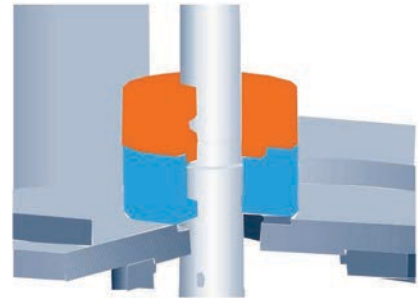
Optional Inpro/Seal labyrinth seals



Bearing housing with double row bearings with machined brass or iron cages.



Transverse alignment positioning **jackscrews** for electric motor



Seal chamber. Designed to API-610 / ISO 13709.

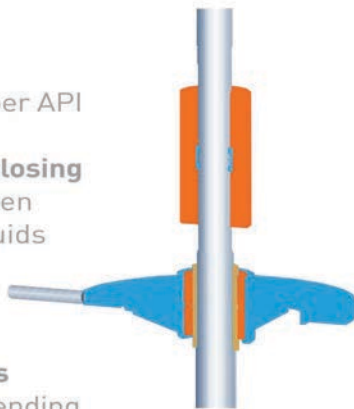
Ready to fit cartridge seals under API-682 3rd Ed / ISO 21049

Optional sealing with soft packing and retainer

Split keyed shaft

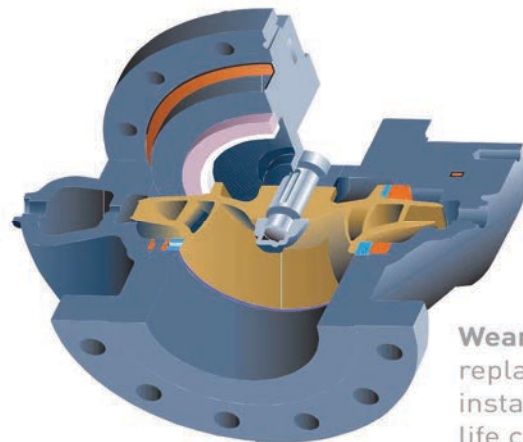
arrangement for as per API 610 10th Edition.

Option. **Jacketed enclosing pipe** for the shaft when pumping abrasive fluids



Gaskets or O-rings

a requested or depending on the service conditions



Wearing rings. Field replaceable, easy installation for better life cycle cost (LCC)

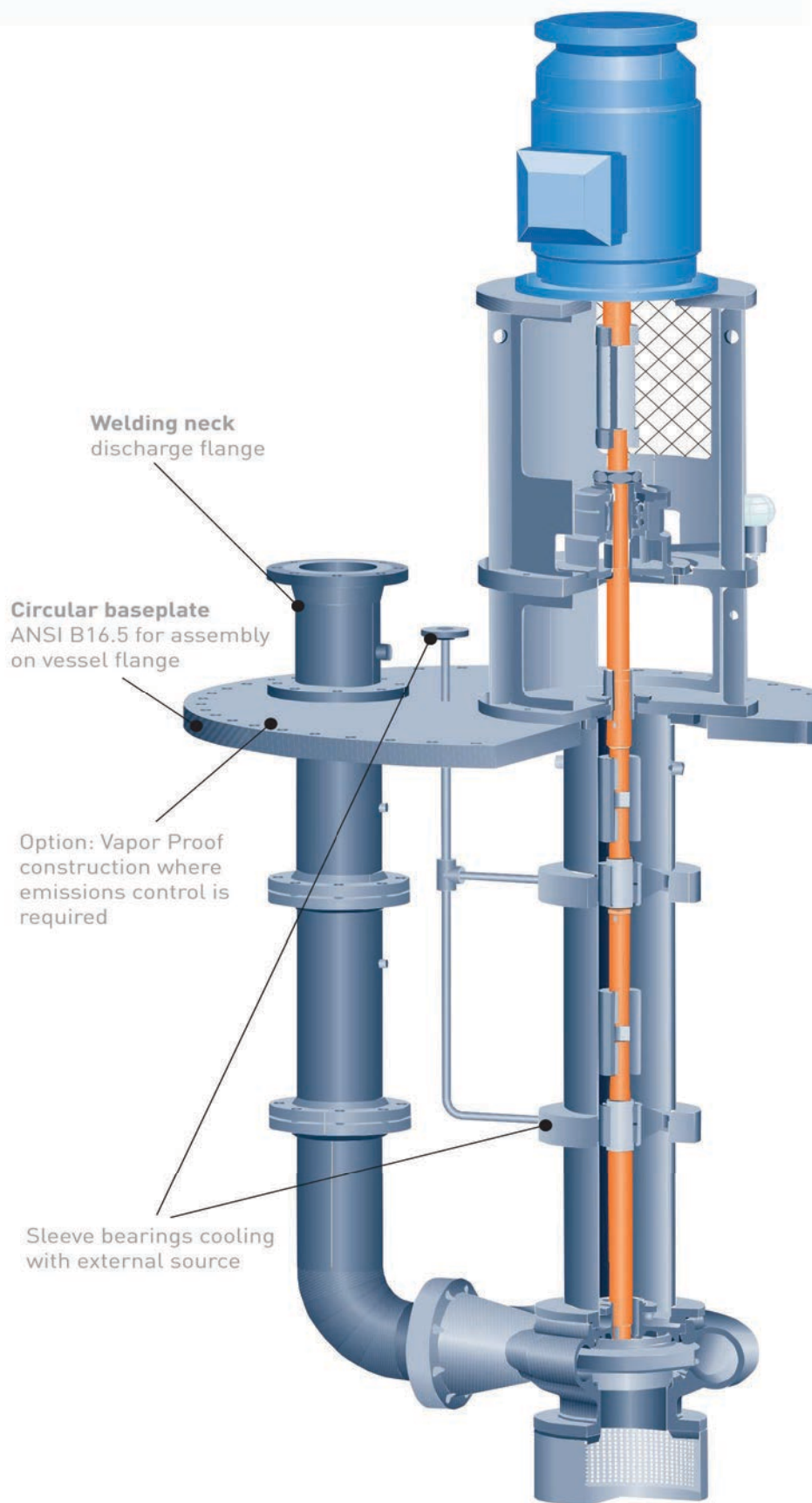
Sundyne Marelli VS4 Series

Precision engineered pumps meeting rigorous customer requirements wide range of applications, while reducing the total life cycle cost (LCC) and improving reliability (MTBF & MTBR).

**API-610, 10th edition full compliant
ISO 13709 VS4 Type**

Standard Features and Benefits

- API-610 10th Edition / ISO 13709 Full Compliance for reliability and accountability.
- All pumps within VS4 series are suitable for operation at 50 Hz and 60 Hz.
- Higher efficiencies. Due to a design with tangential discharge and wide variety of hydraulics to match all types of duty points.
- Labyrinth bearing seals to avoid external contamination and maximize seal and lubrication life.
- Highly maintainable and replaceable wear rings to reduce overall life cycle costs (LCC).
- Mechanical seal chamber API-682 3rd Edition. Also complies to API-610 standards.
- Choice of multiple impellers in each hydraulic pump casing for optimum efficiency over a wide operating range.
- A variety of instrumentation options are available for monitoring all key operating parameters (temperature, pressure, vibrations, etc.).





Motor support. Strong construction that supports the pump column, bearing housing and electric motor

Spacer Coupling to facilitate dismantling of mechanical seals

Non sparking coupling guard

Discharge flange according to ANS B16.5 300#RF, 600#RF and 900#RF and their required serrations. ASME/DIN flanges are also available. Top or Side orientation. Socket Weld flanges

Regulating nut for vertical adjustment of the rotor

Discharge piping bolted to the baseplate for easy disassembling. Option Vapour Proof Construction: Discharge piping welded to the baseplate depending on the service

Bearing housing with double row bearings with machined brass or iron cages.

Rectangular baseplate for grouting
Option: Integral lifting lugs in baseplate

Split shaft arrangement for as per API 610 10th Edition. Option. Enclosing pipe for shaft when pumping abrasive fluids

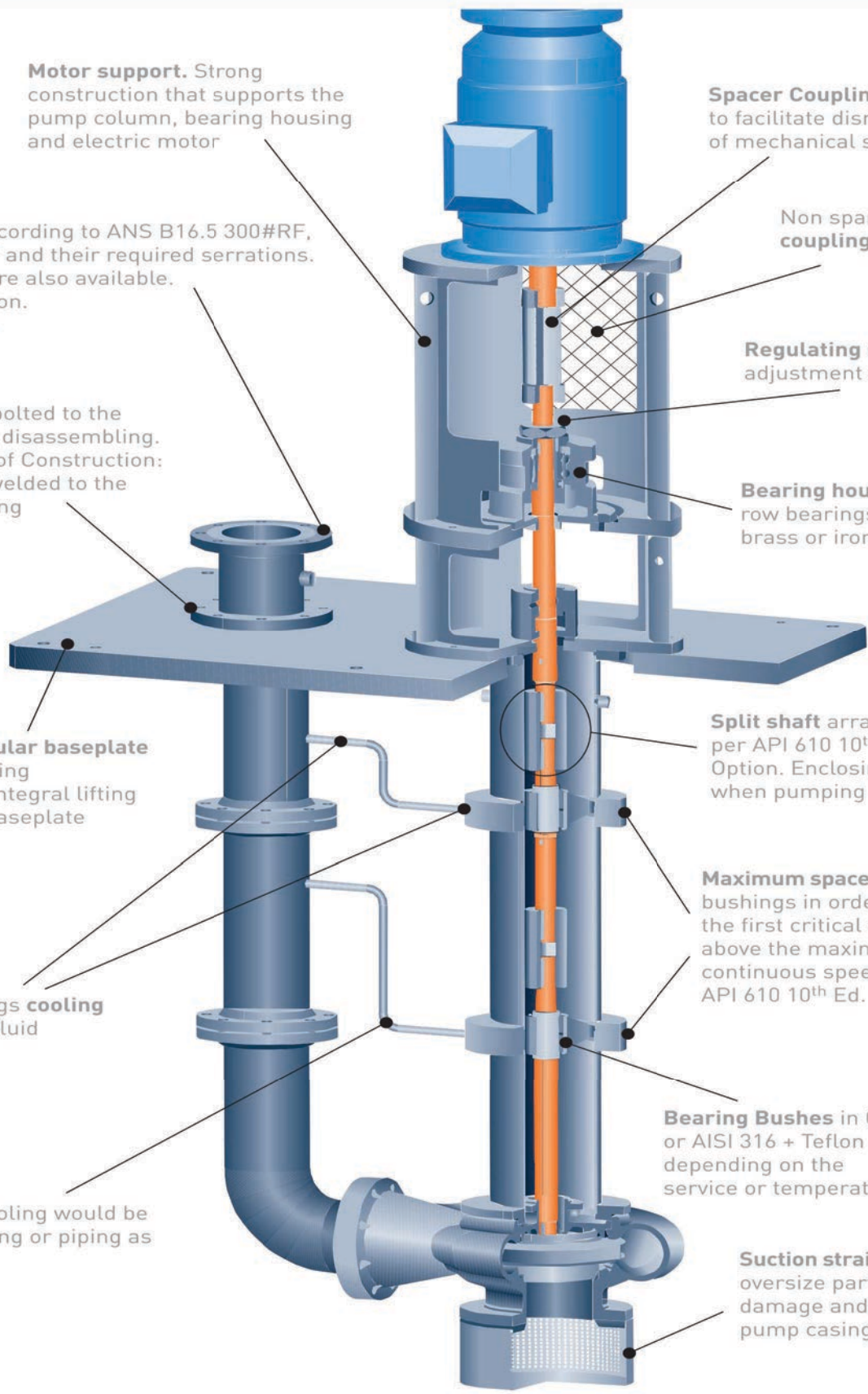
Sleeve bearings cooling with process fluid

Maximum space between shaft bushings in order to maintain the first critical speed above the maximum allowable continuous speed as per API 610 10th Ed.

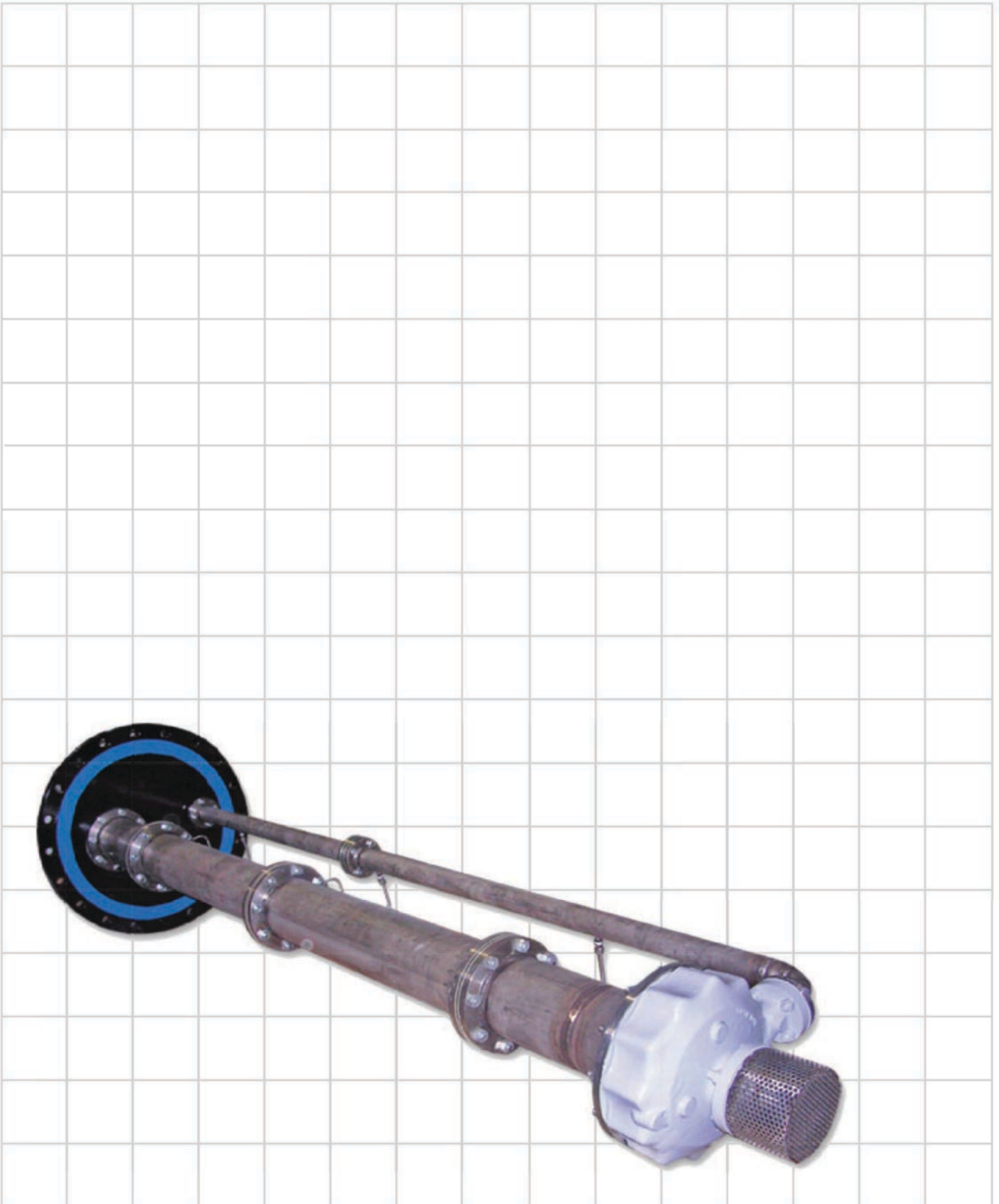
Pipeline for cooling would be made with tubing or piping as request

Bearing Bushes in Graphite+Teflon or AISI 316 + Teflon or Bronze depending on the service or temperature

Suction strainer. It screens oversize particles to avoid damage and/or erosion of pump casing and impeller



NOTES:





Sundyne Headquarters:

Sundyne, LLC
 14845 West 64th Avenue
 Arvada, Colorado 80007
 USA
 1-866-Sundyne
 Phone: 1 303 425 0800
 Fax: 1 303 940 2911
 www.sundyne.com

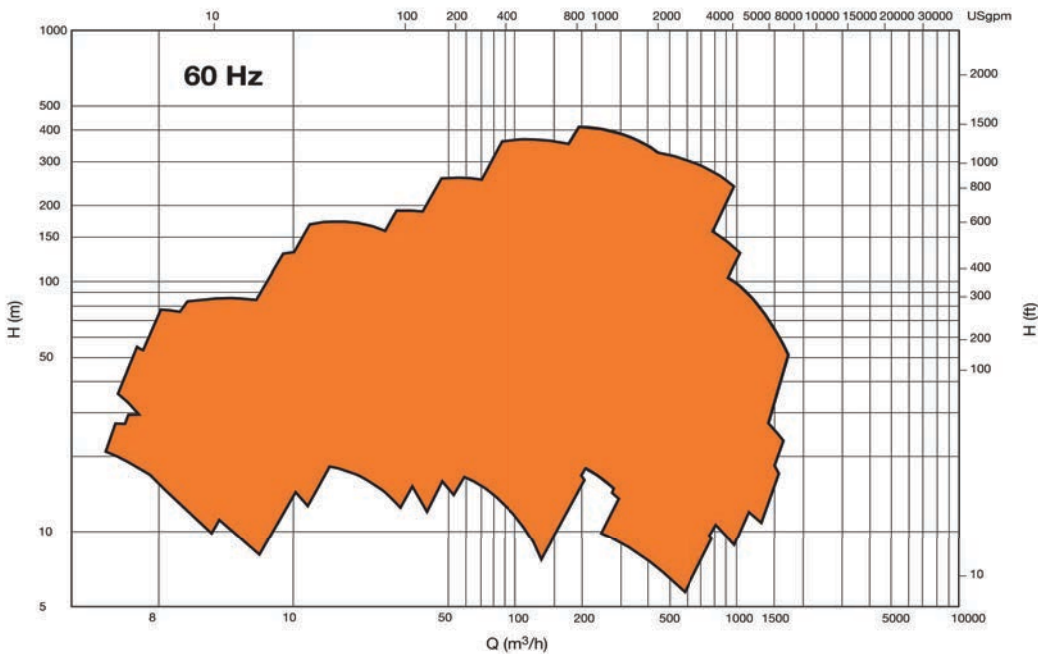
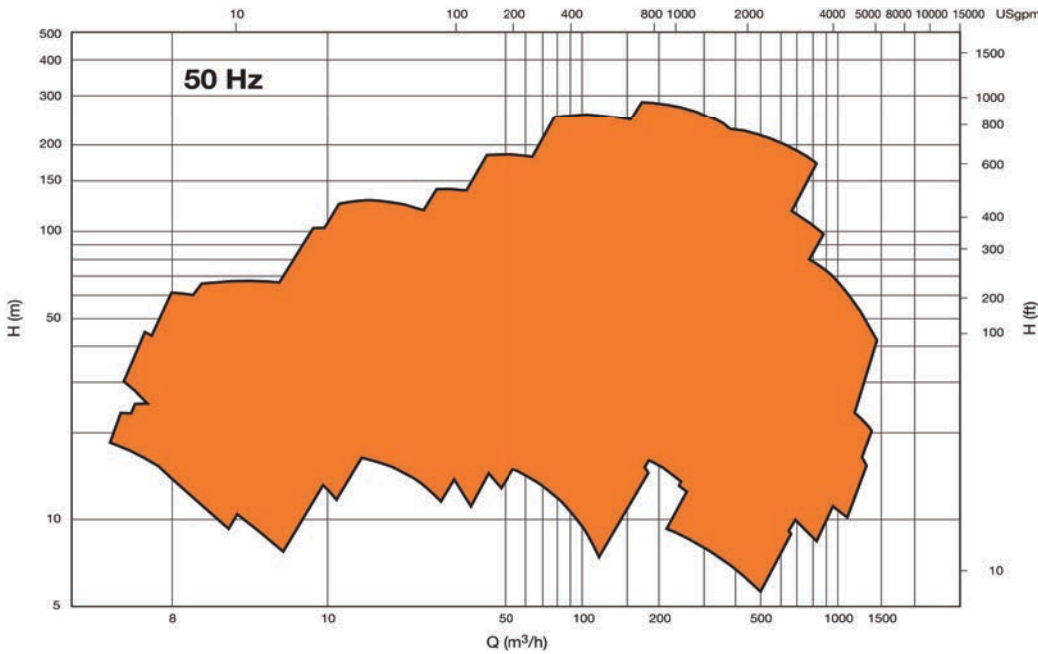
Sundyne China:
 Building 1, No. 879 Shen Fu Road
 XinZhuang Industrial Zone
 Min Hang District
 Shanghai, China 201108
 Ph: +86 21 5055 5005
 Fax: +86 21 5442 5265

Sundyne France:
Sundyne International S.A.
 13-15, Bld. Eiffel - B.P. 30
 21604 Longvic Cedex
 France
 Phone: +33 (0)3 80 38 33 00
 Fax: +33 (0)3 80 38 33 66

Sundyne Spain:
Sundyne Marelli Bombas, S.R.L.
 Ctra. Madrid-Toledo, Km.30.8
 45200 Illescas
 Toledo, Spain
 Phone: +34 925 53 45 00
 Fax: +34 925 51 16 00

Sundyne United Kingdom
Sundyne HMDKontro Sealless Pumps, Ltd.
 Marshall Road
 Hampden Park Industrial Estate
 Eastbourne East Sussex, BN22 9AN
 United Kingdom
 Phone: +44 1323 452000
 Fax: +44 1323 503369

Worldwide Sales Headquarters
 Unit 2 Harvington Business Park
 Hampden Park Industrial Estate
 Brampton Road
 Eastbourne East Sussex, BN22 9BN
 United Kingdom
 Phone: +44(0) 1323 452125



To locate the global representative, distributor or authorized service center nearest you, or for additional information please visit www.sundyne.com

GLOBAL STRENGTH, powered by people.

All information provided is subject to change without notice.

© 2013 Sundyne, LLC
 All Rights Reserved. Other logos and trade names are property of their respective owners.