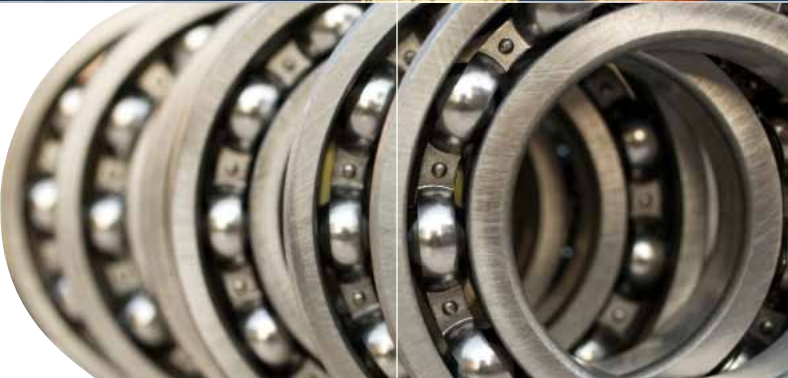




TSS Rotterdam BV

Technical products for Marine, Offshore and Industry





INTRO

TSS Rotterdam supplies equipment to Marine, Offshore and Industry

Ships and industry need to be kept operational for 24 hours a day. That's why a reliable supplier of technical products is of the utmost importance. Pumps, e-motors, compressors have to be replaced as quickly as possible when they break down. TSS Rotterdam BV supplies the required equipment and spare parts to Marine, Offshore and Industry. We have stocking points available for pumps, e-motors, compressors, bearings, shaft seals and valves and we take great care to maintain a high quality in the products we supply.

As a brand independent trading company we are dealing in both European and Asian equipment and related spare parts. Besides the replacement of equipment and spare parts, TSS Rotterdam also takes on 'special projects', which can be viewed on our website www.tssr.nl/special-projects

Strategic location and brand independent

TSS Rotterdam is strategically located in the ARA-region (Amsterdam, Rotterdam and Antwerp). Our warehouse and head office is located in

Schiedam at industrial estate "Vijfsluizen". Part of the famous Wilton Fijenoord Shipyard from 1929 until 1999, "Vijfsluizen" is centrally located between Vlaardingen and Schiedam, fifteen minutes from all major ports in Rotterdam. The ports of Amsterdam and Antwerp (Belgium) are both one hour away.

TSS Rotterdam operates brand independent and is known for its innovative and resourceful ways of dealing with the delivering of equipment and spare parts. We understand that time and money are limiting factors. TSS Rotterdam is not committed to one manufacturer, which means we can anticipate quickly and are flexible in our operations. We supply the requested equipment and spare parts from our stocking points, but are also able to find those hard-to-locate and critical parts you are looking for.

International network and a unique computer system

When it comes to logistics, TSS Rotterdam doesn't see any barriers, only challenges. Our products can be shipped worldwide by road, sea or air. Our international network extends through forwarders and shipping agents around the globe. We can ship the desired

products to your warehouse or deliver directly on board of your vessel, if necessary.

TSS Rotterdam uses a unique registration system. With this computer system, we create a client related database and/or vessel related database by registering each item we deliver. Our computer system creates a unique article number for each item shipped, which relates to the client and/or vessel. Our database enables us to provide better, faster and more reliable service to our clients.

Specialized knowledge and reliable service

With our years of experience in the replacement market and our in-house product specialists we are actively involved during the process of replacing equipment. TSS Rotterdam specialists with an extended knowledge of pumps, e-motors, bearings and power transmission are at your disposal. We know what you are talking about. We are able to offer reliable and high quality service due to our specialized knowledge and our familiarity with all the facets of the Maritime industry. TSS Rotterdam is your source for technical products from the ARA-region.



PUMPS (CENTRIFUGAL)

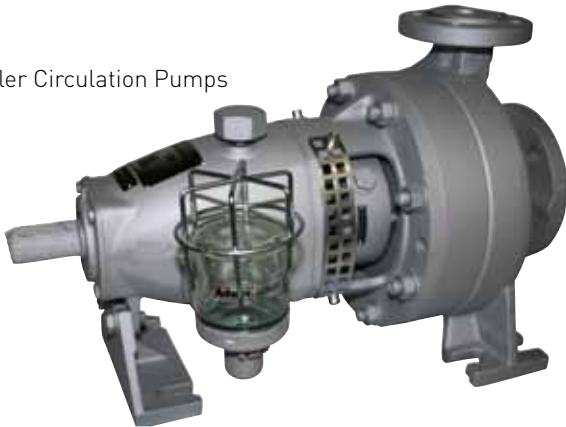
How does a centrifugal pump work?

Centrifugal pumps are kinetic machines converting mechanical energy into hydraulic energy through accelerating the liquid by a revolving device - an impeller. The most common type is the volute pump. Fluid enters the pump through the eye of the impeller which rotates at high speed. The vanes of the rotating impeller impart a radial and rotary motion to the liquid, forcing it to the outer periphery of the pump casing where it is collected in the outer part of the pump casing (called volute). A vacuum is created at the impellers eye that continuously draws more fluid into the pump. The fluid is discharged from the centrifugal pump through the discharge connection.



Hydrophore pumps

Boiler Circulation Pumps



Multi-Stage Side Channel Pumps



For which applications does TSS Rotterdam supply centrifugal pumps?

Our scope of supply consists of a wide range of centrifugal pumps with a broad performance coverage for industrial and marine applications.

The variety of applications requires various designs and materials to ensure the best solutions for the individual applications such as:

- ✓ Ballast
- ✓ Bilge
- ✓ Boiler feed
- ✓ Booster
- ✓ Emergency fire
- ✓ General service
- ✓ Hot water circulation
- ✓ HT and LT fresh water cooling
- ✓ Sewage

In which materials does TSS Rotterdam supply centrifugal pumps?

Our industrial and marine pumps can be executed in various materials such as:

- ✓ Bronze
- ✓ Cast Iron & Cast Steel
- ✓ Duplex
- ✓ Stainless steel (AISI 304 & 316)



Submersible Pumps



Bronze Vertical In-line Pumps



Hydrophore Pumps



BASIC REQUIRED PARAMETERS TO SELECT A CENTRIFUGAL PUMP

Pump	Type		
	Serial Number		
	Capacity		M ³ /Hour
	Total Head		Mtr
	Working Pressure		Bar
	Temperature		Degr./Celsius
	Pump Execution		Hori. / Vert.
Bare shaft end			yes/no
Motor	Voltage		V
	Speed		RPM
	Frequency		Hz
	Motor Power		kW
	Mounting Position		B3 / B5 / V1
	IP Class		



Horizontal (Non) Selfpriming Pumps



PUMPS (POSITIVE DISPLACEMENT)

What is a positive displacement pump?

Positive displacement pumps consist of a chamber containing cams, gears, plungers, screws, vanes or similar elements actuated by relative rotation of the drive shaft to the casing. This is characterized by their close-running clearances. Positive displacement pumps deliver a constant volume of liquid for each cycle against varying discharge pressure or head. They more or less have a constant flow regardless of the system pressure or head. In general they give more pressure than centrifugal pumps.



Diesel Oil Feed Pumps (for ex.Azcue)



Pneumatic Diaphragm Pumps
(for ex.Wilden)

What type of positive displacement pumps does TSS Rotterdam supply?

Our scope of supply consists of a wide range of positive displacement pumps with a broad performance coverage for industrial and marine applications.

To cover both low, high and non viscosity fluids we offer the following types of positive displacement pumps:

- ✓ Diaphragm
- ✓ Gear
- ✓ Single screw / eccentric
- ✓ Twin screw / 2-spindle
- ✓ Triple screw / 3-spindle

For which applications does TSS Rotterdam supply displacement pumps?

The variety of applications requires various designs and materials to ensure the best solutions for the individual applications such as:

- ✓ Chemicals
- ✓ Dirty oil
- ✓ HFO transfer and supply
- ✓ LO transfer
- ✓ MDO transfer and supply

Self Priming Screw Pumps





BASIC REQUIRED PARAMETERS TO SELECT A POSITIVE DIS-PLACEMENT PUMP



Piston Pumps (for ex.Speck)

Pump	Type		
	Serialnumber		
	Capacity		M ³ /Hour
	Head		Mtr
	Working Pressure		Bar
	Pump Execution		Hori. / Vert.
Bare shaft end			yes/no
Motor	Voltage		V
	Speed		RPM
	Frequency		Hz
	Motor Power		kW
	Mounting Position		B3 / B5 / V1
	IP Class		



Booster & Supply Pumps (for ex.IMO)

INFORMATION ABOUT MEDIUM/LIQUID

Liquid with concentration		
Pollution with concentration		
Solids with concentration		
Mode of operation (continuous or discontinuous)		
Temperature		Degr/Celsius
Specific Gravity		
pH - Value		
Viscosity		cSt
Vapour pressure		Bar
Size of grain		mm
Comments		



Air Driven Pumps (for ex.Sandpiper)



Screw Pumps (for ex.Allweiler)

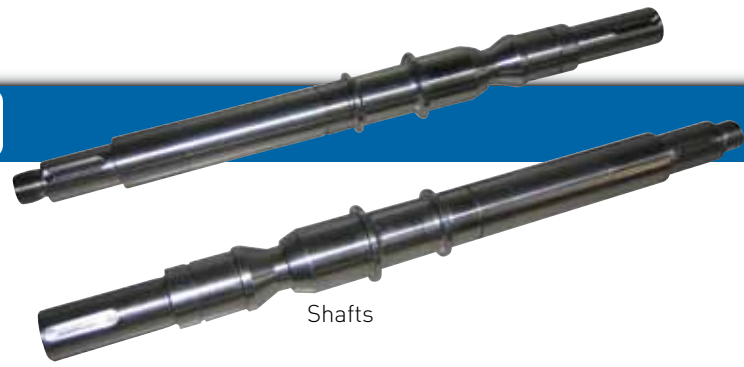


PUMPS (SPARE PARTS)

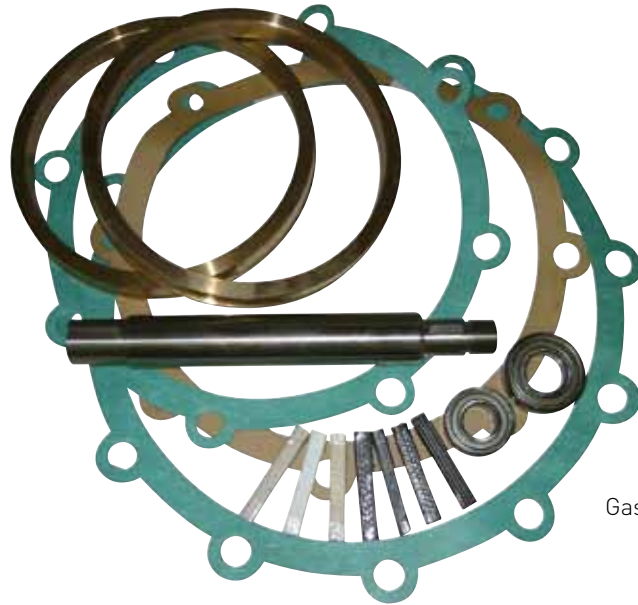
TSS Rotterdam supplies and keeps in stock various pump spare parts for the following European pump manufacturers:



- ✓ Allweiler
 - ✓ Azcue
 - ✓ Desmi
 - ✓ Frank Mohn (Framo)
 - ✓ Garbarino
 - ✓ Gothia
 - ✓ Hamworthy
 - ✓ IMO
 - ✓ Iron
 - ✓ Itur
 - ✓ JMW
 - ✓ KSB
 - ✓ Merzer
 - ✓ Mono
 - ✓ Netzsch
 - ✓ Nirex
 - ✓ Thune Eureka
 - ✓ Thom Lamont
 - ✓ Wilden
- and other makers upon request



Shafts



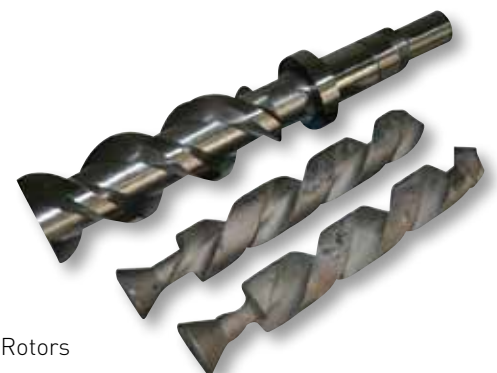
Gaskets



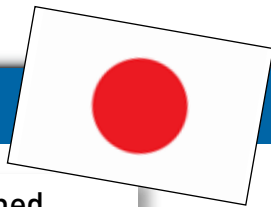
Bronze Impellers



Mechanical Seals



Rotors



Besides earlier mentioned European pump manufacturers TSS Rotterdam also supplies and keeps in stock spare parts for the following Asian pump manufacturers:

- ✓ Heishin
 - ✓ Ishii
 - ✓ Naniwa
 - ✓ Shinko
 - ✓ Shin Shin
 - ✓ Taiko Kikai
 - ✓ Teikoku
- and other makers upon request



Shafts



Impellers



Stators

Rotors



Wearings



Bushes, Bolts, Nuts, Couplings Inserts, Bearings etc

Our spare parts are machined to the correct profiles, tolerances and clearances to give a perfect fit first time, every time. All our parts are manufactured under the most stringent European quality standards. Usage of high quality material provides:

- Less downtime
- Longer life time of parts
- High performance of equipment

And most important:

Satisfied clients

TSS Rotterdam BV

Product overview



Pumps (Centrifugal)



Drive Belts



Pumps (Positive Displacement)



Compressors (Air)



Pumps (Spare Parts)



Compressors (Refrigeration)



E-Motors



Cargo Hoses



Couplings & Inserts



Hydraulics



Bearings



Diesel Engines (Spare Parts)



Valves



TSS Rotterdam BV
Adriaen Banckertstraat 12
3115 JE Schiedam
The Netherlands

TSS Rotterdam BV
PO Box 12012
3004 GA Rotterdam
The Netherlands

T +31 (0)10 4624500
F +31 (0)10 4626240

E info@tssr.nl
W www.tssr.nl