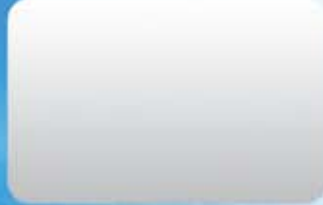


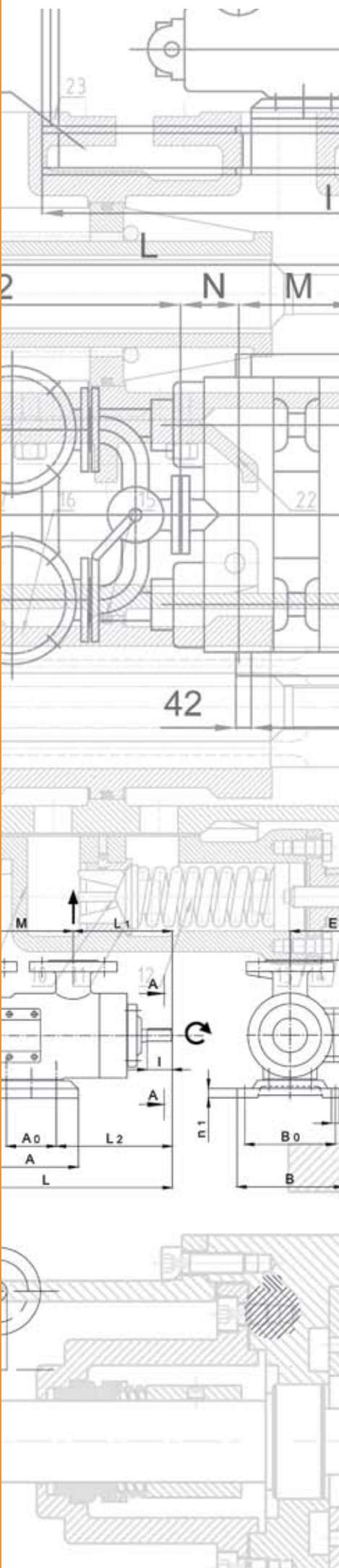


MZT PUMPI



General Catalogue 2010

PUMP YOUR WAY TO SUCCESS



MZT Pumpi a.d. is one of the leading manufactures of industrial pumps in the region of South East Europe. With its extensive experience of more than 60 years, justified with extence of broad product range, it continuously strives to satisfy the utmost needs of customer.

The key elements to survive in this globalized market are flexibility towards market changes and ability to innovate-both in product designs as well as business processes. By following the worldwide development in the pump industry, our staff constantly faces with the growing challenge to keep abreast of the numerous innovations in pump designs and this is justified by having a separate R&D department.

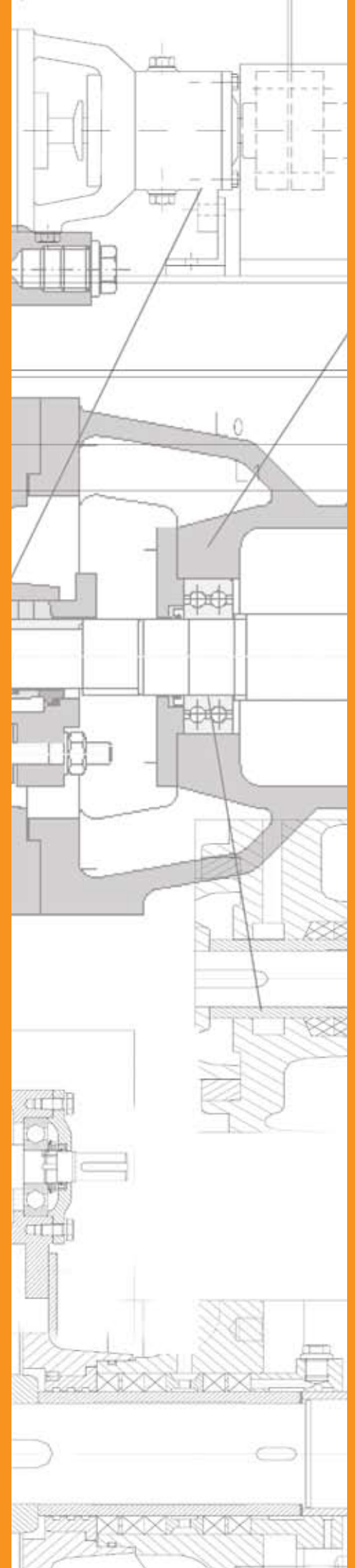
The basic objective of MZT Pumpi is expanding the business partnerships and building the brand name of our products worldwide. All of our employees live up to our motto:

"Pump your way to success".

We are highly specialized in design, production, installation, sales and after sales services of pumps. Whether it's product development, manufacturing, sales or after sales services, the goal of MZT Pumpi is to always achieve a proper balance in providing high-quality products per competitive price with short delivery terms.

The field experience of our employees accompanied with the adoption of Management and Technical Standards are the foundation upon which we create highly innovative and technically superior products. Our manufacturing program includes the following types of industrial pumps:

- End suction centrifugal pumps, types: SCP, VCP, STCP, SHCP (according to ISO 2858);
- Split case double suction pumps, types: D, DV;
- Multistage pumps, types: KCP, C, VC, CS;
- Multistage pumps, types: MS, DMS, MSTD, MSS;
- Sewage pumps, types: M, VM;
- Deep well pump, types: DP, VHP, HMF;
- Screw spindle pumps, types: HVP, BVVP, KHVP, PVVP, VVP (having Lloyd's certificate);
- Self priming multistage centrifugal petrol transfer pumps, type: BCP;
- Vacuum pump, types: CEH, CEL, RVP, KVP;
- Diesel pump aggregate, types: DPA, PP-DPA.



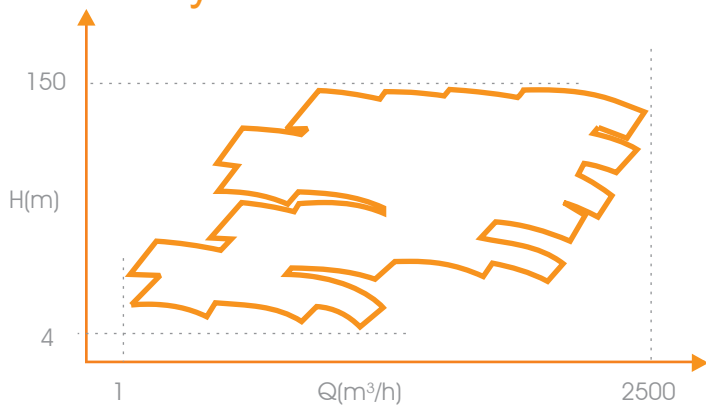
END SUCTION CENTRIFUGAL PUMPS - SCP

(According to ISO 2858)



Single stage, low pressure, centrifugal end suction pump with an axial inlet into the impeller and flanged bearing frame. Simple and compact design, suitable for flexible coupling to electric motor or internal combustion engine as a drive. Fast and easy dismounting without detaching from the existing pipeline.

Hydraulic characteristics



Technical data:

Capacity:	up to 2500 m ³ /h
Head:	up to 150 m
Pump size:	DN 32 to 400
Temperature:	up to 330 °C
Operating pressure:	up to 25 bar

Applications:

For liquid transfer and circulation of cold and hot clean or slightly polluted water. Typical applications are in:

- Municipal water supply
- Domestic water supply
- Industrial plants
- Boiler feed and condensate systems
- Irrigation and dewatering
- General purposes

Shaft sealing:

The shaft sealing could be arranged by soft packing or mechanical seal.

In soft packing arrangements the shaft is protected by replaceable, stainless sleeve while the stuffing box is furnished with lantern ring for introduction of cooling liquid into the packing.

On special demand the pumps could be furnished with mechanical seal in accordance with the characteristics of the liquid and the operating conditions.

Advantages:

- Ample dimensioned shaft guided through roller bearings and hardened shaft sleeve.
- Fully-enclosed single piece casting.
- High operating reliability due to maintenance and service parts.

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Cast iron
3.	Shaft	Stainless steel
4.	Shaft sleeve	Stainless steel
5.	Bearing bracket	Cast iron
6.	Pump cover	Cast iron

Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request.

Drive:

- Diesel motor
- Electric motor

Arrangements:

SCP type of pumps could be arranged in several modifications, depending on:

- customer requirements,
- working and medium conditions,
- space available,
- applications where a special design is needed.

Wear rings

Front and back (in case of impeller dia. >500mm) renewable wear rings are furnished in order to achieve the best pump performance and ease the maintenance

Pump case

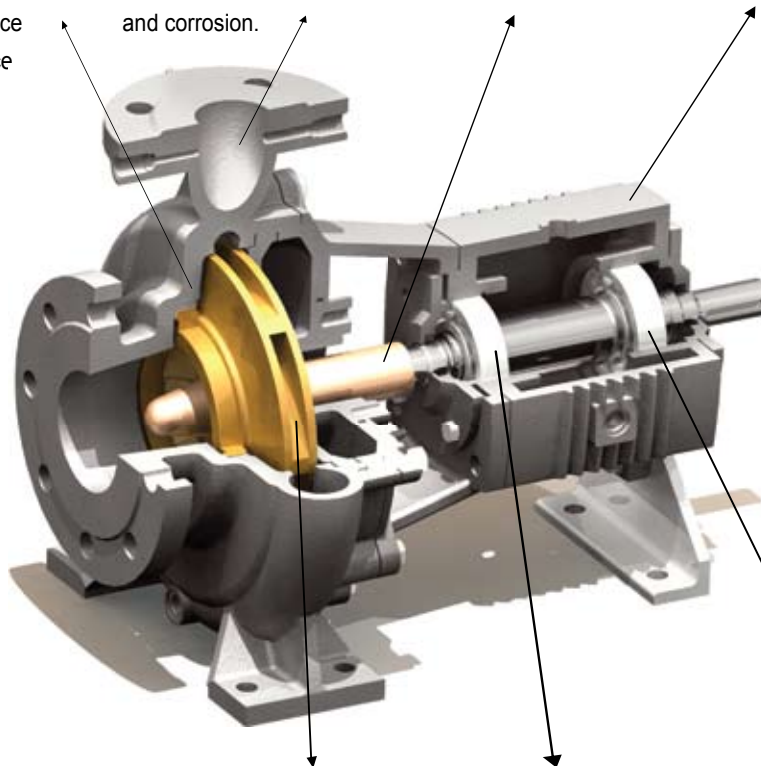
The pump case is of rigid design with a generous wall thickness, giving good protection against erosion and corrosion.

Shaft sealing

SCP pumps can be fitted with most sealing arrangements:
-soft packing
-mechanical seal

Shaft bearing bracket

The heavy duty console with incorporated lantern assures silent and reliable operation.



Pump performance

optimized volute design
high efficiency, smooth surfaces, minimal internal losses

Foot

Machined foot assure exact positioning on baseplate and in pipework

Impeller Back vanes

for hydraulic balancing, extending bearing life, keeps solid parts away from shaft sealing area

Impeller

Fully enclosed, single-piece casting gives reliability, long trouble-free operation and high efficiency..

Bearings

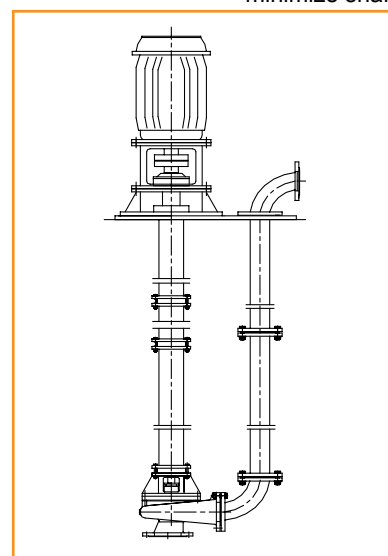
The shaft is protected by a replaceable shaft sleeve in stainless steel.

Shafts

Ample dimensioned single and double row ball bearings improve the stiffness and minimize shaft deflection.

STCP - For high temperature applications (90-330°C) an arrangement for hot water is provided. This modification includes a cooling chamber for introduction of the cooling medium.

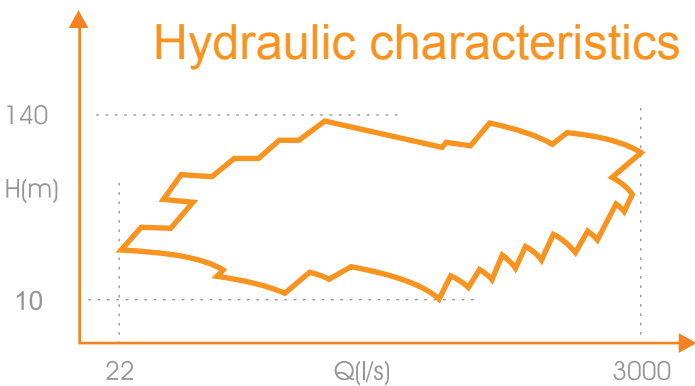
VSCP - Vertical arrangement is mainly used in systems for water-supply, mining, civil engineering, waste water applications, irrigation systems etc.



SPLIT CASE DOUBLE SUCTION PUMP - D



Horizontal Split Case Double Suction Centrifugal Pumps D are engineered to pump clean water or low viscosity clean liquids at moderate heads more economically than any other type of pump. All fabricated parts are standardized and accurately machined for true alignment, increasing overall durability. Impellers are statically and dynamically balanced and constructed with double inlets, practically eliminating the axial thrust and resulting in high operating efficiency.



Technical data:

Capacity:	22 - 3000 l/s
Head:	10 - 140 m
Temperature:	up to 90°C

Applications:

For liquid transfer and circulation of cold clean or slightly polluted water. Typical applications in:

- Municipal water supply
- Power plants
- Industrial plants
- Boiler feed and condensate systems
- Irrigation and dewatering
- General purposes

Shaft sealing:

The shaft sealing could be arranged by soft packing or mechanical seal.

In soft packing arrangements the shaft is protected by replaceable, stainless sleeve while the stuffing box is furnished with lantern ring for introduction of cooling liquid into the packing.

On special demand the pumps could be furnished with mechanical seal in accordance with the characteristics of the liquid and the operating conditions, including the possibility of sealing with cartridge mechanical seal.

Advantages:

- Single stage, medium pressure double inlet centrifugal pump with two flanged bearing frame, suitable for flexible coupling to electric motor or internal combustion engine as a driver.
- Ample dimensioned shaft guided through roller bearings and hardened shaft sleeve.
- Fully-enclosed single piece casting, double inlet impeller practically doesn't produce any axial thrust.
- High operating reliability due to maintenance and service parts.
- Spiral housing axially splitted means easy maintenance without pipe disconnection.

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Cast iron
3.	Shaft	Stainless steel
4.	Shaft sleeve	Stainless steel
5.	Bearing bracket	Cast iron

Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request..

Drive:

- Electric motor
- Diesel motor

Arrangements:

Split case double suction pump - D type of pumps could be arranged in horizontal version

Wear rings

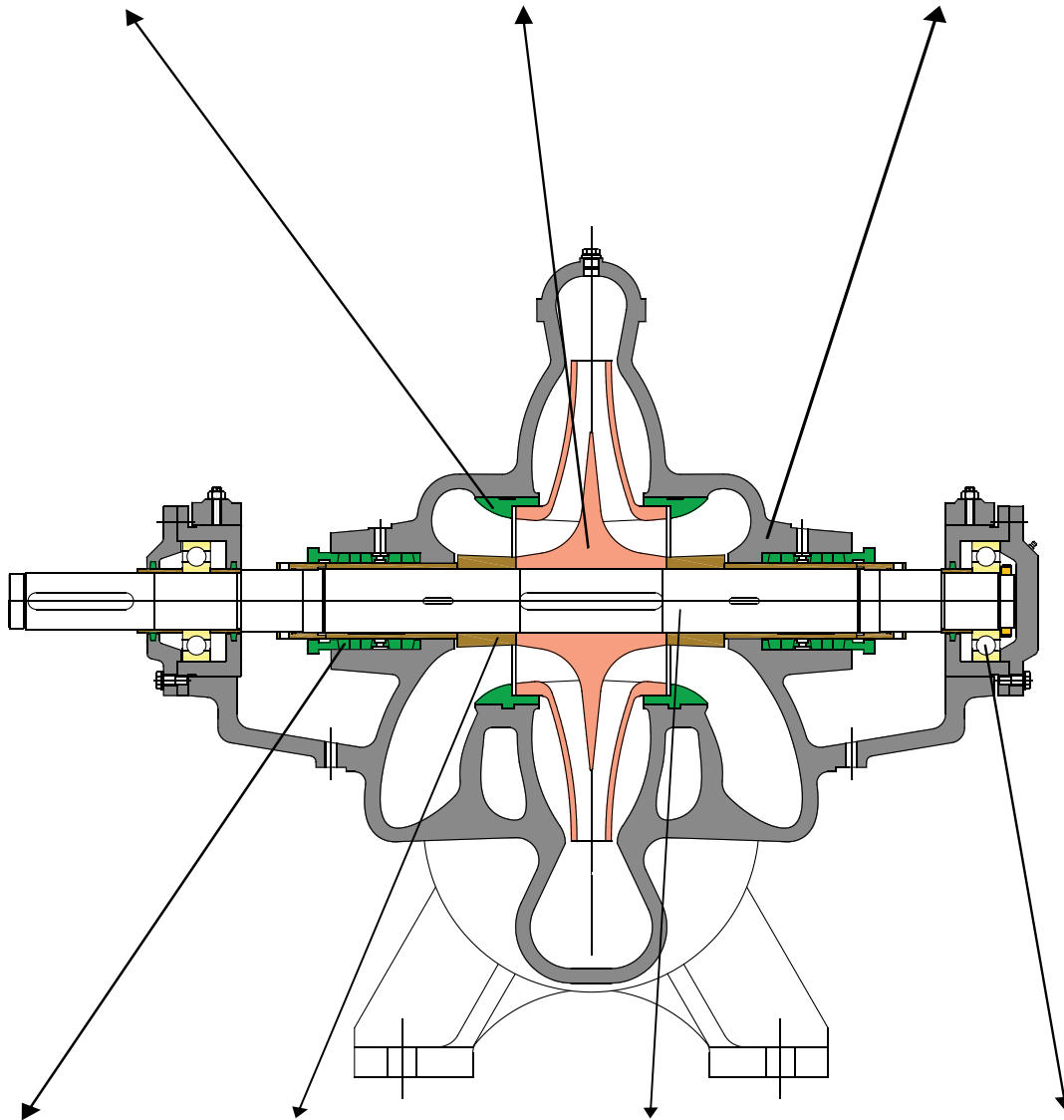
Removable case wear ring is furnished in order to achieve the best pump performance and to ease the maintenance.

Impeller

Double suction, fully enclosed, single-piece casting impeller design gives practically zero axial forces.

Pump case

Axially split pump case arrangement for easy pump's maintenance without dismantling



Shaft sealing

D pumps can be fitted with most sealing arrangements:

- soft packing
- mechanical seal.

Shaft Sleeves

Shaft is protected of excessive wear in stuffing box region by two hardened stainless steel shaft sleeves.

Shaft

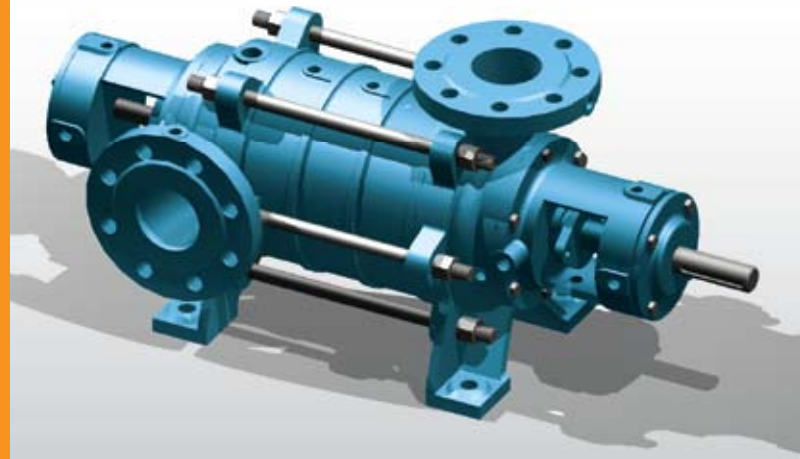
The shaft is dimensioned for minimum deflection and is protected by a replaceable shaft sleeve in stainless steel.

Bearings

Ample dimensioned grease lubricated roller bearings, improve the stiffness and minimize shaft deflection.

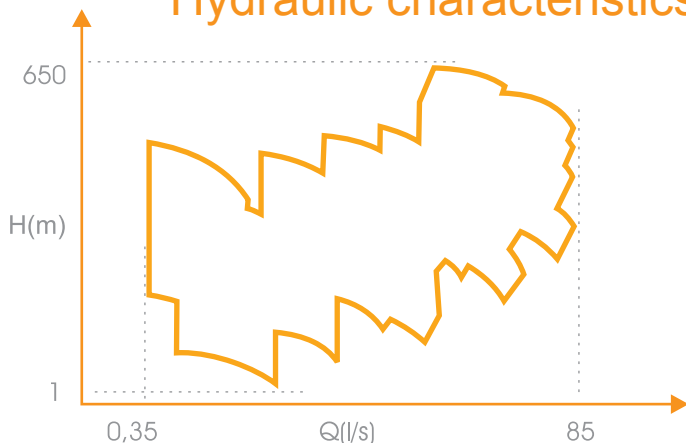
MULTISTAGE PUMP

- C, KCP, VC, CS



The C type range is the basic range of our centrifugal ring section multistage pumps. The simplified design, utilizing hydraulically balanced impellers by means of holes into impeller, or by "back to back" impeller execution, provides the optimum pumping solution for medium pressure applications. Pump casing is consisted of suction and discharge housing, middle chambers and bearing brackets. All of the impellers are centrifugal of closed type, and are statically and dynamically balanced.

Hydraulic characteristics



Shaft sealing:

The shaft sealing could be arranged by soft packing or mechanical seal.

In soft packing arrangements the shaft is protected by replaceable, stainless sleeve while the stuffing box is furnished with lantern ring for introduction of cooling liquid into the packing.

On special demand the pumps could be furnished with mechanical seal in accordance with the characteristics of the liquid and the operating conditions.

Advantages:

- Impellers which are unloaded of axial force (balanced impellers) a very little axial force is transmitted on the bearings
- Pumps type KCP 122 and KCP 182 are totally unloaded of the axial force
- Relative small dimensions concerning to the performances

Technical data:

Capacity:	0,35 - 85 l/s
Head:	1 - 650 m
Temperature:	up to 160°C

Applications:

- Agriculture irrigation
- Boiler feed
- Chemical and light hydrocarbon transfer
- Coating and surface treatment
- High rise building sprinklers
- Paper mill shower water
- Pressure boosting systems
- Sanitary wash down services
- Rotating equipment lube and seal oil supply

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Cast iron, Bronze
3.	Shaft	Stainless steel
4.	Shaft Sleeve	Hardened Stainless steel
5.	Middle chamber	Cast iron

Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request.

Drive:

- Electric motor
- Diesel motor

Arrangements:

Multistage type of pumps could be arranged in:

- Horizontal version C, KCP
- Vertical version VC, CS
- Cooling system KCP

Impellers

Fully shrouded impellers statically and dynamically balanced

O-rings

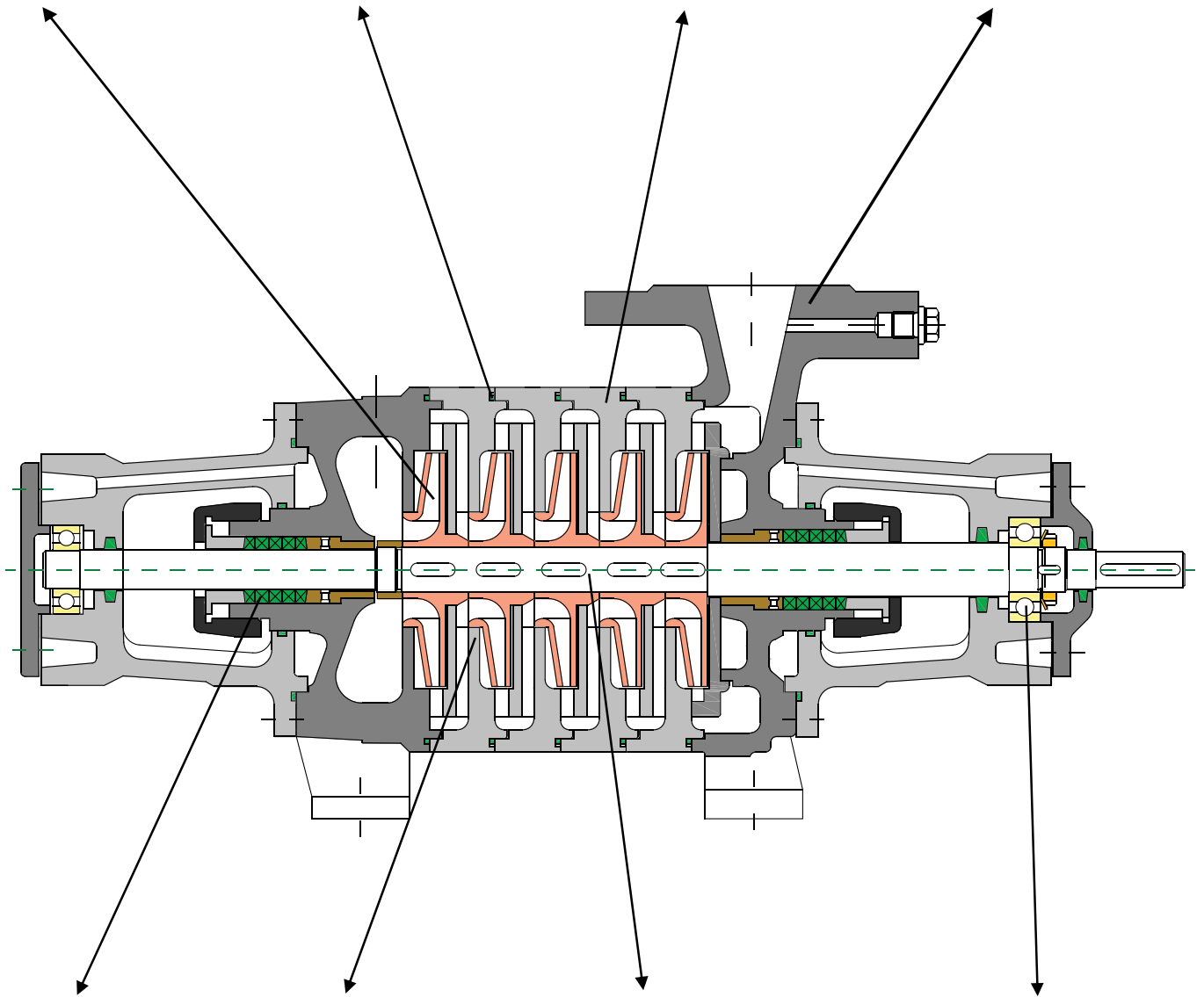
O-rings sealed casing stages means leak less operation

Casing

Gray iron as standard, other material executions available

Flanges

Suction and discharge flanges designed According DIN standard other standard as option



Shaft sealing

Gland packing as standard mechanical seals as option

Wear rings

Easily replaceable and highly resistant gray iron or bronze wear rings at each pumps stage

Shaft

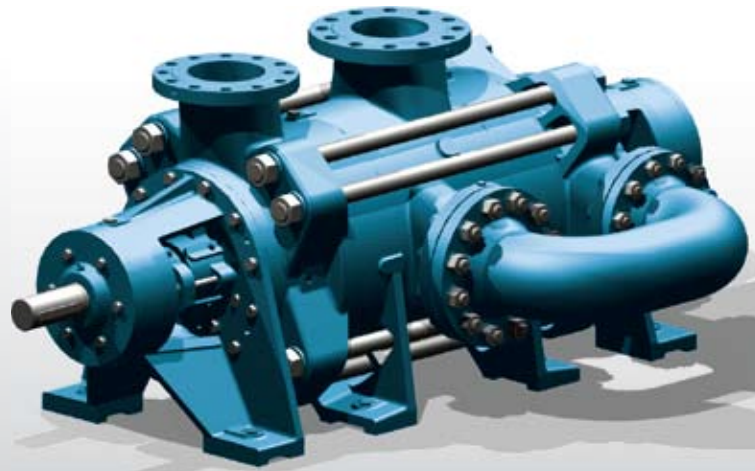
Stainless steel shaft, precisely machined and ground

Ball bearings

Grease lubricated ball bearings to handle axial thrust in either direction

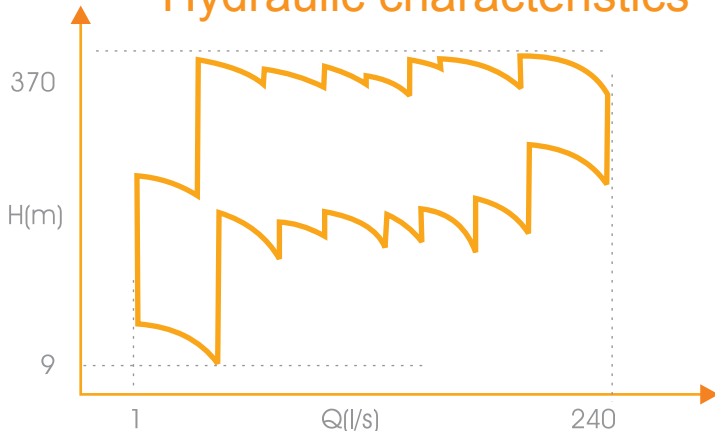
MULTISTAGE PUMP

- MS, DMS, MSTD, MSS



The MS are process duty multistage centrifugal pumps in ring section design, designed (produced) for moderate to high pressure heads available in five basic sizes. The suction and pressure bodies can be turned for 90° in both directions, which enables the pumps to be mounted and adapted to the requirements of the installation. Axial thrust is relieved by means of a drum mounted on the shaft inside the discharge hull, rest of the thrust bears one of the roller bearings. The impellers are centrifugal of closed type identically fixed to a shaft, supported on two roller bearings.

Hydraulic characteristics



Shaft sealing:

The shaft sealing could be arranged by soft packing or mechanical seal.

In soft packing arrangements the shaft is protected by replaceable, stainless sleeve while the stuffing box is furnished with lantern ring for introduction of cooling liquid into the packing.

On special demand the pumps could be furnished with mechanical seal in accordance with the characteristics of the liquid and the operating conditions.

Advantages:

- This MS pumps achieve very high pressure $\approx 30\text{m}$ / impeller
- Suction and discharge flanges can be rotated for 90° to conform with the pipeline
- One way of balancing the axial thrust in MS pumps is to arrange the impellers in opposite direction, another way of balancing the axial thrust is to use a balancing drum, the rest of the axial force is beared by roller bearings.

Technical data:

Capacity:	1 - 240 l/s
Head:	9 - 370 m
Liquid temperature:	up to 160°C

Applications:

- Industrial and process services
- Water supply pumps, irrigation and drainage pumps in agriculture, water circulation pumps,
- Mining and civil engineering
- Transport of thin oils, petroleum products
- Chemical and process industry

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Cast iron, Bronze
3.	Shaft	Stainless steel
4.	Shaft sleeve	Stainless steel

Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request.

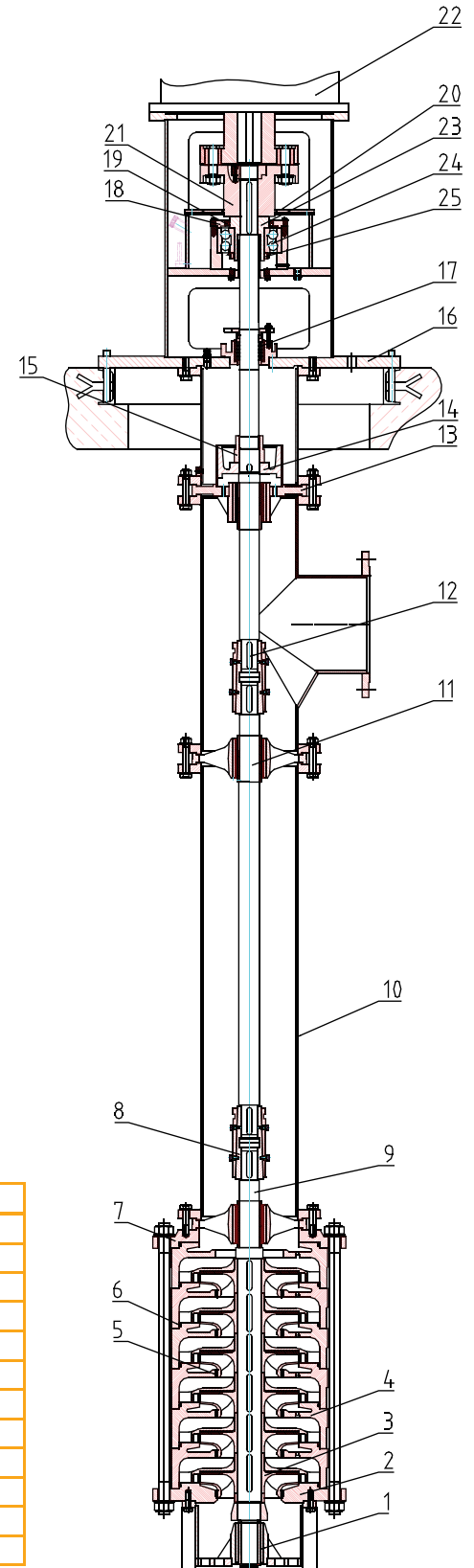
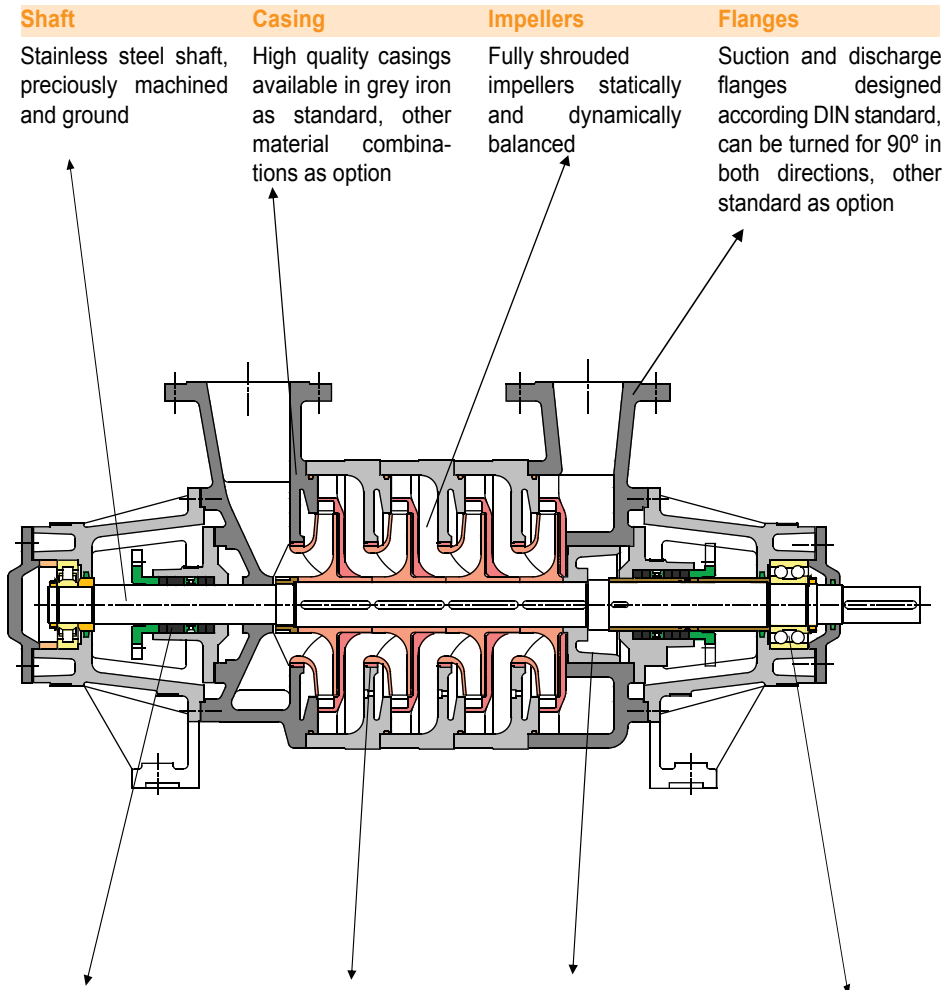
Drive:

- Electric motor
- Diesel motor

Arrangements:

Multistage type of pumps could be arranged in:

- Horizontal version MS, DMS, MSTD
- Vertical version MSS, VMS
- Cooling system MSTD



Shaft	Casing	Impellers	Flanges
Stainless steel shaft, precisely machined and ground	High quality casings available in grey iron as standard, other material combinations as option	Fully shrouded impellers statically and dynamically balanced	Suction and discharge flanges designed according DIN standard, can be turned for 90° in both directions, other standard as option

Shaft sealing	Wear rings	Axial thrust	Ball bearings
Soft cord packing as standard mechanical seals as option	Replaceable wear rings fitted to casing as standard, through the pump life efficiency is maintained	Axial thrust is relieved by means of drum, the rest of the axial force bears the roller bearings	Grease lubricated ball bearings to handle axial thrust in either direction

Pos.	Description
1.	Lower slide bearing
2.	Lower fastening flange
3.	Impeller
4.	Intermediate stage
5.	Wear ring
6.	O-ring
7.	Upper fastening flange
8.	Shaft coupling
9.	Shaft
10.	Flanged pipe
11.	Bearing retainer
12.	Shaft key
13.	Balance drum retainer

Pos.	Description
14.	Balance drum
15.	Fastening nut
16.	Motor frame
17.	Soft packing
18.	Bearing cover
19.	Lip seal
20.	Separable cover
21.	Coupling half
22.	Drive
23.	Bearing carrier
24.	Double row ball bearing
25.	Lock nut

SEWAGE PUMP

- M, VM



Sewage pump, model M and VM, with open type of impeller, are centrifugal pumps of horizontal and vertical performance. These pumps are intended for pumping impure liquids with firm particles, such as waste waters, feces, sludge water and other ingredients at temperature not exceeding 80°C. These are single-stage with spiral case pumps. The suction joint is axial, connected to the pipe, and the discharge one is radial, turned to the center upwards.

Hydraulic characteristics



Technical data:

Capacity:	2 - 200 l/s
Head:	1,5 - 48 m
Temperature:	up to 80°C

Applications:

- Sewage fluids
- Sludge and fecal water
- Waste water treatment plants

Shaft sealing:

The shaft sealing could be arranged by soft packing or mechanical seal. Sealing between the spindle and bracket could be with felt ring and radial seal rings.

On special demand the pumps could be furnished with mechanical seal in accordance with the characteristics of the liquid and the operating conditions.

Drive:

- Electric motor with anti explosive protecton
- Diesel or Petrol motor

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Cast iron
3.	Shaft	Stainless steel
4.	Shaft bearing bracket	Cast iron
5.	Shaft sleeves	Stainless steel

Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request.

Advantages:

- Due to special impeller shape (S-blade or impeller with spacious channel) it's possible transport of polluted water with bigger solid parts
- Pumps type VM can be produced in "dry design" (pump is not installed under water level)

Arrangements:

Multistage type of pumps could be arranged in:

- horizontal version M
- Vertical version VM

Wear rings

Renewable wear rings are furnished in order to achieve the best pump performance and ease the maintenance.

Shaft sealing

SCP pumps can be fitted with most sealing arrangements:

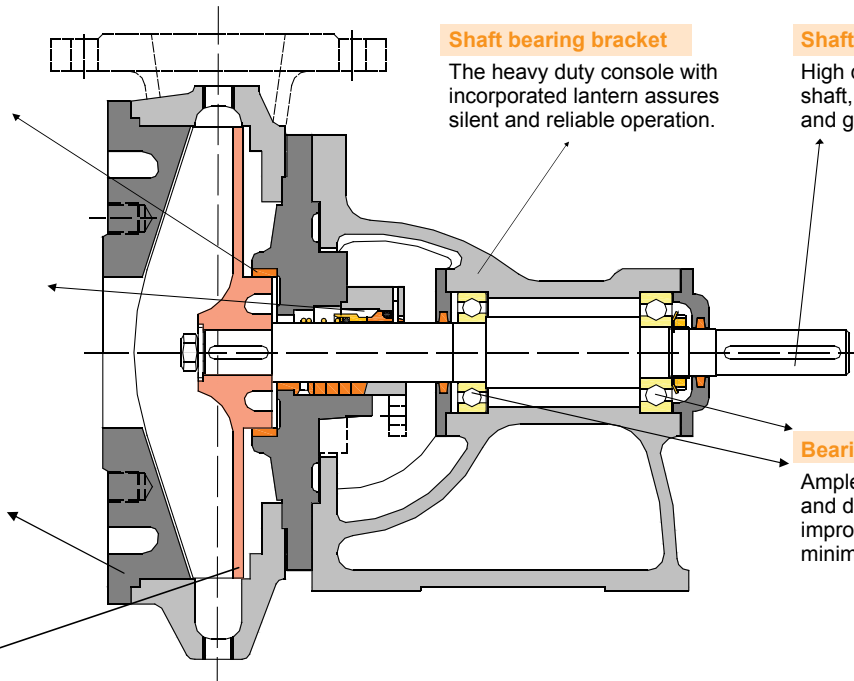
- soft packing
- mechanical seal

Pump case

The pump case is of rigid design with a generous wall thickness, giving good protection against erosion and corrosion.

Impeller

Open type of impeller, singlepiece casting gives reliability, long trouble-free operation and high efficiency.



Shaft bearing bracket

The heavy duty console with incorporated lantern assures silent and reliable operation.

Shaft

High quality stainless steel shaft, precisely machine and ground.

Bearings

Ample dimensioned single and double row ballbearings improve the stiffness and minimize shaft deflection.

Coupling

Connection between the electric motor and the pump is carried out by means of an elastic coupling.

Pipes

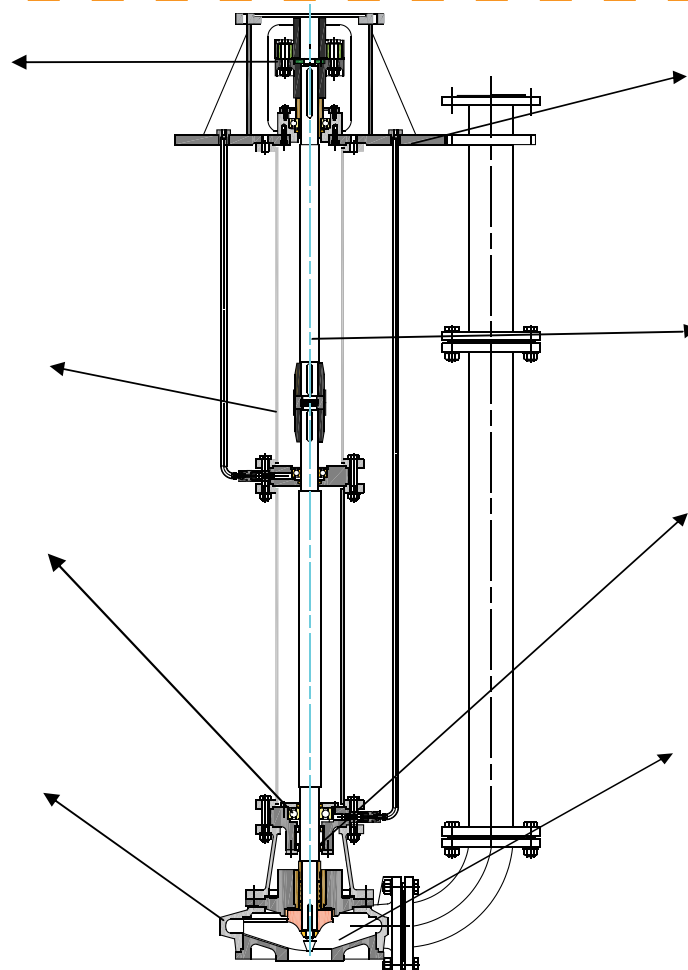
The required depth for pump fitting is realized with assembly of certain number of interpipes with welded flanges.

Bearings

The vertical transmission of the pump bears upon two rolling bearings and the weight and axial force, upon the upper semi-axial rolling bearing. The bearings are grease lubricated.

Pump case

The pump case is of rigid design with a generous wall thickness, giving good protection against erosion and corrosion.



Supporting base

The base support is of welded design with supporting rolling bearings. In order to fasten the whole pump set, there must be provided a supporting frame, or steel profile. The profile is concreted in a plant plate.

Shaft

The shafts are mutually connected with firm couplings.

Sealing

The sealing between the hydraulic part and transmission is performed by means of mechanical seal or asbestosgraphite - cotton gasket.

Impeller

The impeller, as well as the remaining rotation parts is dynamically balanced.

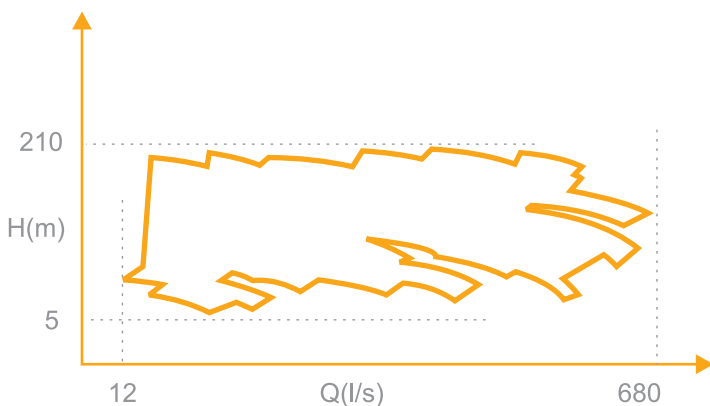
DEEP WELL PUMP

- DP, VPH, HMF



This vertical and semi-axial pump covers the capacity range up to 600 (l/s) against head of up to 210(m), "DP" and "VPH" type are produced as single and multistage pumps while "HMF" type is manufactured only as single stage pump. Centrifugal pump with one or more semi axial impellers. It is applied for installation into the wells. There is a possibility for discharge connection to be under or above of the base plate in the pump unit.

Hydraulic characteristics



Technical data:

Capacity:	up to 680 l/s
Head:	up to 210
Liquid temperature:	up to 60 °C

Applications:

For liquid transfer and circulation of clean or slightly polluted water. Typical application in:

- Metallurgical and other industries
- Water supply of populated places
- Industrial plants
- Irrigation and dewatering
- Municipal water supply
- Sanitary wash down services
- Thermo energetic plants
- Mining. Civil engineering

Shaft sealing:

The shaft sealing could be arranged by graphite soft packing. In soft packing arrangements the shaft is protected by replaceable, bronze sleeve or some other suitable material.

Advantages:

- Electric motor is not submersible, there is no need of sealing. Therefore the life time of the pump is longer;
- There is self sealing with water on bearing of transmission shafts
- These pumps are used for transportation of clean and slightly polluted water with temperatures up to 60°C and suction head higher than 7m with smaller space for installing the pump.

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Cast iron
3.	Shaft	Stainless steel
4.	Shaft sleeve	Stainless steel
5.	Bearing bracket	Cast iron
6.	Pump cover	Cast iron

Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request.

Drive:

- Electric motor

Arrangements:

Shaft sealing

The shaft sealing could be arranged by graphite soft packing.

Bearings

Weight and axial hydraulic thrust bear upon the upper semi-axial roller bearing. It's also used for centering of shaft at the same time.

Discharge pipe

Properly sized for optimum water velocities to insure peak hydraulic performance

Pump shaft

Heavy duty for strength and corrosion resistance. The shaft is protected by a replaceable shaft sleeve in stainless steel.

Pump case

The pump case is of rigid design with a generous wall thickness, giving good protection against erosion and corrosion.

Radial sleeve type bearing

Provided at each stage to assure stable operation away from critical speeds

Impeller

Designed for maximum efficiency with wide range hydraulic coverage. Precision balanced for smooth operation

Wear rings

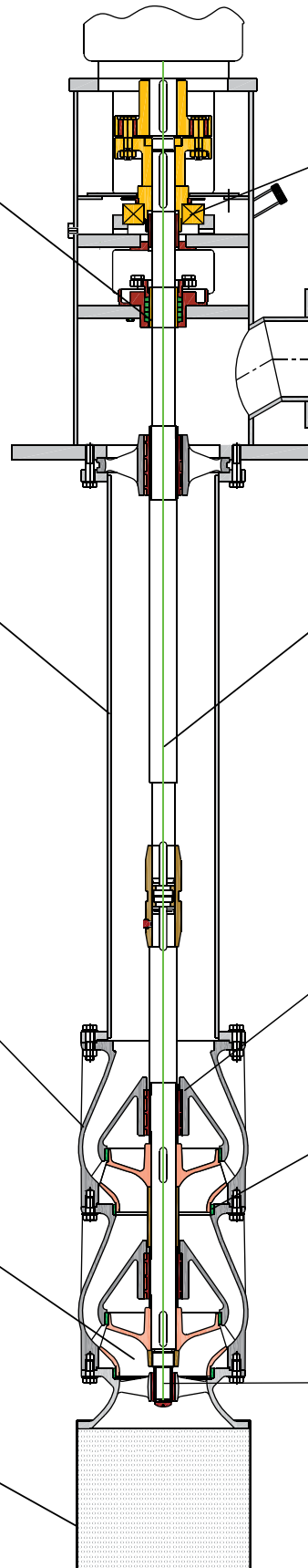
Front and back renewable wear rings are furnished in order to achieve the best pump performance and ease the maintenance

Suction strainer

Prevents solids from entering suction bearing

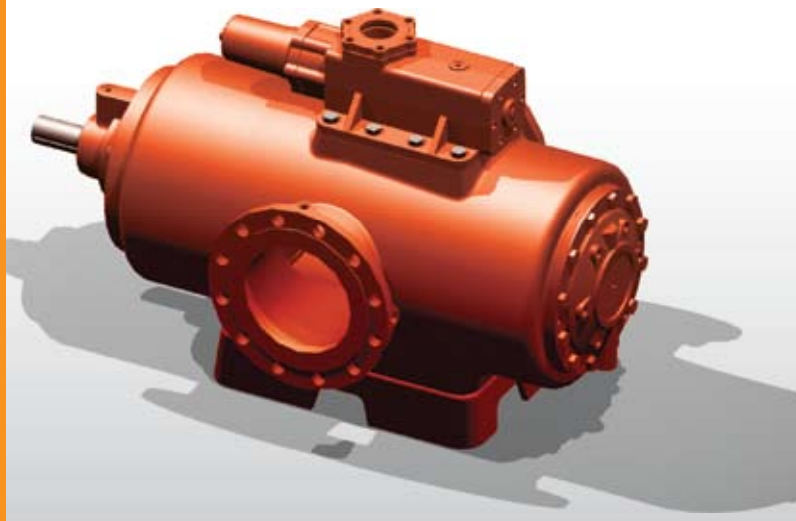
Suction bell bearing

Provided for shaft stability

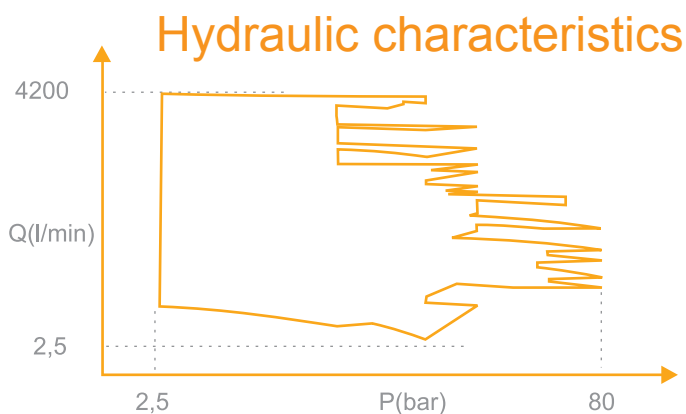


SCREW SPINDLE PUMP

- HVP, KHVP, VVP, PVVP



Screw – spindle pumps belong into the group of volumetric pumps. The main working elements of the pump are three screw (helical) spindles (with special profile) and sleeve (casing). Screw spindle pumps can be compared with gear that have big screw length of his teeth or with piston pump which indefinite number of pistons. Pumps are made in horizontal and vertical accomplishment with adequate fitting flanges in horizontal or vertical position. Working spindles are totally hydraulically disburdened of axial forces. Fluid is moving axially without turbulence and mixing which enables pumping of a lot of viscous fluids without making foam.



Shaft sealing:

Sealing is made with help of oil seals (simmering) Which are disburdened because they are working under pressure at the suction.

The shaft sealing also could be arranged by soft packing or mechanical seal. On special demand the pumps could be furnished with mechanical seal in accordance with the characteristics of the liquid and the operating conditions, including the possibility of sealing with cartridge mechanical seal.

Advantages:

- High reliability
- Long service life
- Negligible maintenance
- High temperature capability and efficiency
- Smooth pulsation – free flow, without turbulence
- Low noise level and vibrations
- Excellent suction capability self priming
- Hydraulic balancing of forces eliminates need for bearings
- Well suited for use with variable speed drives.

Technical data:

Capacity:	2,5-4200 l/m
Pressure:	up to 80 bar
Viscosity:	12-800 cst
Temperature	up to 180°C

Applications:

Three-Spindle screw pumps are used for transport of viscous fluids with lubricating properties: lube oils, fuel oils, synthetic, mineral and vegetable oils. They are suited for variety of marine and offshore applications such as: fuel-injection, oil burners, boosting, hydraulics, fuel, lubrication, circulating, feed and many more. Typical applications are:

- As transport pumps for loading and uploading of tanks and tankers,
- For lubricating of machines, motors, turbines, generators,
- For dosing of mazut in burners,
- For transport of viscous fluids for other applications.

Pos.	Component	Material
1.	Pump case	Cast iron/Carbon steel
2.	Screw	Carbon steel
3.	Shaft sleeve	Stainless steel
4.	Bearing bracket	Cast iron
5.	Pump cover	Cast iron

Drive:

- Electric motor – standard
- Electric motor with anti explosive protection
- Reducer / Variator

Arrangements:

Shaft sealing

Shaft sealing is standard with shaft lip seal rings, mechanical seals available on demand, the seal chamber is connected to pump inlet so the seals work on lower pressure, seals material combination depends on working fluid and temperature

Flanges

Flange connections according MKS or other standard on demand arranged symmetrically on centerline of the pump

Spindle casing

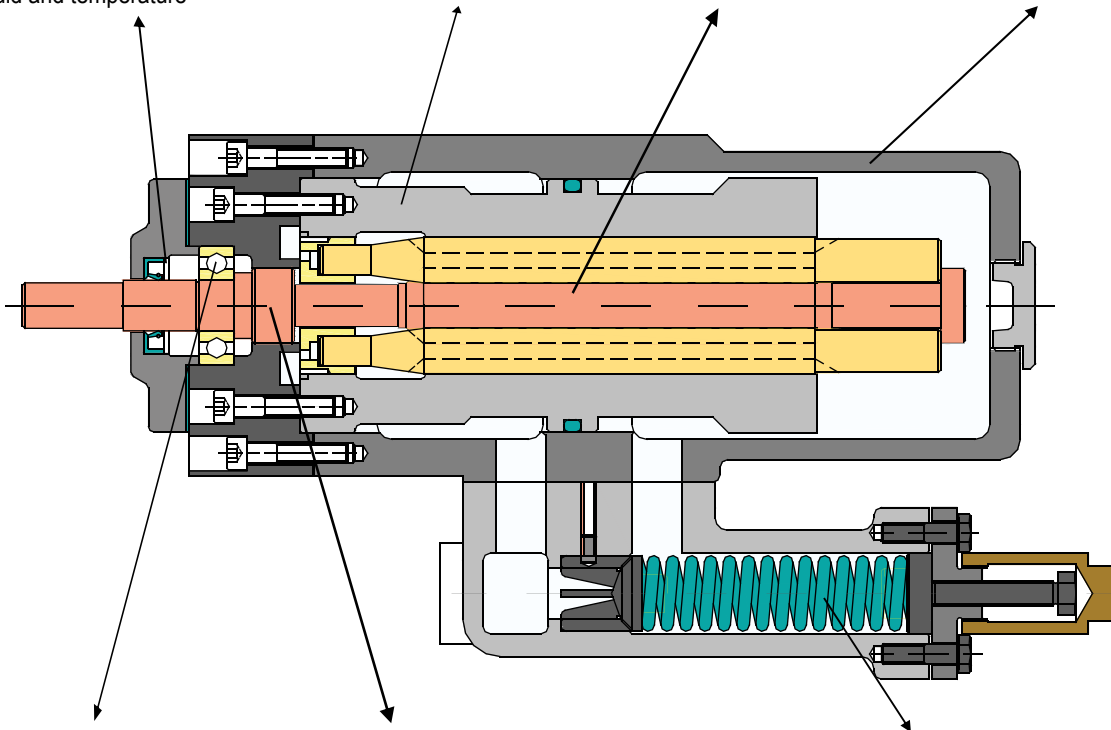
Replacable casing in various material executions

Three spindles

The spindles are hardened and ground

Pump casing

Robust pump casing design, execution with jacketed casing for steam or head conveyor available in fabricated steel design



Bearing

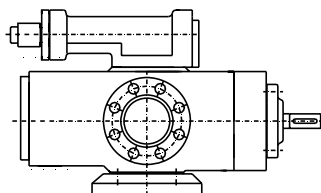
Roller bearings lubricated by the working fluid, in case of external bearing executions lubrication by means of grease with grease nipple

Axial thrust compensator

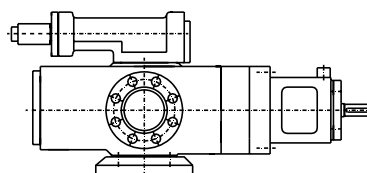
With the balance position arranged in the delivery chamber the axial thrust which acts on the flanks of the screw treads is compensated

Relief valve

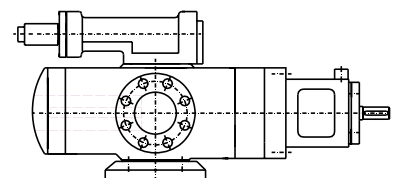
Adjustable pressure relief valve for overload protection, in case of pump without relief valve there must be overpressure protection provided on other way



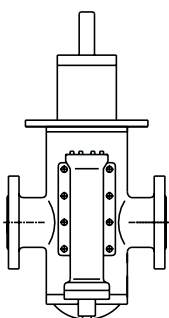
HVP
Horizontal screw spindle pump



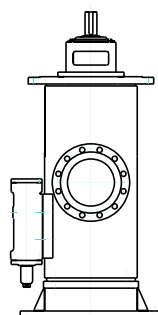
KHVP
Console horizontal screw spindle pump



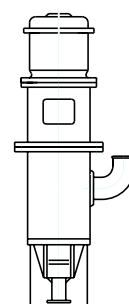
KHVP-p
Console horizontal screw spindle pump with heating chamber



VVP
Vertical screw spindle pump

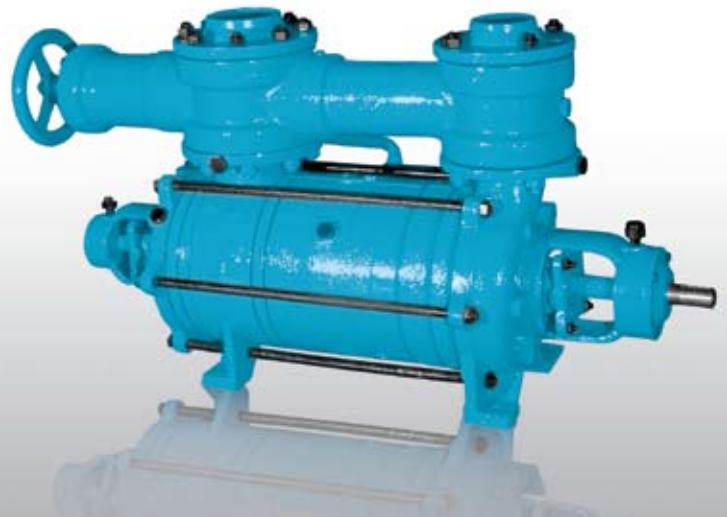


BVVP
Marine vertical screw spindle pump



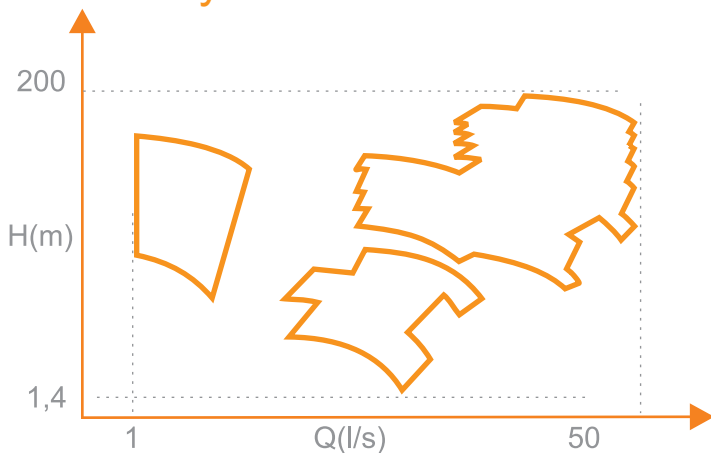
PVP
Vertical screw spindle pump with submerged spindles

SELFPRIMING MULTISTAGE CENTRIFUGAL PETROL TRANSFER PUMPS - BCP



BCP petrol pumps are centrifugal, self priming, horizontal pumps. They are assigned for transport of all kinds of petrol and naphtha. They also could be used for transport of ammonia, benzol etc. BCP pumps are designed as single stage and multistage. They can be driven by electric drive on the same base plate. Self priming of the pump is made possible by means of the vacuum rotor which is enclosed in the pump.

Hydraulic characteristics



Shaft sealing:

Shaft sealing is an important element, with the BCP pumps, mechanical seals are applied, which are very suitable for easily evaporable fluid packing. The principle of mechanical seals operation is based on contact impermeability between two perfectly smooth surfaces. One of them is immovable and other rotates together with shaft. The resting force on the contact surfaces is realized by means of a spring. This elastic connection ensures a good packing. The seals are cooled by the transport fluid and the realized connections between the seals.

Drive:

- Electric motor – standard
- Electric motor with anti explosive protection

Technical data:

Capacity:	up to 50 l/s
Head:	up to 200 m
Liquid temperature:	up to 40 °C

Applications:

The BCP pumps are intended for pumping of volatile fluids saturated with air and steam without mechanical contaminants. Fluids that may be pumped include: petrol, naphtha, ammonia etc.

Main fields of application:

- Loading and discharging of tankers and lorry tanks,
- Refinery process pump,
- Petrol storage tanks

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Bronze
3.	Shaft	Stainless steel
4.	Shaft sleeve	Stainless steel
5.	Bearing bracket	Cast iron
6.	Pump cover	Cast iron

Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request..

Advantages:

- BCP pumps are self priming with cavity impeller and relief valve for protection of the pipeline from high pressure

Arrangements:

Self priming

A vacuum pump is incorporated in the pump so the self ability of the pump is dramatically improved

Flange connection

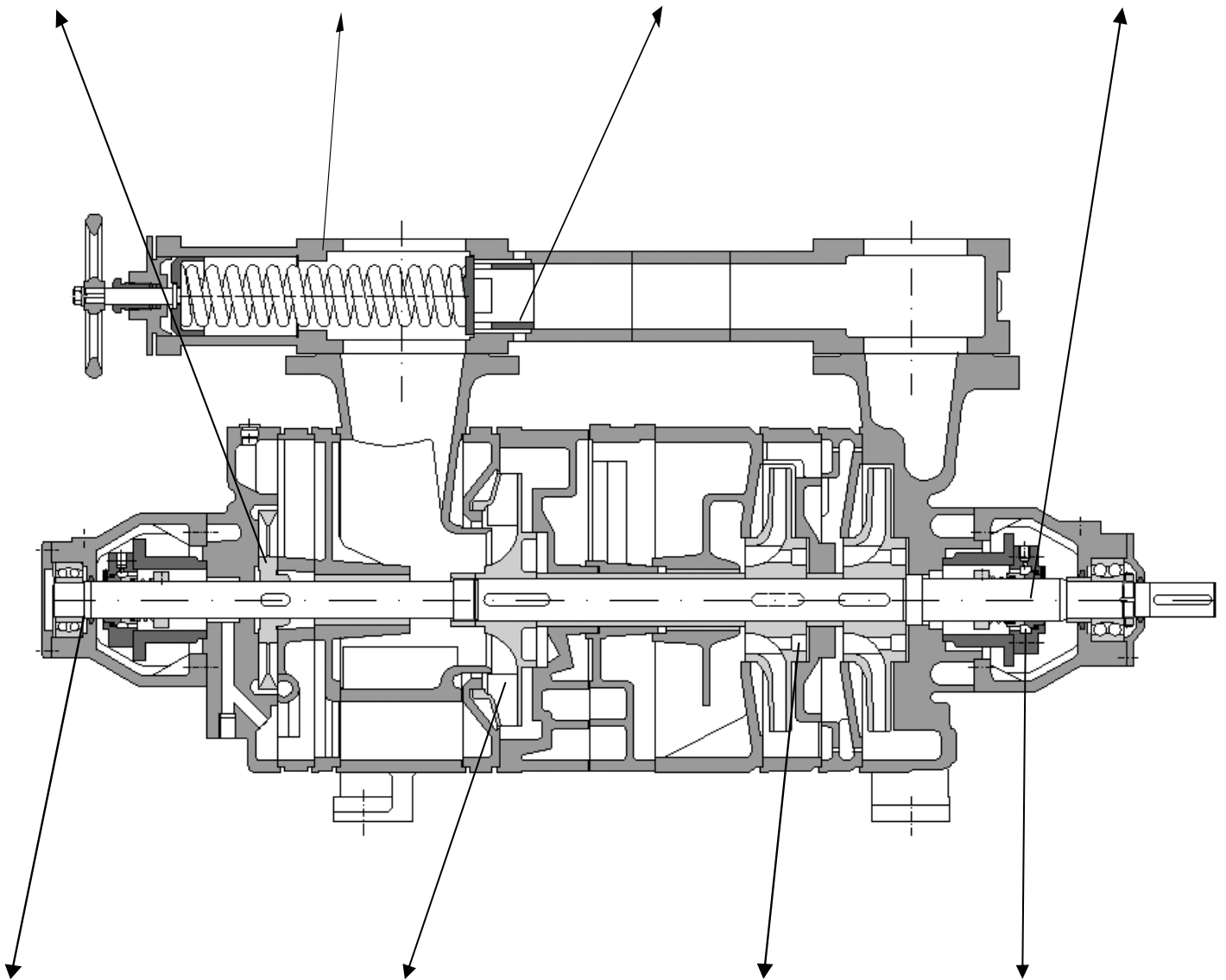
Execution of suction and discharge pump's connections according DIN 2502

Over pressure valve

Specially designed valve to avoid increasing of the outlet pressure above that the limited pressure

Pump shaft

The shaft of high grade steel is precisely machined and ground to minimize deflection and wearing of pumps parts and assure the mechanical seals long life.



Bearings

Ample dimensioned bearings of roller type guide the pump shaft for smooth pump running and have long life service period

Cavitation impeller

The first centrifugal impeller is designed with larger inlet eye and fluid's velocity is slowed to achieve best cavitation performance

Axial thrust

Through the holes into the impeller's hub the hydraulic axial forces are relieved, the rest of the thrust bears the roller bearing

Shaft sealing

Two mechanical seals of single spring type are mounted on both ends of the pump shaft

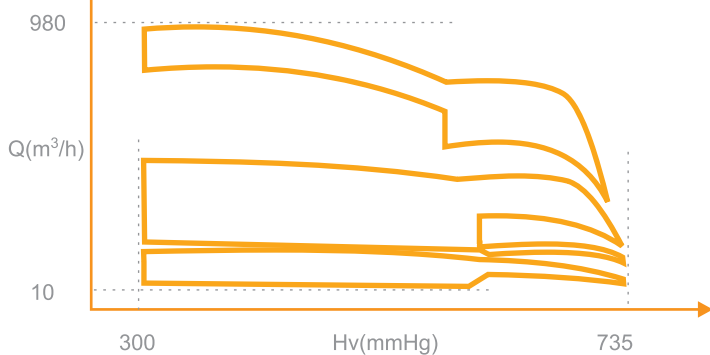
VACUUM PUMPS

- CEL, CEH, KVP,
RVP



Water ring vacuum pumps CEL (single stage) and CEH (two-stages) are rotary pumps, with star type impeller eccentrically placed in the cylindrical body. The principle of operation is based upon the rotation of the impeller eccentrically placed in the cylindrical body, so that the auxiliary liquid forms "liquid ring"

Hydraulic characteristics



Shaft sealing:

Sealing of the shaft is carried out by means of a soft packing or mechanical seals, according to the customer's requirement. The mechanical seal can be replaced with soft packing or opposite, in a very simple way i.e. the gland is turned for 180°C without addition or removal of some other parts (except the gasket themselves). Regarding the gaskets cooling, no special water supply is necessary since it is provided in terms of the water of the water ring.

Advantages:

- Long lifetime;
- Absorption of the whole water vapor that enters with the working gas;
- This pumps use water for lubrication and sealing between impeller and housing;
- Working medium is used for cooling of the soft packing;
- Impeller as only mobile part, no need of additional lubrication

Drive:

- Reducer / Variator
- Electric motor

Technical data:

Capacity: up to 980 m³/h
Vacuum: up to 735 (mmHg)

Applications:

CEL - single-stage pumps with maximum vacuum of 610 (mmHg) can be used in:

- Pumps, pipelines and vacuum sets air-free,
- Liquids air free,
- Paper and cellulose industry,
- Milking sets
- Absorption of vapors in ironing units
- Filter purification
- Humidity absorption of the fabric in textile industry,

CEH – double-stage pumps with max. vacuum of 735 (mmHg):

- formation and maintenance of the vacuum
- in the vacuum plants,
- in chemical and pharmaceutical industry,
- in food industry,
- desalination plants,
- in impregnating equipment,

Used as compressors with low compression ration these pumps can be also applied for:

- filters purification for drinkable water,
- CO2 compression in the sugar factory,
- In the spinning mill for air moistening,

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Nodular Casting
3.	Shaft	Stainless steel
4.	Shaft sleeve	Stainless steel
5.	Bearing bracket	Cast iron
6.	Pump cover	Cast iron

Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request.

Arrangements:

Beside the standard designing terms for vacuum pumps, we recommend the following ones:

- The connecting air and water lines must not be smaller than those of the pump
- In case of impurities, please provide appropriate filter on the suction side.

Shaft sealing

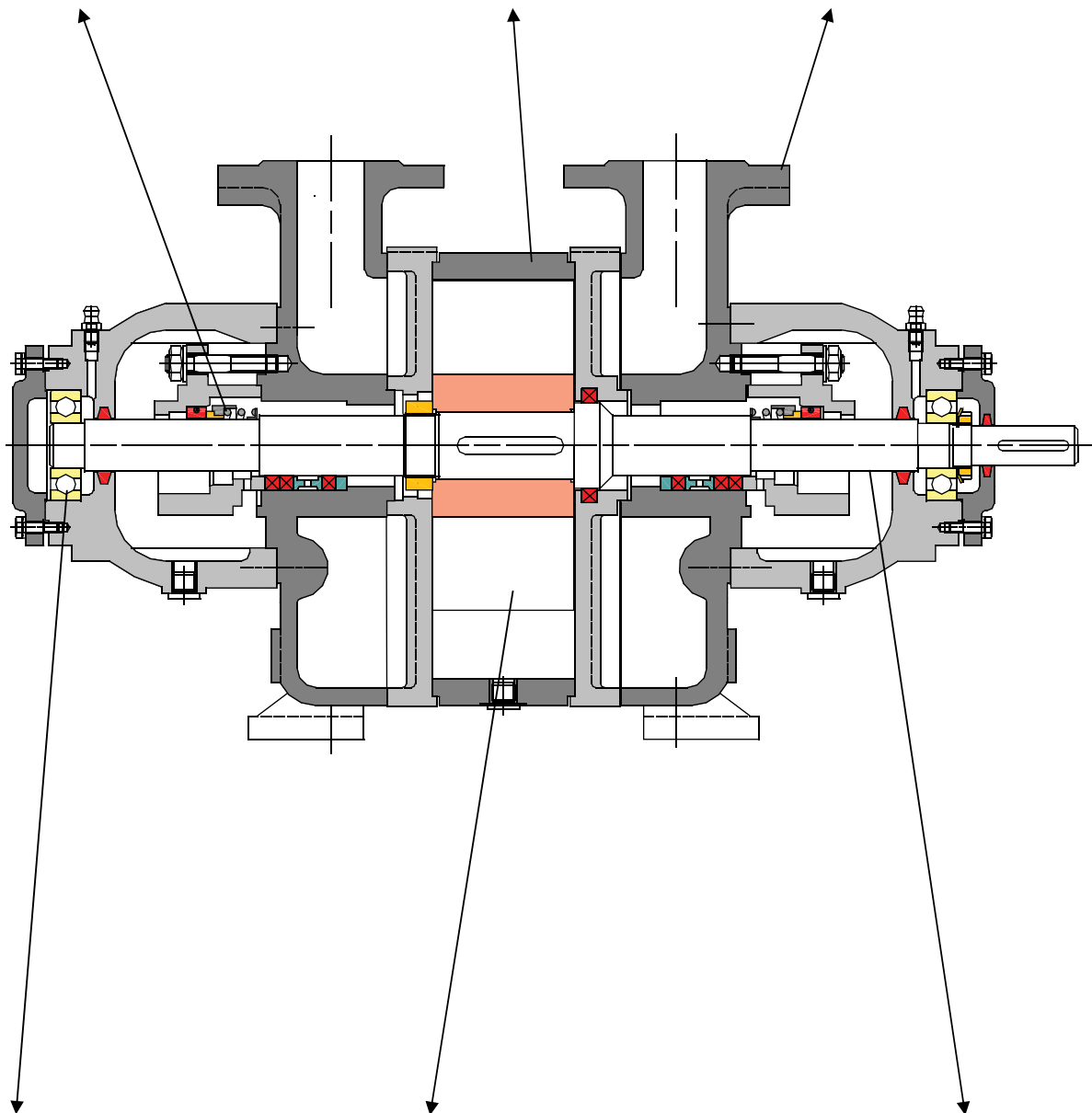
Sealing of the shaft is carried out by means of a soft packing or mechanical seals

Pump case

Pump casing made of Cast iron as standard, other material combination as option

Flanges

Suction and discharge flanges designed according DIN standard



Bearing

The shaft bears upon two ball bearings lubricated with hard grease

Impeller

Star type impeller eccentrically placed in cylindrical body

Pump shaft

High quality stainless steel shaft

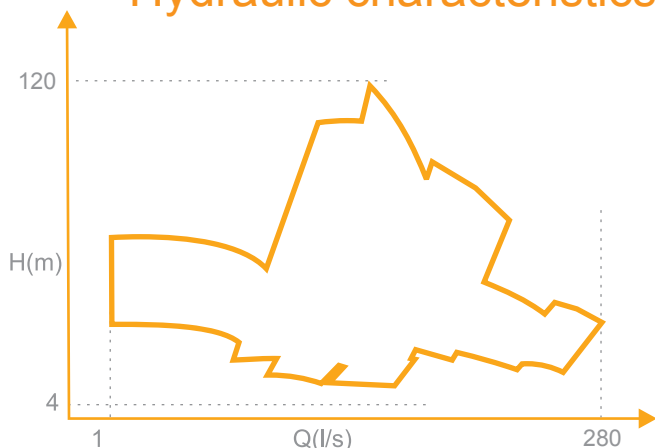
DIESEL PUMP AGGREGATE

- DPA, PP-DPA



Diesel pump aggregate DPA is new product on market regarding its simple construction, capability of reaching high pressures, small sizes minimum weight, easy for moving and also easy maintenance. Single stage centrifugal pump is coupled with diesel motor . Coupling is direct to the housing of flywheel or to the engine, and the shaft is coupled to the flywheel through the electric coupling Those aggregates with good design and small proportions are put on easy moving trolley with two or four wheels and with adjustable pole, regarding the height, for connection of the motor vehicle or tractor. Trolley is equipped with signal lights and hand brake.

Hydraulic characteristics



Technical data:

Capacity: up to 280 (l/s)
Head: up to 120 (m)

Applications:

- Irrigate with artificial rain
- Surface irrigate
- Drainage
- Agriculture, industry, civil engineering
- Anti-fire purpose

Advantages:

- Mobility
- Easy maintenance
- Application in areas without electrical supply
- Self priming – provided from exhaust gases of the diesel motor (there is no need of loading the suction pipeline with water)

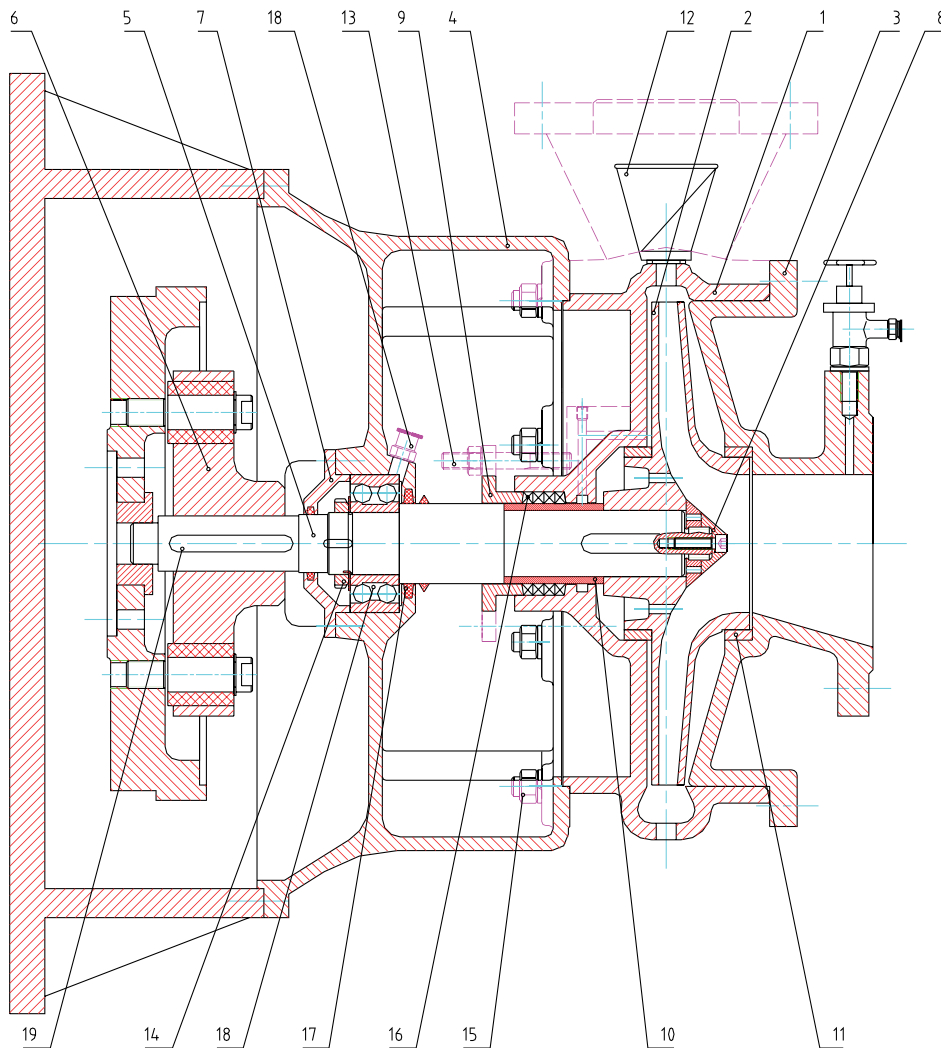
Drive:

- Diesel motor
- Tractor with cardan shaft

Pos.	Component	Material
1.	Pump case	Cast iron
2.	Impeller	Cast iron
3.	Shaft	Stainless steel
4.	Shaft sleeve	Stainless steel
5.	Bearing bracket	Cast iron
6.	Pump cover	Cast iron

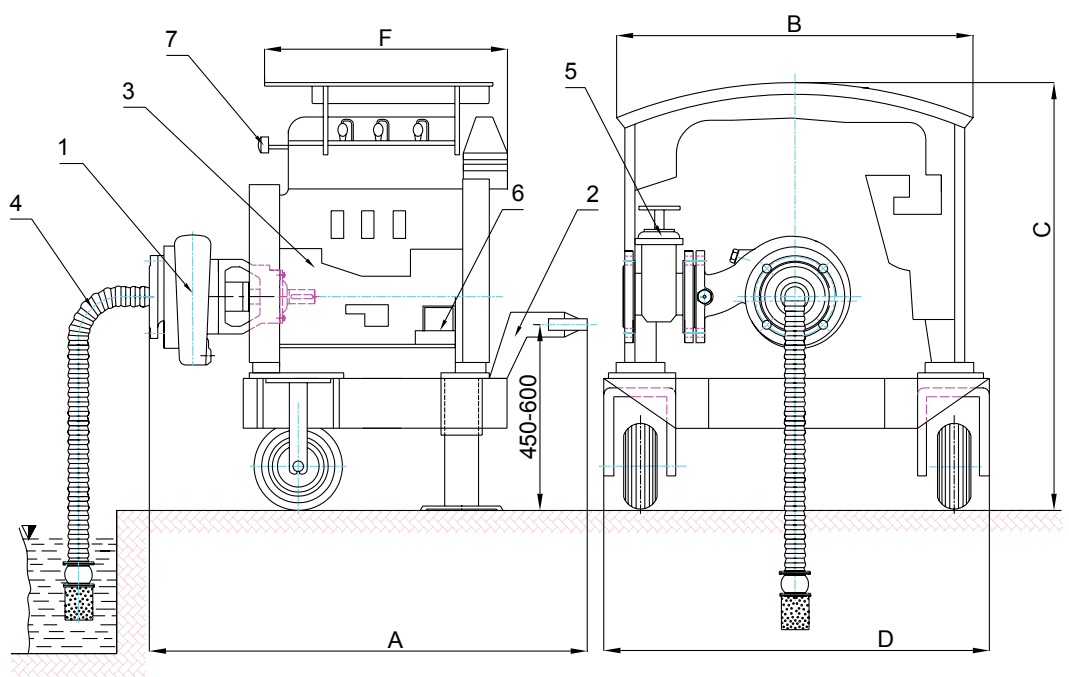
Optional materials: Cast iron (Gray, Ductile), Cast steel, SS (AISI 304, 316), Duplex SS, Super duplex SS, bronze, Al, other on request.

Arrangements:



Pos.	Description
1.	Pump casing
2.	Impeller
3.	Suction cover
4.	Connection element
5.	Shaft
6.	Coupling
7.	Bearing cover
8.	Special screw
9.	Gland
10.	Shaft sleeve
11.	Wear ring
12.	Funnel
13.	Stud bolts
14.	Lock nut
15.	Stud bolts
16.	Soft packing
17.	Felt ring
18.	Bearing
19.	Key
20.	Grease cup

- 1 -PUMP
- 2 -TRUCK
- 3 -DIESEL ENGINE
- 4 -SUCTION PIPE WITH A SUCTION SELL
- 5 -CHECK VALVE
- 6 -ACCUMULATOR
- 7 -LIGHT





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