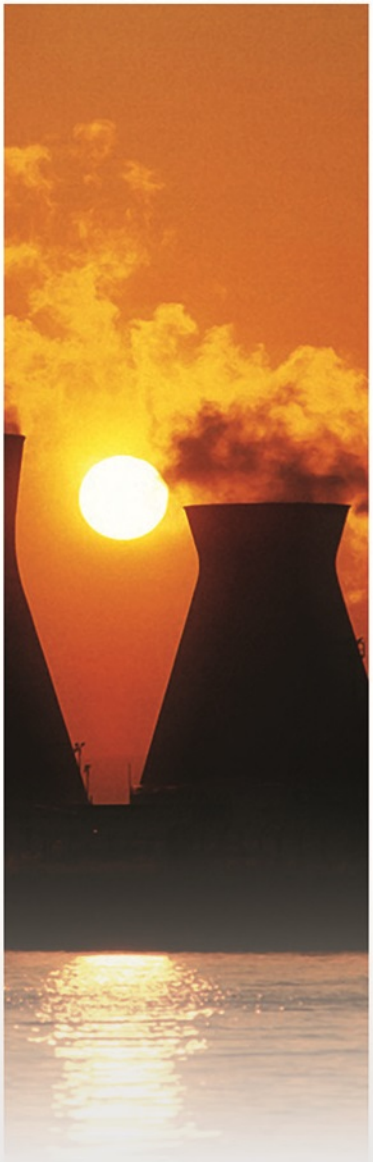


PUMPIRAN

Industrial Products Catalogue

(Power plants, Steel & Copper Industries
Offshore & Onshore Industries, Oil, ...)

PUMPIRAN

General Catalogue Content

PUMPIRAN

General Information

History:

PUMPIRAN was founded in 1973, and from the beginning a license agreement with **KSB** company of Germany was signed which lasted 20 years. Now more than 1000 educated and experienced staffs are working in it's engineering, production, and laboratories. The total area for manufacturing workshops, laboratories, and administration is around 75000 square meters located in 16000 square meters of space.

PUMPIRAN has been active in design and manufacturing variety of pumps for water, oil, energy and other related industries. Variety of materials such as cast iron, brass, steel alloy and steel parts are used in production and are distributed within the country and the worlwide market.

PUMPIRAN is now proudly a holding company and majority shareholder of the following entities:

- **Pumpiran:** Manufacturer of various kinds of Sumbersible Electro Pumps, High Pressure Pumps, Centrifugal Pumps and Split Case Pumps.
- **Navid Sahand:** Manufacturer of various kinds of Sewage & Draingae Pumps, Mixed Flow & Propeller Pumps, Oil and Petrochemical Pumps (API).
- **Navid Motor:** Manufacturer of various kinds of Industrial & Domestic Electric Motors and Special Pumps.
- **Tolombe Sazan:** After Sale Service Spare Manufacturer and Parts Distribution.
- **Rasha:** Manufacturer of Various kinds of Foundry Parts.
- **Azar Fulad godaz:** Casting of various kinds of plain carbon steel, low-alloy and high-alloy steel and stainless steel parts.

Certification:

PUMPIRIAN has:

- Quality management system certificate, ISO 9001-2008
- Environmental management systems certificate, ISO 14001-2004
- OH&S management system certificate, OHSAS 18001-2007
- Laboratory accreditation certificate, ISO/IEC 17025-2005
- CE certificate
- Customer satisfaction management certificate, ISO 10002-2004
- Perochemical Industry Excellence Award for all its operations.

- **PUMPIRAN** has agencies in most cities of Iran and some foreign countries.

OUR QUALITY

In order to realize the diverse needs of customers and comply with legal requirements, PUMPIRAN has obtained a variety of standards. To provide high quality products, meeting the demands of customers, compliance with legal issues and possible environmental contamination, PUMPIRAN has designed its systems where in the design and production, consideration has been made to all rules and regulations related to product quality, product safety issues, users and environmental aspects related to product. To achieve these goals, PUMPIRAN with its long-standing experience in the field of compliance standard and documentation has taken Integrated Management Systems (IMS) certification.

PUMPIRAN LABORATORIES

PUMPIRAN test shops obtained ISO/IEC 17025-2005 as the first company in Iranian pump industry. Accurate and prompt test services do effort to satisfy costumers.
PUMPIRAN has established two test shops to meet the growing demand of the industry. No.1 as production line end test, and No.2 for high power rang equipped with medium voltage and law voltage electric supply systems. Tests are taken according to latest version of international standards as API, DIN, ISO and Iran national standards.
PUMPIRAN test rig is known as an accredited test facility of Iran national standard organization and committed to confidant and truthfulness of it's experts. Accurate measurements for hydraulic and electric tests are basic functions in official competency.
Also test facilities have competency certificate from National Accreditation Center of Iran (NACI) as the member of International Laboratories Accreditation Center (ILAC).
Our experts participate in collection of acceptance test standards for rotodynamic pump and specification of class I, II, III pumps as national standards.

ENGINEERING SERVICES

PUMPIRAN Engineering Department is responsible for design and production according to customer specification. They assist in selection of variety of catalogs, brochures and provided technical information for customer needs. They help the end users and pump station operators about frequently asked questions such as electro pump align, correct installation level of suction (inlet pipe), effect of temperas viscosity and speciation of pumping media.

Applying different materials including gray cast iron nodular cast iron brass, cast steel and stainless steel provides ability of widely using our products for handling sewage, chemicals, hydrocarbon.

They provide expert advice regarding liquid analysis, PH, corrosion, sediments, introduce size and type of pumps and offer best solution.

AFTER SALE SERVICES

PUMPIRAN offers suitable after sale services. PUMPIRAN provides high quality spare parts and guarantees long term operation of all it's products.

Educational seminars for governmental organizations, industries, refineries and universities about principles of selection, installation and operation of pump are main part of after sale service activities.


PUMPIRAN

MAIN PRODUCTS

API 610 SERIES
OH2 pumps

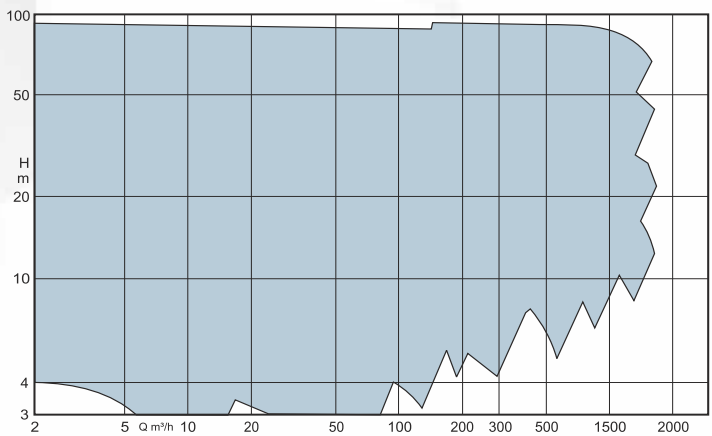
OH2 PUMPS

CONSTRUCTION:
Varity of special design centrifugal pump with suitable for pumping hot media up to 260°C (500°F) temperature. Horizontal, radial split volute casing pumps in back pull - out design, to API 610 and ISO 13709, with radial impeller, single flow, single stage, centerline pump feet.
Pump model with inducer and shaft seal are available on request.

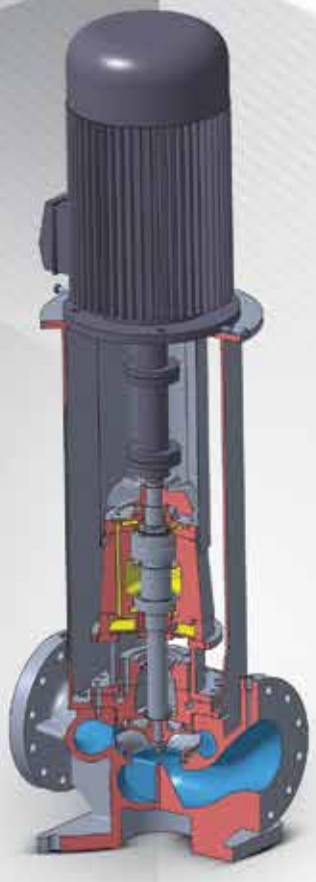
APPLICATION:
For pumping hydrocarbons, oil, chemicals and aggressive media in steel industries, petrochemicals and refineries.

PUMP SPECIFICATIONS:

Output size:	40 to 300m
Capacity:	5 to 1650 m^3/h
Head:	Up to 95m
Operating temperature with:	
- Soft packing box from	-10 ºC to 110 ºC
- Mechanical seal from	-10 ºC to 260 ºC
Test pressure:	60 bar



API 610 SERIES
OH pumps



OH3 , OH4 , OH5 PUMPS

CONSTRUCTION:

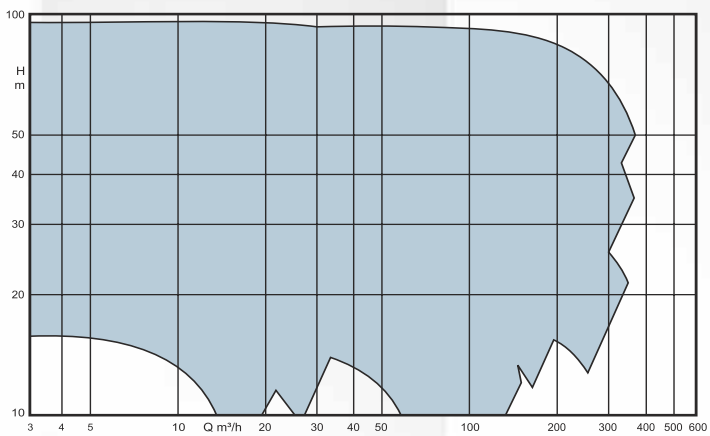
Vertical in-line, single-stage, semi-open & closed impellers, single suction, radially split centrifugal process pumps.
OH3 pumps design according to API 610 with these advantages:
All bearing housings are drilled and tapped for grease or oil lubrication, pump and driver support stand surfaces are fully machined to assure flat mounting surfaces and alignment rigidity, in-line suction and discharge simplifies piping design and construction, fits for mechanical seals as per ISO 24109 / API 682 in cartridge design for easy installation and removal, lower installation costs, reduced footprint and space saving design.

APPLICATION:

Petroleum production and refining, high temperature service, gas industry service, gas production, boiler circulation, cooling tower pump, petroleum distribution, petrochemical processing

PUMP SPECIFICATIONS:

Output size:	32 to 200 mm
Capacity:	Up to 350 m^3/h
Head:	Up to 90 m
Operating temperature:	-10 to 140 ºC
Test pressure:	According to API 610



API 610 SERIES
BB1 pumps

BB1 PUMPS

CONSTRUCTION:

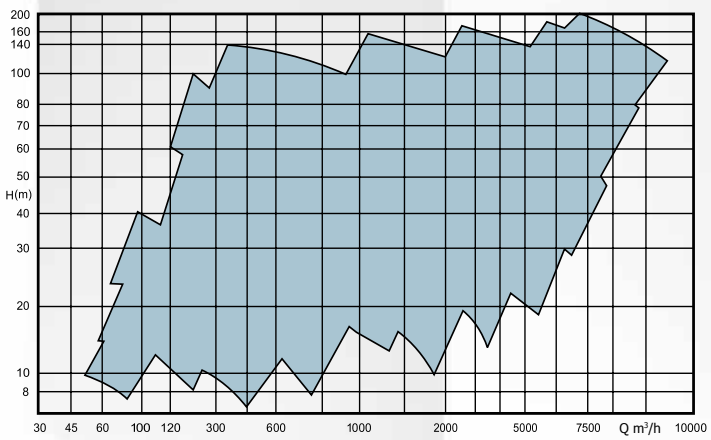
Horizontal, one and two stage, axially split volute casing, between-bearing pump with double entry radial impeller.
BB1 pumps design according to API610 with these advantages:
Generously sized bearings for longer service life reduces maintenance expenditure and work, large impeller inlets diameters for optimum suction behavior, double-entry impeller for axial thrust balancing double suction and lower NPSH performance , bearings with grease or oil lubrication, guarantee maximum life at minimum maintenance cost.

APPLICATION:

Power stations, heating systems and district heating systems, fire fighting, hydrocarbon transfer, industrial processes

PUMP SPECIFICATIONS:

Output size:	80 to 700 mm
Capacity:	Up to 9000 m^3/h
Head:	Up to 250 m
Operating temperature:	-10 to 260 ºC
Test pressure:	According to API 610



API 610 SERIES
BB2 pumps

- **BB2 PUMPS**

Design specifications:
- Single or two stage between bearings
- Horizontal, radial split casing
- Single or double volute
- Mechanical seal (single, double, tandem)

APPLICATION:
Pumping of:
- Hydrocarbons
- Chemicals, neutral and aggressive liquids
- Sea water

Advantages:
Small axial thrust
Small shaft deflection, especially in the seal chamber
low spare part need
Short time for dismantling
Casing with piping remains during dismantling

Exploitation:
Pipeline
Chemical Plants
Refineries
Plants for gas production
Offshore

Maximum Head	Up to 200m per stage
Shaft seal type	Mechanical seal
Maximum drive rating	3300 kW
Type of installation	Stationary
Flow rate	20 to 10000 m^3/h
Maximum speed of rotation	3500 1/min
Temperature	-20 to +300 °C

API 610 SERIES
BB3 pumps

BB3 PUMPS

CONSTRUCTION:

Horizontal, axially split multi stage pump , double volute, with overflow return channels, stiff shaft supported by internal, product lubricated sliding bearings, opposed side suction and discharge nozzles, in bottom half of the casing, dismantling without breaking pipe lines, mechanical seal (single, double, tandem).

BB3 pumps design according to API610 with these advantages:

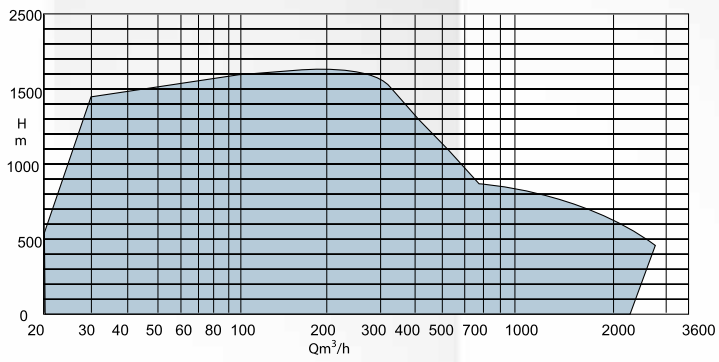
Control of all clearances and setting due to inner case design, only one external high pressure seal, high compensation of hydraulic axial thrust, small axial thrust bearing, lower leakage loss through piston, resulting in higher efficiency, dynamically balanced rotating assembly, higher critical speed due to the supporting effect of centre stage piston, impeller shaft and wear parts remove as complete unit, easy to inspect.

APPLICATION:

Pumping of Crude oil, Petrochemical products, Seawater, Feed water

PUMP SPECIFICATIONS:

Output size:	80 to 400 mm
Capacity:	Up to 3200 m^3/h
Head:	Up to 2000 m
Operating temperature:	-20 to 200 ºC
Test pressure:	According to API 610



API 610 SERIES
BB4 pumps

- **BB4 PUMPS**

CONSTRUCTION:

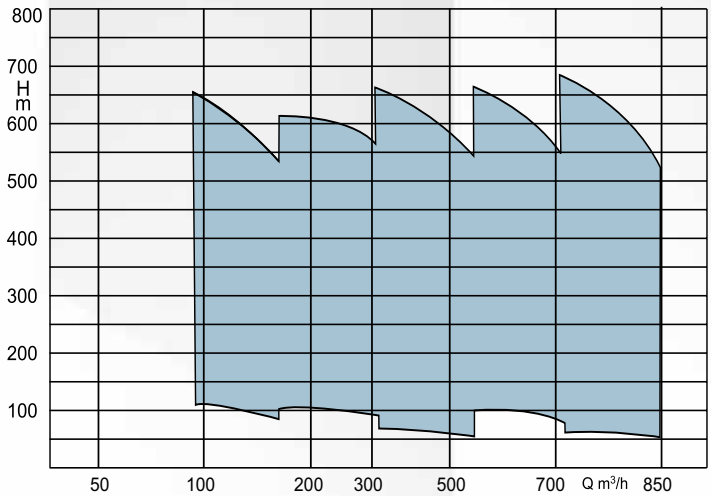
Horizontal high pressure centrifugal pumps with impellers between bearings, separately coupled, multistage, radial (vertical) split cases. The individual casings parts are sealed by O-ring or flat gasket and are clamped together by external tie bolt. The pump feet are cast integrally with the suction and discharge casings, and are arranged beneath the pump.
Radial and axial forces on shaft are supported by two grease lubricated deep groove ball bearings on two sides of impellers.

APPLICATION:

For transport the clear water and the neutral liquid, municipal and industrial water supply in water works, pressure boosting installation, irrigation sprinkler plants, as boiler feed pumps, condensate pumps, cooling water and hot water circulation pumps and fire pumps.

PUMP SPECIFICATIONS:

Output size:	40 to 300 mm
Capacity:	Up to 850 m^3/h
Head:	50 to 700 m
Operation temperature with:	
- Soft packing box from	0 ºC to 80 ºC
Test pressure:	1.5 MAWP



API 610 SERIES
BB5 pumps

- **BB5 PUMPS**

CONSTRUCTION :

Horizontal, multi-stage barrel casing

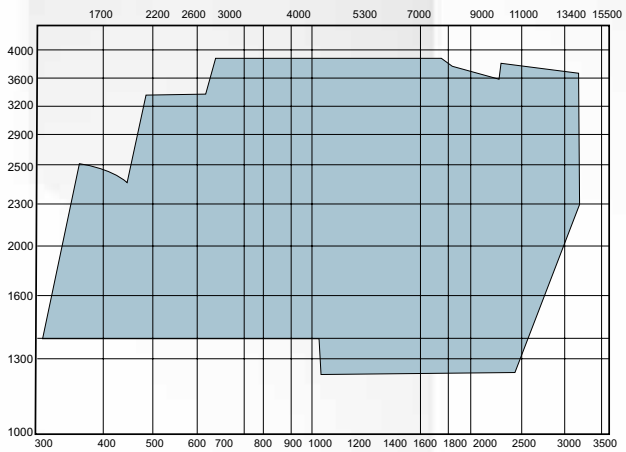
- Maximum safety due to double casing design
- Full cartridge pullout design for rapid changeover
- Inspection and overhaul without disconnection of main pipe work
- Single or double entry first stage impeller available
- Axial thrust compensated by balance piston
- Design features to eliminate the need for pre-warming on most application

APPLICATION :

- Boiler feed pumps in central station and large industrial fossil-fueled power plants.
- High pressure and/or high temperature pumps in oil refineries or chemical plants.
- High pressure oil field water injection and offshore hydrocarbon condensate reinjection pumps.
- Pipeline pumps for unusually high pressures, very high vapor pressure

PUMP SPECIFICATIONS :

Output size:	up to 260 mm
Capacity:	up to 4000 m^3/h
Head:	Acc. to request m
Operation temperature with:	
- Mechanical seal from:	up to 220° C
Test pressure:	1.5 MAWP



API 610 SERIES
VS1 pumps

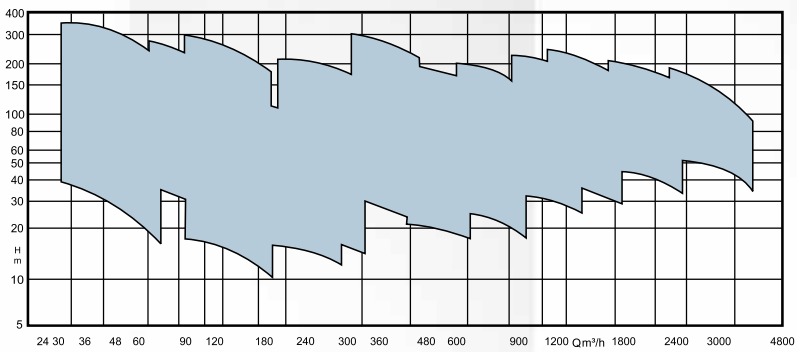
VS1 PUMPS

CONSTRUCTION :
Vertically suspended, multi stage long shaft centrifugal Pump, using a surface-mounted driver.The shaft sealing with packing or by mechanical seal as per API 682 in cartridge design.Thrust bearing oil or grease-lubricated, thrust loads fully isolated from the motor.Column bearings lubricated by the pumped liquid or lubrication by external liquid.Diffuser/ turbine designs eliminate radial loads on column bearings.

APPLICATION :
cooling, circulation, fire-fighting systems, light hydrocarbon refinery services, chemicals, petrochemicals industries.

PUMP SPECIFICATIONS :

Output size:	Up to 500 mm
Capacity:	Up to 4000 m^3/h
Head:	Up to 300 m
Operating temperature:	Up to 120 ºC
Test pressure:	According to API 610



API 610 SERIES
VS pumps

VS4 , VS5 PUMPS

CONSTRUCTION:

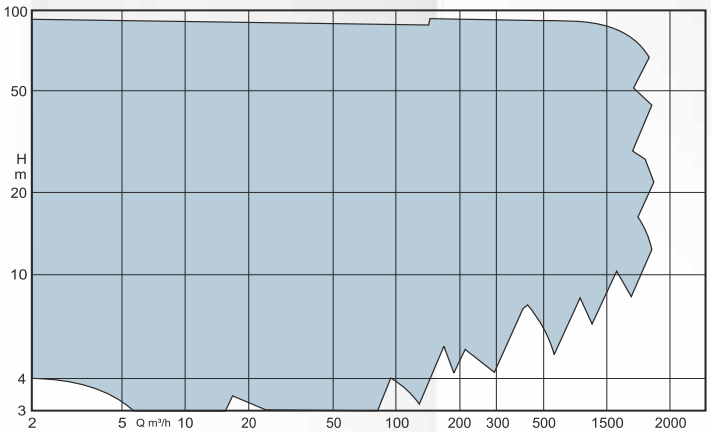
Centrifugal pumps are vertical suspended, volute casing, single stage, line shaft driven sump pump,mechanical seal (single, double, tandem).
Volute casing radial split, with submerged suction and top discharge, for vertical installation in closed tanks or under atmospheric pressure (wet installation).

APPLICATION:

For handling neutral digressing and phosphate solutions, washing water with degreasing agents, dipping paints and with API guidelines proven performer in chemical and hydrocarbon processing, delivering reliable performance in a wide range of applications.

PUMP SPECIFICATIONS:

Output size:	Up to 300 mm
Capacity:	Up to 1650 m^3/h
Head:	Up to 95 m
Operating temperature:	-10 ºC to 140 ºC
Test pressure:	According to API 610



API 610 SERIES
VS6 pumps

VS6 PUMPS

CONSTRUCTION :

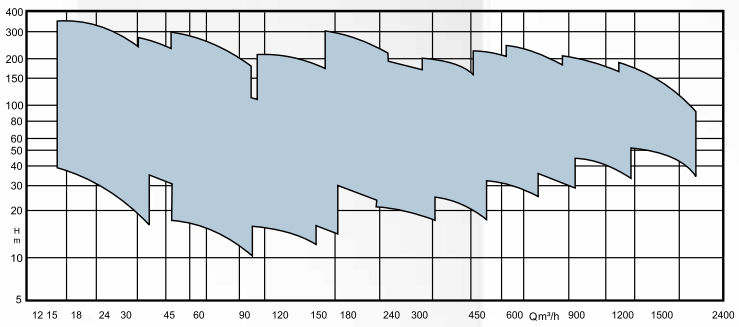
Double-casing,vertical, with barrel, in-line, multistage, diffuser type pumps according to API 610.
VS6 pumps have these advantages:
Special suction impeller designed as the first stage at the lowermost point of the barrel, and thus full utilization of the suction head resulting from the barrel length, inter-stage bushes and additional guide bearings lubricated by the liquid handled, fits for mechanical seals as per ISO 24109/ API 682 in cartridge design for easy installation and removal.

APPLICATION :

Chemical plants, petrochemical plants, refineries, gas processing plants, low-temperature services, pipeline booster, offshore installation, power plants

PUMP SPECIFICATIONS :

Output size:	Up to 500 mm
Capacity:	Up to 1800 m^3/h
Head:	Up to 300 m
Operating temperature:	Up to 120 ºC
Test pressure:	According to API 610



PROCESS SERIES
chemical electromotor pumps

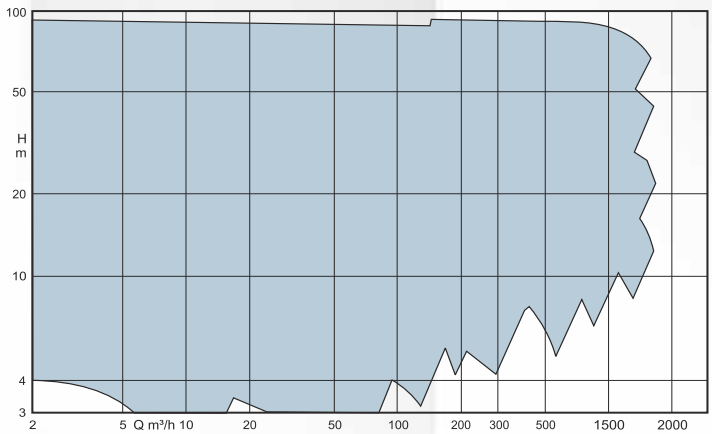
• PROCESS ELECTROPUMPS (CPK)

CONSTRUCTION:
Horizontal, radial split volute casing pump in back pull-out design according to ISO 5199, with radial impeller, single-entry, single stage.
Shaft, Shaft protecting sleeve, mechanical seal / packing depend exclusively on the bearing bracket size; therefore these parts are identical for several pump sizes.

APPLICATION:
For handling aggressive organic and inorganic liquids in the chemical and petrochemical industries, refinery off-sites, the paper and cellulose industries, the food stuffs industry, the sugar industry, sea water desalination plants, power stations.

PUMP SPECIFICATIONS:

Output size:	32 to 100 mm
Capacity:	Up to 1650 m^3/h
Head:	Up to 95m
Operating temperature with:	
- Soft packing box from	-10 °C to 110 ºC
- Mechanical seal from	-10 °C to 260 ºC
Test pressure:	46 bar



HOT OIL SERIES
electro motor pumps

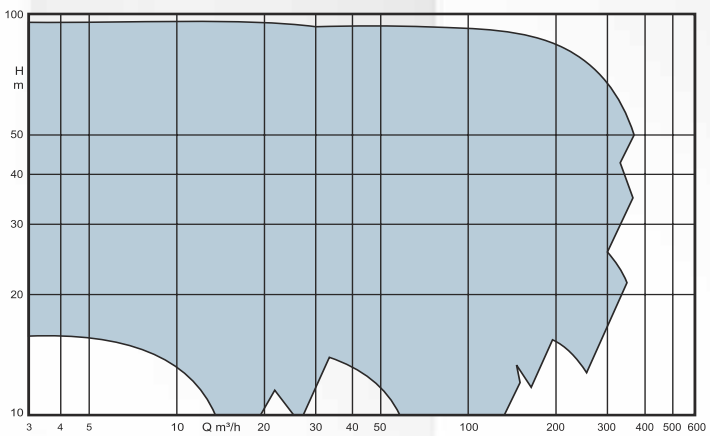
- **HOT OIL ELECTROPUMPS**

CONSTRUCTION:
Especial designed centrifugal pump suitable for pumping hot oil up to 300ºC. Horizontal, radial split volute casing, single stage, end suction, air - cooled with closed impeller and mechanical seal for heat transfer circulating systems.
Main dimensions of pump are according to EN 733.
Two deep groove ball bearings (DIN 625) make the pump suitable for pumping oil.

APPLICATION:
For chemical, pharmacological, food stuffs, plastic, weaving, leather, paper, paint, electrical and steel industries.

PUMP SPECIFICATIONS:

Output size:	32 to 100 mm
Capacity:	Up to 350 m^3/h
Head:	Up to 95m
Operating temperature:	Up to 300 ºC
Test Pressure:	15 bar



HIGH PRESSURE SERIES
centrifugal pumps

• HIGH PRESSURE MC & CV PUMPS

CONSTRUCTION :

Horizontal high pressure centrifugal pump with impellers between bearings, separately coupled multistage radial split cases.

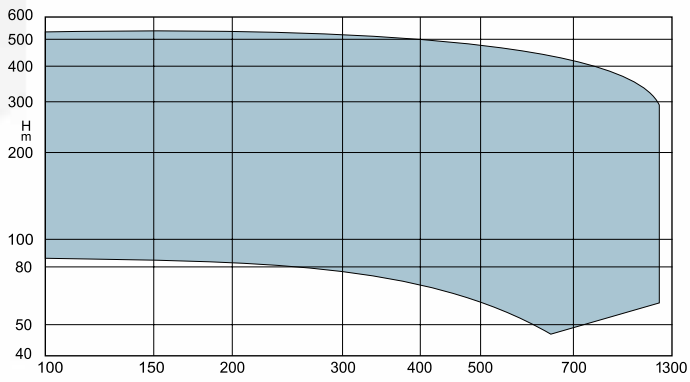
The individual casings parts are sealed by O-ring or flat gasket and are clamped together by external tie bolt. The pump feet are cast integrally with the suction and discharge casings, and are arranged beneath the pump. Radial and axial forces on shaft are supported by two oil lubricated ball or roller bearings on two sides of impellers. Axial thrust also compensated by hydraulic balancing piston.

APPLICATION :

For municipal and industrial water supply in water works, pressure boosting, irrigation, sprinkler plants, boiler feed pumps, condensate pumps, cooling water and hot water circulation pumps and fire pumps.

PUMP SPECIFICATIONS :

Output size:	Up to 300 mm
Capacity:	Up to 1200 m^3/h
Head:	Up to 510 m
Operating temperature with:	
- Soft packing box from	-10°C to 110°C
- Mechanical seal from	-10°C to 140°C
Test pressure:	75 bar



SHV SERIES centrifugal pumps

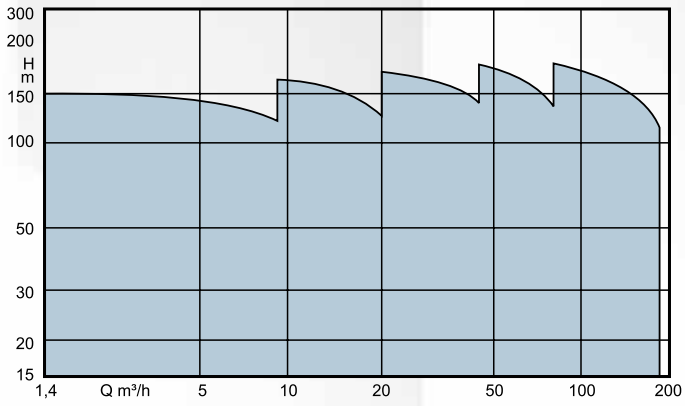
• VERTICAL OPEN WELL PUMPS

CONSTRUCTION:
Wet installation in stationary and transportable design. Submersible, single or multi stage, radial split casing. The individual casing parts are sealed by O-ring. In contrast with typical drainage electro pumps the motor is bottom part of assembly. This construction has advantage where ambient temperature is high.
Three-phase electrical motor is used.
Fitted at pump and motor end the bearing are grease-lubricated ball bearings. Electropump have two mechanical seals independent of the direction of rotation on the pump side.

APPLICATION:
For sump drainage, open well, surface water collection sumps for flood water or water leakage in mine and drilling.

PUMP SPECIFICATIONS:

Output size:	32 to 80 mm
Capacity:	Up to 180 m^3/h
Head:	Up to 180 m
Operating temperature with:	
- Soft packing box from	-10ºC to 110ºC
- Mechanical seal from	-10ºC to 140ºC
Test pressure:	30 bar



Heavy Duty Sludge SERIES
electro motor pumps

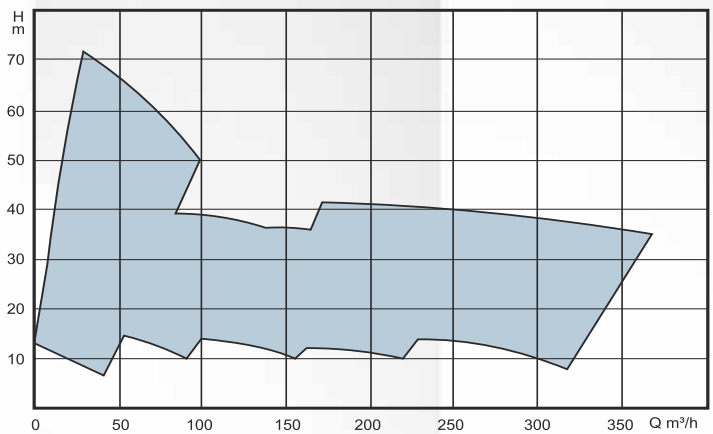
• HEAVY DUTY SLUDGE PUMPS (HDS)

CONSTRUCTION:
Centrifugal pump with volute casing, horizontal installation, single stage, overhung impeller, single and center end suction, separately coupled. Impeller is dynamically balanced. The shaft is sealed by a soft packing. Discharge nozzle is on the upper left, if viewed from shaft end. An external source used for cooling and flashing of stuffing box also preventing of penetration of abrasive liquid. One of the most important features of these pumps is the use of changeable wear parts.

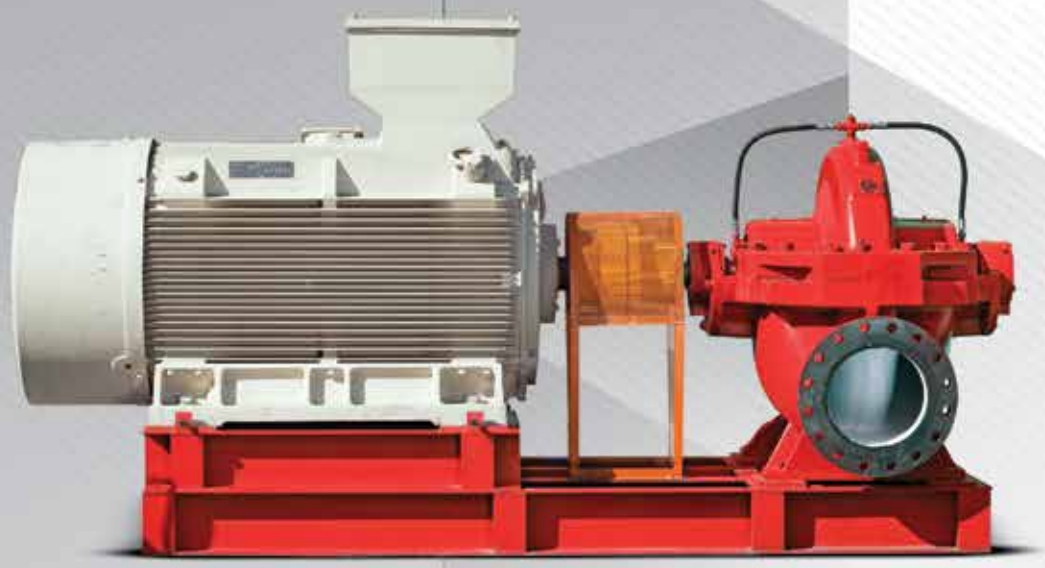
APPLICATION:
Pumping of difficult materials, some of which are as drilling mud, clay water, heavy chemicals, grout, wax, also paper, sugar, detergent industries and general applications like irrigation, domestic water supply and light chemicals.

PUMP SPECIFICATIONS:

Output size:	50 to 150 mm
Capacity:	Up to 350 m^3/h
Head:	Up to 70m
Operating temperature with:	
-Soft packing box from	-10 ºC to 110 ºC
Test pressure:	10 bar



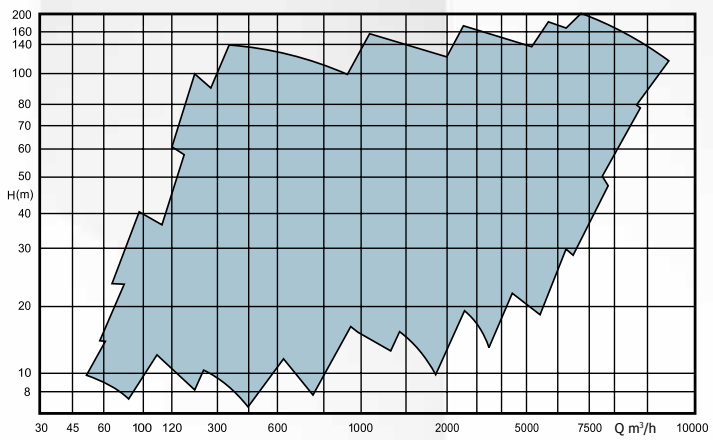
FIRE FIGHTING SERIES
centrifugal pumps



• FIRE FIGHTING PUMPS

These pumps normally are designed to provide a pressurized supply of water for firefighting systems. As a fire-extinguishing agent, water acts by cooling the source of combustion, and can be applied by various methods to obtain the greatest degree of heat removal.
In the event of a fire, either the opening of a fire hydrant or the automatic initiation of a fixed sprinklers installation usually initiates the demand for water. The sudden fall in pressure in the fire system rising main causes the main pumps to automatically start and provide the required flow of water to the points of application.
Most systems have a small, electrically driven auxiliary pump, which automatically maintains the pressurization of the fire fighting system and compensates for small leakages in the system. The auxiliary pump operates automatically under pressure switch control.
The main pumps are designed to provide the supply of pressurized water to the fire fighting system. These can be initiated either manually or automatically as required.

APPLICATION:
Sprinklers, water curtains, hydration columns, fire hydrants, all require a water supply permanently available from a pressurized network.



DIESEL SERIES
diesel pumps

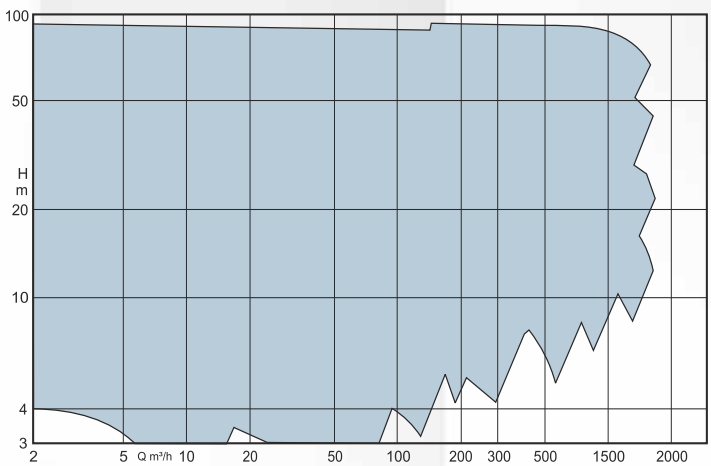
• DIESEL PUMPS

CONSTRUCTION:
Diesel driven water pump with easy transport configuration it can be used for variety of applications in areas have no access to electric network.
These pumps are movable and portable mounted on two wheels trailer sets or mounted on four wheels trailer sets that driven by diesel engine.
The engine is fitted with a spark arrestor and automatic over-speed shutdown.

APPLICATION:
For handling water from dams, rivers, water distribution channels, drainage flood, local authorities, building sites, farmers, plant hirers.

PUPM SPECIFICATIONS:

Outpout size:	100 to 300 mm
Capacity:	40 to 1800 m^3/h
Head:	5 to 90 m
Operating temperature with:	
- Soft packing box from	-10 ºC to 110ºC
- Mechanical seal from	-10 ºC to 140 ºC
Test pressure:	16 bar



• HIGH DELIVERY CENTRIFUGAL PUMPS

APPLICATION:

For irrigation, municipal and industrial water supply, also cooling and heating circulation system fields.

PUMP SPECIFICATIONS:

Output size:	32 to 300 mm
Capacity:	5 to 1650 m³/h
Head:	5 to 90 m
Operating temperature with :	
- Soft packing box from	-10°C to 110°C
- Mechanical seal from	-10°C to 140°C
Test pressure:	16 bar

ETA SERIES
centrifugal pumps

• SUBMERSIBLE PUMPS

APPLICATION:

Delivery of clean or slightly contaminated water for general water supply duties, in irrigation and sprinkling systems, in pressure boosting plants, in emergency water supply, in ground-water lowering and maintaining plants. In addition, they are used in mining, in sprinkler installation, in fountains.

PUMP SPECIFICATIONS:

Output size:	1½ to 8 inch
Capacity:	Up to 580 m³/h
Head:	Up to 432 m
Temperature of liquid handled:	Up to 30°C
Electromotor power:	1.5 to 350 kW

SUBMERSIBLE SERIES
three phase submersible electropumps

• FIRE FIGHTING PUMPS

APPLICATION:

Sprinklers, water curtains, hydration columns, fire hydrants, all require a water supply permanently available from a pressurized network.

PUMP SPECIFICATIONS :

Output size:	100 to 300 mm
Capacity:	40 to 1800 m³/h
Head:	5 to 90 m
Operating temperature with :	
- Soft packing box from	-10°C to 110°C
- Mechanical seal from	-10°C to 140°C
Test pressure :	12 bar

FIRE FIGHTING SERIES
centrifugal pumps

• HOT OIL ELECTROPUMPS

APPLICATION:

For chemical, pharmacological, food stuffs, plastic, weaving, leather, paper, paint, electrical and steel industries.

PUMP SPECIFICATIONS:

Output size:	32 to 100 mm
Capacity:	Up to 350 m³/h
Head:	Up to 95m
Operating temperature:	Up to 300 ºC
Test Pressure:	15 bar

HOT OIL SERIES
electro motor pumps

API PUMPS MATERIALS IN PUMPIRAN

PUMPIRAN with 4 decade diligently activities in pump industry, has high valuable experience in casting according to API standard for process pumps.

S1 Group (Casings: Carbon Steel , Impeller: Cast Iron)

Application: Crude oil , Gas oils , Ammoniac , Propane , Butane , Liquid gas from -198°C to +230°C , Sulfuric acid above 85% concentration (T < 38 °C)

S4 & S5 Groups (Casings: Carbon Steel , Impeller: Carbon Steel)

Application:Non-corrosive hydrocarbons, e.g.catalytic reformate, isomaxate ,desulfurized oils

S6 Group (Casings: Carbon Steel , Impeller: Stainless Steel with 12% chrome)

Application: Hot and process water , Boiler feed pump , Condensate oil and Hydrocarbons above +230°C

S8 Group (Casings: Carbon Steel , Impeller: Austenitic Stainless Steel)

Application: Distilled water , Mono Ethanol Amine , De Ethanol Amine and Three Ethanol Amine(MEA , DEA , TEA)

C6 Group (Casings and Impeller: Stainless Steel with 12% chrome)

Application: Hot and process water , Boiler feed pump , Oil product with high temperature

A7 Group (Casings and Impeller: Austenitic Stainless Steel)

Application: Food industry , Condensate gas under -196°C , waste water

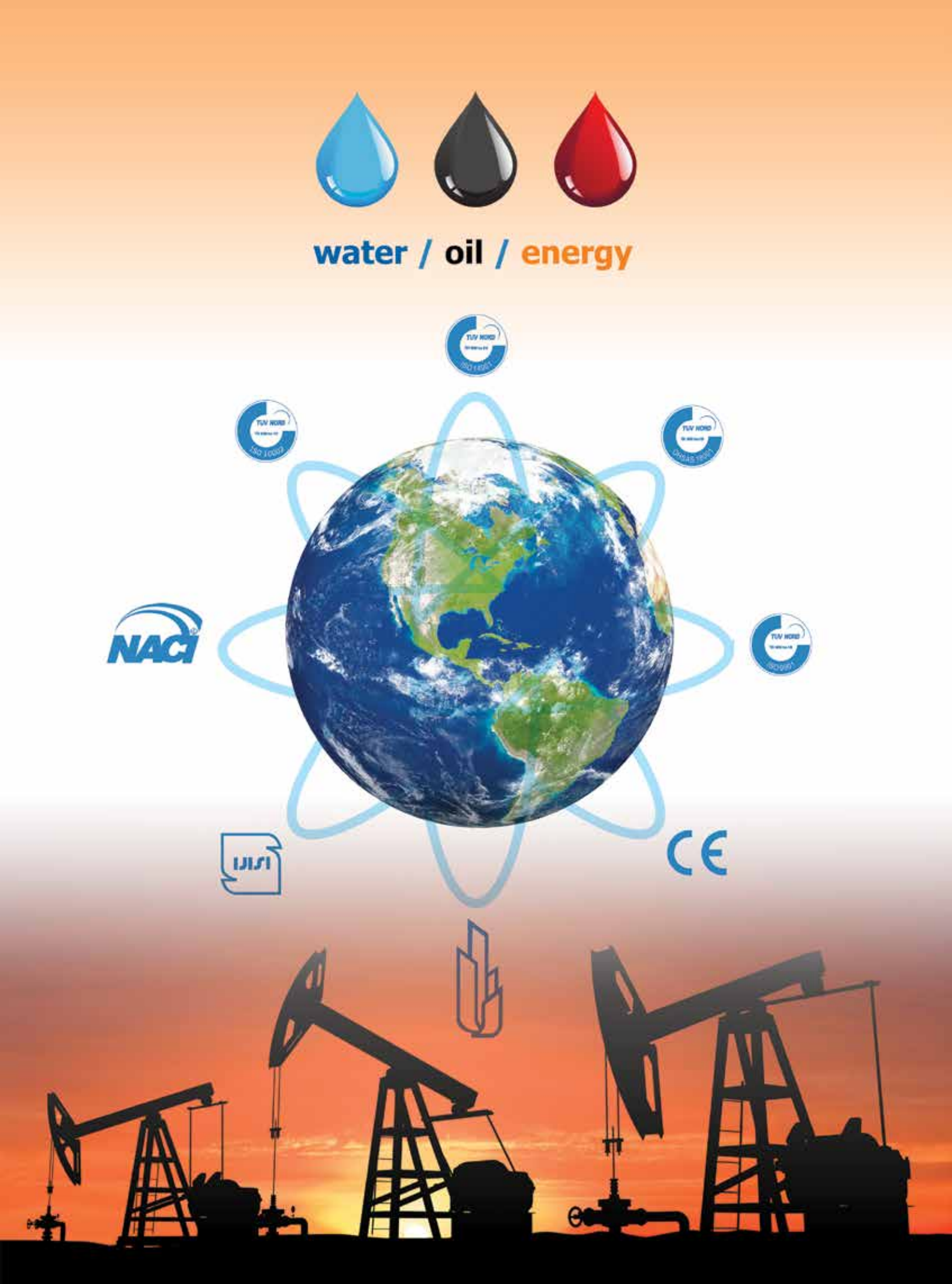
A8 Group (Casings and Impeller: 316 Austenitic Stainless Steel)

Application: Food industry , Condensate gas under -196°C , Sulfuric acid under 85% concentration , Calcium Carbonate, waste water

D Group (Casings and Impeller: Duplex and Super Duplex Steel)

Application: Brine water , Sea water , Sour water , Waste water with H_2S

1) Pump parts material will select and recommend to customer respect to liquid physical properties and chemical analysis.
2) All material combination are changeable and available on request.


water / oil / energy
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