Deep Blue PUMP

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DEEP BLUE PUMP
Product Catalogue

ABOUT DEEP BLUE PUMP

A FULLY INTEGRATED PUMP MANUFACTURER

We have in-house engineering including R&D. Using our own, modern foundry, pattern-shop and machining facilities we produce pumps with maximum total head of 4,000m (13,000 ft), maximum flow rate of 60,000m3/h (260,000 gpm). In-house services include material analyses, destructive and non-destructive testing, advanced and accurate flow/head/energy testing bed/stations. This insures dependable quality and certifications for ANSI, API and even nuclear applications.

A MULTINATIONAL CORPORATION

We combine a global reach with a local presence to give prompt support to customers worldwide. Our global network includes six factories/assembly plants, six factory sales/service/support locations in three continents and more than 1,300 employees.

A HIGH-QUALITY, HIGH-VALUE, COST EFFECTIVE OEM

We offer a broad selection of pump models and sizes covering most of API 610 pump types in material classes from S-5 to D-2, as well as ISO/ANSI standard pumps in most stainless steels including Hastelloy and Titanium. At the same time, these pumps support a large range of parameters for various applications. We provide cost effective products and services. We offer you innovative solutions to add value and strength to increase your competitive position.

Put our fully integrated, worldwide support, cost effective and high quality to work...FOR YOU!

PUMP MODELS INDEX

01 Overhung Horizontal ····· Page 01~Page 07
02 Overhung Vertical in-line with bearing bracket ····· Page 08
03 Overhung High-speed integrally-geared ····· Page 09
04 Magnetic-drive Pump ····· Page 10
05 Between-bearings ····· Page 11~Page 20
06 Vertically-suspended ····· Page 21~Page 26
07 Hydaulic Power Recovery Turbine ····· Page 27
08 Cryogenic Pump ····· Page 28~Page 32
09 Nuclear Pump ····· Page 33~Page 44

ANSI Standard Pump
ANS/PROFLO PF Series

Design Criteria:

Applicable codes and standards: ASME B73.1M
Capacity : ~1500m^3/h
Head : ~250 m
Temperature : -40~+150℃
Pressure : 2.0 / 2.5Mpa

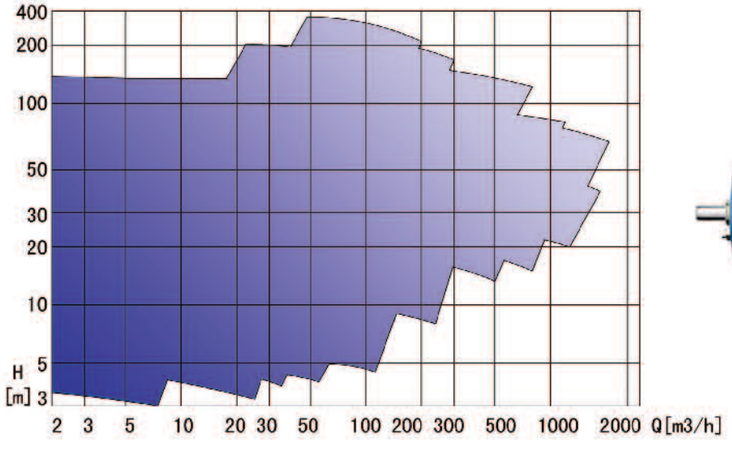
Application:

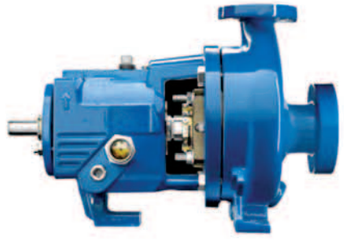
Chemical, Petrochemical, Refinery, Coal Chemical, Power Station, Paper Industry, Pharmacy, Sugar Industry, Steel Plant, Waste Acid Treatment, Water Supply and Drainage, Urban Water Supply, Further Processing of Grains, and etc.
The serial is suitable for pumping liquid mediums which are clean or containing particles, neutral or corrosive, normal or medium temperature.

Product Overview:

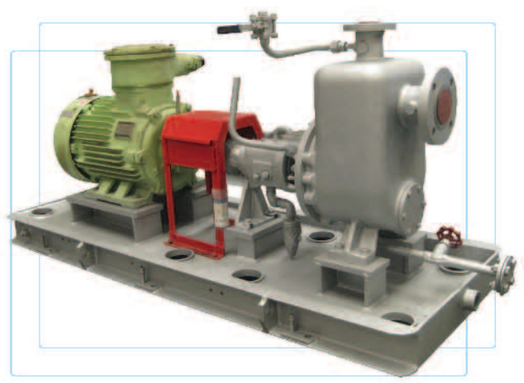
Horizontal, single stage, single suction, overhung centrifugal pump which is upgraded product combined with international and domestic advanced pump manufacture experience. The latest sophisticated technologies are applied to hydraulic model, structure of impeller and seal chamber, axial adjustment, connection between casing and bearing housing, seal of bearings, etc, The features of durability as well as economy make it the latest substitute product in general chemical industry.

Performance Range





ANSZ Series



Design Criteria:

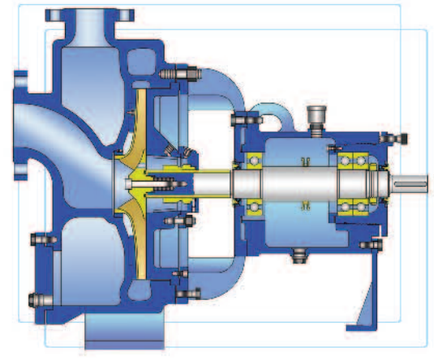
Applicable codes and standards: ASME B73.1M
Capacity : ~320m^3/h
Head : ~150 m
Temperature : -40~+150℃
Pressure : 2.0 / 2.5Mpa

Application:

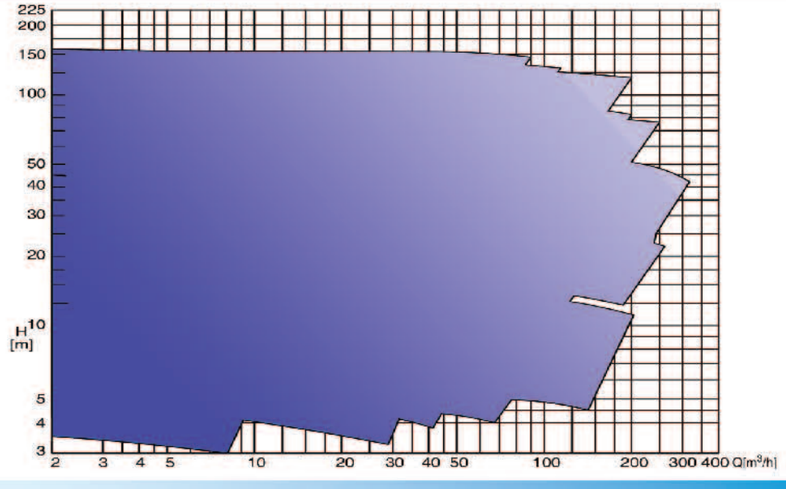
Chemical, Petrochemical, Refinery, Coal Chemical, Power Station, Paper Industry, Pharmacy, Sugar Industry, Steel Plant, Waste Acid Treatment, Water Supply and Drainage, Urban Water Supply, Further Processing of Grains, and etc.
ANSZ serial is suitable for pumping liquid mediums which are clean or containing particles, neutral or corrosive, normal or medium temperature. Self-priming makes direct start-up without priming.

Product Overview:

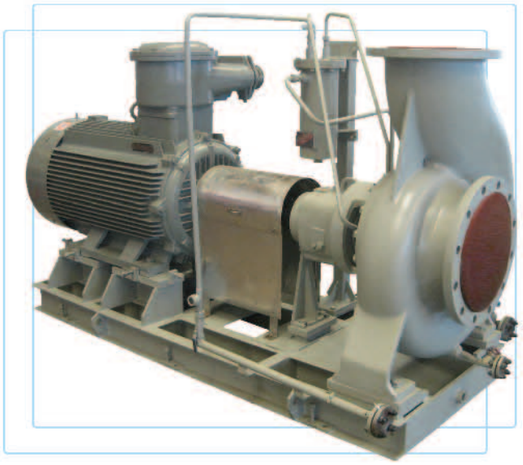
Horizontal, single stage, single suction, overhung centrifugal pump which is upgraded product combined with international and domestic advanced pump manufacture experience. The latest sophisticated technologies are available on hydraulic model, structure of impeller and seal chamber, axial adjustment, connection between casing and bearing housing, seal of bearings, etc, The features of durability as well as economy make it the latest substitute product in general chemical industry.



Performance Range



EHG/ISOFLOW Series
Standards Chemical Pump



Design Criteria:

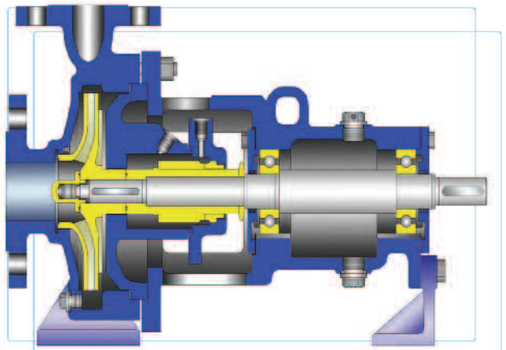
Applicable codes and standards: ISO2858
Capacity : 2~2000m^3/h
Head : ~160 m
Temperature : -40~+150℃
Pressure : 2.5Mpa

Application:

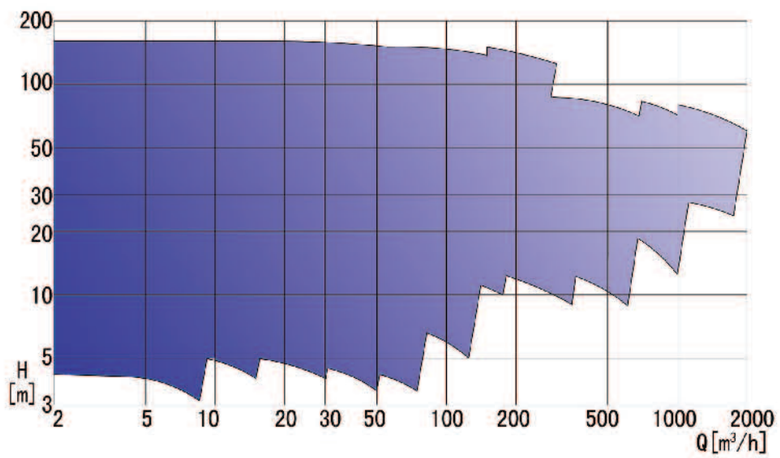
Chemical, Petrochemical, Refinery, Coal Chemical Industry, Power Station, Paper Industry, Pharmacy, Sugar Industry, Steelmaking, Waste Acid Treatment, Water Supply and Drainage, Urban Water Supply, Further Processing of Grains, and etc.
EHG serial is suitable for pumping liquid mediums which are clean or containing trace particles, neutral or corrosive, flammable, explosive, toxic. and etc.

Product Overview:

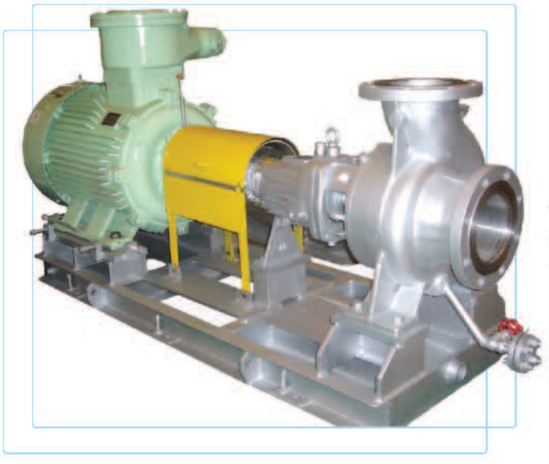
Horizontal, single stage, single suction, volute, foot support, overhung centrifugal pump which is designed and developed in accordance with ISO2858 <End-suction centrifugal pumps (rating 16bar)-Designation, nominal duty point and dimensions>. High reliability, stability and high-efficiency performance measure up to international standard requirements and provide simple and reliable structures, strong universality and simple maintenance. Sorts of seal such as packing, mechanical seal are available in the case of working conditions.



Performance Range



ESH(K)/HTFLO(K) Series
Petrochemical Process Pump



Design Criteria:

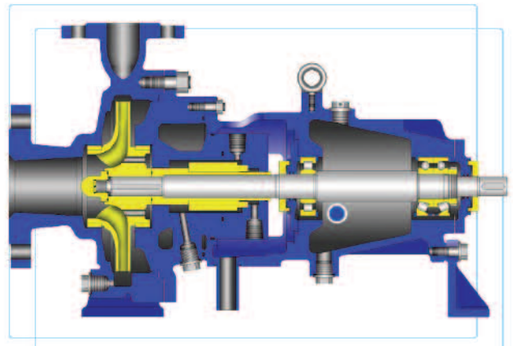
Applicable codes and standards: API610
Capacity : 2~2600m^3/h
Head : ~250m
Temperature : -80~+450℃
Pressure : ~2.5Mpa

Application:

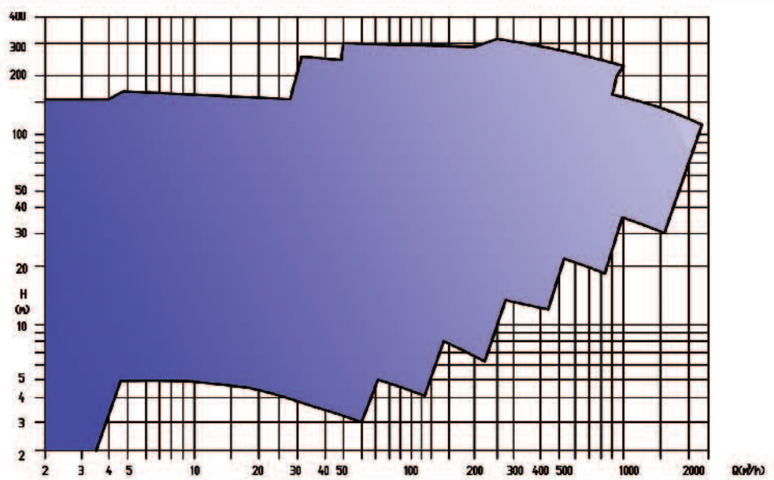
Petrochemical, Refinery, Cryogenic Engineering, Coal-mining Industry, Chemical Fiber and Common Industrial Process, Power Station, Large or Medium-size Heating and Air Conditioning Plant, Marine Industry and Desalination Plant, and etc.
ESH/ESHK serial is suitable for pumping liquid mediums which are clean or containing trace particles, neutral or corrosive, low or high temperature, and etc.

Product Overview:

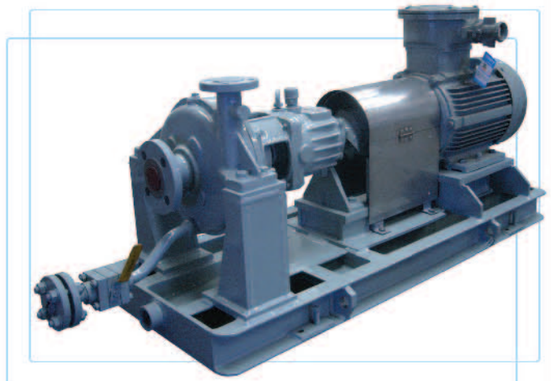
Horizontal, single stage, single suction, volute, foot support, overhung centrifugal pump has two structures:
Standard type: ESH with foot support, closed type impeller is applicable to general industrial process.
Slurry type: ESHK with foot support, open or semi-open type impeller is applicable to slurry or mediums containing particles.
For closed or semi-open type impeller, axial force is balanced by balancing hole and wear ring. For open type impeller, it is balanced by impeller vane.
Middle connecting section between casing and bearing housing diminish the occurrence of corrosion and rupture on bearing housing.



Performance Range



XL/APIFLO-LF Series
Low Flow Chemical Process Pump



Design Criteria:

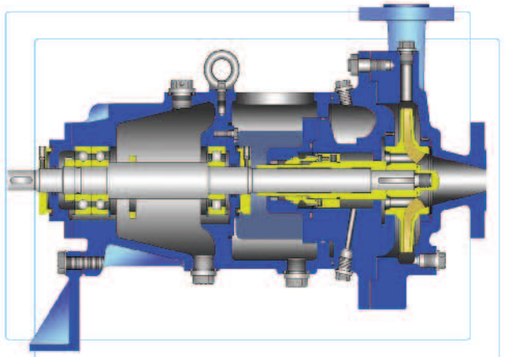
Applicable codes and standards: API610
Capacity : 0.8~12.5m^3/h
Head : 12~125m
Temperature : -80~+450℃
Pressure : ~2.5Mpa

Application:

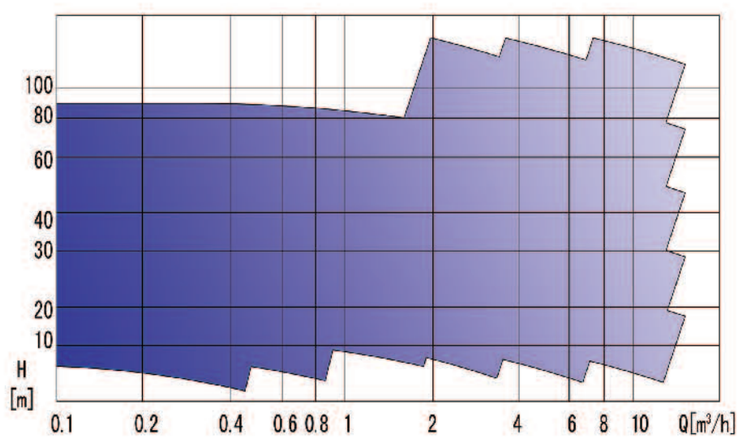
Petrochemical, Refinery, Cryogenic Engineering, Coal-processing Industry, Paper Industry, Sugar Industry, Water Supply Plant, Desalination Plant, Power Station, Heating and Air Conditioning Plant, Environment Protection Industry, Shipping and Marine Industry, and etc.
XL serial is suitable for pumping liquid mediums which are clean or with lower than 2%wt particles, neutral or corrosive, and etc.

Product Overview:

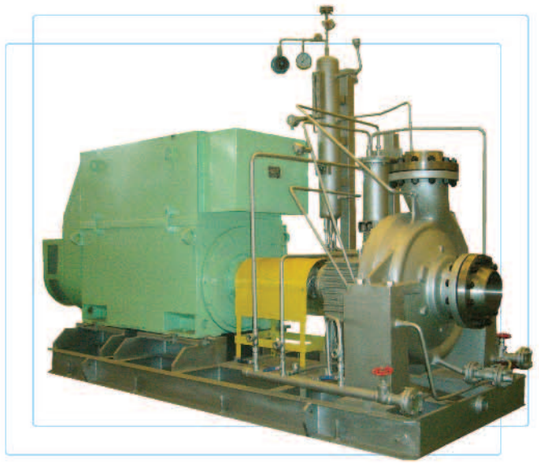
Horizontal, single stage, single suction, overhung centrifugal pump is designed and fabricated as per API610<Centrifugal Pumps for Petroleum, Petrochemical and Natural Gas Industries>. Low flow & high differential head hydraulic model provides excellent performance and high efficiency, Simply structure with easy maintenance and kinds of seals such as mechanical seal, packing are available for various working conditions.



Performance Range



EAP(K)/APIFLO-P(K) Series
Petrochemical Process Pump



Design Criteria:

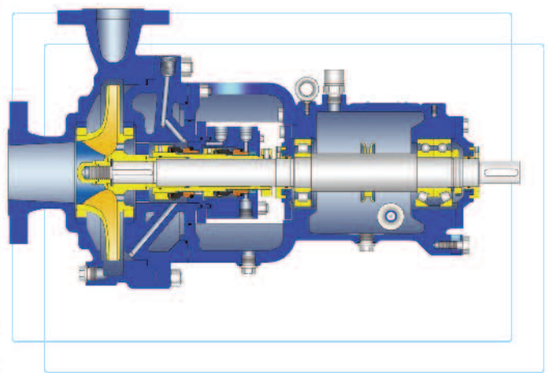
Applicable codes and standards: API610
Capacity : 2~2600m^3/h
Head : ~300m
Temperature : -80~+450℃
Pressure : ~5.0Mpa

Application:

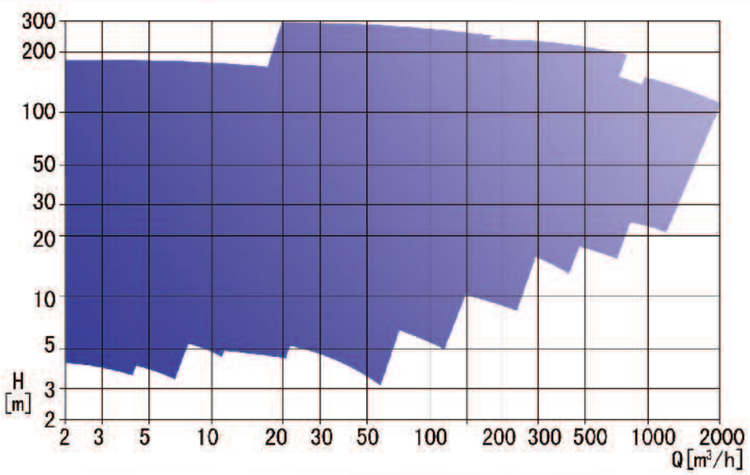
Petrochemical, Refinery, low temperature device, Coal Chemical Industry, Chemical Fiber and Industrial Process, Power Station, Environment Protection Industry, Marine Industry, Desalination Plant, and etc.
EAP serial is suitable for pumping liquid mediums which are clean, low or high temperature, neutral or corrosive, etc.
EAPK serial is suitable for pumping liquid with particles, slurry, fiber, high viscosity.

Product Overview:

Horizontal, radial split, single stage, overhung centrifugal pump with volute casing. Structure design has thought-out and mature consideration on support, connection, bearing cooling, etc. Sorts of available auxiliary and monitoring instruments obtain high safety and reliability. Top leading high efficiency and energy saving products provides better service life, simple maintenance, strong universality, less spares, excellent hydraulic performance, good cavitation-resistance, etc.



Performance Range



EAPG/APIFLO-PG Series
Petrochemical Process Pump

Design Criteria:

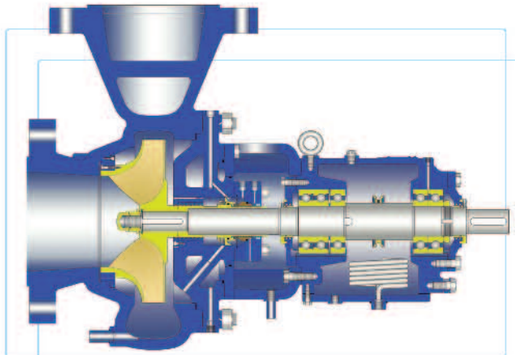
Applicable codes and standards: API610
Capacity : 2~2600m^3/h
Head : ~300m
Temperature : -80~+450℃
Pressure : ~10.0Mpa

Application:

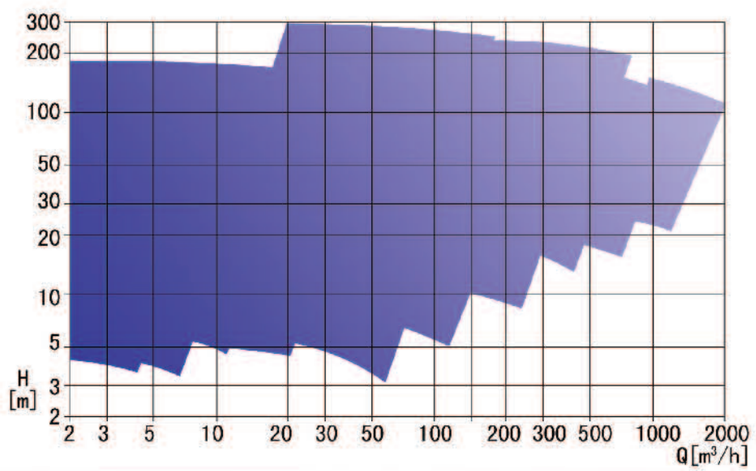
Petrochemical, Refinery, low temperature device, Coal Chemical Industry, Chemical Fiber and Industrial Process, Power Station, Environment Protection Industry, Marine Industry, Desalination Plant, etc
EAPG serial is suitable for pumping liquid mediums which are clean, low or high temperature, neutral or corrosive, and especially suitable for high suction pressure condition.

Product Overview:

Horizontal, radial split, single stage, overhung centrifugal pump with volute casing. Structure design has thought-out and mature consideration on support, connection, bearing cooling, which provides with high safety and reliability, better service life, simple maintenance, strong universality. The higher axial force can be endured by five-bearings which is mainly applicable to high suction pressure condition.



Performance Range



EAPL/APIFLO-PL Series
Vertical In-line Pump

Design Criteria:

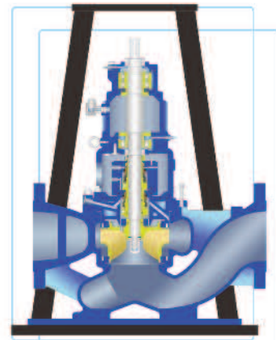
Applicable codes and standards: API610
Capacity : 2~2600m^3/h
Head : ~300m
Temperature : -80~+450℃
Pressure : ~5.0Mpa

Application:

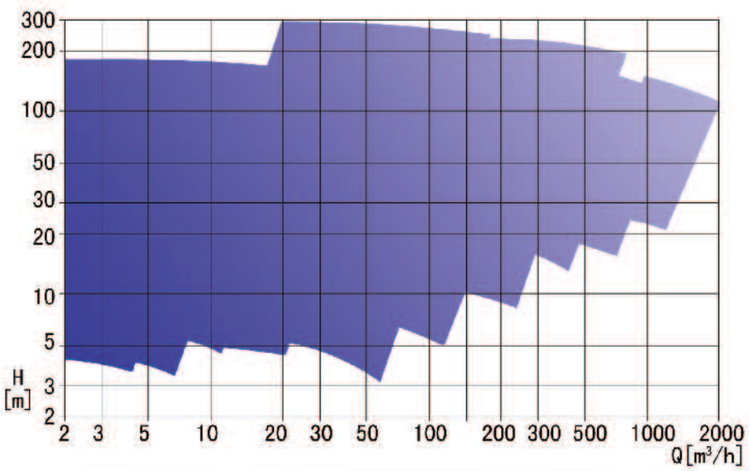
Petrochemical, Refinery, low temperature device, Coal Chemical Industry, Chemical Fiber and Industrial Process, Power Station, Environment Protection Industry, Marine Industry, Desalination Plant, and etc
EAPL serial is suitable for pumping liquid mediums which are clean, low or high temperature, neutral or corrosive, and etc. Vertical installation could save the limited space.

Product Overview:

Horizontal, radial split, single stage, overhung centrifugal pump with volute casing. Structure design has thought-out and mature consideration on support, connection, bearing cooling, and etc. Sorts of available auxiliary and monitoring instruments make high safety and reliability. Top leading high efficiency and energy saving products provides better service life, simple maintenance, strong universality, less spares, excellent hydraulic performance, good cavitation-resistance, etc.



Performance Range



EGS Series
High Speed Pump

Design Criteria:

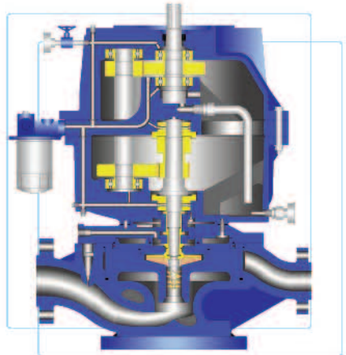
Applicable codes and standards: API610
Capacity: EGS-L1 2~150m^3/h EGS-L2 1.5~60m^3/h
EGS-L4 3~150m^3/h EGS-W 10~250m^3/h
Head: EGS-L1 200~2000m EGS-L2 100~580m
ESG-L4 200~2000m EGS-W 300~2500m
Speed: EGS-L1 4800~23700rpm EGS-L2 5000~14179rpm
EGS-L4 9400~23700rpm EGS-W 7000~16000rpm
Temperature: -50~300℃
Pressure: EGS-L ~15MPa
EGS-W ~22.5MPa

Application:

Petrochemical, Chemical, Energy, Metallurgy, Paper, Pharmaceutical, Food, Environmental protection industry and etc.
EGS serial is suitable for pumping liquid medium which are clean or corrosive, viscosities less than 500 CP, solid particles size less than 0.1mm. It is suitable to substitute the reciprocating pumps and multistage centrifugal pumps with low flow and high head.

Product Overview:

EGS series is high-speed integral gear-driven single-stage overhung designed according to API 610 standard OH6 type(vertical and horizontal) with the advantage of high efficiency, high reliability, simple construction, and convenient maintenance. Special hydraulic designed inducer is used to reduce pump NPSHr and increased suction capability.
It is fully interchangeable with most of current market existing high speed pumps and customize rated parameters design is applicable for all EGS pumps.



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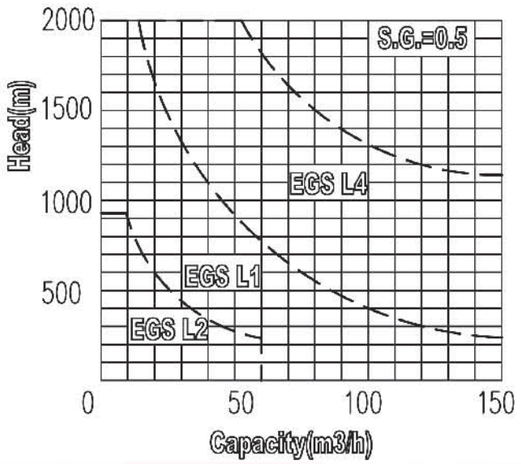
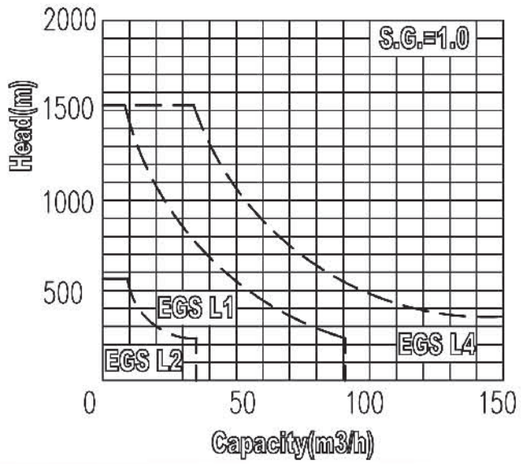
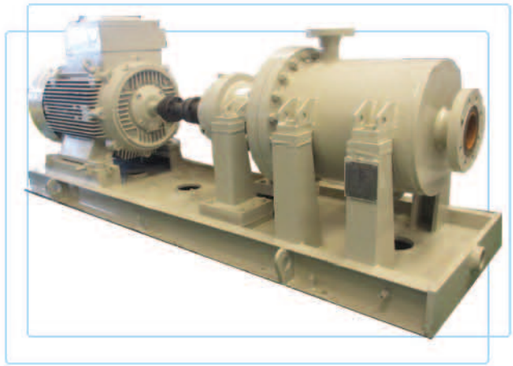




MDP Series
Magnetic Drive Pump



Design Criteria:

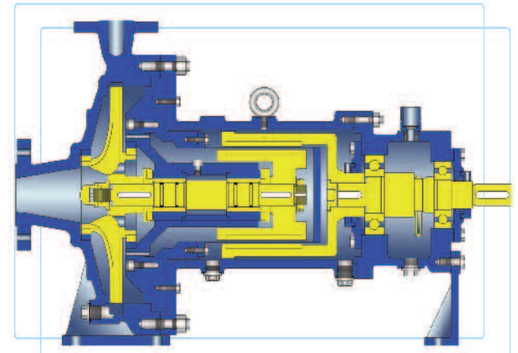
Applicable codes and standards: API685
Capacity: 1~500m^3/h
Head: ~300m
Temperature: 0~320℃
Pressure: 5Mpa

Application:

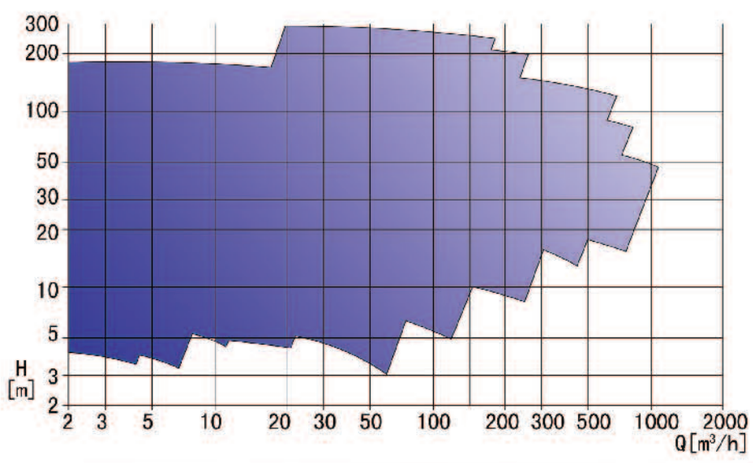
Mainly applied in chemical, petrochemical, coal chemical, chemical fiber, environmental protection, pharmaceutical, biological engineering, printing &dyeing, and etc. special in hanlding flammable, explosive, toxic or valuable fluids, to some extent, MDP pumps can replace centrifugal type.

Product Overview:

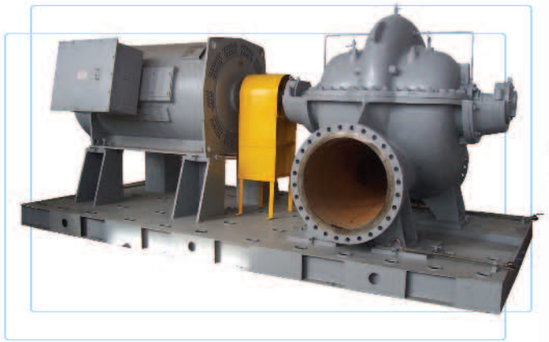
MDP magnetic drive pumps are horizontal, single-stage, single suction, radially-split, volute magnetic type. The pumps are comprised of casing, magnetic coupling, bearings and motor, etc. Magnetic coupling consists of inner magnetic rotor, outer magnetic rotor, and non ferromagnetic sleeves, casing, casing cover, and sleeves form a closed room, inner&outer magnetic rotor and sleeves have clearance of 1.5~2.5mm. according to magnetism principle, when motor drive outer rotors, permanent magnetic field can penetrate airgap, and non ferromagnetism, and drive synchronically inner rotor which connected with impeller, and realized non-contact transmission, dynamic seals transformed to static seals, and resolved leakage problem. 3fMDP pumps are preferred and perfect choice for no-leakage workshop.



Performance Range



EDS/SPLITFLO-EDS(RE) Series Axially Split Double Suction Process Pump



Design Criteria:

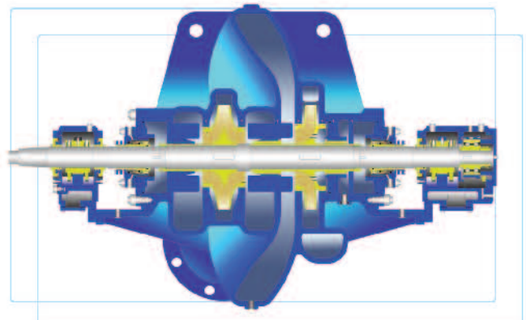
Applicable codes and standards: API610(EDS/SPLITFLO-EDS)
Capacity : 10~18,000m^3/h
Head : ~440m
Temperature : -40~+200℃
Pressure : ~2.5Mpa for single-stage
~5.0Mpa for double-stage

Application:

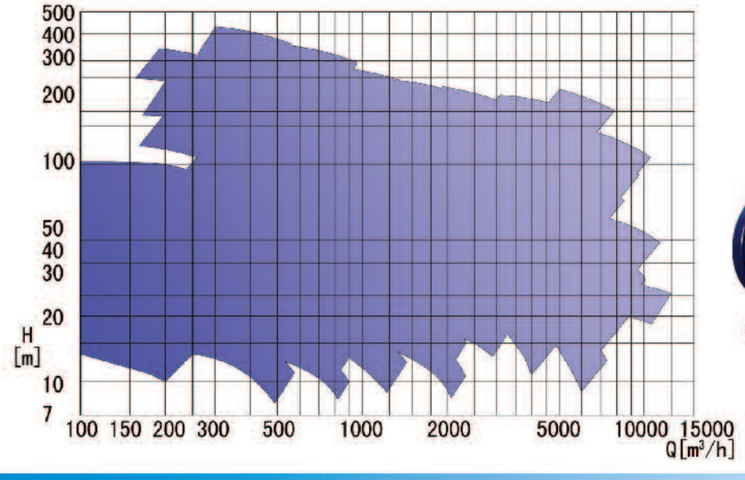
Petrochemical, Power Station, Thermal Power Plant, Pipe Network Pressurization, Crude Oil(Product Oil) Transportation, Nature Gas Transportation, Industrial Process, Irrigation, Wastewater Treatment, Water Supply and Treatment, Paper Industry, Marine Pump, Offshore Industry, Seawater Desalination,etc.
The serial is suitable for pumping liquid mediums which are dean or containing trace particles, neutral or corrosive, and etc.

Product Overview:

Horizontal, axially split, single or double stage, double suction, between-bearings centrifugal pump with volute casing, foot-mounted for single stage, near centerline supporting for double stage. The hydraulic performance is based on international advanced model, assisted with three-dimension model and CFD flow field analysis, and has the characters of wide range of flow and head, high efficiency, good cavitation-resistance,etc.
The seal system is according to API682 . Sorts of seals such as packing, mechanical seal are available in the case of various complex working conditions, widely used in different industries.



Performance Range



SCSK/APIFLO-MK Series Single-Casing Horizontal Axially Split Multistage Pump

Design Criteria:

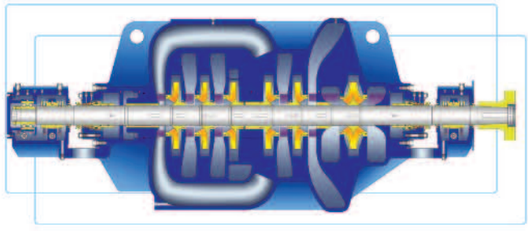
Applicable codes and standards: API610
Capacity : 10~1440m^3/h
Head : ~1600m
Temperature : -60~+200℃
Pressure : ~25.0Mpa

Application:

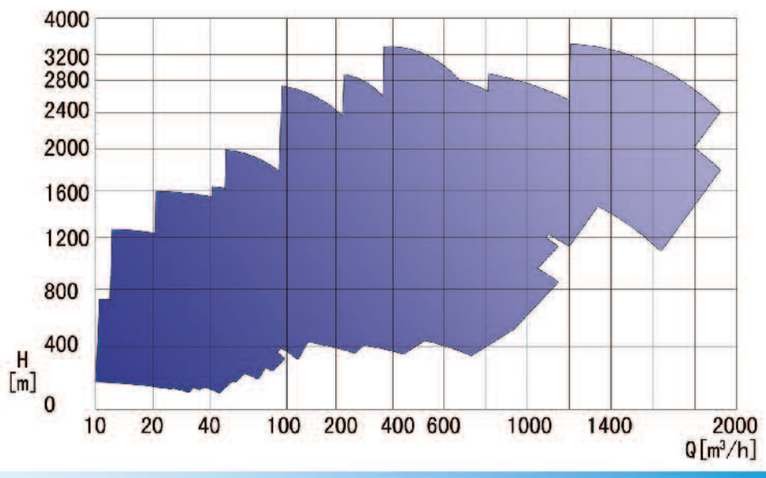
Oil Exploitation, Petrochemical, Coal Chemical, Pipeline Transportation, Seawater Desalination, Boiler Feed Water, Hydraulic Turbine, etc.
Typical application:
Ammonia plant: Lean solution pump, rich solution pump,etc
Coal chemical: Ash pump, lean methanol transfer pump,etc
Crude Transportation: Transfer pump for main and branch lines.
Others: Boiler feed water pump for power plant, phosphorus and decoking pump for steal mill, injection pump for oil field,etc.

Product Overview:

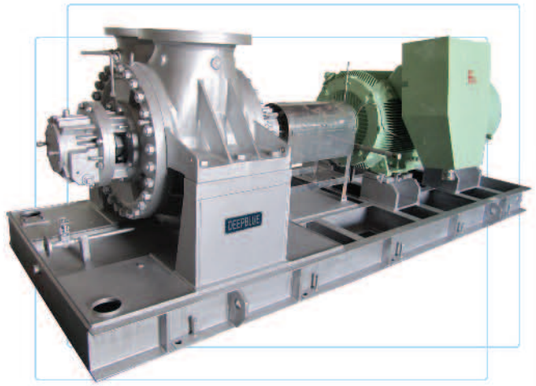
Horizontal, single-casing, axially split, centreline-mounted between-bearings centrifugal pump. The radially force is self-balanced by volute type flow channel which is symmetrically arranged along the center line, the axial force is self-balanced by back to back arranged impellers, the complex balance devices aren't needed, especially good for transfer the liquid which contains particles.
The suction and discharge are cast with casing, which the rotor parts could be easily maintained without dismounting the suction and discharge pipelines, and reduce the shut-down period.
Direction: CW or CCW viewed from driven end as per different requirement.



Performance Range



HDD/APIFLO-HDD Series Single Stage Heavy Duty Petrochemical Process Pump



Design Criteria:

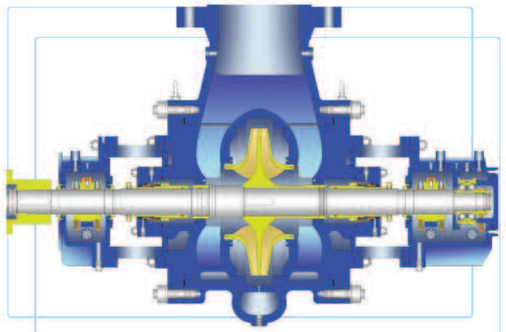
Applicable codes and standards: API610
Capacity : 5~5000m^3/h
Head : ~350m
Temperature : -80~+450℃
Pressure : HDD/HDD-C ~5.0Mpa
HDD-G/HDD-CG ~11.0Mpa

Application:

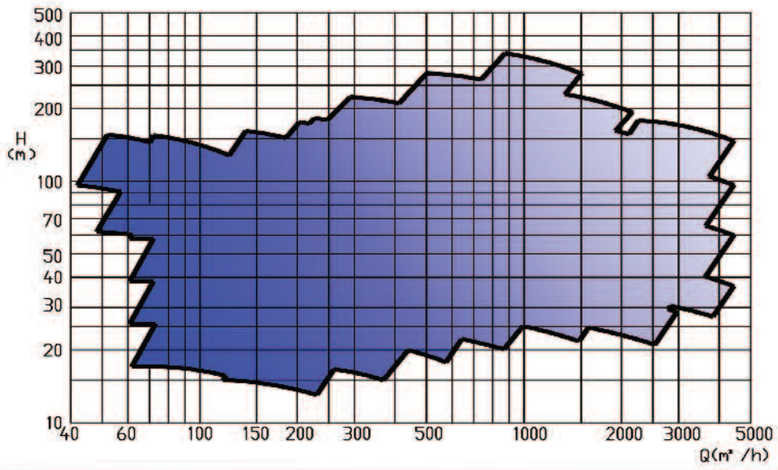
Petroleum Refining, Petrochemical, Coal Chemical, Natural Gas Industry, Nuclear Power ,etc.
Typical application:
Ethylene unit: quench oil pump, chilling water pump, propylene fractionator reflux pump, pan oil pump, etc.
Ammonia plant: decarburization pump, hydraulic turbine,etc
Coal chemical: schwarze pump, circulation pump for lock hopper
Others: cooling water circulation pump for FPSO, cooling water for nuclear power,etc.
HDD serial is suitable for pumping liquid mediums which are clean or containing particles, low or high temperature, high pressure, neutral or corrosive, and etc.

Product Overview:

Horizontal, radially split, single stage, double suction, between-bearings centrifugal pump which is designed for heavy duty unit, with simple and reliable structure, stable operation, convenient maintenance, long service life.
Impeller: Single or double suction, without axial force. Double suction impeller could extend the bearing life when operating in high pressure and have good cavitation-resistance.
Casing: Axial force is balanced by double volute type structure. Temperature deformation is balanced by centreline-mounted.
Casing cover: Rigid design, high pressure-resistance
Bearing: Self-lubricating antifriction bearing, sliding bearing or forced lubricating bearing are available by different rate power, which could guarantee the safety and reliable operation.



Performance Range



HDD/APIFLO-HDD Series Two- or Three-Stage Heavy Duty Petrochemical Process Pump

Design Criteria:

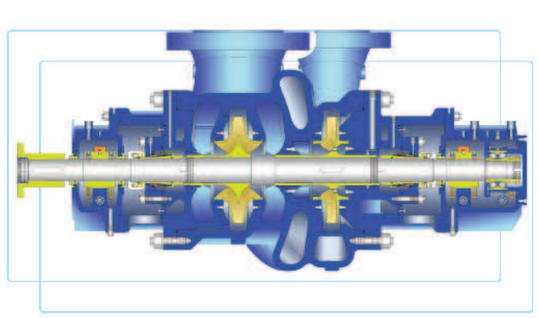
Applicable codes and standards: API610
Capacity : 5~4500m^3/h
Head : ~700m
Temperature : -80~+450℃
Pressure : HDD/HDD-C ~11.0Mpa
HDD-G/HDD-CG ~15.0Mpa

Application:

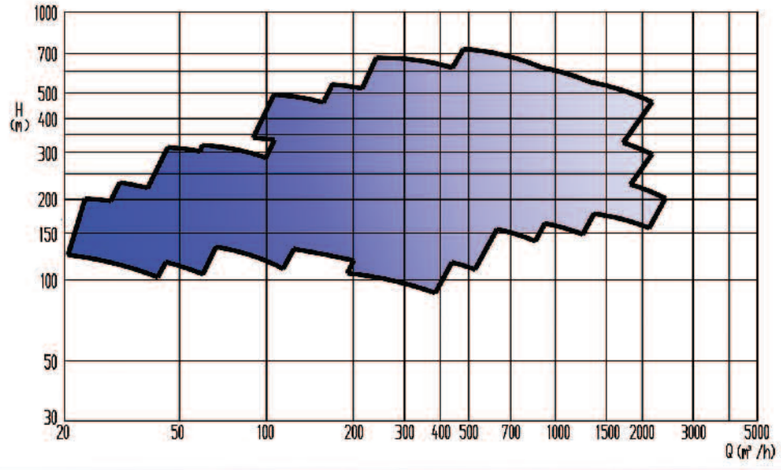
Petroleum Refining, Petrochemical, Coal Chemical, Natural Gas Industry, Nuclear Power ,etc.
Typical application:
Ethylene unit: quench oil pump, chilling water pump, propylene fractionator reflux pump, pan oil pump,etc.
Ammonia plant: decarburization pump, hydraulic turbine,etc
Coal chemical: schwarze pump, circulation pump for lock hopper
Others: cooling water circulation pump for FPSO, cooling water for nuclear power,etc.
HDD serial is suitable for pumping liquid mediums which are clean or containing particles, low or high temperature, high pressure, neutral or corrosive, and etc.

Product Overview:

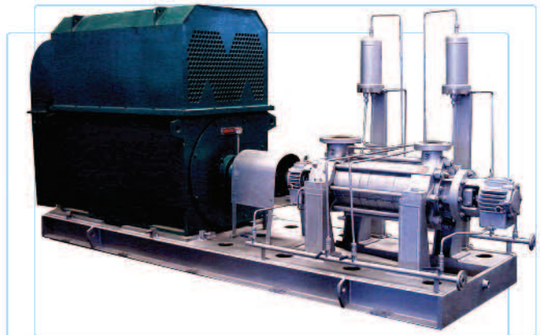
Horizontal, radially split, two- or three-stage between-bearings centrifugal pump which is designed for heavy duty unit, with simple and reliable structure, stable operation, convenient maintenance, and long service life.
Impeller: Without axial force. First-stage double suction impeller could extend the bearing life when operating in high pressure and have good cavitation-resistance.
Casing: Axial force is balanced by double volute type structure. Temperature deformation is balanced by centreline-mounted.
Casing cover: Rigid design, high pressure-resistance
Bearing: Self-lubricating antifriction bearing, sliding bearing or forced lubricating bearing are available by different rate power, which could guarantee the safety and reliable operation.



Performance Range



SCS/APIFLO-M Series Horizontal Multistage Pump



Design Criteria:

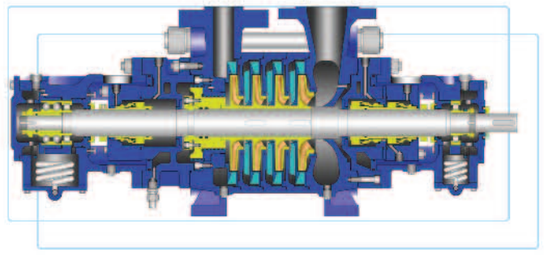
Applicable codes and standards: API610
Capacity : 3~200m³/h
Head : ~1000m
Temperature: -80~+180℃
Pressure : ~15.0Mpa

Application:

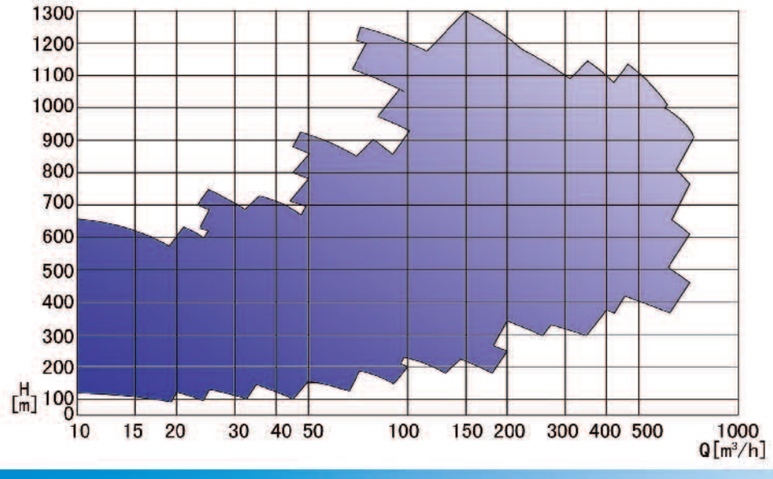
Industrial water supply, Thermal Power Plant, Refinery, Petrochemical, Coal Chemical, Cooling or Heating System, Urban Water Supply, Water Treatment, etc.
Typical Application: LP boiler feed water pump, MP boiler feed water pump, injection pump, building water supply pump, etc.
SCS serial is suitable for pumping liquid mediums which are clean, neutral or corrosive.

Product Overview:

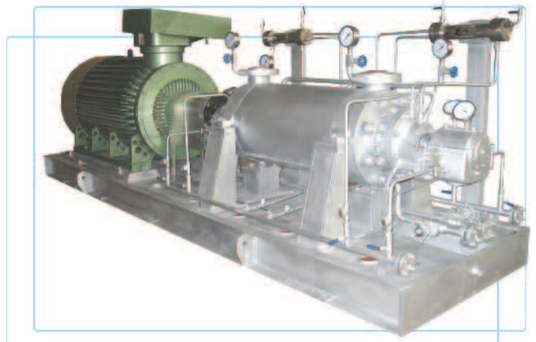
Horizontal, single-casing, radially split, multistage ring-section pump with radial diffuser, centreline- or foot-mounted structure could be selected by different operating temperature, various suction and discharge direction could be chosen by customer requirement. First-stage impeller and second-stage impeller are different design to get better performance, first-stage impeller is based on cavitation-resistance while second-stage impeller is considering pump efficiency. The seal system is as per API682 Sorts of seals such as packing, mechanical seal are available in the case of various working conditions.
Direction: CW viewed from driven end.



Performance Range



SCSG/APIFLO-MG Series Single-casing Multistage Ring-section Pump



Design Criteria:

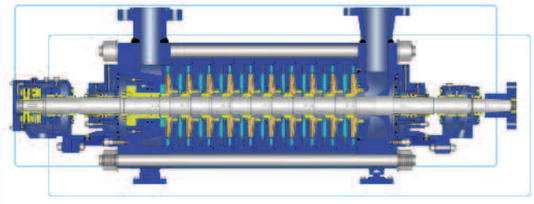
Applicable codes and standards: API610
Capacity : 5~1000m³/h
Head : ~2500m
Temperature: -80~+210℃
Pressure : ~27.0Mpa

Application:

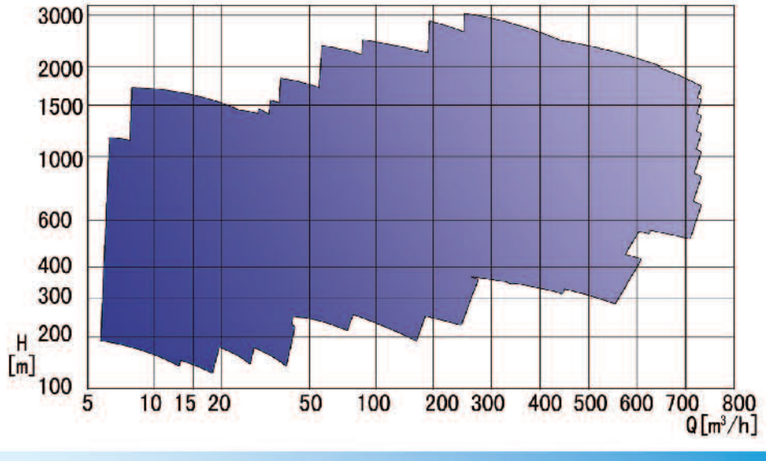
Industrial water supply, Thermal Power Plant, Refinery, Petrochemical, Coal Chemical, Cooling or Heating System, Urban Water Supply, Water Treatment, etc.
Typical Application: MP boiler feed water pump, MP boiler feed water pump, electrically driven feed pump, MP circulating pump, MP process water pump, charging pump, condensate pump, lean solution pump, etc.
SCSG serial is suitable for pumping liquid mediums which are clean, neutral or corrosive, low or medium pressure.

Product Overview:

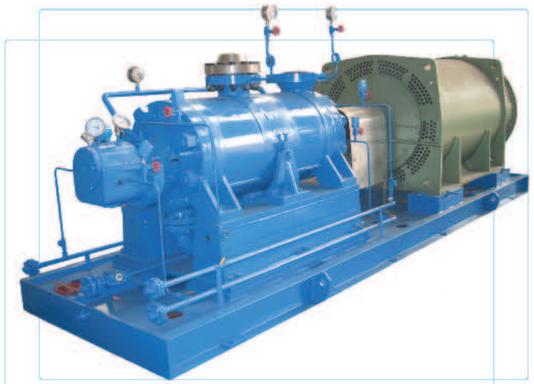
Horizontal, single-casing, centreline-mounted, radially split, multistage ring-section pump. All impellers are arranged to same direction. The first-stage impeller could be single or double suction type.
The drum-disc-drum type combined device is used to balance the axial force. The thrust bearing doesn't endure the axial force, which could tremendously extend the bearing service life.
Lubrication: Self-lubrication system or forced lubrication system.
Direction: CW viewed from driven end.



Performance Range



SCSZ/APIFLO-MZ Series Self Balanced Single-casing Multistage Ring-section Pump



Design Criteria:

Applicable codes and standards: API610
Capacity : 5~1000m^3/h
Head : ~2500m
Temperature: -80~+210℃
Pressure : ~27.0Mpa

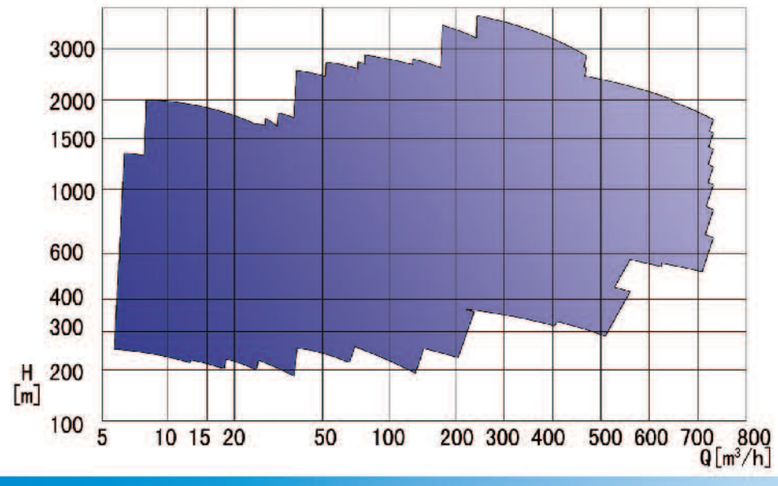
Application:

Typical Application: Phosphorus and decoking pump for steal mill, HP ash pump for coal chemical, injection pump for oil field, mine drainage pump,etc.
SCSZ serial is suitable for pumping liquid mediums in which solid concentration is less than 5%wt and solid diameter is no more than 0.2mm.

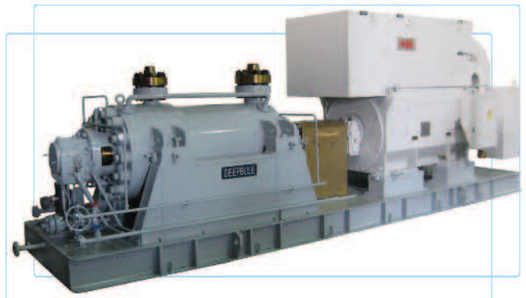
Product Overview:

Horizontal, single-casing, radially split, multistage ring-section pump. Centreline-mounted or foot-mounted can be selected by different conditions. The impellers are arranged back to back. Without the traditional balance device, it is more safe and reliable while pumping the liquid which is containing particles. Single or double suction impeller could be chosen based on cavitation-resistance. The external pressure-containing parts are cast. Self-lubrication system or forced lubrication system could be used as per rate power and speed.
Direction: CW viewed from driven end.

Performance Range



DCSG/APIFLO-MDG Series High Pressure Double-casing Multistage Ring-section Pump



Design Criteria:

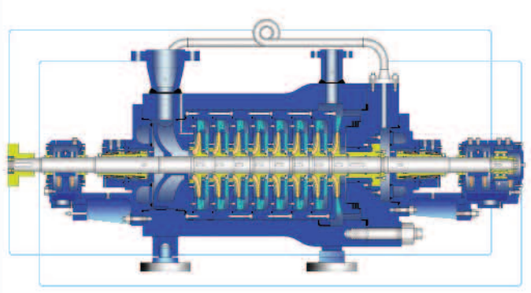
Applicable codes and standards: API610
Capacity : 5~1000m^3/h
Head : ~3200m
Temperature: -80~+450℃
Pressure : ~35.0Mpa

Application:

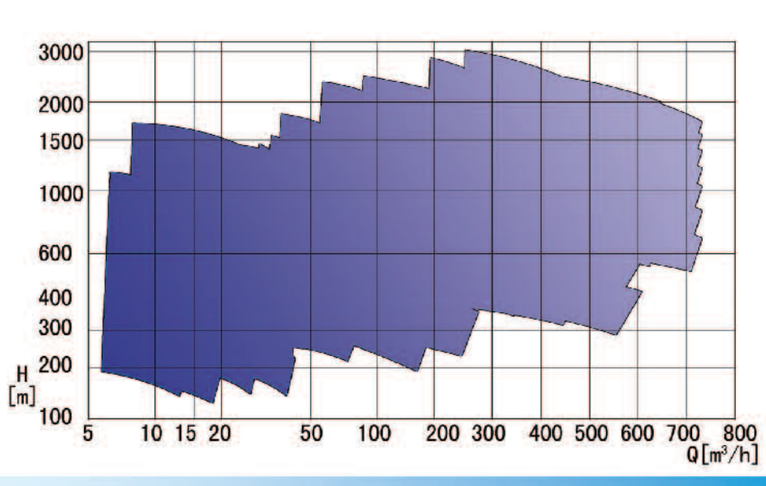
Typical Application: Hydrogenation feeding pump for hydrogenation unit, Phosphorus and decoking pump for steal mill, HP boiler water feed pump for power plant, etc.
DCSG serial is suitable for pumping liquid mediums which are clean or containing trace particles, flammable or toxic, and etc.

Product Overview:

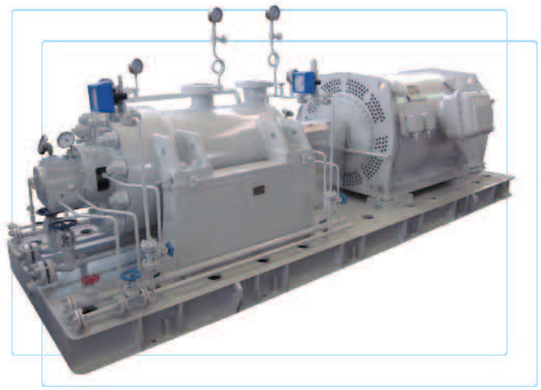
Horizontal, double-casing, radially split, centreline-mounted ring-section pump. All impellers are arranged to same direction. First-stage impeller could be single- or double-suction type. The external pressure-containing casing is forged. The inner core could be entirely pulled out, which the pump could be easily maintained without removing the suction and discharge pipelines. The drum-disc-drum type combined device is used to balance the axial force.
Direction: CW viewed from driven end



Performance Range



DCSZ/APIFLO-MDZ Series High Pressure Self Balance Double-casing Multistage Ring-section Pump



Design Criteria:

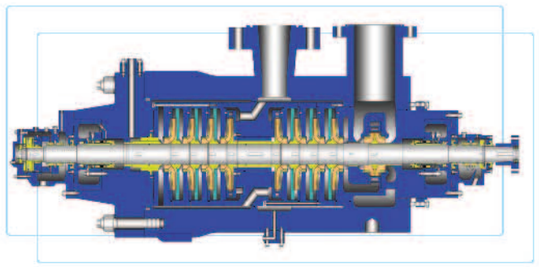
Applicable codes and standards: API610
Capacity : 5~1000m^3/h
Head : ~3200m
Temperature: -80~+450℃
Pressure : ~35.0Mpa

Application:

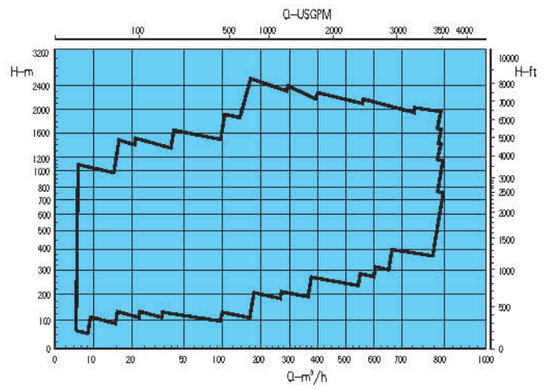
Typical Application:
HP metro-methylamine pump in ammonia and urea plant. DCSZ serial is mainly used for pumping ammonium carbamate in urea-synthesis process, kinds of liquid which solid concentration is less than 5%wt and solid diameter is no more than 0.2mm. It is also used for pumping petroleum, refined oil, LPG, light hydrocarbons, boiler feed water which are clean or containing trace particles, high temperature, high pressure, flammable, toxic.

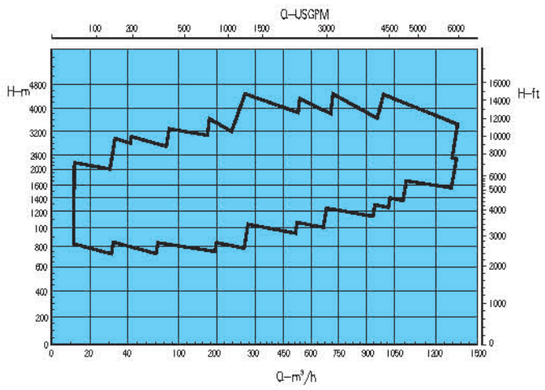
Product Overview:

Horizontal, double-casing, centreline-mounted, multistage ring-section pump. The impellers are arranged back to back. Without the traditional balance device, it is more safety and reliable while pumping the liquid which is containing particles. Single or double suction impeller could be chosen based on cavitation-resistance. The external pressure-containing parts are cast. Self-lubrication system or forced lubrication system could be used as per rate power and speed. The external pressure-containing casing is forged. The inner core could be entirely pulled out, which the pump could be easily maintained without removing the suction and discharge pipelines.
Direction: CW viewed from driven end.

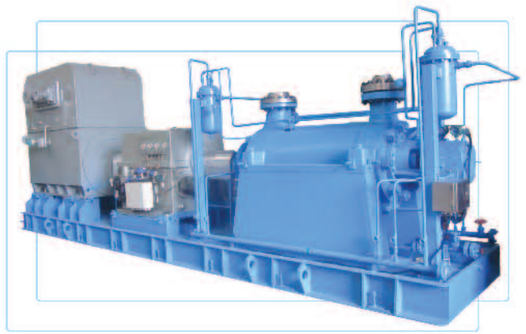


Performance Range





DCSK/APIFLO-MDK Series Double-Casing Horizontal Axially Split Multistage Pump



Design Criteria:

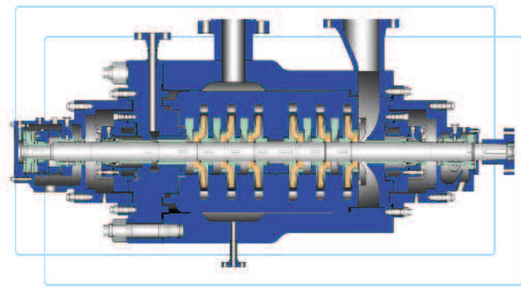
Applicable codes and standards: API610
Capacity : 10~1140m^3/h
Head : ~4000m
Temperature : -80~+450℃
Pressure : ~40.0Mpa
Speed: ~9000r/min

Application:

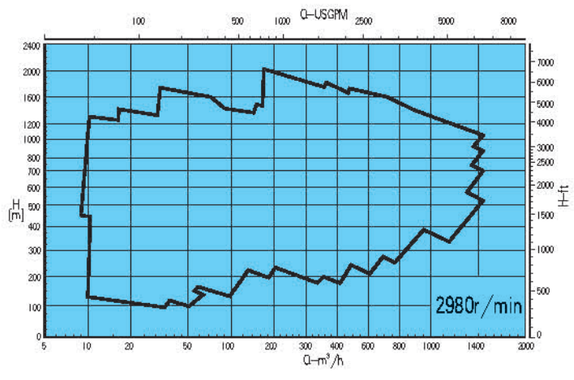
Petrochemical, Chemical, Power Plant,etc
Typical Application:
Ammonia plant: Liquid oxygen pump, Hydrogenation feeding pump, high pressure & high temperature hydraulic turbine
Others: Boiler feed water pump for power plant, phosphorus and decoking pump for steal mill, injection pump for oil field,etc.

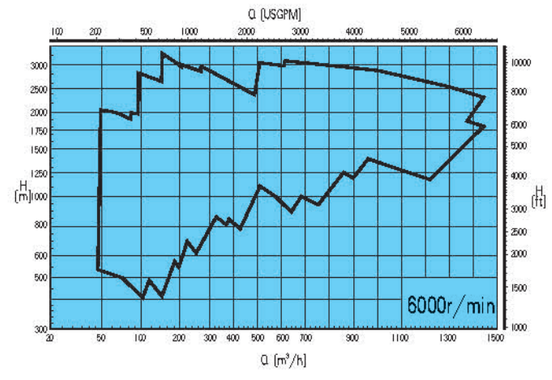
Product Overview:

Horizontal, single-casing, axially split, centreline-mounted between-bearings centrifugal pump. The inner core could be entirely pulled out, of which the pump could be easily maintained without removing the suction and discharge pipelines. Without complex balance device, the radial force is balanced by double volute type impeller, the axial force is balanced by back to back arranged impellers. The external pressure-containing casing is forged, safe and reliable structure, stable operation. The first-stage impeller could be single- or double-suction type by different requirement.



Performance Range





LYA/VERTIFLO-LYA Series
Long Shaft Submerged Pump

Design Criteria:

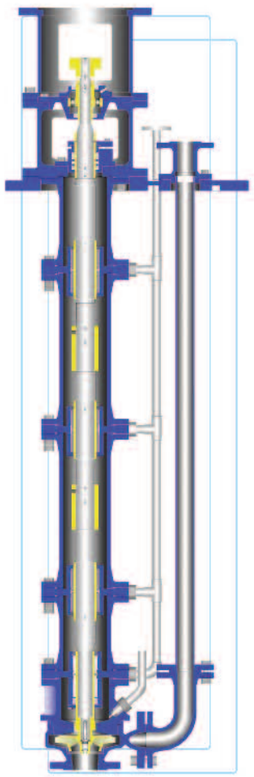
Applicable codes and standards: API610
Capacity : 2~1100m³/h
Head : ~135 m
Temperature : -20~+125℃
Pressure : 2.0Mpa
Depth : ~7000mm

Application:

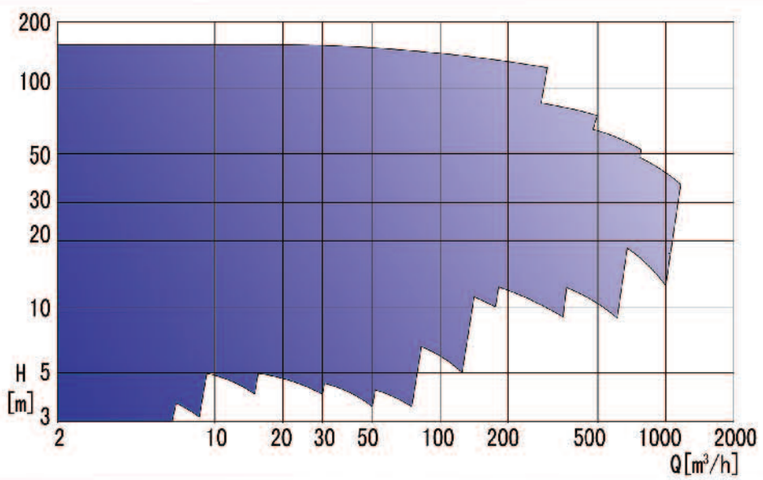
Refinery, Petrochemical, Coal Chemical, Power Plant, Environmental Engineering, Wastewater Treatment, Cement Plant,etc.
LYA serial is suitable for pumping liquid mediums which are clean or containing particles, neutral or corrosive, normal or moderate temperature.

Product Overview:

Vertical volute type long shaft submerged pump. The flexible shaft is multi-point supported. The connecting shaft could reach to 7m. It is self-developing new energy-saving products which is high efficiency, high reliability, convenient maintenance,etc.
The internal or external flushing could be applied to lubricate the shaft bushing based on different pumping liquid, improve the service life of bushing.
When transfers the liquid with fiber, the cutter device can be used. The fiber could be cut and grounded by rotated and fixed blades, which can avoid the winding and blocking.



Performance Range



LC/APIFLO-LC Series
Vertical Tank Pump

Design Criteria:

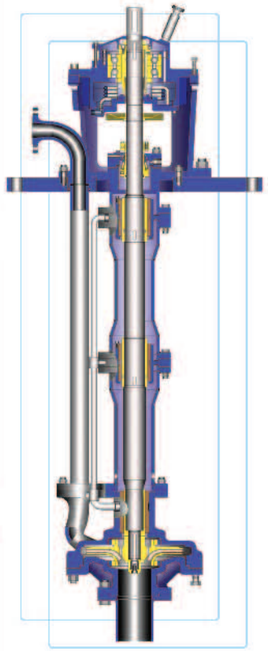
Applicable codes and standards: API610
Capacity : 2~250m³/h
Head : ~150 m
Temperature : -20~+250℃
Pressure : ~4.0Mpa
Depth : ~8500mm

Application:

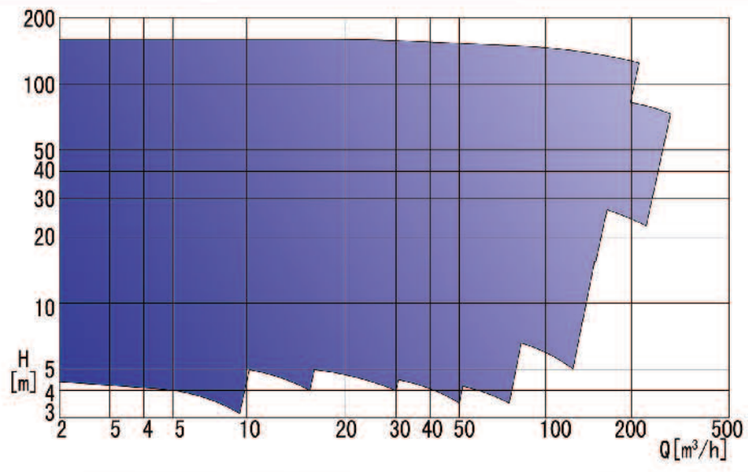
Refinery, Petrochemical, Coal Chemical, Power Plant, Environmental Engineering, Wastewater Treatment,Pharmacy, Weave, Tank,etc.
LC serial is suitable for pumping liquid mediums which are clean, neutral or corrosive, normal or moderate temperature.

Product Overview:

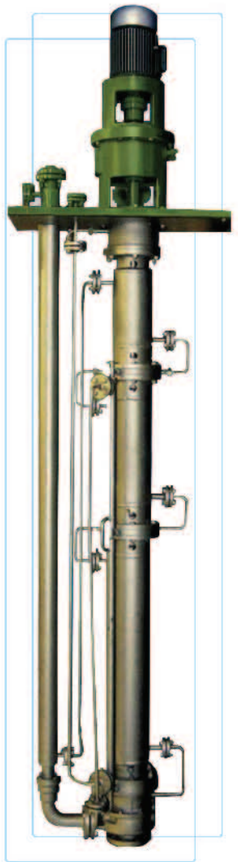
Vertically suspended, single-casing, volute and line-shaft driven sump pumps. Sort of seals are available to ensure the safe and reliable operation. The residual axial force and rotor weight are endured by paired mounting bearings. The bearings are lubricated by oil. The air-cooling structure can be applied.
The hydraulic model is revised and updated with higher efficiency. The multi-point supports keep the rigidity of shaft. The reliable connecting shaft could reach to 8500mm. The VS4 type discharge pipe can minimize the loss in pump.



Performance Range



LG/VERTIFLO-LG Series Vertical High Temperature Submerged Pump



Design Criteria:

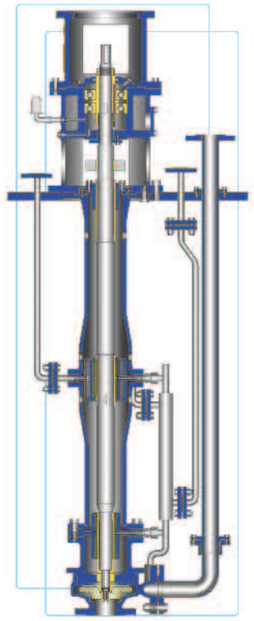
Applicable codes and standards: API610
Capacity : 2~400m³/h
Head : 5~100m
Temperature: -20~+500℃
Pressure: 2.0Mpa

Application:

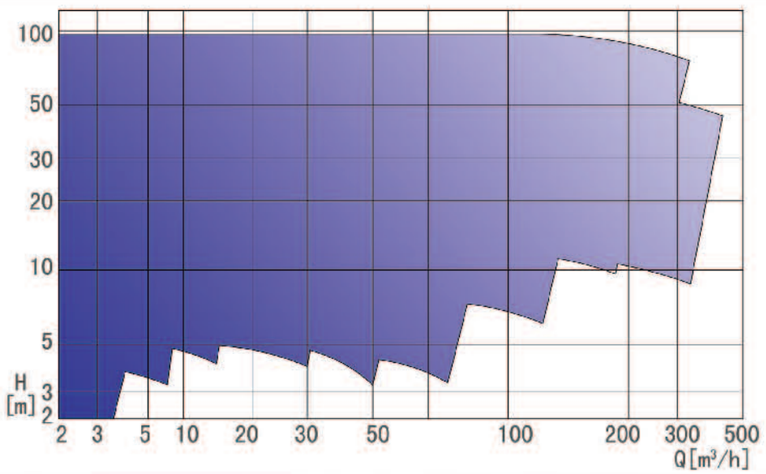
LG(Basic type): The melting point of liquid is not high, the liquid will be soon concreted during shut-down period, such as asphalt.
LGJ(Jacket type): The melting point and temperature of liquid are not high, the liquid will be soon concreted during shut-down period, such as molten sulphur.
LGF(Non-jacket type): The melting point of liquid is high, or the liquid will not be concreted during shut-down period, such as fused salt, hot oil, etc.

Product Overview:

Four sets of assistant system which can cool, lubricate,warm and flush could greatly reduce the failure of pump.
The top antifriction bearing is lubricated by oil. The bottom sliding bearing is multi-point supported. The insulation cavity can prevent the solidification of liquid which may impact the bearing lubricating.
The extension tube of discharge can prevent the stress caused by thermal expansion.
The soft packing and spiral seal are both used to prevent the high pressure flushing fluid splashing out of baseplate.



Performance Range



LDB-A/APIFLO-VA Series Vertical Multistage Pump

Design Criteria:

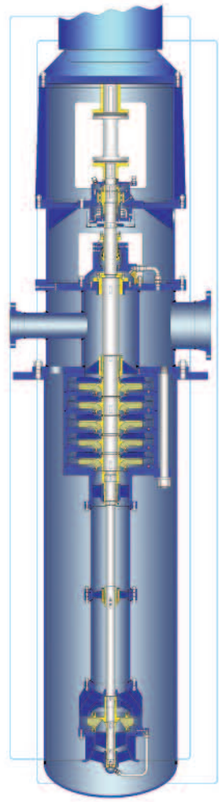
Applicable codes and standards: API610
Capacity : ~700m³/h
Head : ~1500m
Temperature: -80~+250℃
Pressure: ~15.0Mpa

Application:

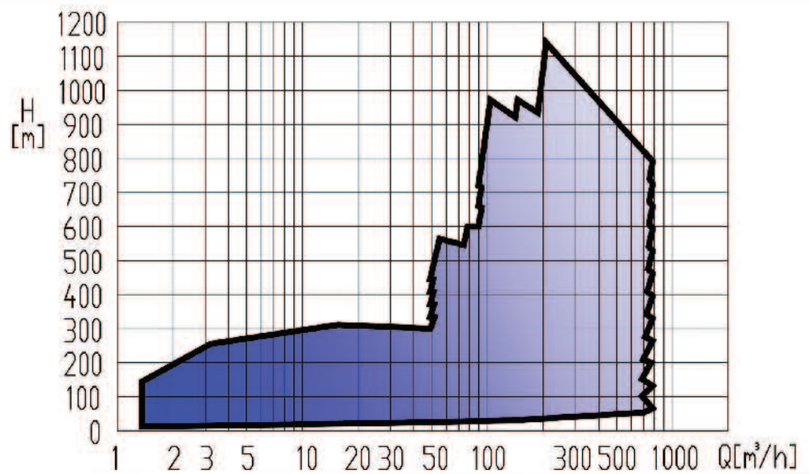
Refinery, Petrochemical, Coal Chemical, Cryogenic Engineering, LNG Industry, Seawater Desalination, Seawater Lifting, etc.
LDB-A serial is suitable for pumping liquid mediums which are clean or containing trace particles, especially for pumping liquid mediums which are easily vaporized or low temperature, such as ethylene, liquid ammonia, LNG, condensate, hydrocarbon gas, oil products, etc.

Product Overview:

Double-casing diffuser multi-stage vertically suspended pumps. The top antifriction bearing is lubricated by oil. The bottom sliding bearing is multi-point supported. The lower arranged first-stage impeller can get high cavitation-resistance. The second-stage impellers are designed with high head and high efficiency. The axial force is balanced and reduced to minimum by balance disc which could adjust the clearance by itself during the operation. Structure design has thought-out and mature consideration on support, connection, bearing cooling, etc. Sorts of available auxiliary and monitoring instruments make it high safety and reliability.



Performance Range



LDB-B/APIFLO-VB TURBINEFLO Series Vertical Multistage Pump

Design Criteria:

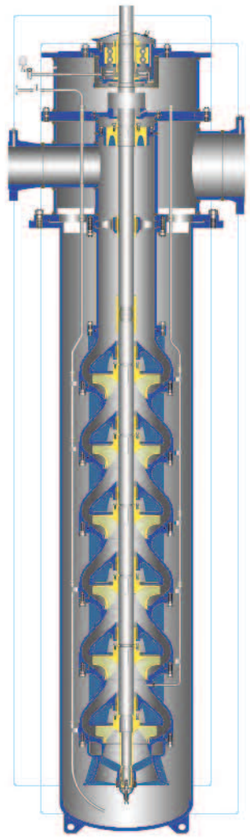
Applicable codes and standards: API610(LDB-B/APIFLO-VB)
Capacity : ~60,000m^3/h
Head : ~500m
Temperature: -80~+250℃
Pressure: ~10.0Mpa

Application:

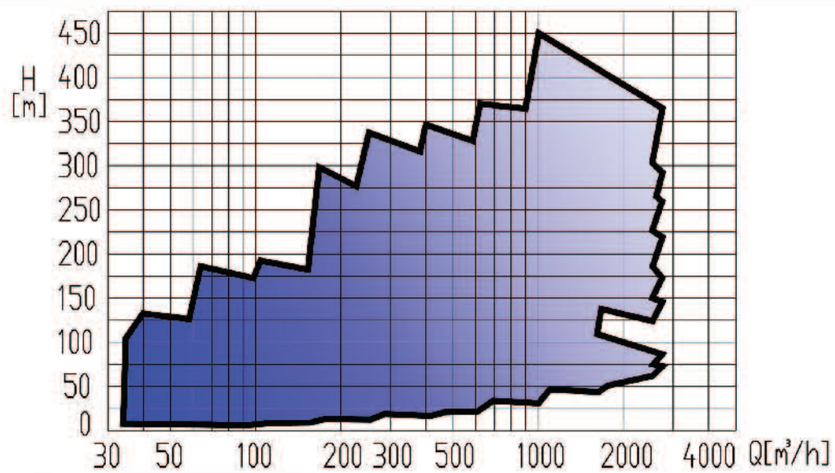
Refinery, Petrochemical, Coal Chemical, Cryogenic Engineering, LNG Industry, Seawater Desalination, Seawater Lifting, etc. The serial is suitable for pumping liquid mediums which are clean or containing trace particles, especially for pumping liquid mediums which are easily vaporized or low temperature, such as ethylene, liquid ammonia, LNG, condensate, hydrocarbon gas, oil products, etc.

Product Overview:

Double-casing multi-stage vertically suspended pumps with bowl type diffuser. The top antifriction bearing is lubricated by oil. The bottom sliding bearing is multi-point supported. The first-stage impeller can be single- or double-suction, it also can be lower arranged. The axial force is efficient balanced by balance drum which can not be impacted by axial position. Structure design has thought-out and mature consideration on support, connection, bearing cooling, etc. Sorts of available auxiliary and monitoring instruments make it high safety and reliability.



Performance Range(LDB-B/APIFLO-VB)



LDB-C/APIFLO-VC Series Large Vertical Mixed Flow Pump

Design Criteria:

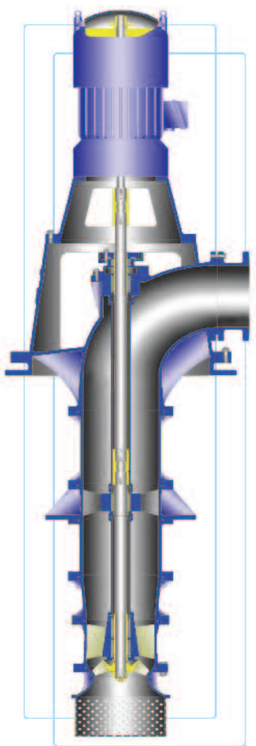
Applicable codes and standards: API610
Capacity : ~15000m^3/h
Head : ~100m
Temperature: -80~+150℃
Pressure: 2.0Mpa

Application:

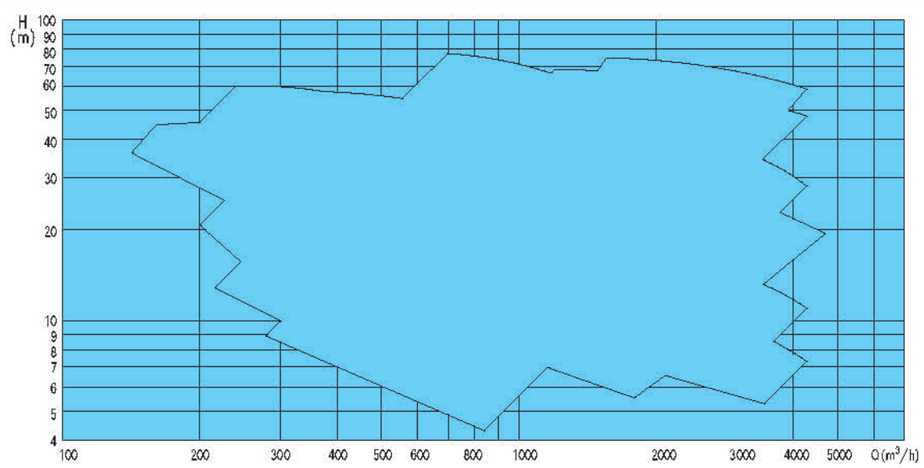
Thermal Power Plant, Nuclear Power Plant, Metallurgy, Dock Lifting, Urban Water Supply, Pollution Discharge, Farm Irrigation, etc.

Product Overview:

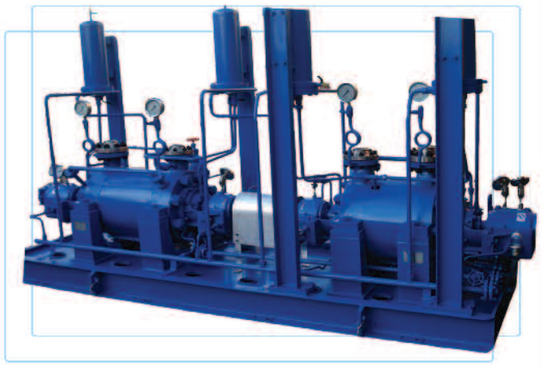
Single- or double-stage vertically mixed flow pump with bowl type diffuser, small size, light weight, economic spare occupation, easy to start-up without priming, high efficiency. The adjustable impeller can adjust the blade angle during the operation. The protection sleeve with clean liquid could lubricate the bearing and protect the shaft while pumping the liquid which is containing particles. The axial force of pump is endured by thrust bearing of motor, the pump is rigid coupled with motor.



Performance Range



Hydraulic Power Recovery Turbine



Design Criteria:

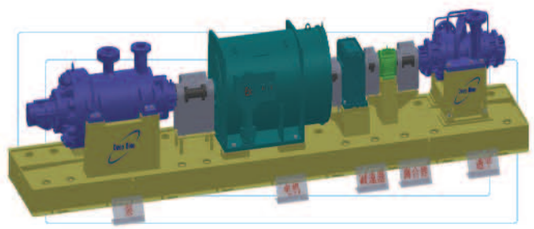
Applicable codes and standards: API610
Capacity : 5~12000m^3/h
Head : ~3000 m
Temperature : -80~+450℃
Pressure : ~35.0Mpa

Application:

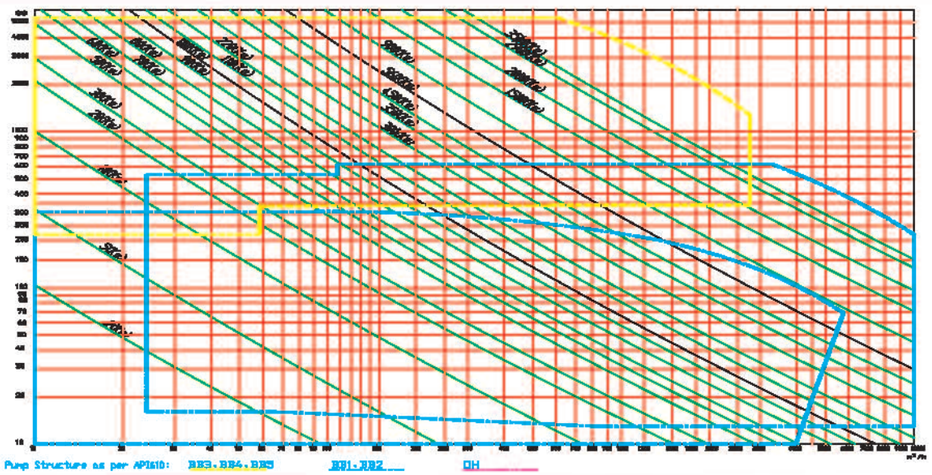
Widely used in pressure energy recovery in kinds of unit.
Hydrocracking unit: high pressure energy of Wax oil, residual oil, heavy oil, hot oil
Ammonia plant: high pressure energy of rich solution in desulfurization or decarburization process
Urea plant: high pressure energy of ammoniacal liquor
Poly plant: high pressure energy of circulating water
Desalination plant: high pressure energy of sea water
LNG Turbo Expander

Product Overview:

Designed and developed in accordance with API610. Different structure type such as OH, BB, VS can be applied based on different condition, such as temperature, pressure, installation, etc. To improve the application of turbine, there will be investment benefits if the recovery energy is larger than 10kw. Specific to hydraulic turbine in hydrocracking unit and ammonia plant, after long term research and developing, we already have enough design and manufacture experience to achieve localization.



Performance Range



LNG Submerged Column Pump

Design Criteria:

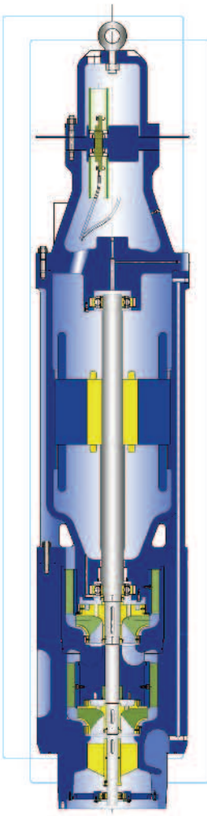
Design Standard: EN1473 & API610
Flow: ~2000 m^3/h
Head: ~800 m
Design Temperature: -196° C
Operating Temperature: ~-162° C
Design Pressure: 5.0 MPa

Application:

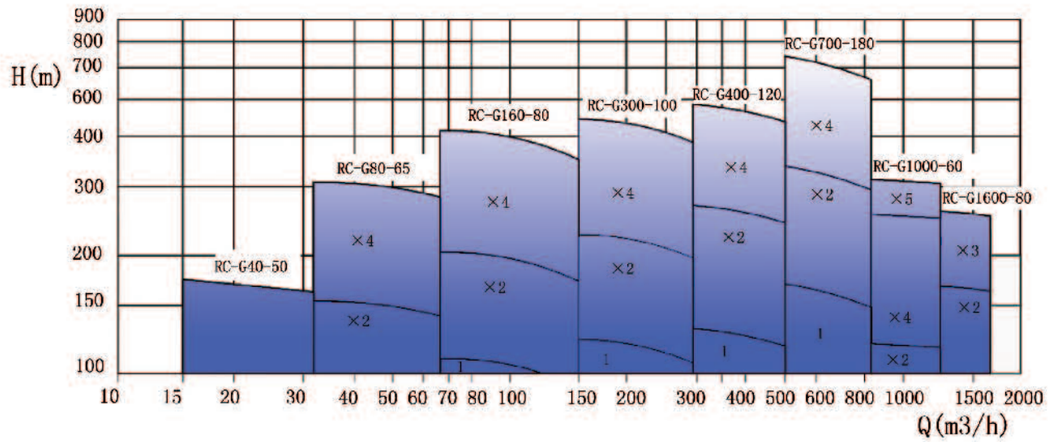
LNG submerged column pumps are widely applied in LNG receiving stations and LNG liquefaction plants. It is mainly used for delivering, handling and pressurizing the LNG.

Product Overview:

Single- or multi-stage close-coupled vertical submersible pump which is designed and manufactured in accordance with EN1473(Installation and equipment for liquefied natural gas - Design of onshore installations).The motor is immersed in LNG in which the oxygen can't exist, so the non-explosion-proof motor could be used. The bearing could be lubricated by LNG without additional lubricating system. The pump unit has excellent hydraulic performance, good cavitaton-resistance high safety and reliability.



Performance Range



LNG Submerged Barrel Pump

Design Criteria:

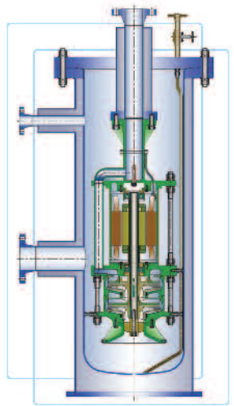
Design Standard:EN1473 API610
Flow: ~ 200m^3/h
Head: ~ 260m
Temperature:-196 ~ 60℃
Speed: ~ 6000rpm

Application:

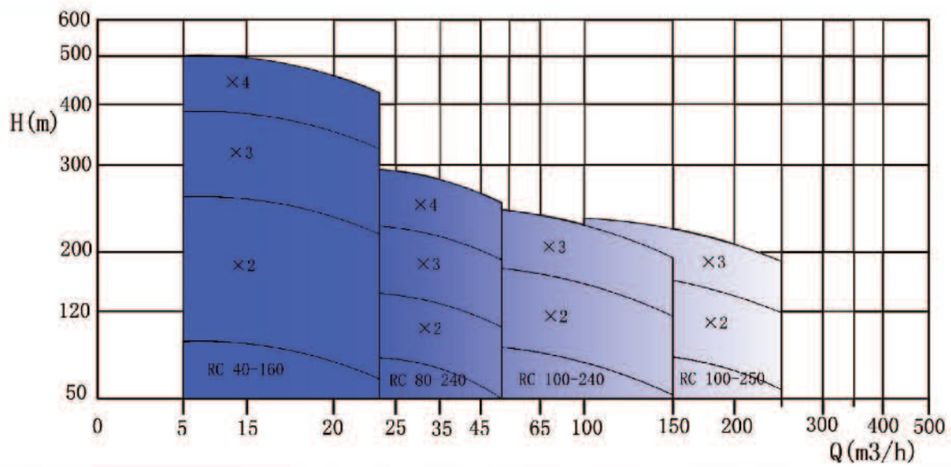
LNG submerged barrel pumps are widely used in LNG receiving station, LNG liquefaction plant and LNG filling station. It is mainly used for delivering and loading the LNG.

Product Overview:

LNG submerged barrel pump is single- or multi-stage vertical submersible pump. The pump is closed-coupled with motor, the whole unit is in vacuum insulation barrel. It is submerged in LNG. The oxygen can't exist in LNG, so the non-explosion-proof motor could be used. Meanwhile, the whole unit is in vacuum insulation barrel, which could prevent the vaporization of liquid, it can be also simplify the pre-frozen and maintenance in site. The bearing is lubricated by LNG without additional lubricating system. The pump unit has excellent hydraulic performance, good cavitation-resistance, high safety and reliability.



Performance Range



RCA Cryogenic Transfe Pump

Design Criteria:

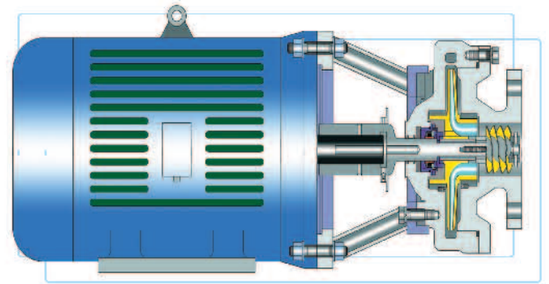
Flow: ~ 1000l/min
Pressure: ~ 5MPa
Temperature: ~ -200℃

Application:

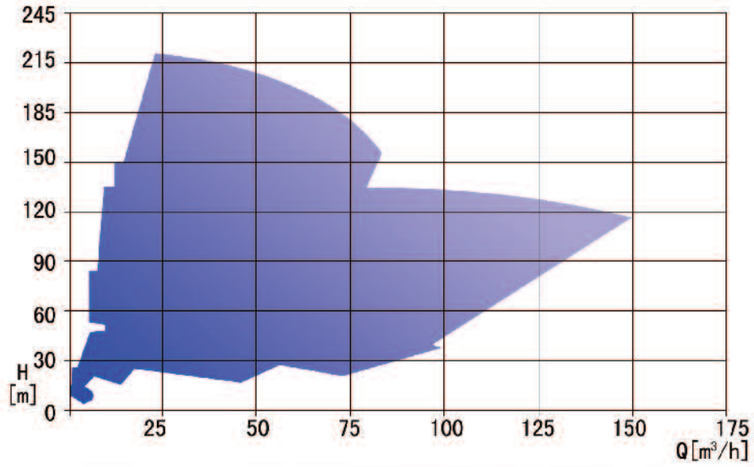
Air Separation Device:
1.Cryogenic liquids transfer between cryogenic tank and cryogenic tank lorry
2.Cryogenic liquids transfer between cryogenic tank lorries
The cryogenic liquids are liquid oxygen, liquid nitrogen, liquid argon, LNG and etc.

Product Overview:

Hollow welding support and hollow shaft could effectively reduce the cold conduction.
The cartridge mechanical seal could prevent the static and dynamic leakage of shaft.
The variable frequency motor could convert the speed.
Large opening closed-type impeller could improve the cavitation-resistance.
The casing, casing cover and impeller which are equipped with wearing rings have longer life and easier maintenance.
Rigidly coupled type, higher efficiency, tight structure.



Performance Range



RCB Cryogenic Process Pump

Design Criteria:

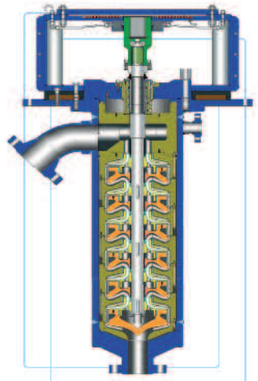
Flow: ~2500l/min
Pressure: ~16MPa
Temperature: ~-200℃

Application:

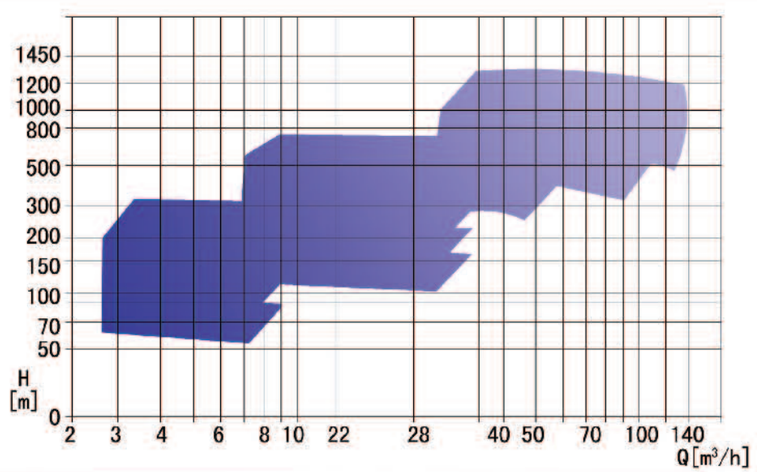
Transfer for Air Separation Unit:
1.Liquid oxygen process
2.Liquid nitrogen process
3.Liquid argon process

Product Overview:

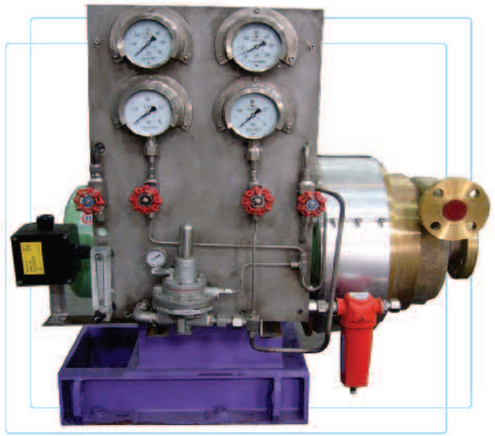
The heating system for motor front bearing could prevent motor bearing from freezing. The probes could assist the on-off of heater, display the temperature and alarm.
The incubator structure with nitrogen purging could prevent the moisture into the interspace to keep the best seal condition.(Especially for liquid oxygen)
To guarantee the safety of oxygen, the motor bottom is equipped with drain-pan and nitrogen purging device.
The vent flange on top of pump could be convenient for pre-freezing and unfreezing.
With the auxiliary connecting device, the rotor could be taken out without dismounting the cool box. Easy for maintenance.



Performance Range



RCD Cryogenic Process Pump



Design Criteria:

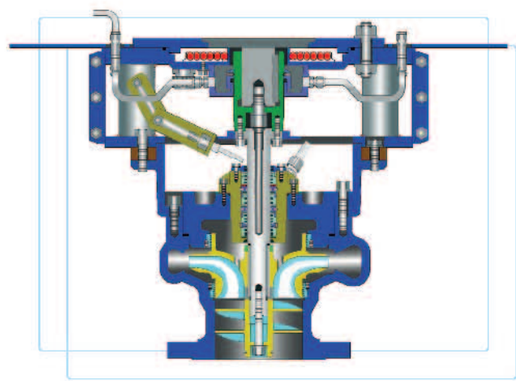
Flow: ~20000l/min
Pressure: ~5MPa
Temperature: ~-200℃

Application:

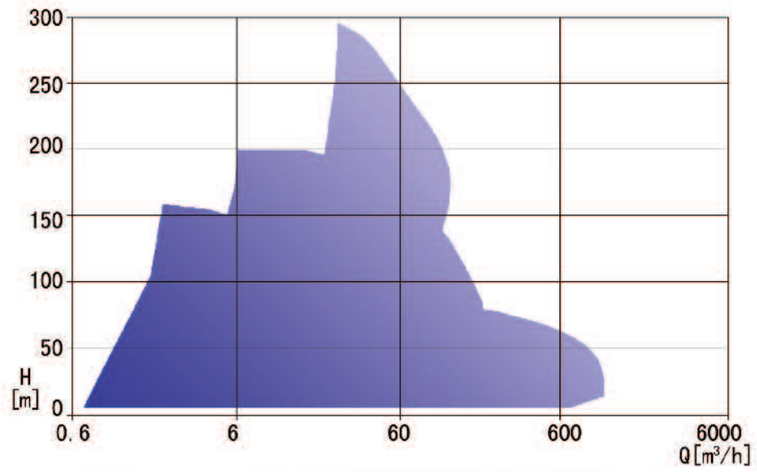
Transfer for Air Separation Unit:
1.Liquid oxygen process
2.Liquid nitrogen process
3.Liquid argon process

Product Overview:

Close-coupled with motor, less axial size
Specialized motor, special designing, variable frequency drive
To guarantee the commissioning, electric heat tracing device is used for bottom motor bearings.
The combined design of hollow welding support and slinger ring shaft could effectively reduce the cold conduction.
To guarantee the safety of oxygen, the motor bottom is equipped with drain-pan and nitrogen purging device.
The mechanical seal is equipped with temperature monitoring system which could make sure the safety of pump.
Labyrinth seal is applied for longer service life
The hollow shaft could effectively reduce the cold conduction.
Closed type impeller with high efficiency. Balance hole of impeller could balance the axial force.



Performance Range



Nuclear Safety Class II RRA Residual Heat Removal Pump for Million-kilowatt PWR Nuclear Power Plant.

Design Criteria:

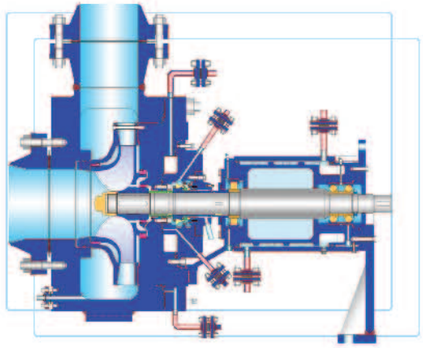
Applicable codes and standards: RCC-M 2000+2002
Flow: 120/910/1475m^3/h
Head: 95/77/43m
NPSHr: -/4.6/6.5m
Temperature: 200° C
Pressure: 10Mpa

Application:

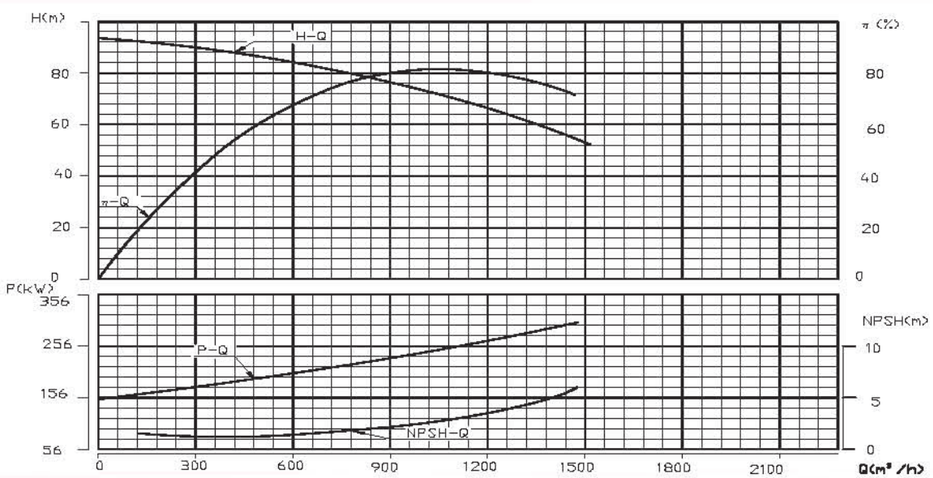
The residual heat removal pumps are applied in residual heat removal system, and are used to remove residual heat from the reactor core and reactor coolant system if reactor coolant loop condition drop to less than180℃ and 3.0 MPa(abs) during the reactor normal shutdown to ensure cold shutdown of plant.

Product Overview:

Horizontal centreline-mounted single-stage overhung pump which is designed and manufactured in accordance with RCC-M 2000+2002(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The suction is at the end of the pump and the discharge is at the top of the pump. Consider the pump shall be operated during LOCA accident, the cooling jacket is added onto bearing house to guarantee the reliable operating of bearing. The pump and motor are separately fixed on independent baseplate. With the flexible coupling, the pump is easy to maintain without dismounting the motor.



Performance Curve



Nuclear safety Class II EAS Containment Spray Pump for Million-kilowatt PWR Nuclear Power Plant.

Design Criteria:

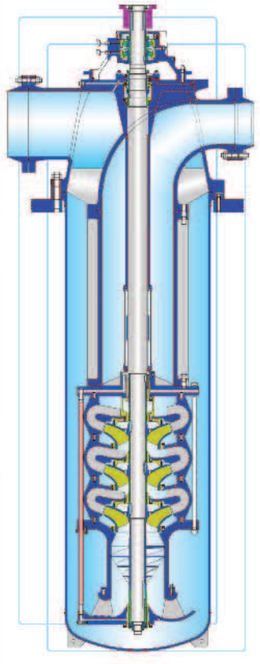
Flow:100/850/1050/1150m^3/h
Head:181/132.4/118.4/108.4m
NPSHr:-/0.28/0.41/1.8m
Temperature:150℃
Suction Pressure:1.5 MPa
Discharge Pressure:3.0 MPa

Application:

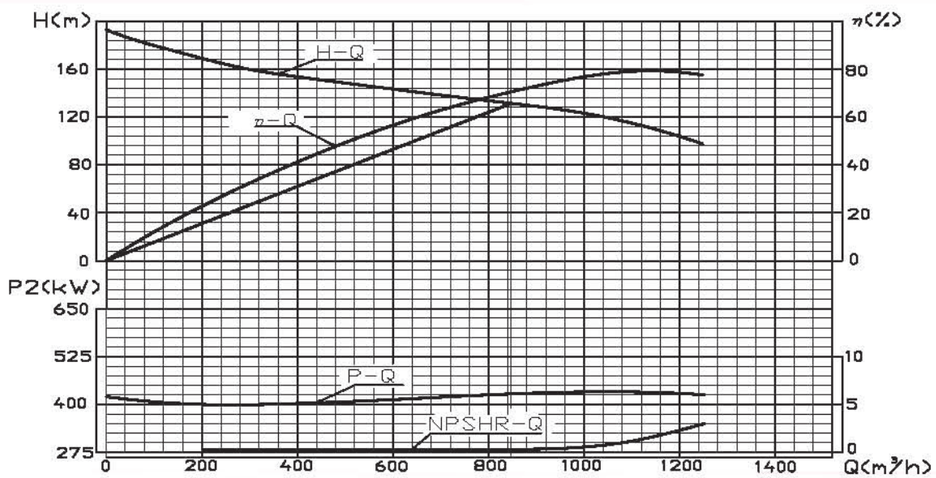
EAS containment spray pumps are parts of containment spray system, and spray the containment in case of loss of coolant accident (LOCA) or steam line break or feed water line break in the containment.

Product Overview:

Double-casing radially split multistage vertical pump which is designed and manufactured in accordance with RCC-M 2000+2002(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The earthquake-resistance of pump is verified by seismic analysis and seismic test. It can be used during earthquake. The forged inducer could provide high strength, accurate size and good cavitation-resistant. The shaft end with disc spring could reduce the stress which is caused by thermal deformation of rotor during thermal shock. The axial force is endured by balance hole. To ensure the reliable operation of unit, the residual axial force is endured by a pair of angular contact bearing.



Performance Curve



Nuclear Safety Class II RIS Low Head Safety Injection Pump for Million-kilowatt PWR Nuclear Power Plant.

Design Criteria:

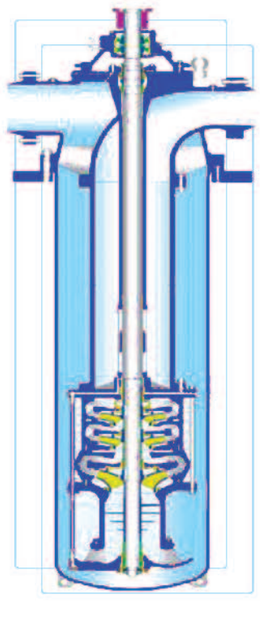
Flow:100/850/1100m^3/h
Head:151.9/92.3/49.1m
NPSHr:-/0.18/1.1m
Temperature:150℃
Suction Pressure:2.5 MPa
Discharge Pressure:3.0 MPa

Application:

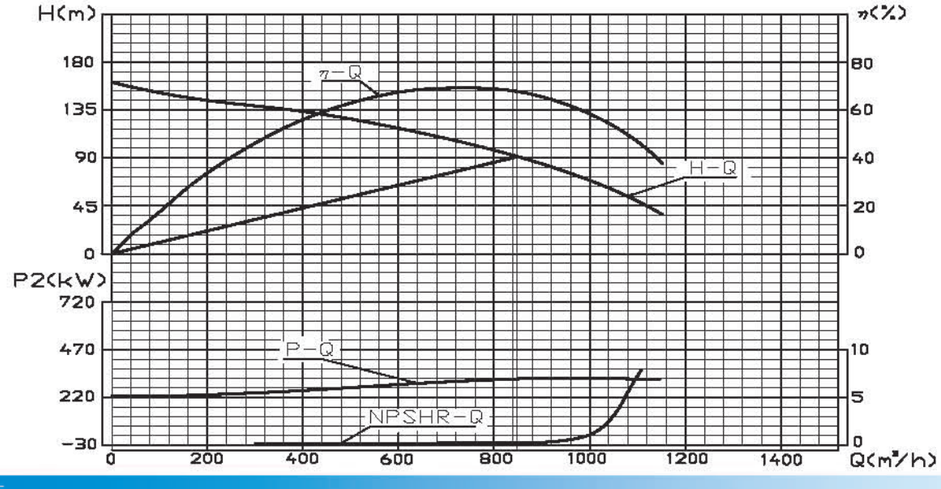
RIS low head safety injection pumps are part of low head safety injection system, it could perform safety injection to the containment in case of Loss of coolant accident (LOCA) or steam line break or feed water line break in the containment.

Product Overview:

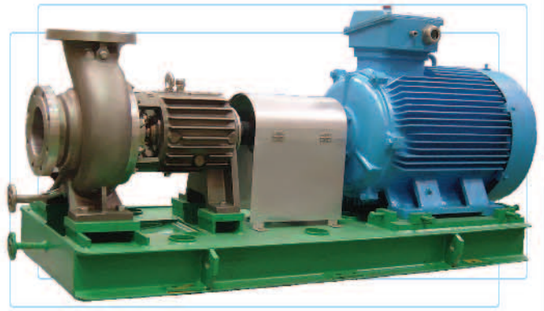
Double-casing radially split multistage vertical pump which is designed and manufactured in accordance with RCC-M 2000+2002(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The earthquake-resistance of pump is verified by seismic analysis and seismic test. It can be used during earthquake. The forged inducer could provide high strength, accurate size and good cavitation-resistant. The shaft end with disc spring could reduce the stress which is caused by thermal deformation of rotor during thermal shock. The axial force is endured by balance hole. To ensure the reliable operation of unit, the residual axial force is endured by a pair of angular contact bearing.



Performance Curve



Nuclear Safety Class III Spent Fuel Pit Cooling Pump for Million-kilowatt PWR Nuclear Power Plant.



Design Criteria:

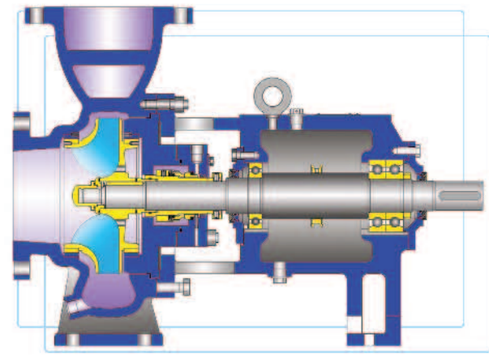
Flow:421.5m^3/h
Head:47.50m
Temperature: ~120℃
Pressure:1.6MPa

Application:

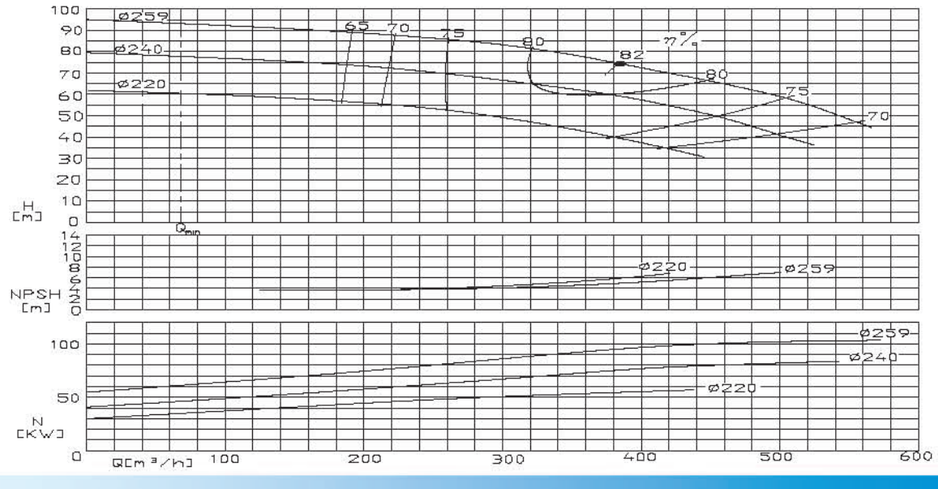
Spent fuel pit cooling pumps are part of spent fuel pit cooling system for 600MWe, 900MWe, 1000MWe PWR nuclear power stations.

Product Overview:

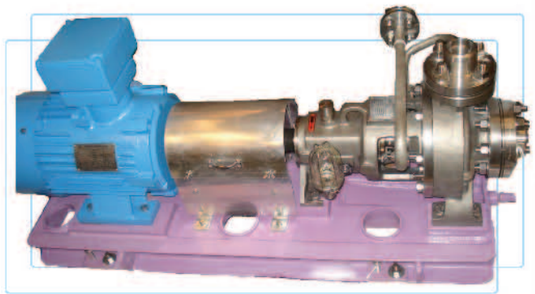
Horizontal foot-mounted single-stage overhung pump which is designed and manufactured in accordance with RCC-M 2000+2002(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The suction is at the end of the pump and the discharge is at the top of the pump, which could be self-vent. The pump performance could reach international advanced level. The wear rings with balance hole are applied to balance the axial force. The casing and pressure-containing parts are reinforced to improve the earthquake resistance. The earthquake-resistance of pump is verified by seismic analysis and seismic test. The pump could be widely used.



Performance Curve



Nuclear Safety Class III Chemical Additive Mixing Pump for Million-kilowatt PWR Nuclear Power Plant.



Design Criteria:

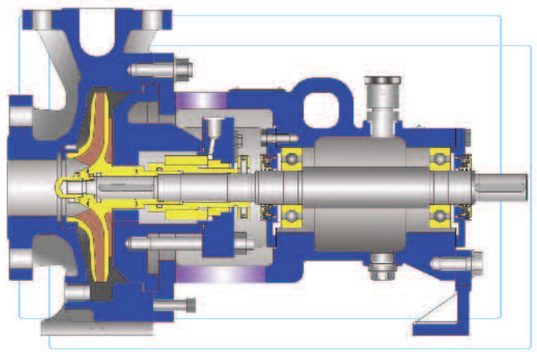
Flow:15m^3/h
Head:30m
Temperature: ~ 90℃
Pressure:1.6MPa

Application:

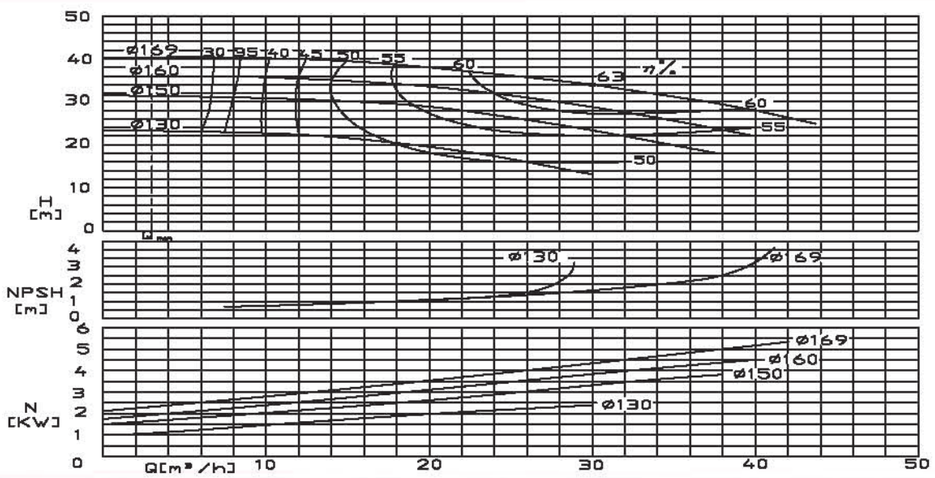
Chemical additive mixing pumps are part of chemical additive transfer system for 600MWe, 900MWe, 1000MWe PWR nuclear power stations.

Product Overview:

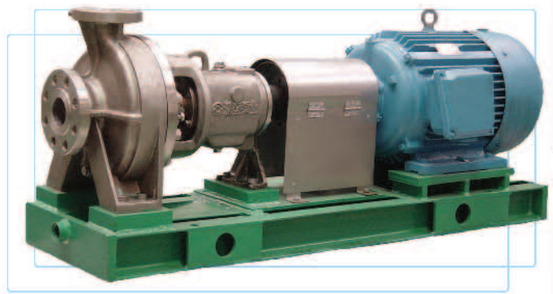
Horizontal foot-mounted single-stage overhung pump which is designed and manufactured in accordance with RCC-M 2000+2002(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The suction is at the end of the pump and the discharge is at the top of the pump, which could be self-vent. The drain which is at the bottom of casing could exhaust the remaining liquid in casing. The back vane structure could balance the axial force. The casing and pressure-containing parts are reinforced to improve the earthquake resistance. The earthquake-resistance of pump is verified by seismic analysis and seismic test. The bearing is dual protected by mechanical oil seal. The locknut is applied to impeller. The performance of pump could satisfy the operating requirement.



Performance Curve



Nuclear Safety Class III Boric Acid Pump for Million-kilowatt PWR Nuclear Power Plant.



Design Criteria:

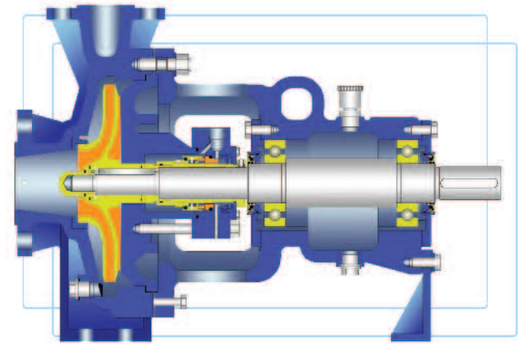
Flow:16.6m^3/h
Head:85m
Temperature: ~ 80℃
Pressure:1.6MPa

Application:

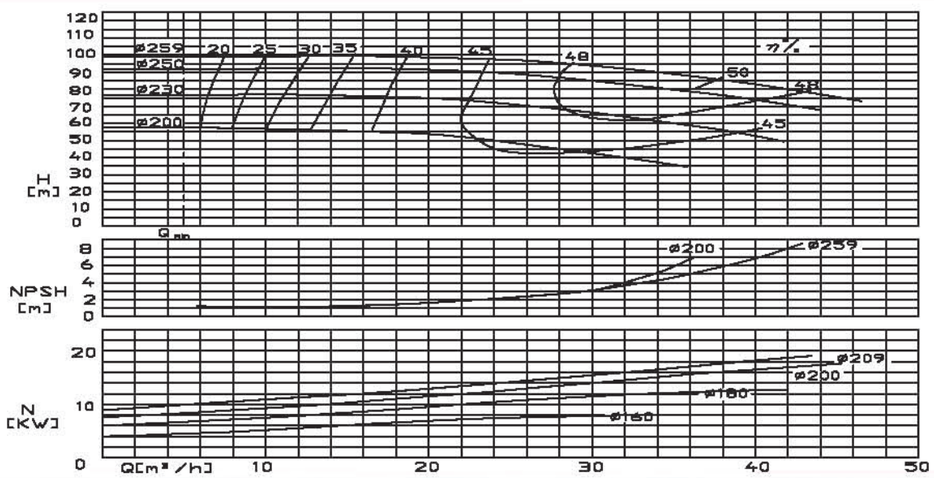
Boric acid pumps are applied in boric acid transfer system for 600MWe, 900MWe, 1000MWe PWR nudear power stations.

Product Overview:

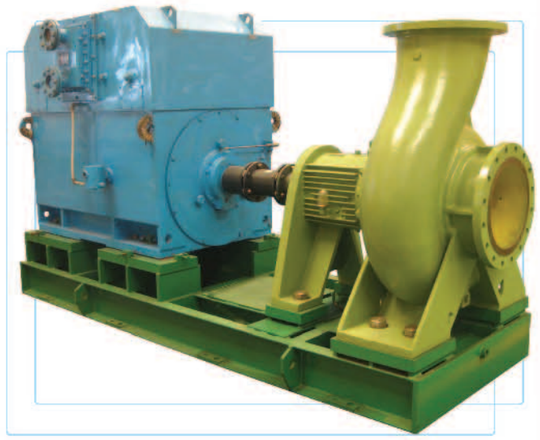
Horizontal foot-mounted single-stage overhung pump which is designed and manufactured in accordance with RCC-M 2000+2002(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The suction is at the end of the pump and the discharge is at the top of the pump, which could be self-vent. The back vane structure could balance the axial force. The casing and pressure-containing parts are reinforced to improve the earthquake resistance. The earthquake-resistance of pump is verified by seismic analysis and seismic test. The seismic test is based on the envelope spectrum from multiple power stations. The pump could be widely used.



Performance Curve



Nuclear Safety Class III RRI Component Cooling Water Pump for Million-kilowatt PWR Nuclear Power Plant.



Design Criteria:

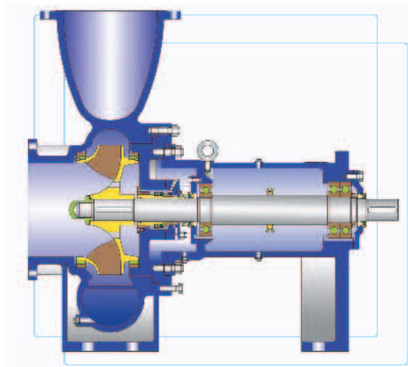
Flow:2855/3200m^3/h
Head:63.6/50m
Temperature: ~ 120℃
Pressure:2.0MPa

Application:

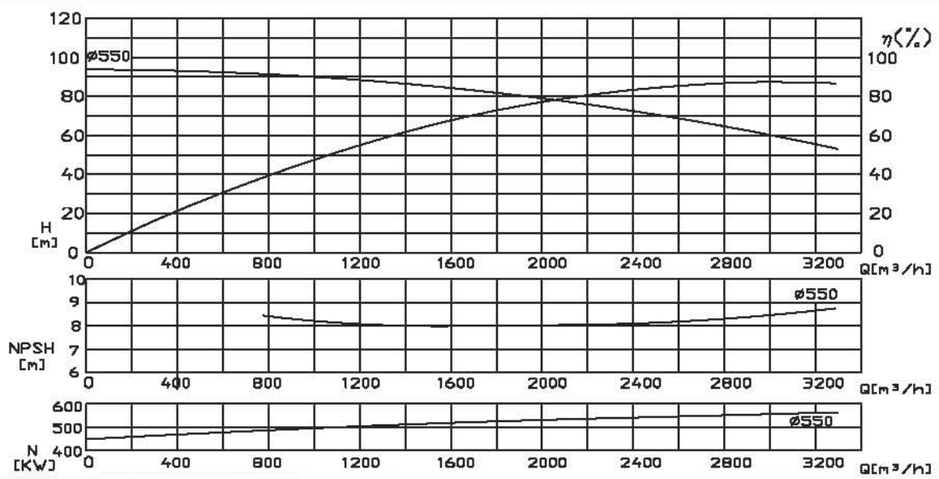
RRI component cooling water pumps are part of component cooling water system of 600MWe, 900MWe, 1000MWe PWR nuclear power plant, and are used to transfer heat from safety related systems, operating auxiliary systems, and exchange heat via essential service water system.

Product Overview:

Horizontal single-stage overhung pump which is designed and manufactured in accordance with RCC-M(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The suction is at the end of the pump and the discharge is at the top of the pump, which could be self-vent. The suction with guiding device could get stable flow. The hydraulic models are designed based on traditional design and CFD analysis. After several tests and analysis, finally we select the best of them , whose suction-specific speed is 1788. It is close to international advanced level.



Performance Curve



Nuclear Safety Class III SES Essential Service Water Pump for Million-kilowatt PWR Nuclear Power Plant.

Design Criteria:

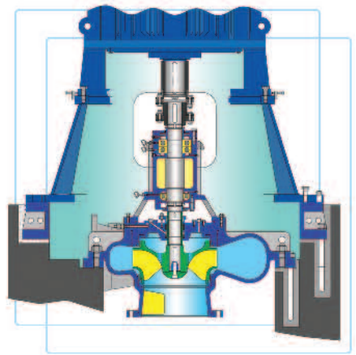
Flow:2200/3300m^3/h
Head:41/39m
Temperature: ~ 80℃
Pressure:1.6MPa

Application:

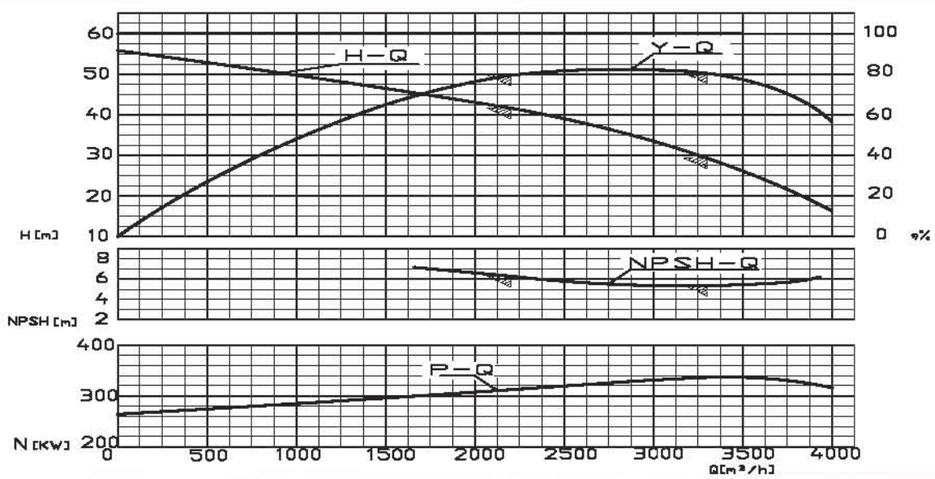
SEC essential service water pumps are part of essential service water system of 600MWe, 900MWe, 1000MWe PWR nuclear power plant. It is used to provide cooling water for the RRI/SEC heat exchangers of component cooling water System, and conduct the heat from RRI system to sea.

Product Overview:

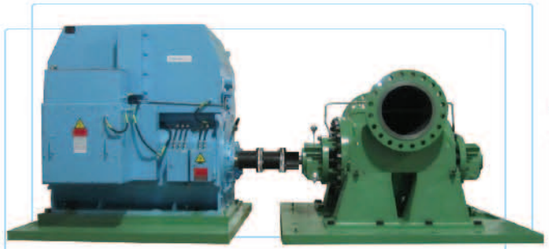
Horizontal single-stage overhung pump. The suction is at the end of the pump and the discharge is at the top of the pump. The steady flow plate in suction side could get stable suction flow to get better cavitation-resistant. The whole unit consists of pump, coupling, motor, baseplate, monitoring system and other necessary auxiliary system. The pump and motor are separately supported and fixed on the foundation.



Performance Curve



RRI Equipment Cooling Water Pump for EPR Nuclear Power Station



Design Criteria:

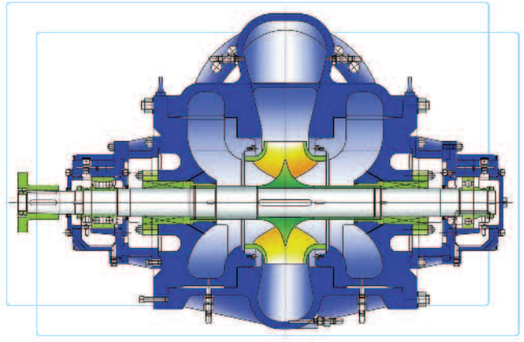
Flow:1735/3660/3714m^3/h
Head:75/66/60m
NPSHr:/11.32m
Temperature:120℃
Pressure:2.5Mpa

Application:

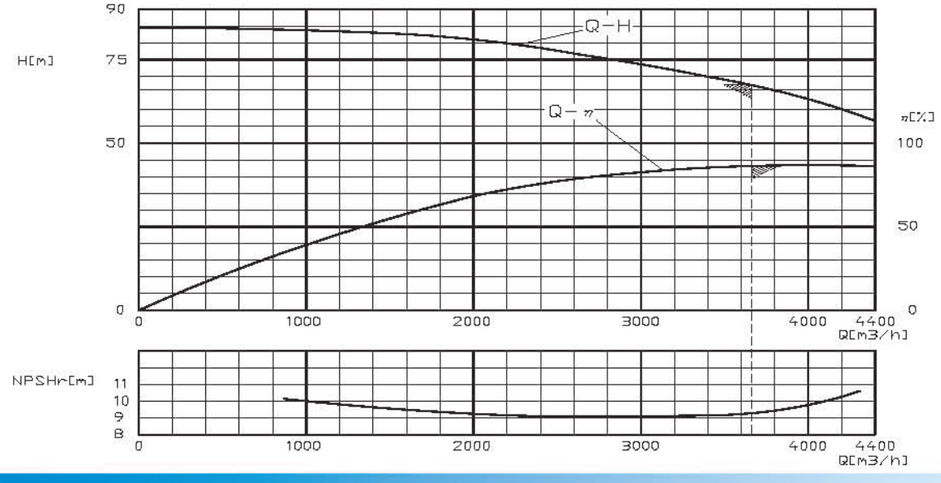
RRI equipment cooling water pumps are integral part of component cooling water systems in 1700MWe EPR nuclear power station. RRI component cooling water system transfers heat from safety related system and operating auxiliary system, then exchanges heat via essential service water system.

Product Overview:

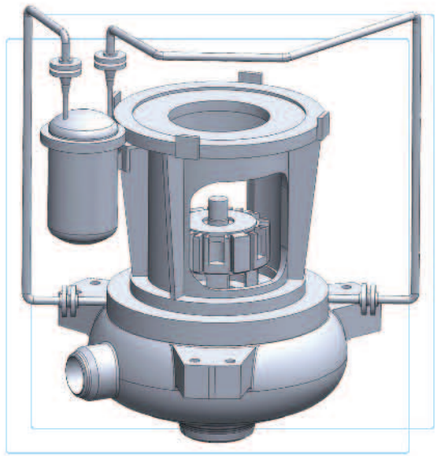
Horizontal centreline-mounted sing-stage between-bearing pump which is designed and manufactured in accordance with RCC-M 2007(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The impeller is double-suction type. The casing is radially split. The side to side type suction and discharge are on top of pump axial line. The feather key is located onto support foot between casing and baseplate. The whole unit could endure the nozzle forces which is 10~20 times than API610. The hydraulic model is independently developed by DDBP with excellent performance, high efficiency and low NPSHr. The design service life is 60 years. The whole unit could be close to international advanced level.



Performance Curve



RNS Residual Heat Removal Pump for AP1000 Generation III Nuclear Power Station.



Design Criteria:

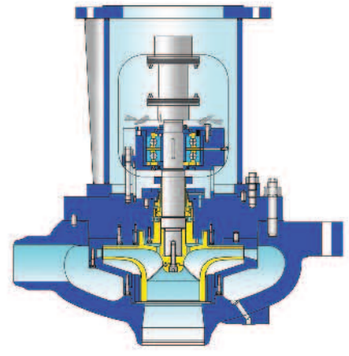
Flow:0/68.14/364.1/525.8m^3/h
Head:114.3～128/114.3～128/103.6～115.8/81.4～91.1m
NPSHr:——/1.92/2.65/3.96 m
Temperature:215.6℃
Pressure:6.3Mpa

Application:

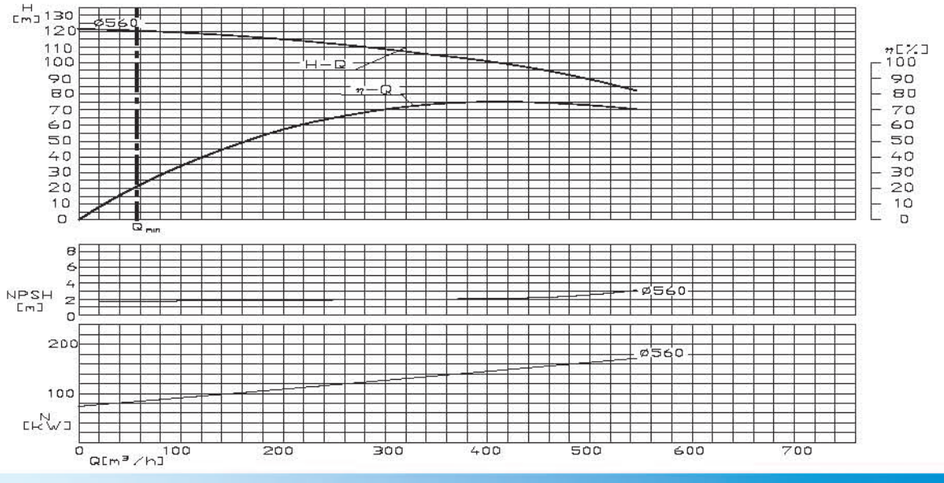
RNS residual heat removal pumps are applied in residual heat removal system(RNS) in AP1000 generation III nuclear power station.
The main function are as follows:
(1)When the main steam pipeline is broken, RNS pump should cool the RCS to below 100 degree in 72 hours.
(2)In shut-down period, RNS pump should transfer the heat from reactor core and RCS to reactivate the power station.
（3）Nonsafety-related function,such as normal cooling, refueling, draining and etc.

Product Overview:

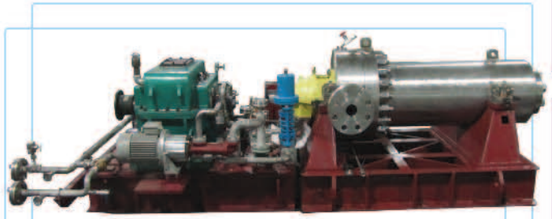
Single-stage vertical pump which is designed, manufactured and tested in accordance with ASME BPVC-III-1 ND. The design service life is 60 years. . The liquid is filled from bottom and exhausted by horizontal.
The compact structure could decrease the pump axial line, reduce the unit vibration, especially the vibration of bearing house. The mechanical seal and bearing could be maintained and changed without removing the motor and pipeline. When the mechanical seal is failure due to the over-pressure, the leakage is in the allowable scope. The pump could be used in high pressure and high temperature condition.



Performance Curve



RCV Charging Pump for CPR1000



Design Criteria:

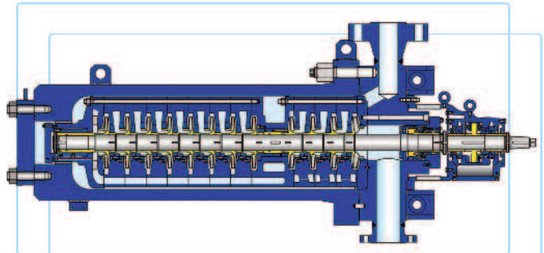
Flow:0/34/42.9/148/160m³/h
Head:1830～1860/1760～1802/＞1740/730～810/＞500m
NPSHr:≤ 7.8m
Temperature:40～120℃
Pressure:21MPa

Application:

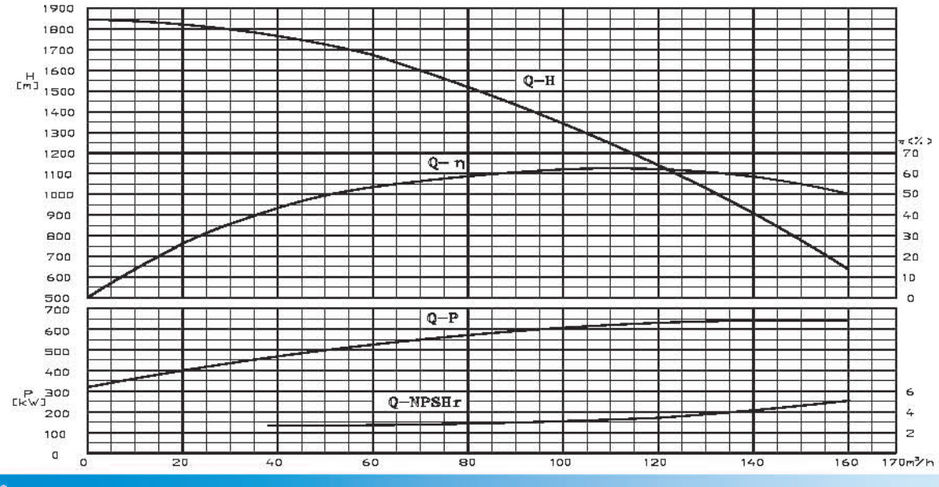
RCV charging pumps are applied in the chemical and volume control system(RCV) of 1000MWe PWR nuclear power plant. The main functions are as following:
1.Supply water into reactor coolant system to keep the water level in steam pressurizer.
2.Supply the cooling water to mechanical seal of three reactor main pumps
3.Used as safety injection pump to prevent the reactor core in case the LOCA accident is happening.

Product Overview:

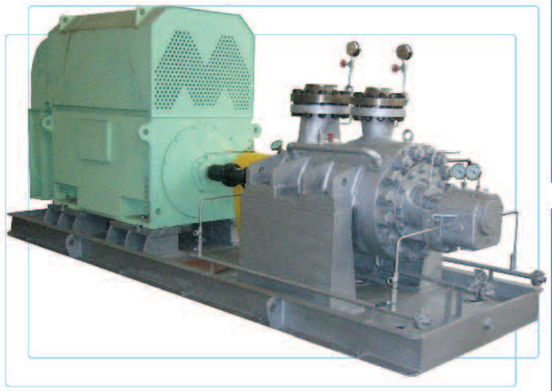
Horizontal double-casing radially split multistage pump which is designed and manufactured in accordance with RCC-M 2000+2002(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The different hydraulic impellers could be used to satisfy the sharp drop head and limited NPSH margin. The symmetrically arranged impellers could balance the axial force. The forced lubrication system can guarantee to start the pump without pre-lubrication. And can be used in kinds of conditions, such as thermal shock, solid, limit low flow etc. It is simulation seismic analyzed to satisfy the feasible operating during earthquake.



Performance Curve



ASG Auxiliary Feed Water Motor Pump for CPR1000



Design Criteria:

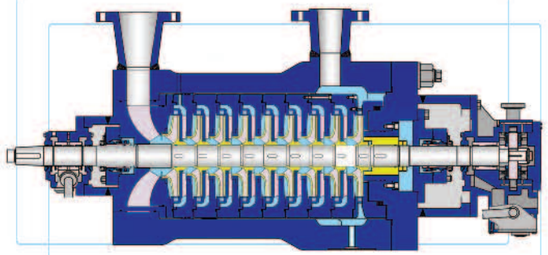
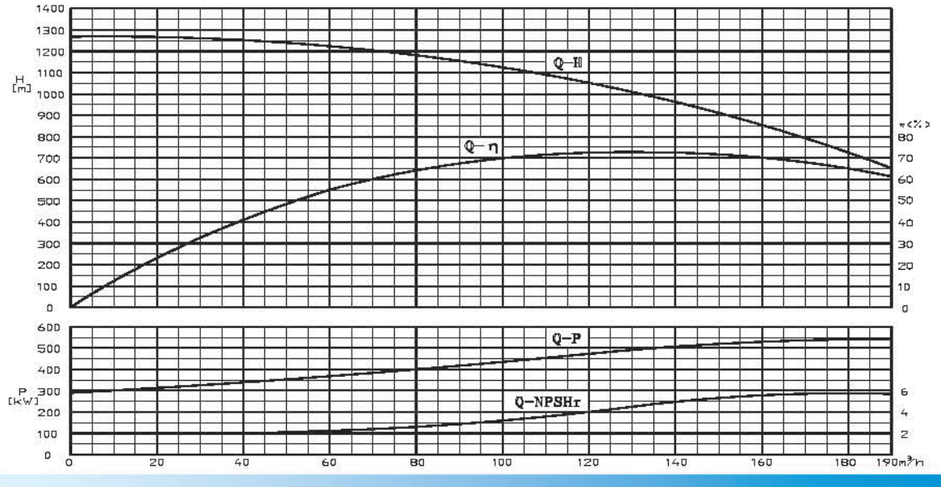
Flow:0/101/110/160m³/h
Head:≤ 1440/≥ 1125/≥ 1080/≤ 900
NPSHr:≤ 7m
Temperature: 40～120℃
Pressure:20MPa

Application:

ASG auxiliary feed water motor pumps are applied in supplying the water to steam generator(secondary side) in case any failure happened in main water supply system unexpectedly. They could maintain the necessary cooling in one circuit and exhaust the residual heat in reactor core.

Product Overview:

Horizontal double-casing radially split multistage pump which is designed and manufactured in accordance with RCC-M 2000+2002(DESIGN AND CONSTRUCTION RULES FOR MECHANICAL COMPONENTS OF PWR NUCLEAR ISLANDS). The bearing with oil circulator could be self-lubricated without additional lubrication system. The extract pipeline from first-stage impeller could flush and cool the mechanical seal, motor and lubricating oil. The balance drum is used to balance the axial force. The pump is simulation seismic analyzed to satisfy the feasible operation during earthquake.



Performance Curve