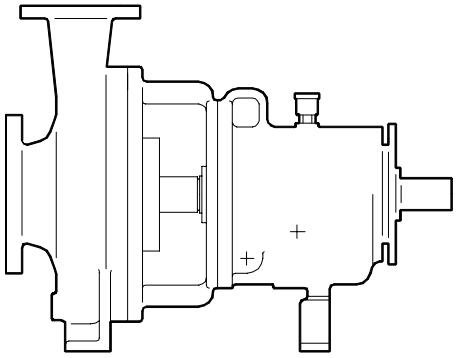
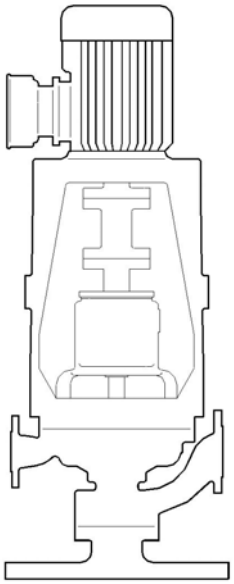
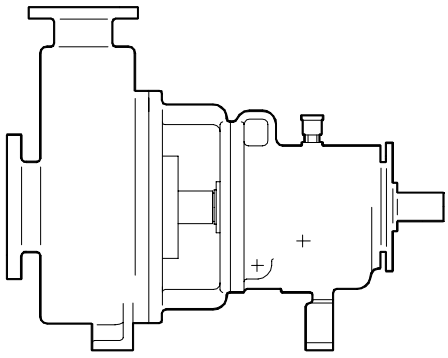
ANS, ANSZ, ANSG Series

Chemical Process Pump

According to ANSI/ASME standard







Capacity: ANS: up to 2000 m3/h, ANSG/ANSZ: 2~250 m3/h (50HZ)
ANS: up to 2400 m3/h, ANSG/ANSZ: 2.4~300 m3/h (60HZ)

Head: ANS: up to 250 m, ANSG/ANSZ: up to 150 m (50HZ)
ANS: up to 360 m, ANSG/ANSZ: up to 250 m (60HZ)

Pressure: ANS: 2.5MPa, ANSG/ANSZ: 2.0 MPa

Temperature: ANS/ANSZ：-40~+260 °C, ANSG：-40 ~150 °C

Application:

General chemical service，handling liquids of medium temperature, natural or corrosive, clean or containing solid particles.

1 General

ANSI standard chemical process pumps, including ANS, ANSZ and ANSG series of pumps, are of horizontal, single stage, single suction centrifugal pumps.

They meet the standard of ASME/ANSI B73.1M/B73.2M.Because of their unique durability, reliability and economy, the ANS pumps have become the new substitutive products in the field of general chemical process.

2 Application

ANS series of ANSI standard horizontal chemical process pumps are mainly applied in chemical service, paper and pulp, pharmaceutical, food and sugar, etc. They are handling liquids of medium temperature, natural or corrosive, clean or containing solid particles.

ANSZ series of ANSI standard horizontal self-priming chemical process pumps are mainly applied in the services of flumes' drawing and draining, tank cars' unload, oil wastes transfer and spent acid collection, etc.

ANSG series of ANSI standard vertical standard chemical inline pumps are mainly applied in water supply and drainage, pipeline boosting, petroleum and chemical industry.

5 Designation

ANS 100X80X250

- Impeller Nominal Diameter
- Discharge Nozzle Diameter
- Suction Nozzle Diameter
- Pump Series Code
  - ANS (Basic design)
  - ANSZ (self-priming design)
  - ANSG (In-line design)

6 Performance Parameters

Nozzle size: 25~400 mm

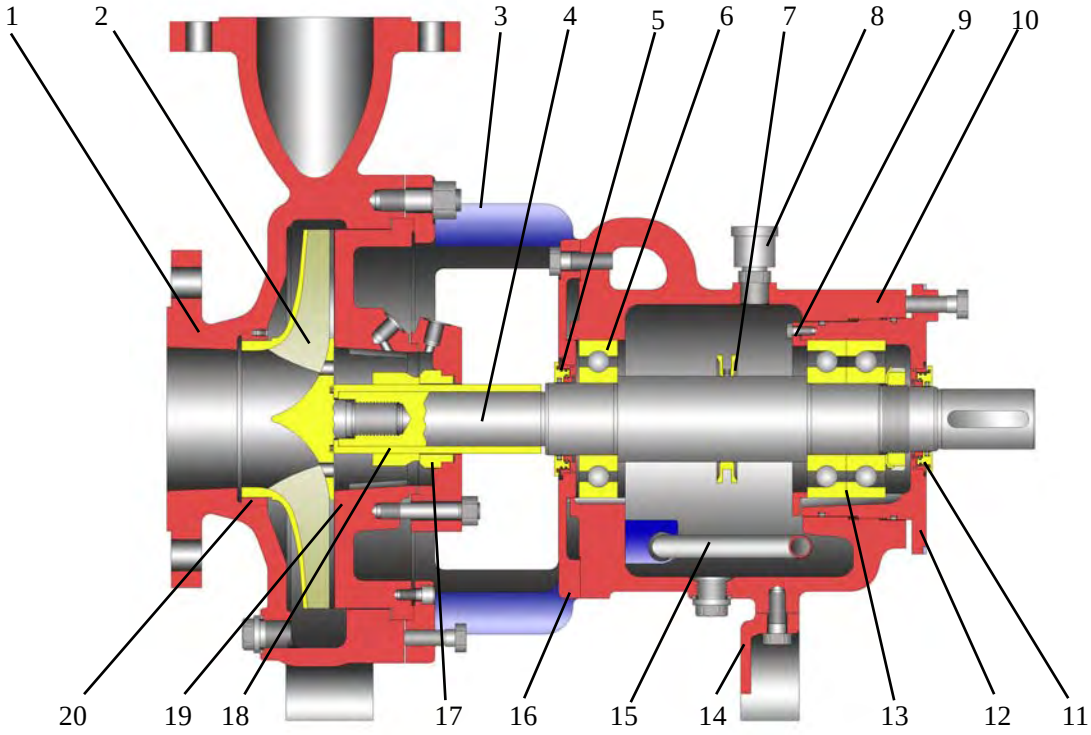
Capacity: ANS：~2000 m3/h, ANSG/ANSZ：2~250 m3/h (50HZ)
ANS:~2400 m3/h, ANSG/ANSZ：2.4~300 m3/h (60HZ)

Head: ANS: ~250 m, ANSG/ANSZ: ~150 m (50HZ)
ANS: ~360 m, ANSG/ANSZ: ~250 m (60HZ)

Pressure: ANS: ~2.5MPa, ANSG/ANSZ: ~2.0 MPa

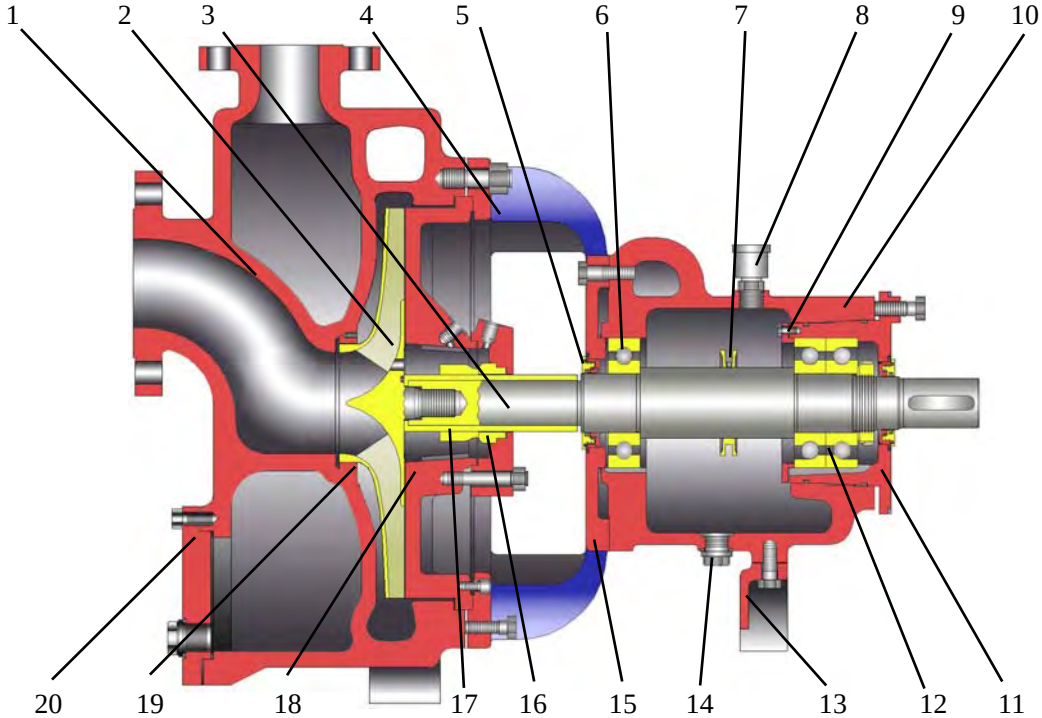
Temperature: ANS/ANSZ：-40~+260 ^{o}C, ANSG：-40 ~150 ^{o}C

7 ANS cross sectional drawing



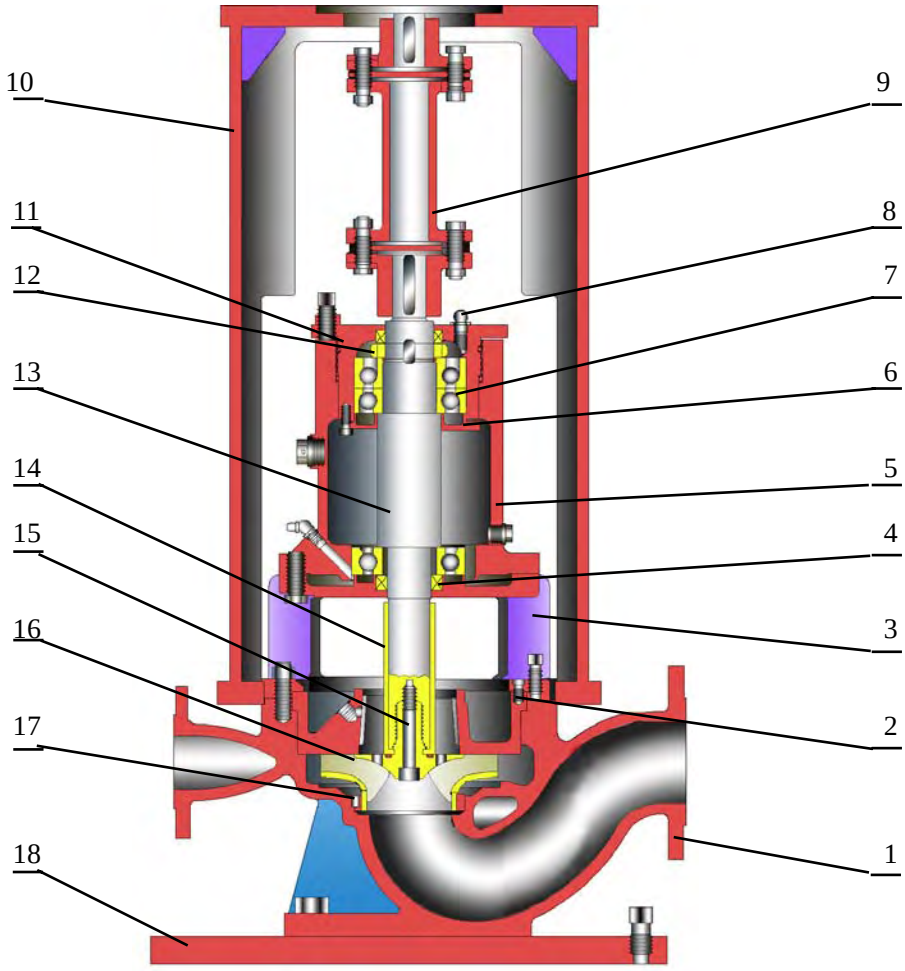
1 Casing	5 Bearing oil seal	9 Bearing retainer gland	13 Bearing	17 Mechanical seal
2 Impeller	6 Bearing	10 Bearing housing	14 Support	18 Shaft sleeve
3 Adaptor	7 Slinger	11 Bearing oil seal	15 Water-cooled hose	19 Casing cover
4 Shaft	8 Vent plug	12 Bearing box	16 Bearing cover	20 Casing wearing ring

8 ANSZ cross sectional drawing



1 Casing	5 Bearing oil seal	9 Bearing retainer gland	13 Support	17 Shaft sleeve
2 Impeller	6 Bearing	10 Bearing housing	14 Draining plug	18 Casing cover
3 Shaft	7 Slinger	11 Bearing box	15 Bearing cover	19 Casing wearing ring
4 Adaptor	8 Vent plug	12 Bearing	16 Mechanical seal	20 Cover

9 ANSG cross sectional drawing



1 Casing	5 Bearing housing	9 Coupling	13 Shaft	17 Casing wearing ring
2 Casing cover	6 Grease retainer	10 Motor pedestal	14 Shaft sleeve	18 Baseplate
3 Adaptor	7 Bearing	11 Bearing box	15 Lock bolt	
4 Bearing oil seal	8 Oil refiller	12 Lock nut	16 Impeller	

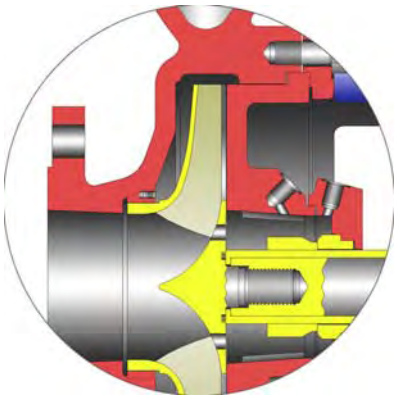
10 Construction features

New hydraulic patterns
The efficiency and anti-cavitations ability are improved greatly.

Back Open Impeller
Axial thrusts are balanced as greatly as possible. The seal chamber pressure and thrust load can be predicted.

As back open impeller, the casing cover is subject to wear. Seal chamber pressure and thrust load can be adjusted and set to original performance. The life of mechanical seal and bearing are extended.

Because the critical tolerance locates between the impeller and casing cover, the mounting of impeller and seal can be conducted without casing mounted.



Impeller

Casing cover
Available for various seal design of all the seal manufactory.
Cooling/heating jackets are available as options for liquids under various operating conditions. They are recommended when the temperature is above 150 degree Celsius.

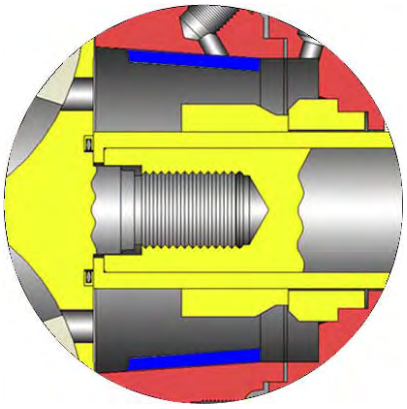
Flange
Flanges can be fabricated according to the standard of ANSI, DIN, GB and so on.

Construction features

Seal chamber and seal type

Available for soft packing, single mechanical seal, double mechanical seal and tandem mechanical seal. Also be configured as the type of balanced, unbalanced, cartridge and non-cartridge.

Flow inducing bosses redirect flow from circumferential to axial, balanced flow with low-pressure drop in the chamber that helps keep solids in suspension, minimizing erosive characteristics of the process. They are helpful for purging of solids, vapor and heat from mechanical seals.



Seal chamber

Adaptor

With different material from bearing housing, the fractures of bearing housing can be avoid even when handling high corrosive liquids. Then stability and reliability of pump are improved.

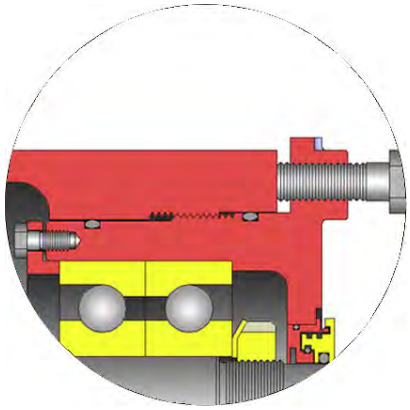
Bearing assembly

Being insulated from the exterior by bearing guard ring, bearings are prevented against being polluted and sprayed or spilled. The life of bearing assembly can be extended greatly.

One inch diameter oil sight glass that is convenient to inspect is offered as well as constant level oiler that can add oil automatically.

Applying the new type water-cooling hose, the cooling liquids are directly led through the lubricant oil to cool them. Not only the cooling effect is high, but also the lubricant oil space is saved.

Optimized designs of rigid shaft have better deflection index, then the shaft vibration is reduced.



External axial adjustment

External axial adjustment

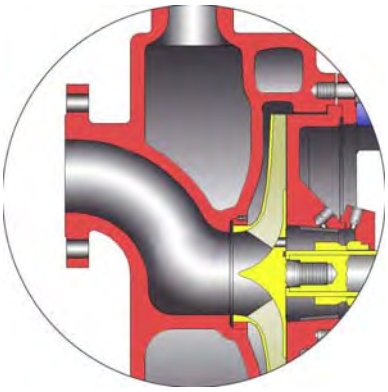
The clearance between impeller and casing cover can be adjusted exteriorly without disassembling the pump. If bearing sand seals not requiring replacement, the maintenance process can be simplified.

Casing

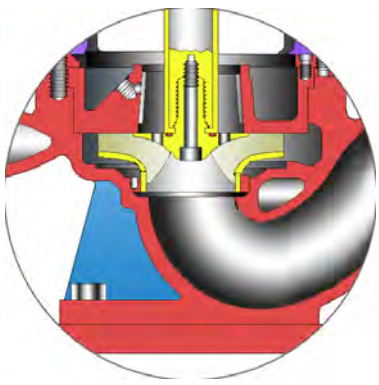
Having two mounting types that are foot or centerline mounted, they can suit various liquids. When temperature is above 95 degree Celsius， centerline mounted casing with supports being cooled is recommended.

ANSZ pumps' casings of self-priming type are integrated with priming chamber, gas-liquid separating chamber and suction channel.

ANSG pumps' suction and discharge nozzles are located in the same horizontal centerline. Pump and motor are connected by metallic flexible membrane coupling without spacer, the motor and bearing assembly can be removed without disturbing the casing and piping.

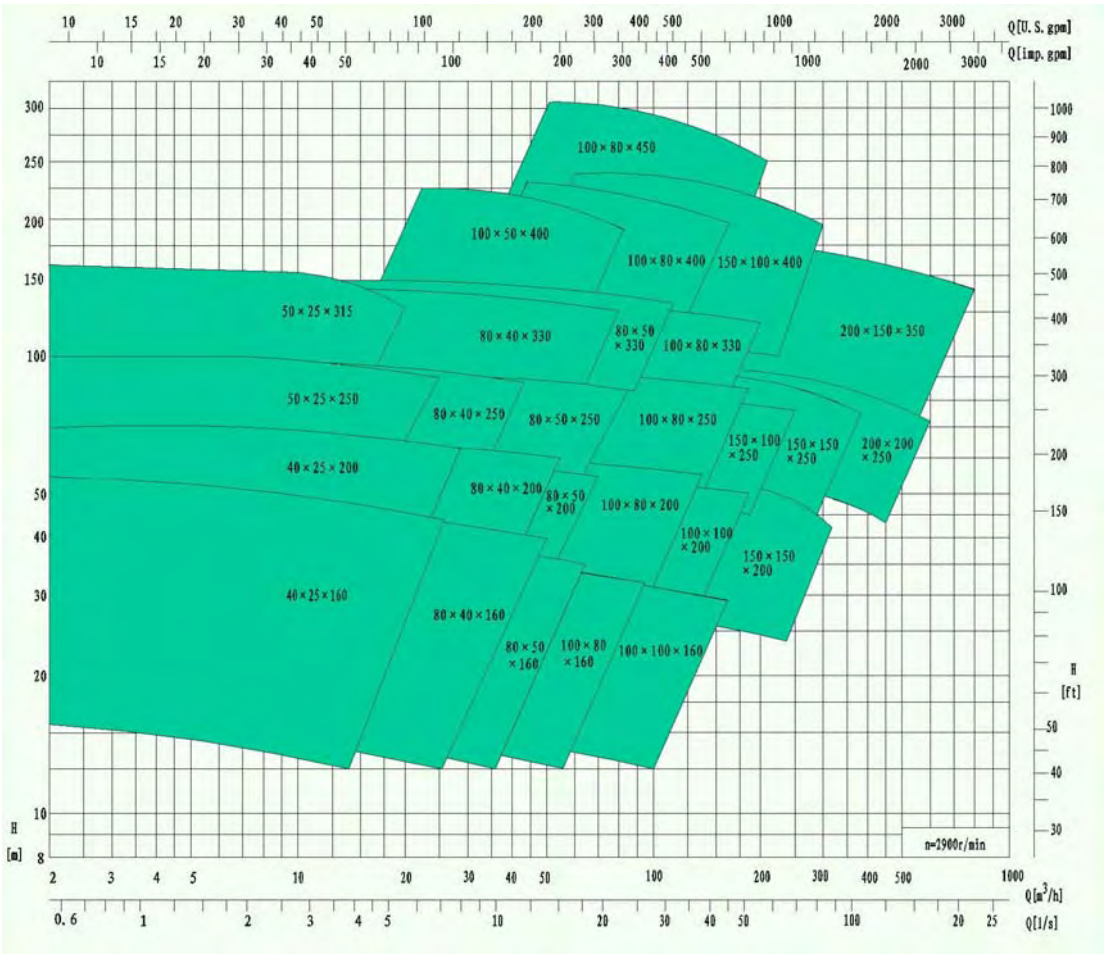


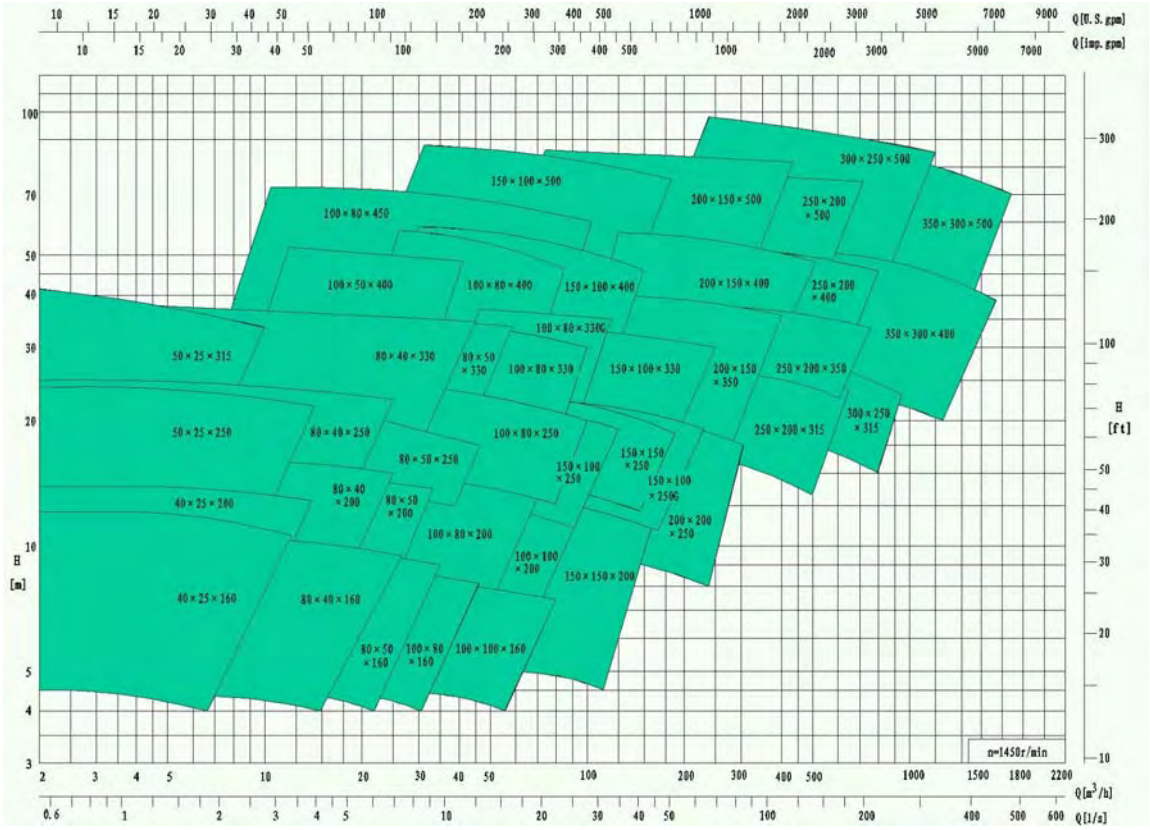
ANSZ Casing



ANSG Casing

11 ANS performance range(50Hz)





12 ANSZ, ANSG performance range (50 Hz) (the five biggest pump sizes not available for ANSZ)