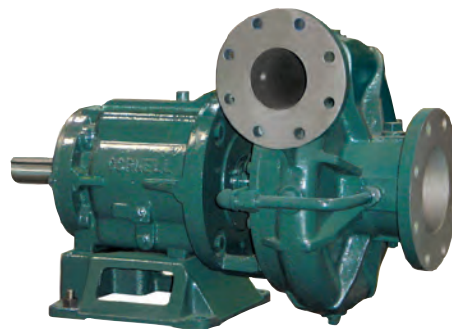
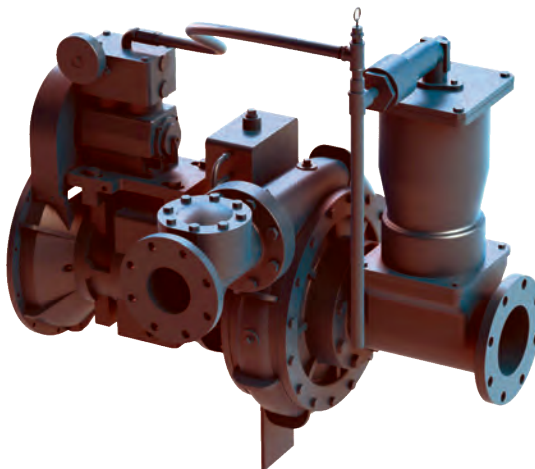


## НАСОСНОЕ ОБОРУДОВАНИЕ



Архангельск (8182)63-90-72  
Астана (7172)727-132  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
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Иваново (4932)77-34-06

Ижевск (3412)26-03-58  
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Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
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Красноярск (391)204-63-61  
Курск (4712)77-13-04  
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Киргизия (996)312-96-26-47

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
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Сочи (862)225-72-31  
Ставрополь (8652)20-65-13

Казахстан (772)734-952-31

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Тверь (4822)63-31-35  
Томск (3822)98-41-53  
Тула (4872)74-02-29  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
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# ДРЕНАЖНЫЕ НАСОСЫ WN(D)



**WN(D) series of dredge pump** is a kind of new type dredging pump developed by our company using various advanced computer aided design software, aiming at the current situation of dilapidated, dredging and reclamation of rivers and lakes.

This serie of dredge pumps has features as follows:excellent performance, long life, high efficiency, reliable shaft seal, considerable economic benefits, and so on.Which allows it to completely meet the needs of customers, also pass the CCS China Classification Society ship inspection.

## Performance and structural characteristics

### 1. The Good applicability of ship

The structure is simple and reliable

200WN ~ 500WN dredge pump using a whole single pump shell, single-stage single-suction structure, according to the connection with the gear box can provide two typical structure, that is, comes with bracket and pump box combined. Bracket-type lubrication comes with grease lubrication or thin oil lubrication.

600WN ~ 1000WN dredge pump using whole double pump shell, single-stage single-suction cantilever horizontal structure, comes with brackets, forced oil lubrication. The double pump casing can make sure that the volute t can be used until close to wear, and the pump chamber will not enter the water when the volute is broken.

Easy disassembly, easy maintenance

WN-type dredging pump used front demolition structure, easy disassembly, maintenance; at the same time offer special tools for disassembly of various components

Impeller and shaft use four-headed trapezoidal screw connection, can pass a strong torque, and easy disassembly at the same time, there is an impeller removal ring on sleeve to removal the impeller easily

### 2. Excellent dredging performance

Cavitation performance is good

WN-type dredging pump has a good cavitation performance to ensure bigger suction ability, while achieving greater dug depth and higher respirable concentrations.

Good pass capacity, wide applicability

WN-type impeller flow channel is width, can, continuously pump gravel or high plastic clay without clogging.

The performance curve drops abruptly

Make sure the pumping distance has adaptability.

The pump performance can be a variety of deployment

WN-type pump can change the impeller speed, or change the diameter of the pump impeller to achieve the same flow pump with head changes.

### 3. Good wear resistance, long using life wet parts

Impeller, volute , front and back liner (wear-resisting lining) using anti-wear alloy cast iron with hardness of not less than 58HRC, have strong impact resistance and of anti-wear properties; The company successfully developed A31 material, hardness can reach 70HRC.

In the product design process, the service life of all the parts is matched with each other, and the replacement period of wear-resistant parts is basically the same, which reduces the maintenance and replacement cost.

### 4. Water loss is small, high efficiency, low power consumption

Due to the use of advanced hydraulic models, the efficiency of the pump is high. WN-type pump efficiency is 2 to 3 percentage points higher than the average level. In this way, at the same using condition , you can get lower fuel consumption.

### 5. Shaft seal is reliable and no leakage

200WN ~ 500WN dredge pump shaft seal using mechanical seal ,packing seal or mechanical seal plus packing compound seal.

600WN ~ 1000WN dredge pump shaft seal using screw-type L-shaped rubber seal device, the seal device include three L-shaped ring and a special thread with the sleeve composition.

## Slurry Pump



### Casing

Casing halves of cast or ductile iron provide high operating pressure capabilities.



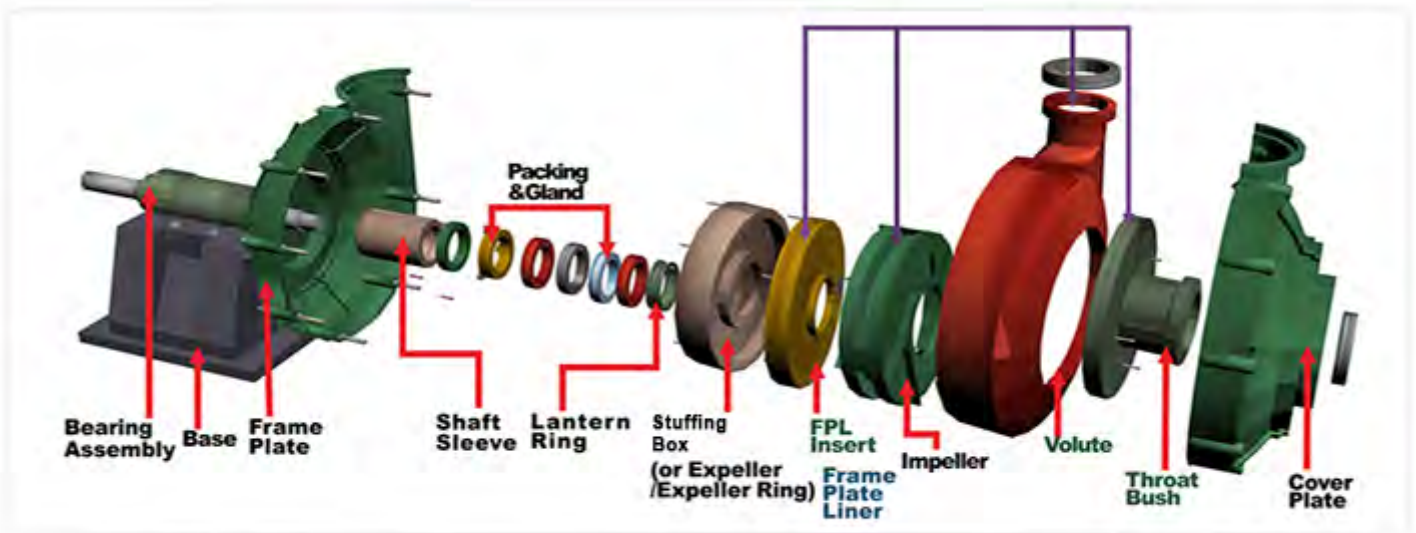
### Wet Parts

Inner liner & Impeller material is A05, high-chromium alloy 27, excellent wear-resistance to strong abrasive.



### Multiple Driving System

DCZ driven, CR driven, CLZ driven, ZVZ driven, CV driven as per request.



Type	Capacity(m <sup>3</sup> /h)	Head(m)	Speed(r/min)	Efficiency(%)	NPSHr(m)	Max. Diameter of Flowed Partic(mm)
100WN	180-250	25-45	1000-1400	50-58	<3.5	82
150WND	400-550	20-40	1200-1400	58-60	<4	127
150WN	500-700	40-65	800-980	68-71	<3.5	140
200WND	600-800	20-40	700-900	60-65	< 4.5	178
200WN	750-1000	40-65	700-850	70-72	< 4	180
250WND	950-1100	20-40	500-700	65-70	< 4	220
250WN	1100-1300	40-65	500-650	70-74	< 4	144
300WND	1500-1800	20-40	400-600	65-68	< 4	241
300WN	1800-2200	40-65	400-550	74-78	< 4	241
350WN	2600-3000	40-65	400-550	74-78	< 4.5	245
400WN	2800-3200	20-40	400-550	74-78	< 4.5	250
450WN	3200-3850	40-67	350-500	76-80	< 4.5	354
500WND	3600-4200	20-40	220-320	72-75	< 4.8	330
500WN	4500-5500	40-65	350-450	78-80	< 4.8	250
600WN	5000-9000	55-80	280-420	81-85	< 6	220
700WN	8000-12000	60-85	280-380	83-85	< 6	280
850WN	12000-16000	23-35	180-250	84-87	< 6	350
1200WN	18000-22000	30-40	120-140	82-85	< 6	320



# ДРЕНАЖНЫЕ НАСОСЫ WNQ



**WNQ Submerged Dredge Pumps** are also known as onboard dredge pumps it can be installed onboard either of the dredging vessels or in the suction pipe or cutter ladder as submerged pump. Onboard dredge pumps are the primary power source for transporting the mixture to the hopper or discharge location. The dredge pumps are also essential for mixture transport in stationary dredgers and at pipeline booster stations.

## Design Features:

- **Heavy Duty** - a double-walled pump construction fully equipped with interchangeable wear parts. Excellent configuration for the most demanding operations.
- **Performance** - a single-walled construction furnished with, where possible, replaceable wear parts. An all purpose dredge pump and balanced option as regards weight, size and replaceable wear parts.
- **Easy** - for operations that are less demanding. This is a single-walled construction without any replaceable wear parts - a pump construction with as few components as possible.
- **Benefits** - reliable long-term operation and long lifetime, full range to suit all needs, up to 90 percent efficiency, minimum local wear, robust and easy maintainable.

All WNQ submersible mud pump configurations are available for onboard, inboard, submerged and booster applications, and with suction diameters ranging from 300 to 1,000mm.

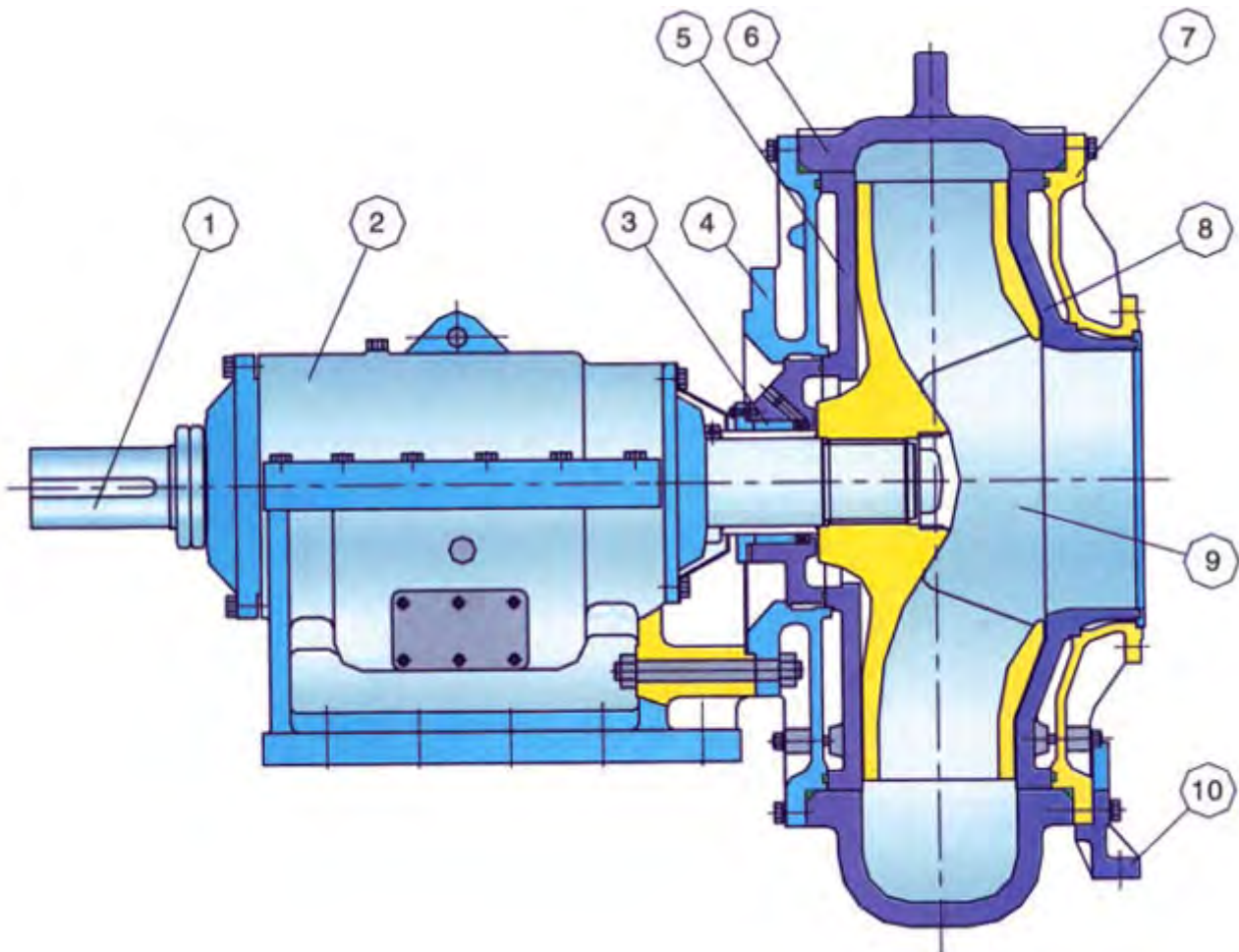
## Applications

WNQ Submerged Dredge Pumps Performance Parameters:

Model	Capacity (m <sup>3</sup> /h)	Head (m)	Speed (rpm)	Eff. $\eta$ (%)	NPSHr (m)	Inlet Dia. (mm)	Outlet Dia. (mm)	Max. Particles (mm)
<b>300WNQ</b>	1800-2200	20-65	300-550	70-78	<4	350	300	240
<b>450WNQ</b>	3200-3800	20-67	250-550	70-78	<4.5	600	450	240
<b>500WNQ</b>	4500-5800	20-65	250-550	74-80	<4.5	650	500	240
<b>600WNQ</b>	5000-7000	20-65	250-550	74-80	<4.5	660	600	250
<b>650WNQ</b>	6000-9000	20-70	200-400	75-85	<5.5	700	650	260

<b>700WNQ</b>	7500-1200	20-75	200-400	78-85	<5.5	760	700	280
<b>800WNQ</b>	10000-15000	20-78	200-380	80-84	<6	900	800	300
<b>900WNQ</b>	12000-19000	20-75	810-350	80-85	<6	960	900	320
<b>1000WNQ</b>	16000-25000	20-78	180-350	80-85	< 6	1200	1000	350

**WNQ Submerged Dredge Pumps Structural Drawing:**



**Main Part Number At The Drawing**

- 1 – Shaft
- 2 – Frame
- 3 – Mechanical Seal Assembly
- 4 – Connecting Plate
- 5 – Rear Liner
- 6 – Pump Casing
- 7 – Cover Plate
- 8 – Front Liner
- 9 – Impeller
- 10– Support

# ГОРИЗОНТАЛЬНЫЕ ШЛАМОВЫЕ НАСОСЫ СЕРИИ АН



Type AH slurry pumps are cantilevered, horizontal and centrifugal slurry pumps. The wet end part can use wear resistance metal, rubber and ceramic. It can be used for metallurgy, mining, coal, electric power and building material to transmit slurry with strong corrosion and high concentration.

### Features:

1. All the spares can be changeable with original Warman pumps. the wetted parts' material can be optional as metal, rubber, or ceramic according to customer's requirement
2. Bearing assembly – a large diameter shaft with short overhang minimizes deflection and contributes to long bearing life. Only four through bolts are required to hold the cartridge type housing in the

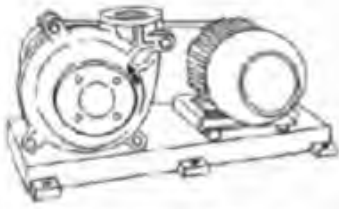
frame.

3. Volute Liners – easily replaceable liners are bolted, not glued, to the casing for positive attachment and ease of maintenance. Hard metal liners are completely interchangeable with pressure moulded elastomer.
4. Elastomer seal rings back all liner joints.
5. Pump casing – Casing halves of cast or ductile iron with external reinforcing ribs provide high operating pressure capabilities and an extra measure of safety.
6. Impeller – front and rear shrouds have pump out vanes that reduce recirculation and seal contamination. Hard metal and moulded elastomer impellers are completely interchangeable.
7. CNC machining impeller threads require no inserts or nuts. High efficiency and high head designs are also available
8. Throat bush – wear is reduced and maintenance simplified by the use of tapered mating faces to allow positive accurate alignment during assembly and simple removal.
9. One-piece frame – a very robust one-piece frame cradles the cartridge type bearing and shaft assembly.
10. An external impeller adjustment mechanism is provided below the bearing housing for easy adjustment of impeller clearance.
11. Pump exit position- Based on 45 degree interval, rotating eight different angles of installation.

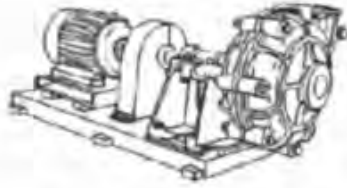
### Slurry Pump Bracket Type Description

Bracket Type	A	B	C	D	E	R	F	G	S	T
Allowable Max Power(kw)	7.5	15	30	60	120	300	260	600	560	1200
Bracket Weight(kw)	17	24	45	77.5	154	228	555	1006	546	1156
Shaft Water Volume	0.15	0.25	0.35	0.55	0.70	0.70	0.70	1.20	1.20	1.60

## AH Slurry Pump Transmission Type



CRCL DRIVING TYPE



DCZ DRIVING TYPE

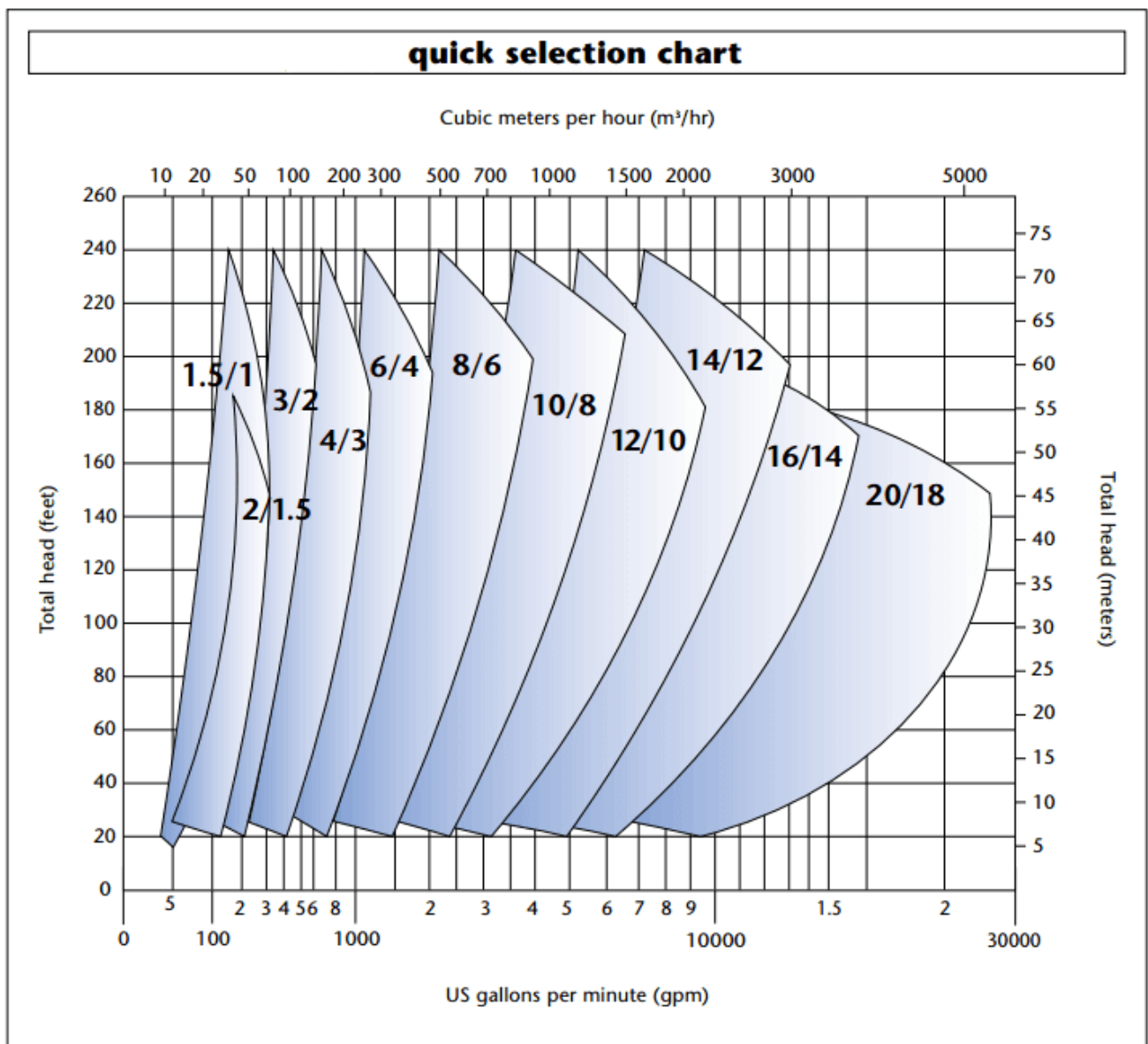


CV DRIVING TYPE



ZVZ DRIVING TYPE

## Selection & Performance Chart





## AH Slurry Pump Performance Chart

Pump Model	Allowable Max.Power (kw)	Capacity m <sup>3</sup> /h	L/S	Head H(m)	Speed n(r/min)	Max.EFF. (%)	NPSH (m)	Impeller (mm)
1.5/1B-AH	15	12.6-28.8	3.5-8	6-68	1200-3800	40	2-4	152
2/1.5B-AH	15	32.4-72	9-20	6-58	1200-3200	45	3.5-8	184
3/2C-AH	30	39.6-86.4	11-24	12-64	1300-2700	55	4-6	214
4/3C-AH	30	86.4-198	24-55	9-52	1000-2200	71	4-6	245
4/3D-AH	60	86.4-198	24-55	9-52	1000-2200	71	4-6	245
6/4D-AH	60	162-360	45-100	12-56	800-1550	65	5-8	365
6/4E-AH	120	162-360	45-100	12-56	800-1550	65	5-8	365
8/6E-AH	120	360-828	100-230	10-61	500-1140	72	2-9	510
8/6R-AH	300	360-828	100-230	10-61	500-1140	72	2-9	510
10/8ST-AH	560	612-1368	170-380	11-61	400-850	71	4-10	686
12/10ST-AH	560	936-1980	260-550	7-68	300-800	82	6	762
14/12ST-AH	560	1260-2772	350-770	13-63	300-600	77	3-10	965
16/14TU-AH	120	1368-3060	380-850	11-63	250-550	79	4-10	1067
20/18TU-AH	1200	2520-5400	700-1500	13-57	200-400	85	5-10	1370
1.5/1B-AH	15	10.8-25.2	3-7	7-52	1400-3400	35	2-4	152
2/1.5B-AH	15	25.2-54	7-15	5.5-41	1000-2600	50	2.5-5	178
3/2C-AH	30	36-75.6	10-21	13-39	1300-2100	55	2-4	213
4/3C-AH	30	79.2-180	22-50	5-34.5	800-1800	59	3-5	245
4/3D-AH	60	79.2-180	22-50	5-34.5	800-1800	59	3-5	245
6/4D-AH	60	144-324	40-90	12-45	800-1350	65	3-5	365
6/4E-AH	120	144-324	40-90	12-45	800-1350	65	3-5	365
8/6E-AH	120	324-720	90-200	7-49	400-1000	65	5-10	510
8/6R-AH	300	324-720	90-200	7-49	400-1000	65	5-10	510
10/8ST-AH	560	540-1188	150-330	12-50	400-750	75	4-12	686
12/10ST-AH	560	720-1620	200-450	7-45	300-650	80	2.5-7.5	762
14/12ST-AH	560	1152-2520	320-700	13-44	300-500	79	3-8	965
16-14TU-AH	1200	1224-2754	340-765	9-43	250-450	82	3-8	1067
20-18TU-AH	1200	2268-4860	630-1350	11-46	200-350	82	2-8	1372

# ГОРИЗОНТАЛЬНЫЕ ШЛАМОВЫЕ НАСОСЫ СЕРИИ ZJ



## Introduction of the ZJ horizontal slurry pump

ZJ series Slurry pump is a single-stage ,single-suction double-casing centrifugal slurry pumps. This type of centrifugal slurry pump can be used in series or working together in parallel and is widely used in power plants and the metallurgy, coal washing, building, and chemical industries. The maximum weight concentration of slurry that can be processed varies with the type, approximately 45% for mortar slurry and 65% for mining slurry.

## Features

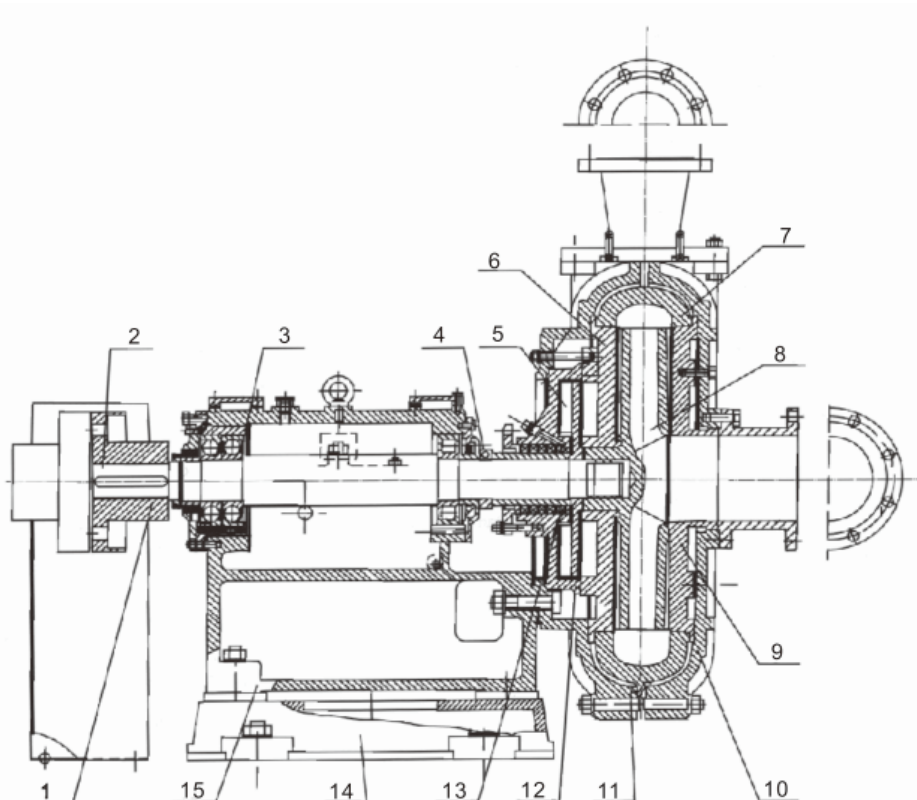
- 1.Wetted parts-Impellers, volutes are made of high chrome alloy and ceramic, anti-abrasive and wear resistant.
- 2.Bearing assembly- Tubular structure bearing assembly, design of high capacity bearing. Grease lubrication, oil lubrication helps to adapt to different operating conditions.

assembly, design of high capacity bearing. Grease lubrication, oil lubrication helps to adapt to different operating conditions.

3.Shaft seal type- expeller seal, packing seal, mechanical seal.

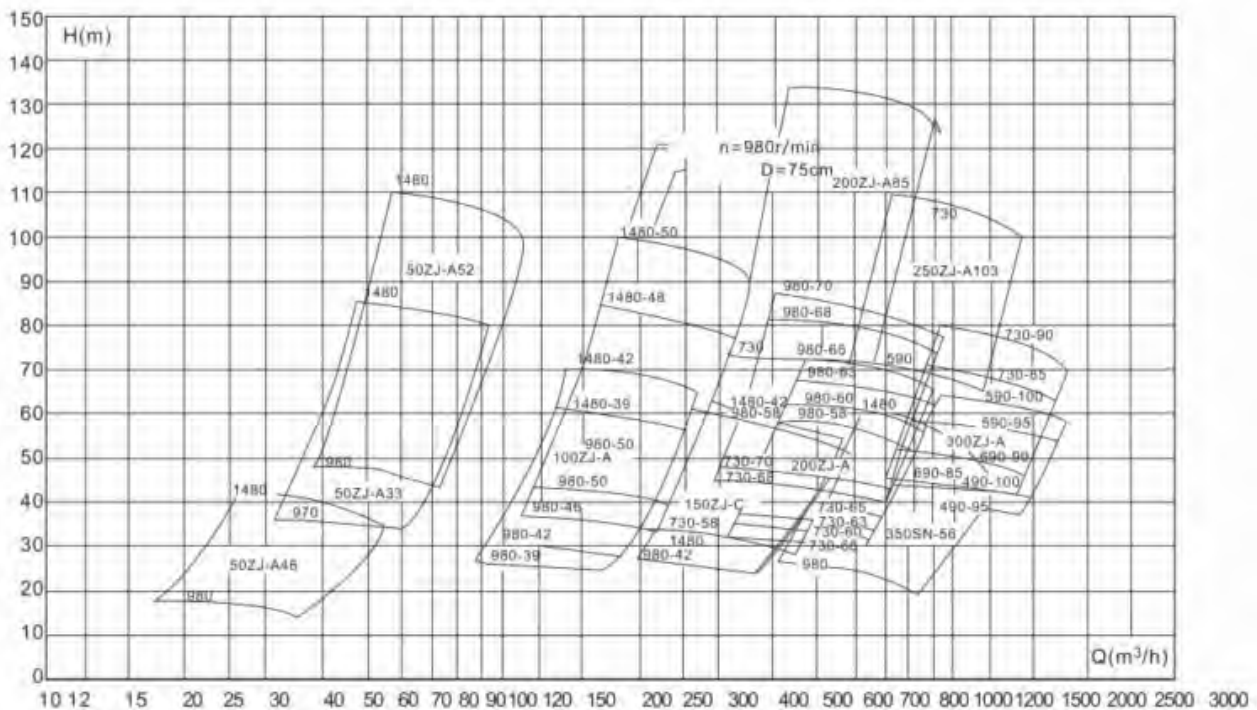
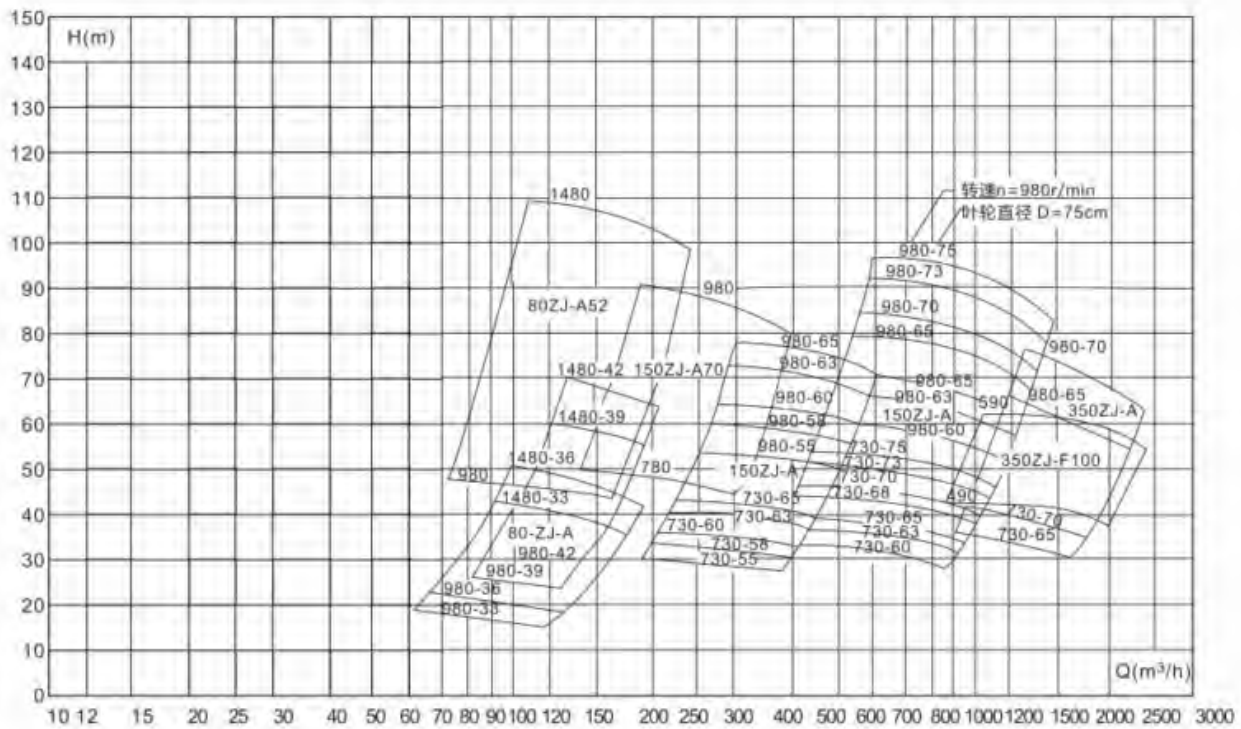
4.Pump exit position- Based on 45 degree interval, rotating eight different angles of installation.

## Centrifugal Slurry Pump Structural Drawing



- |                     |                 |                             |
|---------------------|-----------------|-----------------------------|
| 1. Coupling         | 2. Shaft        | 3. Bearing Housing          |
| 4. Disassembly Ring | 5. Expeller     | 6. Frame Plate Liner Insert |
| 7. Volute Liner     | 8. Impeller     | 9. T Roatbushing            |
| 10. Cover Plate     | 11. Frame Plate | 12. Stuffing Box            |
| 13. Lantern Ring    | 14. Base        | 15. Support                 |

### Selection & Performance Chart



## ZJ Slurry Pump Performance Chart

Pump Model	Max. Power (kw)	Capacity m <sup>3</sup> /h	Head H(m)	Speed n(r/min)	Max. EFF.(%)	NPSH (m)	Particle Max. Size (mm)	Pump Weight (kg)
300ZJ-A100	450	464-1826	15.3-65.2	300-590	81.1	3	88	5265
300ZJ-A95	400	441-1735	13.8-58.8	300-590	78.1	3	88	5770
300ZJ-A90	560	505-1844	21.2-79.9	400-730	87.8	3.9	85	5005
300ZJ-A85	450	477-1742	18.9-71.3	400-730	79.8	3.8	85	4965
300ZJ-A70	630	635-2333	16.0-76.8	490-980	80.4	3.9	92	3560
300ZJ-A65	500	589-2166	13.8-66.2	490-980	77.4	3.7	92	3531
300ZJ-A56	250	395-1568	9.7-46.0	400-980	80.9	3.5	96	3030
250ZJ-A103	560	402-1573	29.7-110.5	400-730	74.5	2.8	69	5085
250ZJ-A96	560	403-1466	25.4-93.7	400-730	77.8	3.5	69	5035
250ZJ-A90	450	378-1374	22.3-82.4	400-730	73.8	3.4	69	4980
250ZJ-A85	800	376-1504	30.1-128.7	490-980	76.5	3.5	76	4530
250ZJ-A83	800	367-1469	28.7-122.7	490-980	75.5	3.5	76	4514
250ZJ-A80	710	354-1416	26.7-114.0	490-980	73.5	3.4	76	4490
250ZJ-A78	630	415-1796	21.1-102.5	490-980	71.5	3.2	76	4474
250ZJ-A75	560	300-1480	20.8-97.5	490-980	77.5	3	77	3480
250ZJ-A73	500	292-1441	19.7-92.4	490-980	76.5	3	77	3456
250ZJ-A70	450	280-1381	18.1-84.9	490-980	74.5	2.9	72	3446
250ZJ-A68	450	272-1342	17.1-80.1	490-980	73.5	2.7	77	3437
250ZJ-A65	315	299-1249	15.4-71.0	490-980	76.5	3	72	3020
250ZJ-A63	315	290-1211	14.4-66.7	490-980	75.9	3	77	3008
250ZJ-A60	280	276-1153	13.1-60.5	490-980	73.9	2.8	72	2991
200ZJ-A85	560	221-907	32.0-133.7	490-980	70.5	2.8	54	4110
200ZJ-A75	355	225-900	22.8-102.9	490-980	74.1	3	56	3070
200ZJ-A73	355	219-876	21.6-97.5	490-980	73.1	3	56	3056
200ZJ-A70	315	205-976	19.4-86.4	490-980	75.6	2.8	56	2465
200ZJ-A68	315	199-948	18.3-81.5	490-980	74.6	2.8	56	2453
200ZJ-A65	250	235-950	16.4-72	490-980	79.6	2.5	62	2323
200ZJ-A63	250	228-921	15.4-37.6	490-980	78.6	2.5	62	2311
200ZJ-A60	185	218-870	13.9-62	490-980	83.5	2.5	67	2223
200ZJ-A58	185	211-841	13-57.9	490-980	82.5	2.5	62	2214
150ZJ-A70	185	93-401	20-91.2	490-980	62.1	2	37	2245
150ZJ-A65	200	150-600	17.4-75.7	490-980	70.8	2.5	48	2223
150ZJ-A63	185	146-582	16.3-71.1	490-980	69.8	2.5	48	2211



# ГОРИЗОНТАЛЬНЫЕ ШЛАМОВЫЕ НАСОСЫ СЕРИИ НН



Type HH slurry pumps are cantilevered, horizontal and centrifugal slurry pumps. The wet end part can use wear resistance metal, rubber and ceramic. It can be used for metallurgy, mining, coal, electric power and building material to transmit slurry with strong corrosion and high concentration.

## Features:

1. All the spares can be changeable with original Warman pumps. the wetted parts' material can be optional as metal, rubber, or ceramic according to customer's requirement
2. Bearing assembly – a large diameter shaft with short overhang minimizes deflection and contributes to long bearing life. Only four through bolts are required to hold the cartridge type housing in the

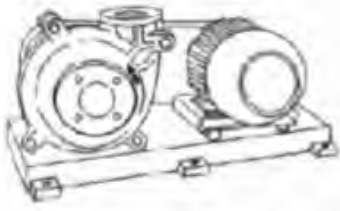
frame.

3. Volute Liners – easily replaceable liners are bolted, not glued, to the casing for positive attachment and ease of maintenance. Hard metal liners are completely interchangeable with pressure moulded elastomer.
4. Elastomer seal rings back all liner joints.
5. Pump casing – Casing halves of cast or ductile iron with external reinforcing ribs provide high operating pressure capabilities and an extra measure of safety.
6. Impeller – front and rear shrouds have pump out vanes that reduce recirculation and seal contamination. Hard metal and moulded elastomer impellers are completely interchangeable.
7. CNC machining impeller threads require no inserts or nuts. High efficiency and high head designs are also available
8. Throat bush – wear is reduced and maintenance simplified by the use of tapered mating faces to allow positive accurate alignment during assembly and simple removal.
9. One-piece frame – a very robust one-piece frame cradles the cartridge type bearing and shaft assembly.
10. An external impeller adjustment mechanism is provided below the bearing housing for easy adjustment of impeller clearance.
11. Pump exit position- Based on 45 degree interval, rotating eight different angles of installation.

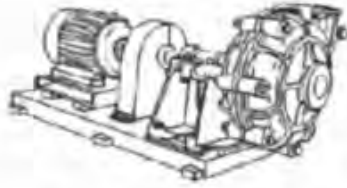
## HH Series Slurry Pump Bracket Type Description

Bracket Type	A	B	C	D	E	R	F	G	S	T
Allowable Max Power(kw)	7.5	15	30	60	120	300	260	600	560	1200
Bracket Weight(kw)	17	24	45	77.5	154	228	555	1006	546	1156
Shaft Water Volume	0.15	0.25	0.35	0.55	0.70	0.70	0.70	1.20	1.20	1.60

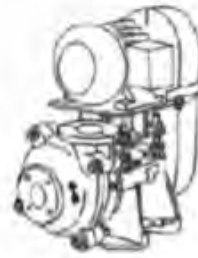
## HH Slurry Pump Transmission Type



CRCL DRIVING TYPE



DCZ DRIVING TYPE

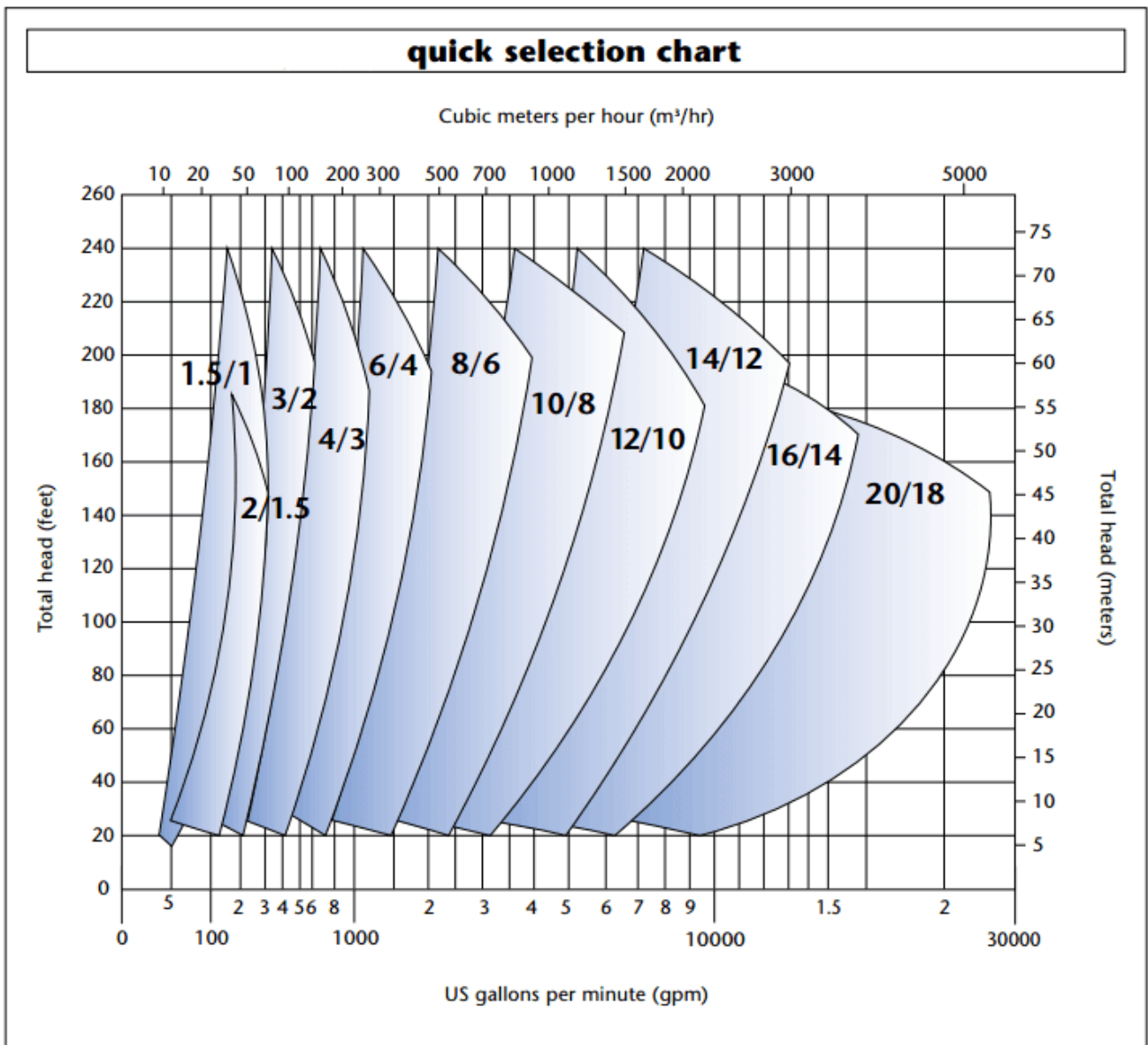


CV DRIVING TYPE



ZVZ DRIVING TYPE

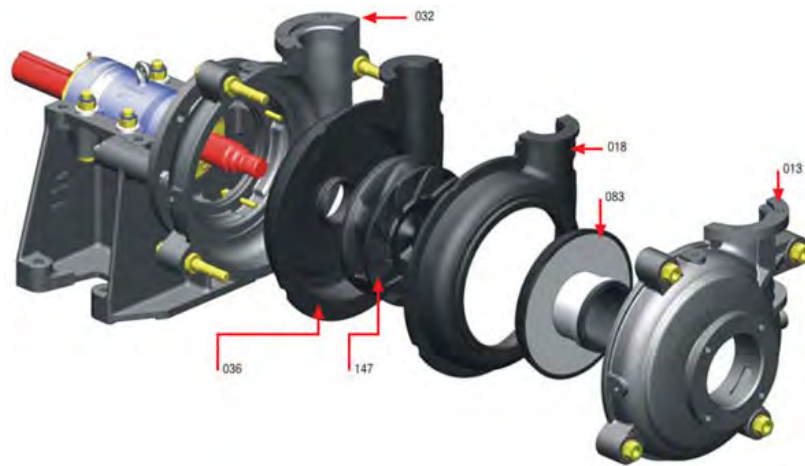
## Selection & Performance Chart



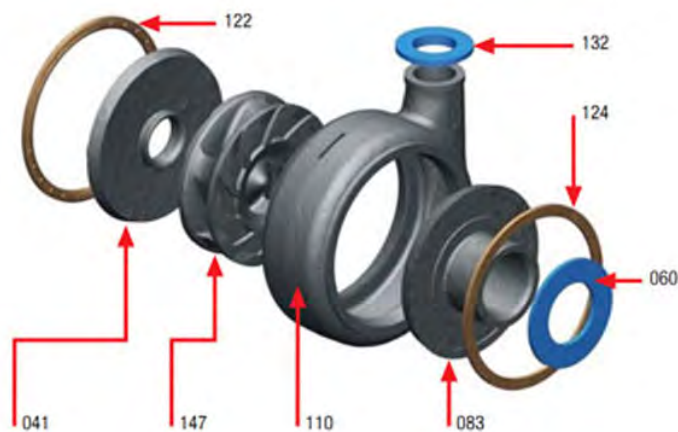
## HH Slurry Pump Performance Chart

Model	Max. Power (kw)	Clear Water Performance					Impeller	
		Capacity Q (m3/h)	Head H (m)	Speed n (rpm)	Eff. $\eta$ (%)	NPSH (m)	Vane No.	Impeller Dia.
1.5/1C-HH	30	16.2-34.2	25-92	1400-2200	20	2-5.5	5	330
3/2D-HH	60	68.4-136.8	25-87	850-1400	47	3-7.5	5	457
4/3E-HH	120	126-252	12-97	600-1400	50	2-5	5	508
6/4F-HH	560	324-720	30-118	600-1000	64	3-8	5	711
8/6S-HH	560	468-1008	20-94	500-1000	65	4-12	5	711

### Electric Slurry Pump Rubber Parts



### Metal Parts



### Main Part Number At The Drawing

032 : Frame Plate

060: Intake Joint

132 : Discharge Joint

083 : Throatbush

110 : Volute Liner

147: Impeller

122: Stuffing Box Seal

036: Frame Plate Liner

013 : Cover Plate

018 : Cover Plate Liner

124: Volute Cover Seal

041: Frame Plate Liner Insert

# ГОРИЗОНТАЛЬНЫЕ ШЛАМОВЫЕ НАСОСЫ СЕРИЙ М и L



## Product Features

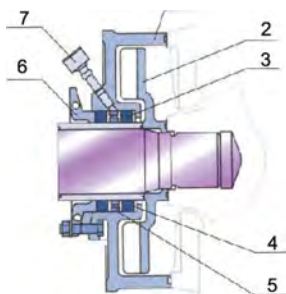
**Type M pumps** are cantilevered, horizontal, centrifugal slurry pumps. They are designed for handling abrasive or corrosive slurry in the metallurgical, mining, coal, power, building material and other industrial departments etc. AH(R),HH are also called heavy duty slurry pumps, are used to transport the strong abrasive high density or low density high head slurry. Under the allowable pressure, the pumps of this type also can be installed in multis series. HH type pump is mainly used for

transport low density high head or high density low abrasive high head slurry. M(R)is a kind of middle duty slurry pump, used to transport the fine particle size and middle density slurry. The liner and impeller of AH and M model can be changeable and material can be either anti-abrasive metal or rubber. But material of liner and impeller of HH model only can be metal version. Rubber material wet parts are mainly used for transport the slurry which contains fine, non-sharp particle size. The shaft seals for type AH(R),M(R),and HH pumps can be adoptable of gland seal, expeller seal and mechanical seal. The discharge can be positioned at intervals of 45 degrees by request and oriented to any eight positions to suit installations and applications.

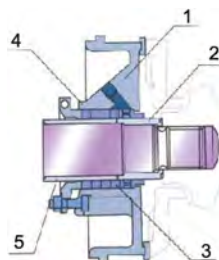
**Type L pumps** are cantilevered, horizontal, centrifugal slurry pumps, which are also called light duty slurry pump. They are suitable for delivering low abrasive low density slurry for metallurgical, mining, coal and building material departments. The shaft seal can adopt gland seal, expeller seal or mechanical seal.

Type L(R) pumps operate in high speed with small volumes and light weight to save floor area. It is mainly used to transport the slurry which contains fine particle size and weight concentration not more than 30%. The liner and impeller of this pump can be changeable, either with anti-abrasive metal or rubber material.

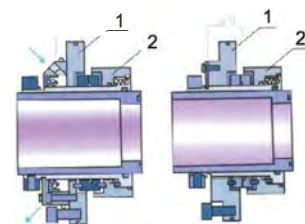
## ■ Shaft Seal Module Design



- |                  |                  |
|------------------|------------------|
| 1. Expeller Ring | 5. Lantern Ring  |
| 2. Expeller      | 6. Packing Gland |
| 3. Packing       | 7. Oil Cup       |
| 4. Neck Ring     |                  |



- |                       |
|-----------------------|
| 1. Stuffing Box       |
| 2. Lantern Restrictor |
| 3. Packing            |
| 4. Packing Gland      |
| 5. Shaft Sleeve       |



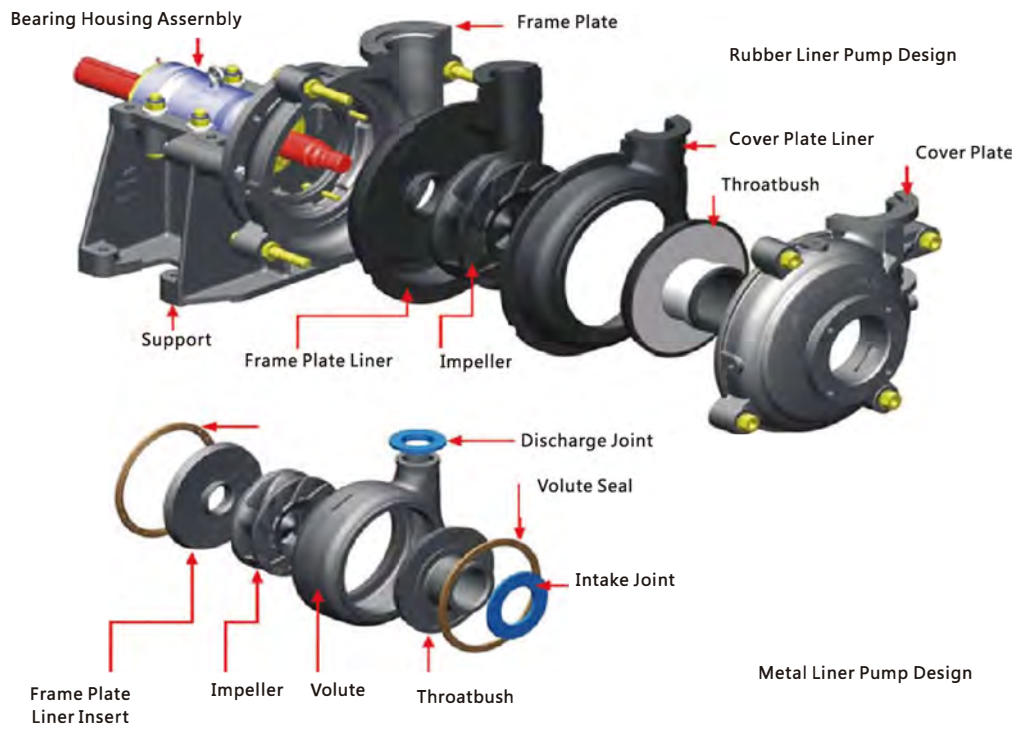
- |                             |
|-----------------------------|
| 1. Stationary Ring Assembly |
| 2. Movable Ring Assembly    |



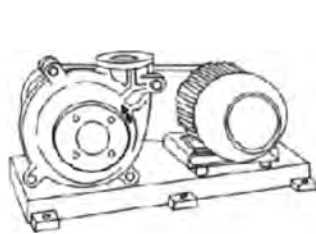
## Support Type Description

Support Type	A	B	C	D	E	R	F	G	S	T
Allowable Max Power (kw)	7.5	15	30	60	120	300	260	600	560	1200
Support Weight(kg)	17	24	45	77.5	154	228	555	1006	546	1156
Shaft seal water volume (l/s)	0.15	0.25	0.35	0.55	0.70	0.70	0.70	1.20	1.20	1.60

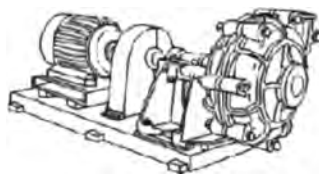
## Construction Design



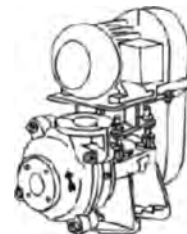
## Transmission Type



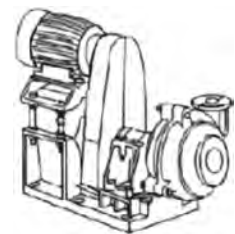
CRCL DRIVING TYPE



DCZ DRIVING TYPE



CV DRIVING TYPE



ZVZ DRIVING TYPE

Clear water performance								
Pump model	Allowable Max.Power (kw)	Capacity Q		Head H (m)	Speed n (r/min)	Max.EFF. (%)	NPSH (m)	Impeller Dia(mm)
		m <sup>3</sup> /h	L/S					
10/8E-M	120	540-1440	150-400	14-60	600-1000	73	4-10	549
10/8R-M	300	540-1440	150-400	14-60	600-1000	73	4-10	549
20A-L	7.5	2.34-10.8	0.65-3	6-37	1400-3000	40	2.5-3	152.4
50B-L	15	11.5-76	3.2-21.1	8.5-46	1400-2800	62	2.5-5.5	190
75C-L	30	18-151	5-42	4-46.4	900-2400	57	3-6	229
100D-L	60	46.8-324	13-90	7-48.3	800-1800	64	2-6	305
150E-L	120	115-568.8	32-158	10.5-51.8	800-1500	60	2.5-6	381
200E-L	120	234-910	65-235	9.5-40	600-1100	64	3-6	457
250E-L	120	396-1425	110-396	8-30	500-800	77	2-10	550

Remark:

1. Capacity range recommended: 50%Q5Q5 11 0Q3(Q Appropriate to capacity at highest efficiency point).
2. NPSH: appropriate to point Q recommended at highest speed.



# КЕРАМИЧЕСКИЕ ГОРИЗОНТАЛЬНЫЕ ШЛАМОВЫЕ НАСОСЫ SiC



**Ceremic slurry pump** wet end parts have many advantages, such as wear resistance, low weight, corrosion resistance, cavitation resistance and high temperature resistance.

Raw material composition: Ceremic is the key component, the rest are high-strength metal.

It is widely used in mineral processing, coal washing, power plant desulfurization dust, tailings disposal and other wear resistant, corrosion resistant and cavitation resistant working

condition.

## Wear Rate Under the Same Condition

Materials	Abrasion Rate	Rate Note 1
composite material	0.02	1
Sintered ceramic	0.021	1.43
Casting ceramic	0.03	1.9
<u>A49 hyperchrome alloy</u>	0.1	4.76
Duplex Stainless Steel	0.282	13.4
Teflon	0.389	18.5
<u>Natural Rubber</u>	0.5	23.8
SiC Painting	1.229	58.5
SUS304	1.463	69.7

Note 1: Rate based on SiC-Si 3 N 4, Value=1.

## Ceremic slurry pump features:

1. The ceremic wetted end part is interchangeable with metal wet end part.
2. Its wear-resistant performance is 3-5 times of other wear-resistant alloy.
3. Heat temperature resistance 1700°C.
4. It's corrosion resistance performance is 3-5 times of metal and rubber material.
5. It's cavitation resistance performance is several ten times of other alloy and rubber material.
6. As the weight of ceramic parts is only 1/3 of chrome alloy ones, so it is easy to installation and disassembly. When the ceramic impeller starts up.
7. it's torsional stress is smaller because of less weight, so the shaft would not be easy to be broken, and also less loss for the motor.

**Media particle size:** less than 10mm(Suggestion installation filter screen at the inlet, mesh diameter 20mm)

**Speed:** Depends on the size of impeller diameter with 1000-3000 revolutions/minute

**Slurry concentration:** <35%, Please advance informed if it's special working condition.

### **Parts of project list:**

Congo Kinshin Mining Copper-cobalt Project have been using our 64 sets of Ceramic slurry pumps

Shengtun Mining – Further expansion of Congo (DRC)

Build 30,000 tons of annual cathode copper project have been using our 59 sets of Ceramic slurry pumps

Congo Kinthomas Project have been using our 44 sets of Ceramic slurry pumps

Ganzhou Tengyuan Cobalt industry Congo Gold TCC

The third phase of the project have been using our 26 sets of Ceramic slurry pumps

### **Parameters**

- Flow Rate :  $Q=50-1800$  (m<sup>3</sup>/h)
- Head :  $H=24-94$  (m)
- Motor power : 11-710kw
- Material: cast iron, SIC ceramic





# ГОРИЗОНТАЛЬНЫЕ ШЛАМОВЫЕ НАСОСЫ СЕРИИ ZGB(P)



## Introduction of ZGB(P) series heavy duty slurry pump

ZGB(P) slurry pumps is horizontal cantilever single-stage, single-suction, double-case and high head of delivery centrifugal slurry pump.

It is fit for transmission corrosive and abrasion slurry .it can used in metallurgy, mine, chemical industry, coal, electric power, building materials and so on. Especially the transmission of electric power plant ash.

The series of pump has the advantages of reasonable construction, high efficiency, reliable operation and easy maintenance.

### Features:

1. Pump head-Double-case pump is vertical split, the discharge can be installed at 8 different positions with an interval of 45 degree.
2. Wide passage, non-clogging and good performance of NPSH;
3. Expeller seal combined with packing seal and mechanical seal have be adopted to guarantee the slurry from leakage;
4. The metric bearing with oil lubrication, reasonable lubrication and cooling systems ensure the bearing to be operated under the low temperature;
5. The materials of wet parts have the good performance of anti-wearing and anti-corrosion;
6. The pump can be used for seawater ash-removing to prevent it from the corrosion of seawater, salt and mist, and electrochemical corrosion;
7. The pump can be operated in series with multi-stage within permissible pressure. The permissible maximum working pressure is 3.6MPa.

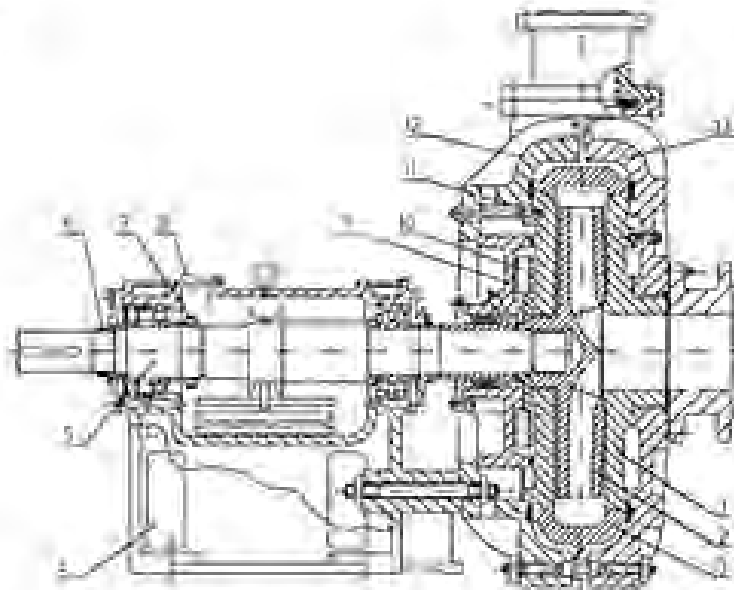
### Working Conditions

ZGB Pump has wide performance range, high efficiency, good cavitation performance. The multistage tandem technology can be used to meet the long-distance transport. Several metal Flow components are available for chose, and increase the depth. Use a variety of speed and multiple variant, the pump in the optimum mining operation. Long service life, high operating efficiency, can satisfy many kinds of poor transport conditions.

### Main Uses

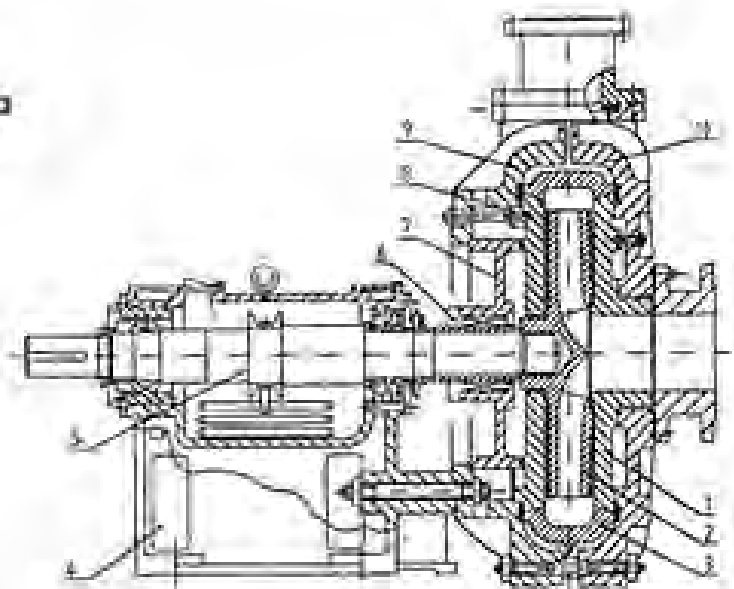
The series slurry pump product has the advantages of reasonable structure, high efficiency, reliable operation and convenient repair. The series slurry pump is widely used in electric power, metallurgy, mining, coal, building materials, chemicals and other industrial sectors for conveying abrasive or corrosive slurry, especially power plant ash.

### Type ZGB Slurry Pump



- |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|
| 1. FRONT LINER INSERT | 5. ADJUSTING SCREW(B) | 10. EXPELLER          |
| 2. IMPELLER           | 7. ADJUSTING SCREW(A) | 11. BACK LINER INSERT |
| 3. VOLUTE             | 8. ADJUSTING COVER    | 12. PUMP BODY         |
| 4. FRAME BODY         | 9. EXPELLER RING      | 13. PUMP COVER        |
| 5. SHAFT              |                       |                       |

### Type ZGBP Slurry Pump

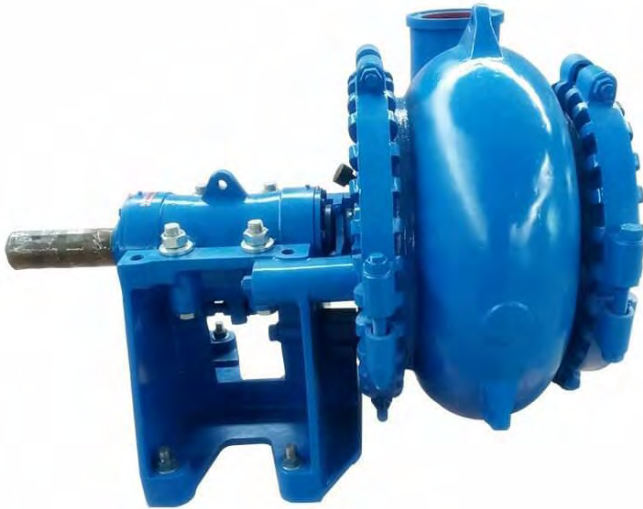


- |                       |                    |                      |
|-----------------------|--------------------|----------------------|
| 1. FRONT LINER INSERT | 5. SHAFT           | 8. BACK LINER INSERT |
| 2. IMPELLER           | 6. MECHANICAL SEAL | 9. PUMP BODY         |
| 3. VOLUTE             | 7. SEALING BOX     | 10. PUMP COVER       |
| 4. FRAME BODY         |                    |                      |

## Technical Parameters

Pump Model	Speed n (r/min)	Capacity Q (l/s)	Head H (m)	Max. Eff. (%)	NPSH (m)	Shaft Power (kw)	Impeller Dia (mm)	Pump Weight (kg)	Outlet Dia./Inlet Dia. (mm)
<b>65ZGB(P)</b>	1480	31.7-15.8	58-61	62.5-47.4	4.5-3.0	28.8-19.9	390	1850	65 / 80
	980	21.0-10.5	25.4-26.7	62.5-47.4	2.0-1.3	8.37-5.8			
<b>80ZGB(P)</b>	980	52.0-26.0	73.7-77.1	66.1-48.7	4.4-2.3	56.8-40.4	445	2500	80 / 100
	740	34.4-17.2	32.3-33.8	66.1-48.7	1.9-1.0	16.5-11.7	400		
	980	46.8-23.3	59.5-62.3	66.1-48.7	3.5-1.8	41.3-29.2			
	740	31.0-15.4	26.1-27.3	66.1-48.7	1.5-0.8	12.0-8.4			
<b>100ZGB(P)</b>	1480	105-52.5	68.9-78.4	77.9-57.4	4.9-2.1	91.0-66.7	450	3000	100 / 152
	980	69.5-34.8	30.2-32.6	77.9-57.4	2.1-1.1	26.4-19.4	400		
	1480	93.4-46.7	54.5-58.8	77.9-57.4	3.8-1.7	64.0-46.9			
	980	61.8-30.9	23.9-25.8	77.9-57.4	1.7-0.8	18.6-13.6			
<b>150ZGB(P)</b>	980	182.4-91.2	73.0-77.1	77.7-53.3	3.3-2.3	168.0-129.3	685	3450	150 / 200
	740	140.0-70.2	41.6-44.0	77.7-53.3	1.9-1.3	74.2-56.8	630		
	980	169.2-84.6	61.8-65.2	77.7-53.3	2.8-1.1	131.9-101.5			
	740	129.6-64.8	35.2-37.2	77.7-53.3	1.6-0.6	57.6-44.3			
<b>200ZGB(P)</b>	980	300.0-150.0	89.0-94.2	76.3-63.2	6.7-2.7	342.9-219.1	740	4000	200 / 250
	740	226.5-113.3	50.7-53.7	76.3-63.2	3.8-1.5	147.5-97.3	700		
	980	283.8-141.9	79.6-84.3	76.3-63.2	6.0-2.4	290.2-185.8			
	740	214.3-107.1	45.4-48.1	76.3-63.2	3.4-1.4	125.0-80.0	640		
	980	259.5-129.7	66.6-70.5	76.3-63.2	5.0-2.0	222.0-141.8			
	740	195.9-97.9	38.0-40.2	76.3-63.2	2.9-1.1	95.6-61.0			
<b>250ZGB(P)</b>	980	400.0-200.0	84.0-90.1	78.2-63.2	7.3-3.3	421.2-275.6	740	4500	250 / 300
	740	302.0-151.0	47.9-51.4	78.2-63.2	4.2-1.9	181.4-118.7	700		
	980	378.4-189.2	75.2-80.6	78.2-63.2	7.1-3.0	356.7-233.2			
	740	285.7-142.9	42.9-46.0	78.2-63.2	4.0-1.7	153.7-100.5	645		
	980	348.6-131.6	63.8-68.5	78.2-63.2	5.5-2.5	278.8-137.9			
	740	263.2-99.4	36.4-39.1	78.2-63.2	3.1-1.4	120.1-59.4			

# ГРАВИЙНЫЕ НАСОСЫ СЕРИИ G/GH



## Product Description

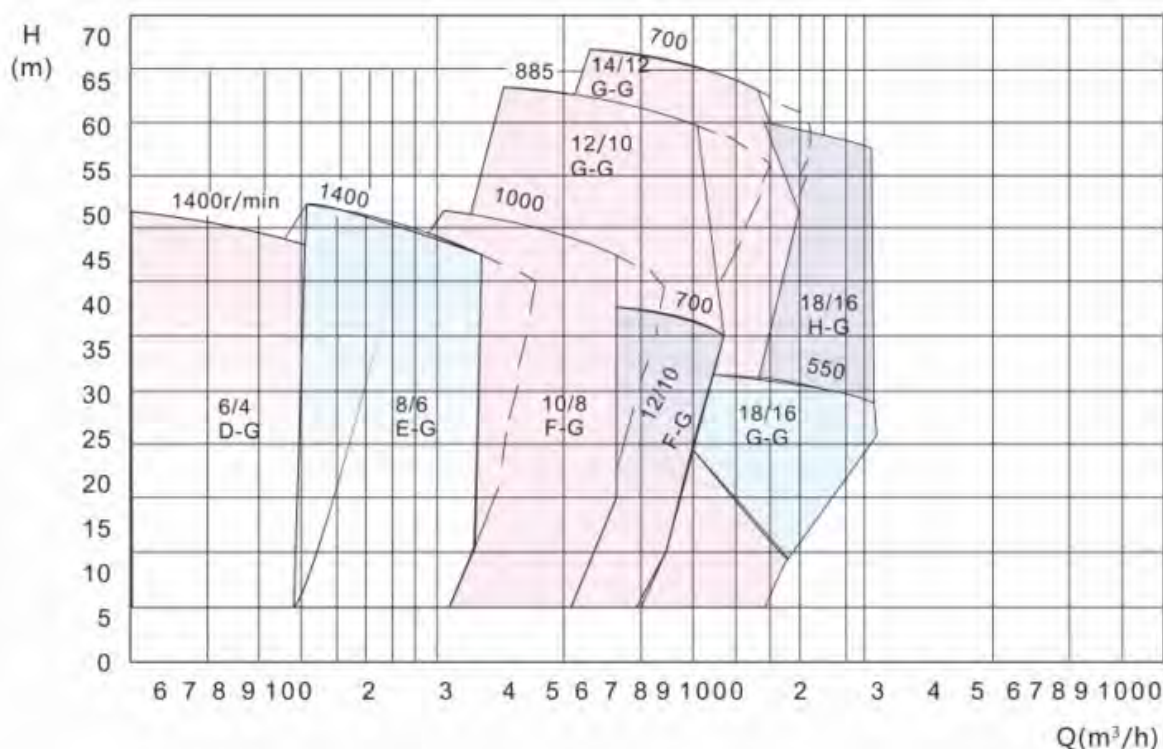
G/GH gravel pumps are type Warman gravel pump which are designed to accommodate the most difficult, most highly abrasive slurries containing solids too large to be conveyed by a regular pump. They are suitable for delivering slurries in mining, explosive sludge in metal melting, dredging in dredger and river courses, and other fields. This model is a high head pump. To increase efficiency, this pump offers a variable frequency drive, silicon-controlled speed control, and multiple speeds and variants.

The gravel pump flow channel is wide, good cavitation performance, high efficiency, wear resistance. It is mainly used for continuous conveying of abrasive materials that are too large for general slurry pumps to convey. It is suitable for dredging, sand suction gravel, dredging rivers, river sand mining, and metal smelting slag transportation.

Shaft seal form: packing seal, impeller seal, mechanical seal.

Transmission mode: V-belt transmission, elastic coupling transmission, gear reducer transmission, hydraulic coupling transmission, variable frequency drive, silicon controlled speed control With multiple speeds and multiple variants, the pump runs under optimal conditions. Long service life, high operating efficiency, can meet a variety of harsh transportation conditions.

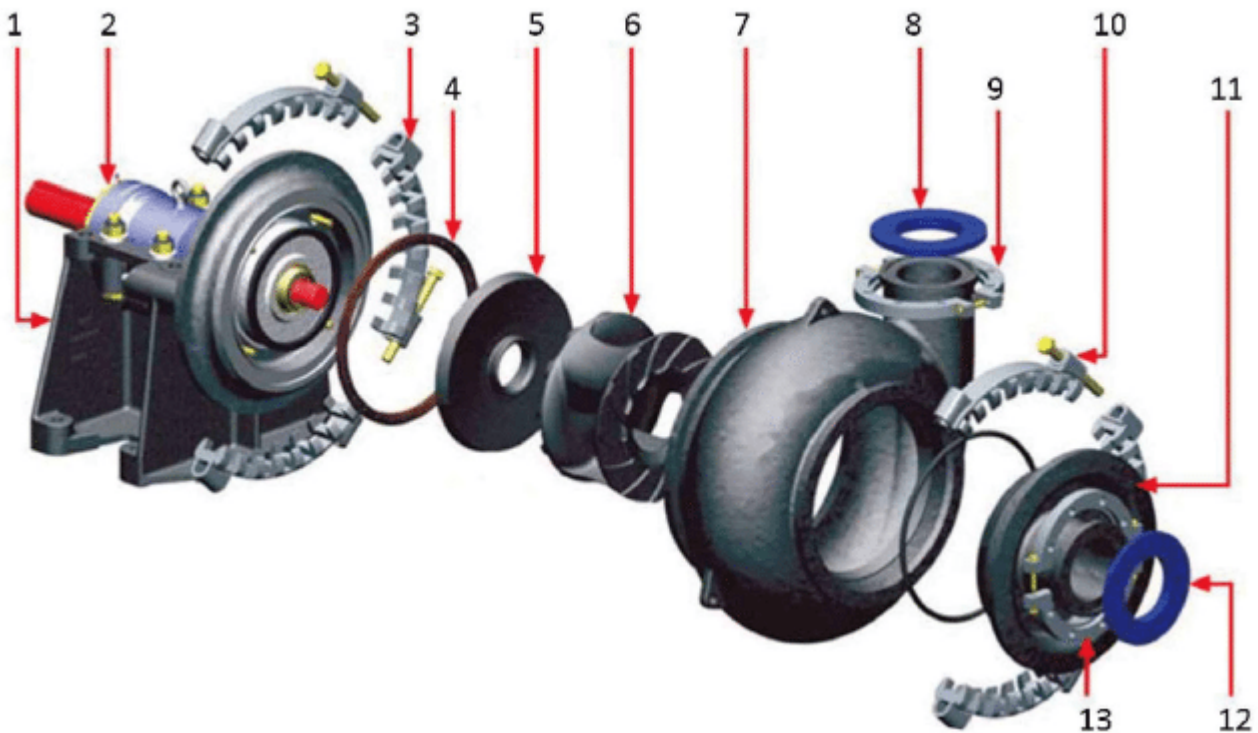
### Gravel Pump Performance Chart





## Warman Gravel Pump Performance Chart

Pump Model	Allowable Max. Power (kw)	Capacity m <sup>3</sup> /h	Capacity L/S	Head H(m)	Speed n(r/min)	Max. EFF.(%)	NPSH(m)	Impeller. Dia (mm)
6/4D-G	60	36-250	10-70	5-52	600-1400	58	2.5-3.5	378
8/6E/G	120	126-576	35-160	6-45	800-1400	60	3-4.5	378
10/8S-G	560	216-936	60-260	8-52	500-1000	65	3-7.5	533
10/8F-G	260	216-936	60-260	8-52	500-1000	65	3-7.5	533
10/8S-GH	560	180-1440	50-400	24-80	500-950	77	2.5-5	711
12/10F-G	260	360-1440	100-400	10-60	400-850	65	1.5-4.5	667
12/10G-G	600	360-1440	100-400	10-60	400-850	65	1.5-4.5	667
12/10G-GH	600	288-2808	80-780	16-80	350-700	73	2.0-10.0	950
14/12G-G	600	576-3024	160-840	8-70	300-700	68	2.0-8.0	864
16/14G-G	600	720-3600	200-1000	18-44	300-500	70	3.0-9.0	1016
16/14TU-G	1200	324-3600	90-1000	26-40	300-500	72	3.0-6.0	1270
18/16G-G	600	420-4320	200-1200	12-48	250-500	72	3.0-6.0	1067
18/16TU-G	1200	720-4320	200-1200	12-48	250-500	72	3.0-6.0	1067



1.Support 2.Bearing Housing Assembly 3.Adapter Plate Clamp Band 4.Volute Liner Seal 5.Frame Plate Liner Insert 6. Impeller 7. Frame Plate / Bowl 8. Discharge Joint Ring 9. Discharge Flang 10. Door Clamp Band 11. Cover Plate 12. Intake joint ring 13. Intake flange 14. Adapter plate

# НАСОСЫ ДЛЯ ДЕСУЛЬФУРАЦИИ СЕРИИ TD/TDL



## Product Description

Based on the successful design experience in manufacturing ZJ series slurry pumps and absorbed home and abroad advanced technology, we designs and manufactures DT and LT type pump, a special FGD engineering pump.

The max flow range can be up to 12000m<sup>3</sup>/h, the head is generally less than 100m. This type pump apply to all the desulfurization system, which can be used as a slurry circulating pump in large absorption tower and limestone slurry pump, gypsum slurry discharge pump, recycling pump, sump pump and so on.

## Desulfurization Pump Features

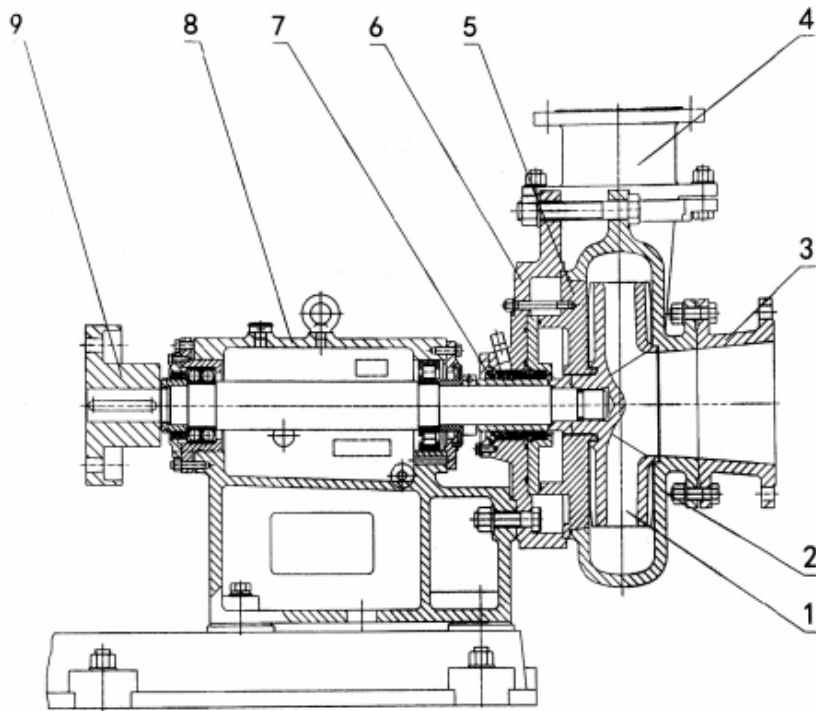
- TD, TDL serial desulfurization pumps are developed elaborately based on advanced technology both here and abroad according to characteristics of pumps for flue gas desulfurization, Max. flux of the pumps can reach 12000m<sup>3</sup>/h, lift is typically less than 100m that covers all operating condition of pumps in the desulfurization system. The pump can be used as a serum circulating pump, a delivery pump of limestone serum, a discharge pump for plaster, a recovery pump and silo pump.
- The pump wet parts are designed by advanced CFD Flowing Simulating Analysis Techniques to ensure its design reliable and its working effective.
- It can change the impeller's position in pump casing by adjusting the bearing assembly to keep the pump working high efficiently all the time.
- This kind of pump adopts back pull-out structure, keeping it easy construction and easy maintenance. It doesn't need disassemble inlet & outlet pipeline.
- Two sets of taper roller bearing is fixed in the end of the pump, the column roller bearing is equipped at driving end. The bearing is lubricated by oil. All these can improve the bearing working condition and greatly enhance its life.

## Working Condition

- It is used for large-scale slurry circulating pump of absorption tower, limestone slurry delivery pump, gypsum slurry discharge pump, recovery pump, sump pump, etc.

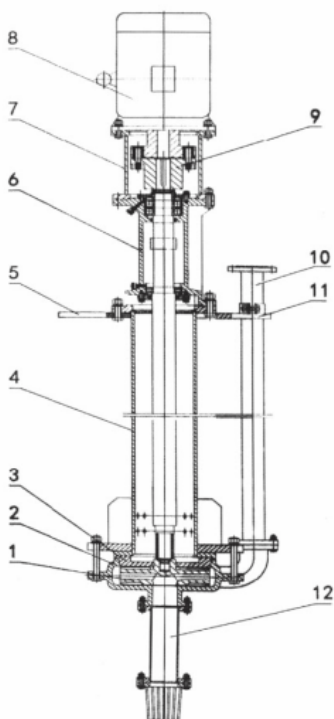
## Structure Form

Series of DT FGD pump is a horizontal, single casing, single stage, single suction, pedestal or suspension structure pump.



1	Impeller	5	Frame plate liner insert	9	Coupling
2	Volute liner	6	Stuffing box	10	Base plate
3	Suction short pipe	7	Mechanical seal		
4	Discharge short pipe	8	Frame		

Series of LT FGD pump is vertical, single casing pump. Adding suction pipe can meet the requirements of various operating conditions.



1	Impeller	7	Motor support
2	Volute liner	8	Motor
3	Frame plate liner insert	9	Coupling
4	Column	10	Discharge pipe
5	Left support plate	11	Right support plate
6	Bearing housing	12	Suction pipe

## Technical Parameters (TD)

Pump Model	Allowable Max. Power (kw)	Clear Water Performance					Particle Max. Size Handled Occasionally (mm)	Pump Weight (kg)
		Capacity Q	Head H (m)	Speed n (r/min)	Max. Eff. (%)	(NPSH) r (m)		
		(m <sup>3</sup> /h)						
800TD-A90	900	4104-10690	7.8-27.8	400-595	86.4	4.3	88	7101
700TD-A90	900	3551-8988	10.0-33.8	400-595	86.7	5.6	68	6030
600TD-A82	500	1664-5600	5.2-27.8	300-595	88.3	2.2	152	4900
500TD-76	400	1555-3881	9.9-27.9	450-595	76.8	4.5	58	3512
400TD-65	400	1134-3330	8.8-31.1	490-472	80.1	5.2	60	3200
350TDL-A78	500	720-2865	11.6-51.1	400-720	78.0	3.5	104	3700
300TD-A60	400	574-2384	8.7-52.0	490-989	81.1	4.3	96	2790
250TD-A45	90	221-804	5.0-27.0	490-980	68.2	6.5	56	1321
200TDL-B45	90	136-639	5.5-30.1	490-990	80.8	2.0	51	1750
150TD-B55	132	139-630	11.3-53.7	490-990	78.1	2.3	56	1540
100TDL-A60	220	71-305	29.1-147.0	700-1480	57.9	2.4	18	890
100TD-A35	75	77-323	8.8-45.9	700-1480	73.2	1.9	42	550
80TD-A36	37	41-167	8.9-47.1	700-1480	62.4	1.5	16	480
65TDL-A40	55	34-159	11.5-60.1	700-1480	62.1	2.1	16	490
65TD-A30	22	21-99	7.0-35.6	700-1470	54.6	2.2	19	260
50TDL-B40	37	24.5-99.5	12.0-60.7	700-1470	55.0	3.1	14	490
50TD-A30	18.5	16-78	5.8-35.1	700-1460	48.5	0.8	16	210
40TDL-A25	45	16.8-74.7	13.7-88.6	1400-2950	42.5	2.6	9	185
40TD-A17	7.5	4.6-23.4	9.2-44.6	1400-2900	52.4	2.5	11	127
25TD-A25	4	4.7-19.9	3.3-21.6	700-1400	38.0	3.3	5	107
25TD-A15	5.5	4.4-19.3	6.2-34.4	1390-2900	41.8	1.3	8	89

Note:1.(NPSH)r:Value of the second speed.

2.Normal partical size: 56% of allowable occasional particle Max. size.

# НАСОСЫ ДЛЯ ДЕСУЛЬФУРАЦИИ СЕРИИ TL/TLR



Desulfurization pumps are corrosion-resistant pumps, mainly used for the transportation of corrosive liquids. It is a widely used pump among general equipment pumps. The desulfurization pump is usually a horizontal cantilever single-stage single-suction centrifugal pump, which is specially designed and developed for transporting corrosive media containing fine particles. The flow material of the desulfurization pump is required to be wear-resistant and corrosion-resistant.

TL Desulphurization pump is the new generation high efficiency energy saving product elaborately researched and developed by our company through absorbing the technical specifications of

flue gas desulphurization project, aiming at the characteristic of FGD system of transporting medium through pump in thermal power plant.

## Features:

TL series flue gas desulphurization pump flow parts adopt the advanced flow simulation technology to guarantee reliable design and high operating efficiency.

- 1) Corrosion resistant and wear resistant metal or rubber materials with long service life
- 2) Achieve highest efficiency all the time by adjusting the bearing components to alter the impeller position in pump chamber
- 3) Easy to maintain: can be disassembled without dismantling suction or discharge pipes
- 4) Tapered roller bearing and two cylindrical roller bearings with oil lubrication, which improved service life.

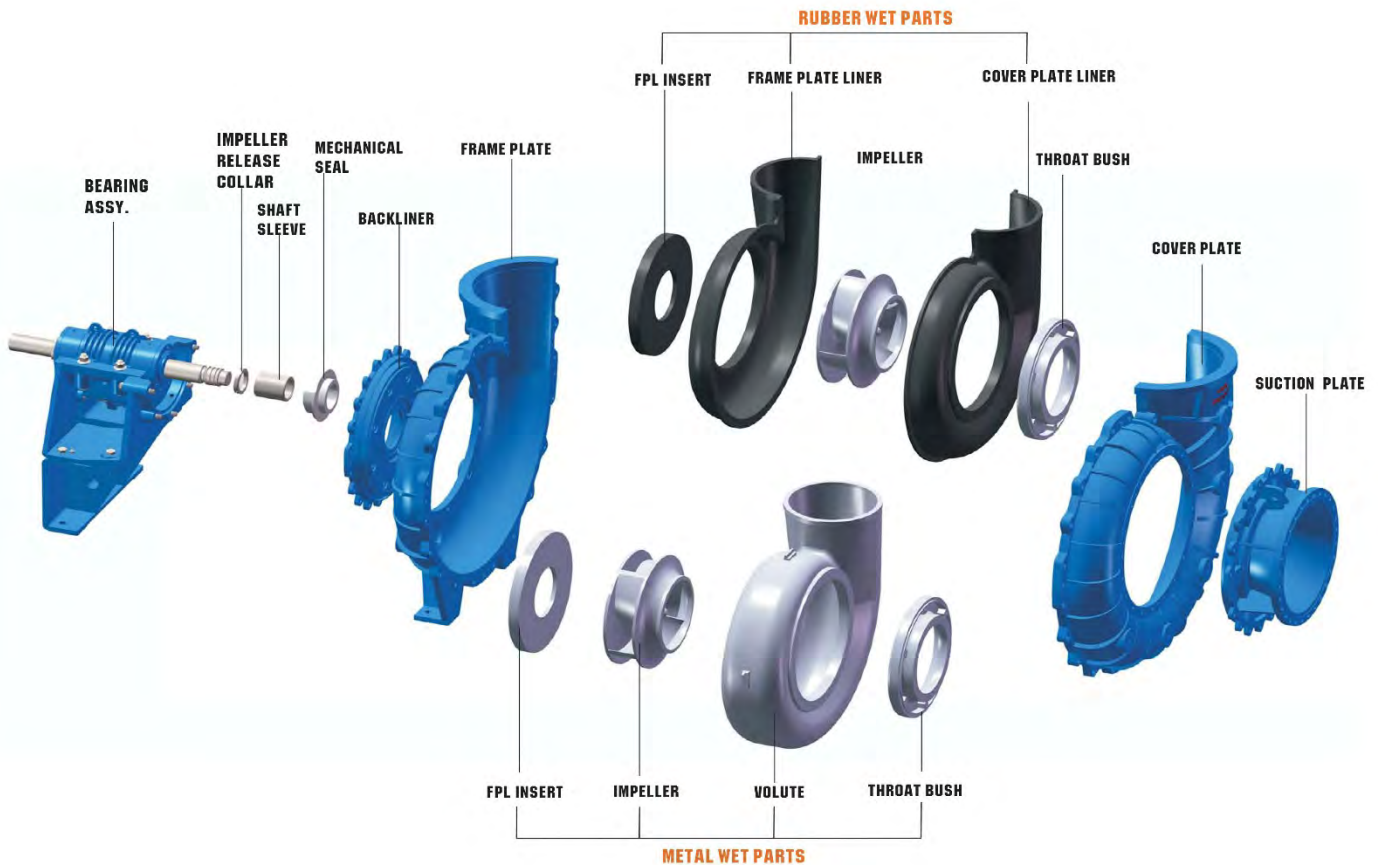
## Applications:

- 1) Sulfuric acid phosphate fertilizer industry: transportation acid, liquor, sewage, water, fluoride acid containing silica, phosphate slurry and other media.
- 2) Non-ferrous metal smelting industry: particularly suitable for lead, zinc, gold, silver, copper, manganese, cobalt, rare earth and other various hydrometallurgical acid, corrosive pulp slurry (filter press equipped with) electrolyte, sewage and other media delivery.
- 3) Chemical and other companies: a variety of sulfuric acid, hydrochloric acid, alkaline, clear liquid or slurry oils posts. Titanium dioxide, iron Pink production, various dyes, pigments production, non-metallic mineral processing industries.
- 4) The chlor-alkali industry: hydrochloric acid, caustic electrolyte and so on.
- 5) Treatment: pure water, high pure water, wastewater (sewage leather, electroplating wastewater, electronics sewage, papermaking sewage, textile sewage, food waste water, sewage, sewage pharmaceutical industry, etc.).



- 6) Iron and steel enterprises: sulfuric acid system, hydrochloric acid positions, with impurities sewage.
- 7) Wet \ semidry desulfurization circulation pump: to apply basic, acidic, corrosive positions simultaneously.
- 8) The coal industry, coal corrosive liquids, coal slurry transportation

### Desulphurization pump structure



#### Materials:

The impeller and suction cover of flue gas desulphurization pump are composed of the self developed material duplex stainless white iron, which possesses significant corrosion resistance and wear resistance. Meanwhile, the frame plate, cover plate and splice plates, as pressure parts, are made of ductile cast iron. Besides, we can also use natural rubber as the material of cover plate liner, rear liner and frame plate liner, which has such advantages as light weight, relatively low cost and excellent abrasion performance.

## Technical Parameters

Pump Model	Capacity Q (m3/h)	Head H (m)	Speed n (r/min)	Max.Eff. (%)	NPSH (m)	Outlet Dia./Inlet Dia. (mm)
1000X- TL(R)	10440	15	485	89	7.0	1000/1200
900X-TL(R)	15000	30	485	90	8.5	900/1000
800X-TL(R)	9360	31	485	90	7.0	800/900
700X-TL(R)	6840	26	485	87	6.0	700/800
600X-TL(R)	6300	25.5	620	88	5.5	600/700
500X-TL(R)	3750	25	725	85	5.0	500/500
400X-TL(R)	2500	25	725	83	5.0	400/450
350X-TL(R)	1600	25	960	82	4.5	350/400
300X-TL(R)	720-1800	15-40	450-800	60-79	2-5.5	300/350
250X-TL	540-1800	20-75	450-900	75-86	2-4	250/300
200R-TL(R)	360-1000	10-40	450-980	80-85	2-5.5	200/250
150R-TL(R)	200-800	15-60	600-1200	65-80	2-5.5	150/200
150E-TL(R)	150-540	12-40	800-1480	50-67	2.5-6	150/200
100E-TL(R)	70-360	15-55	800-1600	50-68	2-6.5	100/150
100D-TL(R)	20-220	10-40	800-1800	50-65	2-4.5	100/150
75D-TL(R)	40-160	10-50	1000-2200	50-72	2-6	75-100
75CC-TL(R)	30-130	8-45	900-2400	40-57	2-6.5	75/100
50D-TL	70-140	25-85	850-1450	30-47	2-6.5	50/75
50CC-TL(R)	40-85	12-64	1300-2700	40-58	2-10	50/75
50BB-TL(R)	16-75	9-44	1400-2800	35-62	2-5.5	50/75
40BB-TL(R)	32-72	6-58	1200-3200	30-45	2-8	40/50
20CC-TL	16-34	25-92	1400-2200	16-20	2-4.5	20/40
20BB-TL(R)	12.5-28	6-68	1200-3800	20-40	2-4.5	20/40
20A-TL(R)	2.5-10	6-37	1400-3000	15-30		20/40

# ХИМИЧЕСКИЕ НАСОСЫ СЕРИИ CZ



## Product Description

The impeller of the CZ sulfuric acid pump has a back blade or balanced hole structure to balance the axial force, while the residual axial force is absorbed by the bearing. The bearing is lubricated with thin oil, and the constant oil cup and visual oil window are used to control the lubricating oil level. A bushing is used to protect the shaft to prevent it from contact with the medium, also preventing corrosion and extending its service life and functionality. It is not necessary to dismantle the pipes at the inlet, outlet, and motor, due to the rear drag design.

The entire rotor component can be pulled out from the rear for easy maintenance.

Before turning on the acid pump, both the suction pipe and the pump must be filled with liquid. After the pump is turned on, the impeller will rotate at high speed, and the liquid inside it will rotate with the blades. The liquid will then leave the impeller, being ejected by centrifugal force. As it gradually slows down in the pump casing diffusion chamber, the pressure will gradually increase. At the outlet, the discharge pipe will flow out. From the center of the blade, the liquid will be thrown to the surrounding area to form a low-pressure vacuum area containing neither air nor liquid. The pooled liquid will then flow into the pump through the suction pipe via atmospheric pressure on the surface of the blade, to be continuously sucked up and flowing out of the discharge pipe.

## Product Features

- The CZ chemical acid pump is a centrifugal pump of the horizontal single-stage, single-suction, and cantilevered variety, and is designed as per DIN24256, IS02858, and GB5656.
- This series of hydraulic pumps are reliable, stable, and efficient. Their performance satisfies the requirements of international standards.
- Pump structure is simple, making maintenance convenient.

## Main Application

This series of the acid pump is used primarily in the chemical, petrochemical, coal chemical, paper, pharmaceutical, sugar processing, food, and food processing industries, as well as in refineries, power plants, waste acid treatment facilities, and water supply and drainage, and urban water supply.

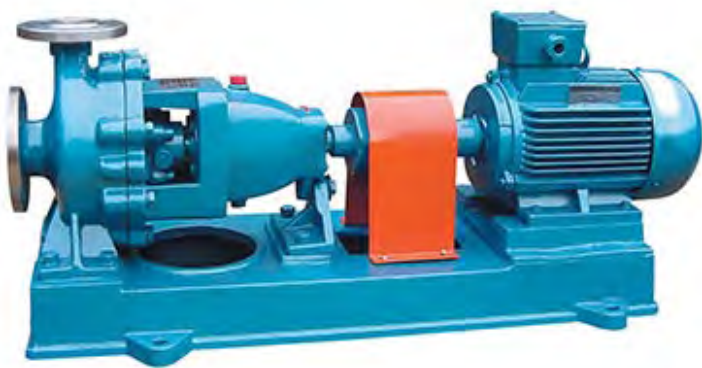
## CZ Chemical Process Pumps Performance Parameters:

Size	Im p. typ e	n=2950r/min					n=1450r/min				
		Capacity Q (m3/h)	Head H (m)	S.G.=1. 00	S.G.=1. 35	S.G.=1. 84	Capacity Q (m3/h)	Head H (m)	S.G.=1. 00	S.G.=1. 35	S.G.=1. 84
				Electric motor power					Electric motor power		
				kw	kw	kw			kw	kw	kw
CZ3 2- 160	A	20	36	4	5.5	7.5	11	9	1.1	1.1	1.5
	B	19	29	4	5.5	7.5	10	8			
	C	17	28	3	4	5.5	9	7			
	D	15	20	2.2	3	4	6	5			
	E	13	14				6	3			
CZ3 2- 200	A	20	50	7.5	11	15	10	13	1.5	1.5	2.2
	B	18	48			11	9	12			1.5
	C	16	40	5.5	7.5		8	10			
	D	15	30	4	5.5	7.5	8	8			
CZ3 2- 250	A	20	85	15	18.5	30	11	20	2.2	3	4
	B	20	75			11	15	18.5			9
	C	18	65	7.5	11		15	8			11
	D	15	50	7.5	11	15	8	11			
CZ4 0- 160	A	30	34	7.5	11	15	15	8	1.1	1.1	1.5
	B	28	30	5.5	7.5	11	15	7			
	C	16	26		5.5	7.5	11	14			6
	D	14	18	3		5.5	12	4			
CZ4 0- 200	A	34	50	11	15		16	13	1.5	1.5	2.2
	B	30	48	7.5	11	15	15	12	1.1		
	C	26	38	5.5	7.5	11	14	9		1.1	1.1
	D	22	30				12	7	1.1		
CZ4 0- 250	A	36	85	22	30	45	20	21	4	2.2	5.5
	B	34	80	18.5	22	37	18	20	3	4	
	C	30	65	15	18.5	30	16	15	2.2	3	4
	D	26	50	11	15	18.5	13	12		2.2	2.2
CZ4 0- 315	A	46	140	45	55	75	22	36	11	11	11
	B	44	130	37	45	55	22	32	5.5		
	C	40	100	30	37	37	20	24	4	5.5	7.5
	D	34	80	22	30	37	18	18	3	4	5.5

# ХИМИЧЕСКИЕ НАСОСЫ СЕРИИ IH

## Introduction of IH chemical pump

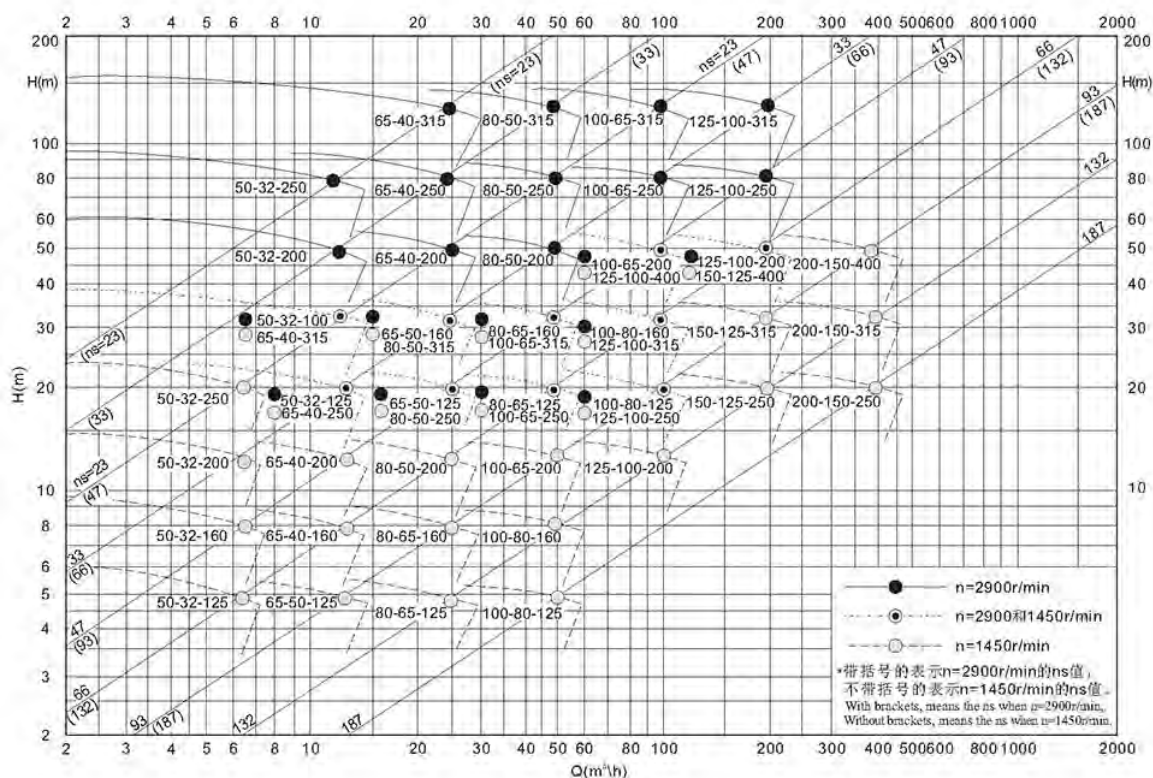
IH chemical pump is a single stage single suction cantilever centrifugal pump. It can transport media with higher temperature if necessary, and is applied to transport various corrosive media or media in which pollution is forbidden similar to water in such industries as chemical industry, petroleum, metallurgy, electric power, papermaking, food, pharmacy and synthetic fiber etc.



## Features of IH chemical pump

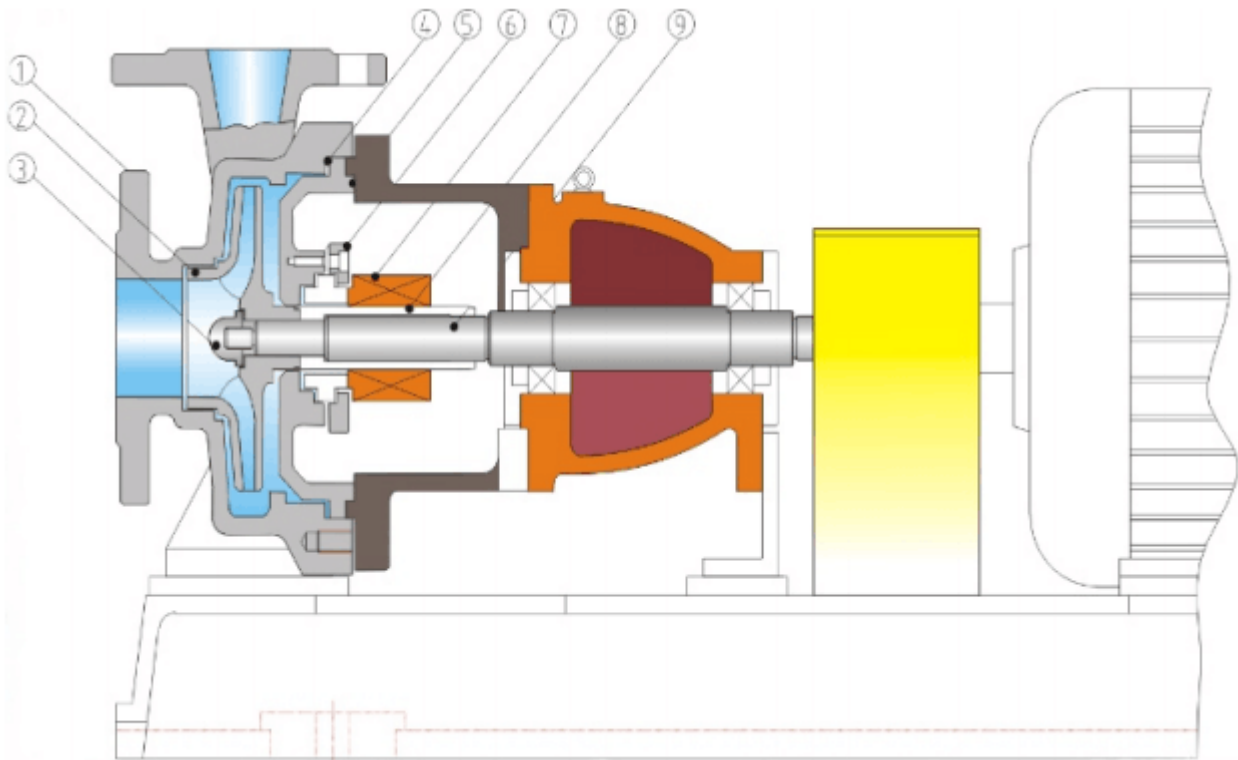
- Horizontal, single-stage end-suction (axial suction) cantilever, centrifugal chemical pump design
- TIH series chemical pump is radial split and back pull out structure, so there is no need of disassembly the pipeline when check and repair.
- Pump casing is axial suction, radial discharge and supported by foot, Pump is connected with the driver by spacer coupling.
- Bearing is lubricated by clean 22# mechanical oil, bearing housing must be filled with lubricants about 2mm over the centerline of oil level guage before starting pump.
- The temperature of transported liquids is 20-105°C. Through adopting cooling method, it can transport liquids with higher temperature.
- Shaft seal adopts packing seal, mechanical seal, expeller seal(dynamic seal).

## IH performance range





## Material of Construction



Item	Designation	Material
1	Pump casing	1Cr18Ni9Ti
2	Impeller	1Cr18Ni9Ti
3	Impeller nut	1Cr18Ni9Ti
4	Seal ring	Filled PTFE
5	Pump cover	1Cr18Ni9Ti
6	Seal gland	1Cr18Ni9Ti
7	Mechanical seal	SIC/TC
8	shaft sleeve	1Cr18Ni9Ti
9	Shaft	2Cr13

## IH Chemical Pumps Performance Parameters:

Model	Flow (m3/h)	Pump head (m)	Inlet (mm)	Outlet (mm)	NPSHa (m)	Speed (RPM)	Power (kw)
IH50-32-125	12.5	20	50	32	2	2900	2.2
	6.3	5	50	32	2	1450	0.55
IH50-32-160	12.5	32	50	32	2	2900	3
	6.3	8	50	32	2	1450	0.55
IH50-32-200	12.5	50	50	32	2	2900	5.5
	6.3	12.5	50	32	2	1450	1.1

<b>IH50-32-250</b>	12.5	80	50	32	2	2900	11
	6.3	20	50	32	2	1450	2.2
<b>IH65-50-125</b>	25	20	65	50	2	2900	3
	12.5	5	65	50	2	1450	0.55
<b>IH65-50-160</b>	25	20	65	50	2	2900	5.5
	12.5	5	65	50	2	1450	0.75
<b>IH65-40-200</b>	25	32	65	50	2	2900	11
	12.5	8	65	50	2	1450	1.5
<b>IH65-40-250</b>	25	50	65	40	2	2900	15
	12.5	12.5	65	40	2	1450	3
<b>IH65-40-315</b>	25	125	65	40	2	2900	30
	12.5	32	65	40	2	1450	5.5
<b>IH80-65-125</b>	50	20	80	65	3	2900	5.5
	25	5	80	65	2.5	1450	0.75
<b>IH80-65-160</b>	50	32	80	65	2.3	2900	11
	25	8	80	65	2.3	1450	1.5
<b>IH80-50-200</b>	50	50	80	50	2.5	2900	15
	25	12.5	80	50	2	1450	2.2
<b>IH80-50-250</b>	50	80	80	50	2.5	2900	30
	25	20	80	50	2	1450	5.5
<b>IH80-50-315</b>	50	125	80	50	2.5	2900	45
	25	32	80	50	2.5	1450	7.5
<b>IH100-80-125</b>	100	20	100	80	4.2	2900	11
	50	5	100	80	3.4	1450	1.5
<b>IH100-80-160</b>	100	32	100	80	3.9	2900	15
	50	8	100	80	2.5	1450	2.2
<b>IH100-65-200</b>	100	50	100	65	3.6	2900	22
	50	12.5	100	65	2.5	1450	3
<b>IH100-65-250</b>	100	80	100	65	3.6	2900	37
	50	20	100	65	2.5	1450	5.5
<b>IH100-65-315</b>	100	125	100	65	3.2	2900	75
	50	32	100	65	2	1450	11

# ХИМИЧЕСКИЕ НАСОСЫ СЕРИИ FSB\FSBL



## Introduction of FSB\FSBL fluoro plastic alloy centrifugal pump

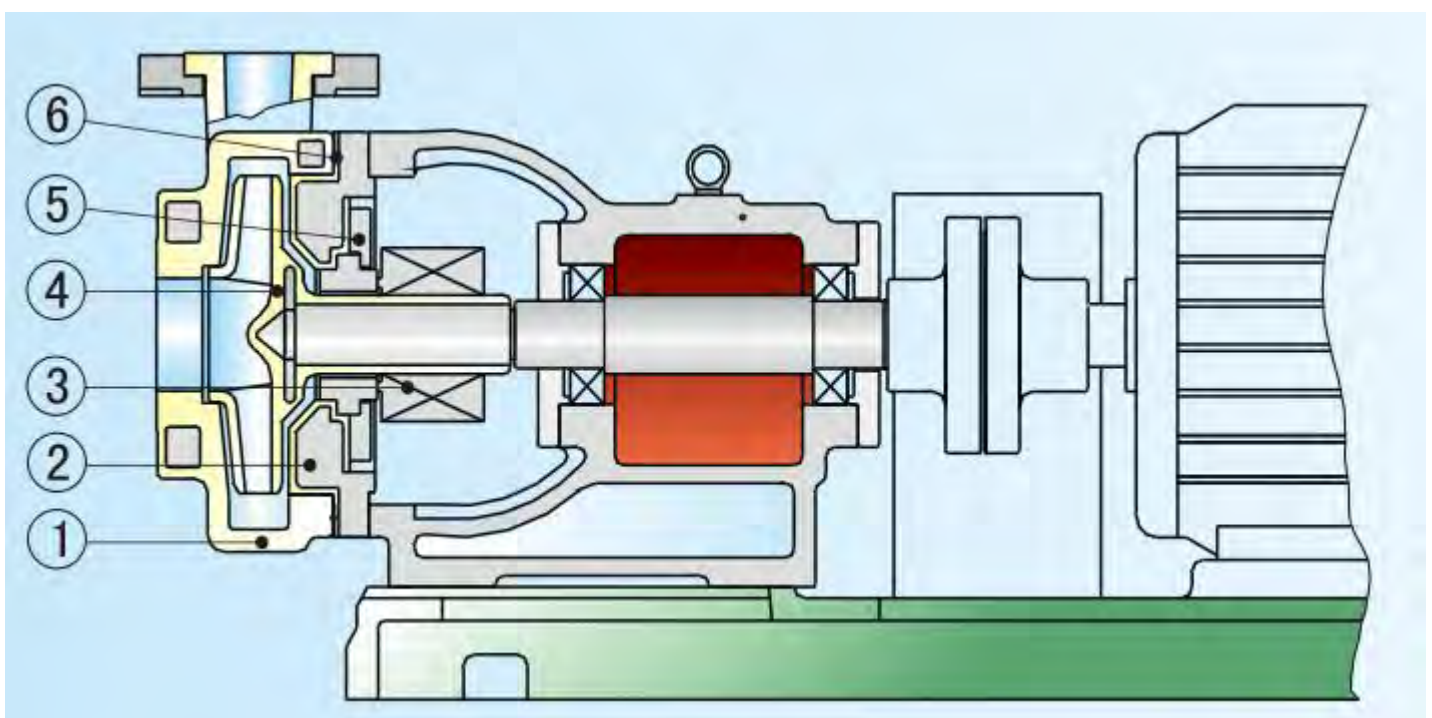
FSB /FSBL series pump is a centrifugal pump for chemical process. It is a thermoplastic centrifugal pump(plastic centrifugal pump) for corrosive liquid with viscosity similar to water without solid. It is widely used in acid pickling process, painting process, electroplating industry, pesticide industry, papermaking.

## Features of FSB\FSBL fluoro plastic alloy centrifugal pump

- 1.Body: steel flange ring with each embedded in connecting parts on both right and left sides, made of moulded plastic alloy.
- 2.Metal materials embedded in right side of bonnet, made of moulded plastic alloy.
- 3.Impeller: adopting coupling shaft, with precision processing of high-grade steel and coating of plastic alloy after die pressing for metal shaft, integrating impeller and metal shaft securely, thus contributing to the medium soaking part made of plastic alloy.
- 4.Mechanical seal: adopting WB2 and ST adjustable end face seal technology without cooling water, made from carborundum, high-purity alumina ceramics, 4F packing, graphite, etc.

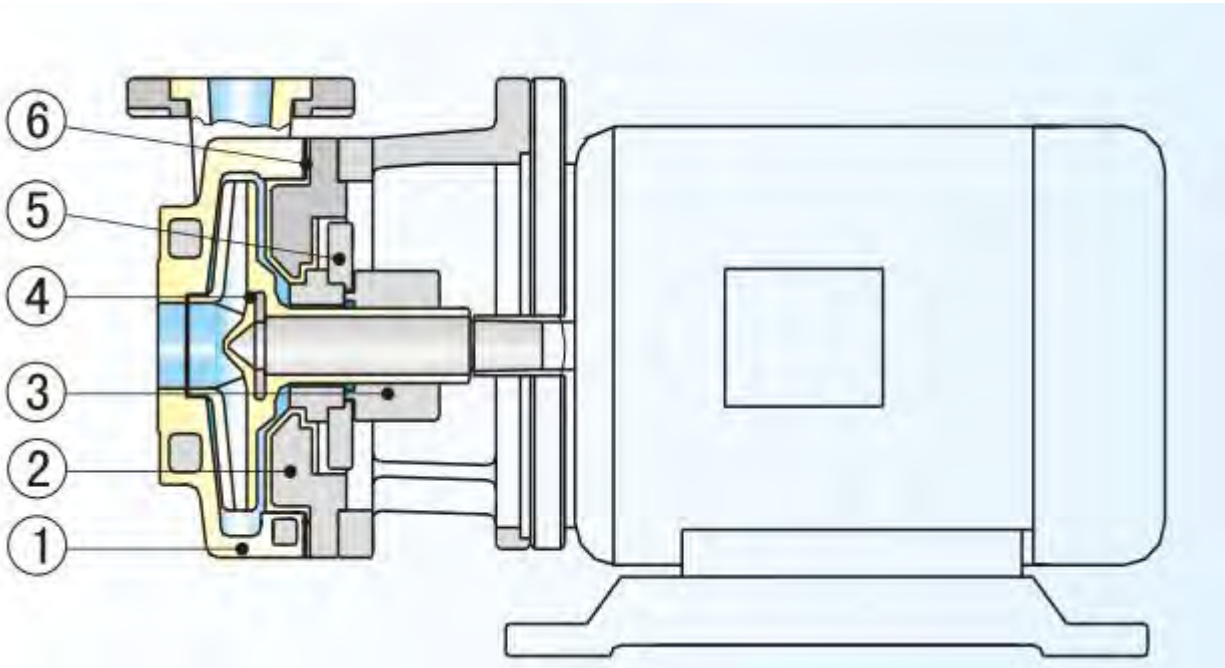
## Material of Construction

### Coupling type



Item	Designation	Material
1	Housing	Cast iron HT200 lined with Fep
2	Impeller	Fluoroplastic and polytene(PE)
3	Seal ring	Viton
4	Pump cover	Cast Iron HT200 lined with FEP
5	Seal gland	1Cr18Ni9Ti (SS304)
6	Mechanical seal	SIC/TC

### Close coupled type



Item	Designation	Material
1	Housing	Cast iron HT200 lined with Fep
2	Impeller	Fluoroplastic and polytene(PE)
3	Seal ring	Viton
4	Pump cover	Cast Iron HT200 lined with FEP
5	Seal gland	1Cr18Ni9Ti (SS304)
6	Mechanical seal	SIC/TC

### Model and Parameter

Model	Flow (m <sup>3</sup> /h)	Head (m)	Efficiency (%)	NPSHa (m)	Inlet x outlet (mm)	Motor Power (kw)	Pump and motor weight (kg)
25FSB(L) -25	2	25	22	3	25*25	1.5	48
	*3.6	25	30				
	6	23	41				
40FSB-15	3.5	15	33	3	40*32	3	75
	*5	15	45				
	8	10	48				
40FSB-20	6	22	30	3	40*32	3	75
	*10	20	42				

	12	17	48				
<b>40FSB(L) -30</b>	6	22	30	3	40*32	3	75
	*10	20	42				
	12	17	48				
<b>50FSB-20</b>	8	21	40	3	50*32	3	75
	*12.5	20	52				
	15	17	52				
<b>50FSB-25</b>	8	26	35=8	3	50*32	3	75
	*12.5	25	48				
	15	22	48				
<b>50FSB(L) -30</b>	8	31	35	3	50*32	3	75
	*12.5	30	46				
	15	30	46				
<b>65FSB-32</b>	17	33	42	3	65*50	5.5	125
	*25	32	56				
	30	30	58				
<b>80FSB-20</b>	35	21	55	3.5	80*65	5.5	125
	*50	20	65				
	60	17	68				
<b>80FSB-25</b>	35	26	53	3.5	80*65	7.5	130
	*50	25	64				
	60	23	68				
<b>80FSB(L) -30</b>	35	32	58	3.5	80*65	7.5	160
	*50	30	64				
	60	28	64				
<b>80FSB-40</b>	35	41	53	3.5	80*50	11	210
	*45	40	63				
	55	36	60				
<b>80FSB-50</b>	35	52	55	3.5	80*50	15	210
	*50	50	63				
	60	45	55				
<b>80FSB-55</b>	35	56	50	4	80*50	18.5	230
	*50	55	60				
	60	49	55				
<b>100FSB- 32</b>	65	35	65	3.5	100*80	15	250
	*100	32	70				
	110	26	65				



# ХИМИЧЕСКИЕ НАСОСЫ СЕРИИ ZA/ZAO



## Introduction of ZA/ZAO chemical flow Pump

This series of chemical process pump is an updated replacement. It is based on the American National Standards Institute's ANSIB731M standard and combined with advanced pump manufacturing experience now. The super versatile and interchangeable design not only reduces spare parts storage and management costs but also reduces the overall operating cost of the pump, which makes it a new alternative across the general chemical industry by its unique durability, reliability, and economy.

This series of chemical process pump is

mainly used in chemical, petrochemical, refinery coal chemical, power plant, paper, pharmaceutical, sugar, steel, waste acid treatment, water supply, and drainage urban water supply, food deep processing and other industries.

## Features:

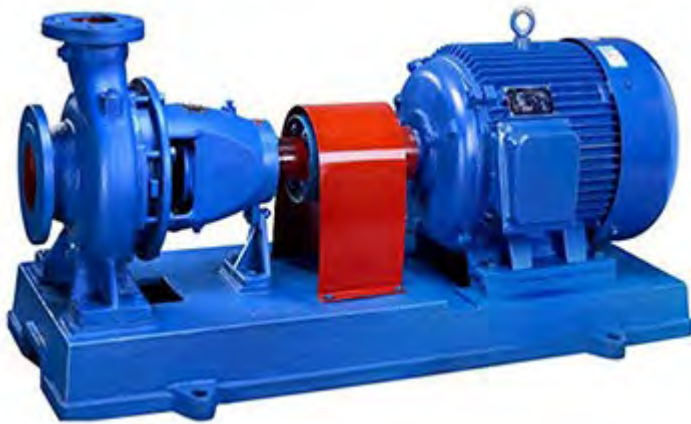
1. It is mainly composed of the pump body, impellers, seal rings, impeller nuts, pump cover, seal parts, intermediate support, spindle suspended parts and so on.
2. To make it convenient to disassemble, the prolonged coupling is designed, so that it is unnecessary to disassemble the Coupled input & output pipes during check and maintenance, only by disassembling the intermediate coupler of the prolonged coupling, users are able to screw out the rotor part.
3. The shaft seal is mechanical seal generally, use of imported titanium rings and carbide mechanical seals and high-temperature materials, corrosion-resistant, no leakage. The pump is connected with the motor through flexible coupling, the pump rotation direction, from the motor end, is clockwise rotation.
4. Anti-corrosion, wearability, high-temperature resistance, nonaging, high mechanical strength, non-toxic decomposition and wide temperature range of use.
5. This pump can be used to transport sulfuric acid, nitro-hydrochloric acid, strong oxidative and strong.
6. This Acid pump's biggest advantage is advanced structure, reasonable, strong corrosion-resistance, sealing performance close reliable, stable operation, low noise, long service life.

## Performance Parameter

Type	Impeller Type	n=2950r/min						n=1475r/min						
		Q Flow m <sup>3</sup> /h	Lift Head H (m)	Bearing bracket LK	Specific weight			Q Flow m <sup>3</sup> /h	Lift Head H (m)	Bearing bracket LK	Spccific weight tht			
					1 kW	1.35 kW	1.84 kW				1.0 kW	1.35 kW	1.84 kW	
ZA(O) 25-200	A	11.5	49	0	5.5	7.5	11	5.8	12	0	1.1	1.1	1.5	
	B	10.5	42		4	5.5	7.5	5.4	11					
	C	9	36		3	4	5.5	4.6	8.5					
	D	7.5	28		2.2	3	4	4	6.5					
	E	5.5	16		1.5	1.5	2.2	3	4					
ZA(O) 25-250	A	16	70	2	11	15	22	8.1	17.7	1	1.5	2.2	3	
	B	14.5	62		11	15	18.5	7.7	15.6			2.2	3	
	C	13.6	42		7.5	11	15	7.2	10.9			2.2	2-2	
	D	11.3	24		5.5	7.5	11	6	6.2			1.1	1.1	1.5
ZA(O) 25-315	A	20	128	2	30	37	55	10	32.3	2	5.5	7.5	7.5	
	B	18.6	116		30	37	45	9.2	29			4	5.5	7.5
	C	17	99		22	30	37	8.3	24.3			3	5.5	5-5
	D	15.7	87		18.5	30	37	7.6	22			3	4	5-5
	E	14.5	76		15	22	30	7.1	19.5			2.2	3	4
	F	13	64		11	15	22	6.4	16			2.2	2.2	3
ZA(O) 40-160	A	28	33	1	5.5	7.5	11	14	8	1	1.1	1.1	1.5	
	B	25.6	29					13	7					
	C	22	22		4	5.5	5.5	11	5.5					
	D	20	16		2.2	3	4	9.5	4.5					



# ВОДЯНЫЕ НАСОСЫ СЕРИИ IS/ISR



## Product Description

The IS(R) centrifugal water pump is a single-stage, single-suction centrifugal pump for the transportation of clean water or other liquids with similar physical and chemical characteristics. The medium used with the IS model should be under 80C, and under 150C for the IS(R) model.

The pump body and cover are divided from the back of the impeller, which is the so-called rear door structure, making for

convenient maintenance. During maintenance, the pump body, suction pipeline, discharge pipeline, and the motor are not moved; simply remove the intermediate coupling of the extended coupling to withdraw the rotor component.

The pump casing (namely, the pump body and pump cover) constitutes the centrifugal water pump's working chamber, impeller, shaft, rolling bearing, etc. as the pump rotor. The suspension bearing component supports the pump rotor component, and the rolling bearing receives the radial and axial force of the pump.

In order to balance the axial force of a pump, most have seal rings on the front and rear of the impeller, and a balance hole on the rear cover of the impeller. Due to the low axial force of some pumps, no seal ring or balance hole is necessary.

The axial seal ring of the water pump is composed of packing and the packing gland, which prevent air intake or a large amount of water leakage. In order to avoid shaft abrasion, a protective sleeve is installed where the shaft passes through the packing cavity, and an O sealing ring is installed between the shaft sleeve and the shaft to prevent air intake or water leakage along the mating surface.

The pump's transmission is connected with the motor through an extended elastic coupling. The water pump rotates in a clockwise direction when viewed from the drive end.

## Product Features

- High temperature-resistant structure: The water pump body adopts the center support method, which reduces the stress involved with inconsistent thermal expansion under high temperatures and the change of the coupling to the center when the pump is transporting high-temperature media. The pump bracket, cover, suspension body (bearing part), and machine seal gland have cooling chambers, which can be cooled with water or air at different temperatures.
- Bearings: Thin-oil lubrication significantly increases the bearing capacity. Bearing life is approximately 25,000 hours.
- Shaft seal: Optional packing seal and mechanical seal available.

- Coupling: This model employs elastic column tip coupling with high precision transmission.
- Auxiliary pipeline: This pipeline is configured according to the standards of the 8<sup>th</sup> edition of the API 610.
- High-pressure design: 4.0MPa

### Main Application

The applications include water supply and drainage in locations and industries including electric power stations, metallurgy, weaving, chemical, dyeing, ceramics, rubber, heating, heating and air condition utilities, and agriculture irrigation and drainage.

### Performance Data:

Model	Capacity m <sup>3</sup> /h	Head m	Power kW	Effeciency %
<b>IS 50-32-125</b>	12.5	20	2.2	60
<b>ISR 50-32-125</b>	6.3	5	0.55	54
<b>IS 50-32-160</b>	12.5	32	3	54
<b>ISR 50-32-160</b>	6.3	8	0.55	48
<b>IS 50-32-200</b>	12.5	50	5.5	48
<b>ISR 50-32-200</b>	6.3	12.5	0.75	42
<b>IS 50-32-250</b>	12.5	80	11	38
<b>ISR 50-32-250</b>	6.3	20	1.5	32
<b>IS 65-50-125</b>	25	20	3	69
<b>ISR 65-50-125</b>	12.5	50	0.55	64
<b>IS 65-50-160</b>	25	32	0.5	65
<b>ISR 65-50-160</b>	12.5	5	0.75	60
<b>IS 65-40-200</b>	25	50	7.5	60
<b>ISR 65-40-200</b>	12.5	12.5	1.1	55
<b>IS 65-40-250</b>	25	80	15	50

# ВОДЯНЫЕ НАСОСЫ СЕРИИ ISG/IRG



## Introduction of ISG/IRG series pipeline pump

ISG is vertical single stage centrifugal electric water pump. It is generally applied to transport pure water or the liquids with physical and chemical properties similar to pure water, and the maximum allowed medium temperature is 80°C, especially suitable for boosting water. IRG series pipeline pump is for hot water .

### Features:

1. Vertical structure, inlet and outlet are of the same sizes and on the same center line, can be mounted in pipeline, just like a valve does, compact and appealing appearance, small occupation floor, low construction cost, outdoor service if provided with a protection cover.
2. Impeller directly mounted on the extended shaft of motor, short axial dimensions, compact structure, and reasonable configuration of pump and motor bearing to effectively balance the radial and axial load produced by pump operating, thus to

ensure smooth operation, little vibration and low noise.

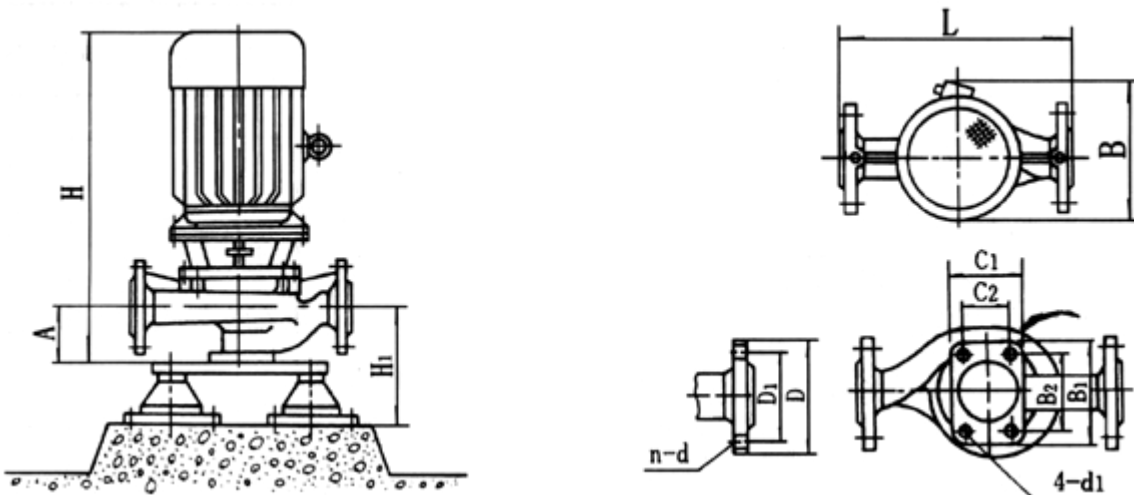
3. Using of mechanical seal or mechanical seal combination for shaft seal, imported titanium alloy sealing ring, intermediate high temperature resisting mechanical seal, hard alloy material and wear resistant seal, which effectively lengthen the service life of mechanical seal.

4. Easy installation and maintenance, no need to disassemble pipeline system, and all rotor components can be taken out only by taking off the nuts on the union seat of pump.

5. Modes of series and parallel running responding to the flow rate and delivery head required.

6. Vertically and horizontally installed according to the requirements of pipeline arrangement.

## Dimensions





## ISG Technical Parameters

Model	Flow (m <sup>3</sup> /h)	Lift (m)	Power (kw)
ISG20-110	2.5	15	0.37
ISG20-125	2.5	20	0.75
ISG20-160	2.5	32	1.1
ISG25-110	4	15	0.75
ISG25-125	4	20	0.75
ISG25-125A	3.6	16	0.75
ISG25-160	4	32	1.5
ISG25-160A	3.7	20	1.1
ISG32-100	4.5	12.5	0.75
ISG32-125	5	20	0.75
ISG32-125A	4.5	16	0.75
ISG32-160	5	32	1.5
ISG32-160A	4.5	28	1.1
ISG32-160(I)	6.3	32	2.2
ISG32-200	5	50	3
ISG32-200A	4.5	44	2.2
ISG32-200B	3.5	38	1.5
ISG32-200(I)	6.3	50	4
ISG40-100	6.3	12.5	0.75
ISG40-100A	5.6	10	0.75
ISG40-125	6.3	20	1.1

## IRG Technical Parameters

Model	Flow (m <sup>3</sup> /h)	Lift (m)	Power (kw)
IRG40-200A	5.9	44	3
IRG40-200B	5.3	36	2.2
IRG40-250	6.3	80	7.5
IRG40-250A	5.9	70	5.5
IRG40-250B	5.5	60	4
IRG40-100(I)	12.5	12.5	1.1
IRG40-100(I)A	11	10	0.75
IRG40-125(I)	12.5	20	1.5
IRG40-125(I)A	11	16	1.1
IRG40-160(I)	12.5	32	3
IRG40-160(I)A	11.7	28	2.2
IRG40-160(I)B	10.4	22	1.5
IRG40-200(I)	12.5	50	5.5
IRG40-200(I)A	11.7	44	4
IRG40-200(I)B	10.6	36	3

# ВОДЯНЫЕ НАСОСЫ СЕРИИ S/SH



## Product Description

The S and SH split case pumps are a single-stage, double-suction, horizontal centrifugal pumps used for the transportation of clean water or other liquids with similar properties, with maximum temperatures of 80°C.

The suction and discharge ports of S and SH pumps are both located below the pump's shaft centerline, the horizontal direction is perpendicular to the axis, and the pump casing and center are opened. There is no need to disassemble the water inlet, discharge pipe, or the motor during maintenance. When viewed from the direction of the coupling, the water

pump rotates counterclockwise.

The main parts of S and SH centrifugal split case pumps are the pump body, pump cover, impeller, shaft, double-suction seal ring, shaft sleeve, and bearing, all of which are composed of cast iron, except for the shaft, which is made of high-quality carbon steel. The pump body and pump cover form the working chamber of the impeller. Pipe screw holes for installing a vacuum and pressure gauge are made on the water inlet and outlet flanges, and water pipe screw holes are made on the lower part of the water inlet and outlet flanges.

The impeller is statically balanced and fixed with the sleeve and sleeve nuts on both sides. Its axial position can be adjusted by the sleeve nut. The axial force of the impeller is balanced by the symmetrical arrangement of its blades. There may be some leftovers. The remaining axial force is borne by the bearings at the coaxial end. The pump shaft is supported by two single-row radial ball bearings. The bearings are installed in the bearing bodies at both ends of the pump body, and lubricated with "butter." The double-suction seal ring is used to reduce water leakage from the pump pressure water chamber back to the water suction chamber.

The circulation pump is directly driven by the motor through the coupling. The shaft seal is a soft packing seal. In order to cool and lubricate the seal cavity and prevent air from leaking into the pump, there is a water seal ring between the fillers. When the pump is in operation, a small amount of high-pressure water flows into the packing cavity through the water seal tube to serve as a water seal.

## Product Features

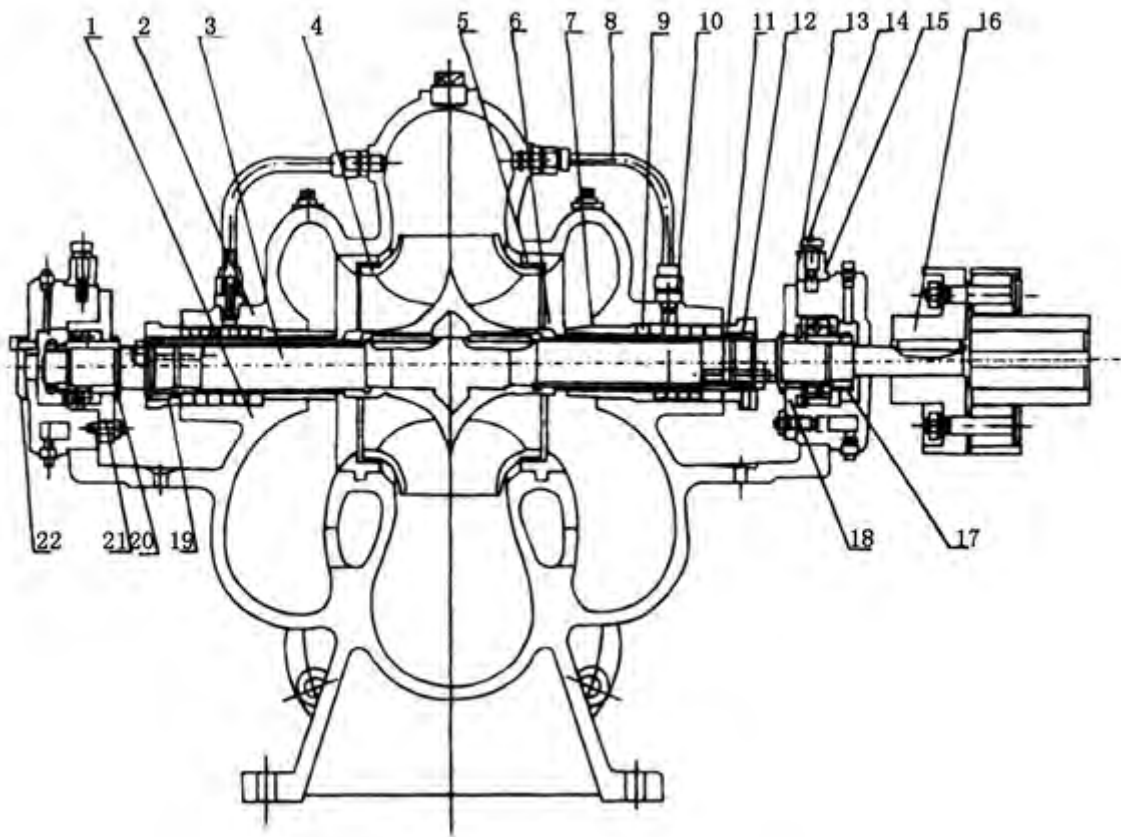
1. Large flow capacity, high efficiency.
2. Easy operation and maintenance.
3. Long operational life- The life of the pump casing should extend to at least 30 years, with a pressure threshold of up to 10MPa.
4. The location of the inlet and outlet flange of the split case pump can be custom placed upon request.

5. The shaft, impeller, shaft sleeve, and sealing ring can be composed of a selection of different materials according to the working conditions, including cast iron, cast steel, and stainless steel (SS304, SS410, etc.).
6. Seal method: machinery seal and packing seal varieties available.

### Main Application

This model centrifugal split case pump is suitable for use in power plant, mining, city, and coal-water feeding and discharging, farmland irrigation and drainage, and all hydraulic engineering.

### S/SH Series split centrifugal pump Structure drawing



No.	Name	No.	Name
1	Pump barrel	12	Sleeve nut (right)
2	Pump cover	13	Bearing body
3	Pump spindle	14	Set bolt
4	Impeller	15	Bearing body gland
5	Double suction sealing ring	16	Coupling part
6	Axle sleeve	17	Round nut
7	Neck bush	18	Bearing gland (A)
8	Sealing water pipe	19	Sleeve nut (left)
9	Filler	20	Bearing retainer
10	Packing ring	21	Bearing gland (B)
11	Packing gland	22	End cap

## Pump Performance

Pump model	Capacity		Head H (m)	Speed n (r/min)	power		EFF. (%)	(NPS H)r(m)	Impeller diameter (mm)	weight (kg)
	m <sup>3</sup> /h	L/s			shaft power (kw)	matched (kw)				
<b>8SH-6</b>	180	50	100	2900	79.1	110	62	5.5	284	245
<b>200S95</b>	234	65	93.5		85.0		71			
	288	80	82.5		88.6		73			
<b>8SH-6A</b>	160	44.5	85.1	2900	60.8	90	61	5.5	262	45
<b>200S95A</b>	215	59.7	75.8		64.2		69			
	265	73.6	70.2		71.4		71			
<b>8SH-9</b>	213	60	69	2900	55	75	74	4.7	236	265
<b>200S63</b>	288	80	62.5		61.3		80			
	351	97.5	50		67.8		70.5			
<b>8SH-9A</b>	180	50	54.5	2900	41	55	65	4.5	220	265
<b>200S63A</b>	270	70	46		48.3		70			
	324	90	37.5		51		65			
<b>8SH-13</b>	216	60	48	2900	34.9	45	81	5.0	201	19
<b>200S42</b>	288	80	41.3		38.1		85			
	342	95	35		40.2		81			
<b>8SH-13A</b>	198	55	43	2900	30.5	37	76	4.8	139	219
<b>200S42A</b>	270	75	36		33.1		80			
	310	86	31		34.4		76			
<b>10SH-6</b>	360	100	71	1450	91.5	132	76	4	460	565
<b>250S65</b>	486	135	85.1		109		79			
	612	170	56		129.6		72			
<b>10SH-6A</b>	342	95	61	1450	76.7	110	74	4	436	565
<b>250S65A</b>	468	135	54		89.4		77			
	540	150	50		95		75			
<b>10SH-9</b>	360	100	42.5	1450	55.5	75	75	4	367	428
<b>250S39</b>	486	135	38.5		61.5		83			
	612	170	32.5		67.7		80			
<b>10SH-9A</b>	324	90	35.5	1450	40.2	55	78	4	338	428
<b>250S39A</b>	468	130	30.5		45.7		85			
	576	160	25		47.8		82			
<b>10SH-13</b>	360	100	27	1450	33.1	45	80	4	296	420
<b>250S24</b>	486	135	23.5		36.2		86			
	576	160	19		36.4		82			
<b>10SH-13A</b>	342	95	22.2	1450	25.8	37	80	4	270	420
<b>250S24A</b>	414	115	20.3		27.6		83			
	482	134	17.4		28.6		80			

# ВЕРТИКАЛЬНЫЕ ШЛАМОВЫЕ НАСОСЫ СЕРИИ SP(R)



## Introduction of SP(R) vertical centrifugal slurry pump

SP (R) type sump vertical pumps are vertical centrifugal slurry pump, which equivalent with Warman SP(R). And they are designed for delivering abrasive, large particle and high density slurries . Wet parts of type SP pump are made of abrasion-resistant hard alloy. All parts of type SPR pump immersed in liquid are lined with special rubber material, which is suitable for non-edge angle abrasive slurries. The depth below the liquid surface of the pumps can be customized. The SP slurry pump is widely used in mining, power, metallurgy, coal, dredging, building materials, and other industrial lines to pump concentrate, tailings, sludge, and other abrasive and high-density slurries.

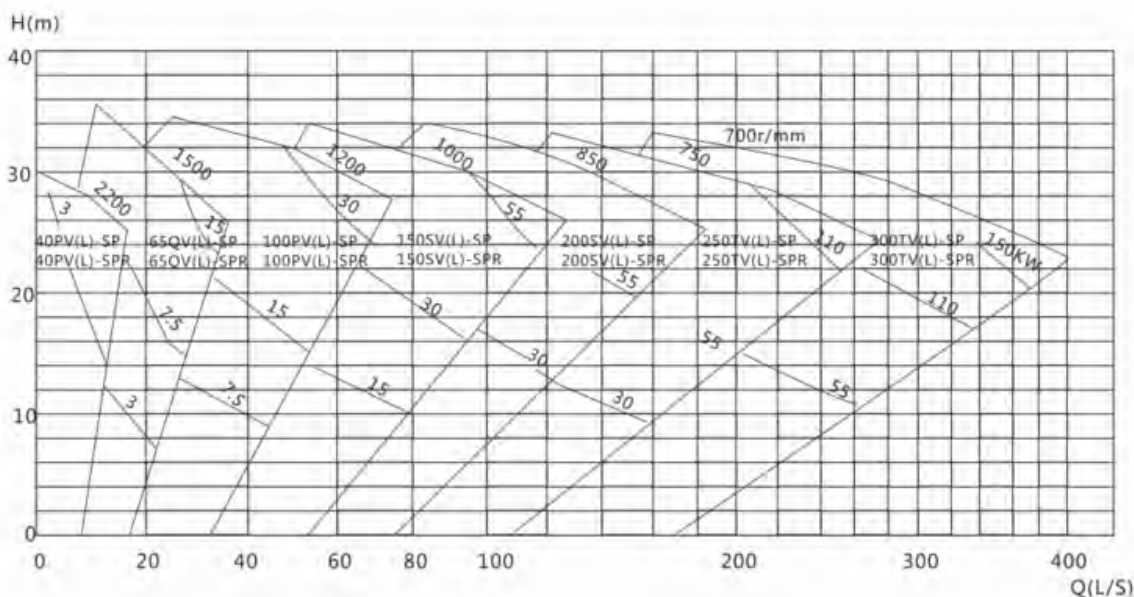
### Features:

1. Use a double-suction, semi-open impeller design, using hard alloy or rubber impeller.
  2. No shaft seal requirement.
  3. The gap between the impeller and the guard can be adjusted to ensure the efficient operation of the pump.
  4. SP series pump body if made of antifriction metal, and the impeller is made of antifriction metal, rubber or polyurethane.
- The submerge part of the SPR pump is coated with rubber, to transmit the corrosive slurry.

### Main Application

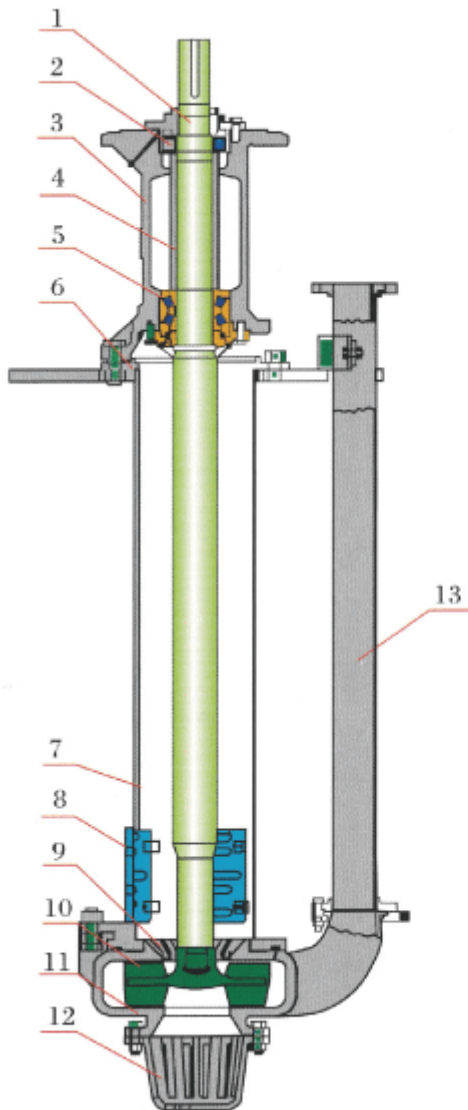
The SP slurry pump is widely used in mining, power, metallurgy, coal, dredging, building materials, and other industrial lines to pump concentrate, tailings, sludge, and other abrasive and high-density slurries.

### SP/SPR Slurry Pump Selection Chart

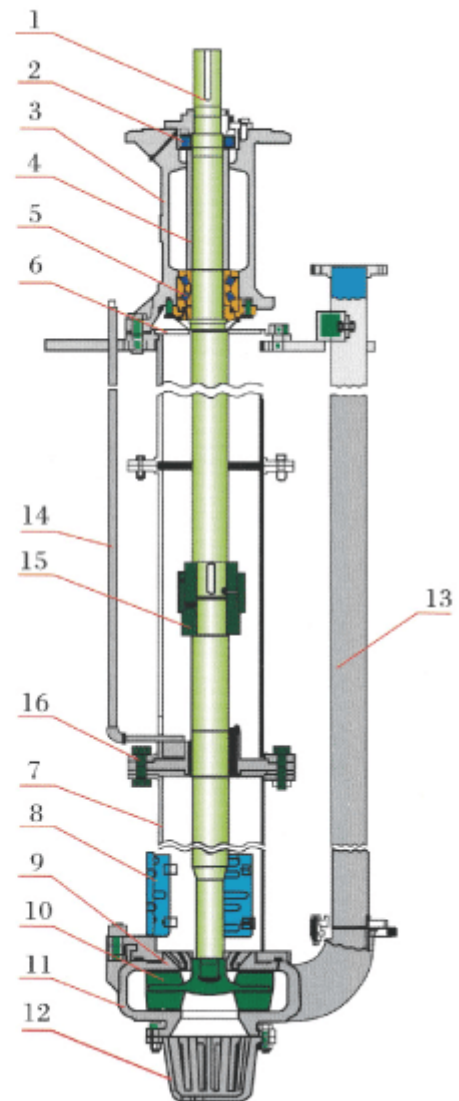




## Construction



**Standard Type**



**Extension Type**

NO.	Parts Name	NO.	Parts Name
1	Shaft	9	Back Liner
2	Bearing	10	Impeller
3	Bearing Housing	11	Pump Casing
4	Bearing Spacer	12	Lower Strainer
5	Bearing	13	Discharge Pipe
6	Shim	14	Flushing Pipe
7	Column	15	Coupling Part
8	Strainer	16	Middle Support Part

## SP Sump Pump Performance Chart

Pump Model	Allowable Max. Power (kw)	Capacity m <sup>3</sup> /h	Capacity L/S	Head H(m)	Speed n(r/min)	Max. EFF.(%)	Impeller. Dia(mm)
40PV-SP	15	19.44-43.2	5.4-1.2	4.5-28.5	1000-2200	40	188
40PV-SPR	15	17.28-39.6	4.8-11	4-26	1000-2200	40	188
60QV-SP	30	23.4-111	6.5-30.8	5-29.5	700-1500	50	280
60QV-SPR	30	22.5-105	6.25-29.15	5.5-30.5	700-1500	51	280
100RV-SP	75	54-289	15-80.3	5-35	500-1200	56	370
100RV-SPR	75	64.8-285	18-79.2	7.5-36	600-1200	62	370
150SV-SP	110	108-479.6	30-133.1	8.5-40	500-1000	52	450
200SV-SP	110	189-891	152.5-247.5	6.5-37	400-850	64	520
250TV-SP	200	261-1089	72.5-302.5	7.5-33.5	400-750	60	575
300TV-SP	200	288-1267	80-352	6.5-33	350-700	50	610



### Advantages

- Over 20 years' experience in pumps.
- Various pump types.
- Wear resistant materials.
- Specialized Test Equipment.
- Large quantity spare parts.
- Anti-rust treatment casting.

# ВЕРТИКАЛЬНЫЕ ШЛАМОВЫЕ НАСОСЫ СЕРИИ ZJL



## Introduction of ZJL series vertical slurry pump

ZJL series slurry pump are vertical, centrifugal slurry pumps, designed for handling abrasive and corrosive slurries whilst submerged in sumps or pit. It is used mainly for handling corrosive media, coarse particles and high-density slurries, and are widely used in sewage treatment, metallurgy, mining, mineral processing, dredging, dewatering, water treatment, coal washing, mill, cyclone feed, tailing, power, building materials, and on various industrial sites.

## Features:

- 1.Pump- vertical cantilever, single casing, single suction sump pump
- 2.Impeller- half open impeller design, materials are high chrome alloy or natural rubber, anti-abrasive, wear resistant and corrosion resistance. The gap between impeller and the frame plate can be adjusted to ensure the efficient operation of the pump.
- 3.Bearing assembly- barrel bearing assembly, high capacity bearing design, and bearing adopts grease lubrication.
- 4.Shaft seal- no shaft seal.
- 5.Drive arrangements – direct drive, V-belt drive.

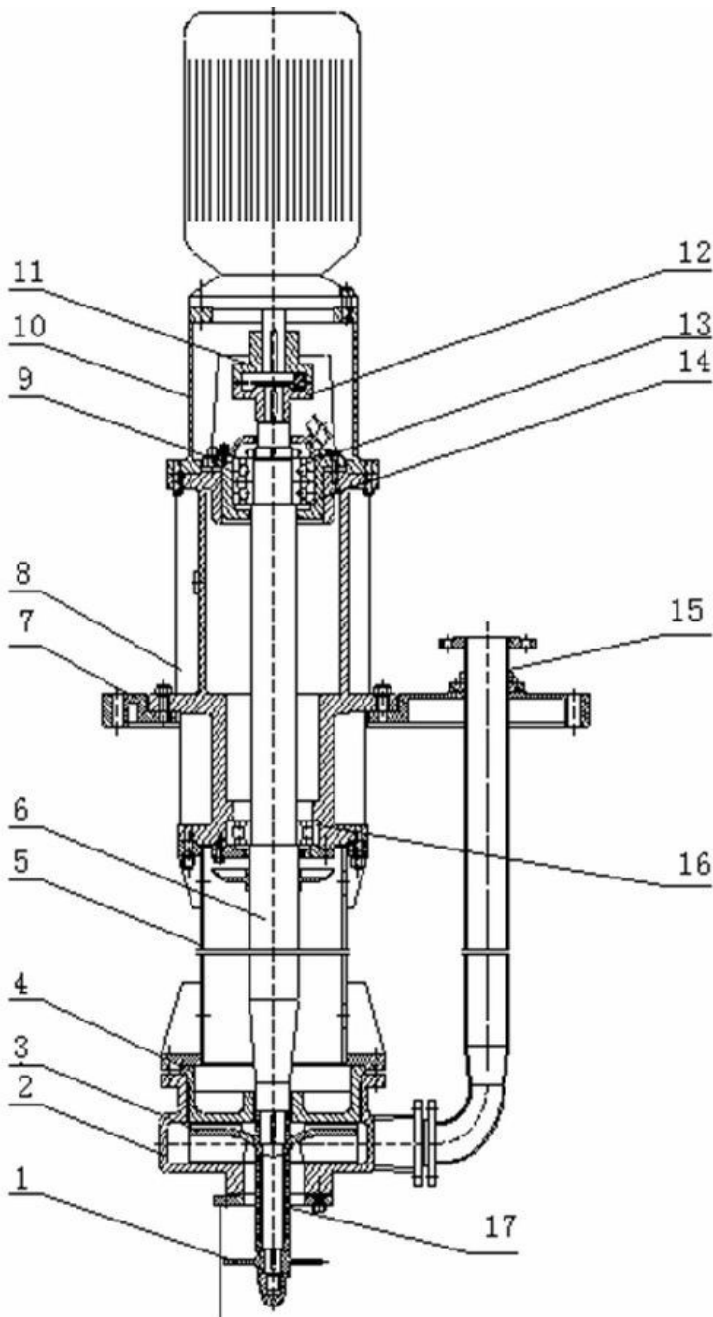
## Main Application

This vertical mining pump model is used mainly for handling corrosive media, coarse particles and high-density slurries, and are widely used in sewage treatment, metallurgy, mining, mineral processing, dredging, dewatering, water treatment, coal washing, mill, cyclone feed, tailing, power, building materials, and on various industrial sites.

## Structure

- Single casing structure, casing is connected to the connecting pipe, and connecting pipe is connected to the bearing housing, and bearing housing is connected to the baseplate.
- Cylinder type bearing housing with rolling bearings.
- Restrictor seal without external flushing water.
- Transmission: Direct coupled, variable frequency drive.

Structure drawing is as below



- |                    |                    |                      |
|--------------------|--------------------|----------------------|
| 1. Stirring wheel  | 7. Base plate      | 13. Bearing          |
| 2. Pump casing     | 8. Bearing base    | 14. Bearing          |
| 3. Impeller        | 9. Bearing box     | 15. Discharge pipe   |
| 4. Back plate      | 10. Motor base     | 16. Bearing          |
| 5. Connecting pipe | 11. Motor coupling | 17. Impeller bushing |
| 6. Shaft           | 12. Pump coupling  |                      |

## Technical Specifications

### Performance and Main Technical Datas of ZJL Slurry Pumps

Type	Allowable max. power of ass. motor (kW)	Clear water performance				Particle max. Size handled occasionally (mm)	Pump weight (kg)
		Q Capacity (m <sup>3</sup> /h)	H Head (m)	n Speed (r/min)	Max. eff. (%)		
<b>150ZJL-B55B</b>	110	128.5-479.1	10.0-49.3	490-980	59.8	50	2112
<b>150ZJL-A35</b>	37	99-364	3.0-17.9	490-980	69.0	15	800
<b>100ZJL-A34</b>	45	74-293	5.5-36.8	700-1480	65.8	14	630
<b>80ZJL-A36</b>	45	50-201	7.3-45.5	700-1480	58.2	12	650
<b>80ZJL-A36B</b>	45	51.1-220.5	6.4-44.9	700-1480	54.1	15	650
<b>65ZJL-A30</b>	18.5	18-98	5.9-34.7	700-1470	53.7	8	440
<b>65ZJL-A30B</b>	22	27.9-105.8	7.1-34.4	700-1470	60.9	10	440
<b>65ZJL-B30J</b>	15	18.9-84.2	5.8-32.3	700-1470	49.1	8	440
<b>50ZJL-A45B</b>	55	22.9-107.4	11.4-74.0	700-1470	39.1	25	1106
<b>50ZJL-B40</b>	30	15-65	8.6-58.3	700-1470	34.1	9	540
<b>50ZJL-A35</b>	22	19-86	7.3-47.1	700-1470	48.1	15	500
<b>50ZJL-A35B</b>	22	17.1-73	8.0-46.5	700-1470	45.1	20	500
<b>50ZJL-A20</b>	4	8-38	1.4-10.7	700-1470	38.6	10	240
<b>50ZJL-A20J</b>	30	18-70	5.6-46.2	1440-2950	33.8	22	570
<b>40ZJL-A35</b>	18.5	9.4-47.6	8.1-48.0	700-1470	38.7	7	500
<b>40ZJL-B25</b>	4	4.9-22.9	4.0-21.5	700-1440	37.6	8	225
<b>40ZJL-B25B</b>	5.5	4.9-24.2	3.5-19.1	700-1440	30.4	8	225
<b>40ZJL-A21</b>	4	4.6-25.9	3.3-17.0	700-1440	44.6	10	210
<b>40ZJL-A21B</b>	4	5.8-25.2	2.5-14.6	700-1440	36.6	10	210



# ПЕННЫЕ НАСОСЫ СЕРИИ AF



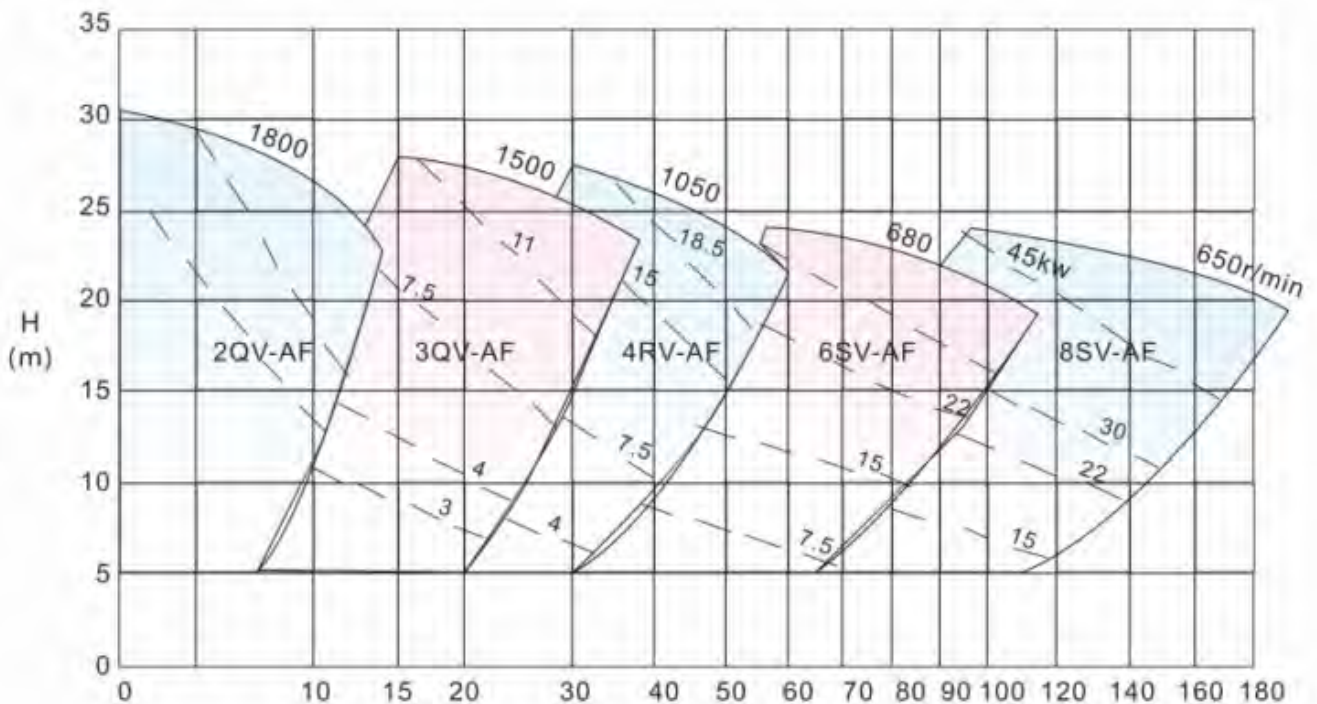
## Introduction of AF froth pump

The AF froth pump is based on advanced technology in china and abroad. It is vertical shaft configuration, and comprise a hopper, with vertical bearing assembly. AF froth slurry pump is designed for transporting high abrasive and corrosive froth slurries, Especially used in the flotation process. It is widely used in metallurgical, mining, coal one, and chemical engineering industries, and are relied upon to handle abrasive and corrosive slurries with foam and froth.

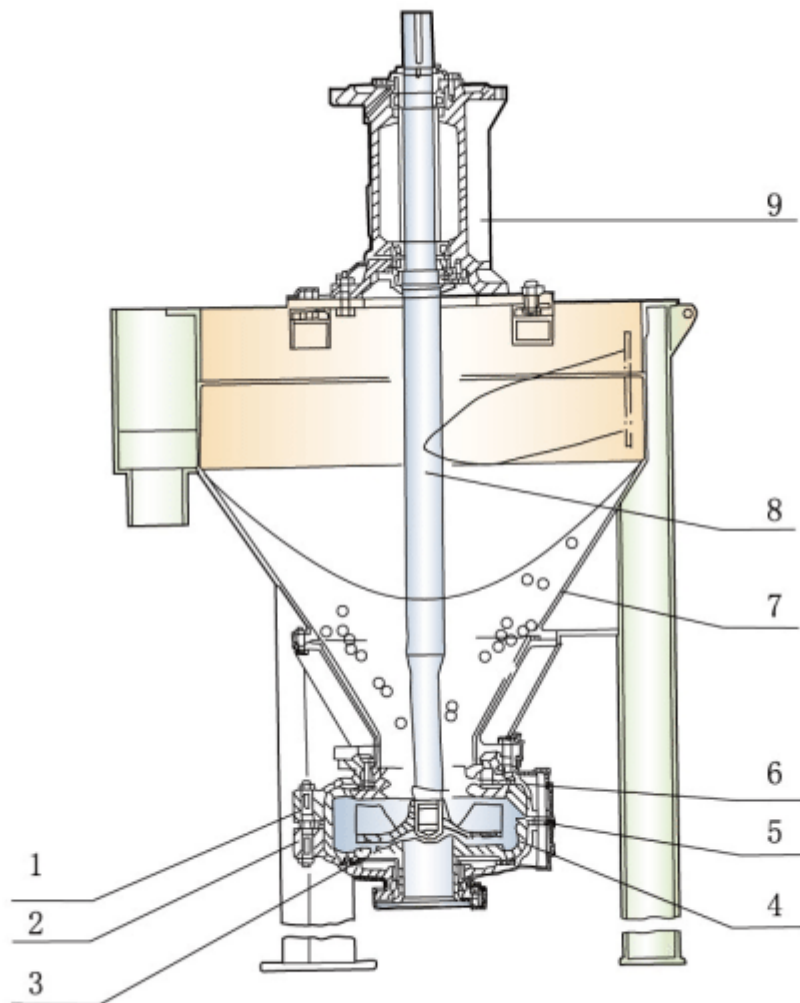
## Features:

1. no shaft sealing and sealing water.
2. The discharge branch can be positioned at intervals of 45 degrees by request and oriented to any eight positions to suit installations and applications.
3. It can be driven by direct connection or belt connection, and the belt & pulley can be replaced easily for changing the pump speed and meet the variations of working conditions.
4. The wet parts are interchangeable with SP(R) vertical sump pump.

## AF Froth Pump Selection Chart



## Construction Drawing



- |                |               |                            |
|----------------|---------------|----------------------------|
| 1 Frame Plate  | 2 Cover Plate | 3 Cover Plate Liner Insert |
| 4 Volute Liner | 5 Impeller    | 6 Frame Plate Liner Insert |
| 7 Tank         | 8 Shaft       | 9 Bearing Housing          |

## AF Forth Pump Performance Chart

Pump Model	Capacity Q m <sup>3</sup> /h	Head H(m)	Speed n(r/min)	EFF.(%)	Installed with Power(kw)	Diamcter Inlet(mm)	Diamcter Outlet(mm)
<b>2QV-AF</b>	7.6-42.8	6-29.5	800-1800	45	15	100	50
<b>3QV-AF</b>	23-77.4	5-28	700-1500	55	18.5	150	75
<b>4RV-AF</b>	33-188.2	5-28	500-1050	55	37	150	100
<b>6SV-AF</b>	80-393	5-25	250-680	55	75	200	150
<b>8SV-AF</b>	126-575	5.8-25.5	350-650	55	110	250	200

# ПЕСОЧНЫЕ НАСОСЫ СЕРИИ ZJQ



## Introduction of ZJQ submersible sand pump

ZJQ submersible sand pump is equipment of motor and pump use same shaft submerge together to medium and work.

ZJQ submersible sand pump is equipment of motor and pump use same shaft submerge together to medium and work. Special wear-resistant material is the company for domestic special industrial and mining research and development of high-chromium alloy over-flow components (material chrome chrome 27, chrome 27, chrome 28, chrome 30, etc.), Wear service life can reach more than 10 times the ordinary sand pump. Model by diameter is divided into 40、50、65、80、100、150、200、250、300、350、400.

ZJQ series submersible sand pump is one kind of hydraulic machine completed with pump and motor, submersible in pumping liquid. The pump set has advantage features of high quality special material , updated structure, wide flow channel,

high capacity for sewage. It is suitable for delivery liquid contain with sand, coal slurry, mine solid. It is widely used in mining, metallurgy, thermal power station etc. It is a ideal alternative product for traditional slurry pump.

## Features for ZJQ submersible slurry pump

1. Power supply for the 50Hz, 380V three-phase AC power supply.
2. The maximum temperature of the medium shall not be higher than 40 °C, the media does not contain flammable and explosive gas.
3. The maximum weight of solid particles in the media: 45% of the ash, while sand, slag, pulp is 60%.
4. Unit maximum diving depth is generally not more than 20 meters, after a special modification up to 60 meters, the minimum diving depth of not less than 1 meter.
5. Unit in the medium to work as vertical is well, running for continuous operation.
6. Wear parts are all constructed with abrasion resistant materials – chromium alloy; so pumps have better stability & longer service life
7. Unique mechanical seal device can prevent the electric motor from high pressure water and impurities; thus high suction efficiency can be ensured.
8. In addition to the main impeller, a pair of agitation impeller is equipped to help break and mix the sludge.
9. Easy installation, operation and cost saving, since no additional vacuum pump or pump house is needed.
10. Professional technology support is provided during the whole process of the usage and maintenance.

## Submersible sand pump usage :

### Including but not limited to the following :

- 1、 River, small river, lake, sea, reservoir pumping sand.
- 2、 River, lake, reservoir, port dredging sediment.
- 3、 Pumping sand beneficiation: pumping sand election iron, pumping sand gold, sand selection rare solid.
- 4、 Sewage treatment plant sedimentation tank cleaning.
- 5、 Municipal pipelines, rainwater pumping stations, hydropower station sediment cleaning.
- 6、 Construction (bridge construction wells, etc.) row of sediment, mud.
- 7、 Steel plant blast furnace slag, slag, pumping iron oxide delivery.
- 8、 Concentrator tailings, slag, pulp transport.
- 9、 Coal cinder, slime, coal slurry cleaning.
- 10、 Power plant fly ash, slime, coal slurry transportation.
- 11、 Learn a variety of King Kong sand, quartz sand, steel slag solid particles.
- 12、 Tile factory pumping powder.
- 13、 Coastal areas.
- 14、 Delivery slurry material which containing various impurities .
- 15、 Transport other medium containing larger solid particles.

## ZJQ Performance Parameter

Model	Outlet diam. mm	Capacity m <sup>3</sup> /h	Head	Power	Speedr/min	Max.pass solid mm	Weight
			m	kW			kg
ZJQ10-10-3	40	10	10	3	1460	8	65
ZJQ15-8-3	50	15	8	3	1460	10	65
ZJQ10-20-4	40	15	22	4	1460	10	85
ZJQ20-12-4	50	20	18	4	1460	10	85
ZJQ15-15-4	50	15	15	4	1460	10	85
ZJQ30-10-4	65	30	10	4	1460	10	85
ZJQ20-30-5.5	50	20	30	5.5	1460	13	110
ZJQ30-20-5.5	65	30	20	5.5	1460	13	112
ZJQ45-15-5.5	80	45	15	5.5	1460	13	115
ZJQ50-10-5.5	80	50	10	5.5	1460	13	120
ZJQ30-30-7.5	65	30	30	7.5	1460	13	135
ZJQ45-20-7.5	80	32	20	7.5	1460	13	138
ZJQ50-16-7.5	80	45	15	7.5	1460	13	135
ZJQ80-10-7.5	100	100	10	7.5	1460	21	135
ZJQ40-25-11	80	40	25	11	1480	13	240
ZJQ50-26-11	80	50	26	11	1480	13	240
ZJQ70-20-11	100	70	20	11	1480	13	240
ZJQ100-16-11	100	100	18	11	1480	21	240

<b>ZJQ35-35-15</b>	80	25	40	15	1480	13	260
<b>ZJQ50-30-15</b>	80	50	26	15	1480	13	260
<b>ZJQ70-25-15</b>	100	70	24	15	1480	13	260
<b>ZJQ100-20-15</b>	100	100	18	15	1480	21	270
<b>ZJQ120-15-15</b>	100	150	15	15	1480	21	270
<b>ZJQ150-15-18.5</b>	150	150	18	18.5	1480	32	550
<b>ZJQ180-12-18.5</b>	150	200	12	18.5	1480	45	550
<b>ZJQ150-22-22</b>	150	150	22	22	1480	32	600
<b>ZJQ250-15-22</b>	150	200	15	22	1480	45	600
<b>ZJQ60-46-30</b>	100	60	46	30	1480	14	550
<b>ZJQ70-38-30</b>	100	70	38	30	1480	21	710
<b>ZJQ100-35-30</b>	100	100	35	30	1480	21	710
<b>ZJQ120-30-30</b>	150	120	30	30	1480	21	710
<b>ZJQ200-25-30</b>	150	200	20	30	1480	21	710
<b>ZJQ250-20-30</b>	200	300	15	30	1480	28	700
<b>ZJQ100-40-37</b>	100	100	40	37	1480	21	850
<b>ZJQ250-22-37</b>	200	250	22	37	1480	28	775
<b>ZJQ150-35-45</b>	150	150	35	45	1480	36	1000
<b>ZJQ200-30-45</b>	150	200	30	45	1480	36	1110
<b>ZJQ150-45-55</b>	150	150	45	55	1480	21	1140
<b>ZJQ250-35-55</b>	150	250	35	55	1480	36	1140
<b>ZJQ400-20-55</b>	200	600	15	55	980	46	1220
<b>ZJQ250-45-75</b>	150	200	45	75	1480	21	1540
<b>ZJQ200-50-75</b>	150	200	50	75	1480	14	1550
<b>ZJQ300-35-75</b>	200	300	35	75	1480	28	1550
<b>ZJQ400-25-75</b>	200	400	25	75	1480	25	1550
<b>ZJQ500-20-75</b>	200	500	20	75	980	25	1550
<b>ZJQ200-60-90</b>	150	200	60	90	1480	14	1550
<b>ZJQ400-40-90</b>	200	400	40	90	1480	28	1550
<b>ZJQ500-25-90</b>	200	500	25	90	980	25	1550
<b>ZJQ400-50-110</b>	200	400	50	110	1480	28	1970
<b>ZJQ600-30-110</b>	200	600	30	110	980	28	1970
<b>ZJQ780-26-110</b>	300	780	26	110	980	50	1970
<b>ZJQ400-60-132</b>	200	400	60	132	1480	28	2000
<b>ZJQ500-45-132</b>	200	500	45	132	980	28	2500
<b>ZJQ500-55-132</b>	200	500	55	132	980	28	2500



# ПЕСОЧНЫЕ НАСОСЫ СЕРИИ NSQ



## Product description

NSQ submersible dredge pump is hydraulic machinery, the motor and the pump of which are coaxially working submerged in medium . The wetted parts of the pump are made of high chromium wearable alloy , so the pump has good wear resistance and large flowing passage. It is applicable for conveying medium such as sludge, ore slurry, coal slurry, sandstones containing big solid particles. The product is designed and manufactured by domestic -Wonze Pump and oversea advanced technologies. Besides the main impeller, the bottom of the pump is additionally provided with a set of agitation impeller which can spray the deposited sludge into turbulent flow,. The unique mechanical seal device can effectively balance the pressure inside and outside the oil chamber, so as to protect the reliability of the mechanical seal to the maximum extent. The motor adopts various protective measures such as

overheat protection, water inlet detecting protection, and can operate safely for a long term in harsh working conditions.

The pump is mainly for metallurgy, coal mine ,Coal-fired Power Plants, sewage treatment project pumping sand , silty sand, silt, tailing slurry, ore, iron sand ore, sediment etc.

## Working Principle

Single screw pump is a inner gearing rotor pump, the main working parts are eccentric screw (rotor) and static bush (stator), because of special geometry shope. Form several single sealed cavity to pump the medium from suction part to discharge part continuously and regularifily.

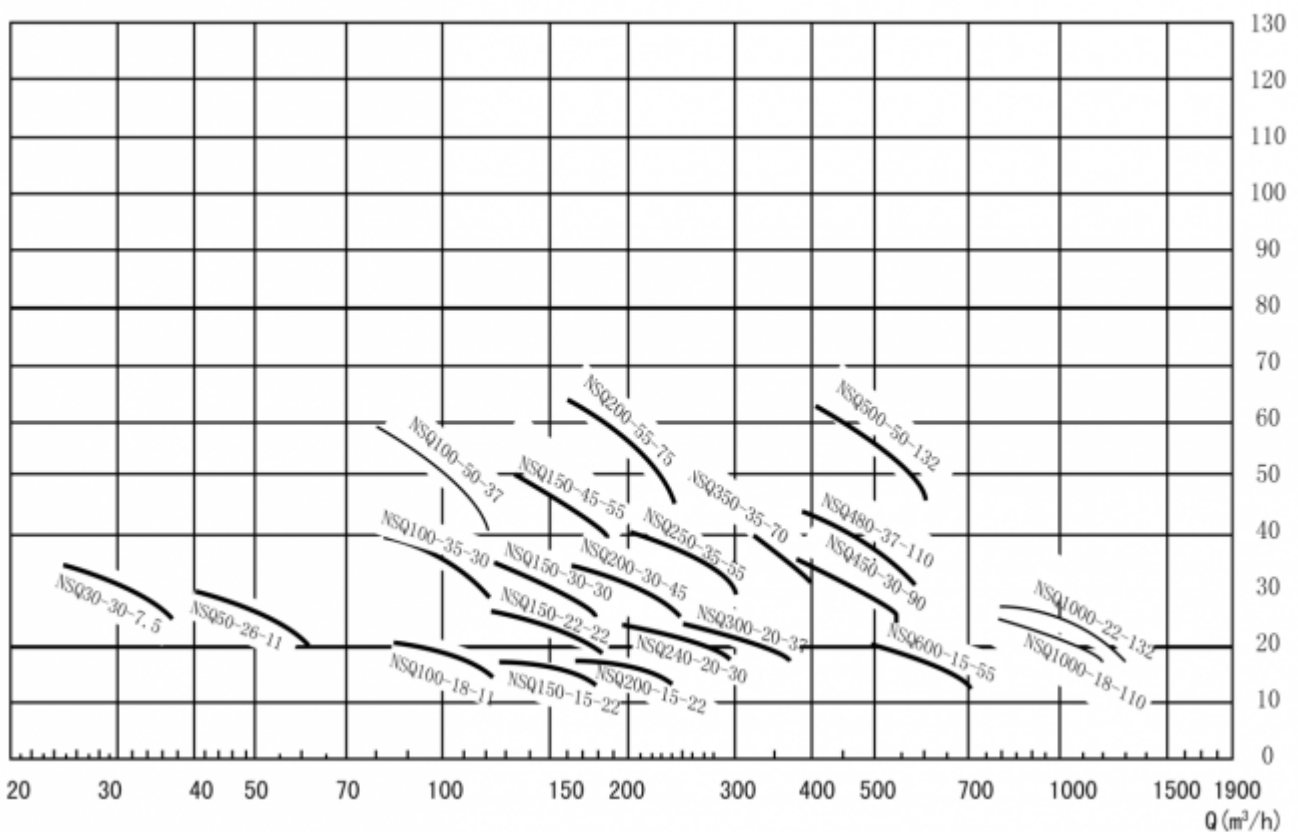
## Working Condition

1. The power supply is 50Hz/380V three-phase alternating-current. Support OEM Voltage.
2. The temperature of the medium cannot exceed 40°C, and the medium does not contain inflammable or explosive gases.
3. The maximum concentration of the solid particles is 30%,max density is not exceed 1200kg/m<sup>3</sup>.
4. The submerged depth of the unit is not more than 20 meters, and the minimum is submerged the motor.
5. The unit works in the medium vertically, and the working status is continuous.

## Operation Attention

1. Pump must be well contact to earth
2. Machine oil must be fill in oil chamber before started.
3. Pls make sure that the motor isulation resistor not less than 50MΩ before started.
4. Pls check the motor rotate direction is right before started,it will be clockwise seem from motor side.
5. The cable should keep at released condition,so that cable will be well protect if suffer strong strength.
6. The medium sediment particle should be uniformity that can be flush by high pressure water,no grass,plastic bag,stone,etc.
7. Pls pay attention that don't let sand collapse and bury the pump
8. The pump efficiency will become lower if the small stone takes more than 5% in medium.

## NSQ Performance Curve



## NSQ Submersible Sand Pump Performance Parameters:

Model	Capacity (m <sup>3</sup> /h)	Head H (m)	Power P (kw)	Speed N (r/min)	Eff. $\eta$ (%)	Max. Particles (mm)	Size (mm)
<b>NSQ200-15-22</b>	140	17	22	980	60	45	150
	200	15					
	240	13.5					
<b>NSQ200-25-30</b>	140	28	30	980	52	25	150
	200	25					
	240	21					
<b>NSQ250-20-30</b>	175	23	30	980	60	25	150
	250	20					
	300	18					
<b>NSQ300-15-30</b>	300	15	30	980	57	28	200
<b>NSQ300-20-37</b>	240	22	37	980	58	28	150
	300	20					
	360	17					
<b>NSQ400-15-37</b>	280	18	37	980	59	28	200
	400	15					
	480	12					
<b>NSQ200-30-45</b>	140	33	45	980	53	25	150
	200	30					
	240	27					
<b>NSQ500-15-45</b>	500	15	45	980	57	46	250
<b>NSQ250-35-55</b>	175	38	55	980	53	36	150
	250	35					
	300	33					
<b>NSQ300-30-55</b>	210	34	55	980	55	36	150
	300	30					
	360	26					
<b>NSQ600-15-55</b>	420	18	55	980	62	32	250
	600	15					
	720	11					
<b>NSQ200-45-75</b>	140	48	75	980	52	18	150
	200	45					
	240	41					
<b>NSQ350-35-75</b>	245	38	75	980	60	29	200
	350	35					
	420	31					
<b>NSQ400-25-75</b>	280	29	75	980	62	29	200
	400	25					
	480	23					
<b>NSQ200-60-90</b>	140	63	90	980	50	14	150
	200	60					
	240	57					
<b>NSQ250-55-90</b>	170	58	90	980	50	14	150
	250	55					
	300	52					
<b>NSQ300-45-90</b>	210	50	90	980	52	25	150
	300	45					

# КАНАЛИЗАЦИОННЫЕ НАСОСЫ СЕРИИ QW/WQ



## Introduction of WQ / QW submersible sewage pump

WQ / QW series submersible sewage pumps have new patented technology and design.

It is specifically designed for construction sites, municipal industries, public services and industrial wastewater treatment. According to needs, the pump can be equipped with various signal sensors to monitor the working status of the pump.

There are two installation methods for the pump: submersible installation and dry installation.

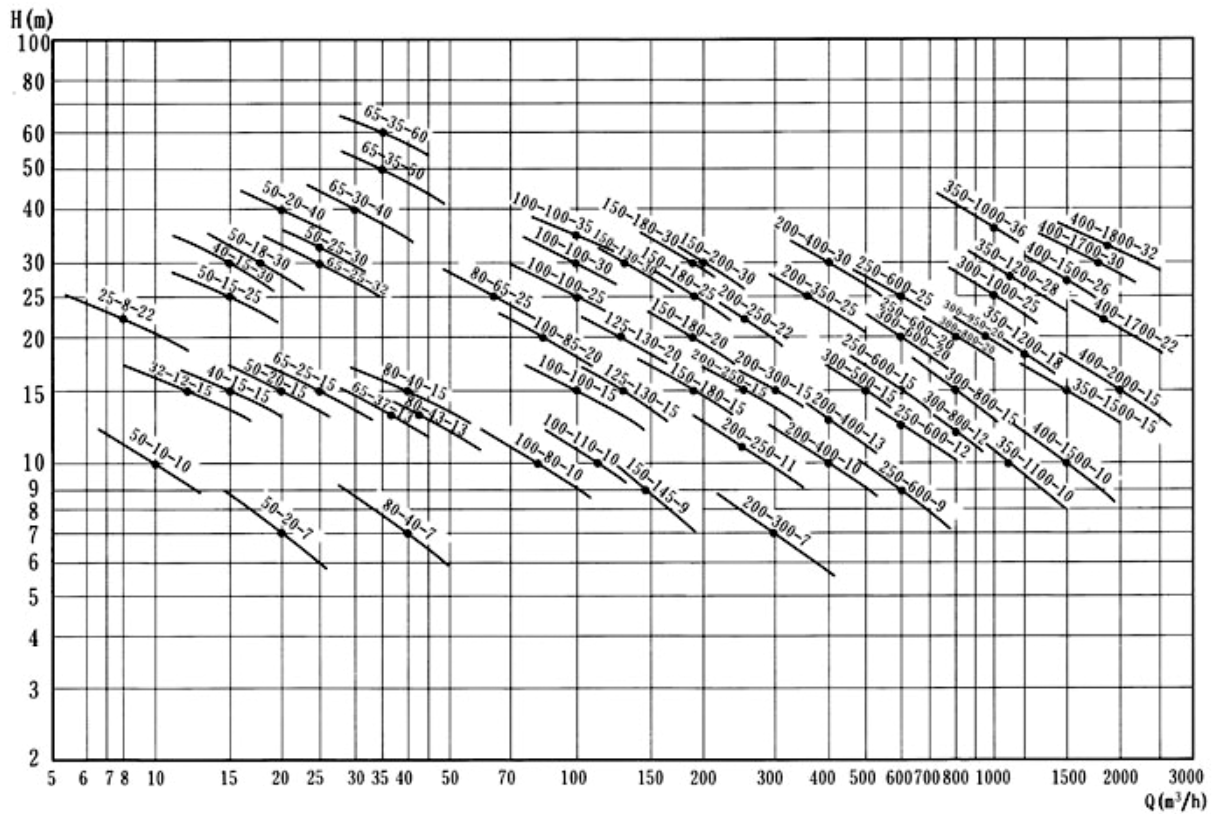
It can continuously put only the impeller into the water and put the entire motor on the water. In any case, this pump works well and is easy to repair

## Features of WQ / QW submersible sewage pump

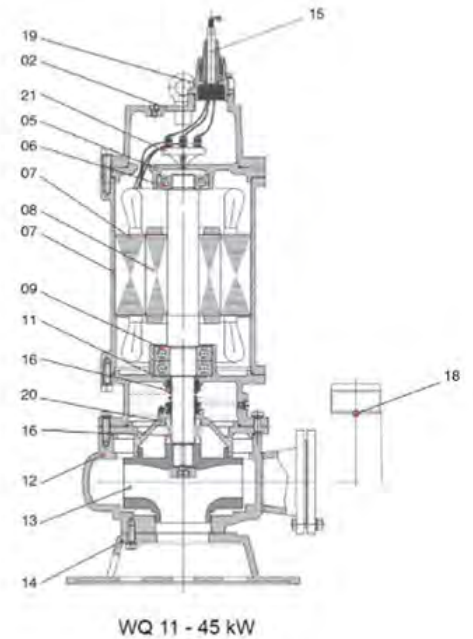
1. Compact structure, easy to move and easy to install;
2. Cyclone and double-flow impellers are especially adopted (the high-head pump adopts centrifugal type), which has strong sewage discharge capacity;
3. The motor adopts hard and corrosion-resistant single-end and double-end ceramic seals, which have good leak-proof effect, and the motor runs more safely and reliably;
4. The use of WQS cooling jacket water injection pumps can make them run above the liquid level for a short time and discharge the surface liquid

## Main Application

- Discharge heavily polluted waste from factories and businesses, sewage treatment facilities, urban wastewater treatment plants, discharge stations for aerial defense engineering, and water feed devices in tap water factories.
- Sewage water discharge from hospitals and hotels, municipal engineering buildings, exploration and mine sites, countryside biomass pools, and irrigation reservoirs.
- Safe transport of sewage with particles or clean water with corrosive mediums.



Item No.	Part Name	Material
01	Handle	Steel
02	Upper cover	Cast iron
03	Capacitor	
04	Thermal protector	
05	Upper bearing seat	Cast iron
06	Bearing	
07	Stator	
08	Rotor	
09	Bearing	
10	Motor body	Cast iron
11	Bearing seat	Cast iron
12	Pump body	Cast iron
13	Impeller	Cast iron
14	Base	Cast iron
15	Cable	
16	Mechanical seal	Sic-Sic/Carbon-Ceramic(<7.5 kW) Sic-Sic/Sic-Sic(>7.5 kW)
17	Oil seal	
18	Hose coupling	Cast iron
19	Terminal box	Cast iron
20	Seal bracket	Cast iron
21	Wiring terminal	





**QW Submersible Sewage Pumps Performance Parameters:**

<b>Model</b>	<b>Capacity Q (m<sup>3</sup>/h)</b>	<b>Head H (m)</b>	<b>Speed n (r/min)</b>	<b>Motor Power P (kw)</b>	<b>Eff. <math>\eta</math> (%)</b>
<b>40QW</b>	8.4-14.4	14-16	2900	1.5	42-70
<b>50QW</b>	7-50.4	8-36	1450-2900	0.75-7.5	46-62
<b>65QW</b>	17.5-44.4	11-30.2	2900	2.2-4	39-72
<b>80QW</b>	20.3-72	5.7-27.5	2900	2.2-7.5	51-75
<b>100QW</b>	35-120	5.6-38.5	1450	4-15	46-80
<b>150QW</b>	49-300	5.5-44.5	1450	5.5-37	58-82
<b>200QW</b>	110-480	5.7-44.5	1450	11-75	63-83
<b>250QW</b>	420-840	7-35	980-1450	30-90	63-84.5
<b>300QW</b>	280-1140	6.7-27	980-1450	45-110	68-84.5
<b>350QW</b>	700-1800	8-40	980	45-160	68-85
<b>400QW</b>	1050-2640	12-33	980	132-160	71-85
<b>500QW</b>	1400-3600	9-22.5	980	110-200	72-85
<b>600QW</b>	2500-6000	8-25	590-740	110-315	65-78

**WQ Submersible Sewage Pump Model:**

<b>Model</b>	<b>Capacity Q (m<sup>3</sup>/h)</b>	<b>Flow (m<sup>3</sup>/h)</b>	<b>Head (m)</b>	<b>Motor (kw)</b>	<b>Speed (r/min)</b>
<b>40WQ</b>	15-1.5	15	15	1.5	2840
<b>50WQ</b>	30-3	18	30	3	2880
<b>65WQ</b>	30-4	25	30	4	2890
<b>80WQ</b>	15-4	40	15	4	2890
<b>80WQ</b>	25-7.5	65	25	7.5	2900
<b>100WQ</b>	10-4	80	10	4	1440
<b>150WQ</b>	15-15	180	15	15	1460
<b>200WQ</b>	7-11	300	7	11	970
<b>250WQ</b>	9-30	600	9	30	980
<b>300WQ</b>	12-45	800	12	45	980
<b>350WQ</b>	10-55	1100	10	55	980
<b>400WQ</b>	10-75	1500	10	75	980
<b>500WQ</b>	10-110	2500	10	110	740

# ВЕРТИКАЛЬНЫЕ ЦЕНТРОБЕЖНЫЕ САМОВСАСЫВАЮЩИЕ НАСОСЫ СЕРИИ WFZB

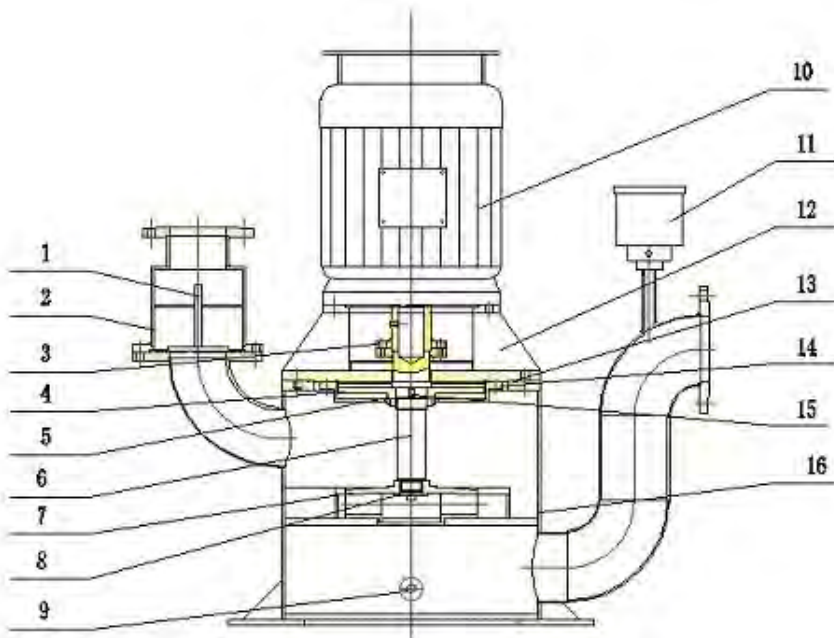


## Introduction of WFZB non sealed automatic self priming pump

WFZB non sealed automatic self priming pump is the first product of the kind domestically with functions of high temperature resistant, high pressure resistant, wearable ,It is widely used in electric, electric power, chemical industry, metallurgy, medicine, food, galvanization, environment protection, fire control, municipal, water purification.

## Features of WFZB non sealed automatic self priming pump

1. Adopting the “continuous multi-face centrifugal sealing device for pumps”, in addition to the traditional water pump packing seal, packing seal, mechanical seal, thoroughly subdued the “running, emitting, dripping and leaking”, it is an alternative to various long shaft liquid Ideal equipment such as pumps and submersible pumps.
2. The sealing device does not rub or damage during operation, and its service life is more than 10 times longer than similar products.
3. Transplant the principle of vacuum pump, the self-priming performance is stable and reliable, especially the “electric air control valve” is adopted to achieve “one-time drainage, self-priming for life”.
4. Low vibration, low noise, flexible movement, simple dis-assembly, easy installation, no need for anchoring.
5. With superior automatic control functions, it can be used in conjunction with high-tech fields and highly automated systems.



Name			
1	valve stem	11	electromagnetic valve
2	valve	12	bracket
3	coupler	13	O-ring
4	Expeller	14	Seal Box
5	Expeller nut	15	Key
6	Pump shaft	16	Pump body
7	Impeller	17	
8	Washer impeller	18	
9	Outlet plug	19	
10	Motor	20	

**Performance parameter**

Model	Rotation speed	Flow	Whole lift	Matched power	Permitted suction depth	Inlet caliber	Outlet caliber	Weight
	r/min	m3/h	M		≤M	MM	MM	
<b>40WFZB-A</b>	2900	6.5	25	4	6	40	32	140
		8.5	23					
		10	21					
<b>40WFZB-A1</b>	2900	13.5	18	3	6	40	32	140
<b>40WFZB-A2</b>	2900	5	15	2.2	6	40	32	125
		8	13					
		10	11					
<b>40WFZB-A3</b>	2900	14	8	2.2	6	40	32	125
<b>50WFZB-A</b>	2900	7.5	28	5.5	6	50	40	205
		12.5	26					
		15	24.5					
<b>50WFZB-AD</b>	1450	5	11	1.5	6	50	40	149
		6.3	10					
		7.5	9					
<b>50WFZB-E2</b>	2900	3.5	26	3	6	50	40	170
		6.3	25					
		7.5	24					
<b>65WFZB-A</b>	2900	15	27	7.5	6	65	50	260
		20	26					
		25	24					
<b>65WFZB-A1</b>	2900	21	20	5.5	6	65	50	260
<b>65WFZB-AD</b>	1450	7	12	3	6	65	50	200
		12	11					
		15	9					
<b>80WFZB-A</b>	2900	30	28	11	6	80	65	380
		50	26					
		60	24					
		70	20					
<b>80WFZB-F</b>	2900	30	128	55	6	80	65	580
		50	125					
		60	120					
<b>125WFZB-A</b>	2900	100	55	55	6	125	100	900
		150	50					
		180	45					
<b>125WFZB-A1</b>	2900	170	40	45	6	125	100	860
		185	30					
<b>150WFZB-A</b>	2900	120	28	30	6	150	125	990
		185	26					
		200	23.5					
		240	22.5					
<b>150WFZB-AD</b>	1450	160	20	22	6	150	125	960
<b>150WFZB-B</b>	2900	156	40	45	6	150	125	1060
		180	36					
		200	32					

# ОДНОСТУПЕНЧАТЫЙ ЦЕНТРОБЕЖНЫЙ НАСОС ДВОЙНОГО ВСАСЫВАНИЯ СЕРИИ TDOW



## Product Description

TDOW pump is a single stage, double suction split case pump, and it applied to waterworks, the petroleum, chemical, and power industries, metallurgy, mining, air-conditioning circulation, building, agricultural and urban irrigation and drainage, electric power stations, industrial water supply systems, fire-fighting systems, and shipbuilding.

The TDOW can be used in a wide range of general purposes and industries. When selecting the right pump for a job, one must consider several technical and economic points, particularly with regard to safety,

economy, and applicability, including the following:

1. Flow rate and head (the intersection of the device characteristic curve and the pump performance curve) must be easily maintained to increase efficiency, reduce power consumption, and reduce wear and tear on the pump parts.
2. The selected double suction pump should be long-working and efficient.
3. The selected pump should have good anti-cavitation performance, stable operation, and long life.

When narrowing down a selection for a specific purpose, the following factors should also be considered:

1. A user should know the characteristics of the medium to be pumped, including the diameter of the particles contained in the medium, the content of the medium, the temperature of the medium, and the required flow pressure of the pipeline system.
2. The capacity and the head
  - a. If the minimum, normal, and maximum flows have been given in the production process, the maximum flow should be considered.
  - b. If the only normal flow is given in the production process, a margin slightly beyond should be considered.
  - c. For large pumps with  $ns > 100$  and low unintentional head pumps, the flow margin is 5%. For small flow and high pumps with  $ns < 50$ , the flow head is 10%. For pumps with  $50 \leq ns \leq 100$ , the flow head is Take 5%. For pumps with poor quality and poor operating conditions, the flow margin should be 10%.
  - d. If the basic data only gives weight flow, it should be converted into volume flow.

## Product Features

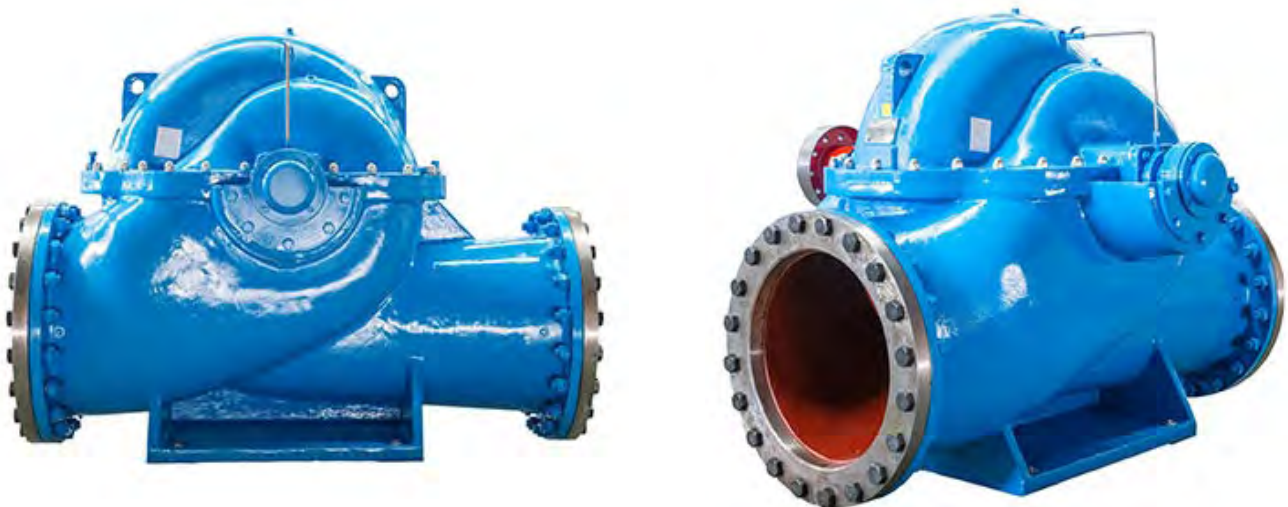
1. Compact structure, attractive appearance, good stability, and easy installation.
- The optimally designed double-suction impeller reduces the axial force to a minimum and has a blade-style with excellent hydraulic performance.
  - Both the internal surface of the pump casing and the surface of the impeller are precisely cast, extremely smooth, and are highly resistant to vapor corrosion.
  - The pump case is double-value structured, which greatly reduces radial force, lightens the load on the bearings, and increases efficiency.
  - SKF and NSL bearings are used to guarantee stable running, low noise, and long operational duration.
  - The shaft seal uses Bergmann mechanical or stuffing seal to ensure an 8000h life with no leaks.

## Main Application

This model double suction pump is suitable for use in waterworks, the petroleum, chemical, and power industries, metallurgy, mining, air-conditioning circulation, building, agricultural and urban irrigation and drainage, electric power stations, industrial water supply systems, fire-fighting systems, and shipbuilding.

## Parameters

- Flow Rate :  $Q=22-11600$  ( $m^3/h$ )
- Head :  $H=7.7-200$  (m)
- Motor power : 3-1600kw
- product standard:GB/T5656-94





# МНОГОСТУПЕНЧАТЫЕ ЦЕНТРОБЕЖНЫЕ НАСОСЫ СЕРИИ D/DG/MD



## Product Description

The serial pump is multi-stage sectional centrifugal pump with the excellent hydraulic model, it has advantages of high-efficiency, energy-saving, wide performance range, operating safely and steadily, low noise, long life and convenience for installing and repairing etc. It can deliver heat water, oil, corrosive or wearable medium by changing material of pump .

Type D pump is used in mine and urban project for delivering clear water without solid particles or other liquids which are physically or chemically similar to clear water. The temperature of liquids are not be over 80°C.

Type DG pump is used to deliver clean water without solid particles or other liquids which are physically and chemically similar to clear water. It is suitable for boiler feed or delivery hot water or medium similar to hot water. The temperature of liquids are not be over 105°C.

Type MD pump is used to deliver neutral water with solid particles below 1.5% (viscosity less than 0.5mm) and other sewage. It is suitable for using in steel factory and mine etc. The temperature of liquids can not exceed 80°C.

## Product Features

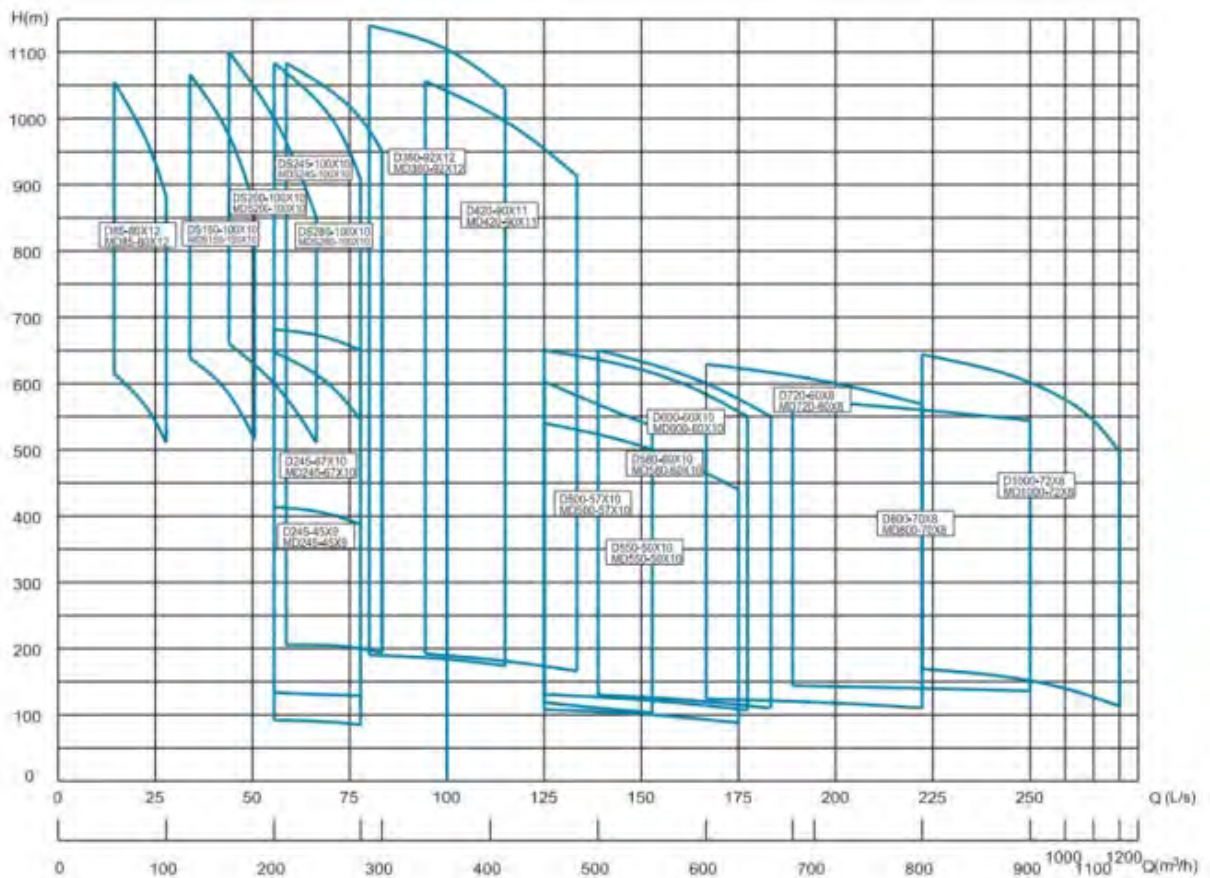
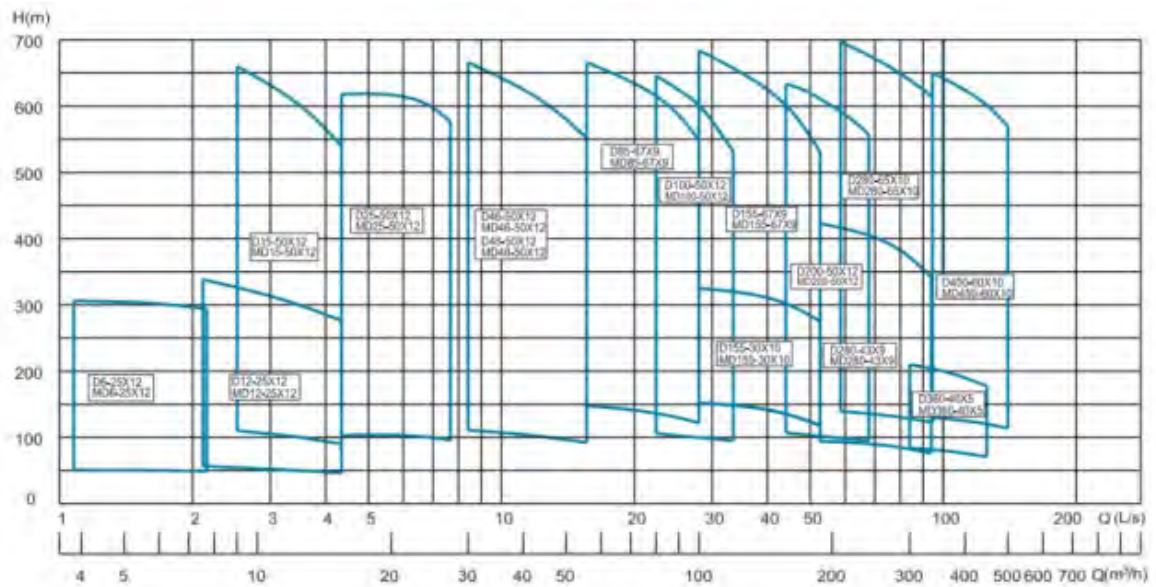
- The unique structure and attractive appearance
- Rust-resistant, fully sealed shaft structure, preventing contact with mediums
- Packing seal and mechanical seals are safe, reliable, simply designed, and convenient to maintain
- Low noise
- Advanced hydraulic model, high efficiency, wide performance range

## Main Application

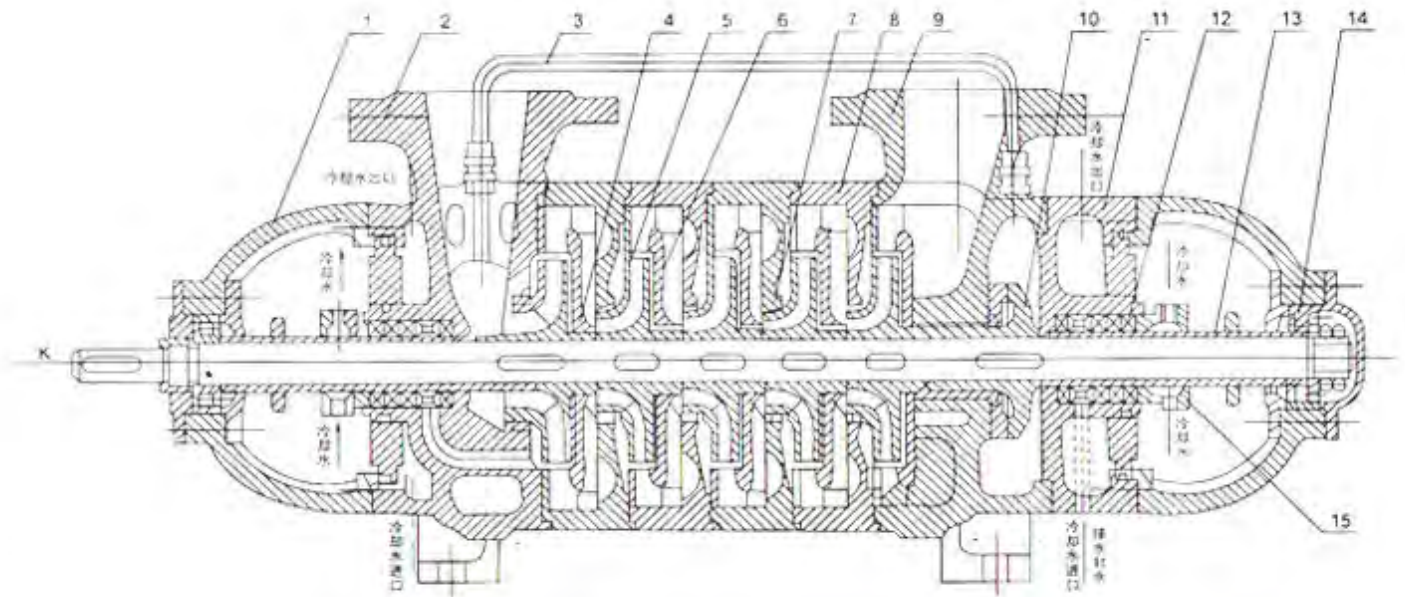
- Suitable for transporting clean water (impurity content of less than 1%; the granularity of less than 0.1mm) and/or other liquids with similar physical and chemical properties.
- The D/DG multistage pump model is suitable for transportation of mediums with temperatures no greater than 80°C, including mine discharge and water feeding to factories and cities.
- The D/DG multistage pump is suitable for transportation of mediums with temperatures no greater than 105°C, water being fed to a small boiler, or similar applications.

- Oilfield water injection pumps use different materials, depending on the corrosive nature of the medium. The temperature of the DG pump must be less than 120 °C, which is suitable for various boiler feed water.

### D Horizontal Multistage Pumps Quick Selection Chart:



### D Horizontal Multistage Pumps Structural Drawing:



1. Bearing 2. Suction part 3. Balance pipe 4. Vane sleeve 5. Impeller 6. Guide vane 7. Sealing ring  
 8. Mid part 9. Outflow part 10. Balance disc 11. End cover 12. Filler 13. O type sealing ring  
 14. Bearing parts 15. Water-cooled packing gland

### D Horizontal Multistage Pumps Performance Parameters:

Type	Flow(m <sup>3</sup> /h)	Head(m)	Speed(r/min)	Motor Power(kw)
D(DG/MD)6-50×2	6.3	100	2950	11
D(DG/MD)6-50×12	6.3	600	2950	55
D(DG/MD)25-50×3	25	150	2950	30
D(DG/MD)25-50×12	25	600	2950	110
D(DG/MD)46-50×12	46	600	2950	160
D(DG/MD)85-67×9	85	603	2950	250
D(DG/MD)120-50×2	120	100	2950	55
D(DG/MD)120-50×9	120	450	2950	220
D(DG/MD)155-67×9	155	603	2950	450
D(DG/MD)360-40X10	360	400	1480	630
D(DG/MD)580-70X10	580	700	1480	1800
D(DG/MD)720-60×9	720	540	1480	1600





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