

創綠色環境向未來負責
Keeping the world green forever and being responsible for the future

WOG SERIES CUTTING PUMP



Due to constantly progressive technology, Lamsun has the right to amend the design, without prior notice.



Lamsun

Lamsun Fluid



WhatsApp



WeChat

Lamsun Fluid Technology Pte.Ltd.

Tel: +6560110604

Phone: +6581506618

E-mail: contact@lamsun-pump.com

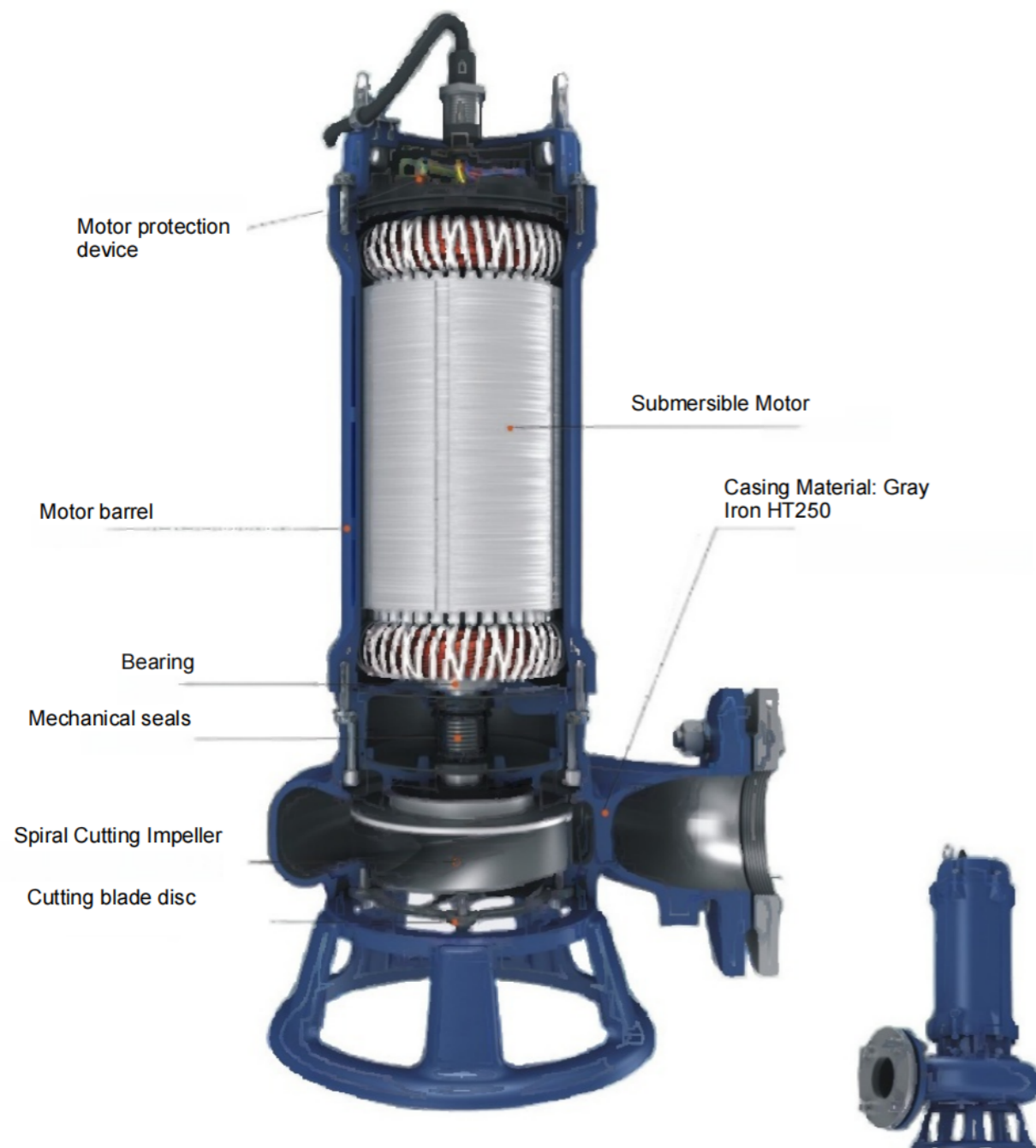
Web: <http://www.lamsun-pump.com>

Add: 55 AYER RAJAH CRESCENT, #02-02, SINGAPORE

Post Code: 139949

Lamsun Fluid Technology Pte.Ltd.

80WQG45-25-7.5 Cutting Pump



		
Conventional Closed Impeller	Conventional Open Impeller	Lamsun Spiral Impeller

product Features

The WQG sewage cutter pump features a unique helical structure with sharpened cutting edges, ensuring superior hydraulic efficiency while maintaining exceptional cutting capability for fibrous materials such as rice straw, cotton, fabric, and infant diapers.

- 1, Designed for sewage and waste discharge, excluding special industrial applications.
- 2, Full-head efficiency with low energy consumption
- 3, WQG series suitable for 25m³/h flow rate at medium-low head (0-25m)
- 4, Quick-change cutter disc design
- 5, Interchangeable cutter discs for different environments
- 6, Cutting section material: Rockwell Hardness $\geq 48\text{HR}$

product materials

- 1, Casing: Ordinary HT200 Gray Iron
- 2, Pump Body: Ordinary HT250 Gray Iron
- 3, Cutting Section: Alloy Material with Rockwell Hardness $\geq 48\text{HR}$
- 4, Heavy-Duty Rubber-Sheathed Cable (Domestic Brand)
- 5, Bearings: Domestic Brand (e.g., LYC) or Imported Brands (SKF, FAG)
- 6, Mechanical Seal: Domestic, Joint Venture/Imported (John Crane)

The unparalleled combination of high efficiency and anti-clogging performance in the WQGA sewage pump has been proven through extensive field applications and laboratory testing. Both in terms of energy efficiency and solids handling capabilities, the WQGA exceeds all domestically produced sewage pumps

product materials

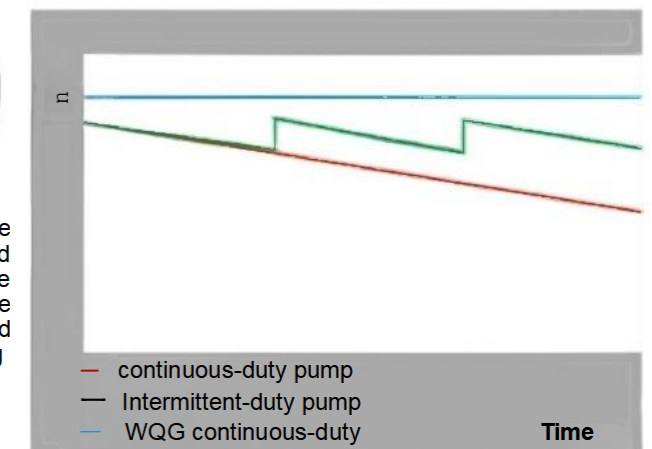


The impeller's unique backward inclination angle effectively prevents solid material entanglement

During impeller rotation, the ragged cloth is compressed into the spiral-shaped release slots, disengaged from the impeller, and then pumped out through the volute casing



The impeller is the core component of the WQG pump, crafted from alloy materials for enhanced durability and performance



Red line: Efficiency degradation of conventional sewage pumps due to continuous clogging during operation.

Green line: Efficiency decline of conventional sewage pumps under intermittent operation, where back flushing only provides temporary efficiency recovery.

Blue line: Persistent high-efficiency operation of WQG pumps without significant efficiency loss.

Key Considerations

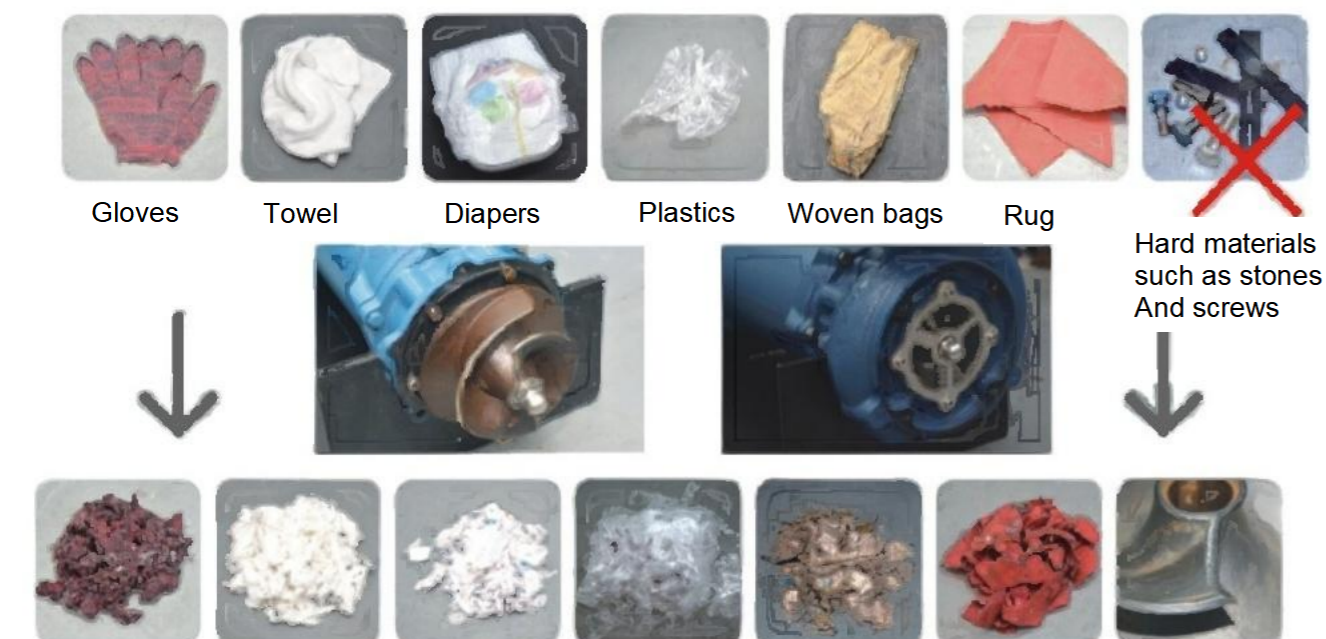
General Precautions

- 1, Before use, inspect the cable for damage or integrity.
- 2, Verify that the submersible pump is free from transportation-induced damage (e.g., leakage current, physical damage, or motor jamming).
- 3, Connect the power supply to a protected control Cabinet with grounding.
- 4, Maintain a minimum distance of 15meters between personnel/livestock and the pump during operation.

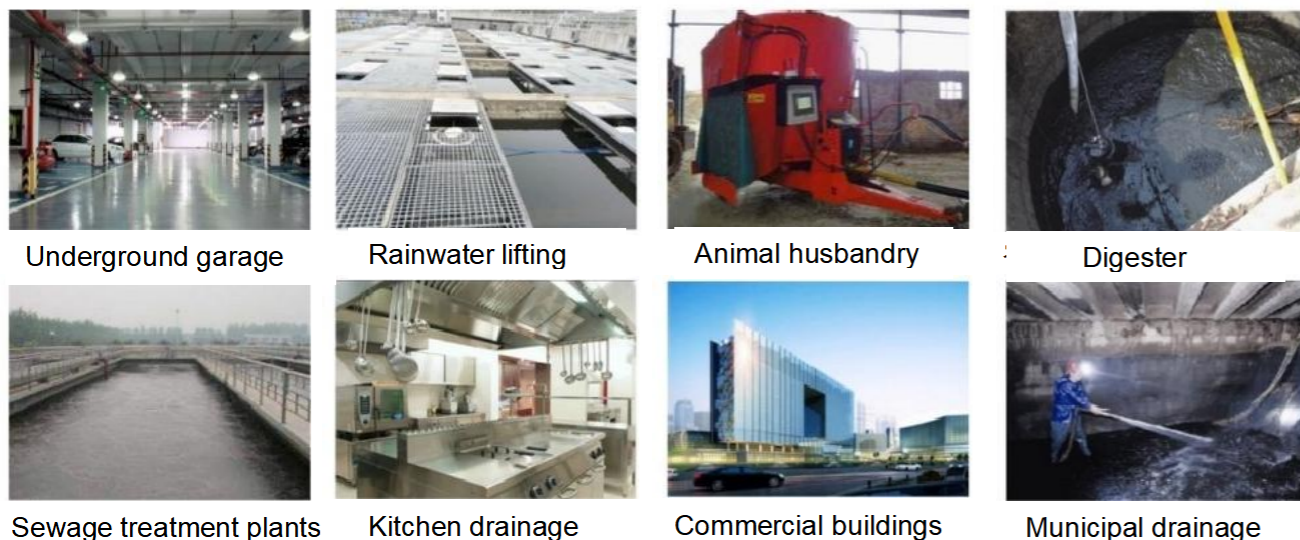
Special Precautions

- 1, Install the pump 25 cm above the tank bottom to ensure proper operation.
- 2, Avoid ingesting hard objects such as stones, screws, or nails to prolong cutting device lifespan.
- 3, After replacing the cutting device, strictly maintain 0.1–0.25 mm clearance between impeller and cutting disc.
- 4, Environment requirement: Liquid must be predominantly water-based with good fluidity.

Cutting Performance



Applications

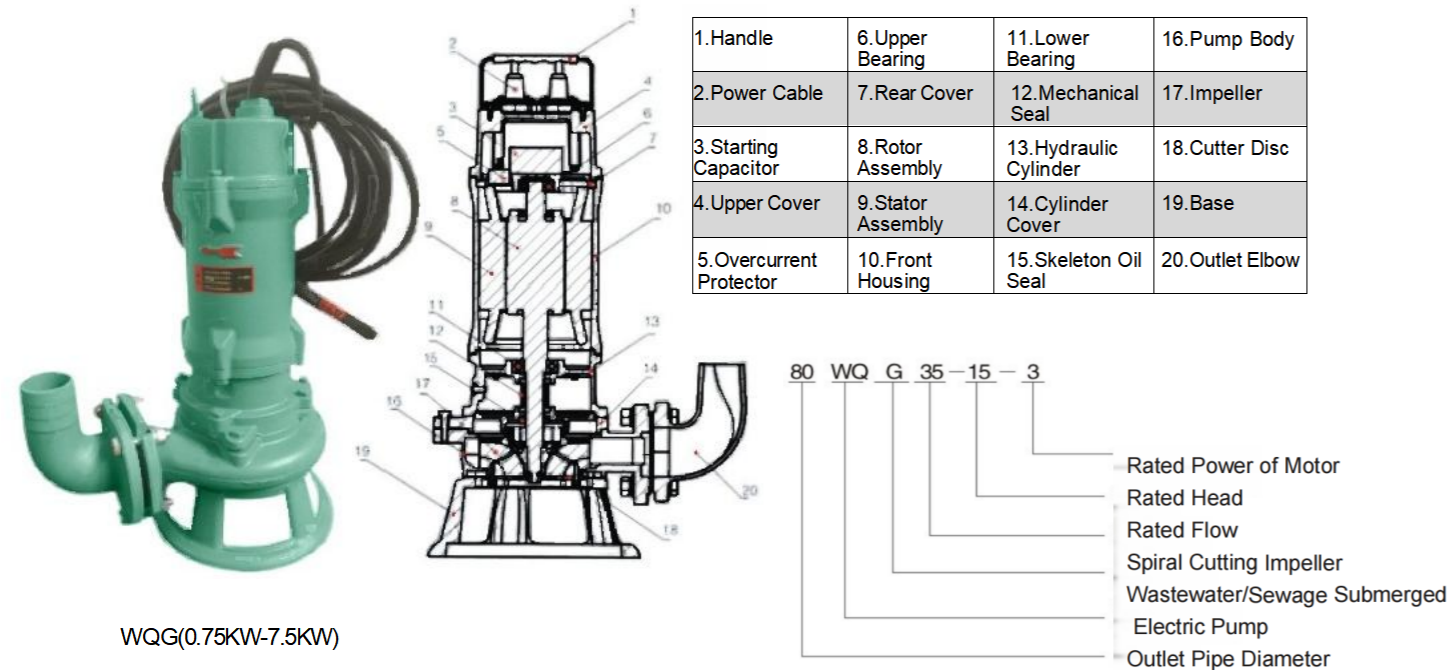


Comparison with other cutting pumps

Product images			
Cuting Stueture			
Impeller	Low particle handling head results in poor cutting efficiency	Low efficiency of split-type open impeller	Screw impeller
hardness of cutting components	Rockwell Hardnes 32HR	Rockwell Hardnes 52HR	Rockwell Hardnes 48-65HR
Pump Casing Material	HT250	HT200	HT250
Screw and Lifting Ring Materials	copper	copper	304 stainless steel
motor protection	none	none	Protective device can be installed
Mechanical seals	Graphite-Graphite	Graphite-SiC	Graphite-SiC
Bearing	Ordinary domestic component	Ordinary domestic component	C&U Optional imported brands available
Cable length	8m	8m	10m
MeasuredRated Flow and Rated Head	24.72m³/h 12.8m 3KW	34.57m³/h 19.81m 3KW	35m³/h13.8m 2.2KW
Sample Flow/Head Markings	50WQAS25-15-3	80WQS37-13-3	65WQG35-15-2.2
National Standard Flow and Head	65WQ25-15-3	65WQ35-15-3	65WQ35-7-2.2
Input Power Curve Comparison			
Power range		4207W-2258W	2526W-2109W
Determine if Total Head is Achieved via Curve Comparison		Non-Total Head	Total Head

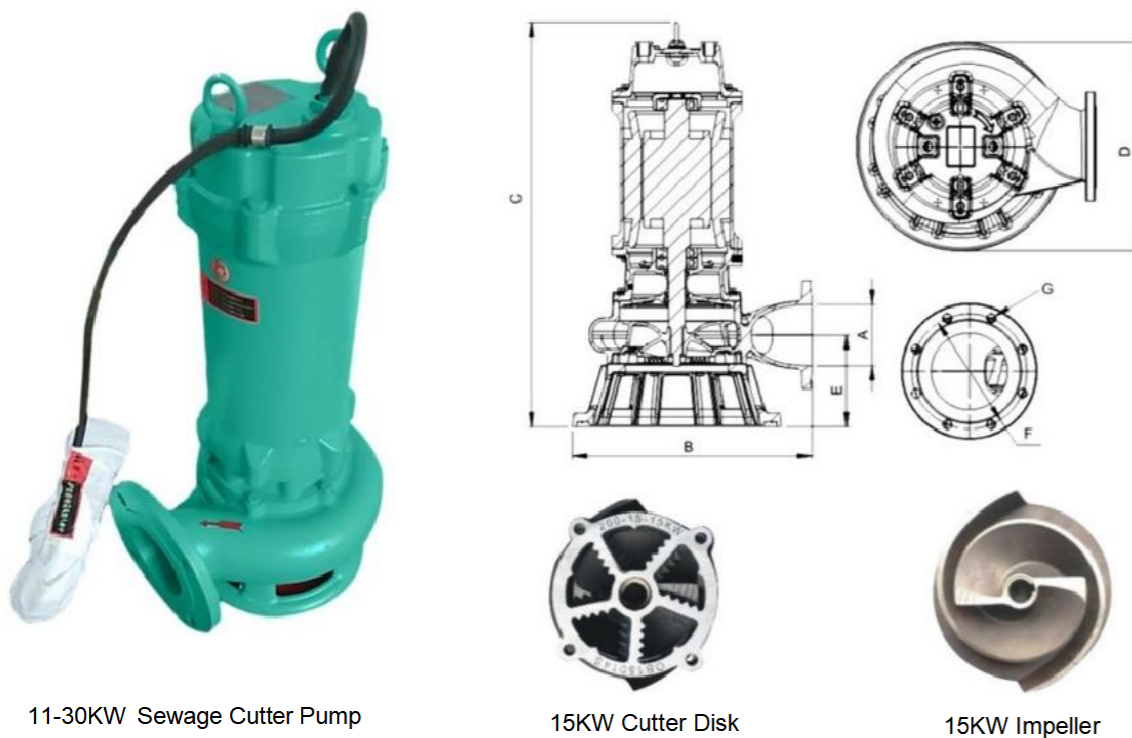
Product Coding

Application Scenarios: Wastewater treatment plants, pump stations, municipal drainage systems, river channel dredging projects, and large-scale industrial and mining enterprises.



Performance Specifications Table

Type	Flow Rate (m³/h)	Head Rate (m)	efficiency (%)	Power (kw)	Diameter	voltage (V)	Particle Passing (mm)	weight
50WQG10-10-0.75	10	10	44	0.75	DN50	220V	25	24
50WQG7-15-1.1	7	15	42	1.1	DN50	220V	25	25
50WQG15-15-1.5	15	15	47	1.5	DN50	220V	25	38
65WQG25-10-1.5	25	10	48	1.5	DN65	220V	32	39
50WQG10-10-0.75	10	10	44	0.75	DN50	380V	25	25
50WQG10-10-1	10	10	45	1	DN50	380V	25	25
50WQG10-13-1	10	13	46	1	DN50	380V	25	25
50WQG7-15-1.1	7	15	43	1.1	DN50	380V	25	25
50WQG12-10-1.1	12	10	44	1.1	DN50	380V	25	25
50WQG15-10-1.5	15	10	47	1.5	DN50	380V	25	38
50WQG10-15-1.5	10	15	47	1.5	DN50	380V	25	38
50WQG15-15-1.5	15	15	47	1.5	DN50	380V	25	38
50WQG10-18-1.5	10	18	46	1.5	DN50	380V	25	38
65WQG25-10-1.5	25	10	50.6	1.5	DN65	380V	32	39
50WQG9-22-2.2	9	22	45	2.2	DN50	380V	25	40
50WQG15-18-2.2	15	18	47	2.2	DN50	380V	25	40
65WQG20-18-2.2	20	18	50.5	2.2	DN65	380V	32	42
65WQG25-15-2.2	25	15	50.6	2.2	DN65	380V	32	42
80WQG30-10-2.2	30	10	53	2.2	DN80	380V	40	44
80WQG45-9-2.2	45	9	54	2.2	DN80	380V	40	44
50WQG15-22-3	15	22	49.2	3	DN50	380V	25	46
65WQG35-15-3	35	15	52.4	3	DN65	380V	32	46
65WQG30-17-3	30	17	52.6	3	DN65	380V	32	46
80WQG35-14-3	35	14	53	3	DN80	380V	40	48
80WQG43-13-3	43	13	54	3	DN80	380V	40	48
50WQG15-25-4	15	25	48.2	4	DN50	380V	25	52
65WQG26-22-4	26	22	49.5	4	DN65	380V	32	54
65WQG30-21-4	30	21	54	4	DN65	380V	32	54
80WQG45-17-4	45	17	53	4	DN80	380V	40	55
80WQG60-13-4	60	13	57	4	DN80	380V	40	55
80WQG70-10-4	70	10	53.7	4	DN80	380V	40	55
100WQG65-12-4	65	12	53	4	DN100	380V	50	58



Performance Specifications Table

Type	Flow Rate (m³/h)	Head Rate (m)	efficiency (%)	Power (kw)	Diameter	Voltage (V)	Particle Passing (mm)	weight
100WQG80-10-4	80	10	53.6	4	DN100	380V	50	58
80WQG30-25-5.5	30	25	54	5.5	DN80	380V	40	62
80WQG45-20-56	45	20	55	5.5	DN80	380V	40	62
80WQG55-17-5.5	55	17	55	5.5	DN80	380V	40	62
100WQG65-16-5.5	65	16	57.9	5.5	DN100	380V	50	64
100WQG85-15-5.5	85	15	56.1	5.5	DN100	380V	50	64
50WQG15-45-7.5	15	45	48.5	7.5	DN50	380V	25	72
80WQG45-25-7.5	45	25	52.4	7.5	DN80	380V	40	74
100WQG60-22-7.5	60	22	55.3	7.5	DN100	380V	50	76
100WQG70-20-7.5	70	20	57.9	7.5	DN100	380V	50	76
100WQG85-19-7.5	85	19	56.7	7.5	DN100	380V	50	76
100WQG100-15-7.5	100	15	69	7.5	DN100	380V	50	76
100WQG80-25-11	80	25	57.8	11	DN100	380V	50	226
150WQG150-15-11	150	15	62	11	DN150	380V	75	226
100WQG80-28-15	80	28	57.9	15	DN100	380V	50	242
100WQG100-25-15	100	25	59.8	15	DN100	380V	50	242
150WQG150-17-15	150	17	62	15	DN150	380V	75	242
150WQG200-15-15	200	15	65	15	DN150	380V	75	242
150WQG250-13-15	250	13	66	15	DN150	380V	75	242
150WQG300-10-15	300	10	66	15	DN150	380V	75	242
150WQG320-8-15	320	8	68	15	DN150	380V	75	242
150WQG250-15-18.5	250	15	67	18.5	DN150	380V	75	326
200WQG350-12-18.5	350	12	70.5	18.5	DN200	380V	100	326
150WQG300-15-22	300	15	70	22	DN150	380V	75	350
200WQG400-10-22	400	10	70.5	22	DN200	380V	100	350
200WQG250-22-30	250	22	70	30	DN200	380V	100	400
200WQG300-18-30	300	18	70.5	30	DN200	380V	100	400
200WQG450-15-30	450	15	67	30	DN200	380V	100	400
200WQG600-12-30	600	12	75	30	DN200	380V	100	400

Pump and Pipeline Selection

The head indicated on the pump nameplate does not account for pipeline friction losses. To determine the actual field head:

- 1, Measure the vertical distance from the lowest water level in the well to the highest point of the discharge pipeline (use the water tower's highest level if it exceeds the pipeline's highest point).
- 2, Add the hydraulic losses caused by the pipeline to this measured height.
- 3, Select a pump that matches the calculated total head.

Pipeline Head Loss Table

Pc%; Head loss per 100 meters of new cast iron pipes

Flow Rate (m³/h)		Diameter (mm)														
		25	32	40	50	65	80	100	125	150	200	250	300	350	400	450
1	Pc%	2.1														
1.5	Pc%	4.6	1.2													
3	Pc%	17	6	1.6	0.54											
6	Pc%		24	6	2	0.6										
9	Pc%			12.5	4.3	1.1	0.46									
12	Pc%			20	7	2	0.7									
15	Pc%				12	2.9	1.25									
18	Pc%				17	4	1.7	0.6								
21	Pc%				22	4.8	2.2	0.75								
24	Pc%					6.6	3	1	0.36							
27	Pc%					8	3.5	1.25	0.42							
30	Pc%					9.5	4.2	1.5	0.5							
36	Pc%					14	6.3	2	0.75							
42	Pc%						8.5	2.7	0.85							
48	Pc%						10	3.6	1.2	0.45						
60	Pc%						16	5.5	1.8	0.7						
75	Pc%						24	8	2.76	1	0.24					
90	Pc%							12.5	3.8	1.45	0.36					
120	Pc%							21.5	6.9	2.6	0.6					
150	Pc%								11	4	0.95	0.3				
180	Pc%								15.2	5.5	1.3	0.43	0.18			
210	Pc%								21	7.4	1.8	0.6	0.24			
240	Pc%									9.4	2.3	0.75	0.3			
300	Pc%									14	3.4	1.1	0.46			
360	Pc%										4.7	1.6	0.65			
480	Pc%										8.5	2.9	1.9	0.2		
600	Pc%										12.2	4.3	1.7	0.9		
720	Pc%											10	6	3.8	2.5	1.3
840	Pc%												8	3.4	3.4	1.7

At the calculated pressure loss for cast iron pipes,
multiply by the following coefficients:
Polyvinyl chloride (PVC) pipe: ×0.76
Galvanized pipe: ×1.17
Lightly rusted pipe: ×2.10
Heavily scaled pipe: ×3.60

Use equivalent pipe lengths to estimate pressure loss from fittings:
Bottom valve (check valve): ≈15 m
Stop valve: ≈10 m
Ball valve: ≈5 m
Elbows/bends: ≈5 m per bend

Flow conversion table

l/s	m³/d	m³/h	m³/min	m³/sec	ft²/sec
1	86.4	3.6	0.050	0.001	0.3532
0.2776	24	1	0.016667	0.0002778	0.09810
16.6667	1440	60	1	0.016667	0.588608
1000	86400	36001	60	1	35.3165
28.3152	2446.44	01.934	1.6989	0.02832	1

Pressure Conversion Table

Mpa	Pa	bar	Kgf/cm²	mmHg	m
	10 ⁵	1	1.0197	750.1	10.097
0.09807	9.80665×10 ⁴	0.9807	1	735.6	10
0.006895	6.895×10 ³	0.06895	0.07031	51.71	000
0.10133	1.01325×10 ⁵	0.10133	1.0332	760	0.7031
0.00013332	133.3 ²	0.0013332	0.0013595	1	0.01360
0.009807	9.807×10 ³	0.09807	0.10000	73.55	1
10-6	1	0.0001	0.000010197	0.007501	0.00010197

Power Conversion Table

KW	PS	HP	kgf.m/s	ftlbf/s	kcat/s	BTU/s
0.7355	1	0.9859	75	542.5	0.1757	0.6973
0.746	1.0143	1	76.07	550.2	0.1782	0.7072
1	1.3596	1.3405	101.97	737.6	0.2389	0.9480
0.009807	0.01333	0.1315	1	7.233	0.02343	0.009297
0.001359	0.001843	0.001817	0.1383	1	0.0003239	0.001285
4.186	5.691	5.611	426.9	3087	1	3.968
1.056	1.434	1.414	107.6	778.0	0.2520	1

Motor insulation rating

Insulation Class	E	B	C	F
Maximum Allowable Temperature	120℃	130℃	155℃	180℃

Common Faults and Troubleshooting

Fault phenomenon	Possible causes	Exclusion Method
no water output	1, Motor reversal 2, Clogged impeller flow passage 3, Excessive head 4, Air entrainment in the pump	1, Turn off the power supply; swap any two phase power lines 2, Remove clogged debris from the system 3, Replace the pump or reduce the head 4, Bleed out all air from the pump
Insufficient flow	1, Insufficient pump speed 2, Excessive head 3, Excessive pipeline resistance	1, Increase pump speed 2, Reduce the head 3, Check the following: a. Reduce pipeline bends b. Clear sediment in the pipeline
Head inadequate	1, Insufficient pump speed 2, Seriously worn impeller 3, Excessive flow rate 4, Medium bypass phenomenon	1, Increase pump speed 2, Replace impeller 3, Adjust outlet valve opening 4, Inspect bypass pipeline valve
Excessive power consumption	1, Flow rate exceeds rated capacity 2, Specific gravity exceeds limit 3, Excessive mechanical friction	1, Adjust outlet valve opening or replace the pump 2, Dilute the medium to reduce specific gravity 3, Inspect and eliminate faults
Abnormal noise and vibration	1, Gas entrapment in medium 2, Corrosion-induced shaft imbalance 3, Localized friction 4, Motor reversal 5, Bearing damage 6, Unstable pipeline support	1, Adjust temperature or increase pressure 2, Replace pump shaft 3, Inspect and resolve faults 4, Reverse motor rotation 5, Replace bearings 6, Secure pipeline supports