AT PUMP

Focus on industrial submersible pumps

Jining Antai Mine Equipment Manufacturing Co., Ltd.

Specialization•Scale•Branding•Internationalization

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65
Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

KEEP FAITH IN MIND
AND DO OUR BEST

COMPANY PROFILE

200,000 m²
Covers an area

50,000 sets
Annual capacity

300 +
Excellent staff

Established in 2005, Jining Antai Mine Equipment Manufacturing Co.,Ltd.is one of the leading industrial submersible pump manufacturers in China, which is specialized in the research, development, manufacture, marketing and service of submersible pumps.
After 18 years of development, Antai Pump currently covers an area of 200,000 square meters, with fixed assets of 600 million Yuan. The company now has an annual production capacity of more than 50,000 sets of mining and industrial explosion-proof sewage submersible pump. Antai Pump has 6 series of pumps as total of 800 models which covers explosion-proof submersible drainage pumps for mine, high-voltage explosion-proof submersible pumps for mine, explosion-proof submersible sewage pumps for industrial, pneumatic desilting pump, pneumatic diaphragm pump, pneumatic submersible pump. Our products are of reasonable price and excellent quality and are widely used in the mining, petrochemical, natural gas engineering, civil engineering, industrial wastewater, sewage treatment, flood control and more.
So far, Antai Pump is the national high-tech enterprise and has obtained 86 invention patents and scientific & technological achievements, in addition, our trademark has been appraised as "China famous trademark". The company has passed the ISO9001, ISO14001, OHSAS18001, CE and other international certifications.
Antai Pump has built long-term strong relationship with many well -know companies, including China Shenhua, China National Coal Group, CNPC, SINOPEC, Sinohydro Group Ltd., YANCON GROUP etc. Zijin Mining, the company has also established stable and good cooperation with business partners from Russia, Australia, Peru, Chile and South Africa etc.
Antai Pump holds the belief that “ only use the best material for the most durable pumps”, keeping the focus on the customers’ requirement. With excellent quality and service, Antai Pump warmly welcomes customers from at home and abroad to build cooperation with us !

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CHINA'S INTELLIGENT MANUFACTURING BENCHMARKING ENTERPRISE

Automatic welding

Automatic components machining line

Automatic casting line

Automatic assembly production line

OUR ADVANTAGES

1. Our foundry-to control material from the source.
2. First-class R&D team-design independently according to special usage scenarios.
3. Largest testing platform in China.
4. Modern automated processing centers- more accurate and efficient.
5. Sufficient inventory.

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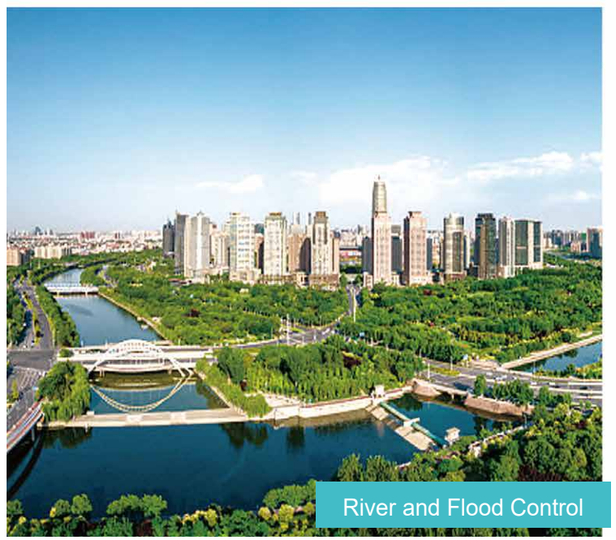
APPLICATION FIELDS


Mining


River and Flood Control


Industry and Energy


Wastewater Treatment

CLASSIC CASE


Baihetan Hydropower Station


Beijing Daxing International Airport


Sichuan–Tibet Railway


Xiong’an New Area Underground Pipe Gallery


Zijin Mining


Ningbo Port

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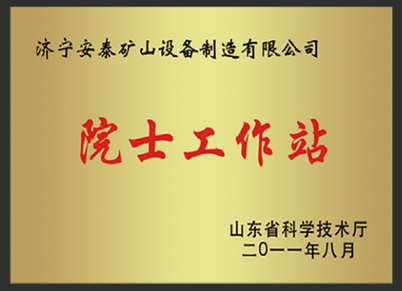
ENTERPRISE QUALIFICATION

Jining Antai Mine Equipment Manufacturing Co. ,Ltd. adheres to innovation and pursues excellence,and is committed to building the first brand of China's mining pumps,creating the "Antai speed" which is the envy of the industry.With its professional and dedicated enterprise advantages,it has rapidly grown into a leading enterprise in the domestic mining pump industry,among the "China Industrial Influential Enterprise","China Top 10 Mining Pump Manufacturing Enterprises","China Industrial Pioneer Demonstration Unit","Shandong Province SRDI(Specialized;Refinement;Differential;Innovation) Small and Medium Enterprises","Shandong Province Invisible Champion","Shandong Province Gazelle Enterprise".The company was also awarded the honorary title of "Enterprise Growth Star" in the 2019 World Manufacturing Congress,leaping into the ranks of global high-growth enterprises with continuous innovation capability and strong driving effect in a new posture.

Famous Trade of China



Academician Workstation

ISO 14001

ISO 45001

ISO 9001

CE

BQS Energy-saving product certification

BQS Energy-saving product certification

Gazelle Enterprise in Shandong

“Specialized Fined Peculiar and Innovative” Small and Medium-Sized Enterprise in Shandong

Little Giant Enterprise

Cooperative Unit

山东能源集团有限公司 SHANDONG ENERGY GROUP CO., LTD.
国家能源集团 CHN ENERGY
晋能集团 JINNENG GROUP
陕西煤化
山西焦煤 SHANXI COKING COAL
中煤集团
冀中能源 JZEG
Evolution MINING
潞安集团 LU'AN GROUP
开滦集团 KAILUAN GROUP
淮北矿业
黔盘江 QIANPANJIANG
ZiJin
淮河能源 HUAIHE ENERGY
皖北煤电
伊泰 YiCAi
中国煤科 CCTEG
神东天隆集团 SHENDONG TIANLONG GROUP
龙煤集团
中国华电 CHD
神火集团
中国华能集团有限公司 CHINA HUANENG GROUP CO.,LTD.
MA STEEL 马钢集团
榆能集团 YUNENG GROUP
中国平煤神马集团 CHINA PINGMEI SHENMA GROUP
CHINALCO 中铝集团
ANGLO AMERICAN
MCC 中国冶金科工股份有限公司
CAIRN Energy for India
湘煤集团 XIANG MEI JI TUAN
GOLD FIELDS
首钢集团
四川省煤炭产业集团有限责任公司 SICHUAN COAL INDUSTRY GROUP LIMITED LIABILITY COMPANY

AT PUMP
MEMBER DISPLAY

BQ series

FQW series

BQG series

QYF series

BQS series

WQB series

Stainless steel pump

Intelligent pump

BQS series

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CONTENTS

BQ SERIES MINING HIGH VOLTAGE EXPLOSION-PROOF SUBMERSIBLE PUMP

Outstanding features

- Energy-efficiency
- Safety and anti-explosion
- Large flow and high head.
- Easy installation and operation
- Advanced and reliable technology

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BQ

BQ series mining high voltage explosion-proof submersible pump

Main application

This series of products are designed and manufactured according to GB3836.1-2010 explosive environment standard. Part I: Facility general requirements and GB3836.2-2010 explosive environment standard.
Part II: Equipment standard of explosion-proof shell "d" protection, type of anti-explosion is explosion-proof, known as EXdI, which is applicable for mines containing an explosive gas, such as methane or coal dust and so on, where the mine is drained for routine operation, rescue and relief work or mine-recovery.

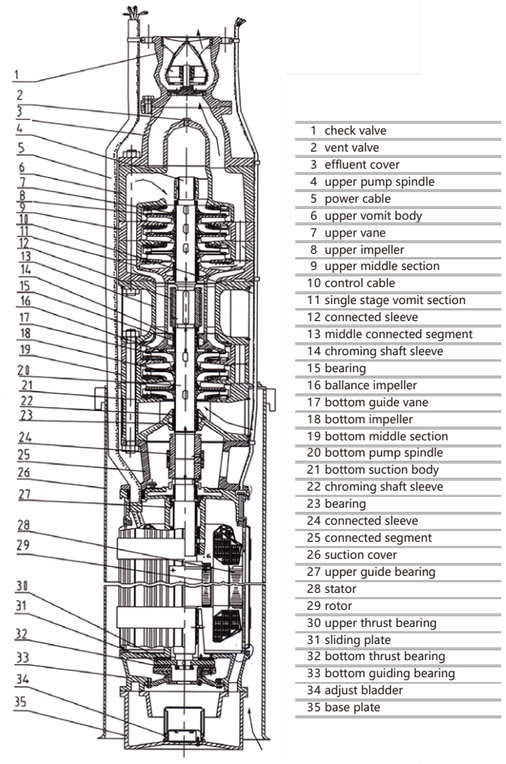
Working condition

1.Voltage: 6000V or 10000V
2.Medium: PH4-10
3.Water temperature: ≤50℃
4.Solid content: ≤10%
5.Installation: vertical,horizontal or inclined
6.Submergence depth: ≤700m.The minimum submerging level should be above than the check valve's output flange.
7.Customized design is available to meet customers' demands according to user's special environment requirements.

Complete set of supply range

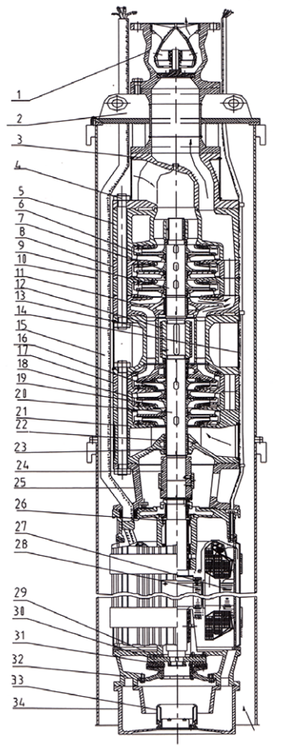
The whole electric pump consists of three parts:
(1) Main engine: pump, electric motor, pump-motor connecting unit, pump-motor coupling band and fasteners.
(2) Installation system: suction cover, connecting flange, check valve, lifting pipe, sluice valve, etc.
(3) Control system: cable, electric control cabinet.
BQ series mining explosion-proof submersible electric pump is also equipped with installation system and automatic control system connected with the mining monitoring internet in order to achieve the ground monitoring.

Structure introduction



1 check valve
2 vent valve
3 effluent cover
4 upper pump spindle
5 power cable
6 upper vomit body
7 upper vane
8 upper impeller
9 upper middle section
10 control cable
11 single stage vomit section
12 connected sleeve
13 middle connected segment
14 chroming shaft sleeve
15 bearing
16 ballance impeller
17 bottom guide vane
18 bottom impeller
19 bottom middle section
20 bottom pump spindle
21 bottom suction body
22 chroming shaft sleeve
23 bearing
24 connected sleeve
25 connected segment
26 suction cover
27 upper guide bearing
28 stator
29 rotor
30 upper thrust bearing
31 sliding plate
32 bottom thrust bearing
33 bottom guiding bearing
34 adjust bladder
35 base plate

Single suction submersible electric pump structure diagram

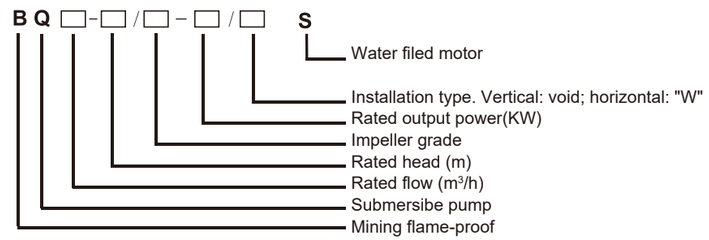


1 check valve
2 connecting flange
3 suction vomit body
4 pull-rod nut
5 upper suction body
6 upper guide vane
7 upper impeller
8 upper middle section
9 upper pump spindle
10 suction cowl
11 vomit section
12 connected sleeve
13 middle connected segment
14 control cable
15 power cable
16 ballance impeller
17 bottom middle section
18 bottom guide vane
19 bottom impeller
20 bottom pump spindle
21 bottom suction body
22 chroming shaft sleeve
23 bearing
24 connected sleeve
25 connected segment
26 upper guide bearing
27 stator
28 rotor
29 upper thrust bearing
30 sliding plate
31 bottom thrust bearing
32 bottom guiding bearing
33 adjust bladder
34 base plate

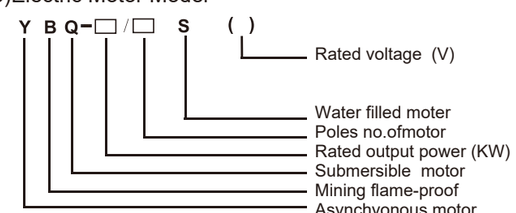
Double suction submersible electric pump structure diagram

Model and meaning

a) Pump Model

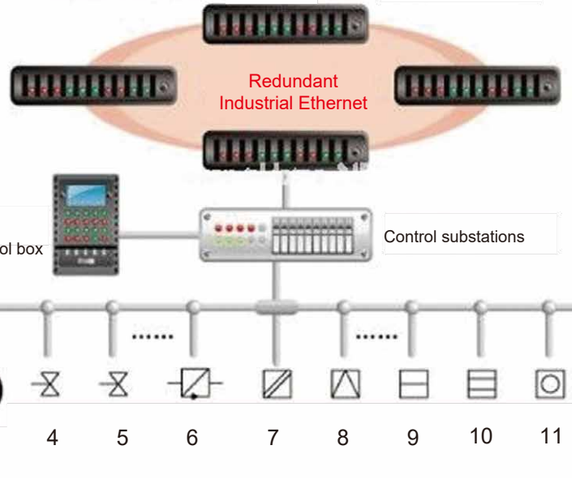


b)Electric Motor Model



Centralized control system software

Centralized control console



1-Pump 2-Pump2 3-Pump 3 4-Solenoid valve 5-Electric gate valve 6-Current transmitter
7-Voltage transmitter 8-Temperature sensors 9-Flow sensor 10-Flow rate sensor 11-Start/stop sensors
12-Liquid level sensors 13-Pressure sensor 14-Electric bell

High voltage soft start cabinet

System description

The system is based on industrial control computer or explosion-proof PLC, through all kinds of advanced and reliable sensors, protective devices, electric actuators and so on to monitor the working state of the mine underground drainage system equipment, the automatic control of the underground pump drainage system is realized, the pump drainage system is safe, reliable, energy-saving, efficient, economic and reasonable operation, thus realizing the goal of reducing people and increasing efficiency, safe production. The system can also be used for long-distance monitoring and control of large and medium-sized pumping stations and pumps in factories and mining enterprises.

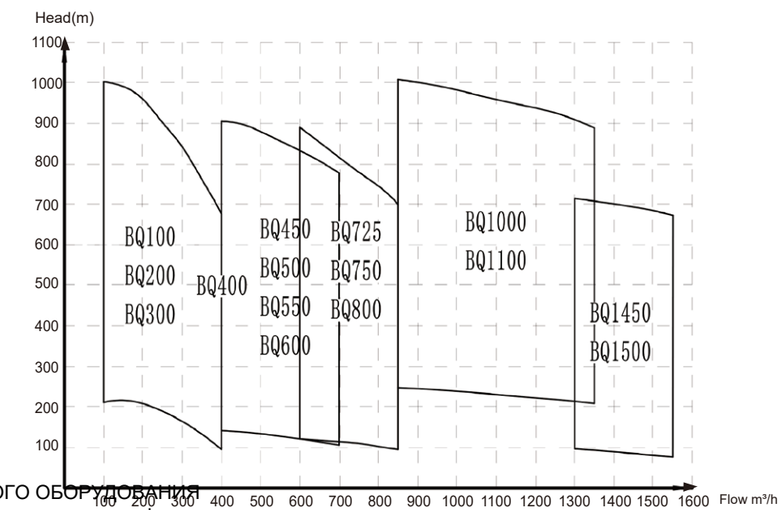
BQ

BQ series performance parameters

Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Impeller grade	Efficiency of grade	Synchronous speed (r/min)	Rated output powe		Rated voltage	Outlet diameter
							(KW)	(HP)		
1	BQ100-595/6-355/WS	100	595	6	71.32	1500	355	477	6/10	100
2	BQ100-600/7-400/WS		600	7			400	537		
3	BQ100-680/8-400/WS		680	8			400	537		
4	BQ100-765/9-450/WS		765	9			450	604		
5	BQ100-850/10-500/WS		850	10			500	671		
6	BQ100-935/11-560/WS		935	11			560	752		
7	BQ100-1020/12-630/WS		1020	12			630	846		
8	BQ100-1110/13-710/WS		1110	13			710	953		
9	BQ150-450/5-400/WS	150	450	5	72.63	1500	400	537	6/10	150
10	BQ150-510/6-400/WS		510	6			400	537		
11	BQ150-600/7-500/WS		600	7			500	671		
12	BQ150-680/8-560/WS		680	8			560	752		
13	BQ150-765/9-630/WS		765	9			630	846		
14	BQ150-850/10-710/WS		850	10			710	953		
15	BQ150-935/11-800/WS		935	11			800	1074		
16	BQ150-1020/12-900/WS		1020	12			900	1208		
17	BQ200-350/4-400/ WS	200	350	4	74.55	1500	400	537	6/10	200
18	BQ200-425/5-450/ WS		425	5			450	604		
19	BQ200-510/6-500/WS		510	6			500	671		
20	BQ200-600/7-630/WS		600	7			630	846		
21	BQ200-680/8-710/WS		680	8			710	953		
22	BQ200-765/9-800/WS		765	9			800	1074		
23	BQ200-850/10-900/WS		850	10			900	1208		
24	BQ200-935/11-1000/WS		935	11			1000	1342		
25	BQ200-1020/12-1000/WS		1020	12			1000	1342		
26	BQ200-1110/13-1120/WS		1110	13			1120	1503		
27	BQ280-340/4-400/WS	280	340	4	78.73	1500	400	537	6/10	250
28	BQ280-425/5-500/WS		425	5			500	671		
29	BQ280-540/6-630/WS		540	6			630	846		
30	BQ280-650/7-800/WS		650	7			800	1074		
31	BQ280-730/8-900/WS		730	8			900	1208		
32	BQ280-850/9-1000/WS		850	9			1000	1342		
33	BQ280-920/10-1120/WS		920	10			1120	1503		
34	BQ280-1035/11-1200/WS		1035	11			1200	1611		
35	BQ280-1200/12-1400/WS		1200	12			1400	1879		
36	BQ280-1330/13-1600/WS		1330	13			1600	2148		
37	BQ280-1445/14-1800/WS		1445	14			1800	2416		
38	BQ300-270/3-400/WS	300	270	3	78.78	1500	400	537	6/10	250
39	BQ300-360/4-500/WS		360	4			500	671		
40	BQ300-450/5-630/WS		450	5			630	846		
41	BQ300-510/6-710/WS		510	6			710	953		
42	BQ300-595/7-800/WS		595	7			800	1074		
43	BQ400-255/3-450/WS	400	255	3	78.80	1500	450	604	6/10	250
44	BQ400-340/4-630/WS		340	4			630	846		
45	BQ400-425/5-800/WS		425	5			800	1074		
46	BQ400-510/6-900/WS		510	6			900	1208		
47	BQ400-600/7-1000/WS		600	7			1000	1342		
48	BQ400-680/8-1120/WS		680	8			1120	1503		
49	BQ400-765/9-1400/WS		765	9			1400	1879		
50	BQ400-850/10-1600/WS		850	10			1600	2148		
51	BQ400-935/11-1800/WS		935	11			1800	2416		
52	BQ400-1020/12-1900/WS		1020	12			1900	2550		

Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Impeller grade	Efficiency of grade	Synchronous speed (r/min)	Rated output powe		Rated voltage	Outlet diameter
							(KW)	(HP)		
53	BQ450-170/2-355/WS	450	170	2	78.82	1500	355	477	6/10	250
54	BQ450-255/3-500/WS		255	3			500	671		
55	BQ450-350/4-630/WS		350	4			630	846		
56	BQ450-425/5-800/WS		425	5			800	1074		
57	BQ450-510/6-1000/WS		510	6			1000	1342		
58	BQ500-240/3-500/WS	500	240	3	78.82	1500	500	671	6/10	250
59	BQ500-280/3-560/WS		280	3			560	752		
60	BQ500-340/4-630/WS		340	4			630	846		
61	BQ500-360/4-710/WS		360	4			710	953		
62	BQ500-440/5-900/WS		440	5			900	1208		
63	BQ500-520/6-1000/WS		520	6			1000	1342		
64	BQ500-560/6-1120/WS		560	6			1120	1503		
65	BQ500-630/7-1200/WS		630	7			1200	1611		
66	BQ500-720/8-1400/WS		720	8			1400	1879		
67	BQ500-810/9-1600/WS		810	9			1600	2148		
68	BQ500-920/10-1800/WS		920	10			1800	2416		
69	BQ500-1000/11-2000/WS		1000	11			2000	2685		
70	BQ500-1080/12-2200/WS		1080	12			2200	2953		
71	BQ550-170/2-400/WS	550	170	2	78.83	1500	400	537	6/10	250
72	BQ550-255/3-560/WS		255	3			560	752		
73	BQ550-340/4-800/WS		340	4			800	1074		
74	BQ550-430/5-1000/WS		430	5			1000	1342		
75	BQ550-515/6-1200/WS		515	6			1200	1611		
76	BQ550-600/7-1400/WS		600	7			1400	1879		
77	BQ550-690/8-1600/WS		690	8			1600	2148		
78	BQ550-770/9-1800/WS		770	9			1800	2416		
79	BQ550-855/10-2000/WS		855	10			2000	2685		
80	BQ550-940/11-2200/WS		940	11			2200	2953		
81	BQ550-1105/13-2500/WS		1105	13			2500	3356		
82	BQ550-1275/15-2800/WS		1275	15			2800	3758		
83	BQ550-1445/17-3150/WS		1445	17			3150	4228		
84	BQ550-1630/19-3550/WS		1630	19			3550	4765		
85	BQ550-1710/20-4000/WS		1710	20			4000	5369		
86	BQ600-170/2-450/WS	600	170	2	78.85	1500	450	604	6/10	250
87	BQ600-255/3-710/WS		255	3			710	953		
88	BQ600-340/4-900/WS		340	4			900	1208		
89	BQ600-430/5-1120/WS		430	5			1120	1503		
90	BQ600-515/6-1400/WS		515	6			1400	1879		
91	BQ600-600/6-1800/WS		600	6			1800	2416		
92	BQ725-132/3-400/WS	725	132	3	78.85	1500	400	537	6/10	250
93	BQ725-160/4-500/WS		160	4			500	671		
94	BQ725-215/5-630/WS		215	5			630	846		
95	BQ725-265/6-710/WS		265	6			710	953		
96	BQ725-290/7-800/WS		290	7			800	1074		
97	BQ725-320/8-900/WS		320	8			900	1208		
98	BQ725-360/9-1000/WS		360	9			1000	1342		
99	BQ725-400/10-1120/WS		400	10			1120	1503		
100	BQ725-480/12-1200/WS		480	12			1200	1611		
101	BQ725-520/13-1400/WS		520	13			1400	1879		
102	BQ725-600/15-1600/WS		600	15			1600	2148		
103	BQ725-640/16-1800/WS		640	16			1800	2416		
104	BQ725-690/17-1900/WS		690	17			1900	2550		
105	BQ725-720/18-2000/WS		720	18			2000	2685		
106	BQ725-765/19-2200/WS		765	19			2200	2953		
107	BQ750-840/12-2800/WS	750	840	12	750	1500	2800	3758	6/10	250
108	BQ750-910/13-3150/WS		910	13			3150	4228		
109	BQ750-960/14-3550/WS		960	14			3550	4765		
110	BQ800-289/8-1000/WS	800	289	8	78.86	1500	1000	1342	6/10	300

Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Impeller grade	Efficiency of grade	Synchronous speed (r/min)	Rated output powe		Rated voltage	Outlet diameter
							(KW)	(HP)		
111	BQ1000-100-400/WS	1000	100	1	79.24	1500	400	537	6/10	350
112	BQ1000-200/2-800/WS		200	2			800	1074		
113	BQ1000-270/3-1120/WS		270	3			1120	1503		
114	BQ1000-395/4-1600/WS		395	4			1600	2148		
115	BQ1000-450/5-1800/WS		450	5			1800	2416		
116	BQ1000-560/6-2200/WS		560	6			2200	2953		
117	BQ1000-600/7-2500/WS		600	7			2500	3356		
118	BQ1000-725/8-2800/WS		725	8			2800	3758		
119	BQ1000-810/9-3150/WS		810	9			3150	4228		
120	BQ1000-880/10-3550/WS		880	10			3550	4765		
121	BQ1000-960/11-4000/WS		960	11			4000	5369		
122	BQ1000-1050/12-4500/WS		1050	12			4500	6040		
123	BQ1100-100-450/WS	1100	100	1	79.36	1500	450	604	6/10	350
124	BQ1100-170/2-800/WS		170	2			800	1074		
125	BQ1100-255/3-1200/WS		255	3			1200	1611		
126	BQ1100-340/4-1600/WS		340	4			1600	2148		
127	BQ1100-430/5-2000/WS		430	5			2000	2685		
128	BQ1100-510/6-2500/WS		510	6			2500	3356		
129	BQ1100-595/7-2800/WS		595	7			2800	3758		
130	BQ1100-680/8-3150/WS		680	8			3150	4228		
131	BQ1100-780/9-3550/WS		780	9			3550	4765		
132	BQ1100-850/10-4000/WS		850	10			4000	5369		
133	BQ1100-935/11-4500/WS		935	11			4500	6040		
134	BQ1450-85/2-500/WS	1450	85	2	79.52	1500	500	671	6/10	350
135	BQ1450-135/3-710/WS		135	3			710	953		
136	BQ1450-160/4-900/WS		160	4			900	1208		
137	BQ1450-200/5-1000/WS		200	5			1000	1342		
138	BQ1450-240/6-1200/WS		240	6			1200	1611		
139	BQ1450-280/7-1400/WS		280	7			1400	1879		
140	BQ1450-295/7-1600/WS		295	7			1600	2148		
141	BQ1450-320/8-1800/WS		320	8			1800	2416		
142	BQ1450-360/9-2000/WS		360	9			2000	2685		
143	BQ1450-400/10-2200/WS		400	10			2200	2953		
144	BQ1500-420/6-2800/WS	1500	420	6	79.64	1500	2800	3758	6/10	350
145	BQ1500-490/7-3150/WS		490	7			3150	4228		
146	BQ1500-560/8-3550/WS		560	8			3550	4765		
147	BQ1500-630/9-4000/WS		630	9			4000	5369		
148	BQ1500-680/10-4500/WS		680	10			4500	6040		



ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
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BQ

BQ series motor performance parameter

Serial number	Model	Rated power		Rated voltage (kv)	Rated vurrent (A)	Efficiency (%)	Powey factor (cos)	Synchronous speed (r/min)	Connection	Starting current ratio	Starting torque ratio	Maximu rorque ratio
		(kw)	(HP)									
1	YBQ-355/4S(6000)	355	477	6	44.8	89	0.85	1500	Y	6.5	1.8	0.8
2	YBQ-400/4S(6000)	400	537		49.6							
3	YBQ-450/4S(6000)	450	604		55.3							
4	YBQ-500/4S(6000)	500	671		61.5	90	0.86					
5	YBQ-560/4S(6000)	560	752		68							
6	YBQ-630/4S(6000)	630	846		72.4							
7	YBQ-710/4S(6000)	710	953		85.5							
8	YBQ-800/4S(6000)	800	1074		96.6	91						
9	YBQ-900/4S(6000)	900	1208		107.2							
10	YBQ-1000/4S(6000)	1000	1342		118.8	91.5						
11	YBQ-1200/4S(6000)	1120	1503		133							
12	YBQ-1120/4S(6000)	1200	1611		142	92	0.87					
13	YBQ-1400/4S(6000)	1400	1879		168.4							
14	YBQ-1600/4S(6000)	1600	2148		192.5							
15	YBQ-1800/4S(6000)	1800	2416		216.6							
16	YBQ-1900/4S(6000)	1900	2550		243.6							
17	YBQ-2000/4S(6000)	2000	2685		251.7							
18	YBQ-2200/4S(6000)	2200	2953		266.6	91	0.88					
19	YBQ-2500/4S(6000)	2500	3356		300.4							
20	YBQ-2800/4S(6000)	2800	3758		336.5							
21	YBQ-3150/4S(6000)	3150	4228		374.4	92						
22	YBQ-3550/4S(6000)	3550	4765		417.2		0.89					
23	YBQ-4000/4S(6000)	4000	5369		470.1							
24	YBQ-4500/4S(6000)	4500	6040		528.8							
25	YBQ-355/4S(10000)	355	477	10	29	89	0.85	1500	Y	6.5	1.8	0.8
26	YBQ-400/4S(10000)	400	537		31.6							
27	YBQ-450/4S(10000)	450	604		35.6							
28	YBQ-500/4S(10000)	500	671		39.3	90	0.86					
29	YBQ-560/4S(10000)	560	752		44.1							
30	YBQ-630/4S(10000)	630	846		48.7							
31	YBQ-710/4S(10000)	710	953		55.8							
32	YBQ-800/4S(10000)	800	1074		61.5	91						
33	YBQ-900/4S(10000)	900	1208		68.4							
34	YBQ-1000/4S(10000)	1000	1342		75.6	91.5						
35	YBQ-1120/4S(10000)	1120	1503		83.8							
36	YBQ-1200/4S(10000)	1200	1611		89.5	92	0.87					
37	YBQ-1400/4S(10000)	1400	1879		103.4							
38	YBQ-1600/4S(10000)	1600	2148		116.7							
39	YBQ-1800/4S(10000)	1800	2416		130.6							
40	YBQ-1900/4S(10000)	1900	2550		139.7							
41	YBQ-2000/4S(10000)	2000	2685		144.5							
42	YBQ-2200/4S(10000)	2200	2953		153.6							
43	YBQ-2500/4S(10000)	2500	3356		184.3	91	0.88					
44	YBQ-2800/4S(10000)	2800	3758		201.9							
45	YBQ-3150/4S(10000)	3150	4228		224.6	92						
46	YBQ-3550/4S(10000)	3550	4765		250.3		0.89					
47	YBQ-4000/4S(10000)	4000	5369		282.1							
48	YBQ-4500/4S(10000)	4500	6040		317.3							

BQS SERIES MINING EXPLOSION-PROOF SUBMERSIBLE DRAINAGE PUMP

- No overpower at all head points
- Independent cascade mechanical seal and double-end faces mechanical seal
- Smooth operation, high reliability and low energy consumption
- IPx8/IP68 motor protection grade
- F/H insulation grade

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
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BQS

BQS series mining explosion-proof submersible drainage pump

Main application

It is applicable to dangerous sites which contain methane (commonly known as gas) and coal-dust explosion, capable of handling sewerage which contains a mixture of insoluble solid contents such as sediment, coal slime, cinders, fibrous material, etc. it is also applicable for transport-ing rain water and sewage containing solid particles at constructions, hospitals, residential areas, municipal projects, roads, factory sewage, etc.

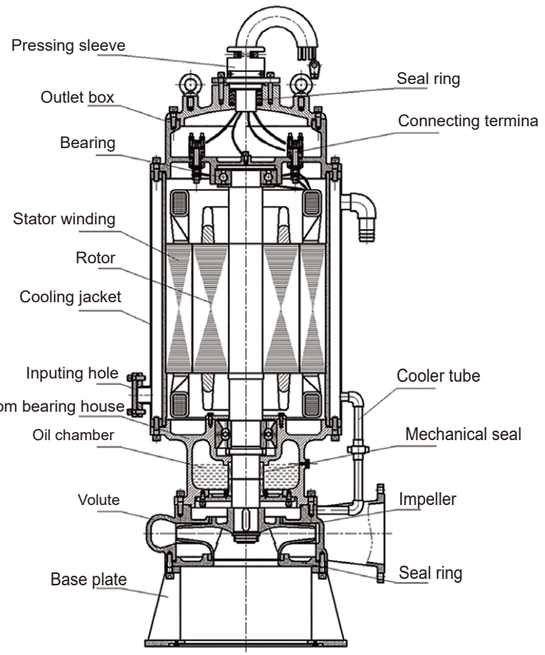
Working condition

1.Voltage:380V/660V, 660V/1140V, three phase, 50HZ,can be customized.
2.Medium density is generally no more than 40℃, PH5—9, medium weight ≤11KN/M³.
3.Based on the impeller center, submerged depth is no more than 20M.
4.Customized design is available for high corrosive fluid.
5.Diameter of solid contents in the fluid should be conform to MT/T671-2005 standard, notify us while ordering for customized design.
6. MT818.5-1999 coal mine with flame-retardant cable, can be customized.

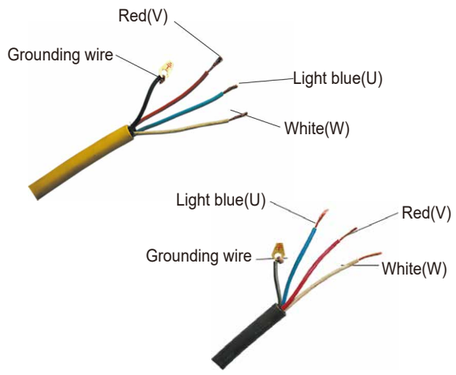
Model and meaning

BQS □—□/□—□ □

- N: built-in electric pump; B: semi built-in electric pump; Void: external mounted
- Rated power (KW)
- Number of stage
- Rated head(m)
- Rated flow (m³/h)
- Mining explosion-proof submers-ible drainage pump



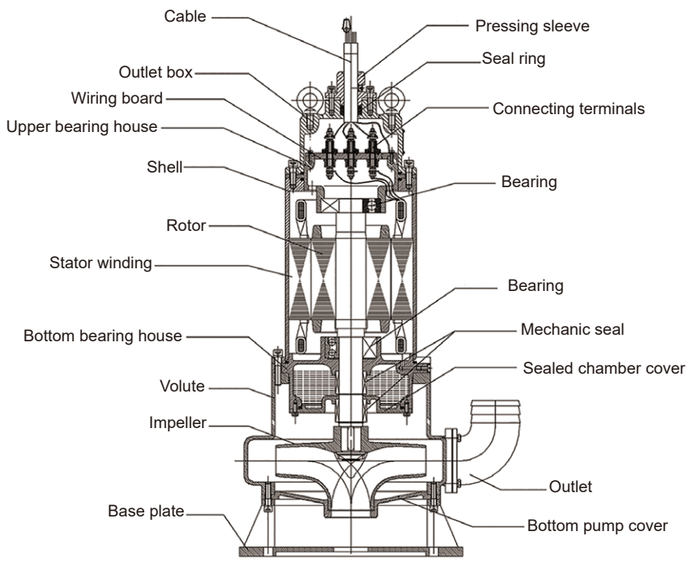
Cable description



Light blue(U), red(V), white(W), three phase power line.
Grounding wire: black.

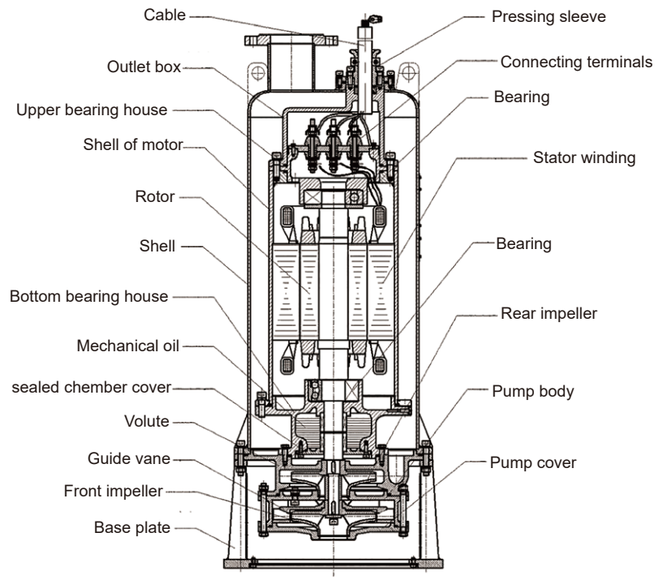
BQS series-external mounted type

External mounted electric pump has the water outlet located at the bottom of pump. Water is discharged directly from the pump body through the water outlet. Generally , the power of this type of single-stage, single suction small pump is below 22kw. Its features are simple structure, portability, strong discharge. It is suitable for sites where water contains coal slurry, gravel and other impurities.



BQS series-built-in type

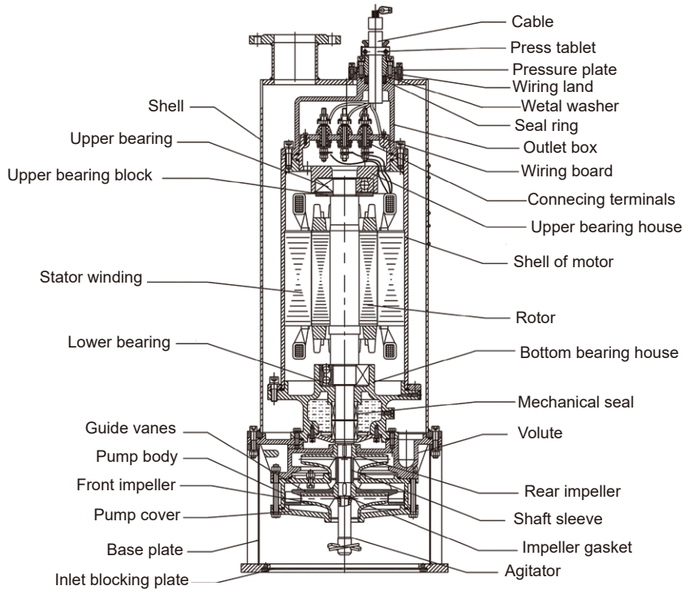
The overall structure of the built-in electric pump is vertical and downward type with built-in motor structure.The motor housing has an interlayer. When water drains, the water flows from the interlayer and goes out from the top to cool the motor. Even without water, the interlayer outside the motor still has water cooling the motor to ensure that the motor will not be overheated and burnt. There is no need for supervision, greatly reducing the cost of labor. Most of our single-stage and multi-stage pumps utilise the built-in structure.



BQS series-stainless steel electric pump

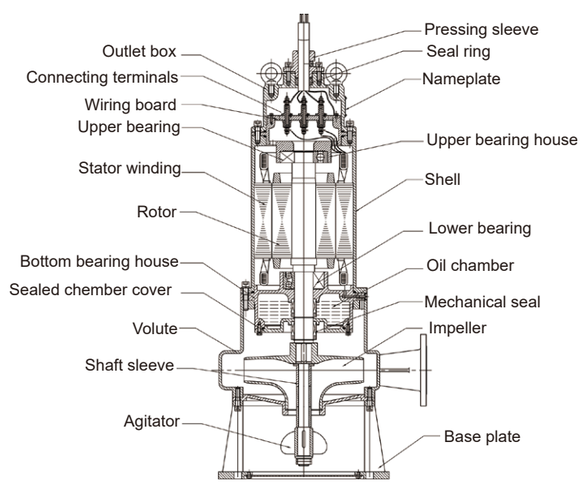
BQS2.2kw-90kw mining explosion-proof sewage desilting submersible pump is specially designed by our company with stainless steel construction to pump corrosive fluids containing sand. The volute casing, impeller and other flow passage parts utilise wear-resistant, corrosion-resistant casted alloy materials with precision. The pump base and shell utilise 304 stainless steel material to greatly improve product service life, which meets the needs of mine drainage.

BQS series built-in agitator type



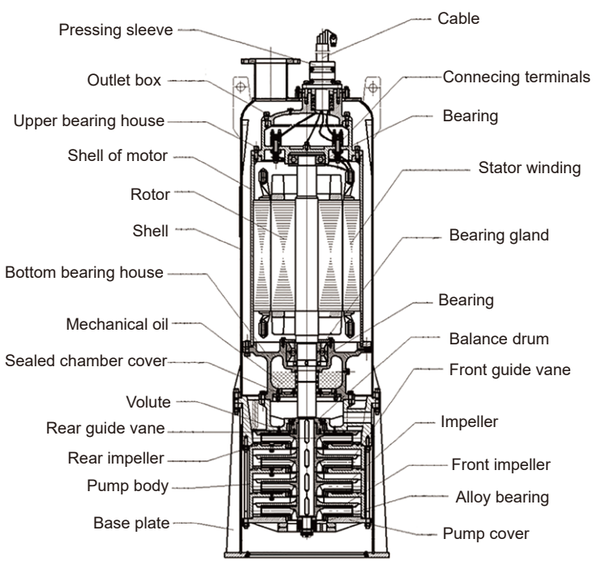
BQS series-agitator type

BQS2.2kw-315kw full head mining explosion-proof sewage desilting agitator pump is jointly designed and developed by our company and JiangSu University, according to MT/T671-2005 standard, which is suitable for coal mines which may have a lot of coal slime. Based on the original mining explosion-proof sewage desilting submersible pump, the product's innovative design equips a stirrer at the bottom of pump.Which effectively discharge the sewage such as coal slurry and slime. This series product utilises two patents from JiangSu University, the impeller and volute casing are designed into double flow channels, outlet width between two impeller blades is more than 30mm, which ensures strong overflow capacity. The impeller blade curve utilises patent technology to ensure that input power will not exceed the motor power (no overload) under any condition. One pump can servemuti-purpose to provide users with great convenience, and can save over 10% of electrical energy. In order to make the pump operate with or without water, we have designed the product with a strong cooling interlayer structure.So this submersible electric pump series can completely meet the needs of underground coal mines. Compared with the similar products in China, it has the features of advanced technology, superior performance, energy saving and longer life.



BQS110~315KW large power mining explosion-proof submersible drainage pump

1.Utilises built-in motor, downward structure, effectively cooling the motor and providing easy installation and maintenance.
2.Optimized motor design makes the motor highly efficient and reliable.
3.Utilises an excellent hydraulic model for high efficiency pump hydraulic performance.
4.Utilises the core technology for the impeller, guide vane and volute casing parts with no overload design throughout whole pump head range.
5.Utilises patent mechanical seal technology to give reliable performance and long service life.
6.Utilises high-chromium wear-resistant new materials in impeller, seal ring, guide vane to resist mud and sand abrasion.
7. Impeller utilises a wide flow channel design allowing solid particles to pass through and providing good performance without blocking. This series of products optimises and innovates the hydraulic model, mechanical structure, mechanical seal and other aspects. High sewage disposal capacity, large flow volume and high pump head are proven in many challenging drainage projects.



BQS

BQS series IoT pump
A new generation of digital, information intelligent products

The mobile terminal of Cloud SCADA supports remote monitoring and management of devices through APP, WeChat applet and WeChat official account
Main modules: screen monitoring, real-time data monitoring, fault alarm, and account management

What does Cloud SCADA do?

1.Adopt integrated modular design
2.Intelligent digitization
3.Cloud SCADA ecological intelligence
4.Remote device diagnostics
5.Video
6.Permission Management
7.Third party data connection

Main application

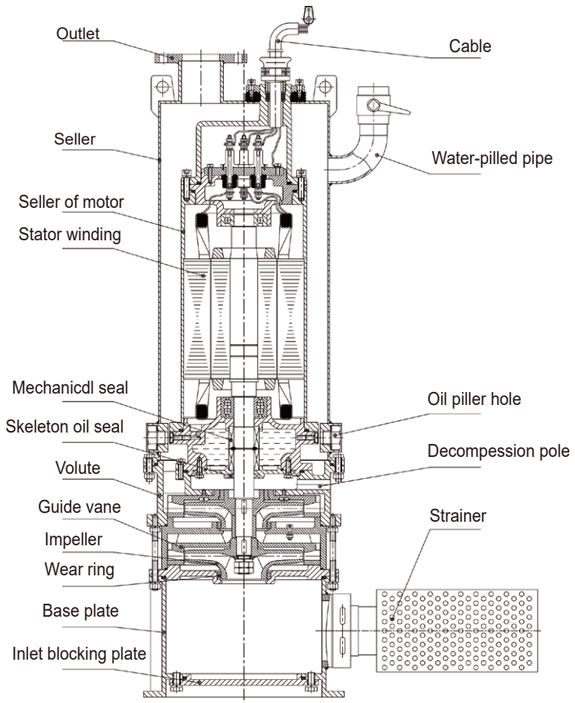
It is suitable for normal production drainage and disaster relief drainage in underground coal mine tunnels and mining working faces; it can also be used for drainage in Coal Handing and Preparation Plant, tunneling projects, water conservancy projects and other places. It is suitable for discharging sewage containing solid particles such as suspended coal dust, rock chips, coal particles, sand, gravel and silt.

Working condition

Working condition
(1)Rated voltage: 380V/660V or 660/1140V(Allowable Deviation ±5%)
(2)Rated frequency: 50Hz
(3)Submergence depth: ≤5m
(4)Medium temperature: ≤40°C
(5)Environmental temperature: 0-40℃
(6)Medium PH: 4-10
(7)Sediment solids content weight ratio: ≤20%
(8)Soilds passage: Not more than 50% of the minimum size of the flow section of the pump passage
(9)Medium density: ≤1100Kg/m
(10)NPSHr： ≤4.8m

BQS

BQS series amphibious mining explosion-proof submersible drainage pump



Outstanding features

1.Amphibious and multi-use machine

Safety and antai-explosion, explosive-proof structure, submerged operation, good heat dissipation of motor, no overload throughout whole head design which ensures the safe operation. Motor cannot be burned out because of overload. The pump can be used both submerged in water or on land by connecting suction pipes. According to the use of location, flexible choice of use and one machine multi-purpose.

2.Use water to cool the motor. Start-up and operation can be carried out without water

The electric pump adopts built-in motor structure, there is a water interlayer outside the motor.
When the electric pump delivers water, the water flows through the interlayer between the motor and the pump shell to force cool the shell of motor. So the motor cooling effect is good and the overload performance of the motor is improved.
In the case of no water operation, Pump impeller idles with motor, the load is very small and the effective power output of the motor is small, so the heat is small, so it will not cause the motor to overheat and will not damage the motor.
The motor bearings and mechanical seals adopt an effective cooling method, which will not be damaged under water-free operation. In the pump, the rear pump continues to pressurize for drainage, to achieve the effect of doubling the head and high head drainage.

3.A variety of installation methods

This electric pump can be installed in series to achieve high head drainage. It can adopt submersible installation, land installation, hanging installation, and a variety of tandem installation methods. Electric pump specially designed tandem interface, two or more electric pumps can be installed in tandem. The water conveyed by the front pump is pumped into the rear pump, and the rear pump continues to pressurize to drain the water, to achieve the effect of doubling the head and realizing high head drainage.

Main application

It is suitable for normal production drainage and disaster relief drainage in underground coal mine tunnels and mining working faces; it can also be used for drainage in Coal Handing and Preparation Plant, tunneling projects, water conservancy projects and other places. It is suitable for discharging sewage containing solid particles such as suspended coal dust, rock chips, coal particles, sand, gravel and silt.

Working condition

(1)Rated voltage: 380V/660V or 660/1140V(Allowable Deviation ±5%)
(2)Rated frequency: 50Hz
(3)Submergence depth: ≤20m
(4)Medium temperature: ≤40°C
(5)Environmental temperature: 0-40℃
(6)Medium PH: 4-10
(7)Sediment solids content weight ratio: ≤20%
(8)Soilds passage: Not more than 50% of the minimum size of the flow section of the pump passage
(9)Medium density: ≤1100Kg/m³
(10)NPSHr： ≤4.8m

BQS

BQS series performance parameters

Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Rated output powe		Rated voltage (KV)	Rated current (A)	Synchronous speed (r/min)	Rlectric efficiency (%)	Maximum diameter of passed particle (mm)	Outlet diameter (mm)
				(KW)	(HP)						
1	BQS10-23-1.5	10	23	1.5	2	380/660 or 660/1140	3.65/2.11 or 2.11/1.22	3000	28.9	6	50
2	BQS15-20-1.5	15	20						33.9	6	50
3	BQS10-28-2.2	10	28	2.2	3	380/660 or 660/1140	5.12/2.95 or 2.95/1.70	3000	29.2	15	50
4	BQS35-7-2.2	35	7						37.8	15	50
5	BQS15-22-2.2	15	22						33.9	15	50
6	BQS25-10-2.2	25	10						37.6	15	50
7	BQS25-15-3/B	25	15	3	4	380/660 or 660/1140	6.67/3.84 or 3.84/2.22	3000	38	15	40
8	BQS15-25-3/B	15	25						31	15	40
9	BQS35-15-3	35	15						41	11	80
10	BQS40-10-3	40	10						41.7	11	80
11	BQS50-15-4	50	15	4	5	380/660 or 660/1140	8.79/5.07 or 5.07/2.92	3000	43.3	10	80
12	BQS15-30-4/B	15	30						31.5	10	40
13	BQS20-28-4/B	20	28						34.7	10	40
14	BQS22-22-4/B	22	22						37.6	10	40
15	BQS35-18-4/B	35	18						41.5	10	40
16	BQS30-30-5.5	30	30	5.5	7	380/660 or 660/1140	11.65/6.7 or 6.7/3.87	3000	37.9	18	50
17	BQS70-18-5.5	70	18						45.9	30	100
18	BQS20-40-5.5/B	20	40						33.5	5	40
19	BQS40-20-5.5/B	40	20						43	10	40
20	BQS25-30-5.5/B	25	30						35.5	10	40
21	BQS15-55/2-5.5/B	15	55						31.5	10	40
22	BQS30-36-7.5	30	36	7.5	10	380/660 or 660/1140	15.7/9.1 or 9.1/5.25	3000	38.2	18	50
23	BQS80-16-7.5	80	16						46.9	30	100
24	BQS75-25-7.5	75	25						46.5	30	100
25	BQS140-7-7.5	140	7						45.1	30	100
26	BQS100-12-7.5	100	12						44.3	30	100
27	BQS20-50-7.5/B	20	50						33.5	5	40
28	BQS15-70/2-7.5/B	15	70						32	5	40
29	BQS50-30-7.5/B	50	30						44	10	40
30	BQS40-38-7.5/B	40	38						38.4	10	40
31	BQS20-68/2-11/N	20	68	11	15	380/660 or 660/1140	23.82/3.79 or 3.79/7.95	3000	35.4	10	65
32	BQS30-58/2-11/N	30	58						39.4	7	65
33	BQS40-40-11/N	40	40						37.7	7	65
34	BQS150-15-11/N	150	15						46.1	30	100
35	BQS100-20-11/N	100	20						48.2	30	100
36	BQS80-20-11/N	80	20						43.5	30	100
37	BQS50-38-11/N	50	38						42.1	10	65
38	BQS80-20-11	80	20				22.07/12.74/7.36	1500	43.5	30	100
39	BQS100-22-15	100	22	15	20	380/660 or 660/1140	29.90/17.26/9.97	1500	47.3	30	100
40	BQS20-80/2-15/N	20	80				31.74/18.32 or 18.32/10.58	3000	35.5	10	65
41	BQS40-50-15/N	40	50						38.2	5	65
42	BQS60-35-15/N	60	35						43.5	30	100
43	BQS80-25-15/N	80	25						44.0	30	100
44	BQS32-67/2-15/N	32	67						39.2	30	65
45	BQS150-20-15/N	150	20						49.1	30	100
46	BQS20-100/2-18.5/N	20	100	18.5	25	380/660 or 660/1140	37.16/21.45 or 21.45/12.38	3000	33.9	6	65
47	BQS30-80/2-18.5/N	30	80						38.6	6	65
48	BQS70-35-18.5/N	70	35						47.0	15	100

Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Rated output powe		Rated voltage (KV)	Rated current (A)	Synchronous speed (r/min)	Rlectric efficiency (%)	Maximum diameter of passed particle (mm)	Outlet diameter (mm)
				(KW)	(HP)						
49	BQS80-30-18.5/N	80	30	18.5	25	380/660 or 660/1140	37.16/21.45/12.38	3000	47.3	15	100
50	BQS60-40-18.5/N	60	40						44.2	15	100
51	BQS100-30-18.5	100	30				36.00/20.78 or 20.78/12.00	1500	48.6	30	100
52	BQS200-15-18.5	200	15						52.54	30	100
53	BQS160-20-18.5	160	20						51.46	30	100
54	BQS30-105/2-22/N	30	105	22	30	380/660 or 660/1140	44.94/25.95 or 25.95/14.95	3000	38.3	10	65
55	BQS40-80/2-22/N	40	80						39.9	10	65
56	BQS80-40-22/N	80	40						48.1	12	100
57	BQS60-60-22/N	60	60						42.5	20	100
58	BQS100-35-22	100	35				42.3/24.42 or 24.42/14.1	1500	49.2	31	100
59	BQS165-30-22	165	30						50.2	30	100
60	BQS200-20-22	200	20						53.8	30	100
61	BQS50-100/2-30/N	50	100	30	40	380/660 or 660/1140	60.92/35.18 or 35.18/20.31	3000	42.4	10	100
62	BQS60-80-30/N	60	80						41	10	100
63	BQS80-60-30/N	80	60						45.1	10	100
64	BQS120-50-30/N	120	50						50.3	11	150
65	BQS200-22-30/N	200	22						50.7	15	150
66	BQS30-130/2-30/N	30	130						38.5	10	100
67	BQS70-100/2-37/N	70	100	37	50	380/660 or 660/1140	69.35/40.04 or 40.04/23.12	3000	45.91	10	100
68	BQS30-150/2-37/N	30	150						38.65	10	100
69	BQS50-120/2-37/N	50	120						37	10	100
70	BQS40-130/2-37/N	40	130						38.5	10	100
71	BQS80-80-37/N	80	80						43	10	100
72	BQS100-80-37/N	100	80						45.7	10	100
73	BQS350-25-37/N	350	25						45	30	100
74	BQS150-50-37/N	150	50						44.3	10	150
75	BQS200-30-37/N	200	30						53.3	12	150
76	BQS300-20-37/N	300	20						56	30	150
77	BQS600-10-37/N	600	10						47	30	200
78	BQS50-150/2-45/N	50	150	45	60	380/660 or 660/1140	86.88/50.16 or 50.16/29.00	3000	40.5	10	100
79	BQS110-90-45/N	110	90						54.5	18	100
80	BQS120-70-45/N	120	70						54.3	18	150
81	BQS85-100-45/N	85	100						47.4	10	150
82	BQS130-60-45/N	130	60						51.0	10	150
83	BQS170-50-45/N	170	50						53.89	18	150
84	BQS200-45-45/N	200	45						53.4	18	150
85	BQS300-30-45/N	300	30						53.9	18	150
86	BQS600-15-45/N	600	15						55.4	30	200
87	BQS900-10-45/N	900	10						56	30	300
88	BQS90-120/2-55/N	90	120	55	75	380/660 or 660/1140	107.3/61.95 or 61.95/35.77	3000	43.8	11	150
89	BQS120-80-55/N	120	80						46.7	11	150
90	BQS150-70-55/N	150	70						50.4	10	150
91	BQS200-60-55/N	200	60						53.8	11	150
92	BQS220-50-55/N	220	50						54.1	11	150
93	BQS240-30-55/N	240	30						53.6	18	65
94	BQS50-175/2-55/N	50	175						41.43	10	65
95	BQS70-136/2-55/N	70	136						44.55	10	100
96	BQS400-25-55	400	25				107.3/58.72 or 58.72/33.90	1500	57.5	30	200
97	BQS600-20-55	600	20						56	30	200
98	BQS800-15-55	800	15						57	30	250

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
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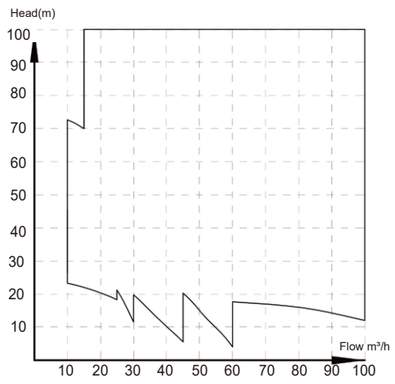
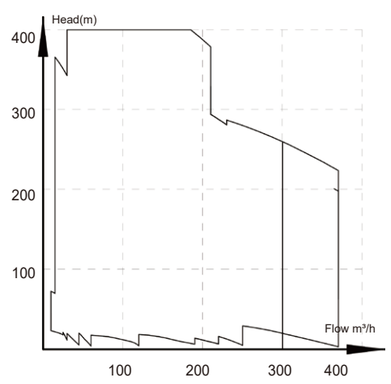
Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Rated output powe		Rated voltage (KV)	Rated current (A)	Synchronous speed (r/min)	Rlectric efficiency (%)	Maximum diameter of passed particle (mm)	Outlet diameter (mm)
				(KW)	(HP)						
99	BQS100-100-75/N	100	100	75	100	380/660 or 660/1140	144.67/83.53 or 83.53/48.23	1500	44.8	10	150
100	BQS150-90-75/N	150	90						49.33	11	150
101	BQS200-70-75/N	200	70						54.1	11	150
102	BQS50-210/2-75/N	50	210						41.67	11	100
103	BQS70-150/2-75/N	70	150						43.3	10	100
104	BQS400-30-75	400	30					1500	57.9	19	200
105	BQS500-20-75	500	20						58.9	19	200
106	BQS300-40-75	300	40						55.5	19	200
107	BQS800-20-75	800	20				137.5/79.39 or 79.39/45.84		56.0	30	250
108	BQS1100-15-75	1100	15						60.0	30	250
109	BQS50-240/2-90/N	50	240	90	120	380/660 or 660/1140	174.5/100.8 or 100.8/58.20	3000	41.83	10	100
110	BQS80-190/2-90/N	80	190						44.8	10	100
111	BQS100-150/2-90/N	100	150						45.5	10	100
112	BQS190-90-90/N	190	90						52.06	11	150
113	BQS220-70-90/N	220	70						55.1	11	150
114	BQS300-50-90/N	300	50						56.4	13	150
115	BQS500-35-90	500	35				163.7/94.51 or 94.51/54.57	1500	57.5	19	200
116	BQS280-65-90	280	65						51	19	200
117	BQS900-20-90	900	20						57.6	30	300
118	BQS60-260/3-110/N	60	260	110	150	380/660 or 660/1140	212.2/122.52 or 122.52/70.74	3000	42.79	10	100
119	BQS90-200/3-110/N	90	200						45.33	10	100
120	BQS100-180/2-110/N	100	180						46.2	10	100
121	BQS150-120/2-110/N	150	120						52.3	10	100
122	BQS200-110-110/N	200	110						50.93	11	150
123	BQS300-80-110/N	300	80						57.4	11	150
124	BQS400-60-110	400	60				201.0/116.51 or 116.51/67.26	1500	55.1	16	200
125	BQS600-40-110	600	40						61.15	19	200
126	BQS1500-15-110	1500	15						61	30	300
127	BQS60-300/4-132/N	60	300	132	180	380/660 or 660/1140	253.23/146.21 or 146.21/84.41	3000	43.74	10	100
128	BQS150-150/2-132/N	150	150						51.22	10	150
129	BQS240-120/2-132/N	240	120						56.41	10	150
130	BQS300-90-132/N	300	90						57.73	10	150
131	BQS700-40-132	700	40				240.4/138.8 or 138.8/80.14	1500	61.9	16	200
132	BQS800-35-132	800	35						62.6	16	200
133	BQS60-380/4-160/N	60	380	160	220	380/660 or 660/1140	305.25/176.24 or 176.24/101.76	3000	43.45	10	100
134	BQS100-245/3-160/N	100	245						47.26	10	100
135	BQS150-210/3-160/N	150	210						46.2	10	150
136	BQS350-90-160/N	350	90						56.8	10	150
137	BQS190-180/3-160/N	190	180						55.76	10	150
138	BQS300-100-160/N	300	100						57.35	10	150
139	BQS1200-25-160	1200	25				287.8/166.18 or 166.18/95.94	1500	60.5	19	300
140	BQS600-50-160	600	50						61.1	16	200
141	BQS500-60-160	500	60						58.5	16	200
142	BQS1000-30-160	1000	30						63.6	19	300
143	BQS160-200/3-185/N	160	200	185	250	380/660 or 660/1140	332.76/192.12 or 192.12/110.92	1500	48.06	11	150
144	BQS240-175/3-185/N	240	175						51.24	11	150
145	BQS600-60-185	600	60						61.1	16	200
146	BQS800-50-185	800	50						62.6	19	200
147	BQS900-40-185	900	40						63.1	19	300
148	BQS80-350/4-185/N	80	350				352.92/203.78/117.66		45.31	10	100
149	BQS80-400/4-200/N	80	400	200	270	380/660 or 660/1140	352.95/203.78 or 203.78/117.66	3000	45.05	10	100
150	BQS200-200/4-200/N	200	200					1500	50.62	11	150
151	BQS320-120/2-200/N	320	120				359.4/207.58 or 207.5/119.80		53.37	11	150
152	BQS150-250/4-200/N	150	250						47.97	11	150
153	BQS1100-35-200	1100	35						64	19	300
154	BQS1200-30-200	1200	30						62.3	19	300
155	BQS1500-25-200	1500	25						61.2	19	300

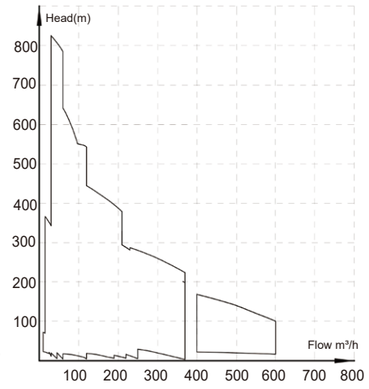
Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Rated output powe		Rated voltage (KV)	Rated current (A)	Synchronous speed (r/min)	Rlectric efficiency (%)	Maximum diameter of passed particle (mm)	Outlet diameter (mm)
				(KW)	(HP)						
156	BQS80-450/4-220/N	80	450	220	300	380/660 or 660/1140	419.72/242.33/139.91	3000	44.69	10	100
157	BQS150-270/4-220/N	150	270				395.34/228.25 or 228.25/131.78	1500	48.31	11	150
158	BQS220-220/4-220/N	220	220						51.26	11	150
159	BQS260-180/3-220/N	260	180						52.33	11	150
160	BQS200-240/4-220/N	200	240						50.28	10	150
161	BQS320-150/3-220/N	320	150						55.37	10	150
162	BQS150-300/5-250/N	150	300	250	340	380/660 or 660/1140	466.64/268.67 or 268.67/155.54	1500	48.49	19	150
163	BQS230-250/4-250/N	230	250						51.44	19	150
164	BQS300-185/3-250/N	300	185						53.31	19	150
165	BQS400-150/3-250/N	400	150						56.97	19	200
166	BQS500-100-250/N	500	100						60	25	200
167	BQS630-80-250/N	630	80						61.5	25	200
168	BQS800-70-250/N	800	70						62.5	25	250
169	BQS1000-50-250/N	1000	50						65	30	300
170	BQS1500-40-250/N	1500	40						67	30	300
171	BQS80-480/4-250/N	80	480				476.95/274.61/158.98	300	44.8	10	100
172	BQS150-350/5-280/N	150	350	280	380	380/660 or 660/1140	522.63/300.91 or 300.91/174.21	1500	48.13	10	150
173	BQS200-300/5-280/N	200	300						50.37	10	150
174	BQS250-250/5-280/N	250	250						52.15	10	150
175	BQS320-180/4-280/N	320	180						55.46	10	150
176	BQS400-160/3-280/N	400	160						56.79	19	200
177	BQS500-120/3-280/N	500	120						60.9	19	200
178	BQS630-90-280/N	630	90						61.5	25	200
179	BQS800-80-280/N	800	80						62.5	25	250
180	BQS1000-58-280/N	1000	58						65	30	300
181	BQS1500-45-280/N	1500	45						67	30	300
182	BQS150-425/6-315/N	150	425	315	430	380/660 or 660/1141	587.96/338.52 or 338.52/195.98	1500	48.3	10	150
183	BQS200-350/6-315/N	200	350						50.4	10	150
184	BQS300-300/4-315/N	300	300						52.5	10	150
185	BQS350-200/4-315/N	350	200						56.1	10	150
186	BQS400-180/3-315/N	400	180						55.8	19	200
187	BQS500-135/3-315/N	500	135						60.9	19	200
188	BQS700-100-315/N	700	100						57.8	25	200
189	BQS800-90-315/N	800	90						64	25	250
190	BQS1000-70-315/N	1000	70						64.2	30	300
191	BQS1500-55-315/N	1500	55						66.3	30	300

BQS series mining explosion-proof submersible drainage pump（Flow≤100m³/h,Head≤100m）



BQS series mining explosion-proof submersible drainage pump（Flow≤400m³/h,Head≤400m）





Note: BQS samples + statistical experimentalreports are combined to form the maximum range, while not counting BQS pumps with flows above 500 m³/h

WQ(B) SERIES MINING EXPLOSION-PROOF SUBMERSIBLE DRAINAGE PUMP

- No overpower at all head points
- Independent cascade mechanical seal and double-end faces mechanical seal
- Smooth operation, high reliability and low energy consumption
- IPx8/IP68 motor protection grade
- F/H insulation grade

WQ(B)

WQ(B) series External mounted electric pump

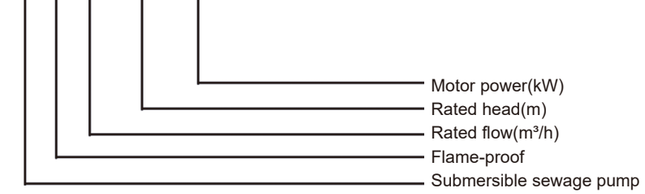
Main application

The product is used for sewage discharge in the IIB / IIC factory where the temperature group is T1-T4 of combustible gas and explosive mixture of steam and air. It is suitable for coal chemical industry, petrochemical industry, municipal engineering, urban engineering, hospital, hotels, residential areas and other places.

Working condition

1.Meeting the requirements of explosion-proof in accordance with the product flame -proof mark
2.Supply power: 380v/660v,660v/1140v, 3 phase, 50Hz,can be customized.
3.Medium temperature: 0-40℃ (there will be other hot water pump model above this temperature range)
4.Medium PH value: 5-9
5.Medium density: ≤1100kg/m³
6.Maximum depth: 20m

Model and meaning

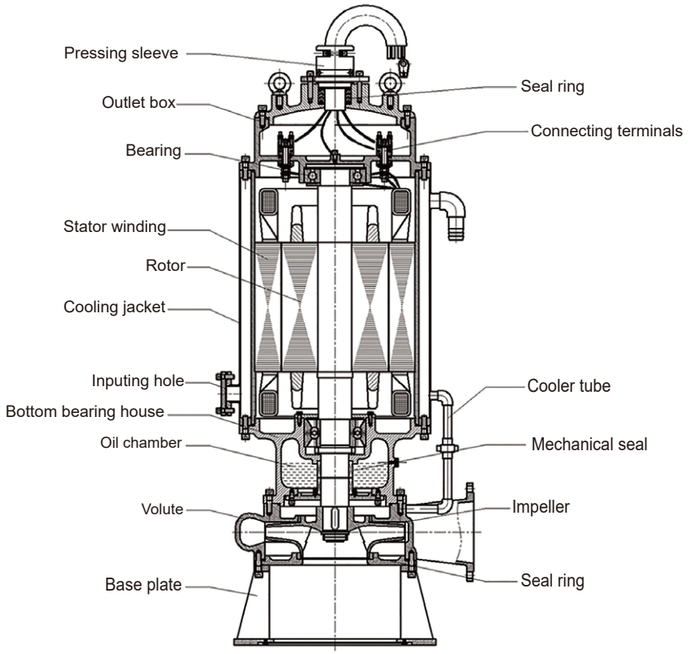


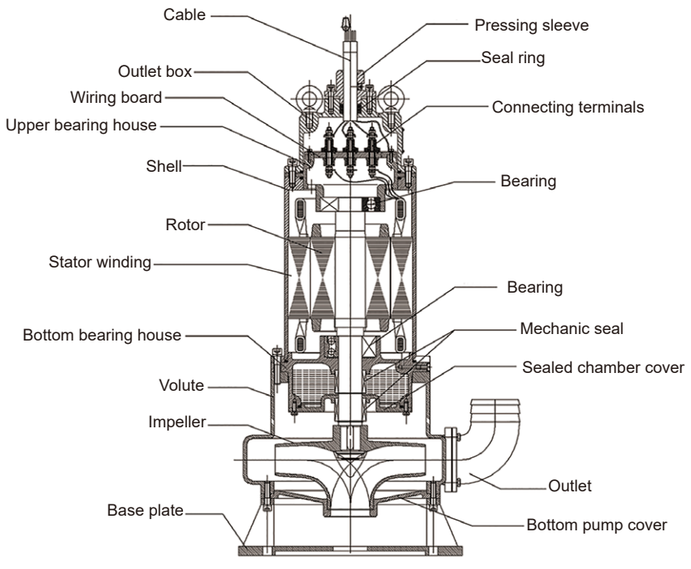
Explosion-proof main point

When the explosive gas mixture in the explosive-proof submersible sewage pump motor explodes, explosive-proof shell shall not be damaged and the internal flame will not cause further explosion. The parts of explosive shell are tested by water pressure tests according to GB3836.2- -2000 standard to ensure maximum internal pressure explosion.
The explosive-proof submersible sewage pump is marked as ExdIIBT4/ExdIICT4, which is suitable for factory IIB/IIC class, temperature group is T1-T4 of combustible gas and explosive mixture of steam and air. The maximum surface temperature must be in accordance with following list:

Temperature Group	TI	T2	T3	T4
Maximum surface temperature	450	300	200	200

WQ(B)series -External mounted electric pump





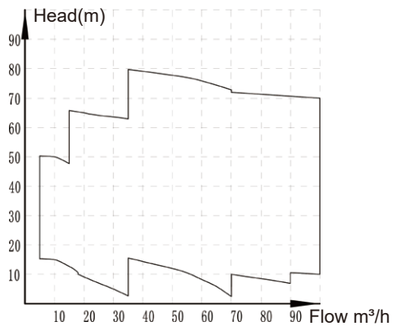
WQ(B)

WQB series performance parameters

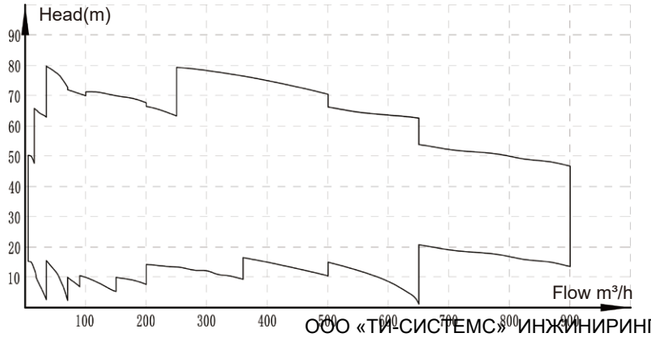
Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Synchronous speed (r/min)	Rated output powe		Efficiency (%)	Outlet diameter (mm)
					(KW)	(HP)		
1	WQB25-7-1.5	25	7	3000	1.5	2	30	50
2	WQB10-10-1.5	10	10				31	
3	WQB10-15-1.5	10	15				31	
4	WQB15-10-1.5	15	10				32	
5	WQB15-15-1.5	15	15				32.5	
6	WQB10-20-2.2	10	20	3000	2.2	3	31	50
7	WQB15-22-2.2	15	22				32.5	
8	WQB20-15-2.2	20	15				35	
9	WQB20-20-2.2	20	20				35	
10	WQB25-10-2.2	25	10				36	
11	WQB15-25-3	15	25	3000	3	4	31.5	50
12	WQB17-25-3	17	25				32	
13	WQB25-15-3	25	15				37	
14	WQB30-18-3	30	18				37.5	
15	WQB35-10-3	35	10				38	
16	WQB40-12-3	40	12				41.1	65
17	WQB52-7-3	52	7				41.5	80
18	WQB15-32-4	15	32	3000	4	5	34.6	50
19	WQB20-22-4	20	22				41	
20	WQB20-30-4	32	30				41	
21	WQB25-22-4	25	22				37.8	
22	WQB25-28-4	25	28				37.8	
23	WQB30-20-4	30	20				38	
24	WQB50-15-4	50	15				43.3	80
25	WQB20-40-5.5	20	40	3000	5.5	7	34	50
26	WQB25-32-5.5	25	32				38	
27	WQB30-30-5.5	30	30				44	
28	WQB40-20-5.5	40	20				44.5	
29	WQB40-23-5.5	40	23				44.5	
30	WQB50-20-5.5	50	20				45	
31	WQB70-18-5.5	70	18				45.8	80
32	WQB30-36-7.5	30	36	3000	7.5	10	44.5	50
33	WQB30-40-7.5	30	40				44.5	
34	WQB40-35-7.5	40	35				45	
35	WQB75-20-7.5	75	20				55	80
36	WQB100-12-7.5	100	12				55.3	100
37	WQB25-48-11	25	48	1500	11	15	39	50
38	WQB40-40-11	40	40				46	80
39	WQB50-35-11	50	35				56	
40	WQB80-20-11	80	20				56.5	100
41	WQB40-50-15	40	50	1500	15	20	44	80
42	WQB50-40-15	50	40				45	
43	WQB100-22-15	100	22				48.6	100
44	WQB170-18-15	170	18				56.5	150
45	WQB200-15-15	200	15				57	
46	WQB50-50-18.5	50	50	1500	18.5	25	45	80
47	WQB80-35-18.5	80	35				47	100
48	WQB100-30-18.5	100	30				48	
49	WQB150-25-18.5	150	25				57.5	150

Serial number	Model	Rated flow (m^3/h)	Rated head (m)	Synchronous speed (r/min)	Rated output powe		Efficiency (%)	Outlet diameter (mm)
					(KW)	(HP)		
50	WQB40-80-22	40	80	1500	22	30	44	80
51	WQB50-65-22	50	65				45	
52	WQB60-50-22	60	50				45.8	
53	WQB80-40-22	80	40				47	
54	WQB100-40-22	100	40				52	100
55	WQB150-30-22	150	30				59.3	150
56	WQB200-20-22	200	20				60	
57	WQB300-15-22	300	15				61	200
58	WQB80-60-30	80	60	1500	30	40	48.5	80
59	WQB200-30-30	200	30				59	150
60	WQB300-20-30	300	20				61	200
61	WQB100-60-37	100	60	1500	37	50	58.5	150
62	WQB150-45-37	150	45				62	
63	WQB150-50-37	150	50				62	
64	WQB350-25-37	350	25				69.5	250
65	WQB500-15-37	500	15				72	
66	WQB150-50-45	150	50	1500	45	60	57	150
67	WQB400-25-45	400	25				66	200
68	WQB500-20-45	500	20				67	250
69	WQB600-15-45	600	15				69	
70	WQB150-70-55	150	70	1500	55	75	58	150
71	WQB200-50-55	200	50				59	200
72	WQB400-30-55	400	30				66.6	
73	WQB500-25-55	500	25				68.3	250
74	WQB300-50-75	300	50	1500	75	100	60.5	200
75	WQB400-40-75	400	40				67	
76	WQB220-70-90	220	70	1500	90	120	58.5	150
77	WQB300-60-90	300	60				62	200
78	WQB500-35-90	500	35				64	200
79	WQB600-28-90	600	28				68	250
80	WQB400-60-110	400	60	1500	110	150	69.8	250
81	WQB600-40-110	600	40				70	250
82	WQB1000-15-110	1000	15				73	300
83	WQB600-50-132	600	50	1500	132	180	70	200
84	WQB500-60-132	500	60				69	
85	WQB700-50-160	700	50	1500	160	220	71.3	250
86	WQB1000-30-160	1000	30				75	350
87	WQB800-50-185	800	50	1500	185	250	72.3	250
88	WQB1000-40-185	1000	40				73.8	300
89	WQB1200-40-200	1200	40	1500	200	270	76	350

WQ(B) series explosion-proof submersible sewage pump (Flow≤100m³/h)



Note: WQB samples + statistical experimental reports are combined to form the maximum range, while not counting WQB pumps with flows above 800m³/h



BQG

BQG series mining pneumatic diaphragm pump

Outstanding features

1. Low energy consumption, environmental friendly;
2. Compact design, light weight, simple operation, wide application;
3. Pneumatic design, safe and reliable;
4. No damage to the pump during on load or overload condition;
5. Reciprocating motion without pause, high efficiency.

Working condition

a) Pump any fluid medium as long as the medium concentration (volume ratio) is less than 15%.
b) The maximum diameter of solid particles should not be over 9mm.
c) Working temperature 5-50℃.
d) Medium PH 6-8.
e) Medium temperature should not be over 50℃.
f) Pressure range 0.4MPa -0.8MPa.

Model and meaning

BQ G □ / □

- Output pressure (MPa)
- Rated flow (l/min)
- Diaphragm
- Mining pneumatic pump

BQG170/0.25Z represents mining automatic diaphragm pump; rated flow is 170L/min,output pressure is 0.25Mpa.

Performance parameters

Model	Flow (L/min)	Output pressure (Mpa)	Air consumption (m^3/h)	Rated air pressure (Mpa)	Weight (kg)	Dimension (mm)	Inlet/Outlet diameter (inch)
BQG170/0,25	170	0,25	0,5-1,5	0,6	25	490×400×340	1,5
BQG140/0,3	140	0,3	0,5-1,5	0,6	25	490×400×340	1,5
BQG100/0,4	100	0,4	0,5-1,5	0,6	25	490×400×340	1,5
BQG230/0,25	230	0,25	0,5-1,5	0,6	25	490×400×340	1,5
BQG180/0,3	180	0,3	0,5-1,5	0,6	25	490×400×340	1,5
BQG100/0,5	100	0,5	0,5-1,5	0,6	25	490×400×340	1,5
BQG350/0,2	350	0,2	1,2-2	0,6	33	644×438×390	2
BQG125/0,45	125	0,45	1,2-2	0,6	33	644×438×390	2
BQG250/0,3	250	0,3	1,2-2	0,6	33	644×438×390	2
BQG380/0,3	380	0,3	1,2-2	0,6	33	644×438×390	2
BQG400/0,25	400	0,25	1,2-2	0,6	33	644×438×390	2
BQG150/0,5	150	0,5	1,2-2	0,6	33	644×438×390	2
BQG450/0,3	450	0,3	1,5-2,5	0,6	55	890×538×477	3
BQG450/0,2	450	0,2	1,5-2,5	0,6	55	890×538×477	3
BQG200/0,4	200	0,4	1,5-2,5	0,6	55	890×538×477	3
BQG320/0,3	320	0,3	1,5-2,5	0,6	55	890×538×477	3
BQG500/0,2	500	0,2	1,5-2,5	0,6	55	890×538×477	3
BQG620/0,2	620	0,2	1,5-2,5	0,6	55	890×538×477	3
BQG700/0,12	700	0,12	1,5-2,5	0,6	55	890×538×477	3
BQG280/0,5	280	0,5	1,5-2,5	0,6	55	890×538×477	3

FQW

FQW series mining pneumatic submersible pump

Outstanding features

1.Low noise, kept within 40 decibels, can be dived, and there is no noise in diving;
2.Small air consumption and high efficiency.
3.Small size, light weight, compact structure and portability.
4.The whole pump is made of cast steel, with a longer service life and few wearing parts, which is easy to maintain

Performance parameters

Model	Rated flow (m^3/h)	Rated head (m)	Working pressure (Mpa)	Air consumption (m^3/h)	Weight (kg)	Dimension (mm)	Outlet diameter (mm)	Outlet diameter (mm)
FQW30-18/W	30	18	0,5	3,5~4,5	17,5	412×297	50	25
FQW20-25/W	20	25	0,5	3,5~4,5	17,5	412×297	50	25
FQW20-40/W	20	40	0,5	3,5~4,5	17,5	412×297	50	25
FQW25-10	25	10	0,5	3,5~4,5	17,5	412×297	50	25

Outstanding features

1.Low noise, kept within 40 decibels
2.Small air consumption and high efficiency.
3.Small size, light weight, compact structure and portability.

Model and meaning

FQW □ □ -- □ / □ □

- Hydraulic turbine type characteristic code: Open (K); Closed (void)
- Type code: Vortex (W); Vane (void)
- Rated head (m)
- Rated flow (m3/h)
- Transmission medium code: Sewage (W); Clean water (void)
- Mining pneumatic submersible pump

Performance parameters

Model	Rated flow (m^3/h)	Rated head (m)	Working pressure (Mpa)	Air consumption (m^3/h)	Weight (kg)	Dimension (mm)	Outlet diameter (mm)
FQW20-25/W	20	25	0,5	4,5~5	30	347×274×462	40
FQW20-40/W	20	40	0,5	4,5~5	34	329×274×495	40
FQW40-20/W	40	20	0,5	4,5~5	31	347×274×462	40
FQW25-50/W	25	50	0,5	4,5~5	35	329×274×495	40
FQW30-18/W	30	18	0,5	4,5~5	35	329×274×495	40
FQW50-25/W	50	25	0,5	4,5~5	32	347×274×462	40
FQW48-12/W	48	12	0,5	4,5~5	31	347×274×462	40

QYF

QYF series mining pneumatic desilting pump

Outstanding features

1. Strong desilting capacity. It can pump flow materials with high solid contents.
2. Pneumatic products, no electronic parts, safe and reliable.
3. Compact structure, ingenious design, automatic operation.
4. No contact between moving parts and medium, wear-resistance, stable operation and long service life.
5. No damage during no-load or overload, easy maintenance.
6. Small size, light weight, portability, easy operation and wide application.
7. Low energy consumption and environmental friendly.

Working condition

a) Inlet of the suction pipe submerges into the water.
b) Medium temperature should not be over 40℃.
c) Working environment temperature 5-40℃.
d) Medium PH 4-10.
e) The maximum diameter of solid particle should not be over 20mm.
f) Air pressure 0. 40MPa-0.70MPa.

Model and meaning

QY F □ - □

- Head (m)
- Flow (m3/h)
- Pneumatic
- sewage desilting pump

Model example: QYF20-20 represents mining sewage desilting pump medium for sewage, dirt, silt, etc. Rated flow is 20m3/h, rated head is 20m.

Performance parameters

Model	Flow (m^3/h)	Pump head (m)	Rated wind pressure (Mpa)	limiting vacuum (Mpa)	Air consumption (m^3/h)	Weight (kg)	Dimension (mm)	Input/Output Diameter (inch)
QYF10-20	10	20	0,6	0,08	2,5~3	216	1830×750×950	3
QYF14-20	14	20	0,6	0,08	3~3,5	235	1773×600×1000	3
QYF17-20	17	20	0,6	0,08	3,5~4,5	256	1977×700×1100	3
QYF20-20	20	20	0,6	0,08	4,5~5,5	285	1593×800×1200	3
QYF25-20	25	20	0,6	0,08	6,5~7,5	285	1610×800×1200	3
QYF25-25	25	25	0,6	0,08	6,5~7,5	310	1891×879×1724	3
QYF20-30	20	30	0,6	0,08	7,5~8,5	310	1891×879×1724	3
QYF30-20	30	20	0,6	0,08	7,5~9,5	365	1610×879×1736	3
QYF30-25	30	25	0,6	0,08	8,5~10,5	365	1610×879×1736	3
QYF35-25	30	25	0,6	0,08	9,5~10,5	365	1610×879×1736	3

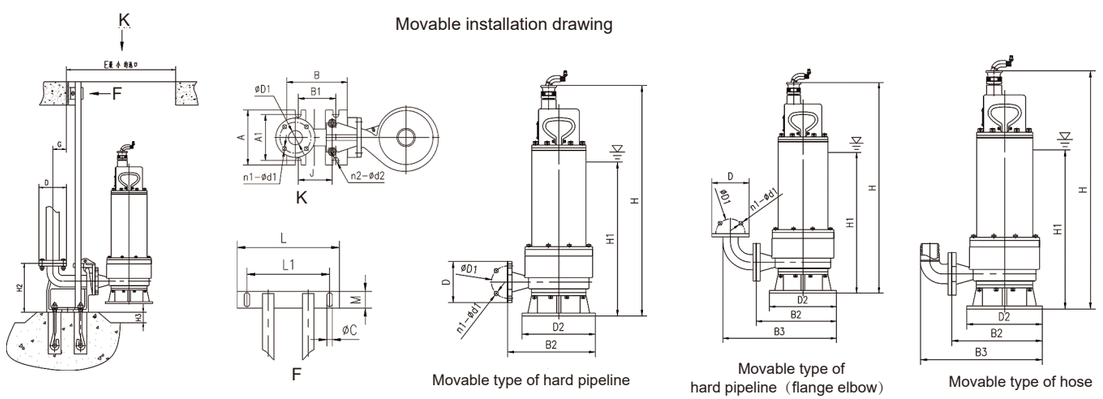
Installation method

Movable wet installation
The pump is connected with hose or steel pipe and put directly into the water without fixing, which is convenient to transfer to different sites.

Automatic coupling fixed wet mounting

The pump is automatically connected to the drain line using a coupling device. The pump is placed into the water along the guide rod and is automatically connected to the automatic drainage pipe. When lifting the pump, it is automatically loosened, and the installation and disassembly are extremely convenient.

Movable installation drawing



Movable type of hard pipeline

Movable type of hard pipeline（flange elbow）

Movable type of hose

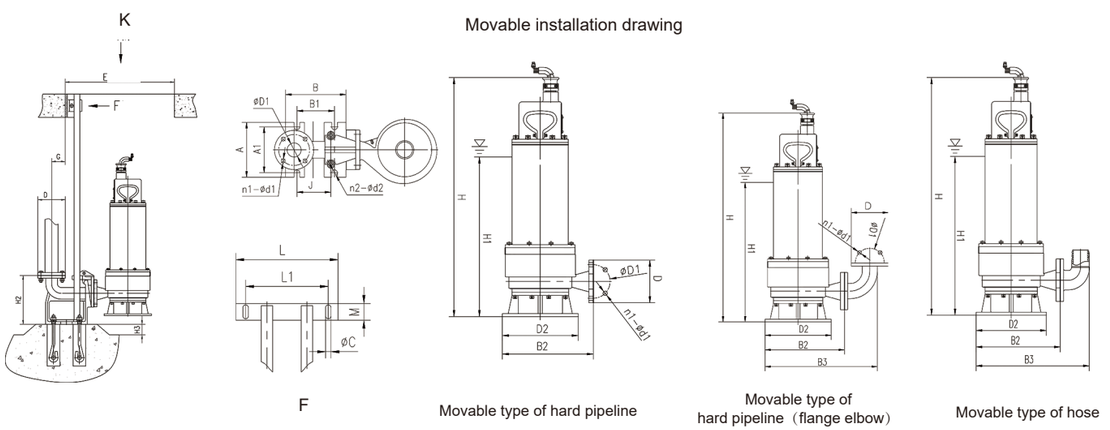
Vertical fixed dry installation

The pump is installed vertically in a clean pump pit beside the pool, and personnel can enter the pump pit to quick repair. Even if the pump pit is flooded, the pump can still operate normally.

Horizontal fixed dry installation

The pump is installed horizontally in a clean pump pit beside the pool, and personnel can enter the pump pit to quick repair. Even if the pump pit is flooded, the pump can still operate normally.

Movable installation drawing



Movable type of hard pipeline

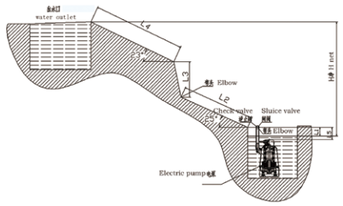
Movable type of hard pipeline（flange elbow）

Movable type of hose

Pump model selection

Find the desirable pump in the basic parameter charts according to the requirement of flow Q(m³/h) and head (m). The flow should be in the range from -2%to +5% of the requirement，head should be above 2%- 3% of the requirement.
As for how to choose the right pump, the following are some brief instructions that might be of help.
The flow stated on the pump' s nameplate and performance parameter chart is known as the rated flow，and the corresponding head is known as rated head (generally it is when the pump achieve the best performance). Assume that the speed of the pump keep the same, generally speaking, as the flow increase, the corresponding head will decrease, while the input (output) power of the motor will increase with the increase of the flow. If the flow excess the rated flow 1.2 times,the motor will run overload，leading to the burn of the submersible motor.
The flow is the amount of fluid delivered by the pump in one unit time; the head is the energy increment when one unit weight of fluid is pumped from the inlet to the outlet (In short,under the condition of no energy consumption, the head is the vertical height between the water surface inside the pump and the resulting water level when one unit weight of fluid is pumped, i.e. the vertical water level measured in meters).
Must know when choosing the head: 1.Net head - the vertical water level (m); 2.H(required) = H(net) + H(loss); 3.H(loss) - the energy loss when the fluid flow through parts like the pipe, valve and elbow, etc.

For example (as below):



As for the inclined shaft in mines，the net head cannot be measured directly, generally speaking, we can only know the slope angle and slope length.
As shown in figure: H net =L1+L2sin25 degrees+L3+L4sin23degrees.
If: L1=3m; L2=50m; L3=5m;L4=70m; L5=5m,
then:H net = 3+50sin25 degrees +5+70sin23 degrees
=3+50* 0.423+5+70*0.391=56.482(m)
The following table lists the sine function values for the common sloping slo.

Table 1： the common mine slope angle sine function value.

α°	Sinα°	α°	Sinα°	α°	Sinα°	α°	Sinα°
15°	0.259	20°	0.342	25°	0.423	30°	0.500
16°	0.276	21°	0.358	26°	0.433	31°	0.515
17°	0.292	22°	0.375	27°	0.454	32°	0.530
18°	0.309	23°	1.391	28°	0.470	33°	0.545
19°	0.326	24°	0.407	29°	0.485	34°	0.559

Pipe loss calculation: convert whole water pipe (including valve and elbow) into equivalent length, then look for the loss value according to flow volume and equivalent length from table 2.

Table 2： Straight pipe friction loss simple list （for estimating)

Pipe loss(m) Flow(m³/h) / Nominal diameter(mm)	15	20	25	30	40	50	70	80	100	120	150	200
50	10	17	21	28								
75	2	3	4	6	10	15	26	45				
100				2	3	4	6	9	12	20	25	35
125								3	5	8	15	22
150									1	2	4	7

Table 2 is the loss of each 100m steel pipe, plastic pipe loss of about 0.7 times the steel pipe. Rubber pipe loss is almost equal to steel pipes, cast iron pipe loss is about 1.4 times of steel pipers, old cast iron pipe loss is 2 times of new cast iron pipes.

Table 3: Each valve and elbow convert into straight pipe length;

kind	Equivalent length of pipe	Remarks
Open gate valve	13 times the diameter of the pipe	Double not fully open
Standard elbow	25 times the diameter of the pipe	
Check valve	100 times the diameter of the pipe	

Above figure w: 5m3/h, according to list 3, then calculate equivalent pipe length:
equivalent pipe length L=L5+L2+L3+L4+13×0.075+3×25×0.075+1×100×0.075
=5+50+5+70+0.975+5.625+7.5=144.1(m)
Loss every 100m is 15m from list 2 according to pipe diameter and flow volume.
H loss=15×144.1/100=21.615m
H need=H net+ H loss=56.482+21.615=78.097(m)
H rated = H need×(1.02~1.03)=(79~80) m
Find corresponding or similar pump type according to H rated (79~80m) and flow volume50m³/h from pump fundamental performance parameter and confirm the right one.

Order instructions

1.Please indicate the product model, product name, performance parameters (flow, head), installation, accessories when placing an order.
2.Please provide medium details including medium density, PH, solid content, particle size etc., we shall offer the proper model for your reference.

After-sales service

Currently, Antai pump has built 13 after-service sites at home and abroad, we can provide the service items as below:

- Technical training
- Equipment evaluation
- Installation and adjustment
- Trouble-shooting
- Maintenance and repairing
- The modification & improvement of equipment.