

WQ Non-clogging Submersible Sewage Pump

User Manual



Hebei Ivy Pump Industry Co., Ltd.

Product Overview

The WQ Series Non-Clogging Submersible Sewage Pumps are a new generation of pump products successfully developed by integrating advanced foreign technology with the specific operational characteristics of domestic pumps. They feature significant energy savings, anti-entanglement capabilities, clog-free operation, automatic installation, and automatic control. These pumps deliver exceptional performance in handling solid particles and long-fiber waste.

This series of pumps employs a unique impeller design and a new type of mechanical seal, enabling the effective conveyance of fluids containing solids and long fibers. Compared to traditional impellers, the impeller in this pump adopts a single-channel or dual-channel configuration, resembling a bend in a pipe with a uniform cross-sectional area, which provides excellent flow passage. Combined with a well-designed volute, this design ensures high efficiency. The impeller undergoes dynamic and static balancing tests, ensuring vibration-free operation.

The pump features advanced and proven hydraulic performance. Testing has confirmed that all performance indicators meet relevant standards. Since its launch, the product has been widely welcomed and highly praised by users for its unique effectiveness, reliable performance, and consistent quality.

Product Features

1. The design incorporates large-flow-channel, clog-resistant hydraulic components, significantly enhancing the pump's ability to handle debris. It can effectively pass fibrous materials up to five times the pump's diameter and solid particles with a diameter of approximately 50% of the pump's diameter.
2. The pump features a well-designed configuration with a properly matched motor, resulting in high efficiency and significant energy savings.
3. The pump shaft undergoes chrome plating, which greatly enhances its corrosion resistance and wear resistance, significantly extending the service life of the entire pump.
4. The connection between the cable and the motor utilizes an integrated vulcanized rubber sleeve, providing long-lasting and reliable waterproofing.
5. The mechanical seal employs a dual-stage series configuration made of hard, corrosion-resistant tungsten carbide, featuring durability and wear resistance, enabling the pump to operate safely and continuously for over 8,000 hours.
6. The pump features a compact design, small footprint, and is easy to move and install, eliminating the need for a pump house. It can operate simply by being submerged in water, significantly reducing project costs.
7. An oil-water sensor is installed in the pump's oil chamber. If the mechanical seal on the pump side fails and water enters the oil chamber, the sensor triggers an alarm to protect the pump.
8. A fully automatic safety protection control cabinet can be provided according to user needs to monitor for water leaks, electrical leaks, overloads, and overheating, ensuring reliable and safe pump operation.
9. The dual-rail automatic coupling installation system greatly facilitates pump installation and maintenance, eliminating the need for personnel to enter and exit the sewage pit.
10. The float switch automatically controls the pump's start and stop based on changes in the required water level, eliminating the need for dedicated supervision.
11. The motor is guaranteed not to overload within the specified head range.
12. Depending on the application, the motor can be equipped with a water-jacketed external circulation cooling system, ensuring safe operation of the electric pump even in a waterless (dry) state.
13. Two installation methods are available: fixed automatic coupling installation and mobile free installation, to accommodate different application scenarios.

Product Applications

1. Discharge of heavily polluted wastewater from industrial and commercial facilities.

3. Sewage pumping stations in residential areas.

5. Sewage discharge from hospitals and hotels.

7. Auxiliary equipment for exploration and mining operations.

9. Water supply systems in water treatment plants.
2. Drainage systems for municipal wastewater treatment plants.

4. Drainage stations for civil defense systems.

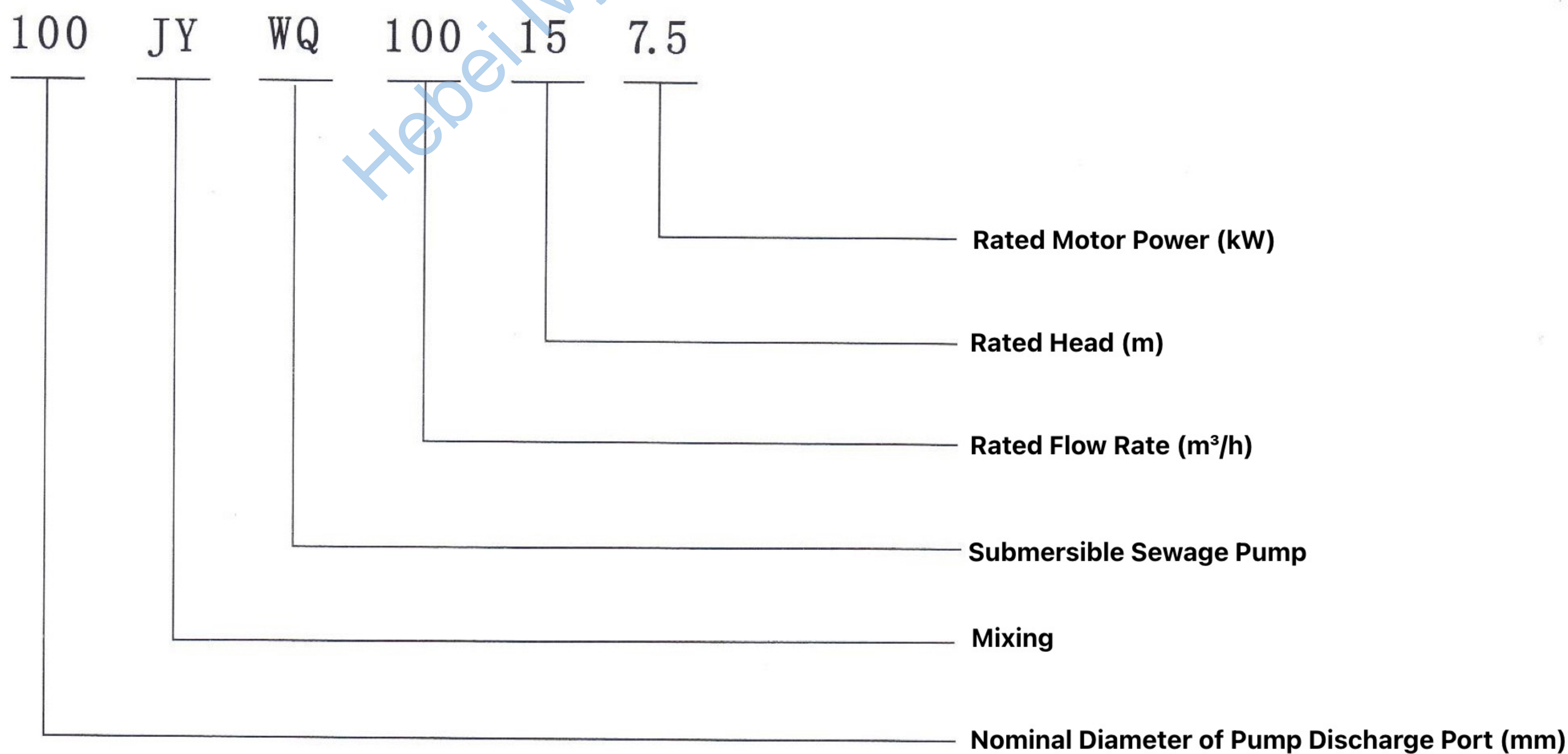
6. Municipal engineering and construction sites.

8. Farmland irrigation using rural biogas digesters.

Pump Operating Conditions

1. The medium temperature must not exceed 60°C, with a specific gravity of 1.0–1.3 kg/dm³ and a pH value within the range of 5–9.
2. For pumps without an internal self-circulating cooling system, no more than half of the motor should be exposed above the liquid surface.
3. Generally, the pump must be operated within its rated head range to ensure the motor is not overloaded. If operation across the full head range is required, this must be specifically noted at the time of ordering to allow the manufacturer to accommodate this requirement.
4. During operation, the pump motor current must not exceed the motor’s rated current.

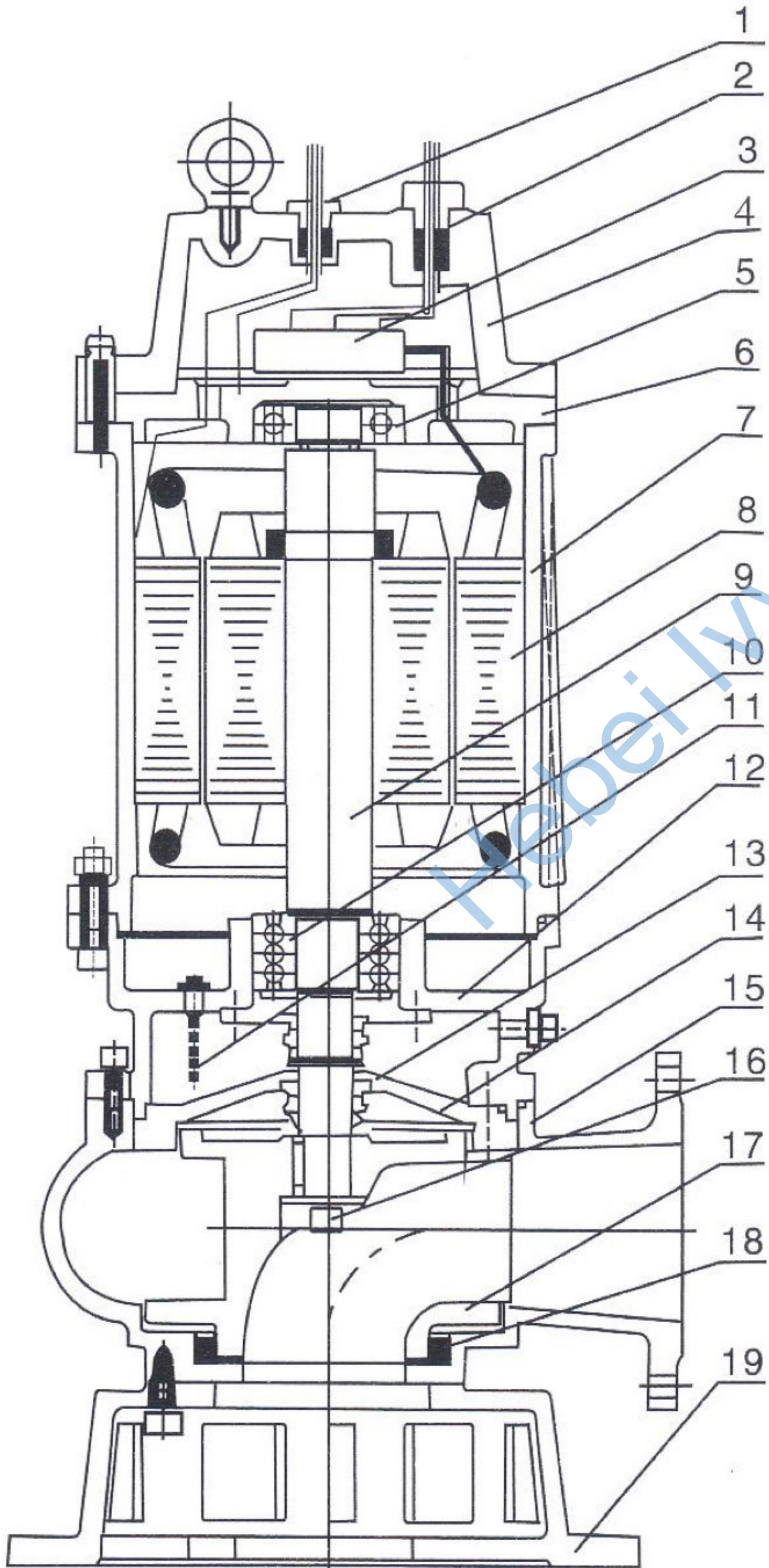
Model Designation



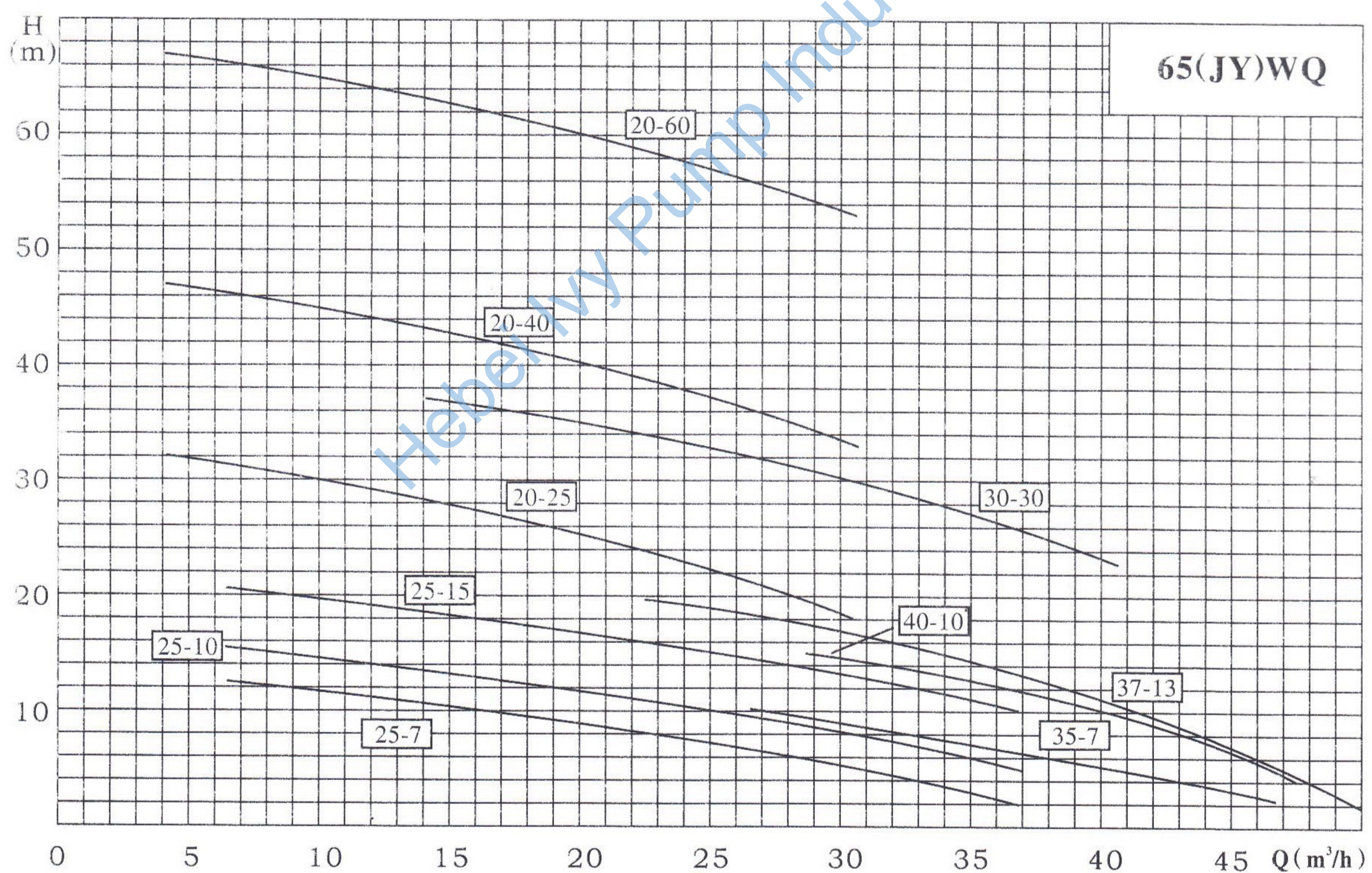
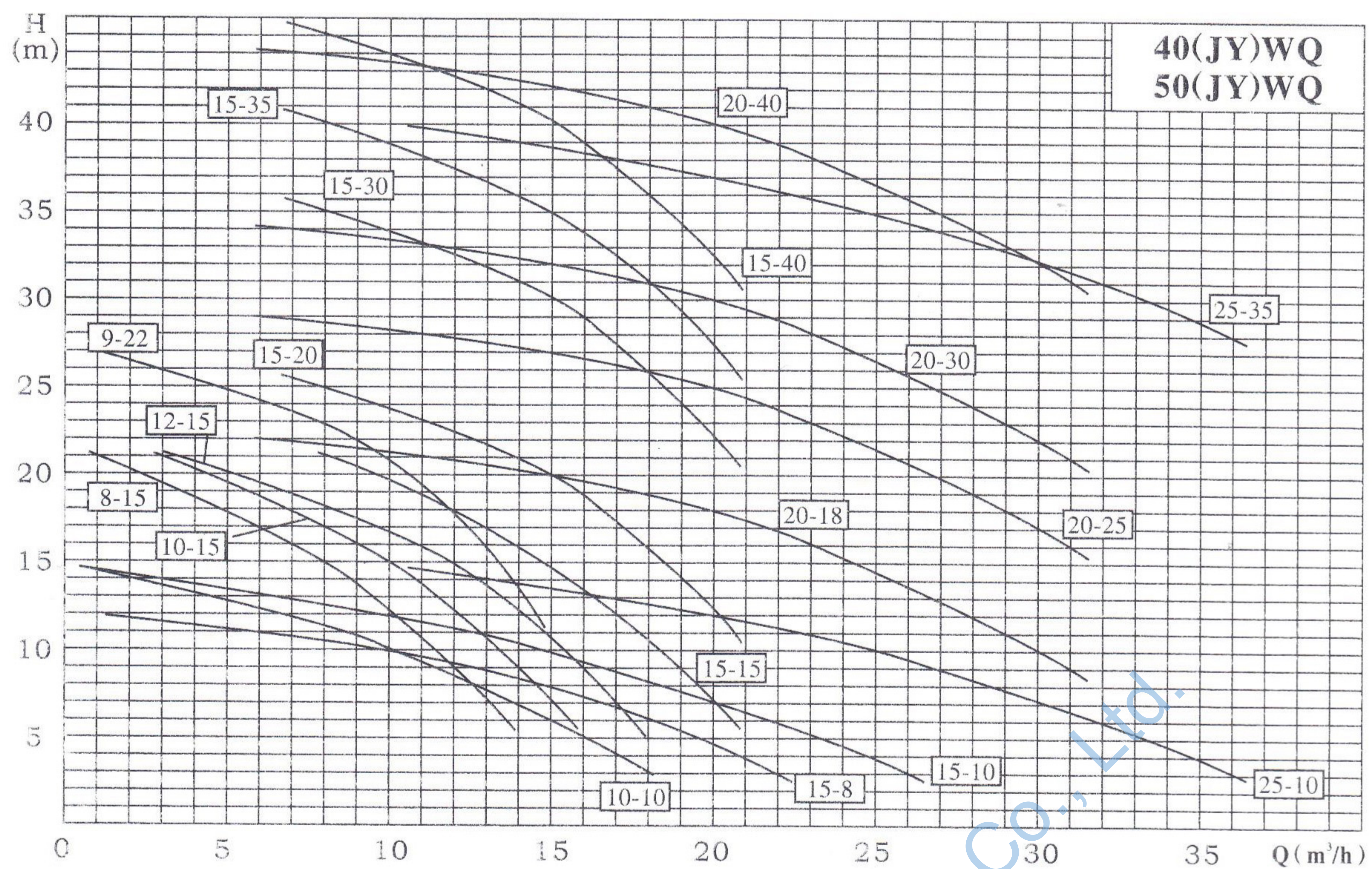
Structural Description

The WQ series non-clogging submersible sewage pump consists of a motor and a pump unit, separated by an oil-sealing chamber and a mechanical seal assembly. As a mechatronic product, the motor and pump share a single shaft (rotor), resulting in a short overall length and a compact design. Equipped with various protective devices, the pump operates safely and reliably. The functions of its main components are as follows:

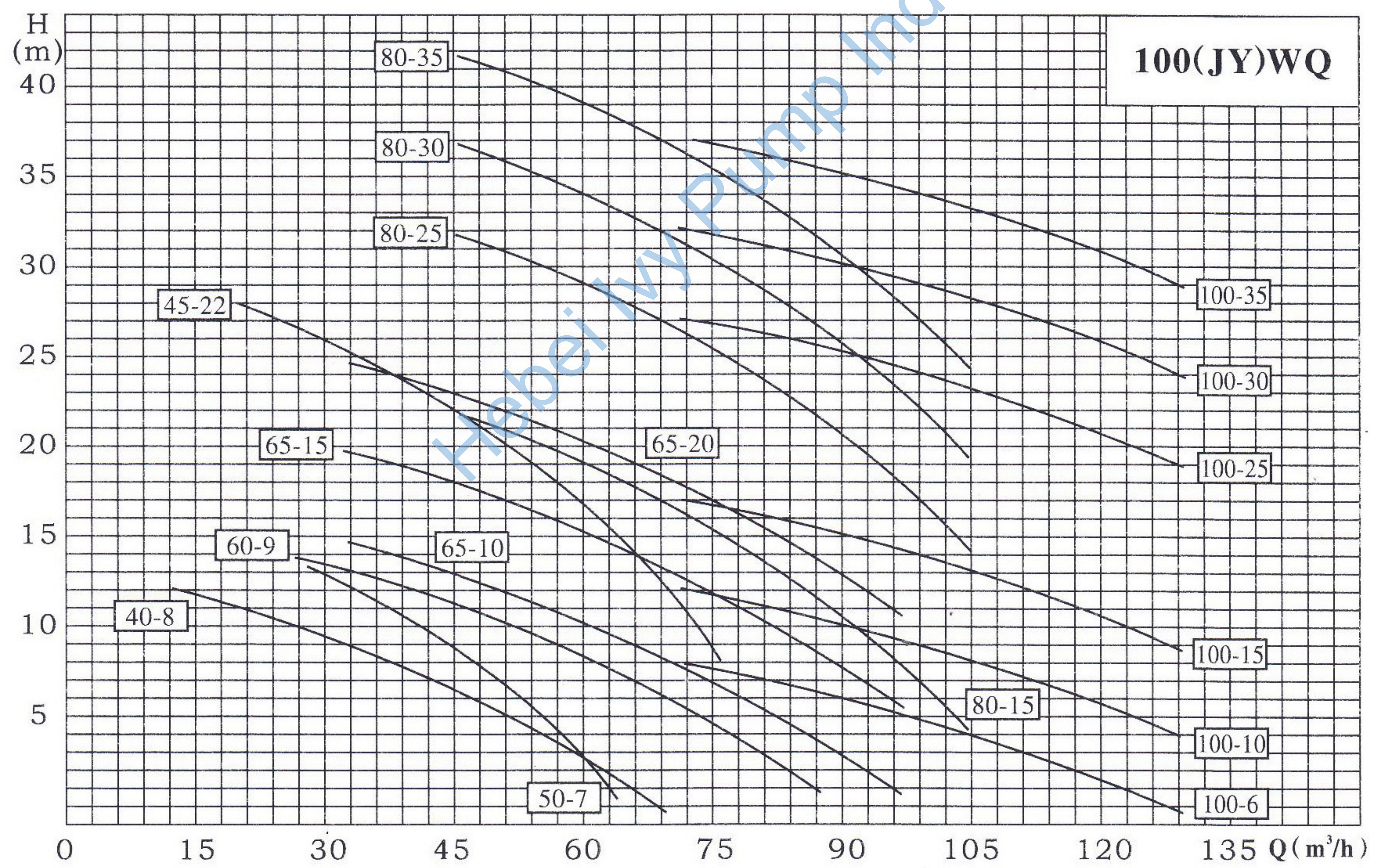
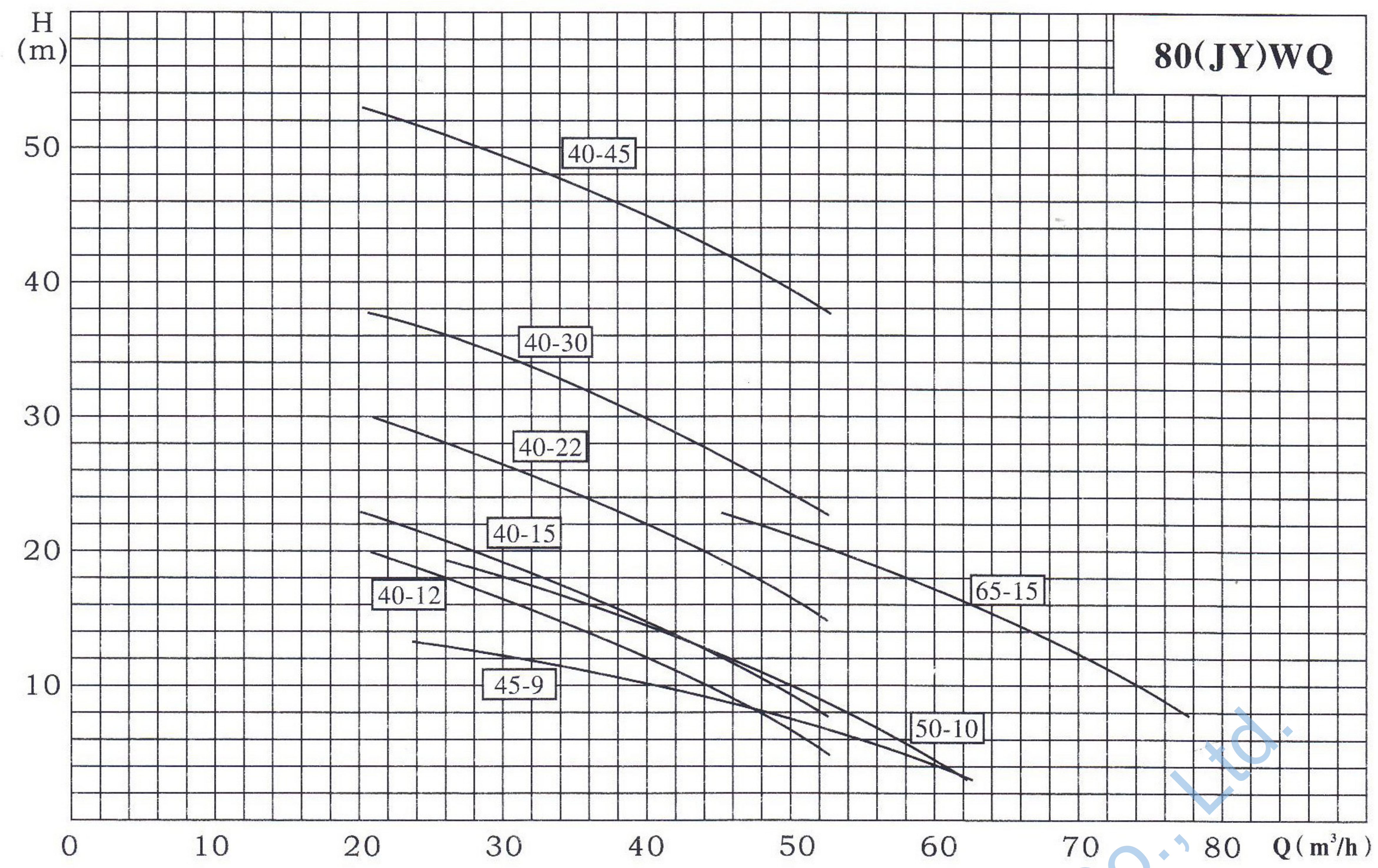
- Signal Wire 1: Equipped with a comprehensive pump control cabinet that provides all-around protection for the pump, including protection against water leakage, phase failure, short circuits, overheating, and motor overload.
- Motor Stator 8: Features Class B or Class F insulation.
- Water Leak Sensor 11: This component is installed in the oil chamber. If the mechanical seal fails and water enters the oil chamber, the sensor sends a signal to the control system to activate pump protection.
- Mechanical Seal 13: Features a dual-stage series seal made of a new type of hard, corrosion-resistant tungsten carbide material, offering reliable sealing, wear resistance, and a long service life.
- Impeller 17: The impeller features a single-channel or dual-channel design, providing strong passage capacity to handle large solids and fibrous debris, thereby reducing blockages and entanglement failures.
- Pump Housing 15: Designed to work in conjunction with the impeller, it ensures the pump operates at high efficiency.
- Seal Ring 18: Installed at the pump casing's wear ring, the seal ring can be replaced when the wear ring is worn due to impeller operation, ensuring the pump operates at optimal efficiency.

	1	Signal Cables	11	Oil-water sensor
	2	Motor Wiring	12	Oil Chamber
	3	Terminal Box	13	Mechanical Seal
	4	Motor Cover	14	Rear Cover Plate
	5	Bearing	15	Pump Housing
	6	Upper Bearing Housing	16	Impeller bolts
	7	Motor Housing	17	Impeller
	8	Stator	18	Seal Ring
	9	Shaft (Rotor)	19	Chassis
	10	Bearings		

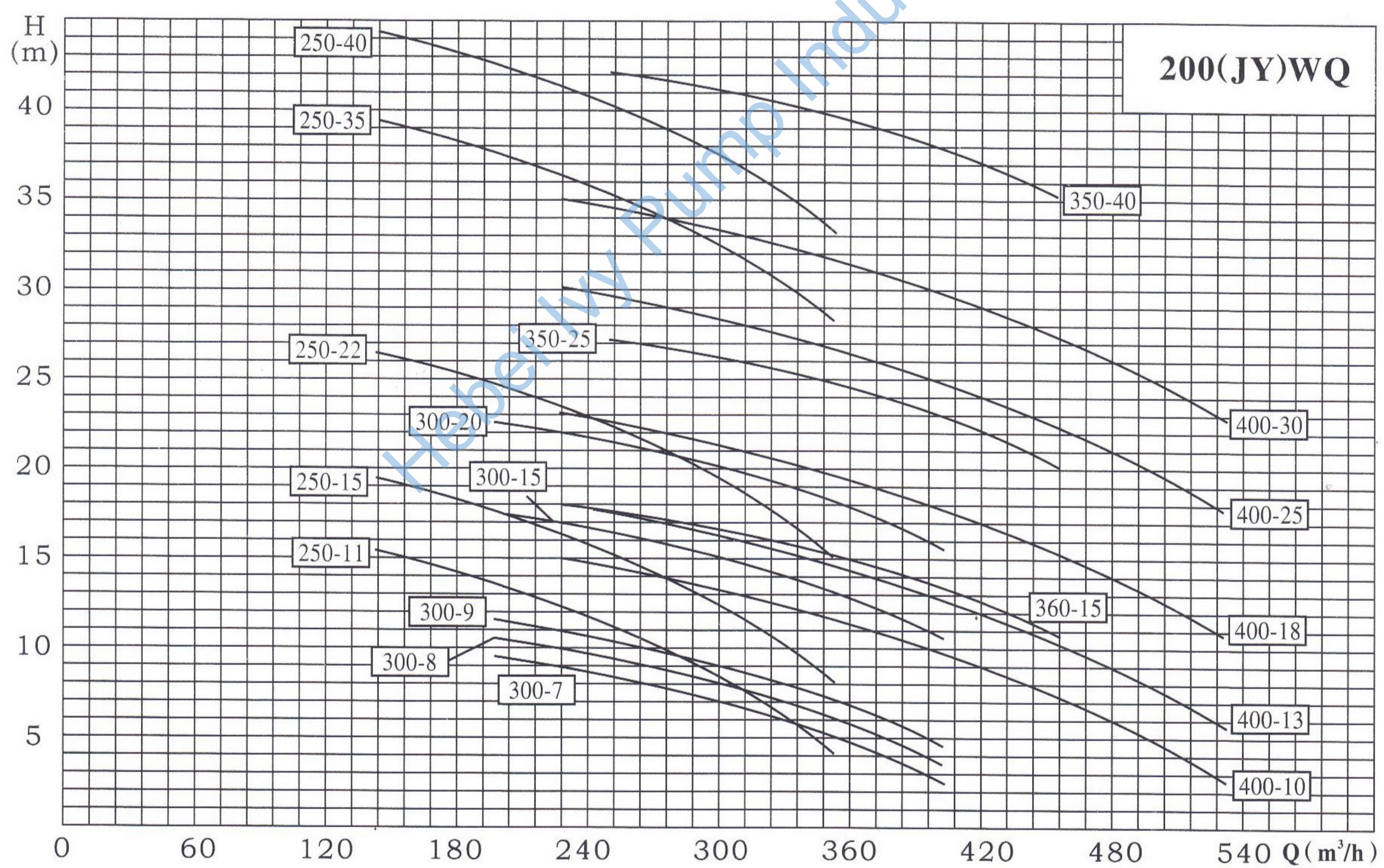
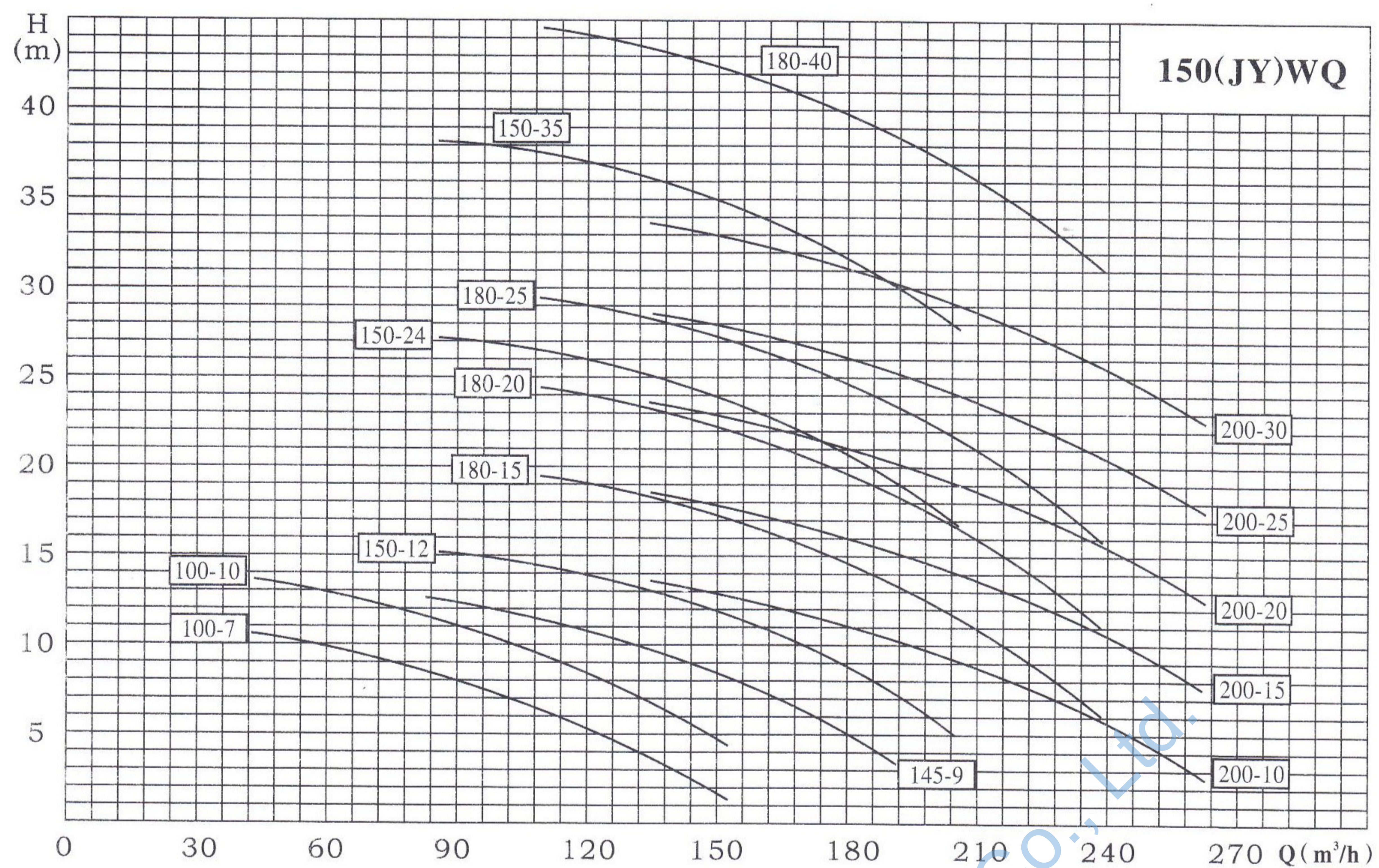
◆ Performance Curves



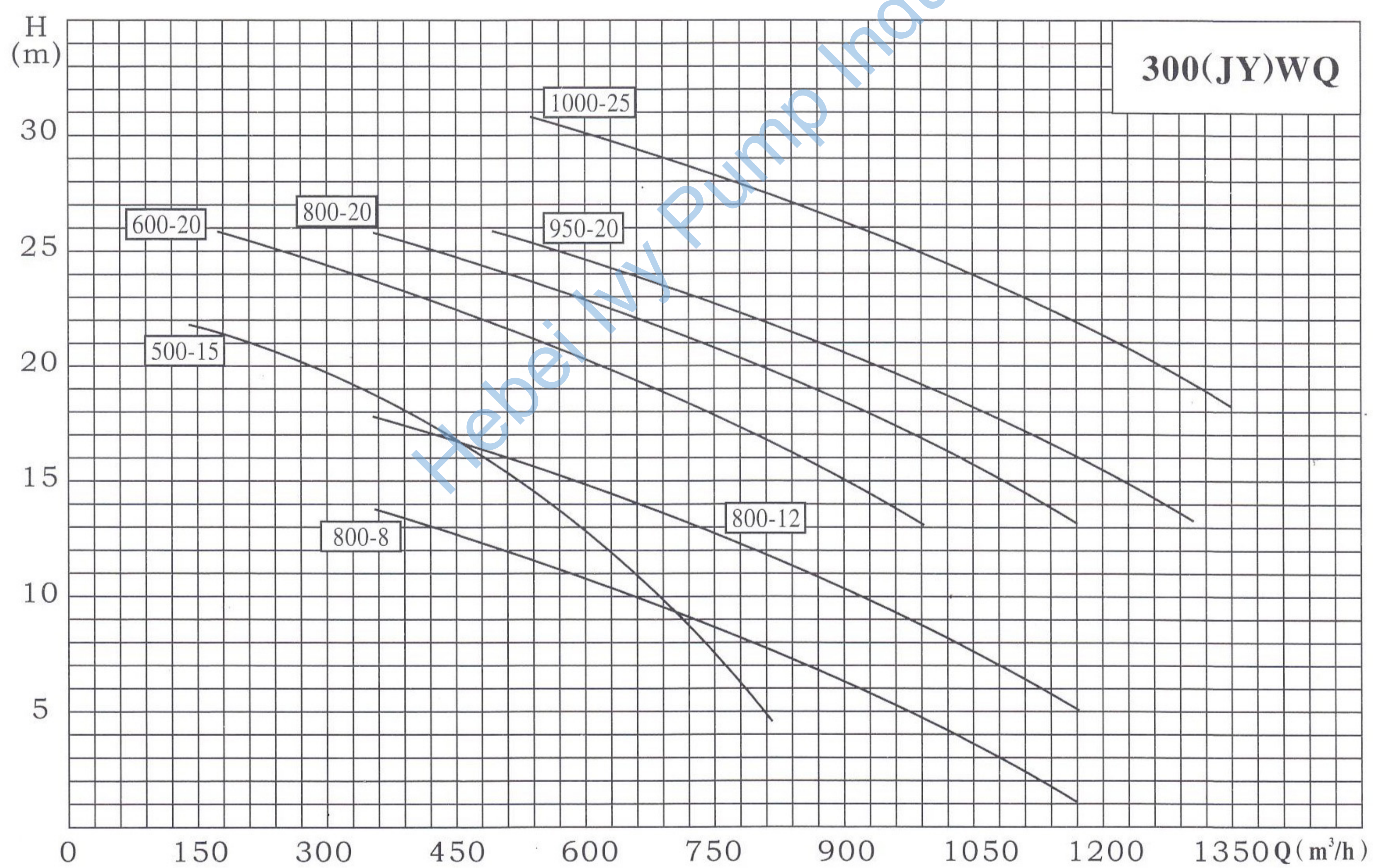
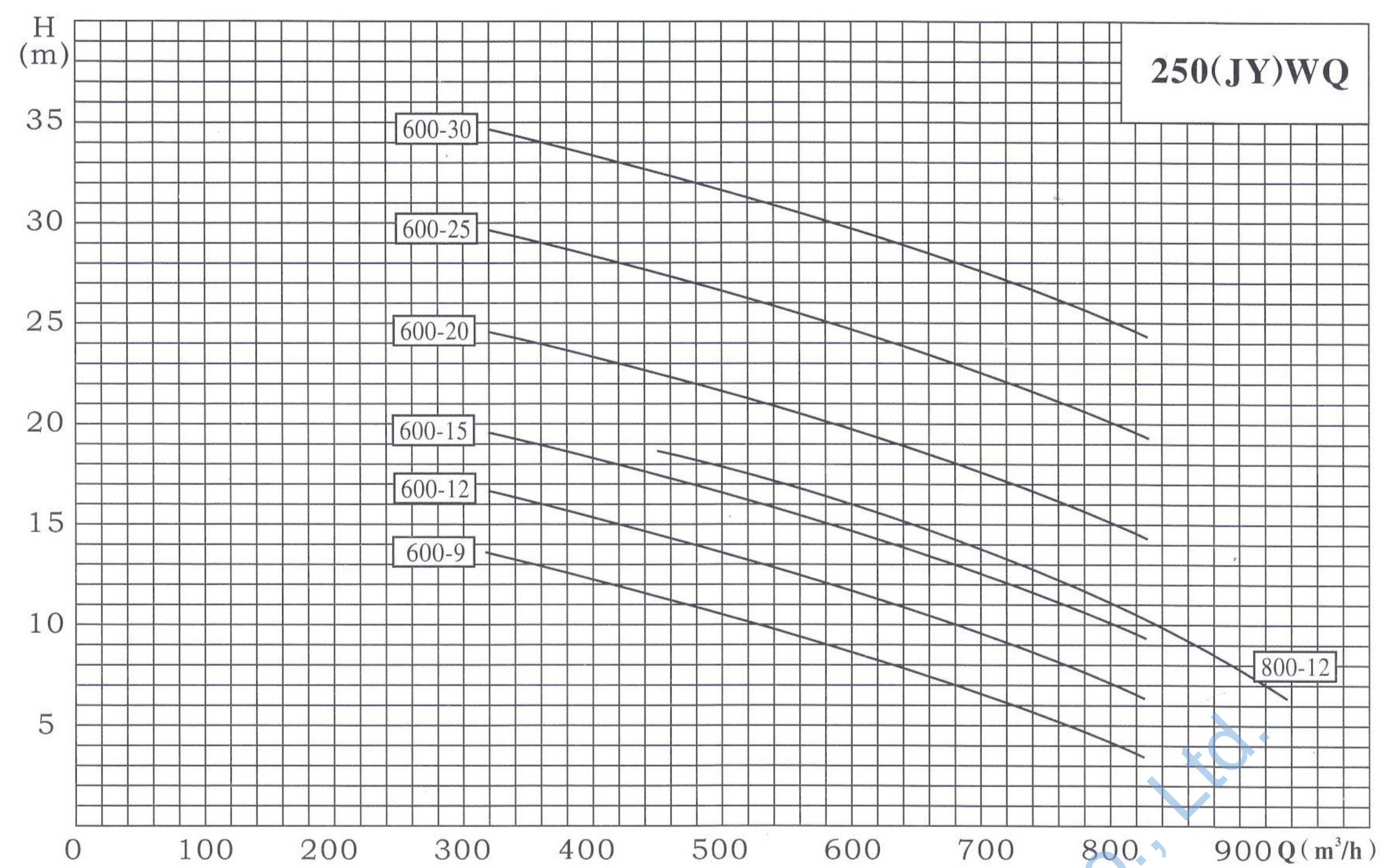
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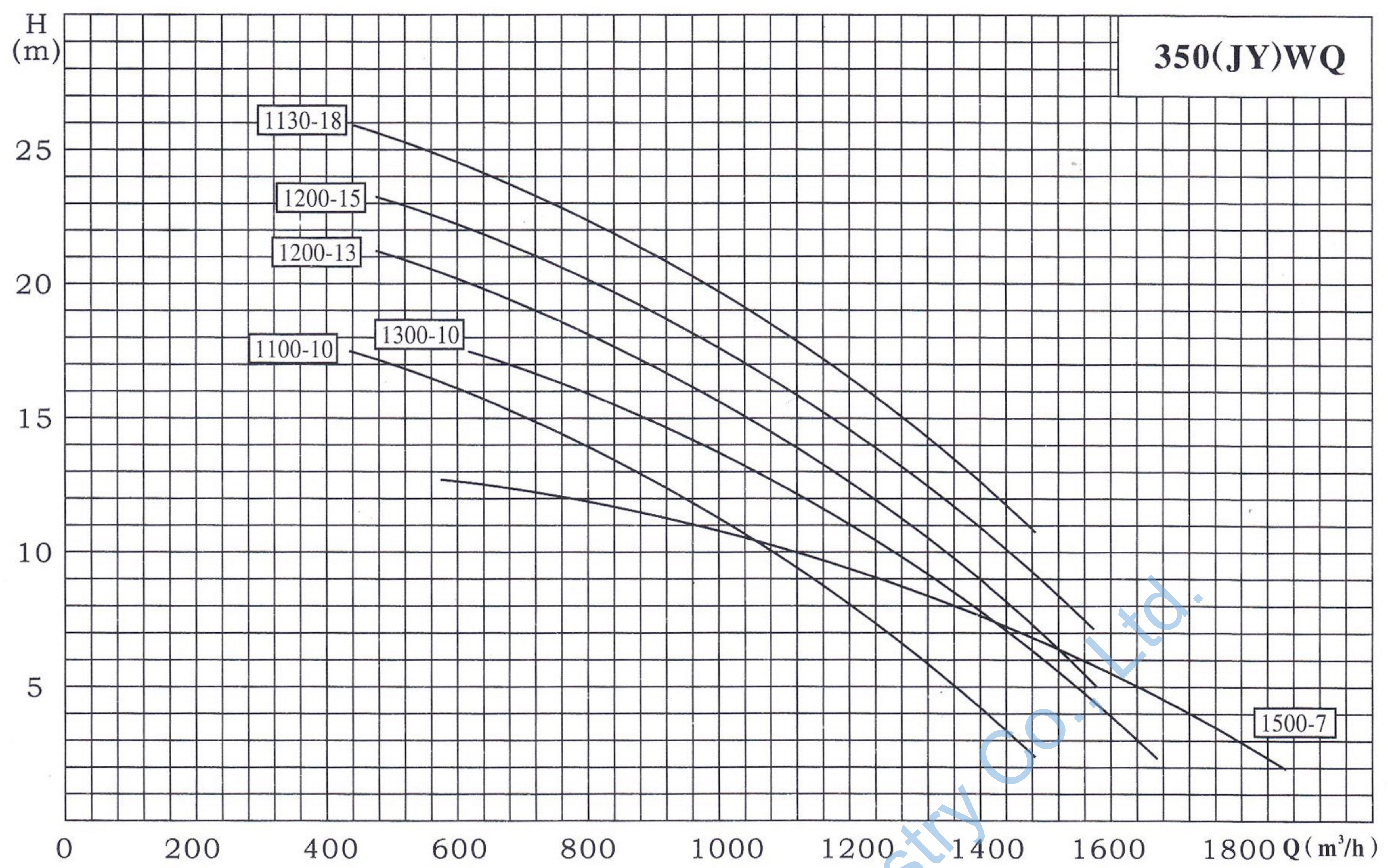
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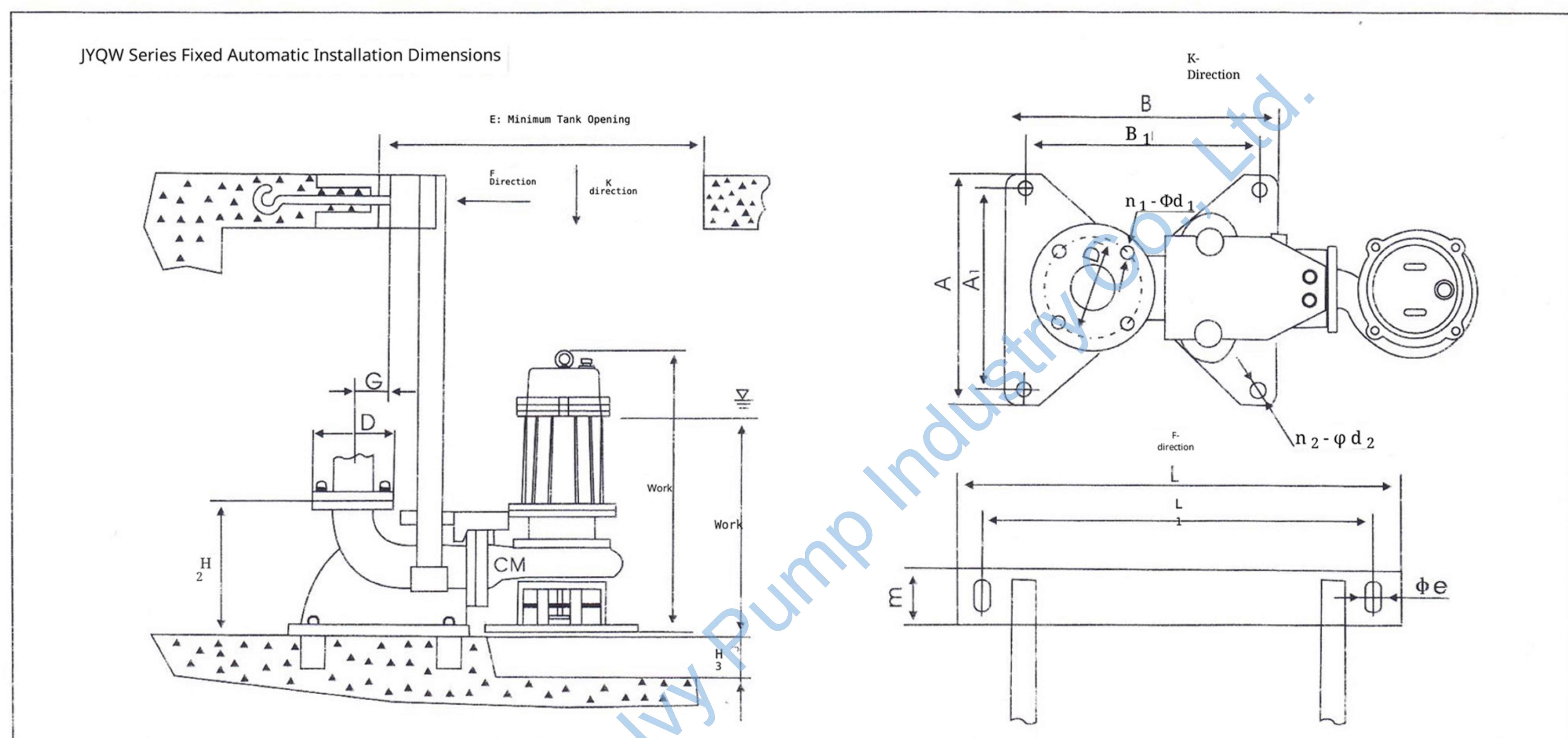
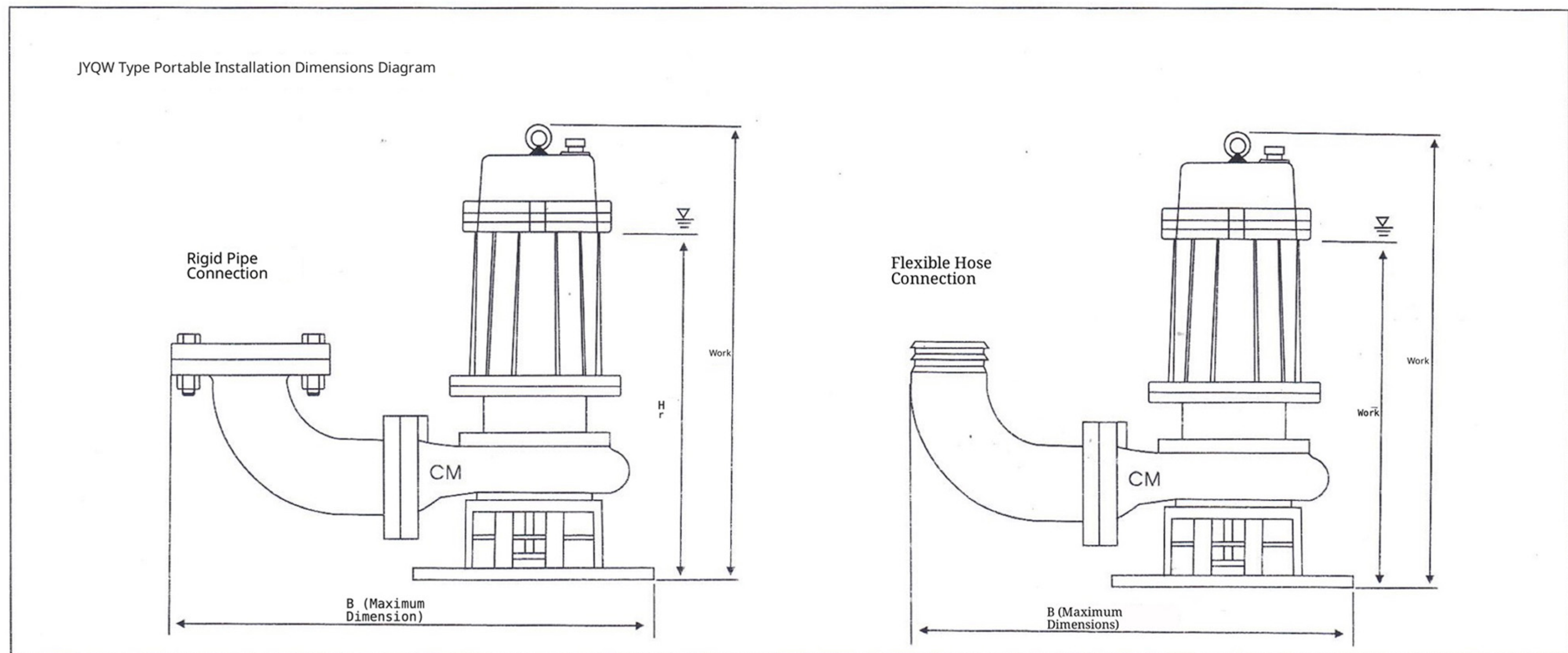


Model	Flow Rate Q	Head H	Rotational Speed	Power	Current	Maximum Permissible Particle Diameter	Overall Dimensions (mm)											Weight
	(m ³ /h)	(m)	(rpm)	(kw)	(A)	(mm)	H	H*	H1	H1*	B3	B2	D2	d	D	D1	n1-φd1	(kg)
40 (JY) WQ10-10-0.75	10	10	2860	0.75	2.0	20	350	400	300	350	320	230	190	40	130	100	4-φ 14	20
40 (JY) WQ8-15-1.1	8	15	2860	1.1	2.8	20	350	400	300	350	320	230	190	40	130	100	4-φ 14	20
40 (JY) WQ12-15-1.5	12	15	2860	1.5	4.0	20	540	590	490	540	330	240	190	40	130	100	4-φ 14	28
50 (JY) WQ10-10-0.75	10	10	2860	0.75	2.0	20	500	550	450	500	320	230	190	50	140	110	4-φ 14	22
50 (JY) WQ15-8-1.1	15	8	2860	1.1	2.8	20	500	550	450	500	320	230	190	50	140	110	4-φ 14	27
50 (JY) WQ8-15-1.1	8	15	2860	1.1	2.8	20	500	550	450	500	320	230	190	50	140	110	4-φ 14	27
50 (JY) WQ15-10-1.5	15	10	2860	1.5	4.0	20	500	550	450	500	330	240	200	50	140	110	4-φ 14	34
50 (JY) WQ10-15-1.5	10	15	2860	1.5	4.0	20	500	550	450	500	330	240	200	50	140	110	4-φ 14	34
50 (JY) WQ15-15-2.2	15	15	2860	2.2	6.0	20	540	590	490	540	340	250	200	50	140	110	4-φ 14	38
50 (JY) WQ25-10-2.2	25	10	2860	2.2	6.0	25	540	590	490	540	340	250	200	50	140	110	4-φ 14	38
50 (JY) WQ9-22-2.2	9	22	2860	2.2	6.0	20	540	590	490	540	340	250	200	50	140	110	4-φ 14	38
50 (JY) WQ20-18-2.2	20	18	2860	2.2	6.0	25	540	590	490	540	340	250	200	50	140	110	4-φ 14	38
50 (JY) WQ15-20-2.2	15	20	2860	2.2	6.0	20	540	590	490	540	340	250	200	50	140	110	4-φ 14	38
50 (JY) WQ20-25-3	20	25	2860	3	6.5	25	580	640	530	590	350	260	210	50	140	110	4-φ 14	48
50 (JY) WQ15-30-3	15	30	2860	3	6.5	20	580	640	530	590	350	260	210	50	140	110	4-φ 14	48
50 (JY) WQ15-35-4	15	35	2860	4	8.4	20	650	710	600	660	360	270	250	50	140	110	4-φ 14	65
50 (JY) WQ15-40-5.5	15	40	2860	5.5	12.0	20	680	740	630	690	390	300	250	50	140	110	4-φ 14	78
50 (JY) WQ20-30-5.5	20	30	2860	5.5	12.0	25	680	740	630	690	390	300	250	50	140	110	4-φ 14	78
50 (JY) WQ20-40-7.5	20	40	2860	7.5	16.8	25	680	740	630	690	370	280	250	50	140	110	4-φ 14	115
50 (JY) WQ25-35-7.5	25	35	2860	7.5	16.8	25	680	740	630	690	370	280	250	50	140	110	4-φ 14	115
65 (JY) WQ25-7-1.5	25	7	2860	1.5	4.0	25	550	600	450	500	330	230	200	65	160	130	4-φ 14	28
65 (JY) WQ35-7-2.2	35	7	2860	2.2	6.0	25	550	600	500	550	350	250	230	65	160	130	4-φ 14	38
65 (JY) WQ25-10-2.2	25	10	2860	2.2	6.0	25	550	600	500	550	350	250	200	65	160	130	4-φ 14	38
65 (JY) WQ25-15-3	25	15	2860	3	6.5	25	620	670	570	620	350	250	200	65	160	130	4-φ 14	50
65 (JY) WQ37-13-3	37	13	2860	3	6.5	25	620	670	570	620	350	250	200	65	160	130	4-φ 14	50
65 (JY) WQ40-10-3	40	10	2860	3	6.5	25	620	670	570	620	350	250	200	65	160	130	4-φ 14	50
65 (JY) WQ20-25-4	20	25	2860	4	8.4	25	650	700	600	650	370	270	240	65	160	130	4-φ 14	63
65 (JY) WQ30-30-5.5	30	30	2860	5.5	12.0	25	710	770	660	720	370	270	250	65	160	130	4-φ 14	78
65 (JY) WQ20-40-7.5	20	40	2860	7.5	16.8	25	800	860	760	820	450	350	250	65	160	130	4-φ 14	115
65 (JY) WQ20-60-11	20	60	2860	11	23.6	25	1000	1060	950	1010	630	530	270	65	160	130	4-φ 14	150
80 (JY) WQ45-9-2.2	45	9	2860	2.2	6.0	30	550	600	500	550	380	270	230	76	190	150	4-φ 18	45
80 (JY) WQ43-13-3	43	13	2860	3	6.5	30	620	680	570	630	380	270	230	76	190	150	4-φ 18	50
80 (JY) WQ40-15-4	40	15	2860	4	8.4	30	680	740	630	690	450	340	230	76	190	150	4-φ 18	80
80 (JY) WQ50-10-4	50	10	2860	4	8.4	30	680	740	630	690	450	340	230	76	190	150	4-φ 18	60
80 (JY) WQ30-30-5.5	65	15	2860	5.5	12.0	30	730	790	680	740	440	330	250	76	190	150	4-φ 18	115
80 (JY) WQ40-22-5.5	40	22	2860	5.5	12.0	30	820	880	770	830	460	350	250	76	190	150	4-φ 18	80
80 (JY) WQ40-30-7.5	40	30	2860	7.5	16.8	30	820	880	770	830	460	350	360	76	190	150	4-φ 18	115

Model	Flow Rate Q	Head H	Rotational Speed	Power	Current	Maximum Permissible Particle Diameter	Overall Dimensions (mm)											Weight
	(m ³ /h)	(m)	(rpm)	(kw)	(A)	(mm)	H	H*	H1	H1*	B3	B2	D2	d	D	D1	n1 – φ d 1	(k g)
80 (JY) WQ40-45-11	40	45	2860	11	23.6	30	850	910	780	840	500	390	360	76	190	150	4- φ 18	200
100 (JY) WQ40-8-2.2	40	8	2860	2.2	6.0	30	550	600	500	550	430	270	230	100	210	170	4- φ 18	45
100 (JY) WQ50-7-2.2	50	7	2860	2.2	6.0	30	550	600	500	550	430	270	230	100	210	170	4- φ 18	45
100 (JY) WQ60-9-3	60	9	2860	3	6.5	30	600	660	550	610	430	270	230	100	210	170	4- φ 18	50
100 (JY) WQ65-10-4	65	10	2860	4	8.4	30	680	740	630	690	480	320	230	100	210	170	4- φ 18	60
100 (JY) WQ65-15-5.5	65	15	2860	5.5	12.0	30	730	790	680	740	480	320	250	100	210	170	4- φ 18	83
100 (JY) WQ65-20-7.5	65	20	2860	7.5	16.8	30	850	910	800	860	480	320	360	100	210	170	4- φ 18	116
100 (JY) WQ80-25-11	80	25	1450	11	23.6	35	1000		950		710	550	420	100	210	170	4- φ 18	215
100 (JY) WQ80-30-15	80	30	1450	15	32.0	35	1020		920		710	550	420	100	210	170	4- φ 18	255
100 (JY) WQ80-35-18.5	80	35	1450	18.5	37.0	35	1060		950		710	550	420	100	210	170	4- φ 18	355
100 (JY) WQ45-22-7.5	45	22	2860	7.5	16.8	30	800	860	750	810	480	320	360	100	210	170	4- φ 18	115
100 (JY) WQ100-6-4	100	6	2860	4	8.4	35	680	740	630	690	470	310	230	100	210	170	4- φ 18	65
100 (JY) WQ100-10-5.5	100	10	2860	5.5	12.0	35	730	790	680	740	480	320	250	100	210	170	4- φ 18	85
100 (JY) WQ100-15-7.5	100	15	2860	7.5	16.8	35	800	860	750	810	480	320	360	100	210	170	4- φ 18	116
100 (JY) WQ80-15-7.5	80	15	2860	7.5	16.8	35	800	860	750	810	480	320	360	100	210	170	4- φ 18	115
100 (JY) WQ100-25-11	100	25	1450	11	23.6	35	940		900		710	550	420	100	210	170	4- φ 18	220
100 (JY) WQ100-30-15	100	30	1450	15	32.0	35	970		920		710	550	420	100	210	170	4- φ 18	255
100 (JY) WQ100-35-18.5	100	35	1450	18.5	37.0	35	990		950		710	550	420	100	210	170	4- φ 18	355
150 (JY) WQ100-7-5.5	100	7	2860	5.5	12.0	35	800	860	750	810	550	350	250	150	265	225	8- φ 18	85
150 (JY) WQ145-9-7.5	145	9	2860	7.5	16.8	45	800	860	750	810	550	350	360	150	265	225	8- φ 18	120
150 (JY) WQ100-10-7.5	100	10	2860	7.5	16.8	35	800	860	750	810	550	350	360	150	265	225	8- φ 18	120
150 (JY) WQ150-12-11	150	12	1450	11	23.6	45	1050		1000		820	620	420	150	265	225	8- φ 18	230
150 (JY) WQ180-15-15	180	15	1450	15	32.0	45	1050		1000		820	620	420	150	265	225	8- φ 18	280
150 (JY) WQ180-20-18.5	180	20	1450	18.5	37.0	45	1080		1030		820	620	420	150	265	225	8- φ 18	365
150 (JY) WQ150-24-18.5	150	24	1450	18.5	37.0	45	1080		1030		820	620	420	150	265	225	8- φ 18	365
150 (JY) WQ180-25-22	180	25	1450	22	45.0	45	1080		1030		820	620	420	150	265	225	8- φ 18	450
150 (JY) WQ200-10-15	200	10	1450	15	32.0	45	1050		1000		820	620	420	150	265	225	8- φ 18	280
150 (JY) WQ200-15-18.5	200	15	1450	18.5	37.0	45	1080		1030		820	620	420	150	265	225	8- φ 18	400
150 (JY) WQ200-20-22	200	20	1450	22	45.0	45	1080		1030		820	620	420	150	265	225	8- φ 18	450
150 (JY) WQ200-25-30	200	25	1450	30	60.0	45	1240		980		850	650	470	150	265	225	8- φ 18	500
150 (JY) WQ200-30-37	200	30	1450	37	75.0	45	1240		980		850	650	470	150	265	225	8- φ 18	600
150 (JY) WQ150-35-37	150	35	1450	37	75.0	40	1240		980		850	650	470	150	265	225	8- φ 18	600
150 (JY) WQ180-40-45	180	40	1450	45	90.0	40	1290		1030		850	650	470	150	265	225	8- φ 18	900
200 (JY) WQ300-7-11	300	7	1450	11	23.6	50	1120		1070		890	610	420	200	320	280	8- φ 18	280
200 (JY) WQ300-8-15	300	8	1450	15	32.0	50	1060		900		890	610	420	200	320	280	8- φ 18	330
200 (JY) WQ250-11-15	250	11	1450	15	32.0	50	1120		1070		890	610	420	200	320	280	8- φ 18	330
200 (JY) WQ250-15-18.5	250	15	1450	18.5	37.0	50	1020		800		890	610	420	200	320	280	8- φ 18	450

Model	Flow Rate Q	Head H	Rotational Speed	Power	Current	Maximum Permissible Particle Diameter	Overall Dimensions (mm)											Weight
	(m ³ /h)	(m)	(rpm)	(kw)	(A)	(mm)	H	H*	H1	H1*	B3	B2	D2	d	D	D1	n1-φd1	(kg)
200 (JY) WQ300-9-18.5	300	9	1450	18.5	37.0	50	1020		800		890	610	420	200	320	280	8-φ18	450
200 (JY) WQ400-10-22	400	10	1450	22	45.0	50	1070		850		890	610	420	200	320	280	8-φ18	460
200 (JY) WQ300-15-22	300	15	1450	22	45.0	50	1070		850		890	610	420	200	320	280	8-φ18	460
200 (JY) WQ250-22-30	250	22	1450	30	60.0	50	1240		980		900	620	470	200	320	280	8-φ18	650
200 (JY) WQ360-15-30	360	15	1450	30	60.0	50	1240		980		900	620	470	200	320	280	8-φ18	680
200 (JY) WQ400-13-30	400	13	1450	30	60.0	50	1240		980		900	620	470	200	320	280	8-φ18	680
200 (JY) WQ300-20-37	300	20	1450	37	75.0	50	1240		980		900	620	470	200	320	280	8-φ18	850
200 (JY) WQ350-25-37	350	25	1450	37	75.0	50	1240		980		900	620	470	200	320	280	8-φ18	850
200 (JY) WQ400-18-37	400	18	1450	37	75.0	50	1240		980		900	620	470	200	320	280	8-φ18	850
200 (JY) WQ250-35-45	250	35	1450	45	90.0	45	1290		1030		900	620	470	200	320	280	8-φ18	920
200 (JY) WQ400-25-45	400	25	1450	45	90.0	50	1290		1030		900	620	470	200	320	280	8-φ18	920
200 (JY) WQ250-40-55	250	40	1450	55	110.0	45	1450		1050		1050	770	560	200	320	280	8-φ18	1000
200 (JY) WQ400-30-55	400	30	1450	55	110.0	45	1450		1050		1050	770	560	200	320	280	8-φ18	1000
200 (JY) WQ350-40-75	350	40	1450	75	150.0	45	1520		1120		1050	770	560	200	320	280	8-φ18	1200
250 (JY) WQ600-9-30	600	9	1450	30	60.0	55	1300		1050		980	640	470	250	375	335	12-φ18	550
250 (JY) WQ-600-12-37	600	12	1450	37	75.0	55	1300		1050		980	640	470	250	375	335	12-φ18	650
250 (JY) WQ800-12-45	800	12	1450	45	90.0	60	1350		1100		980	640	470	250	375	335	12-φ18	850
250 (JY) WQ600-15-45	600	15	1450	45	90.0	55	1350		1100		980	640	470	250	375	335	12-φ18	850
250 (JY) WQ600-20-55	600	20	1450	55	110.0	55	1450		1050		1210	870	560	250	375	335	12-φ18	1300
250 (JY) WQ600-25-75	600	25	1450	75	150.0	55	1520		1120		1210	870	560	250	375	335	12-φ18	1500
250 (JY) WQ600-30-90	600	30	1450	90	180.0	55	1570		1170		1210	870	560	250	375	335	12-φ18	1600
300 (JY) WQ800-8-37	800	8	1450	37	75.0	60	1400		1150		1200	800	470	300	440	395	12-φ22	850
300 (JY) WQ500-15-45	500	15	1450	45	90.0	55	1450		1200		1200	800	470	300	440	395	12-φ22	1200
300 (JY) WQ800-12-45	800	12	1450	45	90.0	60	1450		1200		1200	800	470	300	440	395	12-φ22	1200
300 (JY) WQ600-20-55	600	20	1450	55	110.0	55	1480		1080		1270	870	560	300	440	395	12-φ22	1350
300 (JY) WQ800-20-75	800	20	1450	75	150.0	60	1520		1120		1270	870	560	300	440	395	12-φ22	1450
300 (JY) WQ950-20-90	950	20	1450	90	150.0	65	1570		1170		1270	870	560	300	440	395	12-φ22	1450
300 (JY) WQ1000-25-110	1000	25	1450	110	220.0	70	2200		2100		1900	1500	600	300	440	395	12-φ22	1800
350 (JY) WQ1500-7-45	1500	7	1450	45	90.0	80	2100		2100		1880	1380	500	350	490	445	12-φ22	1350
350 (JY) WQ1100-10-55	1100	10	1450	55	110.0	75	2150		2100		1880	1380	560	350	490	445	12-φ22	1380
350 (JY) WQ1200-13-75	1200	13	1450	75	150.0	75	2150		2100		1900	1400	560	350	490	445	12-φ22	1450
350 (JY) WQ1300-10-75	1300	10	1450	75	150.0	75	2150		2100		1900	1400	560	350	490	445	12-φ22	1450
350 (JY) WQ1200-15-90	1200	15	1450	90	180.0	75	2190		2150		1950	1450	560	350	490	445	12-φ22	1800
350 (JY) WQ1130-18-90	1130	18	1450	90	180.0	75	2190		2150		1950	1450	560	350	490	445	12-φ22	1800

◆ Dimensions and Installation Specifications



◆ Installation Dimensions

No.	Model	Flange Connection Dimensions PN6 (mm)			Coupling Base Plate Dimensions (mm)					G	H ₂	H ₃	L	L ₁	m	φe	E
		D	D ₁	n ₁ -φd ₁	A	A ₁	B	B ₁	n ₂ -φd ₂								
1	50 (JY) WQ	140	110	4-φ14	197	168	285	206	4-φ16	90	250	160	265	220	50	13	550×550
2	65 (JY) WQ	160	130	4-φ14	238	200	320	240	4-φ16	130	265	165	280	235	50	13	650×600
3	80 (JY) WQ	190	150	4-φ18	278	238	354	260	4-φ18	165	285	165	315	260	50	13	650×600
4	100 (JY) WQ	210	170	4-φ18	320	260	375	300	4-φ18	175	305	185	410	315	60	15	750×650
5	150 (JY) WQ	265	225	8-φ18	400	300	410	350	4-φ18	190	480	200	410	260	60	15	1000×800
6	200 (JY) WQ	320	280	8-φ18	400	300	450	350	4-φ18	230	550	200	410	260	60	15	1300×900
7	250 (JY) WQ	375	335	12-φ18	460	360	560	430	4-φ24	230	630	200	410	260	60	15	1600×1300
8	300 (JY) WQ	440	395	12-φ22	600	540	600	540	4-φ24	375	650	250	700	150	150	20	1600×1300
9	350 (JY) WQ	490	445	12-φ22	600	540	600	540	4-φ24	390	700	250	700	150	150	24	1600×1300

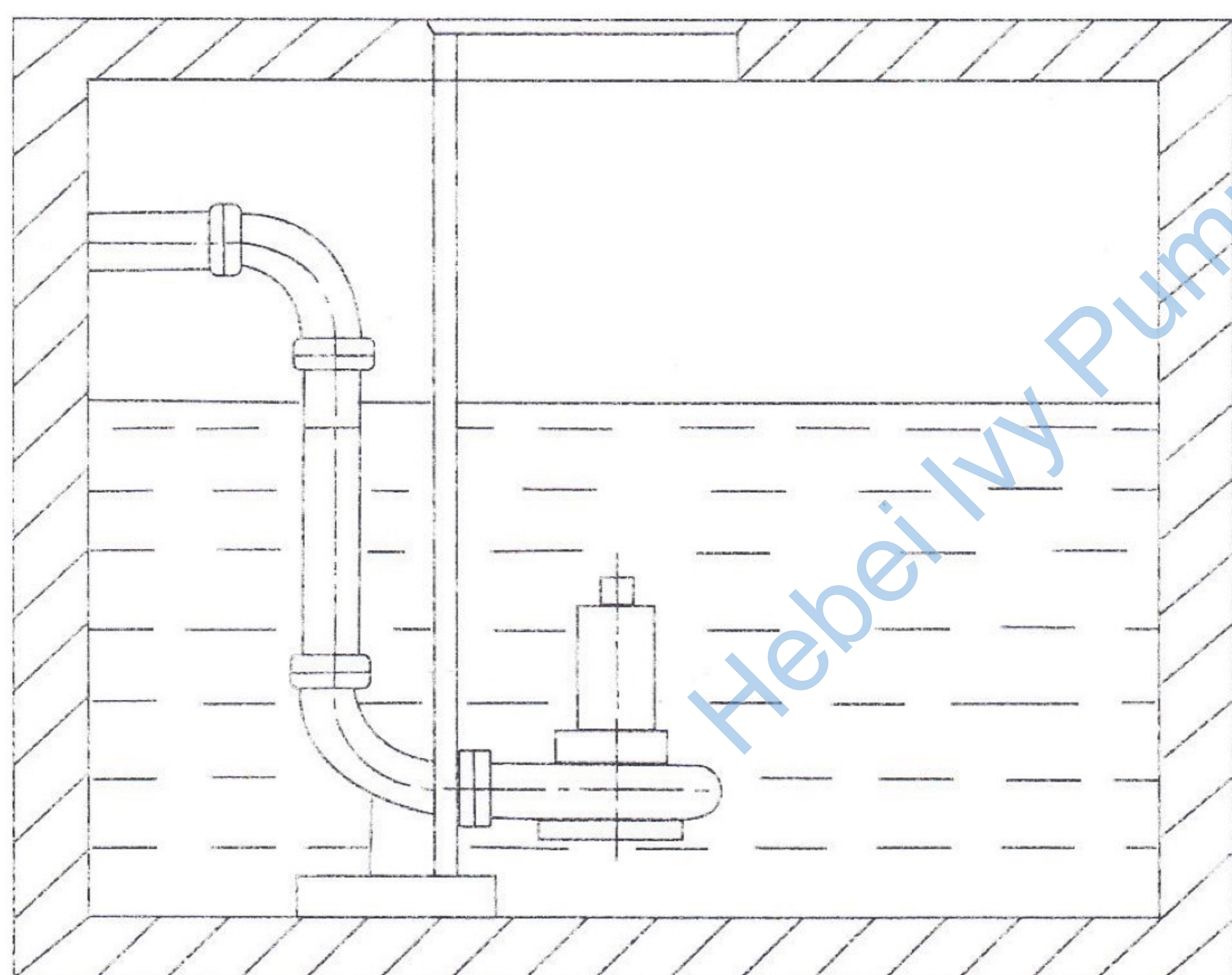
Installation System Instructions

1. Automatic Coupling Device System

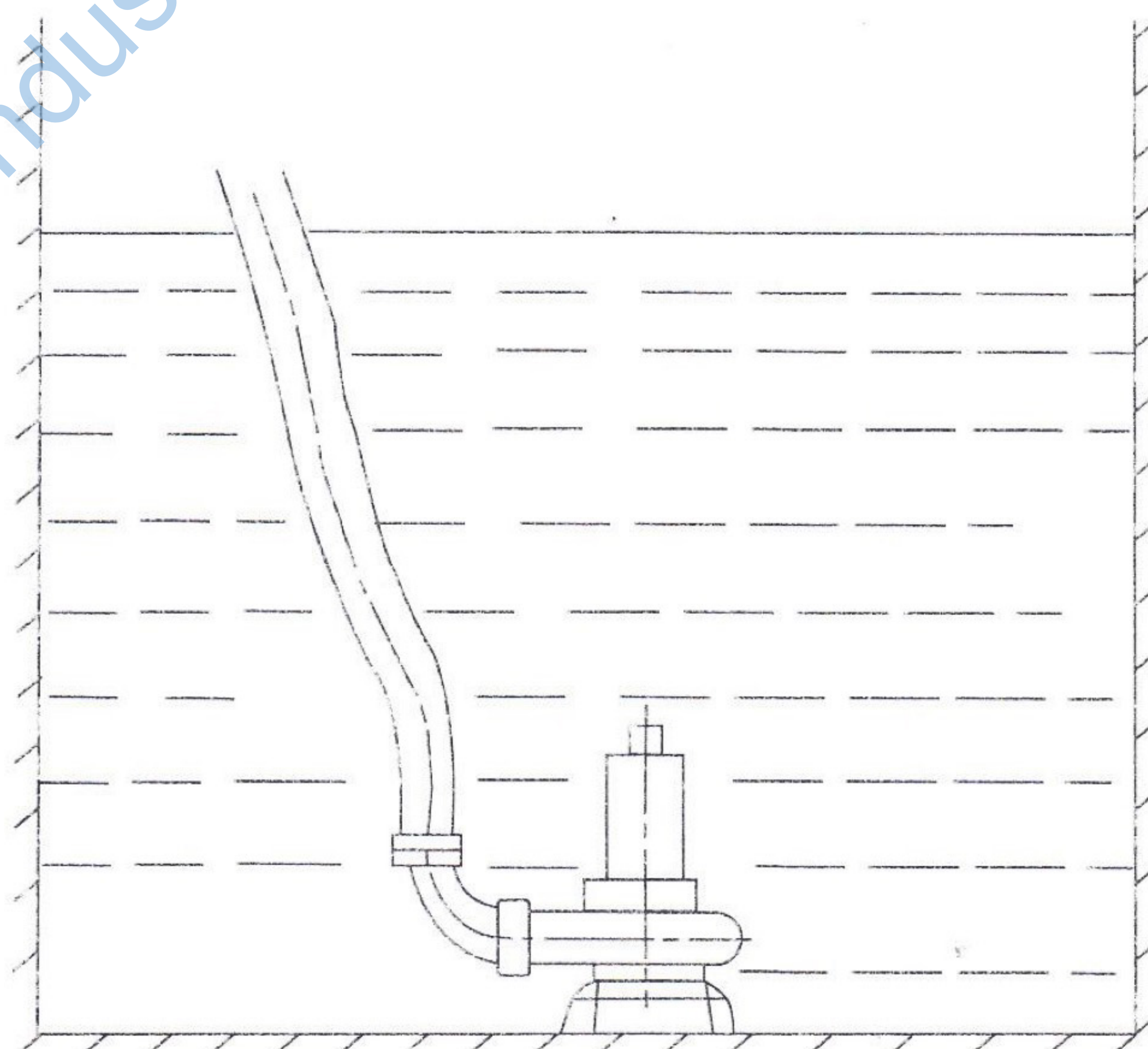
Suitable for long-term fixed installations, this system offers advantages such as quick installation and easy inspection and maintenance. The system uses a specially designed base, secured to the bottom of the sewage pit and connected to the discharge pipe. Matching support blocks are installed on the tank top and connected to the base via guide rods. The pump is a specific bracket, then lowered along the guide rod to the base, where it automatically couples and seals with it; during lifting, it automatically disengages.

2. Mobile Installation System

Supported by a bracket, this system is ready for operation once the discharge hose is connected. This method is primarily used for emergency situations or maintenance work.



Fixed Automatic Installation



Mobile Installation

Pump Operating Instructions and Precautions

1. Before using the pump, carefully inspect the cable for damage, check for loose or missing fasteners, and verify that the pump has not been deformed or damaged during transportation, storage, or installation.
2. Use a 500V megohmmeter to measure the insulation resistance between the electric pump motor's windings and between the windings and ground. The value should not be less than 2 megohms; otherwise, the motor's stator windings must be dried. The drying temperature must not exceed 120°C.
3. This series of pumps is available in both fixed and mobile configurations. For fixed automatic installation, thread the chain through the two lifting eye bolts or lifting plates (positioned away from the pump discharge port, with the chain running parallel to the discharge port) and lift the electric pump vertically. Lower it evenly and slowly along the guide rails until the automatic coupling engages. For mobile installation, first attach the flexible hose, then use a chain to lift the electric pump up and down through the two lifting eye bolts. Be sure not to use the power cable as a lifting rope to avoid danger.
4. When the pump is powered on, it rotates counterclockwise as viewed from the inlet. If the electric pump rotates in the opposite direction, simply swap the positions of any two wires in the cable.
5. The electric pump's housing ground wire must be connected strictly in accordance with relevant regulations. To ensure personal safety during operation, it is strictly prohibited for anyone to enter the water or move around near the pump while it is running, to prevent accidents in the event of an electrical leak.
6. Unless under special circumstances, the electric pump must be equipped with a fully automatic pump control cabinet. Never connect the power directly to the mains or use a knife switch to supply power; this ensures the normal operation of the electric pump.
7. Do not operate the electric pump at low head for extended periods (the operating head should generally not be less than 60% of the rated head). It is best to keep the head within the recommended operating range to prevent the motor from burning out due to overload.
8. Pumps without a self-circulating cooling system must not be operated with the entire unit exposed above the water surface for extended periods to prevent overheating and damage to the electric pump.

Maintenance and Care

1. The electric pump should be managed and operated by a designated person, who should regularly check whether the insulation resistance between the pump windings and the housing is normal.
2. After each use—especially after pumping thick or viscous slurries—the electric pump should be run in clean water for several minutes to prevent sediment buildup inside the pump and ensure it remains clean.
3. If the electric pump is not used for an extended period, remove it from the water; do not leave it submerged for long periods to reduce the risk of moisture damage to the motor stator windings and extend the pump's service life.
4. Under normal operating conditions, add or replace the engine oil (Grade 10–30) in the oil chamber every 300 to 500 hours of operation to maintain proper lubrication of the mechanical seal and extend its service life.
5. After disassembly or maintenance of the electric pump, the casing assembly must undergo a 0.2 MPa air tightness test to ensure the motor seal is reliable.
6. The sealing ring between the impeller and the pump body serves a sealing function; if damaged, it will directly affect the pump's performance and should be replaced as necessary.

Analysis of Common Faults and Troubleshooting Methods

Fault Symptoms	Cause Analysis	Troubleshooting
Insufficient flow or no water output	1. Incorrect impeller rotation direction 2. Check if the valve is open and in good condition 3. Pipe or impeller clogged 4. Rotational speed too low 5. Head too high 6. High density of the pumped medium 7. High viscosity of the medium 8. Damaged seal ring (at the lip seal)	1. Adjust the impeller rotation direction 2. Inspect, repair, and troubleshoot 3. Remove debris 4. Inspect electrical equipment and circuits 5. Replace the pump or reduce the head 6. Dilute with water to reduce concentration 7. Reduce viscosity 8. Replace
Unstable Operation	1. Imbalanced impeller 2. Damaged bearings	1. Send to the manufacturer for replacement or adjustment 2. Replace
Pump fails to start	1. Phase loss 2. Impeller jammed 3. Open circuit in windings, connections, or cables 4. Stator windings burned out 5. Electrical control failure	1. Inspect and repair the wiring 2. Remove foreign objects 3. Check with an ohmmeter and repair 4. Repair or replace the windings 5. Repair or replace
Excessive Current	1. Low operating voltage 2. Clogged pipes or impeller 3. High lift or high viscosity of the pumped liquid 4. Insufficient head	1. Adjust the operating voltage 2. Clear blockages from the piping and impeller 3. Change the density or viscosity 4. Reduce the flow rate and increase the head
Low Insulation Resistance	1. Leakage at the cable power connection terminals 2. Damaged cable 3. Leakage due to wear on the mechanical seal 4. Failure of O-rings 5. Water leakage due to corrosion of the housing by the medium	1. Tighten the clamping nut 2. Replace 3. Replace 4. Replace 5. Repair

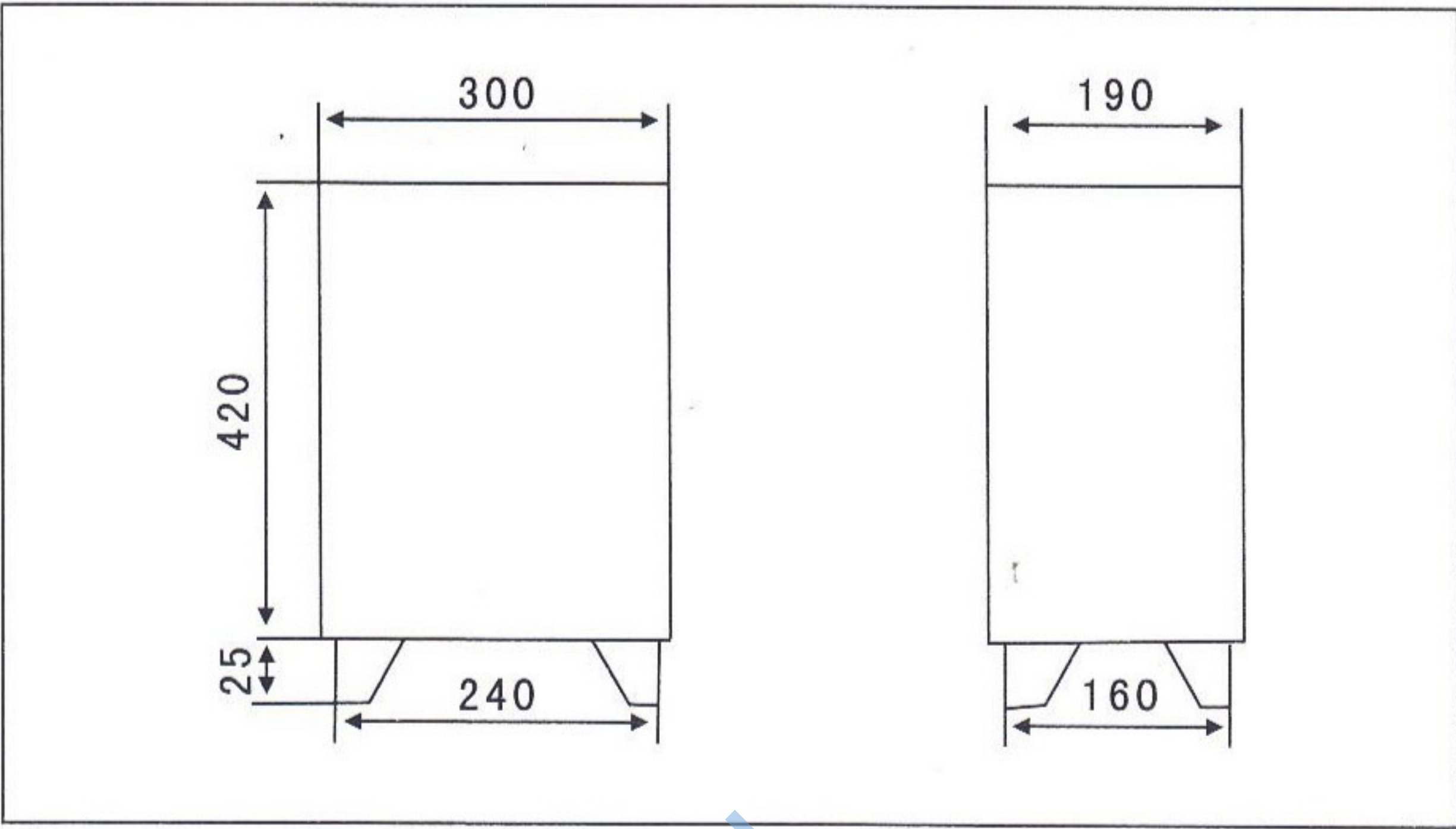
Pump Electrical Control System

QZD-2 Series Pump Control Cabinet

The QZD-2 Series Control Cabinet manages the electrical components of single pumps ranging from 0.75 to 15 kW. It controls pump start and stop, and monitors and protects against motor overloads, short circuits, phase loss, overheating, phase failure, and water leakage.

1. Technical Specifications of the QZD-2 Series Control Cabinet
2. Dimensions of the QZD-2 Series Control Cabinet

Model	Rated Operating Voltage (V)	Maximum power of the controlled motor (kW)	Rated operating current (A)
QZD-2-4	380	4	8.5
QZD-2-5	380	5.5	11.5
QZD-2-7.5	380	7.5	15.5
QZD-2-11	380	11	22
QZD-2-15	380	15	30

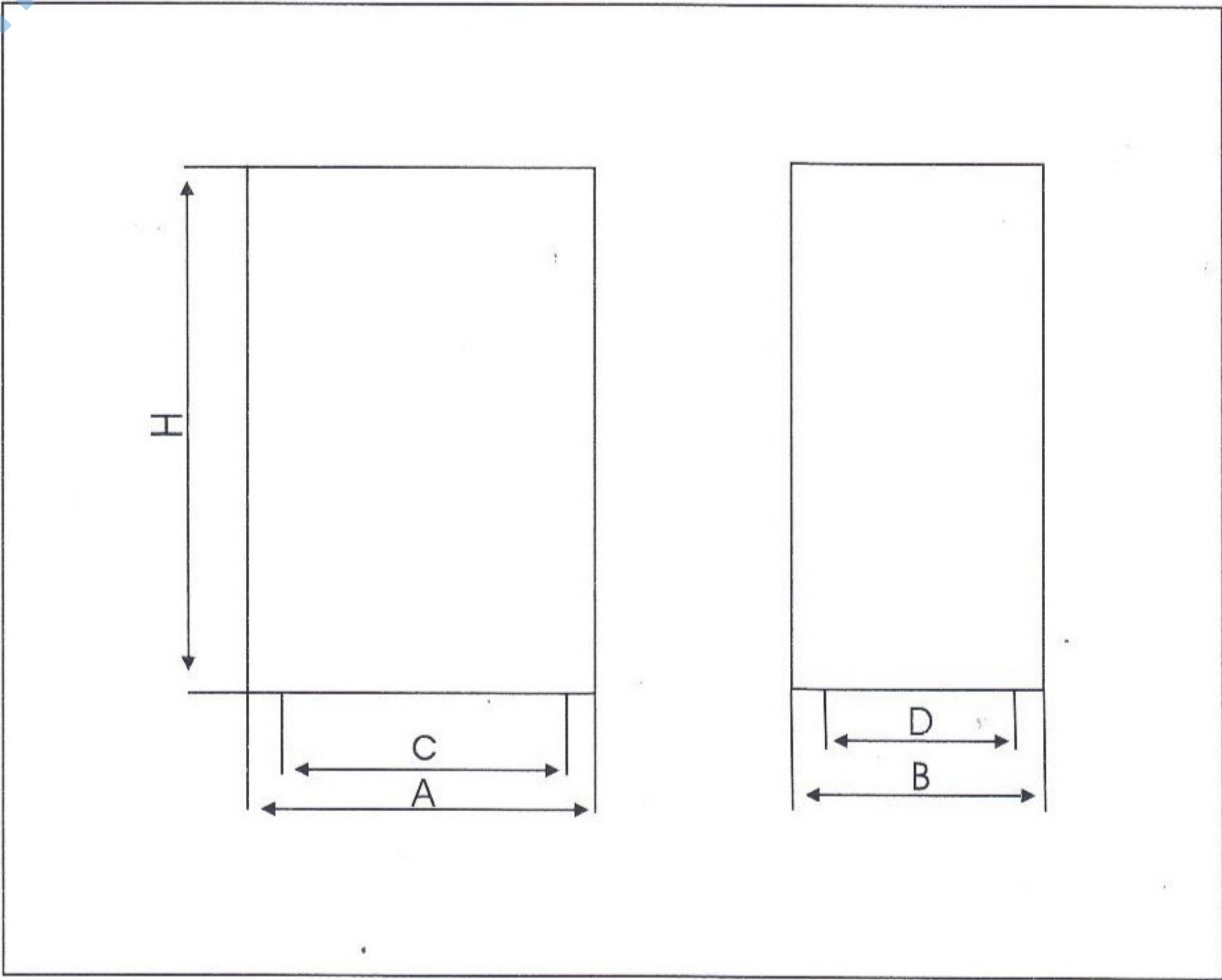


JJ1 Series Pump Control Cabinet

The JJ1 Series Pump Control Cabinet controls 15-110 kW pump motors using automatic autotransformer reduced-voltage starting. It provides multiple protection functions for the motor, including short-circuit, phase loss, and overload protection, as well as stator overtemperature protection and water leakage protection for the pump's oil chamber.

3. Technical Specifications and Dimensions of the JJ1 Series Control Cabinets

Model	Motor Power (kW)	Operating Current (A)	A s (mm)	B s (mm)	C (mm)	D (mm)	H s (mm)
JJ1-15	15	30	520	340	495	310	1,040
JJ1-18.5	18.5	37	520	340	495	310	1,040
JJ1-22	22	44	520	340	495	310	1,040
JJ1-30	30	60	520	340	495	310	1,240
JJ1-37	37	72	520	340	495	310	1,240
JJ1-45	45	85	520	340	495	310	1,240
JJ1-55	55	105	600	380	560	330	1,500
JJ1-75	75	138	600	380	560	330	1,500
JJ1-90	90	170	600	380	560	330	1,700
JJ1-110	110	204	600	380	560	330	1,700



This catalog describes control cabinets designed for single-pump automatic control. If you require control cabinets for two, three, four, or multiple pumps in a single cabinet, or pump control cabinets with additional functions, please specify these requirements when placing your order so we can discuss and confirm the details. Select the control cabinet based on the total control power required.