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BZ

SELF PRIMING PUMP

CATALOGUE

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Product Overview

The BZ series self-priming pump is a centrifugal self-priming pump that adopts a motor direct connection structure. It has the advantages of compact structure, easy operation, balanced operation, simple and convenient maintenance, long service life, and good self-priming. Before starting work, it is only necessary to ensure that a certain amount of liquid is stored in the pump body, greatly reducing labor intensity. The ZW series self-priming sewage pump has a similar structure to the BZ, but the difference is that the impeller and pump body are widened in design, which has strong passing capacity and can pass liquids containing large solid particles and fiber pollutants, engineering sewage, etc.

Application

- Suitable for urban environmental protection, domestic water supply, construction, dyeing and printing, electroplating, papermaking, mining, equipment cooling, etc.
- BZ is suitable for transporting clean water and non flammable and explosive liquids with physical and chemical properties similar to clean water. ZW is suitable for liquids containing certain particles, solids, and fiber pollutants, as well as engineering wastewater.
- The liquid temperature is related to the self-priming height, and a high temperature can affect the self-priming height.

Pump body structure

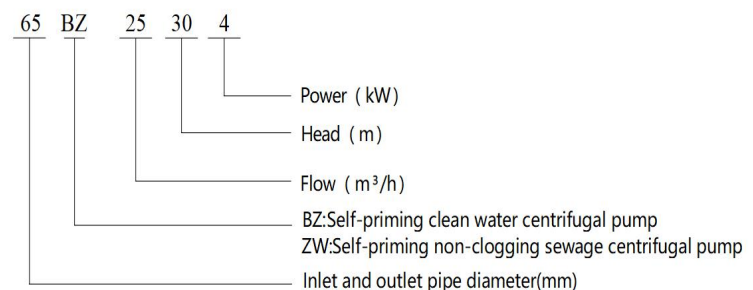
The BZ/ZW centrifugal self-priming pump is mainly composed of a motor, pump shaft, water blocking ring, mechanical seal, pump cover, pump body, impeller, base, gas-liquid separation chamber, outlet pipe, water inlet valve, check valve plate, inlet pipe, etc. The structure of the pump is shown in the diagram.

1	Electric motor: directly connected to the water pump to transmit power
2	Pump shaft: Extending the shaft of the motor ensures the concentricity of the shaft, allowing the pump to run smoothly without noise or vibration.
3	Water blocking ring: prevents mechanical seal leakage from causing water to enter the motor.
4	Mechanical seal: made of materials such as stainless steel springs, tungsten carbide, rubber, etc.
5	Pump head: Connect the motor and pump body.
6	Pump body: divided into a discharge chamber, a suction chamber, and a gas-liquid separation chamber. Designed with an excellent hydraulic model, the pump body is equipped with a water valve, inlet, outlet, drain outlet, and mounting feet.
7	Impeller: Designed with advanced hydraulic models, it is efficient and has strong self-priming ability.
8	Gas liquid separation chamber: When the water in the pump is started, the air is discharged through the gas liquid separation chamber and the water is refluxed, thus completing the self-priming process.
9	Export connection: Connect the pump body and the outlet pipeline.
10	Drain cover plate: When the pump is not in use for a long time, the drain cover plate can be opened to drain the stored liquid.
11	Check valve plate: It can prevent water from flowing back in the pipeline when the pump stops working.
12	Import connection: Connect the pump body and the inlet pipeline.
13	Base: Installed as a whole pump, can be equipped with vibration isolators.

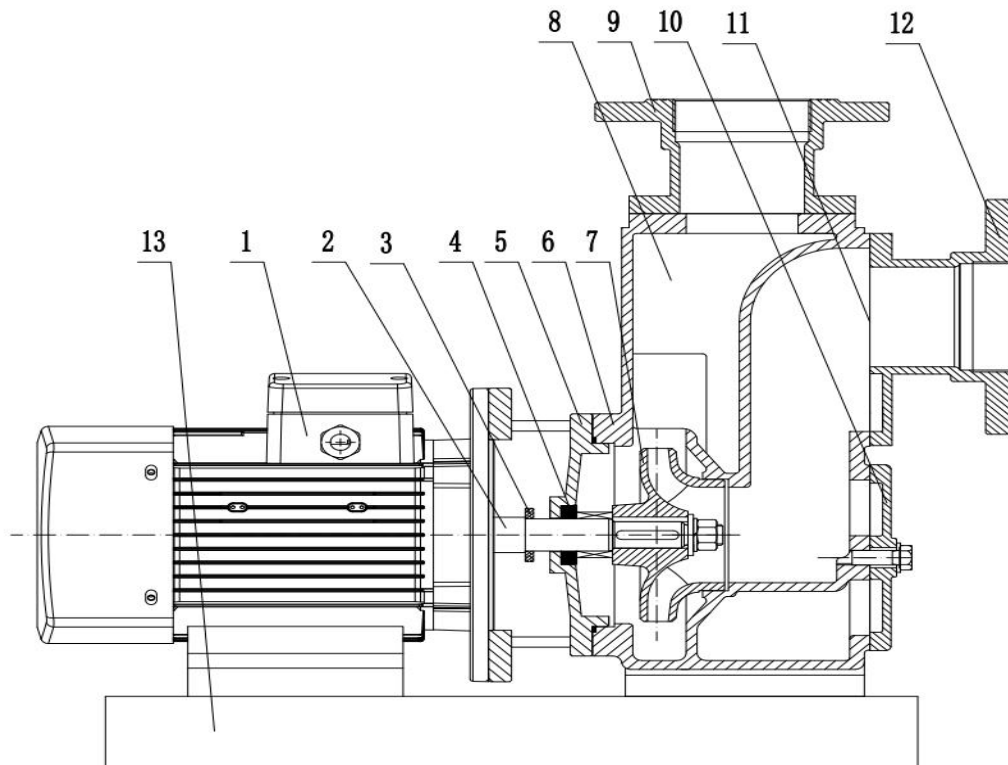
Working principle

The working principle of the pump: The pump body is equipped with a liquid storage chamber, which is connected to the working chamber of the pump through the upper reflux hole and the lower circulation hole, forming an axial reflux external hybrid system. After the pump stops working, there is already a certain volume of liquid stored in the pump chamber. When the pump is started, the stored liquid inside the pump is ejected upwards with air under the action of the impeller. The gas-liquid mixture enters the gas-liquid separation chamber, and the liquid flows back to the working chamber through the gas-liquid separation chamber. The gas is discharged outside the pump, creating a certain degree of vacuum in the pump and inlet pipeline, achieving self-priming.

Model meaning



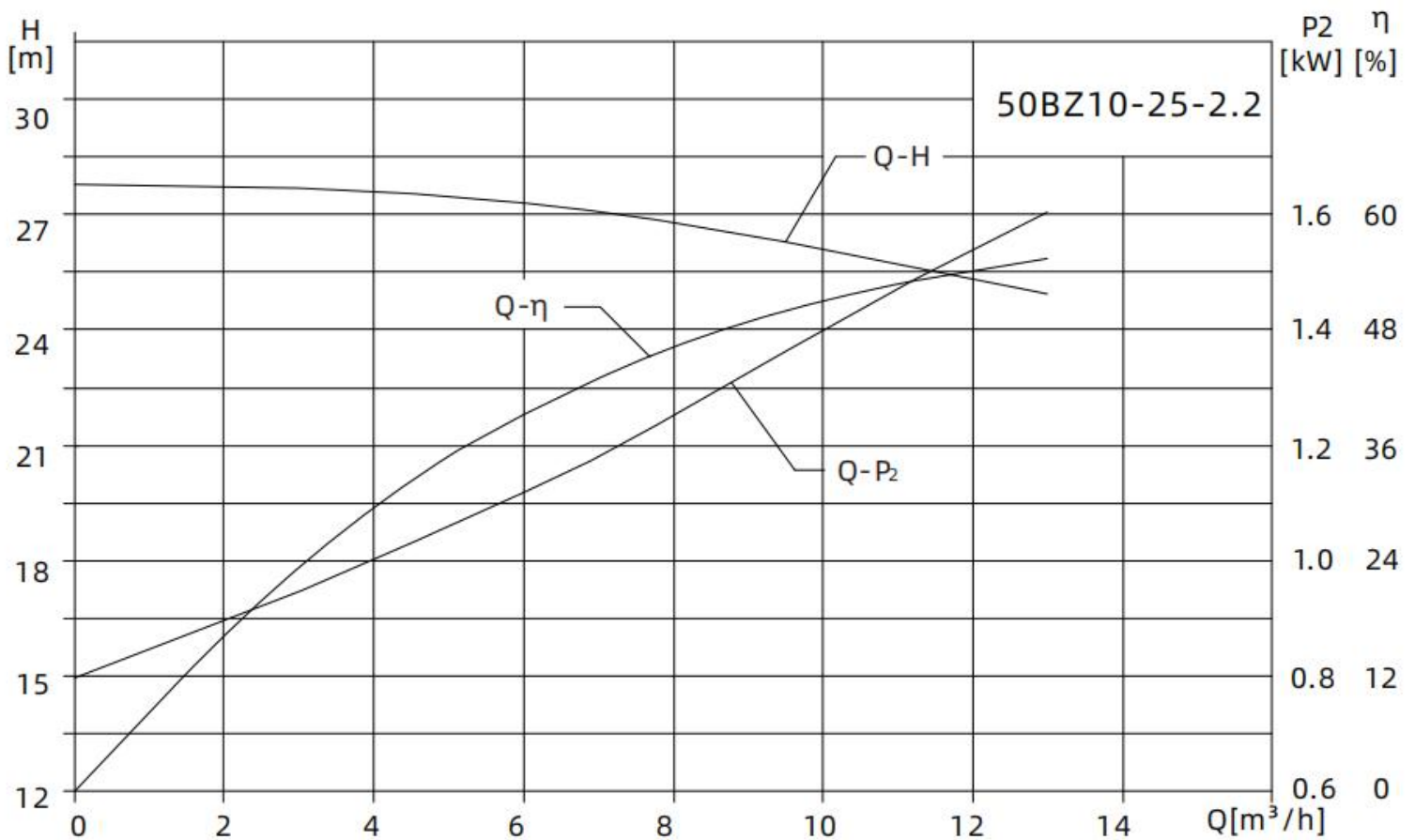
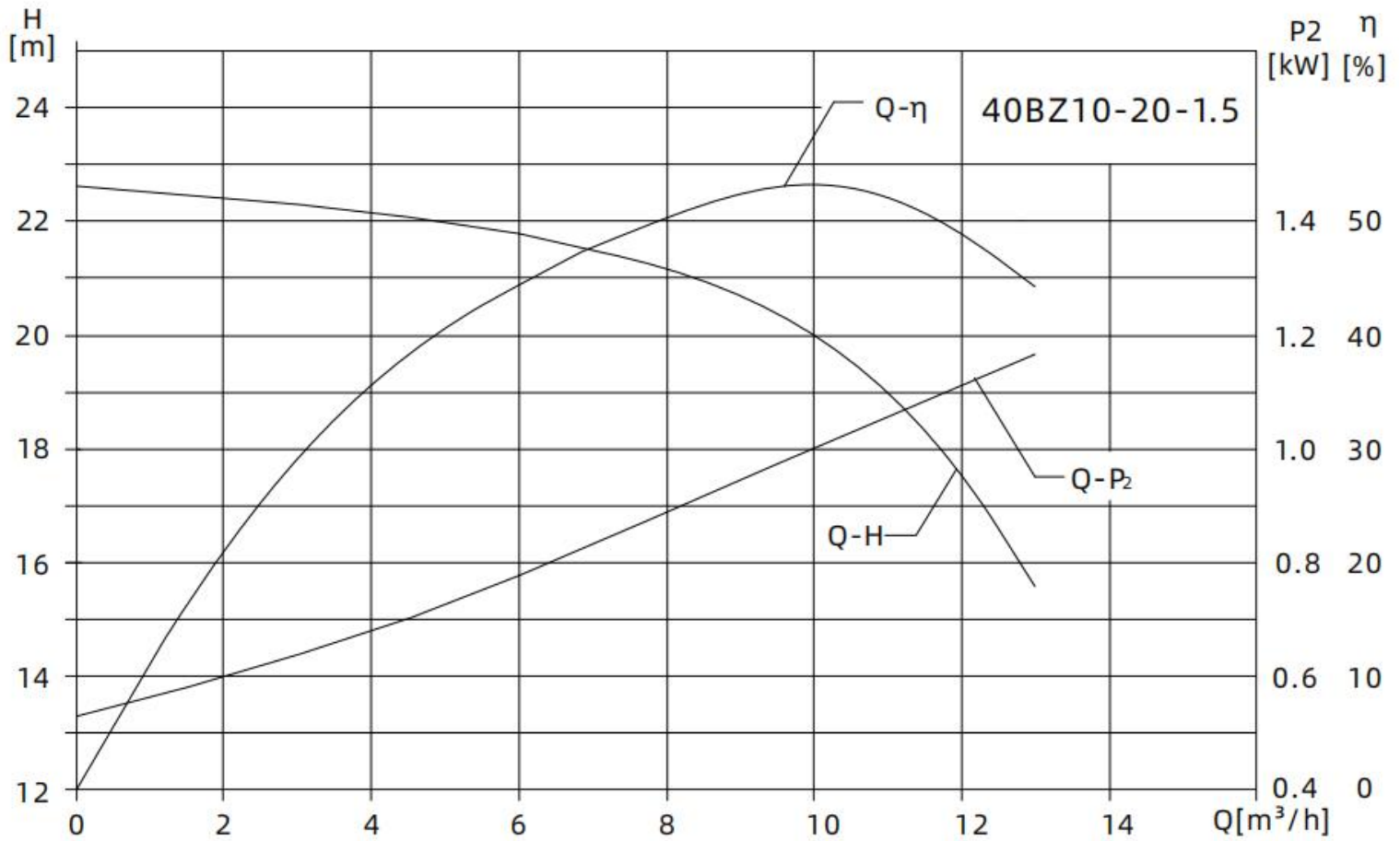
Structural diagram



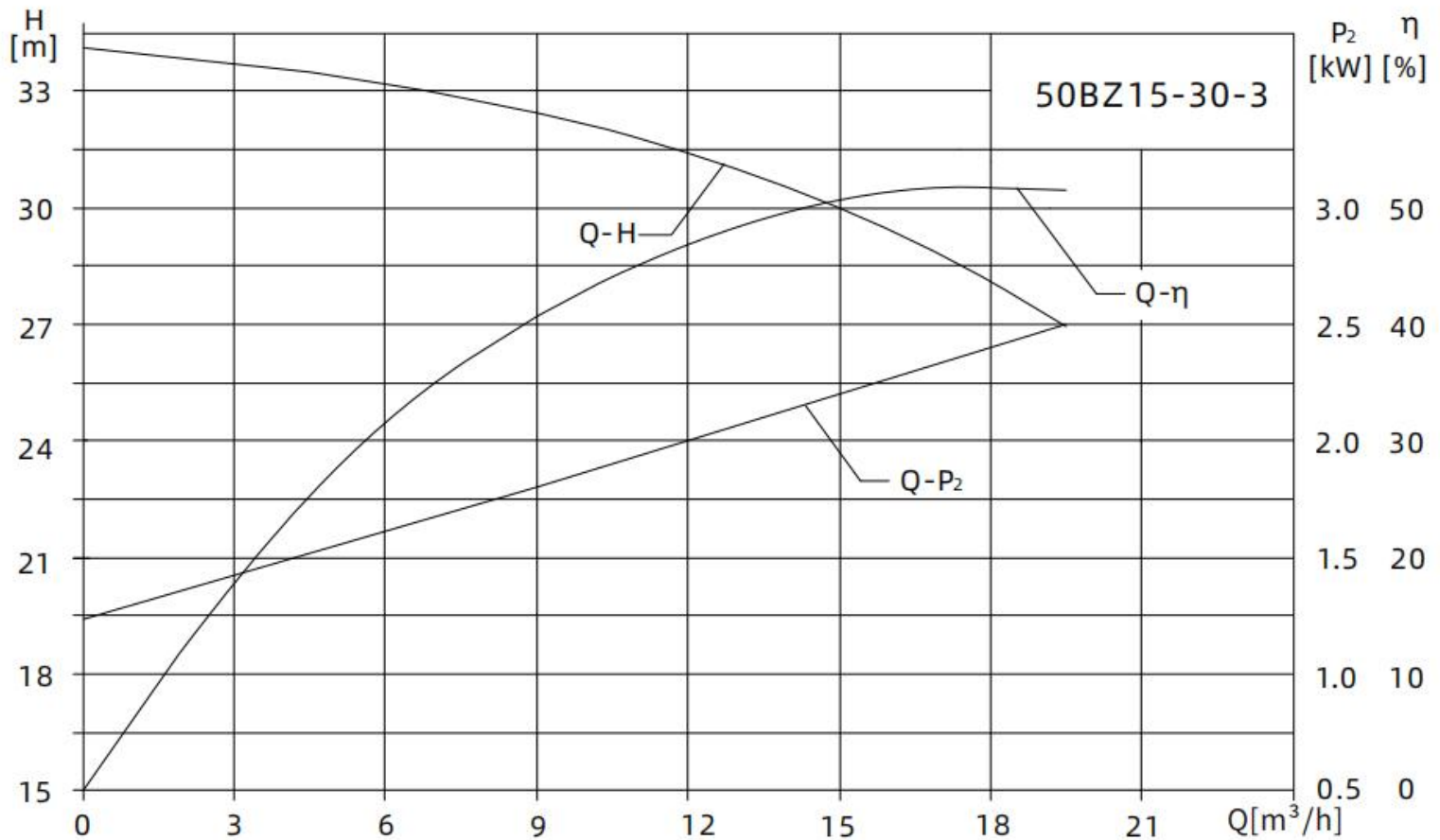
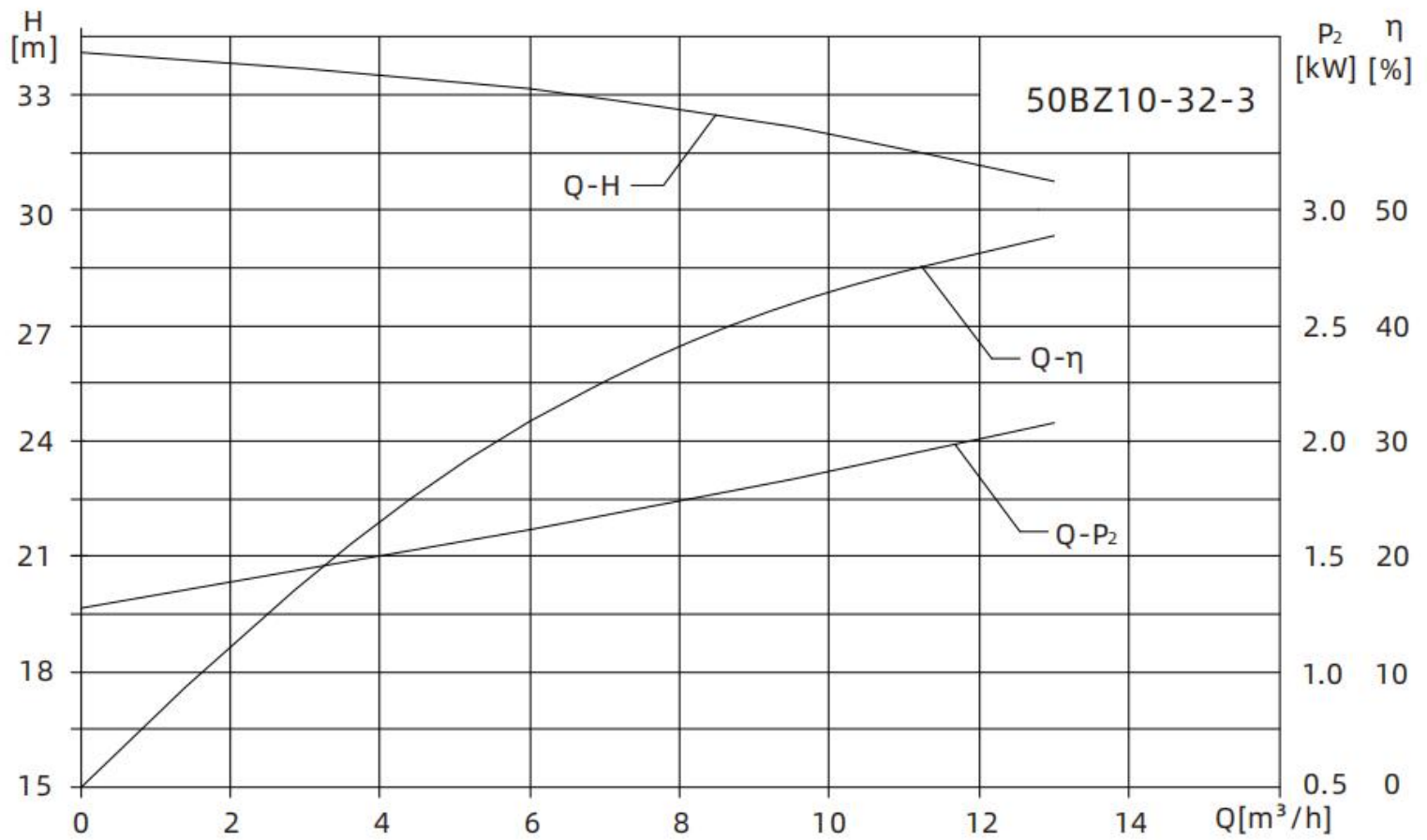
Material List

NO.	Component	Materials	AISI/ASTM
1	Motor	/	/
2	Pump shaft	Stainless steel06Cr19Ni10	AISI304
3	Water stop ring	NBR	/
4	Mechanical Seal	Silicon carbide on silicon carbide or as required	/
5	Pump head	Cast iron	ASTM25B
6	Pump body	Cast iron	ASTM25B
7	Impeller	Cast iron	ASTM25B
8	Gas-Liquid Separator Chamber	/	/
9	Water outlet flange	Cast iron	ASTM25B
10	Manhole Cover	Cast iron	ASTM25B
11	Import valve plate	NBR	/
12	Import Flange	Cast iron	ASTM25B
13	Base	Cast iron	ASTM25B

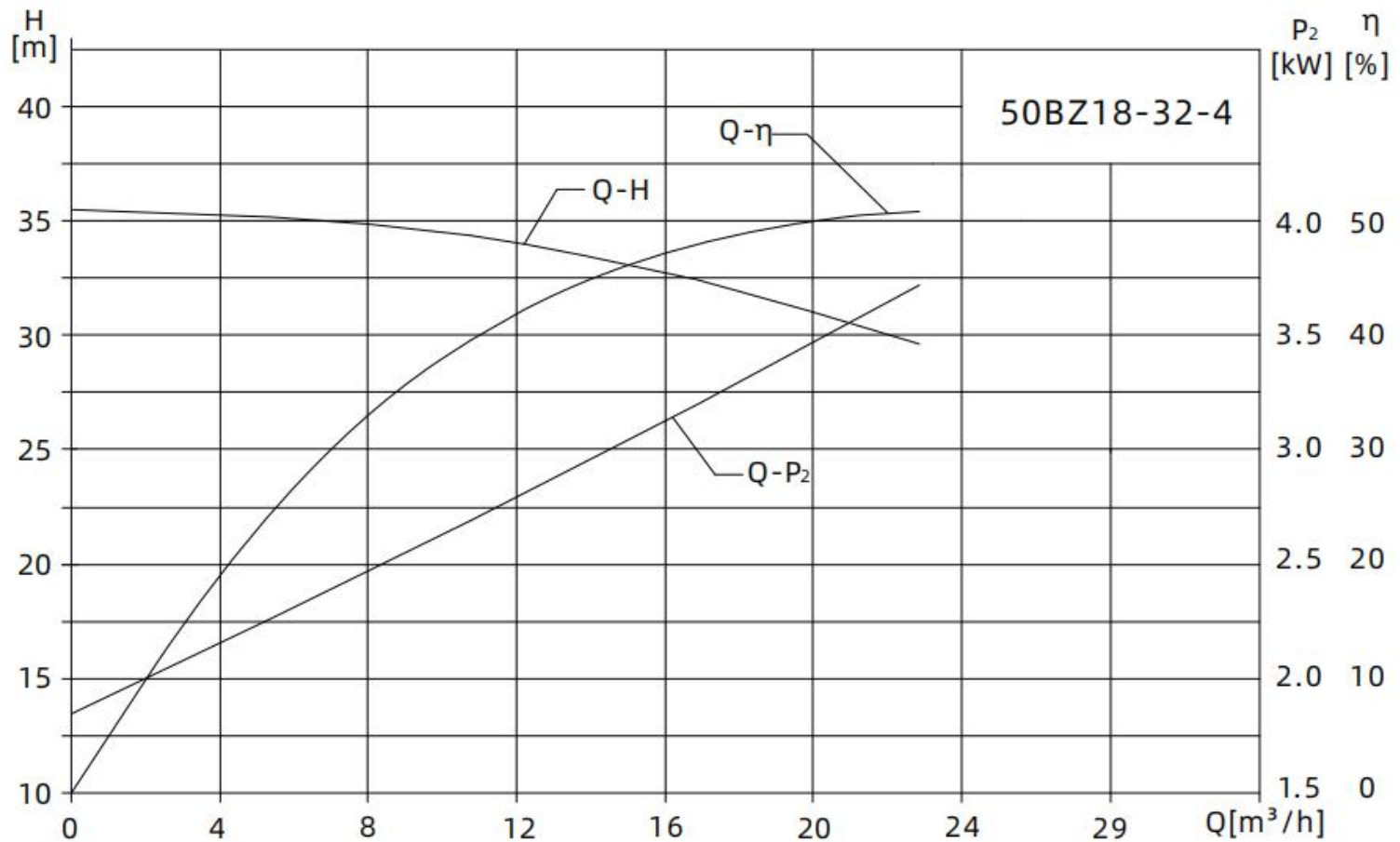
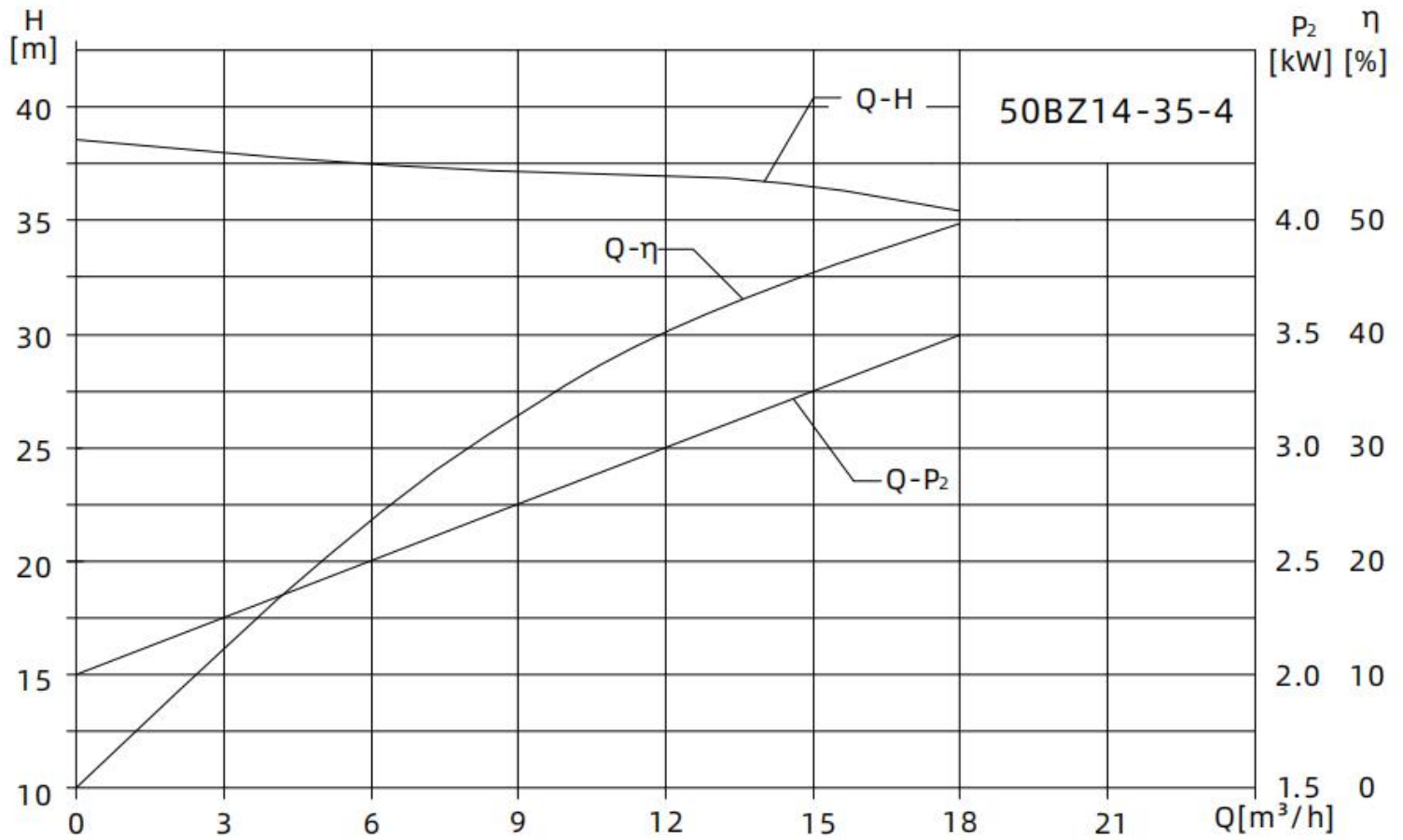
Shimizu Series Performance Curves



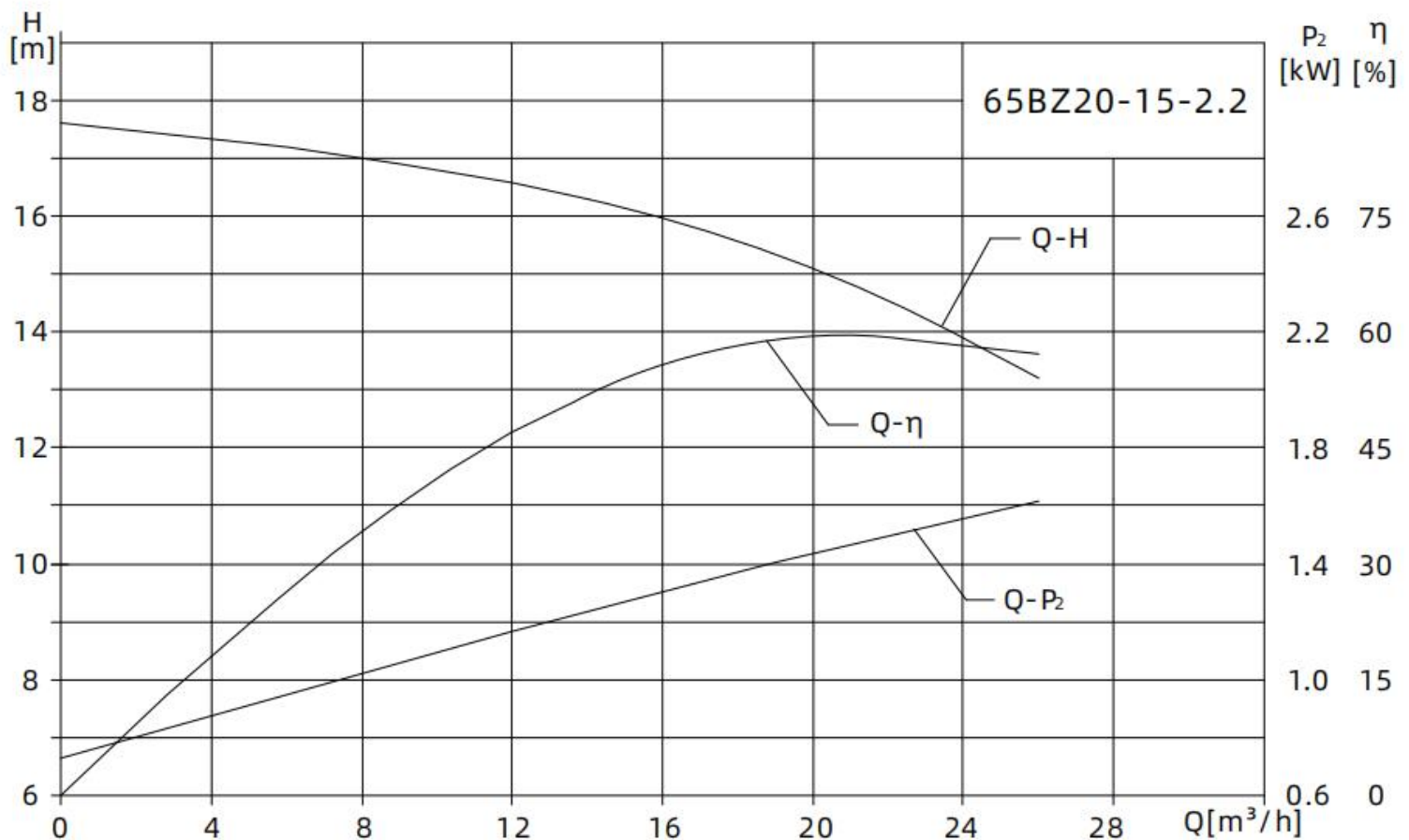
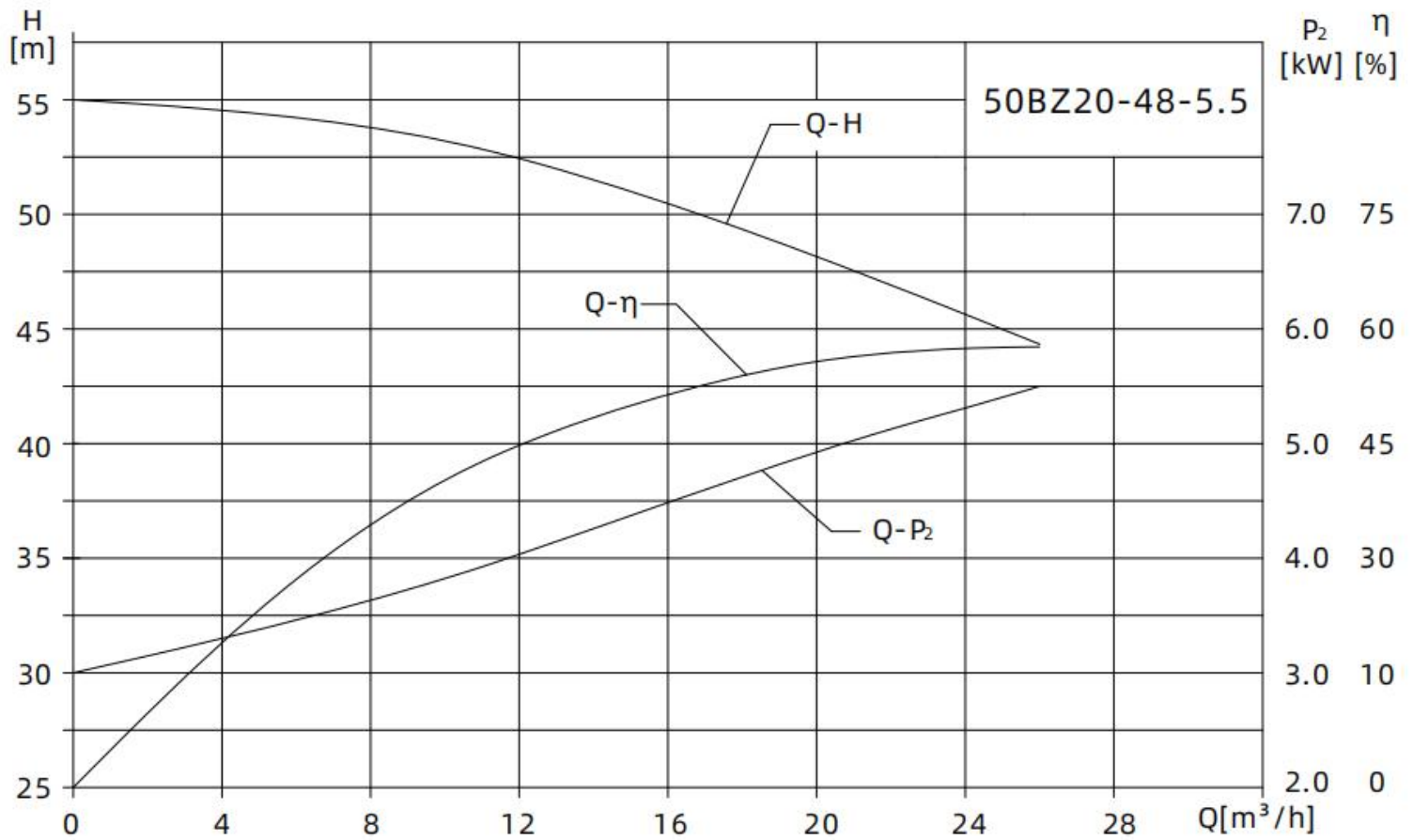
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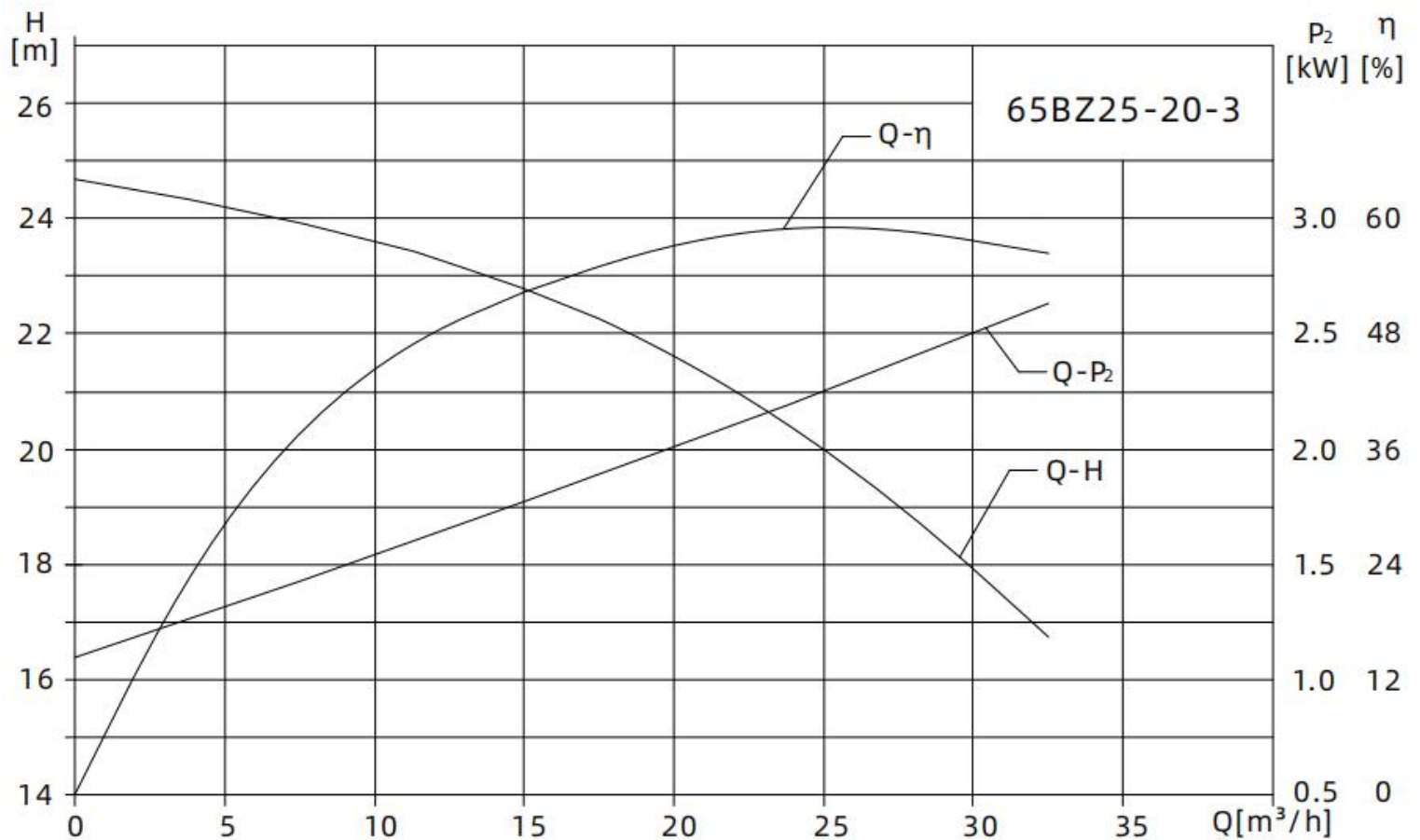
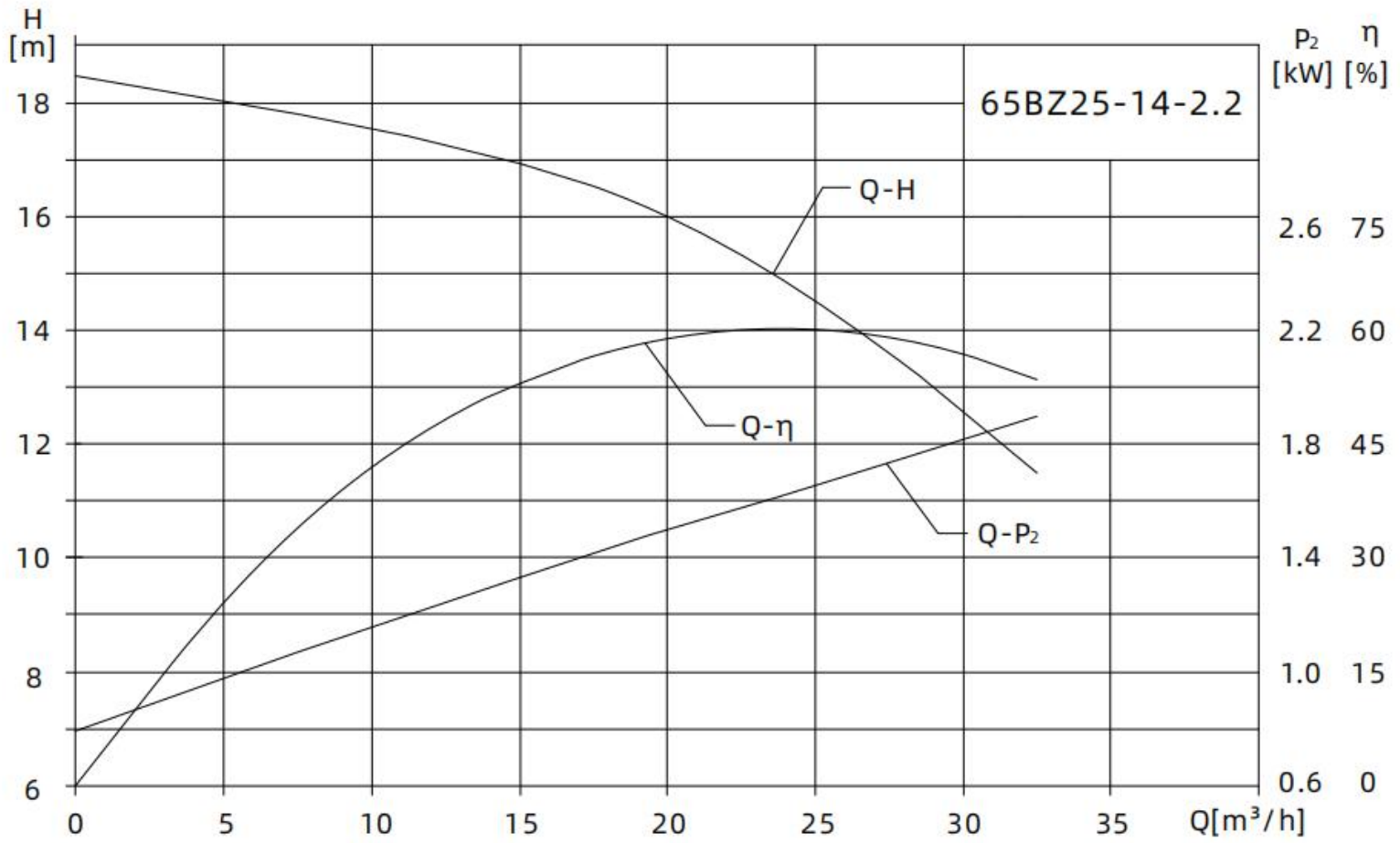
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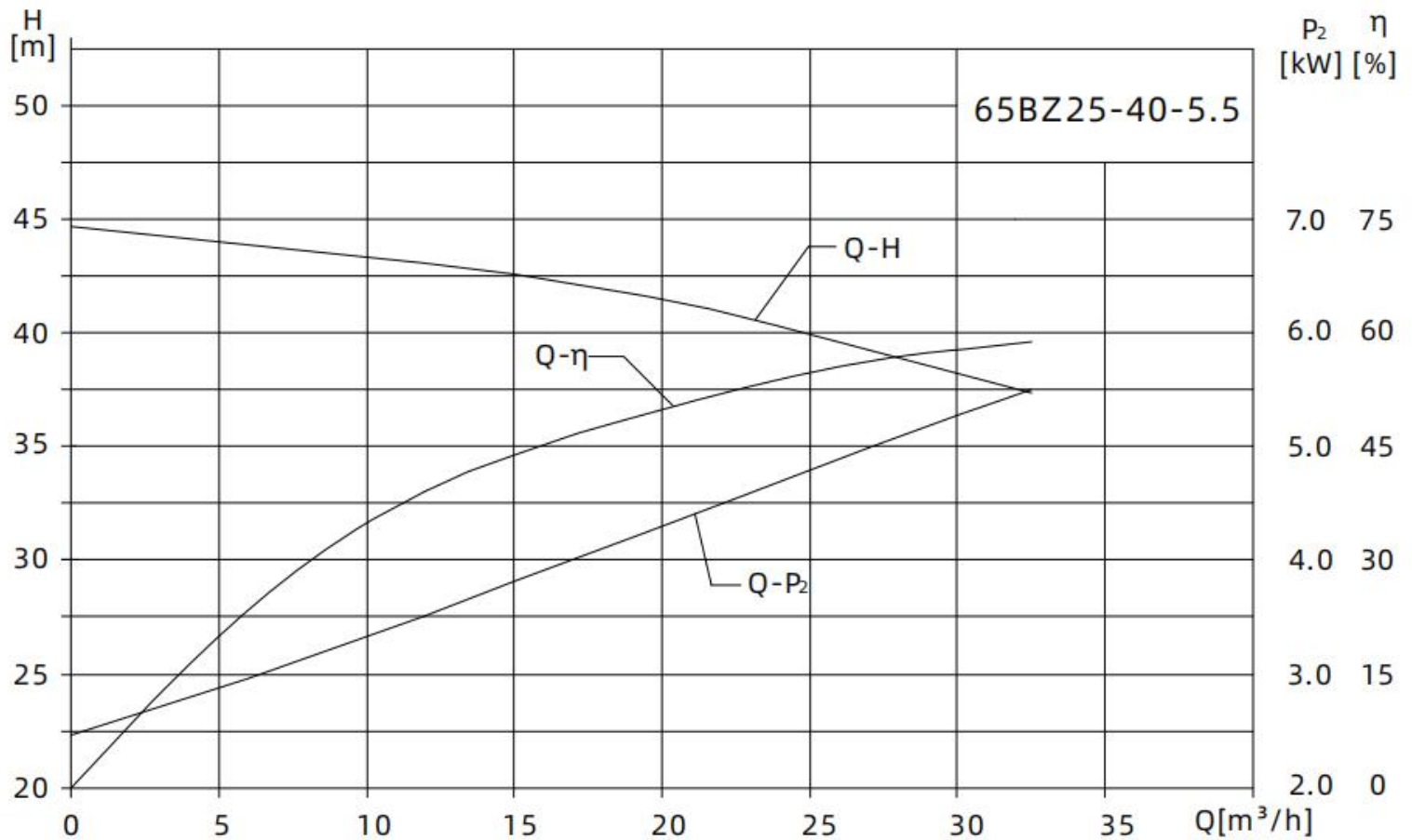
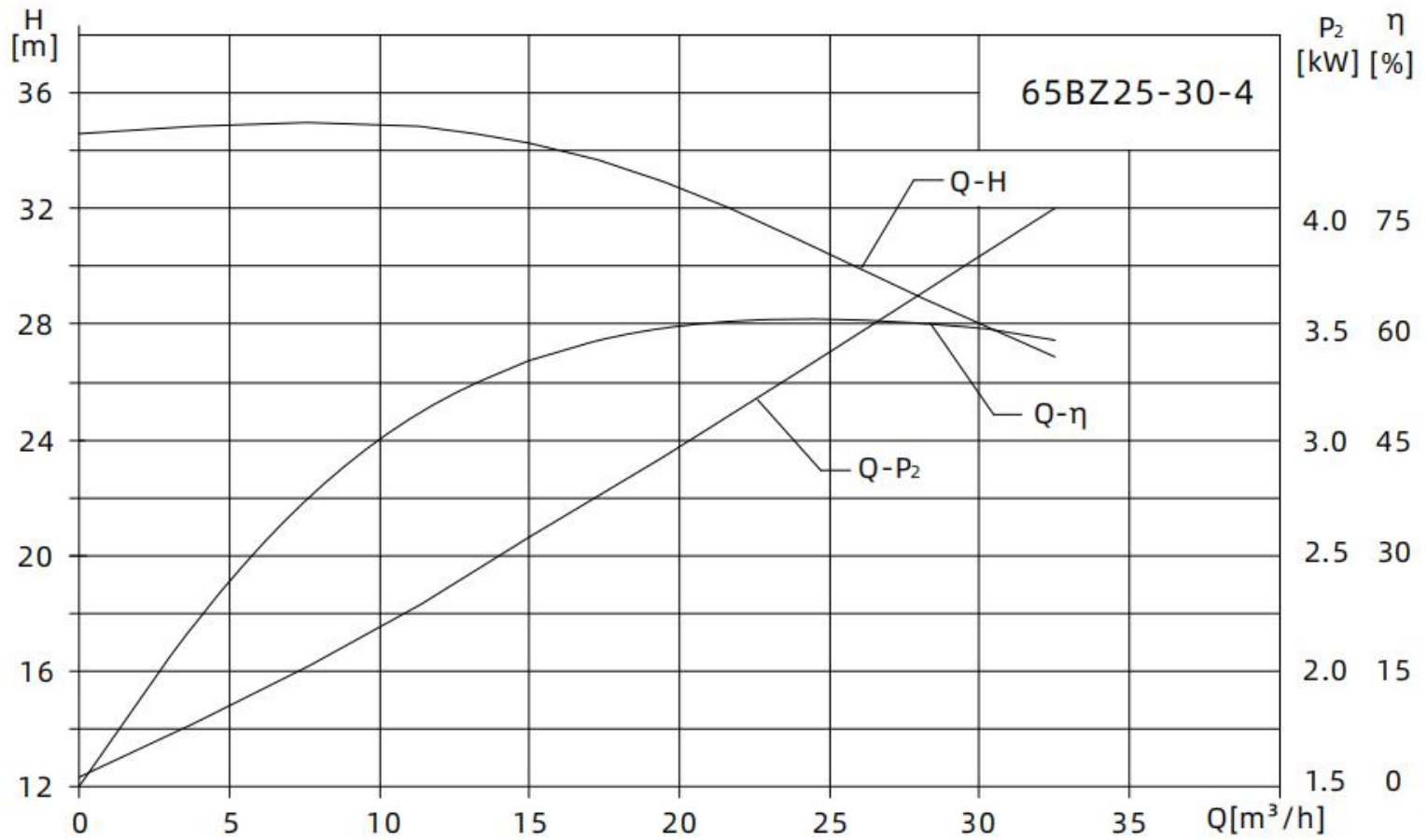
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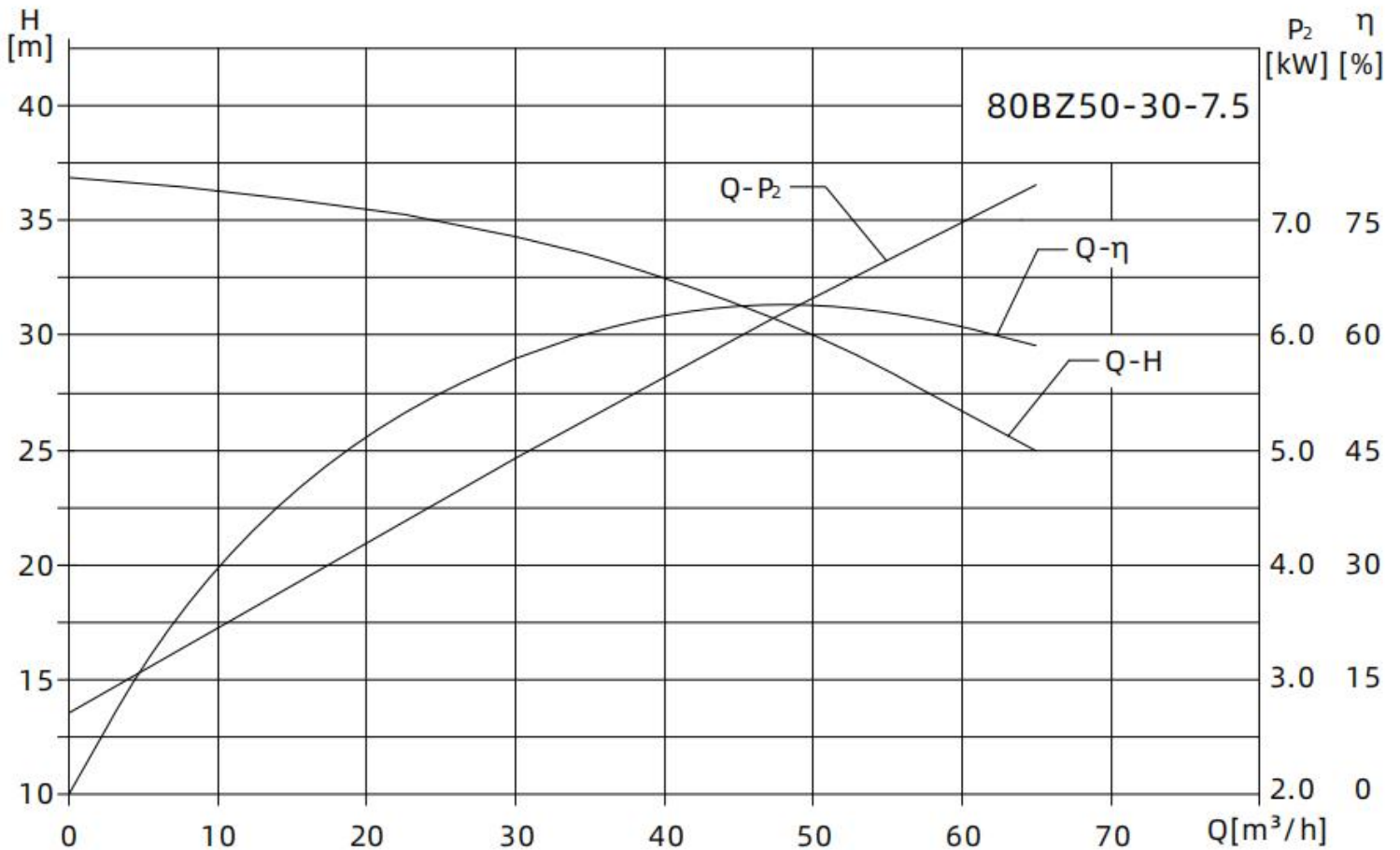
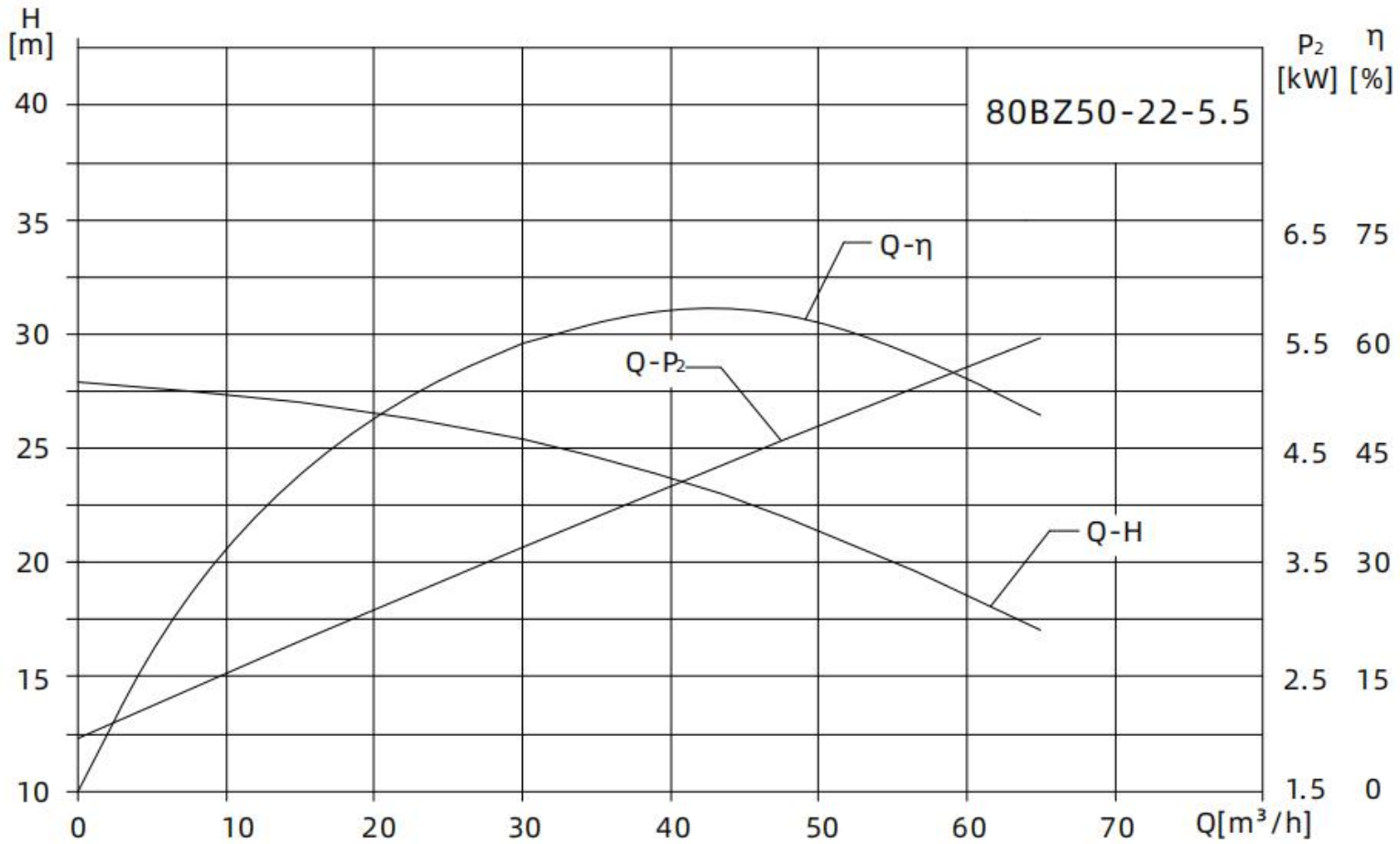
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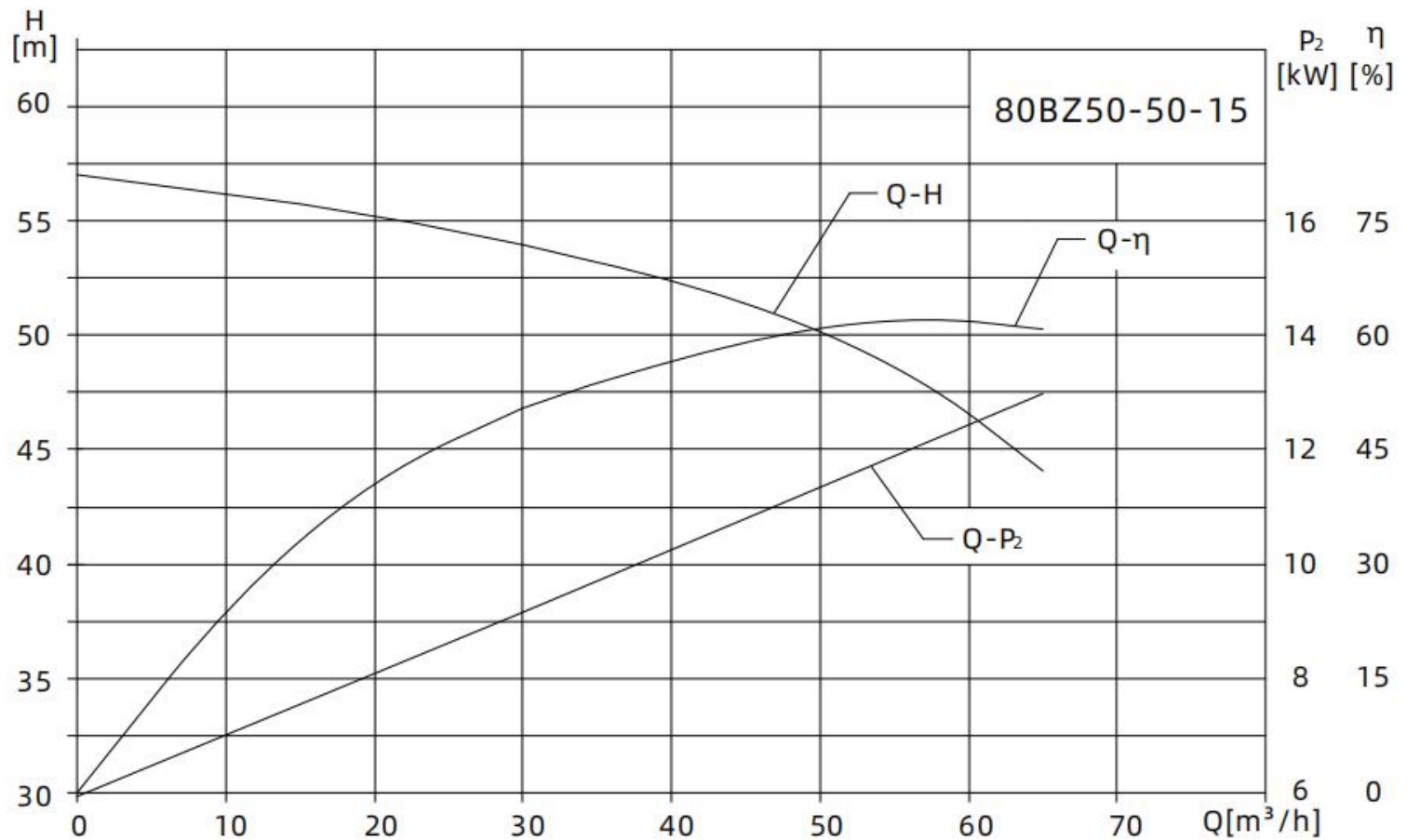
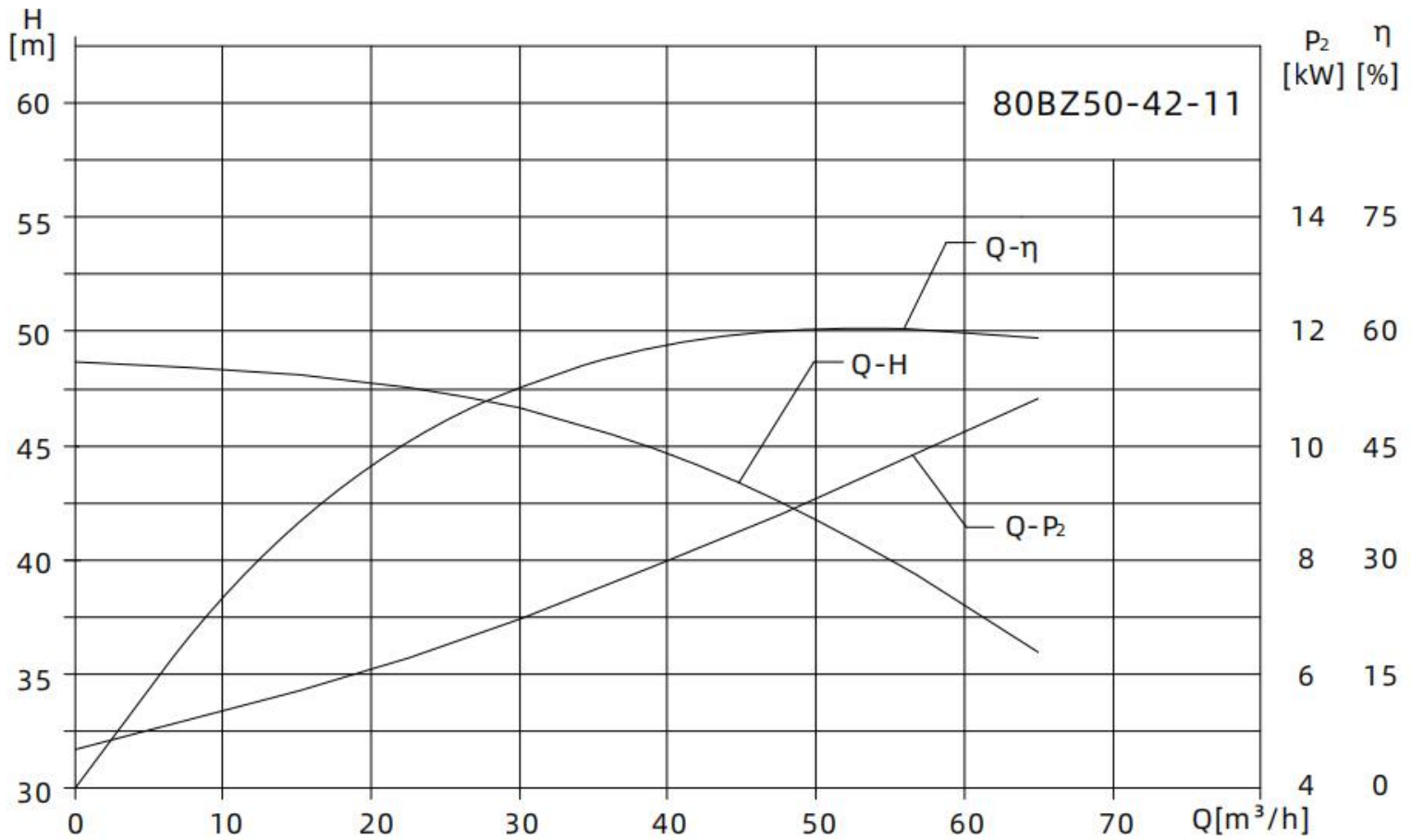
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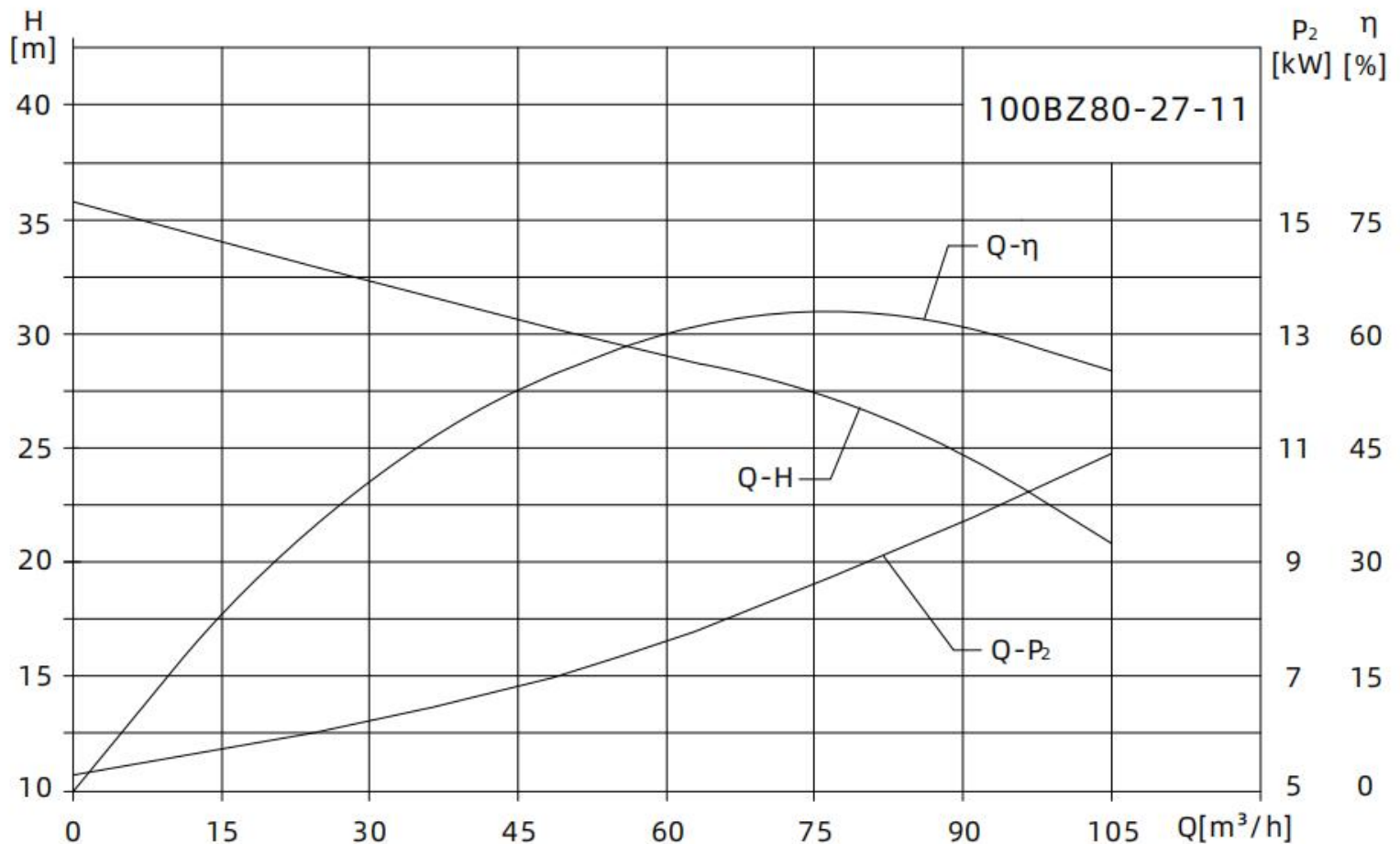
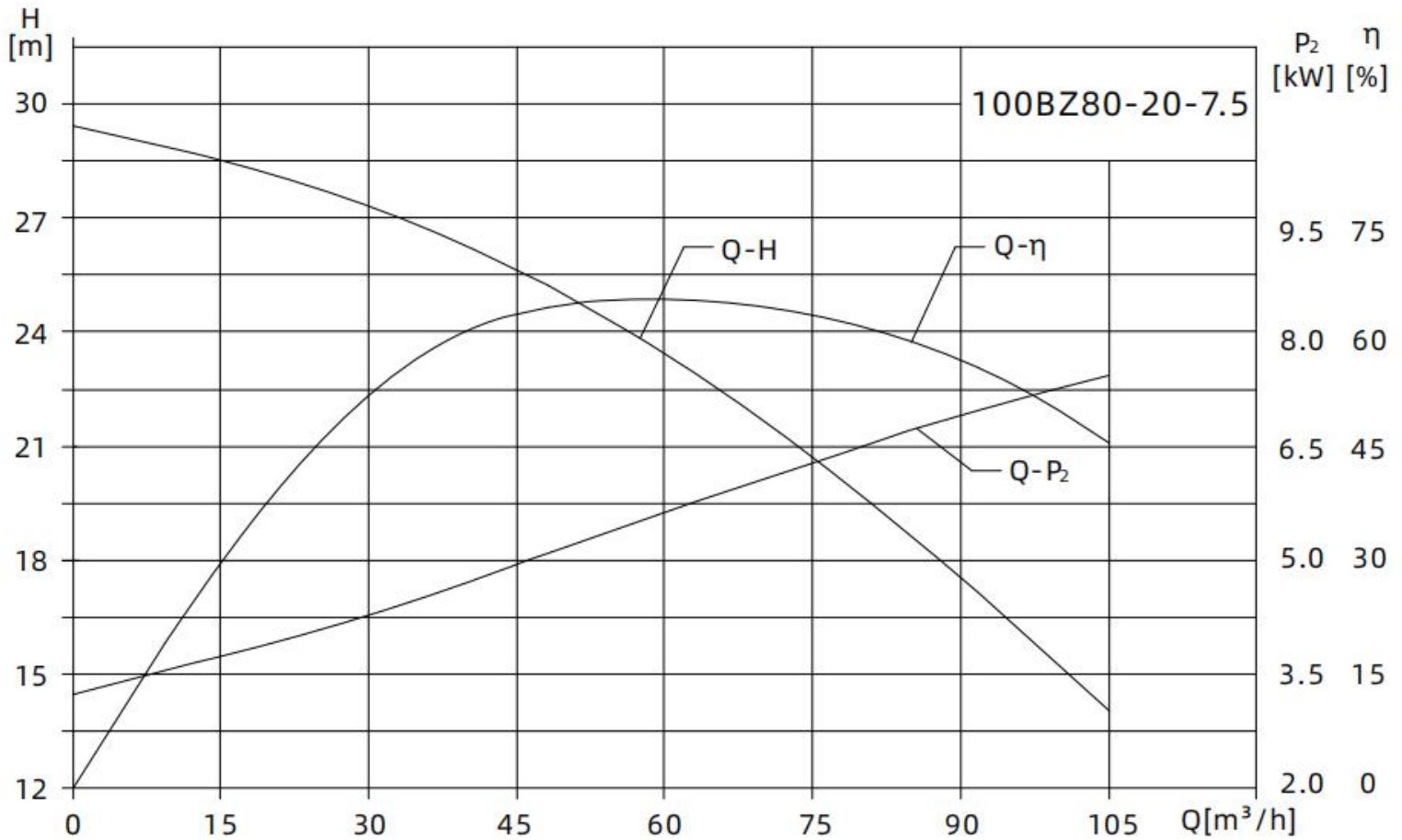
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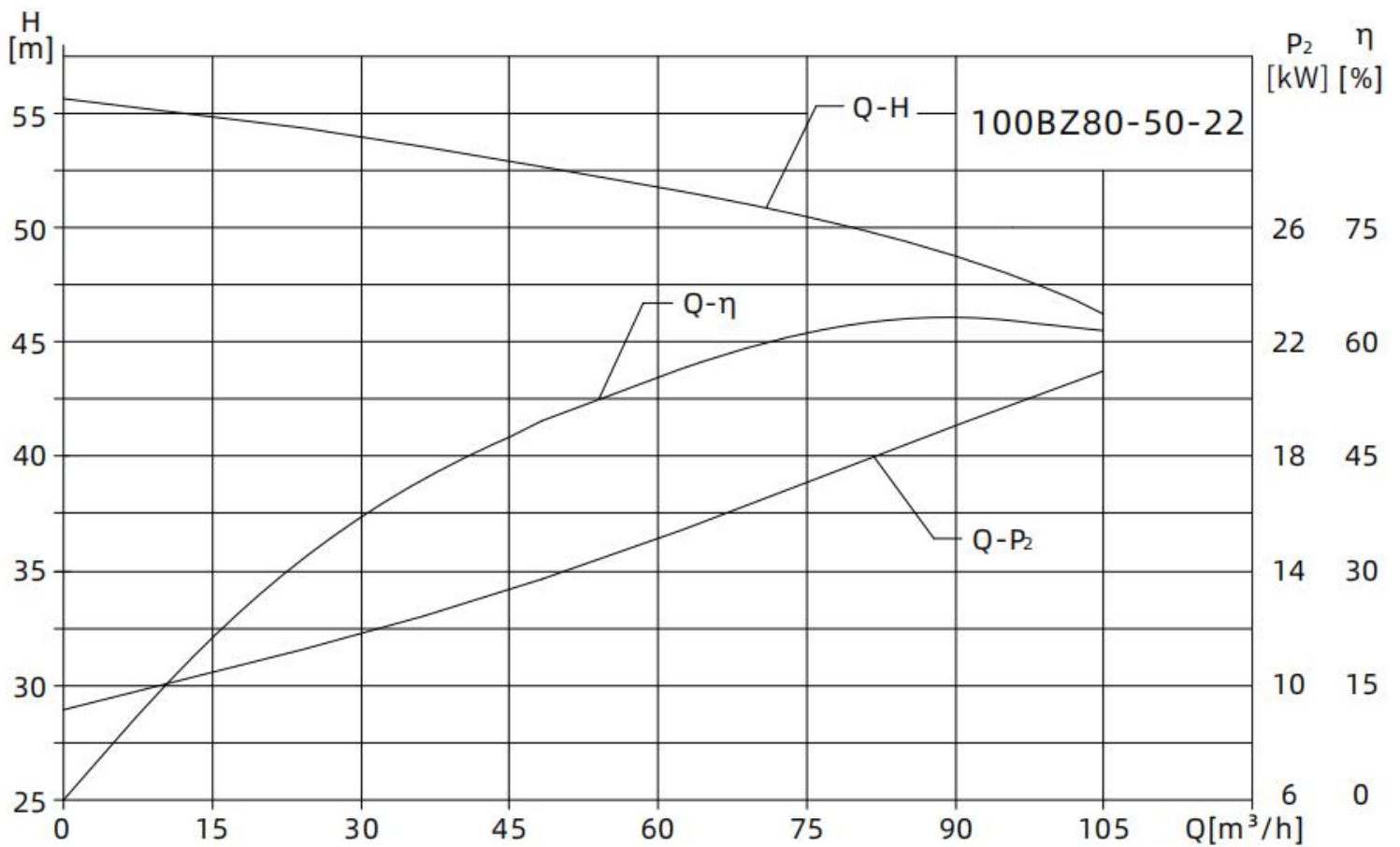
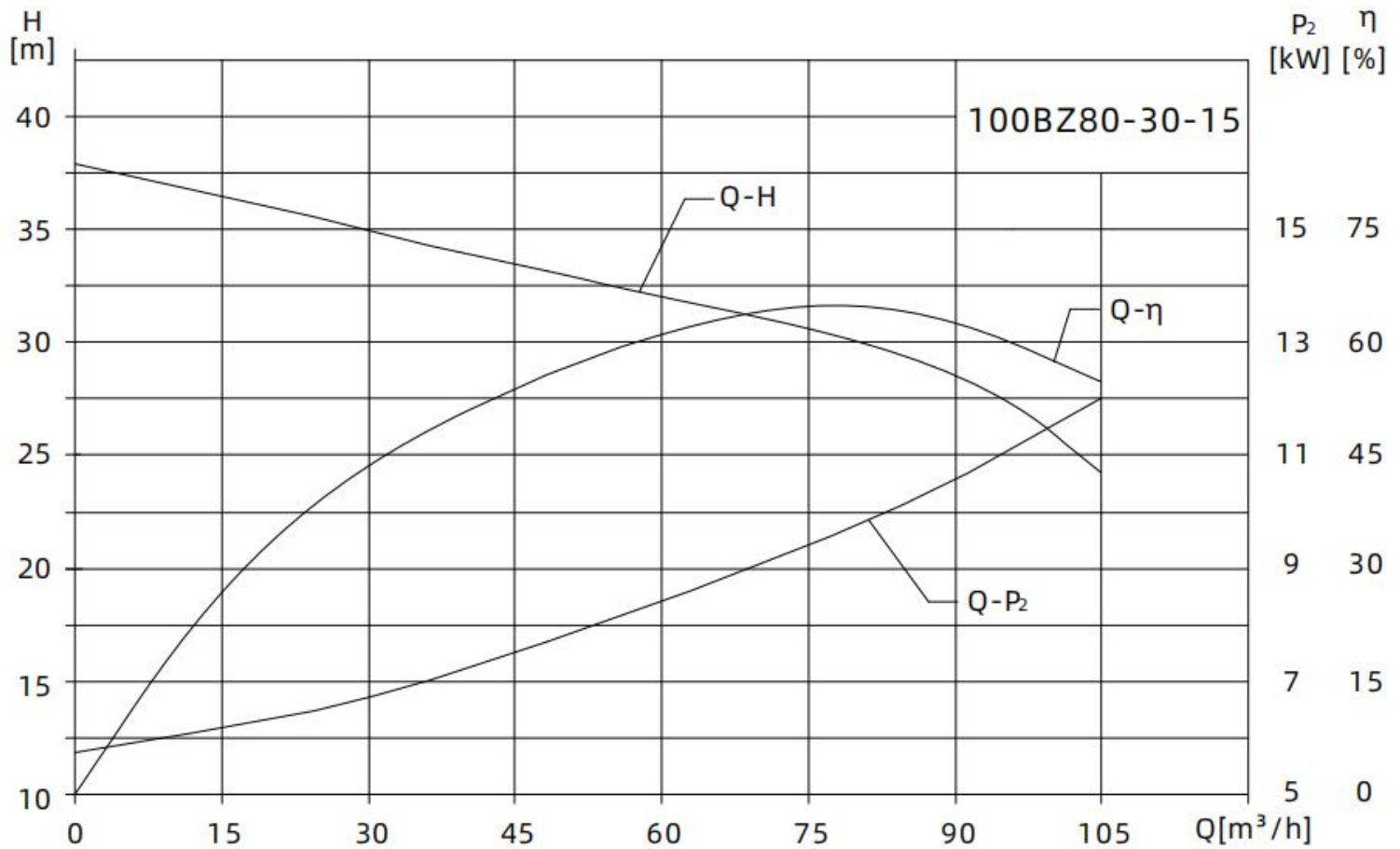
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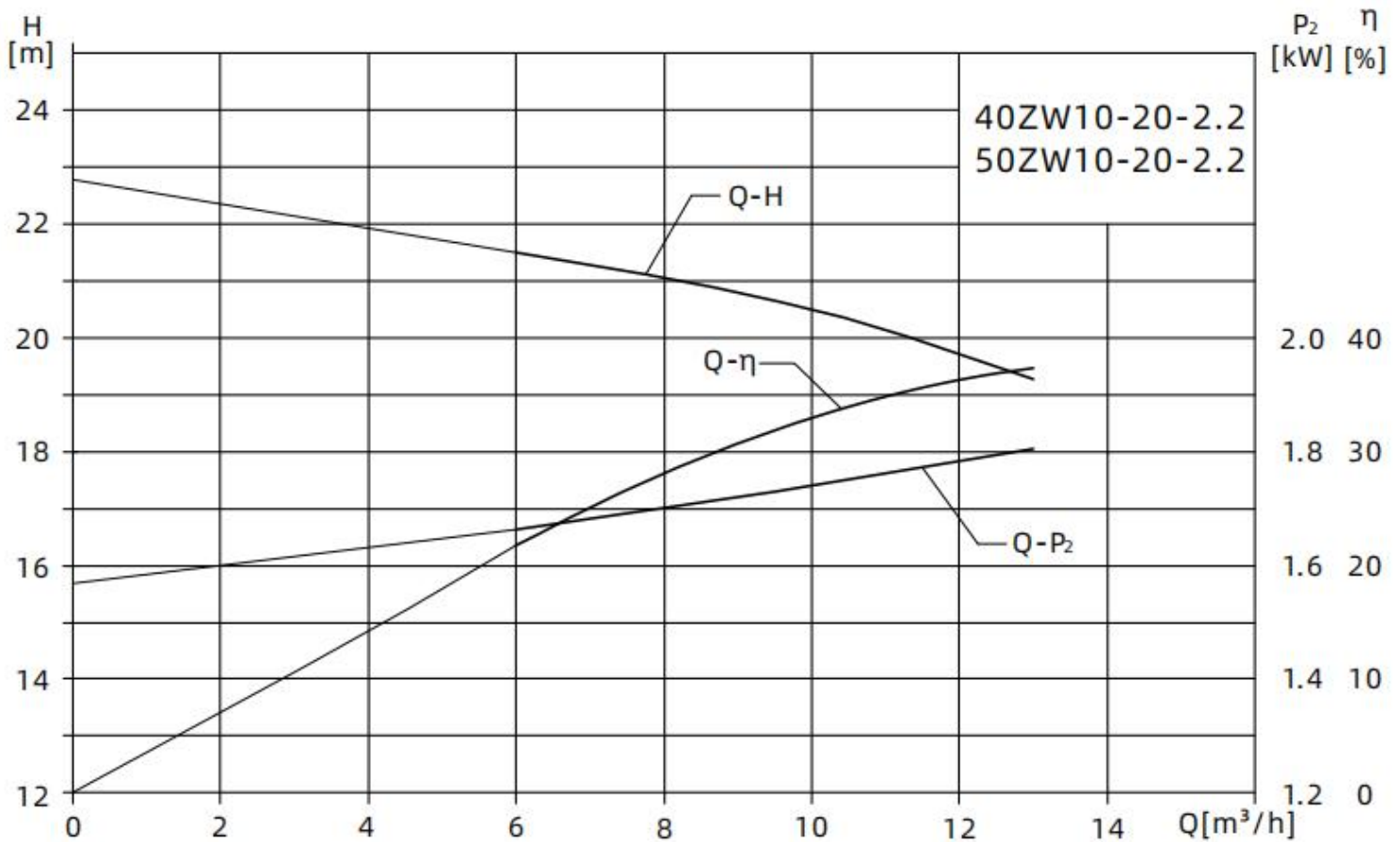
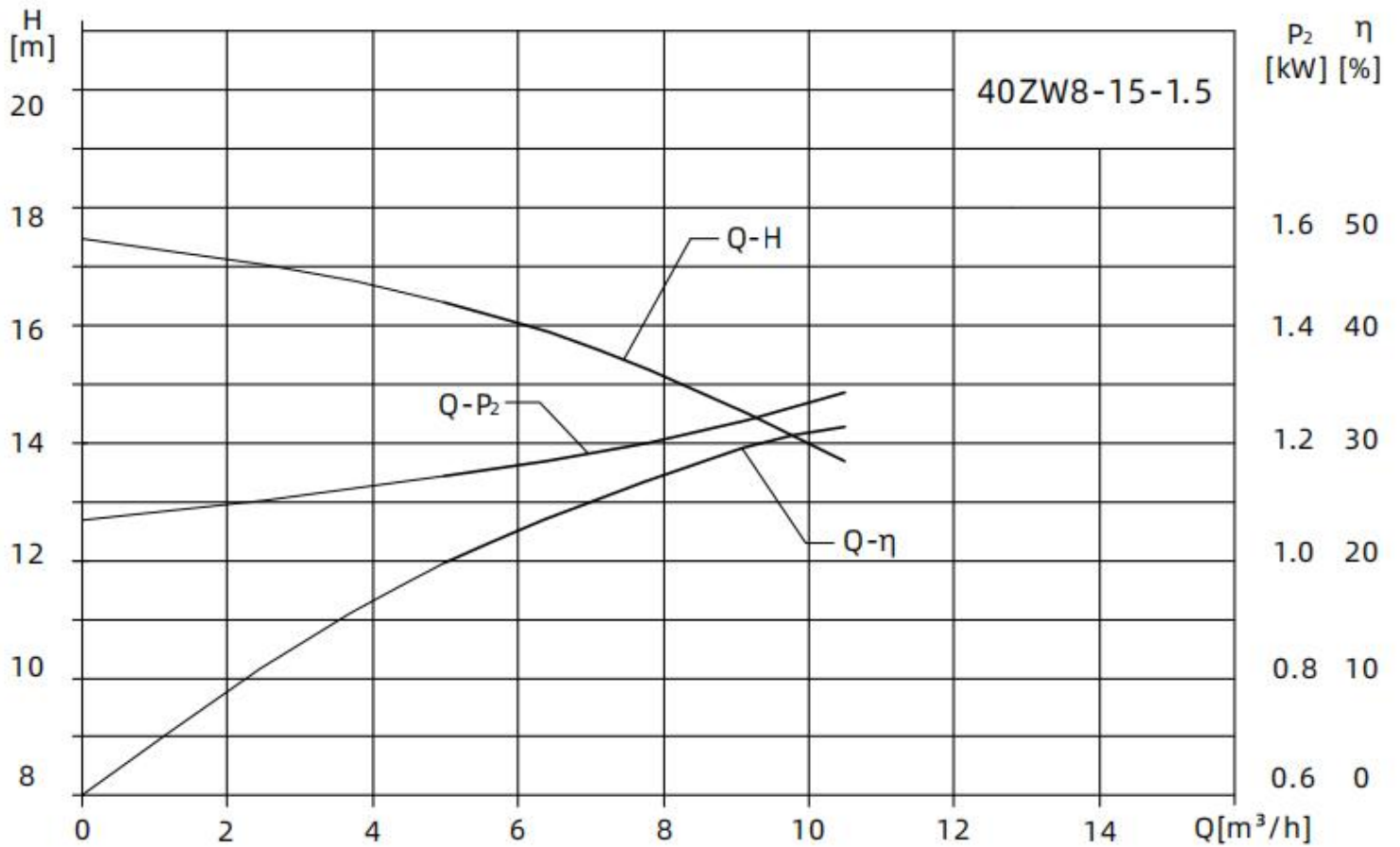
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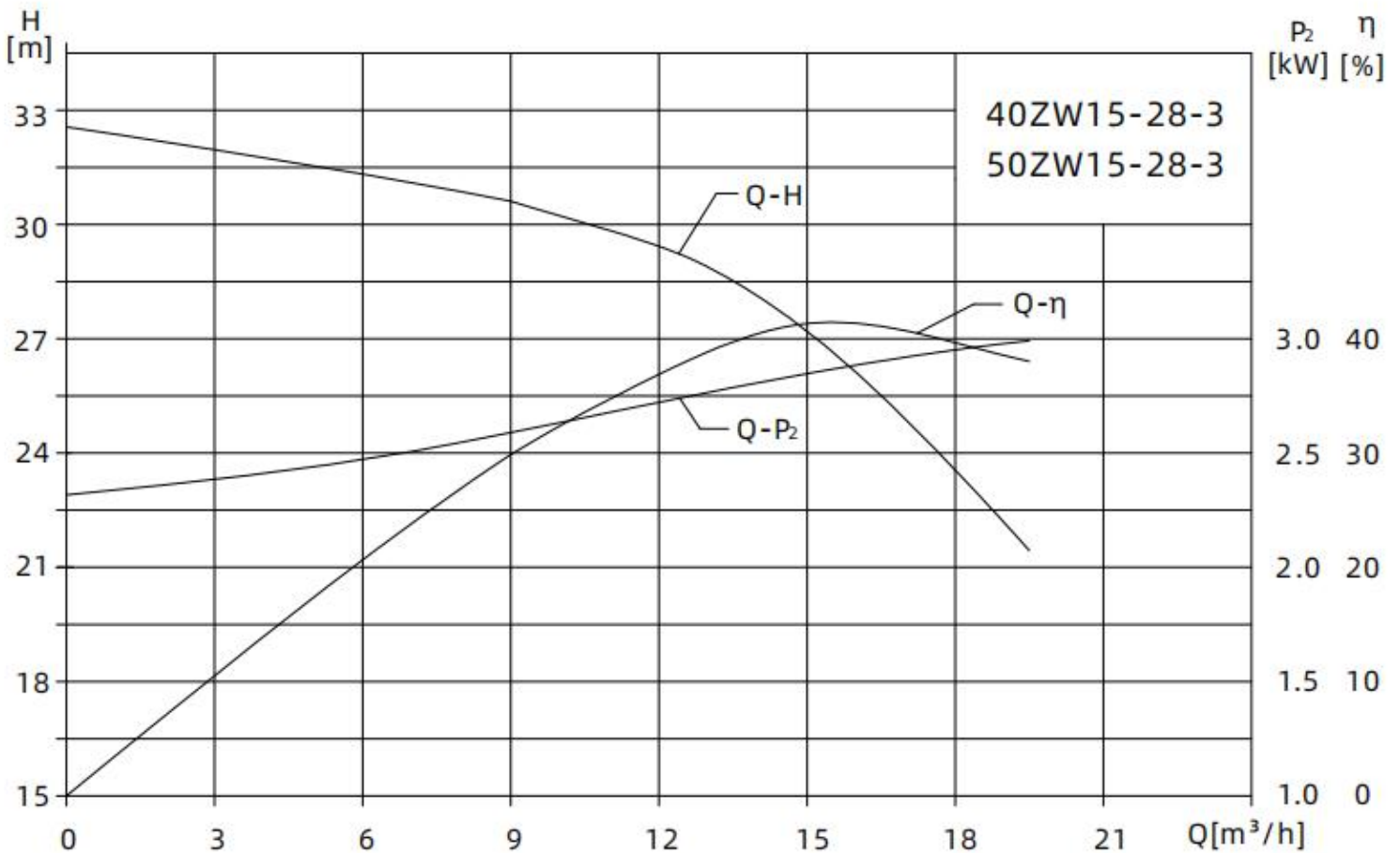
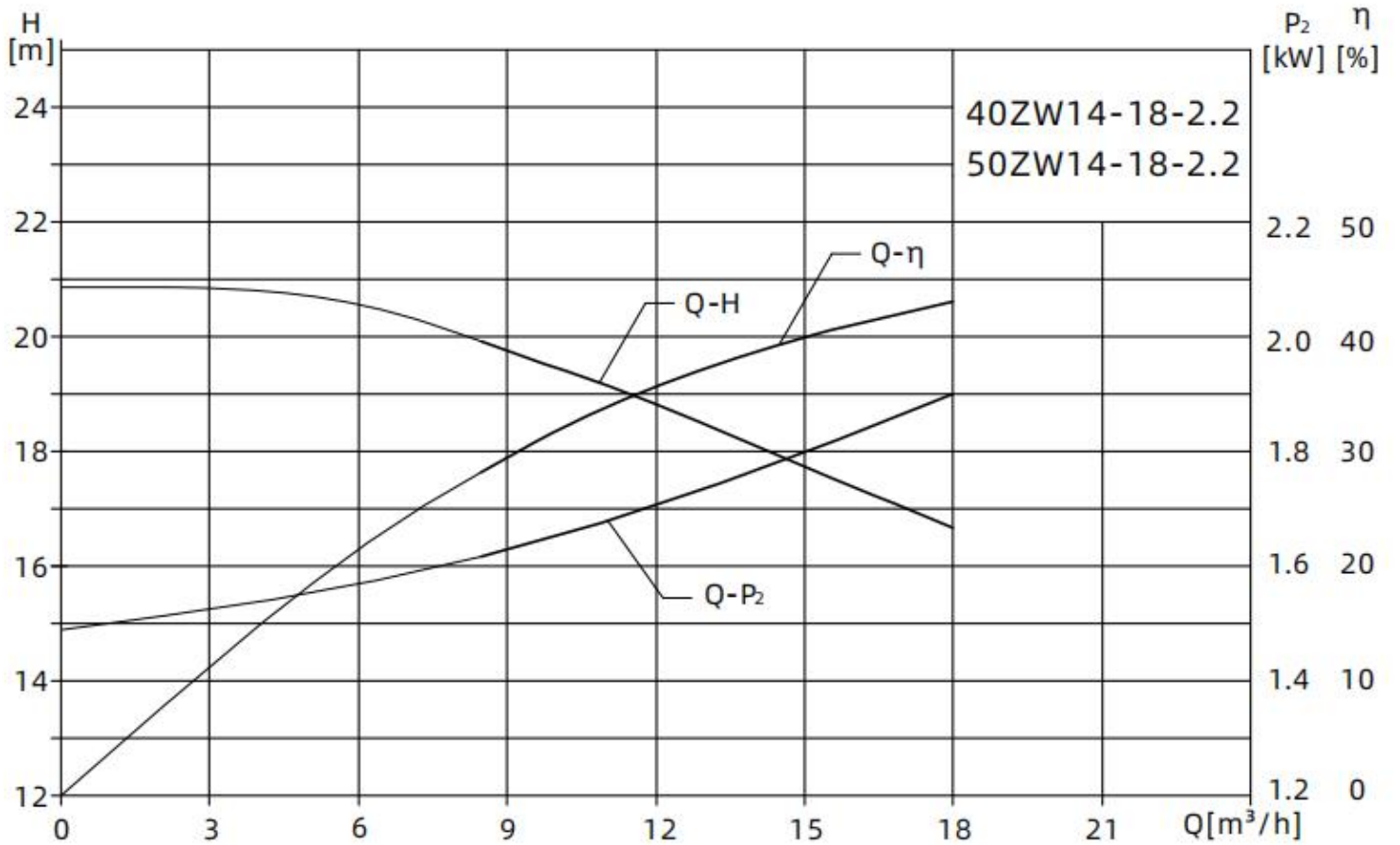
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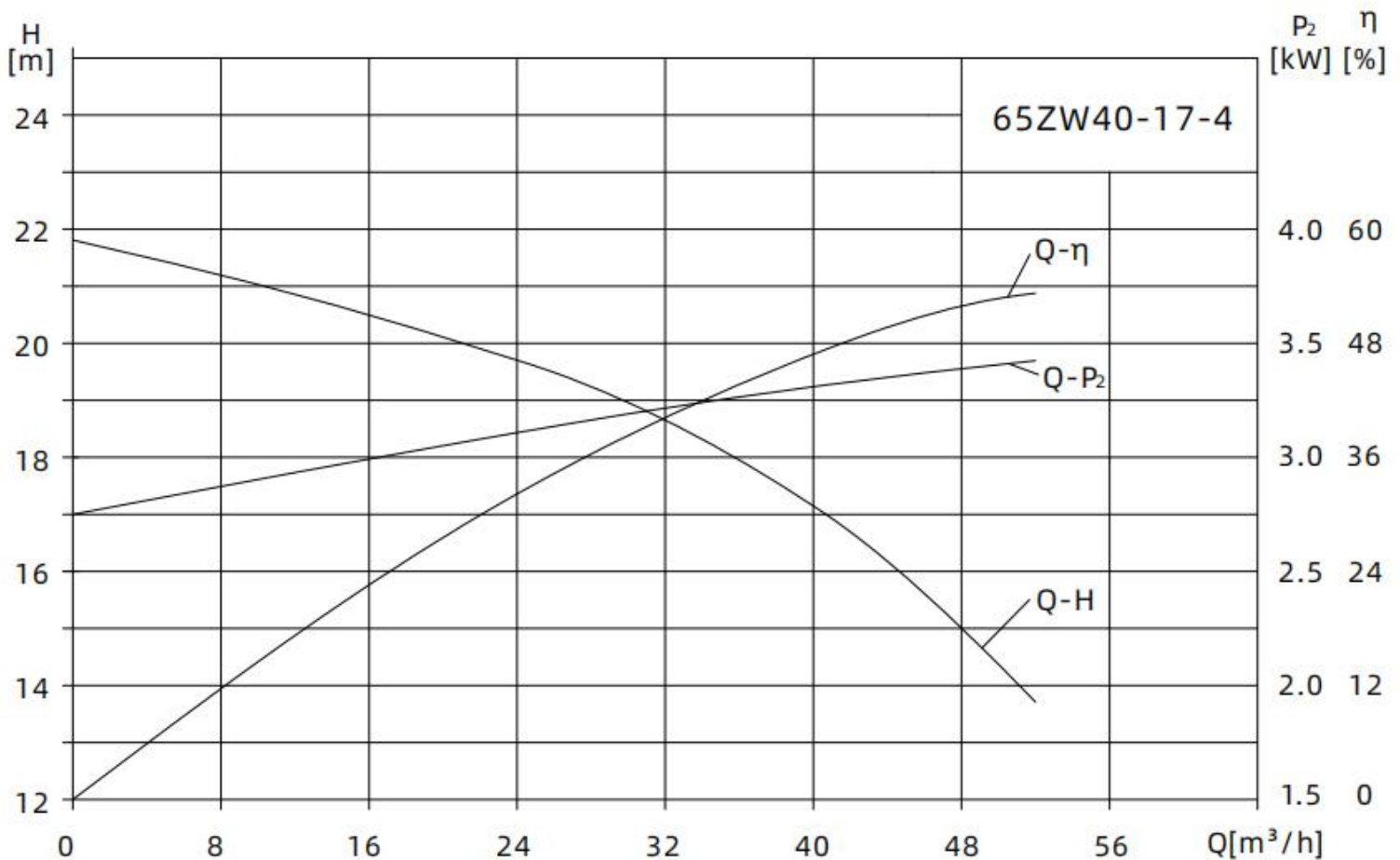
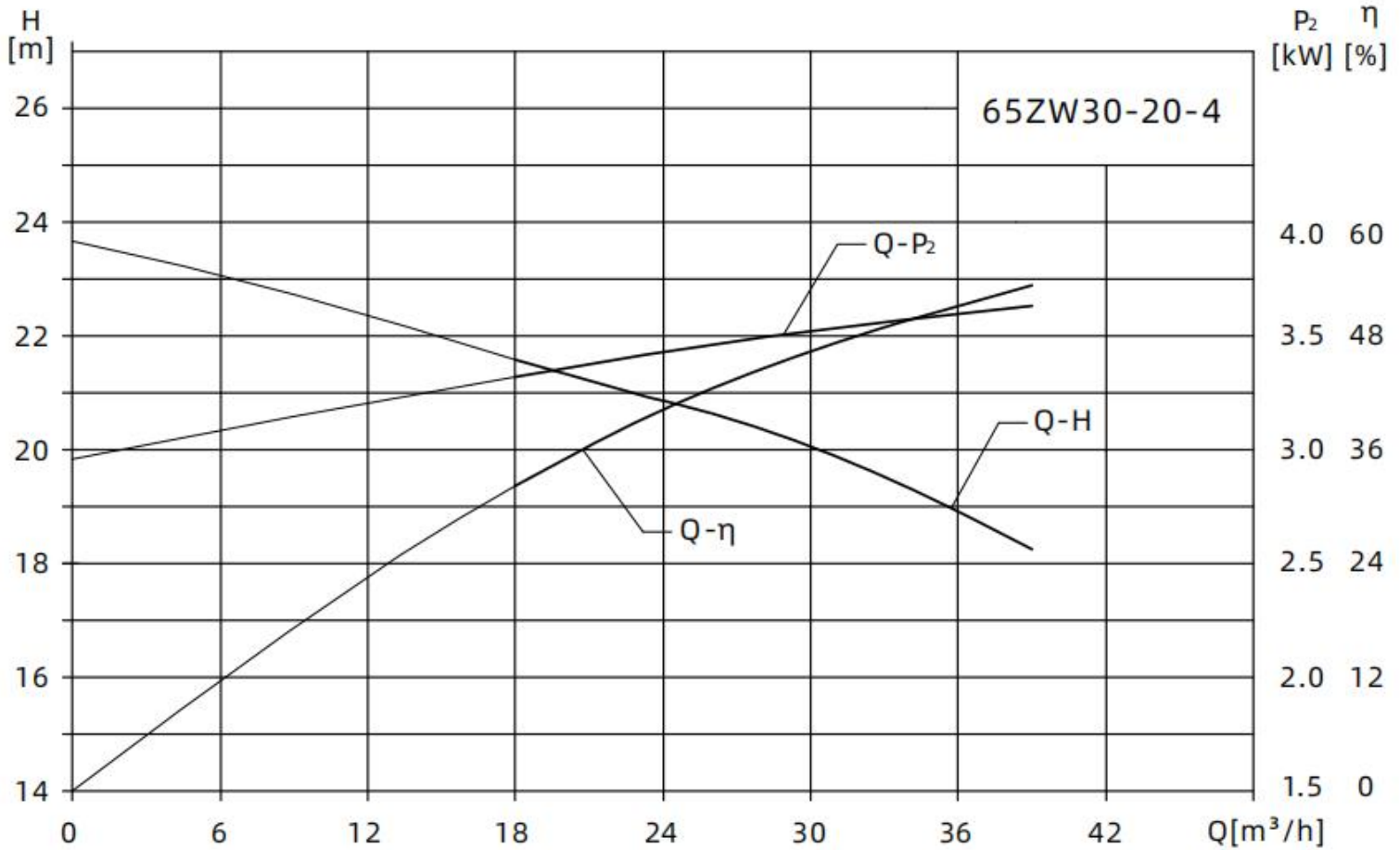
Wastewater Series Performance Curves



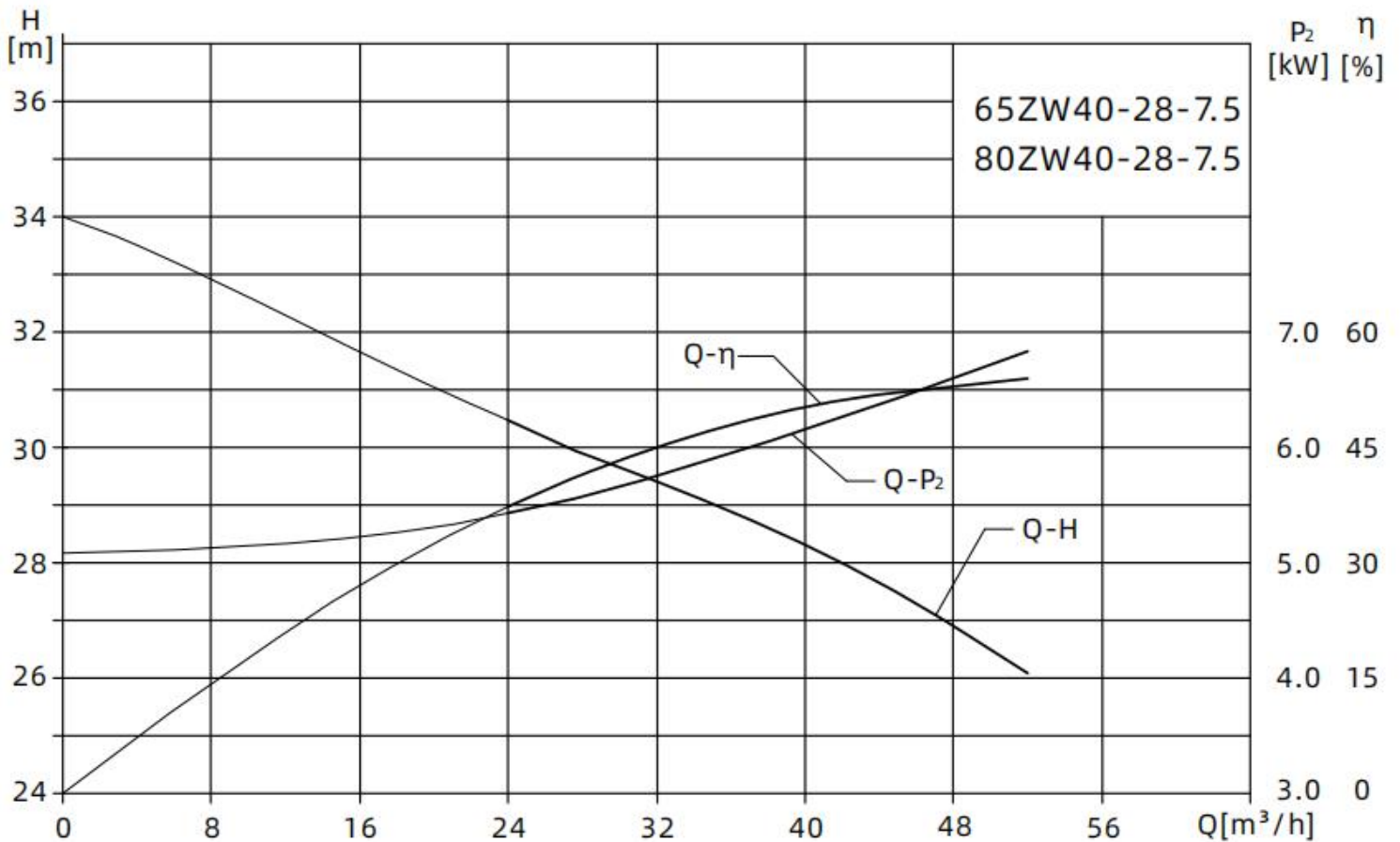
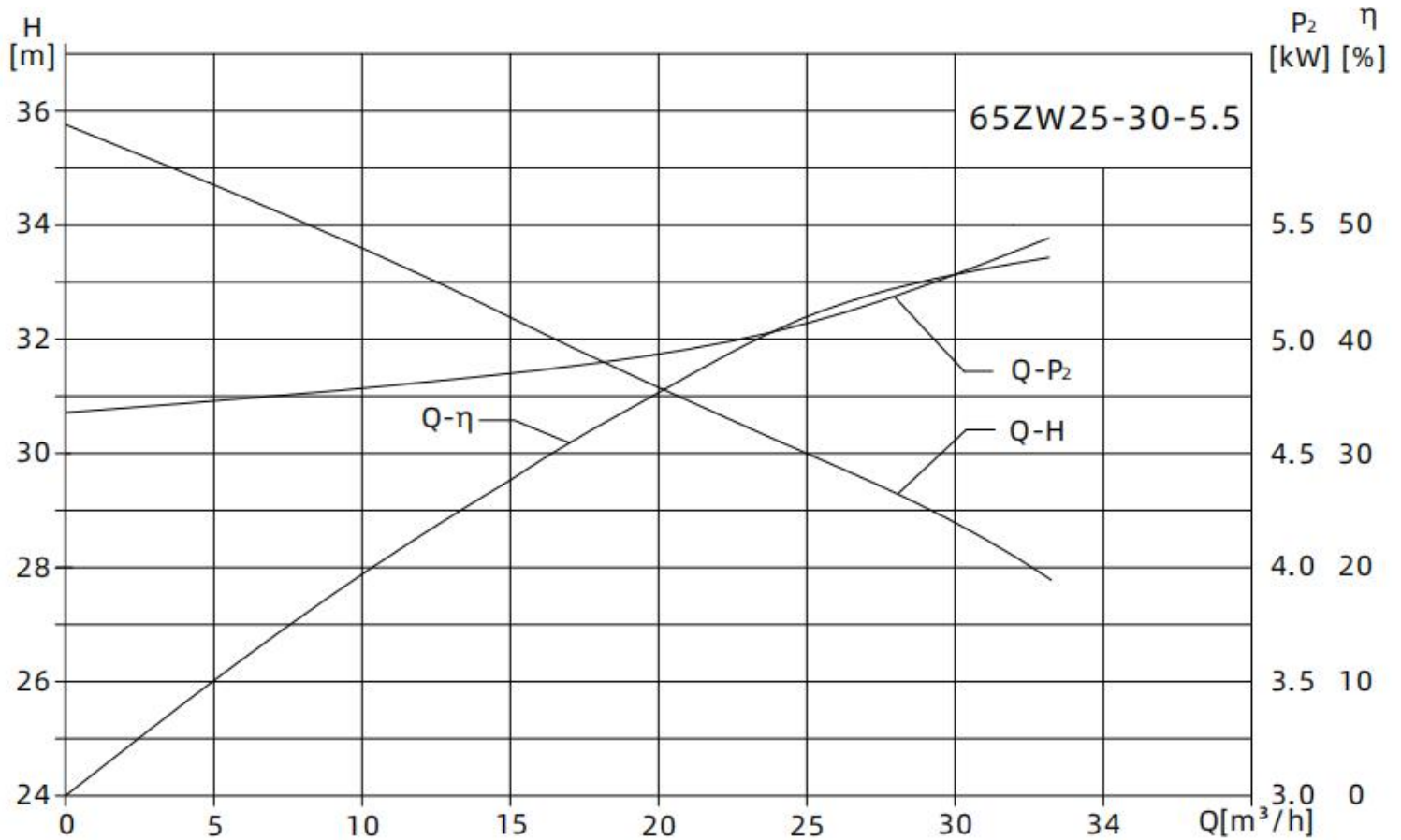
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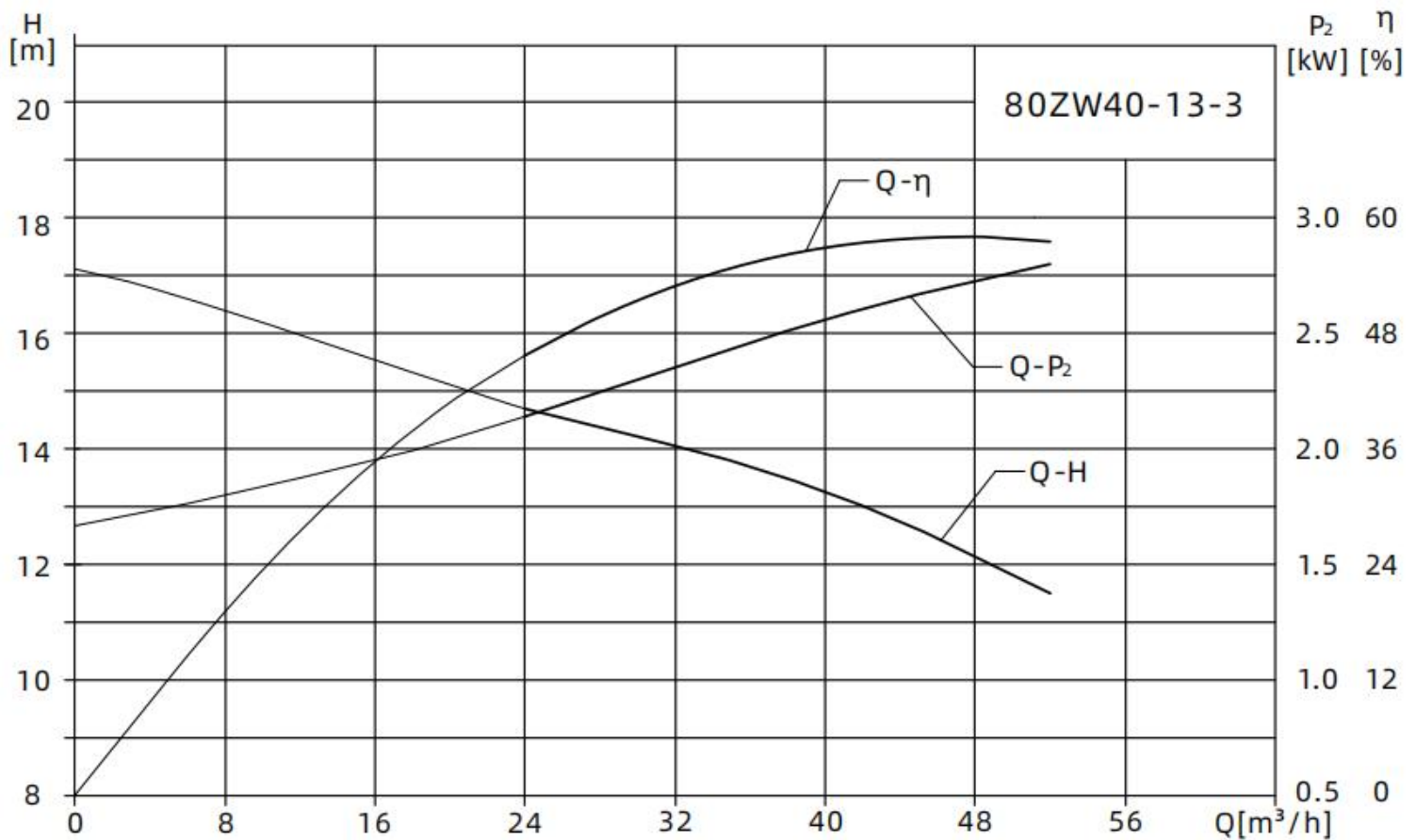
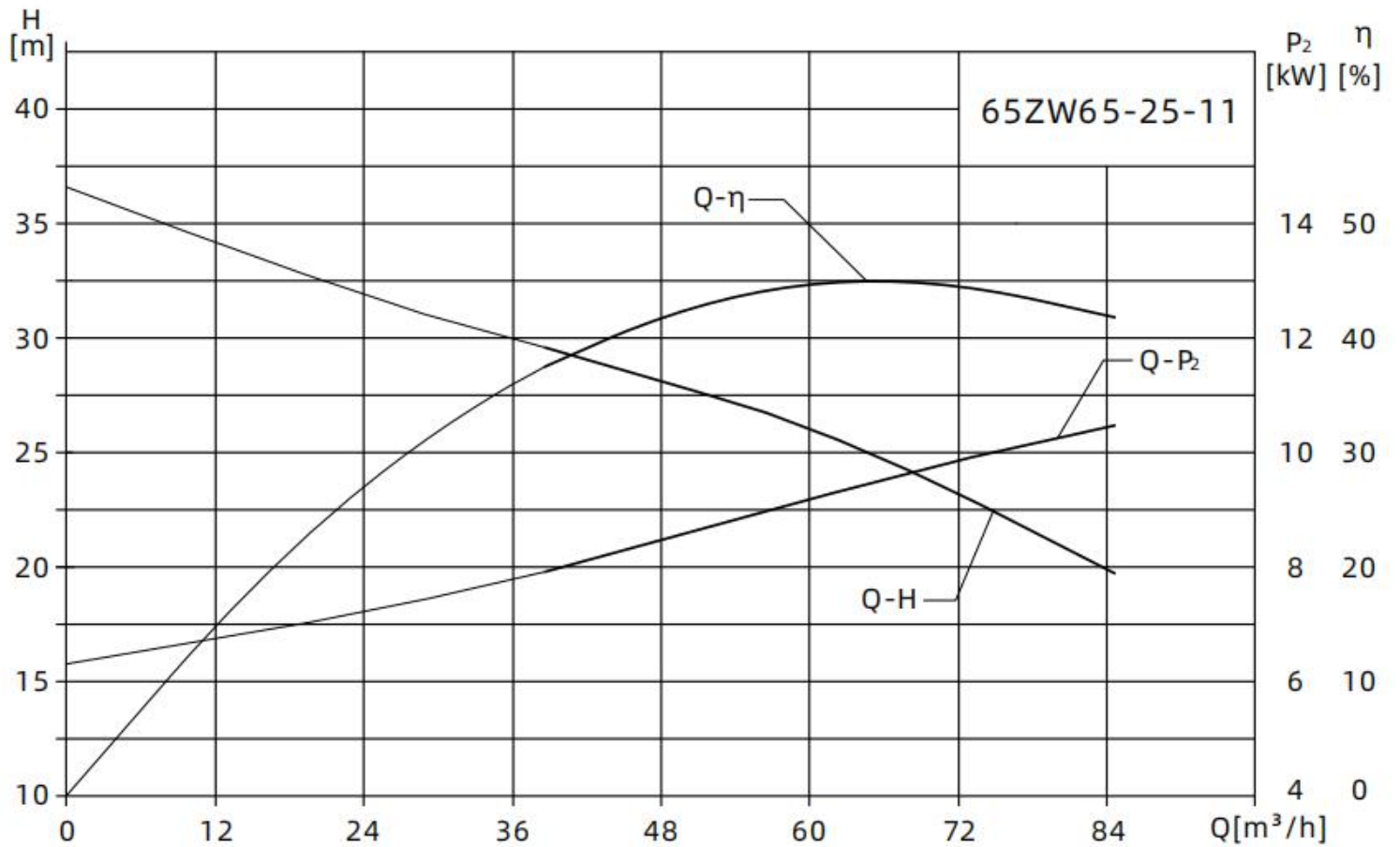
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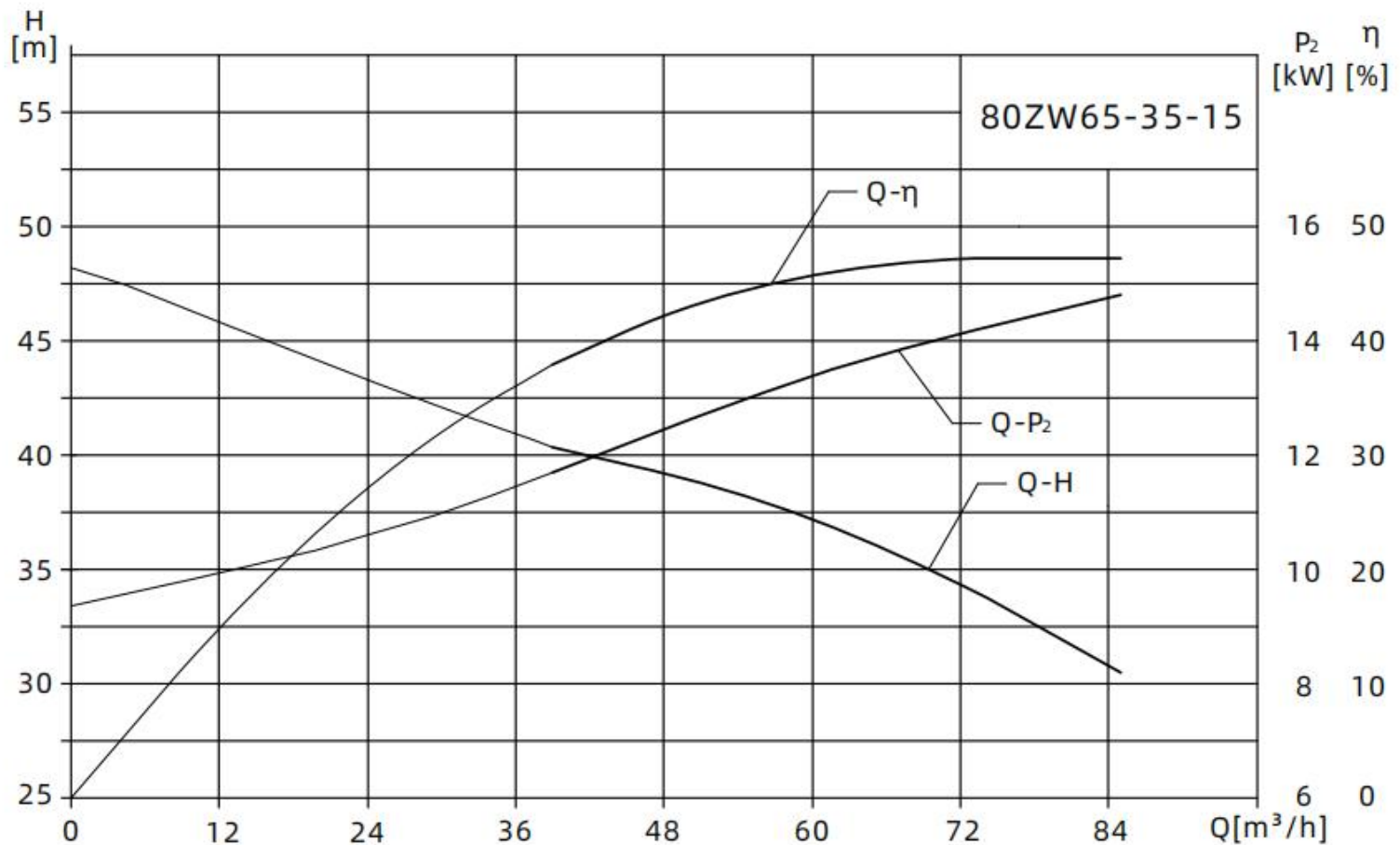
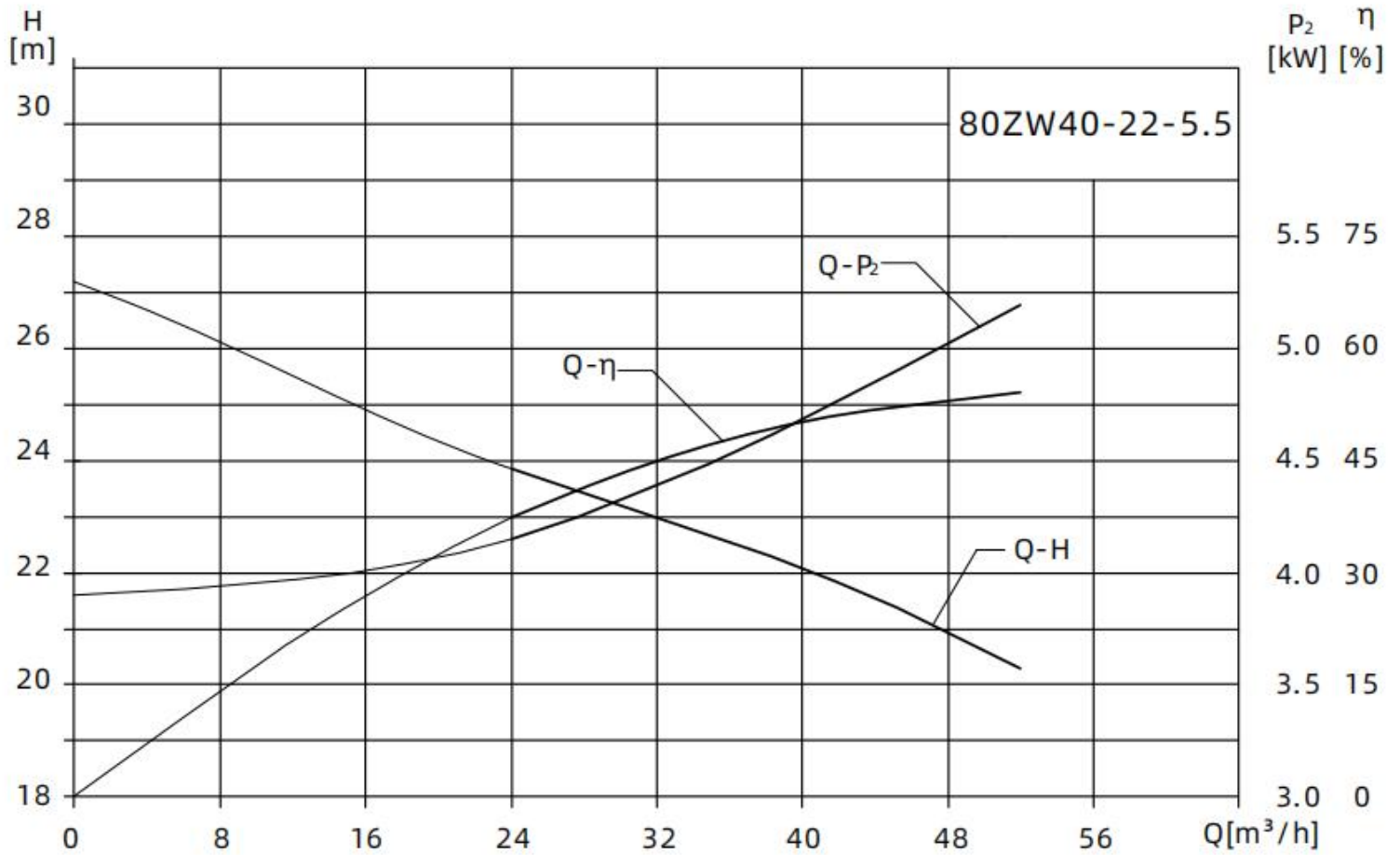
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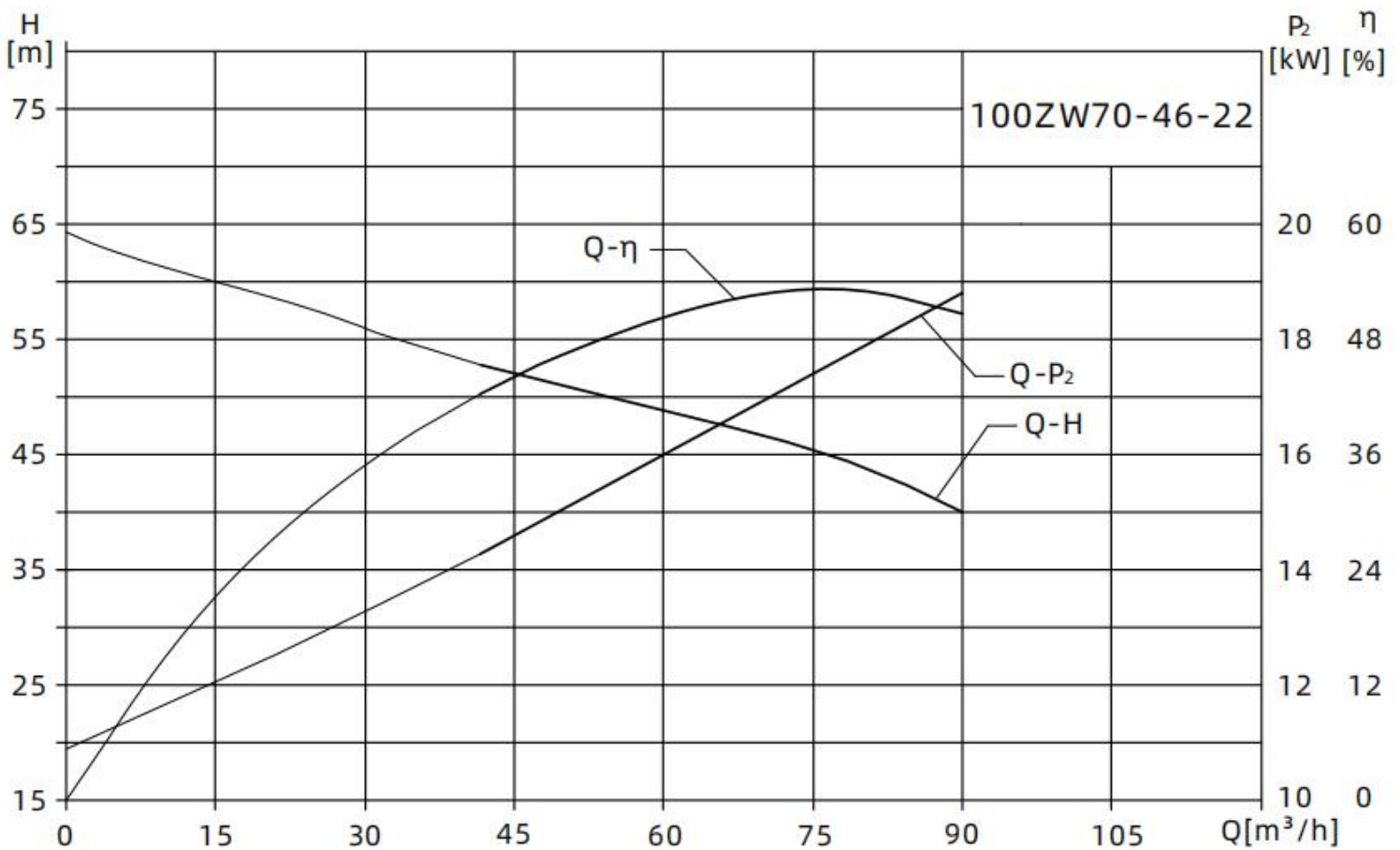
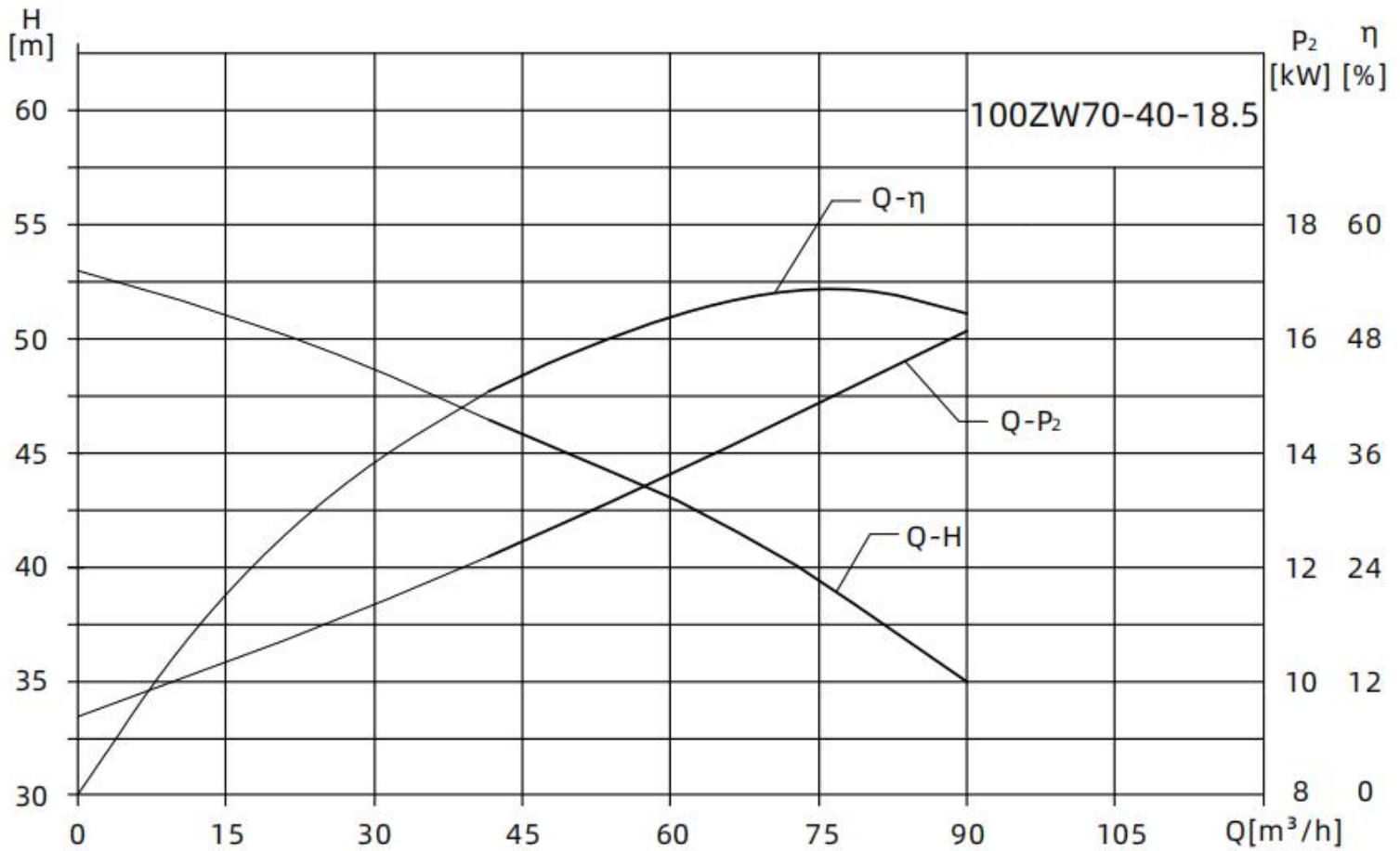
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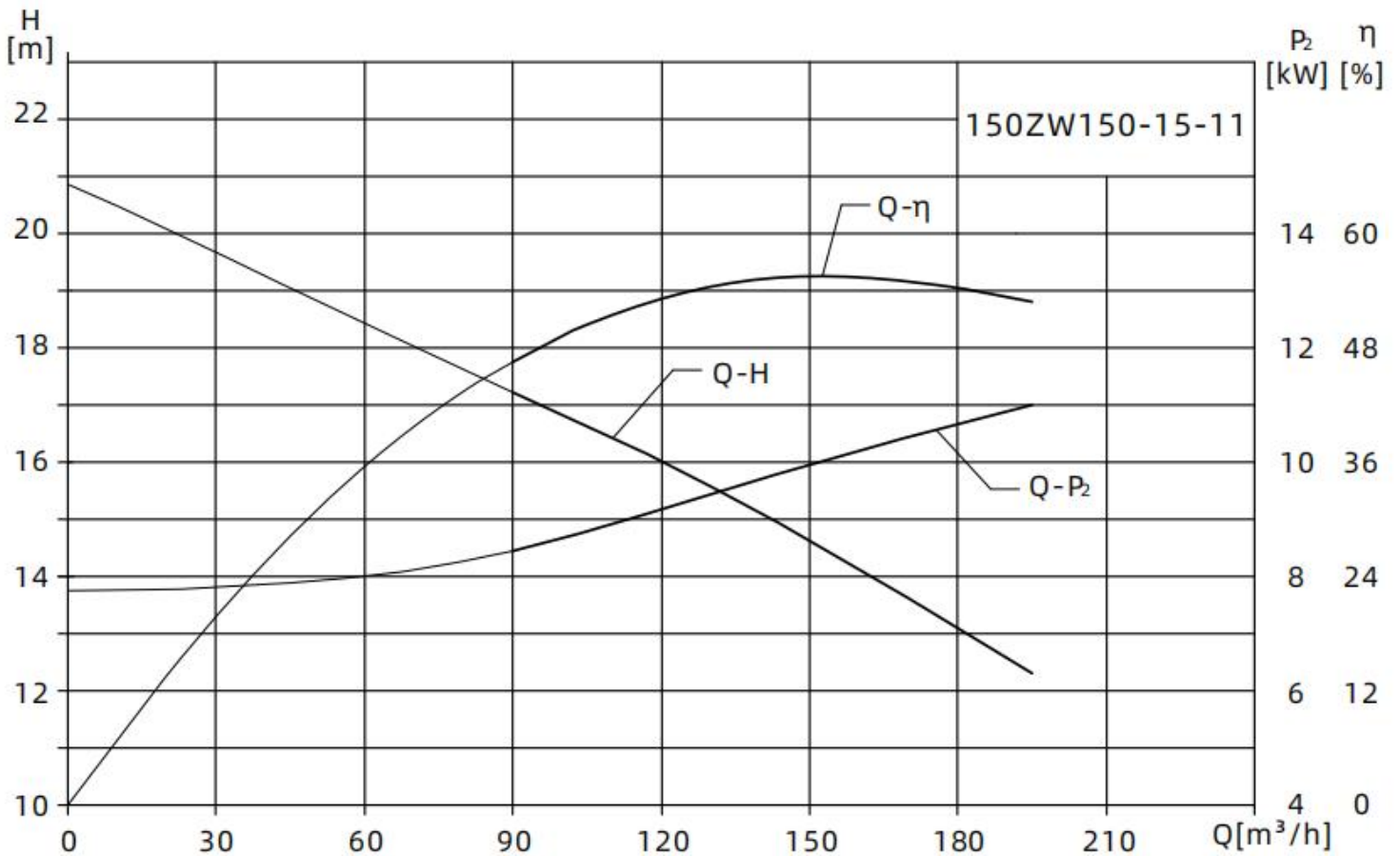
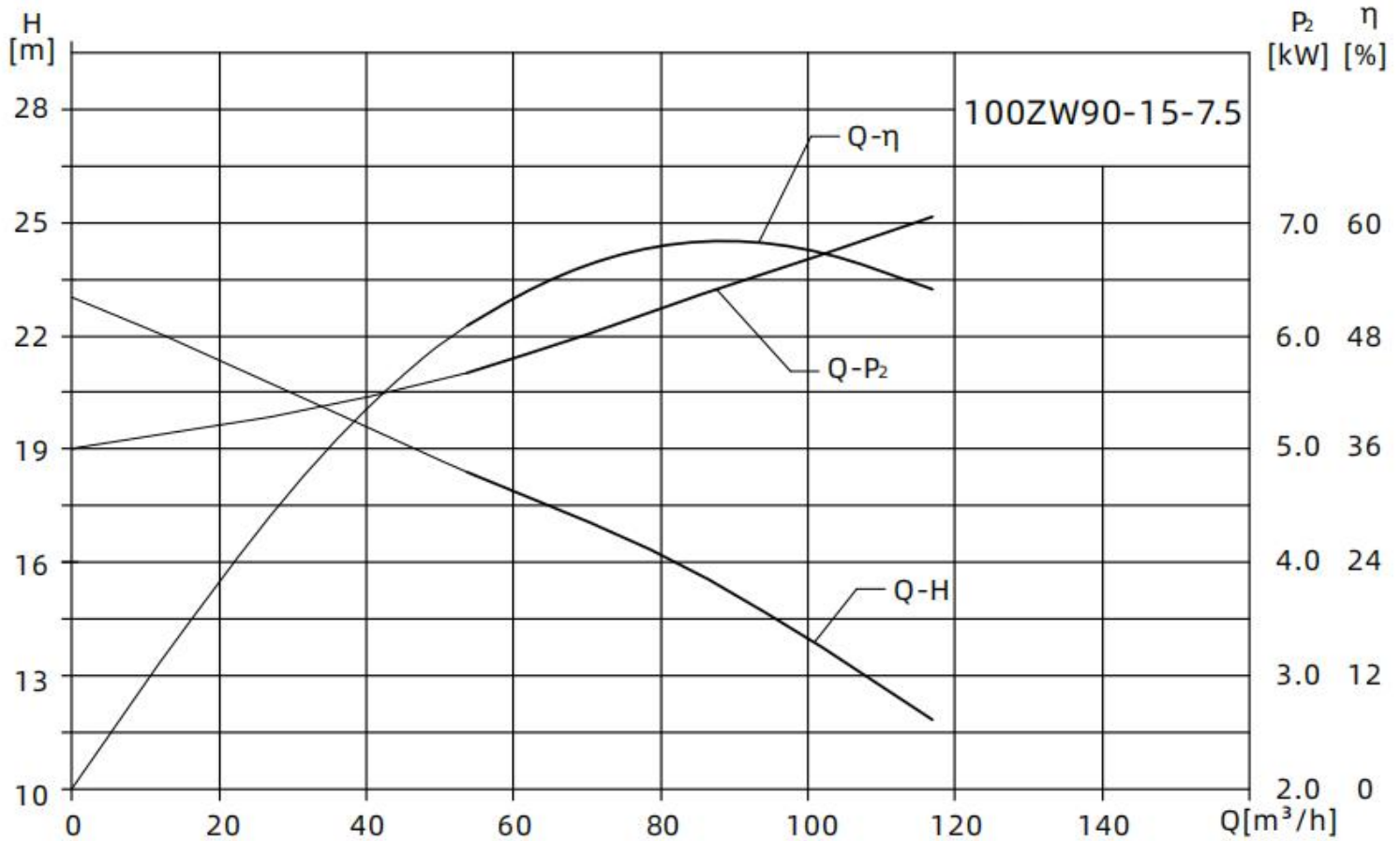
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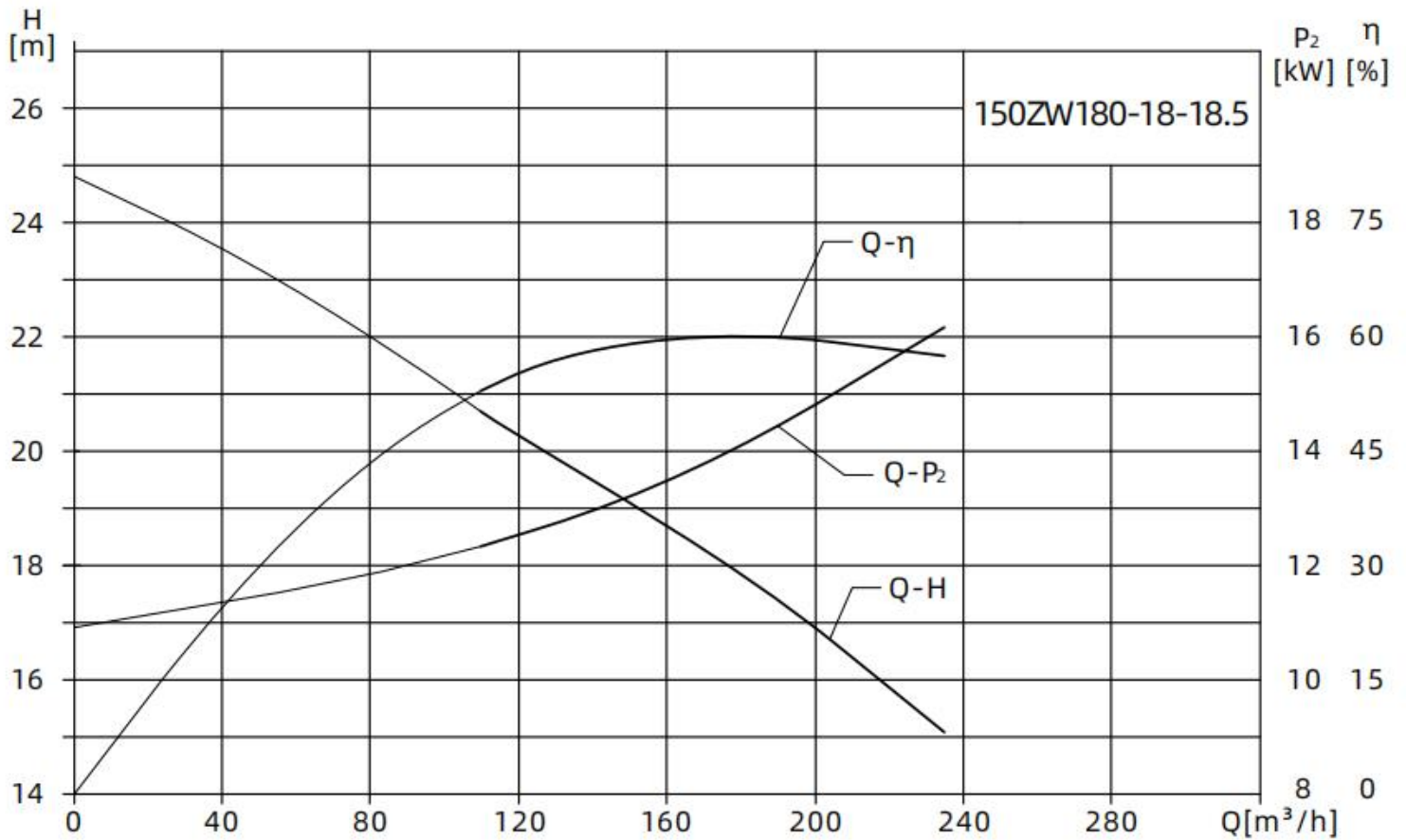
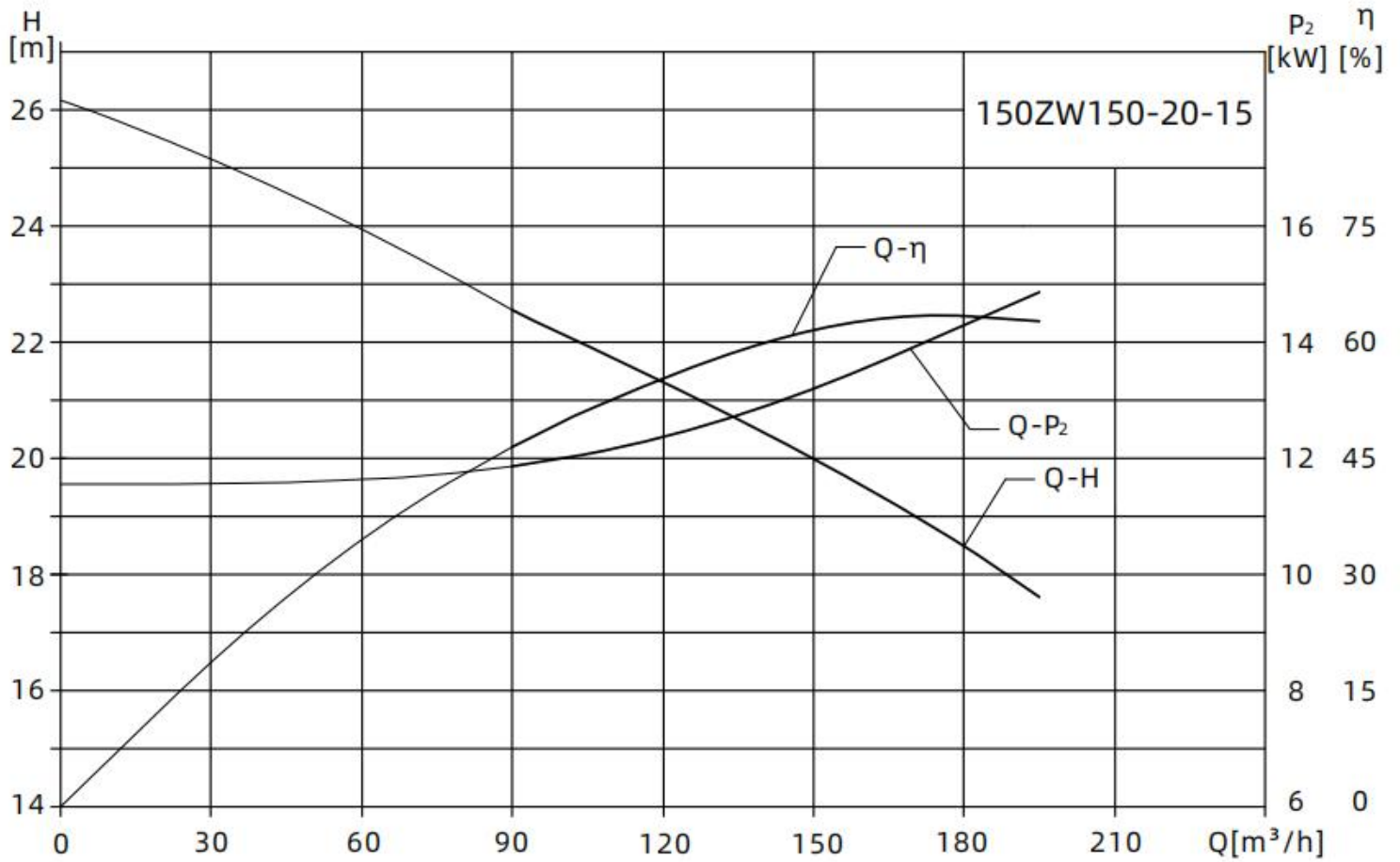
Wastewater Series Performance Curves



Wastewater Series Performance Curves



Wastewater Series Performance Curves



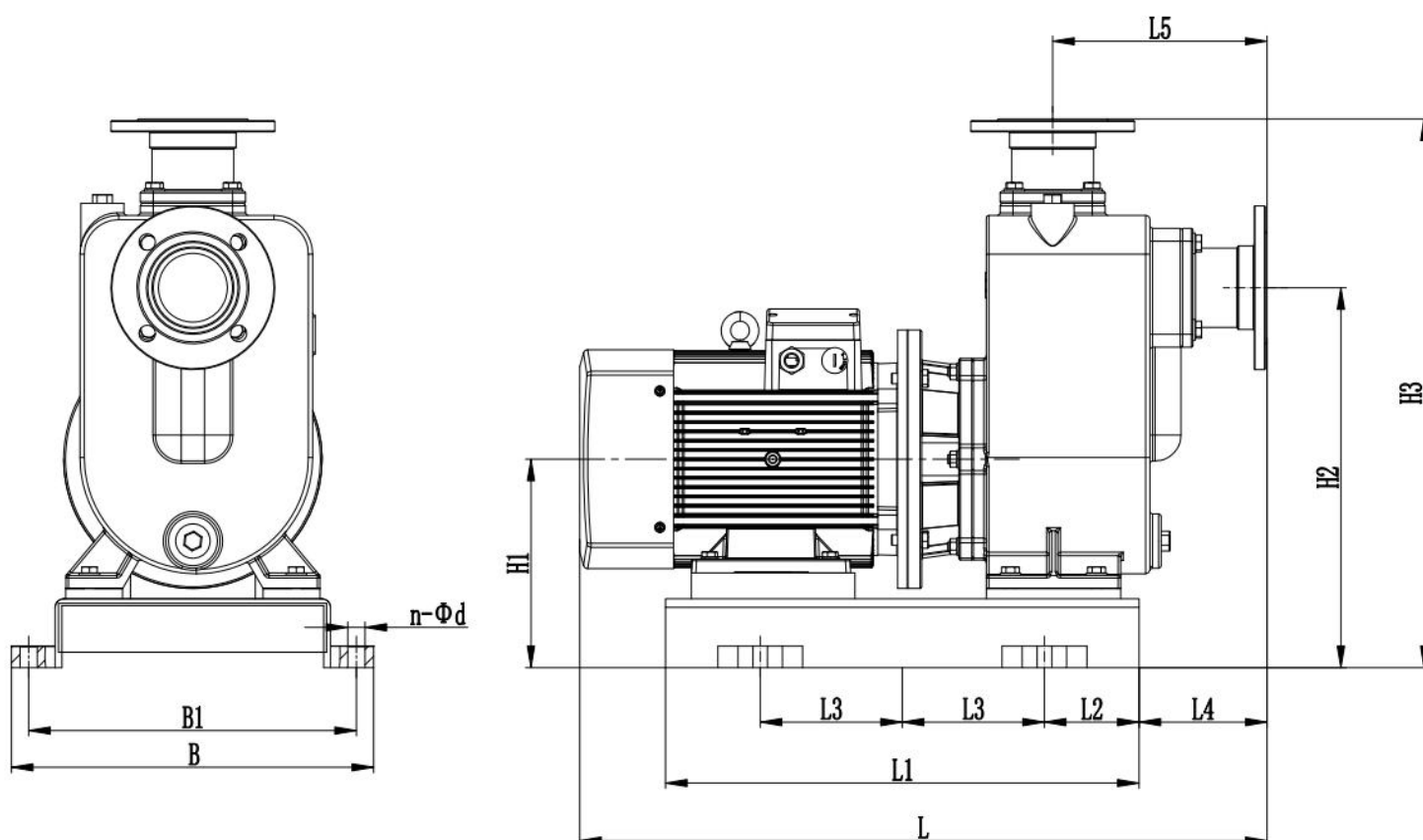
Basic Parameters

Model	Power (kW)	Flow (m³/h)	Head (m)	Self-priming height (m)	Pipe size (mm)	Voltage (V)	Rev (r/min)
40BZ10-20-1 .5	1.5	10	20	6	40	380	2900
50BZ10-25-2 .2	2.2	10	25	6	50		
50BZ10-32-3	3	10	32	6	50		
50BZ15-30-3	3	15	30	6	50		
50BZ14-35-4	4	14	35	6	50		
50BZ18-32-4	4	18	32	6	50		
50BZ20-48-5 .5	5.5	20	48	6	50		
65BZ20-15-2 .2	2.2	20	15	6	65		
65BZ25-14-2 .2	2.2	25	14	6	65		
65BZ25-20-3	3	25	20	6	65		
65BZ25-30-4	4	25	30	6	65		
65BZ25-40-5 .5	5.5	25	40	6	65		
80BZ50-22-5 .5	5.5	50	22	6	80		
80BZ50-30-7 .5	7.5	50	30	6	80		
80BZ50-42-11	11	50	42	6	80		2950
80BZ50-50-15	15	50	50	6	80		
100BZ80-20-7 .5	7.5	80	20	5	100		2900
100BZ80-27-11	11	80	27	5	100		2950
100BZ80-30-15	15	80	30	5	100		
100BZ80-50-22	22	80	50	5	100		

Basic Parameters

Model	Power (kW)	Flow (m³/h)	Head (m)	Self-priming height (m)	Pipe size (mm)	Voltage (V)	Rev (r/min)	Model
40ZW8-15-1.5	1.5	8	15	4	220	40	380	2900
40ZW10-20-2.2	2.2	10	20	4	220	40		
40ZW14-18-2.2	2.2	14	18	4	220	40		
40ZW15-28-3	3	15	28	4	220	40		
50ZW10-20-2.2	2.2	10	20	4	230	50		
50ZW14-18-2.2	2.2	14	18	4	230	50		
50ZW15-28-3	3	15	28	4	250	50		
65ZW30-20-4	4	30	20	5	380	65		
65ZW40-17-4	4	40	17	5	380	65		
65ZW25-30-5.5	5.5	25	30	5	350	65		
65ZW40-28-7.5	7.5	40	28	5	350	65		
65ZW65-25-11	11	65	25	5	350	65		2950
80ZW40-22-5.5	5.5	40	22	5	400	80		2900
80ZW40-28-7.5	7.5	40	28	5	400	80		
80ZW65-35-15	15	65	35	5	400	80		2950
100ZW70-40-18.5	18.5	70	40	5	400	100		
100ZW70-46-22	22	70	46	5	400	100		
80ZW40-13-3	3	40	13	5	400	80		1450
100ZW90-15-7.5	7.5	90	15	5	400	100		
150ZW150-15-11	11	150	15	5	400	150		1480
150ZW150-20-15	15	150	20	5	400	150		
150ZW180-18-18.5	18.5	180	18	5	400	150		

Installation Diagram



Installation Dimensions

Model	Size (m)													Weight (kg)
	L	L1	L2	L3	L4	L5	H1	H2	H3	B	B1	n	d	
40BZ10-20-1.5	515	390	81	112	54	123	170	271	420	286	255	4	14.5	40
50BZ10-25-2.2	560	433	81	135	75	146	170	285	460	295	263	4	12.5	49
50BZ10-32-3	625	455	103	125	80	150	170	285	460	316	285	4	14.5	60
50BZ15-30-3	625	455	103	125	80	150	170	285	460	316	285	4	14.5	60
50BZ14-35-4	625	470	103	132	70	150	190	332	480	345	304	4	14.5	70
50BZ18-32-4	625	470	103	132	70	150	190	332	480	345	304	4	14.5	70
50BZ20-48-5.5	660	525	108	159	65	150	230	365	528	380	338	4	15	92
65BZ20-15-2.2	575	433	81	135	85	150	170	285	470	295	263	4	12.5	52
65BZ25-14-2.2	575	433	81	135	85	150	170	285	470	295	263	4	12.5	52
65BZ25-20-3	635	455	103	125	85	150	170	300	490	316	285	4	14.5	65
65BZ25-30-4	625	470	103	132	70	150	190	312	497	345	304	4	14.5	75
65BZ25-40-5.5	680	525	108	159	75	156	225	350	533	380	338	4	15	95
80BZ50-22-5.5	690	525	108	159	95	184	230	368	578	380	338	4	15	95
80BZ50-30-7.5	705	525	108	159	95	184	230	368	578	380	338	4	15	103
80BZ50-42-11	900	655	119	211	95	193	240	417	626	470	419	4	17	145
80BZ50-50-15	900	655	119	211	95	193	240	417	626	470	419	4	17	164
100BZ80-20-7.5	720	525	108	159	105	190	225	379	602	380	338	4	15	104
100BZ80-27-11	910	655	119	211	80	195	240	407	624	470	419	4	17	147
100BZ80-30-15	910	655	119	211	80	195	240	407	624	470	419	4	17	166
100BZ80-50-22	1035	752	104	273	115	172	300	500	731	392	353	4	18.5	285

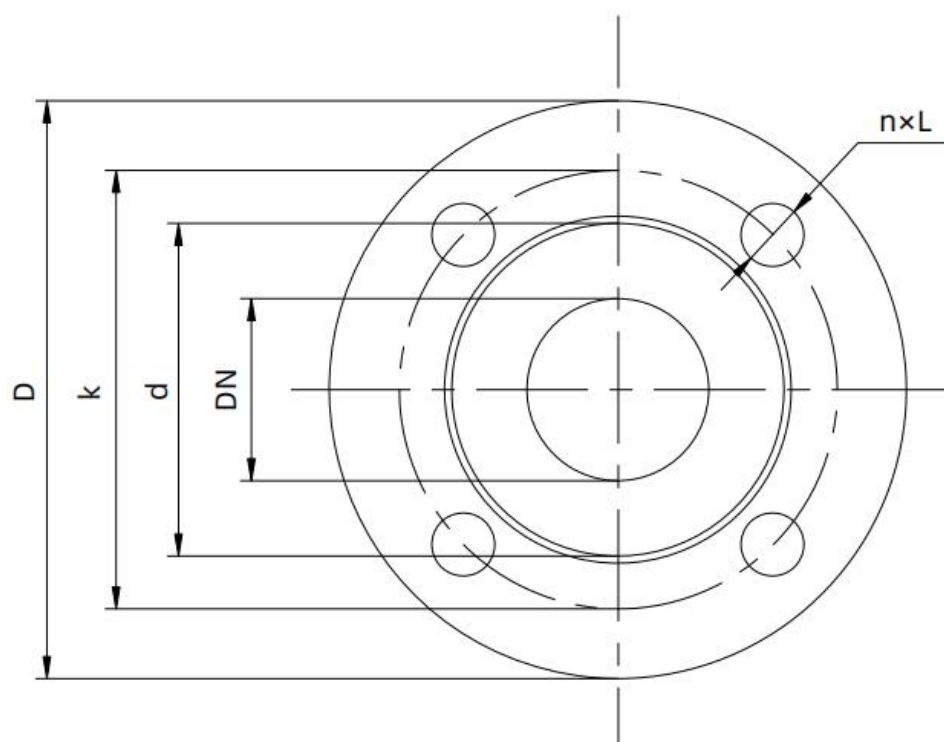
Installation Dimensions

Model	Model													Weight (kg)
	L	L1	L2	L3	L4	L5	H1	H2	H3	B	B1	n	d	
40ZW8-15-1 .5	565	440	100	120	70	152	175	314	453	300	260	4	14	46
40ZW10-20-2 .2	546	440	100	120	56	152	180	314	455	300	260	4	15	45
40ZW14-18-2 .2	546	440	100	120	56	152	180	314	455	300	260	4	15	45
40ZW15-28-3	644	500	110	138	74	192	180	346	492	340	300	4	13	67
50ZW10-20-2 .2	560	440	100	120	70	166	180	314	486	300	260	4	15	45
50ZW14-18-2 .2	560	440	100	120	70	166	180	314	486	300	260	4	15	45
50ZW15-28-3	660	500	110	138	90	208	180	346	505	340	300	4	13	67
65ZW30-20-4	700	490	95	148	130	203	220	377	530	373	339	4	14	82
65ZW40-17-4	700	490	95	148	130	203	220	377	530	373	339	4	14	82
65ZW25-30-5 .5	800	573	118	169	130	266	240	452	616	415	372	4	17	123
65ZW40-28-7 .5	800	573	118	169	130	266	240	452	616	415	372	4	17	137
65ZW65-25-11	965	655	115	210	160	276	240	448	606	467	416	4	17	167
80ZW40-22-5 .5	800	573	118	169	130	266	240	452	636	415	372	4	17	125
80ZW40-28-7 .5	800	573	118	169	130	266	240	452	636	415	372	4	17	139
80ZW65-35-15	969	655	115	210	164	280	240	448	626	467	416	4	17	179
100ZW70-40-18 .5	999	655	115	210	164	280	240	448	626	467	416	4	17	201
100ZW70-46-22	1034	655	115	210	164	280	240	448	626	467	416	4	17	222
80ZW40-13-3	675	490	95	148	130	203	220	377	550	373	339	4	14	69
100ZW90-15-7 .5	910	680	100	241	170	313	300	526	783	396	363	4	18	203
150ZW150-15-11	1120	830	120	292	180	392	340	582	828	405	365	4	18	304
150ZW150-20-15	1150	830	120	292	180	392	340	582	828	405	365	4	18	325
150ZW180-18-18 .5	1185	830	120	292	180	392	340	582	828	405	365	4	18	364

Import and Export Flange Dimensions

Model	Import & Export Flange Dimensions(mm)					
	DN	d	K	D	n	L
40ZW8-15-1 .5	40	78	100	130	4	Φ14
40ZW10-20-2 .2	40	78	100	130	4	Φ14
40ZW14-18-2 .2	40	78	100	130	4	Φ14
40ZW15-28-3	40	78	100	130	4	Φ14
50ZW10-20-2 .2	50	88	110	140	4	Φ14
50ZW14-18-2 .2	50	88	110	140	4	Φ14
50ZW15-28-3	50	88	110	140	4	Φ14
65ZW30-20-4	65	108	130	160	4	Φ14
65ZW40-17-4	65	108	130	160	4	Φ14
65ZW25-30-5 .5	65	108	130	160	4	Φ14
65ZW40-28-7 .5	65	108	130	160	4	Φ14
65ZW65-25-11	65	108	130	160	4	Φ14
80ZW40-22-5 .5	80	124	150	190	4	Φ19
80ZW40-28-7 .5	80	124	150	190	4	Φ19
80ZW65-35-15	80	124	150	190	4	Φ19
100ZW70-40-18 .5	100	144	170	210	4	Φ19
100ZW70-46-22	100	144	170	210	4	Φ19
80ZW40-13-3	80	124	150	190	4	Φ19
100ZW90-15-7 .5	100	144	170	210	4	Φ19
150ZW150-15-11	150	199	225	265	8	Φ19
150ZW150-20-15	150	199	225	265	8	Φ19
150ZW180-18-18 .5	150	199	225	265	8	Φ19

Import & Export Flange Diagrams



Import and Export Flange Dimensions

Model	Import & Export Flange Dimensions(mm)					
	DN	d	K	D	n	L
40BZ10-20-1 .5	40	78	100	130	4	Φ14
50BZ10-25-2 .2	50	88	110	140	4	Φ14
50BZ10-32-3	50	88	110	140	4	Φ14
50BZ15-30-3	50	88	110	140	4	Φ14
50BZ14-35-4	50	88	110	140	4	Φ14
50BZ18-32-4	50	88	110	140	4	Φ14
50BZ20-50-5 .5	50	88	110	140	4	Φ14
65BZ20-15-2 .2	65	108	130	160	4	Φ14
65BZ25-14-2 .2	65	108	130	160	4	Φ14
65BZ25-20-3	65	108	130	160	4	Φ14
65BZ25-30-4	65	108	130	160	4	Φ14
65BZ25-40-5 .5	65	108	130	160	4	Φ14
80BZ50-22-5 .5	80	124	150	190	4	Φ19
80BZ50-30-7 .5	80	124	150	190	4	Φ19
80BZ50-42-11	80	124	150	190	4	Φ19
80BZ50-50-15	80	124	150	190	4	Φ19
100BZ80-20-7 .5	100	144	170	210	4	Φ19
100BZ80-27-11	100	144	170	210	4	Φ19
100BZ80-30-15	100	144	170	210	4	Φ19
100BZ80-50-22	100	144	170	210	4	Φ19