Shindo

SIL Series

Vertical In-Line Centrifugal Pumps

Catalogue

www.met.com.my

SHINDO HAS CONSTANTLY DEVELOP THE CREDIBILITY TO SERVE THE INDUSTRY EFFICIENTLY.

SHINDO IS COMMITTED TO PROVIDE HIGH VALUE-ADDED PRODUCTS IN MINIMUM LEAD-TIME AND AT COST EFFECTIVE PRICING, TO HELP CUSTOMERS ACHIEVE ZERO DOWNTIME, PRODUCTION TARGET AND HELP ENHANCE A SAFER ENVIRONMENT.

SIL SERIES

VERTICAL IN-LINE CENTRIFUGAL PUMPS

PAGE CONTENTS

SHINDO
WATER PUMPS

SIL SERIES

VERTICAL IN-LINE CENTRIFUGAL PUMPS

PAGE CONTENTS

SIL SERIES

VERTICAL IN-LINE CENTRIFUGAL PUMPS

PAGE CONTENTS

SIL SERIES

VERTICAL IN-LINE CENTRIFUGAL PUMPS

PAGE CONTENTS

SIL SERIES

VERTICAL IN-LINE CENTRIFUGAL PUMPS

PAGE CONTENTS

SHINDO
WATER PUMPS

Application

Shindo SIL series are applicable for urban water supply, industrial water, cooling system, and cold & hot water for regional heat supply system. For water application, SIL pumps are specifically can be used as:

- **Main circulation pump**
- **Mixed circuit pump**
- **Boiler mixed-flow pump**
- **Gas-fired freezer pump**
- **Filter pump**
- **Constant pressure system pump**
- **Urban hot water circulation**

SIL pumps are also applicable for chemical industry, pharmaceutical industry and food processing which they can be use in liquid feeding process, pressure boosting system and mixed circuit circulation pump.

Performance range for SIL series:

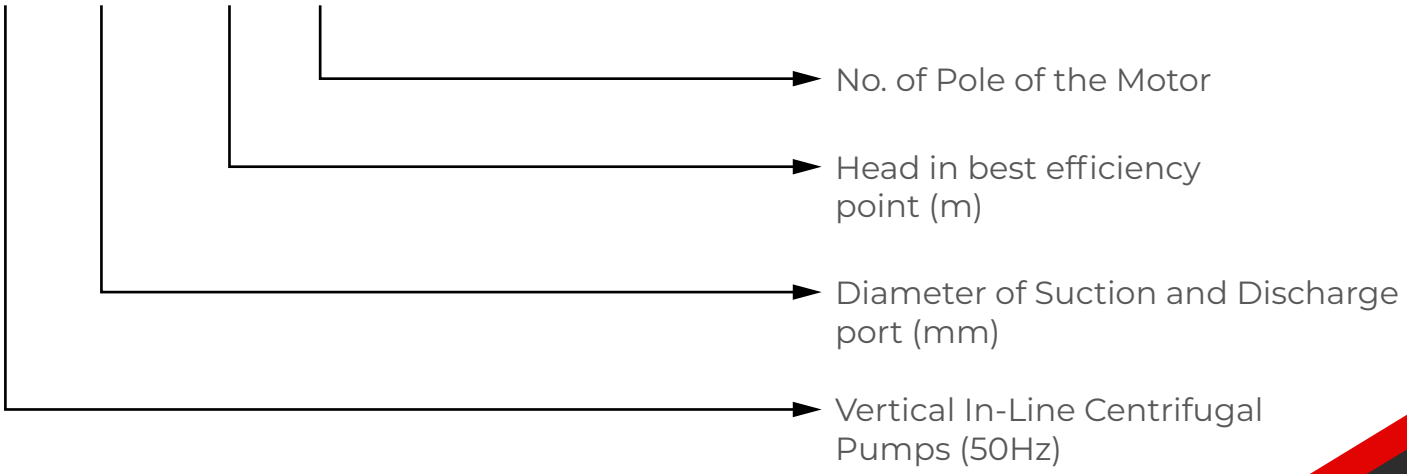
- Max. Capacity (Q) = 750m³/hr
- Max. Head (H) = 90m
- Max. Operating Pressure = 12 bar
- Max. Ambient Temperature = +40°C
- Liquid Temperature Range = -15°C to +110°C

The maximum operating temperature for specific type of liquid can be refer in the table below:

Type of liquid		Maximum Temperature	Remarks
Water	Groundwater	<90°C	
	Boiler feed water	<110°C	
	District feed water	<110°C	
	Condensate	<90°C	
	Softened water	-15°C - 110°C	
	Alkalescent water		Weak alkalescence
	Cooling and cutting lubricant		Additive and little impurity may damage the shaft seal
Coolants	Hydrocarbon based antifreeze	<50°C	Little rime may damage the shaft seal
	Alcoholised compound (50%)	<50°C	
	30% brine (NaCl, $CaCl_2$ solution, etc)	<50°C	Little rime may damage the shaft seal
Organic Solvents	Isopropyl alcohol	≤60°C	Flammable liquid
	Propyl alcohol	≤60°C	
Oxidants	Hydrogen peroxide (20%)	≤60°C	

Model Code

SIL 50 - 60/ 2



Construction Design

Shindo SIL Series is a single stage close coupled type in-line centrifugal pumps. It is driven by a TEFC standard electric motor according to IEC & DIN standard. The main feature of the design is the pump part can be pulled out. The purpose of this top pull out design is for fast and easy maintenance. SIL pumps are equipped with standard motor and mechanical seal. The pump head is connecting the pump body and motor. O-Ring is used to seal the pump head and the pump body.

The pump body is equal to a section of pipeline. While in maintenance, blind flange can be use to seal the pump cover which enable normal operation of the pump. Its major dimensions are in conformity with JB/T8680 standard. The flange connection dimension are in conformity with the related provisions PN16 in GB/T 17241.6 or ISO7005-2/DIN 2501. The inlet and outlet diameters are in conformity with related standard dimensions.

Hydraulic Parts

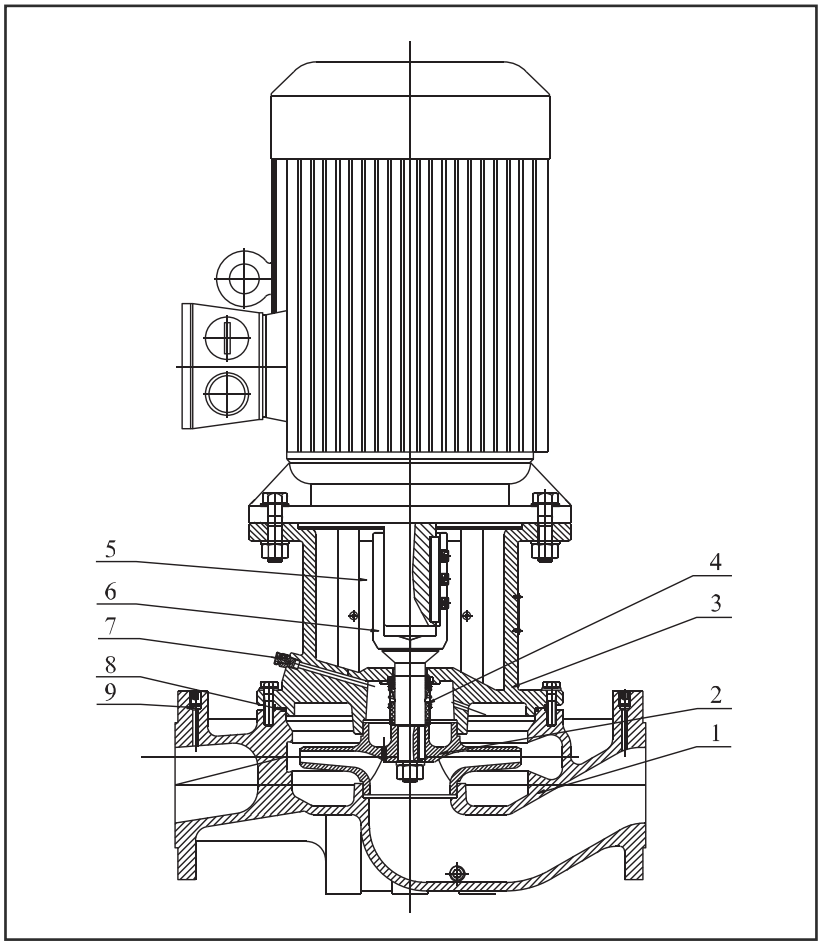
- Pump casing and pump head are made up of cast iron (GG20)
- Impeller is available in both stainless steel (SS420) and cast iron (GG20) depending on the model.
- Shaft is made up of stainless steel (SS420).
- The standard material of mechanical seal is Carbon/Silicon Carbide/NBR.
- For SIL200 and above, the type of mechanical seal is cartridge mechanical seal which is for easy maintenance (Motor do not need to be disassambled when the mechanical seal need to be replace).
- For SIL125 to SIL150, there are two types of pump structure available which are easy-maintenance structure and shaft-extended structure. For easy-maintenance structure, the type of mechanical seal used is cartridge mechanical seal.

Electric Motor

- The pump is coupled with totally enclosed, fan-cooled squirrel-cage aluminum casing motor built-in thermal overload units.
- Insulation Class: F
- Enclosure Class: IP55
- Speed: 2900RPM
- Standard Voltage: 1 x 220-240V, 50Hz
  3 x 220-240V/380-415V, 50Hz
- Single phase motor is available up to 2.2kW only.

General Arrangement Drawing

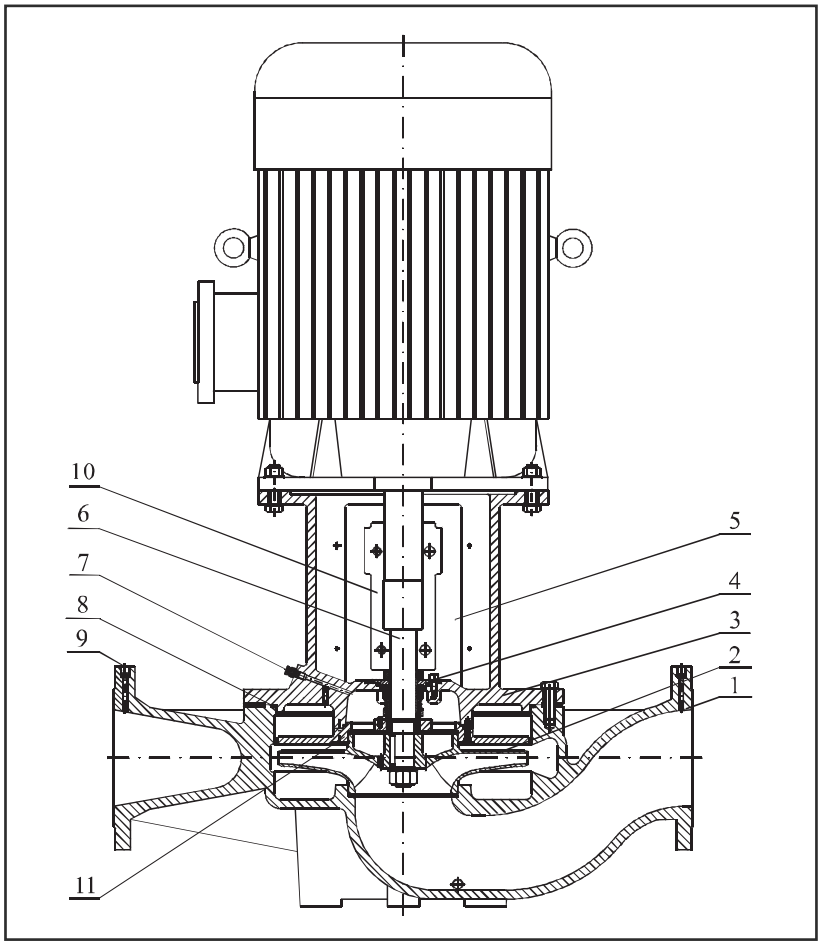
For SIL32 to SIL150 (Extension Shaft Structure)



No.	Parts	Material
1	Pump body	GG20
2	Impeller	GG20/SS304
3	Pump head	GG20
4	Mechanical Seal	Carbon/SiC/NBR
5	Guard plate	SS304
6	Shaft	SS420
7	Air release bolt	Brass H62
8	O-Ring	NBR
9	Plug	SS420

General Arrangement Drawing

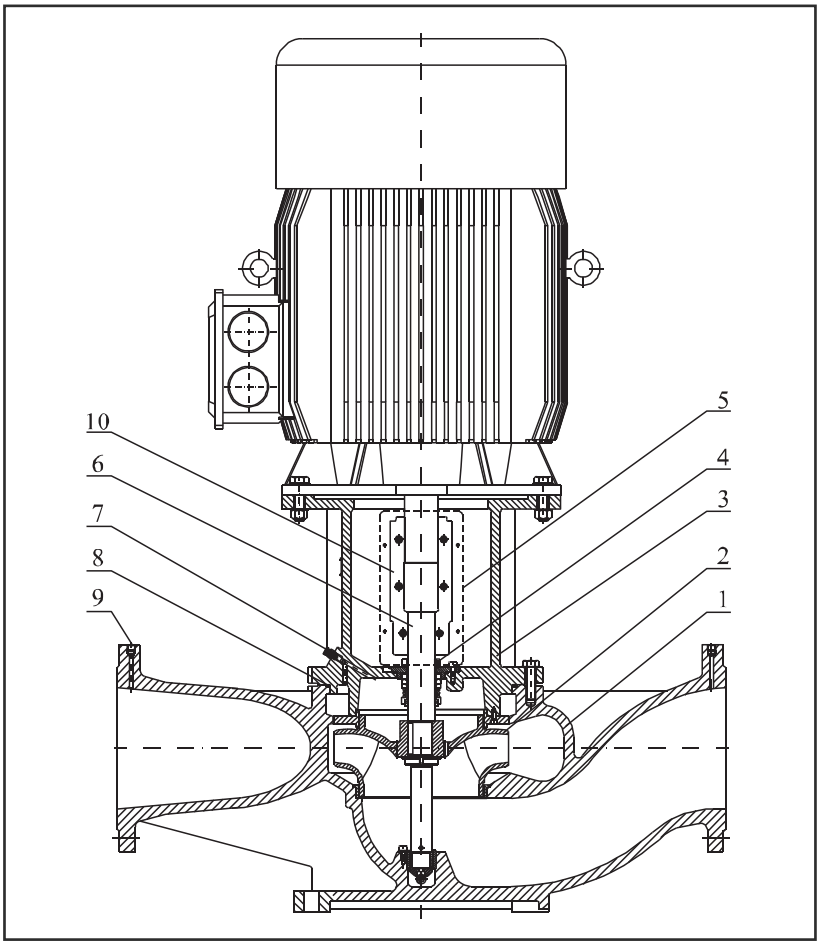
For SIL125 to SIL150 (Easy Maintenance Structure)



No.	Parts	Material
1	Pump body	GG20
2	Impeller	GG20/SS304
3	Pump head	GG20
4	Mechanical Seal	Carbon/SiC/NBR
5	Guard plate	SS304
6	Shaft	SS420
7	Air release bolt	Brass H62
8	O-Ring	NBR
9	Plug	SS304
10	Coupling	Cast Steel
11	Bearing ring	GG20

General Arrangement Drawing

For SIL200 to SIL250 (Easy Maintenance Structure)



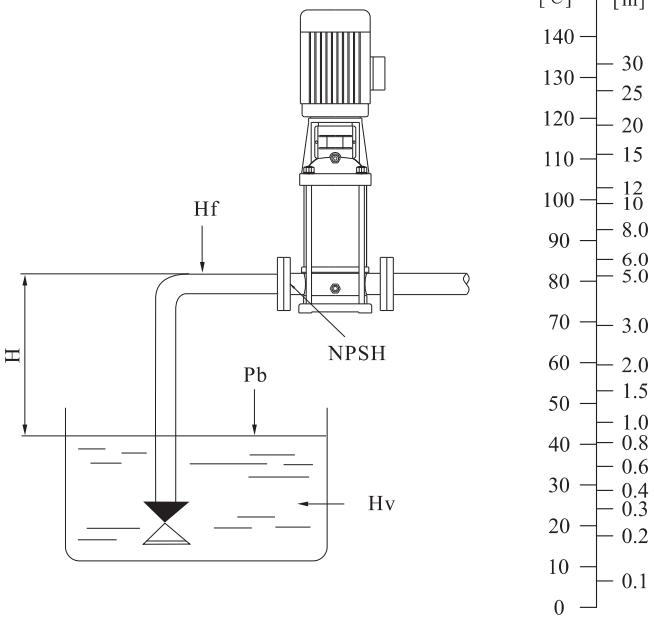
No.	Parts	Material
1	Pump body	GG20
2	Impeller	GG20/SS304
3	Pump head	GG20
4	Mechanical Seal	Carbon/SiC/NBR
5	Guard plate	SS304
6	Shaft	SS420
7	Air release bolt	Brass H62
8	O-Ring	NBR
9	Plug	SS304
10	Coupling	Cast Steel

Minimum Inlet Pressure NPSH

In case that the pressure in the pump is lower than vapor pressure of the liquid, cavitation will occur.

To avoid cavitation, a minimum pressure at the inlet side of the pump shall be guaranteed.

The maximum suction can be calculated with following formula:



H = Pb x 10.2 - NPSH - Hf - Hv - Hs

H = Maximum suction head (m) Pb = Atmospheric pressure (bar) - In a closed system, Pb means system pressure (bar). NPSH = Net positive suction head (m) - It can be read from the point of maximum flowrate shown on NPSH curve.	Hf = Pipeline losses at the inlet (m) - It is accordance with pipeline possible maximum flow. Hv = Vapor pressure of liquid (m) - It depends on the liquid temperature and vapor pressure value. Hs = Safety Margin (m) - Minimum 0.5m delivery head.

If the calculated result H is negative, the pump may run under maximum suction head. In case the calculated result H is negative, a delivery head of minimum inlet pressure is necessary.

Note: Normally, the above calculation will not be done. H is calculated in the following conditions:
1. The liquid temperature is comparatively higher.
2. Liquid flow exceeds rated value.
3. Suction head is comparatively large or inlet piping long.
4. System pressure is too low.
5. Bad inlet condition.

Note: Please check and ensure that the pump is not at cavitation state.

Installation Requirement

The details of installation requirement are as below:

1. If the pipeline system can support the pump, pump with 2.2kW motor or lower can be hung in line. Otherwise, if the pipeline system unable to support the pump or the motor power of the pump is higher than 2.2kW, the pump must be install in bracket or base.

2. Pump with motor power lower than 2.2kW can be install horizontally or vertically to the pipeline. Pump with motor power higher than 2.2kW, can only be install vertically to the pipeline (Refer to Figure 2-A).

3. The pump installation shall not allow the pipeline system tensile force to be transfer to the pump body.

4. The pump should be install in the environment with sufficient cooling and the cooling air shall not be above 40°C.

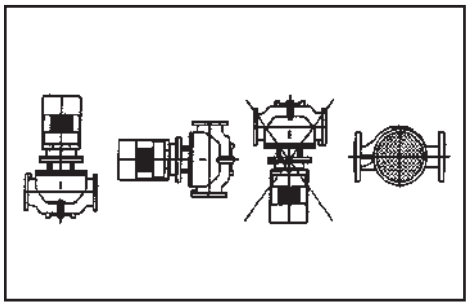
5. If the pump is install outdoor, there should be cover to protect electric components from water.

6. For the convenience of maintenance, there should be enough space above and below the pump. For pump with motor power lower than 5.5kW, minimum 300mm shall be kept. For pump with 5.5kW motor or higher, minimum 1000mm shall be kept (Refer to Figure 2-B).

7. To prevent noises, vibration and to ensure the best operation, anti-vibration base shall be used in installation. Generally, cement base with the weight equal or bigger than 1.5 x pump weight shall be adopted (Refer to Figure 2-C).

8. For SIL32 to SIL150, pump with base or without base are both available for customers requirements.

For power ≤2.2kW



For power ＞2.2kW

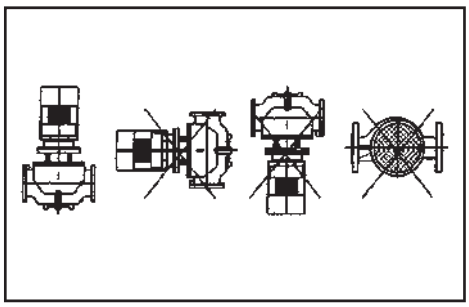
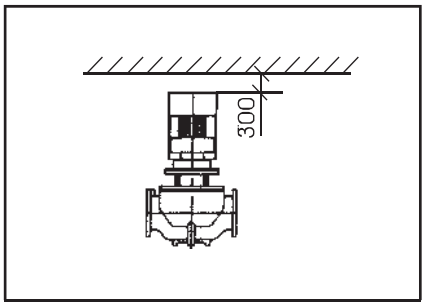


Figure 2-A

For power ＜5.5kW



For power ≥5.5 kW

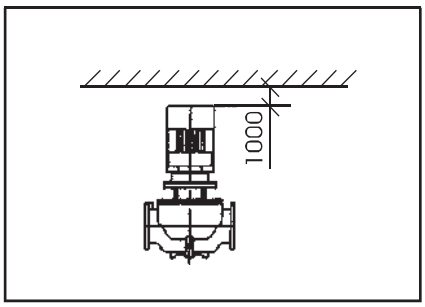


Figure 2-B

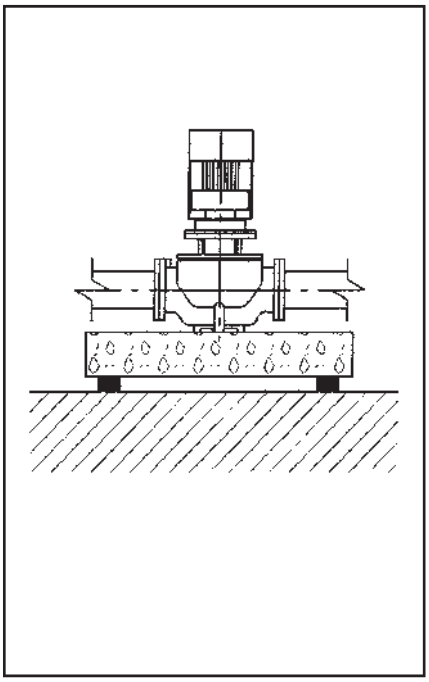


Figure 2-C

Product Range (50Hz)

From SIL32 to SIL65

NO.	Model	Q (m^3/h)	H (m)	n (r/min)	Standard voltage(V)	
					1×220V	3×380V
					P_2(kW)	P_2(kW)
1	SIL32-18/2	8	18	2900	1.1	1.1
2	SIL32-21/2	12.5	21		1.5	1.5
3	SIL32-25/2	12.5	25		2.2	2.2
4	SIL32-32/2	12.5	32			3
5	SIL32-38/2	12.5	38			4
6	SIL32-50/2	12.5	50		1.1	5.5
7	SIL40-16/2	12.5	16		1.5	1.1
8	SIL40-20/2	12.5	20		2.2	1.5
9	SIL40-18/2	20	18			2.2
10	SIL40-25/2	20	20			3
11	SIL40-30/2	25	30			4
12	SIL40-36/2	25	36			5.5
13	SIL40-48/2	25	48			7.5
14	SIL50-32/2	12.5	32			3
15	SIL50-38/2	12.5	38			4
16	SIL50-48/2	12.5	48			5.5
17	SIL50-58/2	12.5	58			7.5
18	SIL50-80/2	12.5	80			11
19	SIL50-12/2	16	12		1.1	1.1
20	SIL50-15/2	20	15		1.5	1.5
21	SIL50-18/2	25	18		2.2	2.2
22	SIL50-24/2	25	24			3
23	SIL50-28/2	30	28			4
24	SIL50-35/2	30	35			5.5
25	SIL50-40/2	35	40			7.5
26	SIL50-50/2	40	50			11
27	SIL50-60/2	50	60			15
28	SIL50-70/2	50	70			18.5
29	SIL50-81/2	50	81			22
30	SIL65-36/2	25	36			5.5
31	SIL65-48/2	25	48			7.5
32	SIL65-15/2	30	15		2.2	2.2
33	SIL65-20/2	30	19			3
34	SIL65-22/2	40	22			4
35	SIL65-30/2	40	30			5.5
36	SIL65-34/2	50	34			7.5
37	SIL65-40/2	50	40			11
38	SIL65-50/2	50	50			15
39	SIL65-61/2	50	61			18.5
40	SIL65-67/2	50	67			22
41	SIL65-83/2	50	83			30

Product Range (50Hz)

From SIL80 to SIL200

NO.	Model	Q (m^3/h)	H (m)	n (r/min)	Standard voltage(V)	
					1×220V	3×380V
					P_2(kW)	P_2(kW)
42	SIL80-13/2	50	13	2900		3
43	SIL80-18/2	50	18			4
44	SIL80-23/2	50	22			5.5
45	SIL80-28/2	50	28			7.5
46	SIL80-40/2	50	40			11
47	SIL80-48/2	50	48			15
48	SIL80-32/2	80	30			11
49	SIL80-38/2	80	38			15
50	SIL80-47/2	80	47			18.5
51	SIL80-54/2	80	54			22
52	SIL80-67/2	80	67			30
53	SIL100-9/2	50	9		2.2	2.2
54	SIL100-15/2	60	15			4
55	SIL100-17/2	80	17			5.5
56	SIL100-22/2	80	22			7.5
57	SIL100-27/2	100	27			11
58	SIL100-33/2	100	33			15
59	SIL100-40/2	100	40			18.5
60	SIL100-48/2	100	48			22
61	SIL100-52/2	130	52			30
62	SIL125-11/4	130	11	1450		5.5
63	SIL125-14/4	120	14			7.5
64	SIL125-18/4*	160	18	1480		11
65	SIL125-22/4*	160	22			15
66	SIL125-28/4*	160	28			18.5
67	SIL125-32/4*	160	32			22
68	SIL125-40/4*	160	40			30
69	SIL125-48/4*	160	48			37
70	SIL150-12.5/4*	200	12.5			11
71	SIL150-17/4*	200	17			15
72	SIL150-21/4*	200	21			18.5
73	SIL150-25/4*	200	25			22
74	SIL150-33/4*	200	33			30
75	SIL150-40/4*	200	40			37
76	SIL150-50/4*	200	50			45
77	SIL200-15/4*	300	15			18.5
78	SIL200-18/4*	300	18			22
79	SIL200-24/4*	300	24			30
80	SIL200-30/4*	300	30			37
81	SIL200-35/4*	300	35			45
82	SIL200-44/4*	300	44			55
83	SIL200-53/4*	300	53			75

Note: Type with "" has two types of structures for selection, one is "Extension Shaft" type and another is "Easy Maintenance" type.*

Product Range (50Hz)

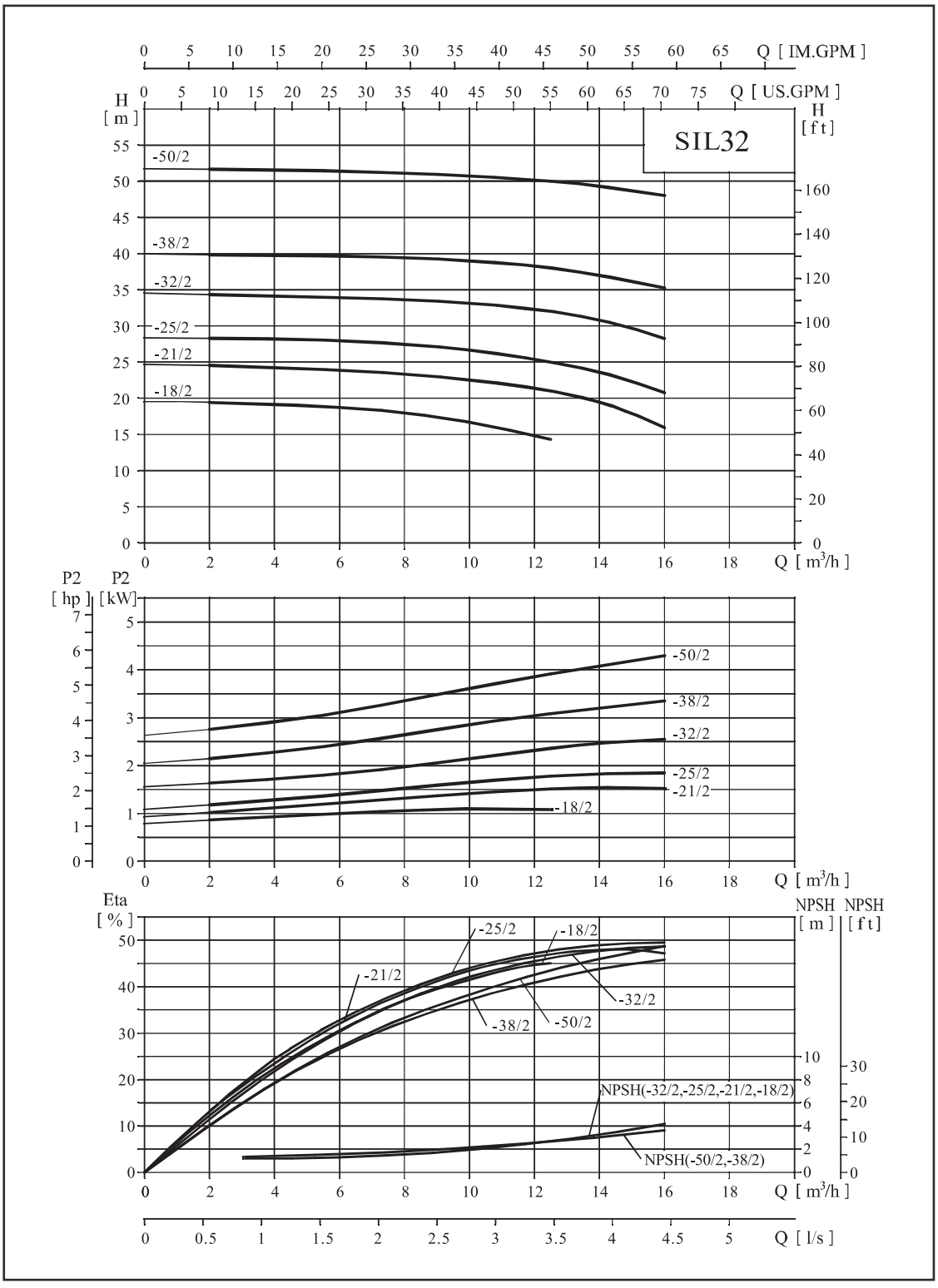
From SIL200 to SIL250

NO.	Model	Q (m^3/h)	H (m)	n (r/min)	Standard voltage(V)	
					1×220V	3×380V
					P_2(kW)	P_2(kW)
84	SIL-200-12.5/4	400	12.5	1480		22
85	SIL-200-20/4	400	20			30
86	SIL-200-23/4	400	23			37
87	SIL-200-27/4	400	27			45
88	SIL-200-32/4	400	32			55
89	SIL-200-43/4	400	43			75
90	SIL-200-50/4	400	50			90
91	SIL-250-15/4	500	15			30
92	SIL-250-18/4	500	18			37
93	SIL-250-21/4	500	21			45
94	SIL-250-27/4	500	27			55
95	SIL-250-36/4	500	36			75
96	SIL-250-44/4	500	44			90
97	SIL-250-53/4	500	53			110
98	SIL-250-12.5/4	630	12.5			30
99	SIL-250-14/4	630	14			37
100	SIL-250-17/4	630	17			45
101	SIL-250-20/4	630	20			55
102	SIL-250-26/4	630	26			75
103	SIL-250-32/4	630	32			90
104	SIL-250-40/4	630	40			110
105	SIL-250-50/4	630	50			132

Note: Type with "" has two types of structures for selection, one is "Extension Shaft" type and another is "Easy Maintenance" type.*

Performance Curve

For SIL32



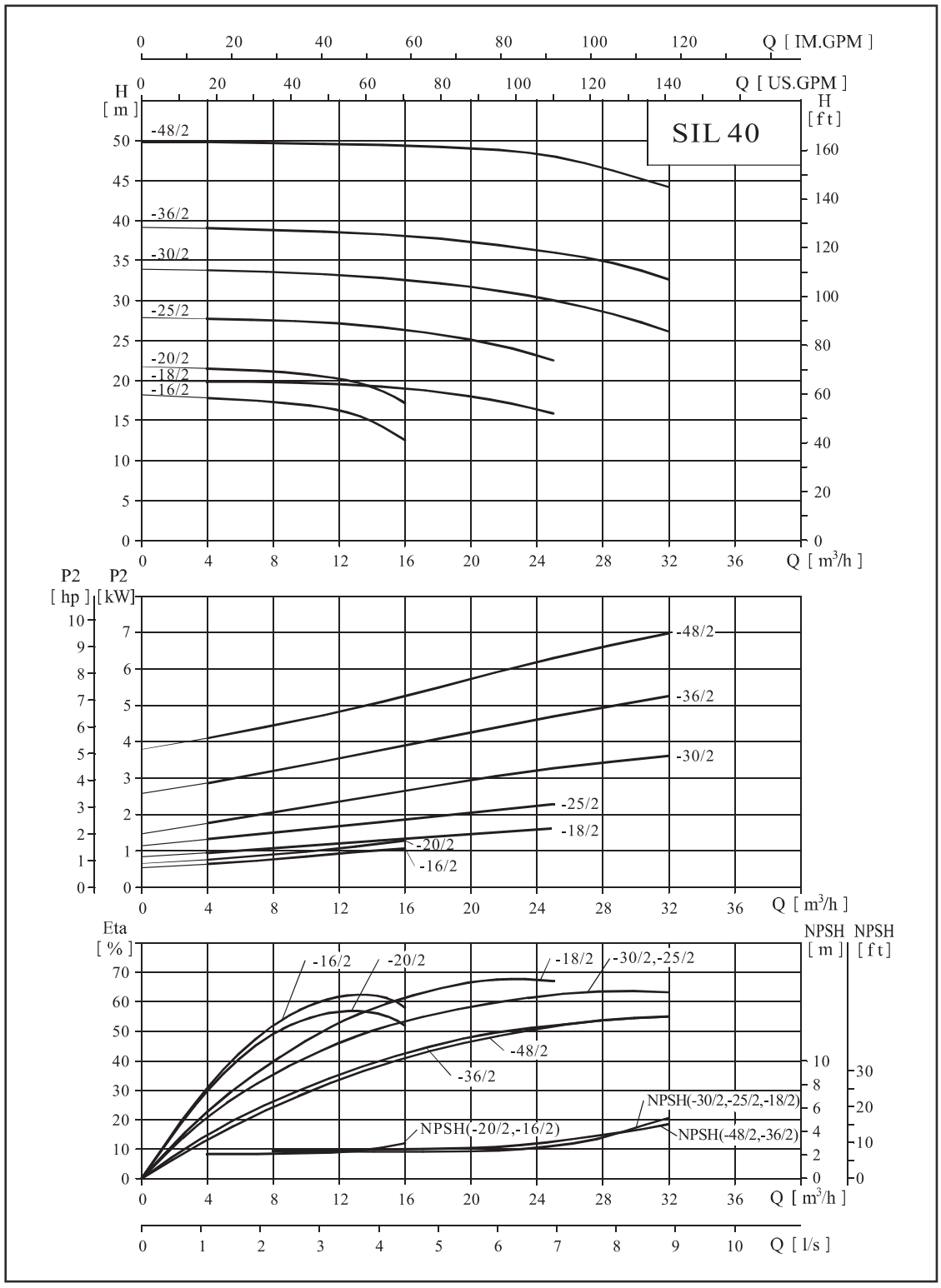
Performance Table

For SIL32

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	2	4	6	8	10	12.5	14	16
SIL32-18/2	1.1	1.5	H (m)	19.4	19.1	18.7	18	16.7	14.3		
SIL32-21/2	1.5	2		24.5	24.2	23.9	23.3	22.5	21	19.4	15.9
SIL32-25/2	2.2	3		28.3	28.2	28	27.5	26.7	25	23.6	20.7
SIL32-32/2	3	4		34.3	34.2	33.9	33.6	33.1	32	30.8	28.2
SIL32-38/2	4	5.5		39.8	39.8	39.7	39.4	39	38	37	35.2
SIL32-50/2	5.5	7.5		51.7	51.6	51.4	51.1	50.7	50	49.3	48

Performance Curve

For SIL40



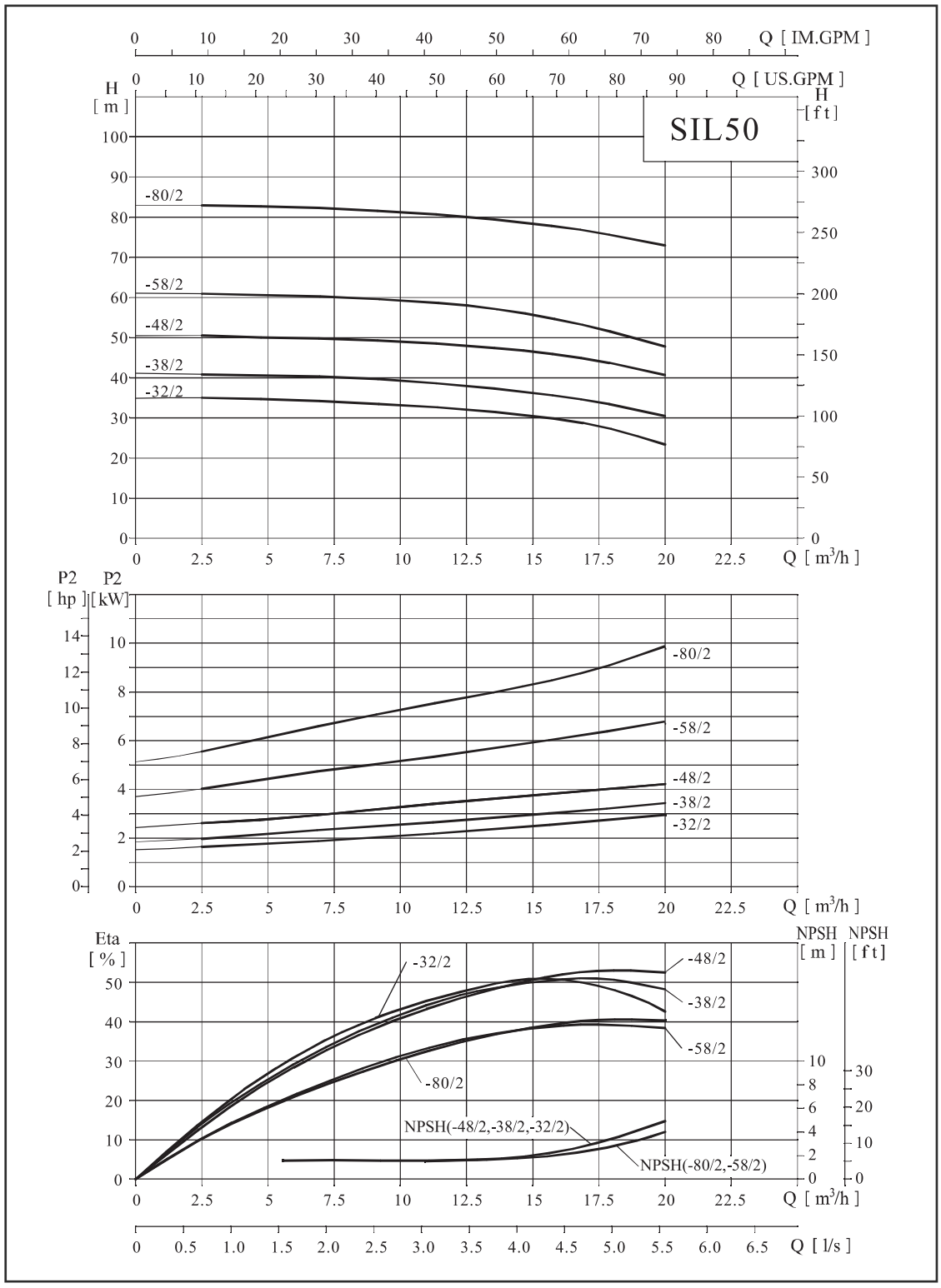
Performance Table

For SIL40

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	4	8	12 .5	16	20	25	28	32
SIL40-16/2	1.1	1.5	H (m)	17.8	17.3	16	12.5				
SIL40-20/2	1.5	2		21.5	21.1	20	17.2				
SIL40-18/2	2.2	3		19.9	19.8	19.5	19	18	15.8		
SIL40-25/2	3	4		27.7	27.5	27.1	26.4	25	22.5		
SIL40-30/2	4	5.5		33.8	33.6	33.1	32.6	31.7	30	28.6	26.1
SIL40-36/2	5.5	7.5		39	38.8	38.5	38.1	37.3	36	35	32.6
SIL40-48/2	7.5	10		49.8	49.7	49.5	49.4	49	48	46.6	44.2

Performance Curve

For SIL50



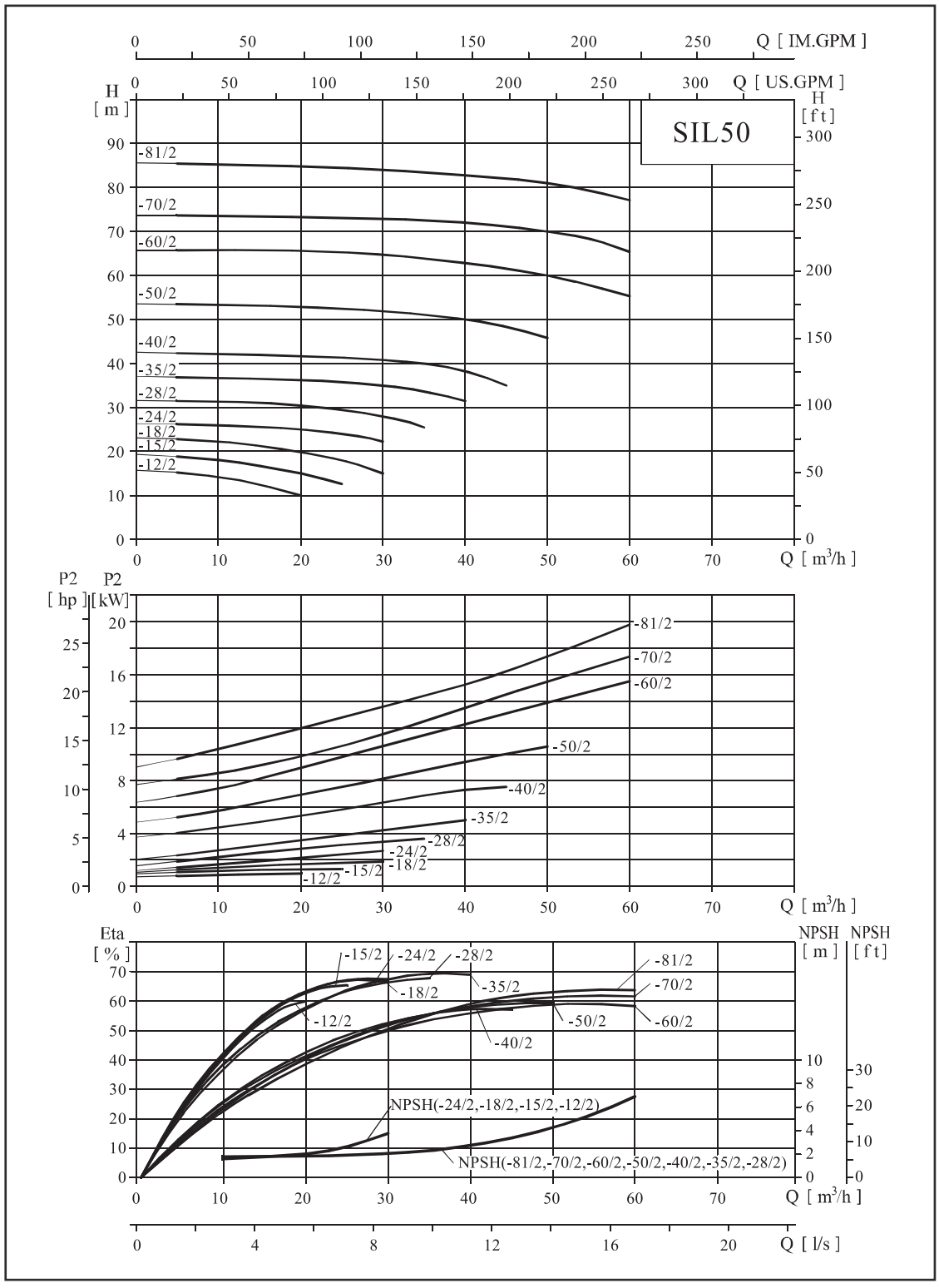
Performance Table

For SIL50

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	2.5	5	7.5	10	12.5	15	17.5	20
SIL50-32/2	3	4	H (m)	35	34.6	34	33.2	32	30.5	27.9	23.3
SIL50-38/2	4	5.5		40.8	40.6	40.2	39.2	38	36.2	33.9	30.4
SIL50-48/2	5.5	7.5		50.5	50	49.7	49	48	46.5	44.2	40.7
SIL50-58/2	7.5	10		61	60.6	60.1	59.2	58	55.7	52.2	47.8
SIL50-80/2	11	15		82.9	82.6	82.2	81.2	80	78.4	76.1	73

Performance Curve

For SIL50



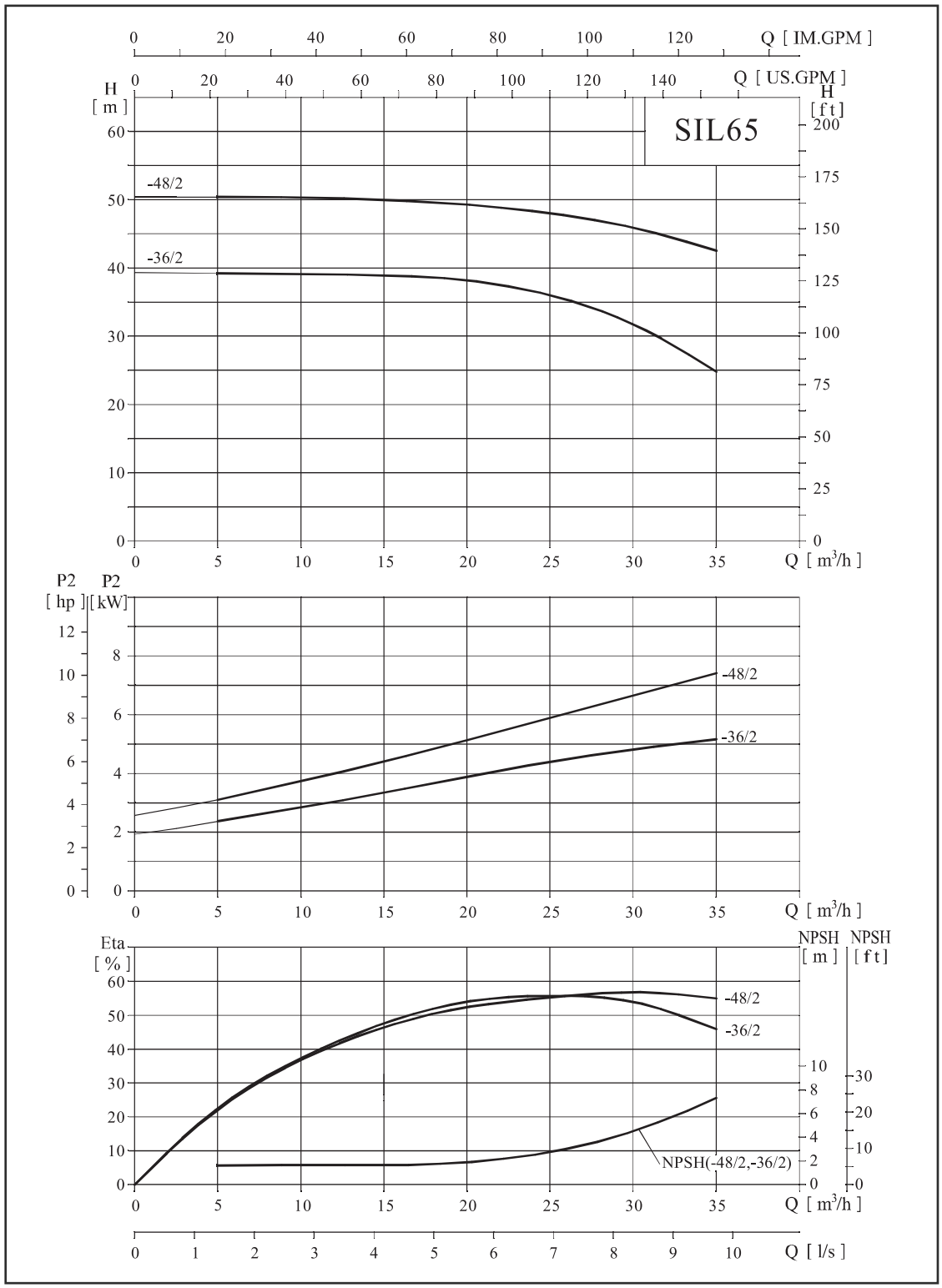
Performance Table

For SIL50

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	5	10	16	20	25	30	35	40	45	50	60
SIL50-12/2	1.1	1.5	H (m)	15.2	14.2	12	10							
SIL50-15/2	1.5	2		18.9	18	16.5	15	12.6						
SIL50-18/2	2.2	3		22.8	22.3	21	19.8	18	15					
SIL50-24/2	3	4		26.2	26	25.5	25	24	22.3					
SIL50-28/2	4	5.5		31.5	31.3	31	30.5	29.5	28	25.5				
SIL50-35/2	5.5	7.5		36.9	36.7	36.5	36.2	35.8	35	33.7	31.5			
SIL50-40/2	7.5	10		42.3	42.2	41.9	41.7	41.3	40.8	40	38.3	35		
SIL50-50/2	11	15		53.5	53.4	53.1	52.9	52.5	51.9	51.1	50	48.4	45.8	
SIL50-60/2	15	20		65.7	65.8	65.7	65.6	65.3	64.7	63.9	62.8	61.6	60	55.4
SIL50-70/2	18.5	25		73.7	73.6	73.4	73.3	73.1	72.9	72.5	72	71.2	70	65.4
SIL50-81/2	22	30		85.5	85.3	85	84.8	84.5	84	83.5	82.8	82.1	81	77.1

Performance Curve

For SIL65



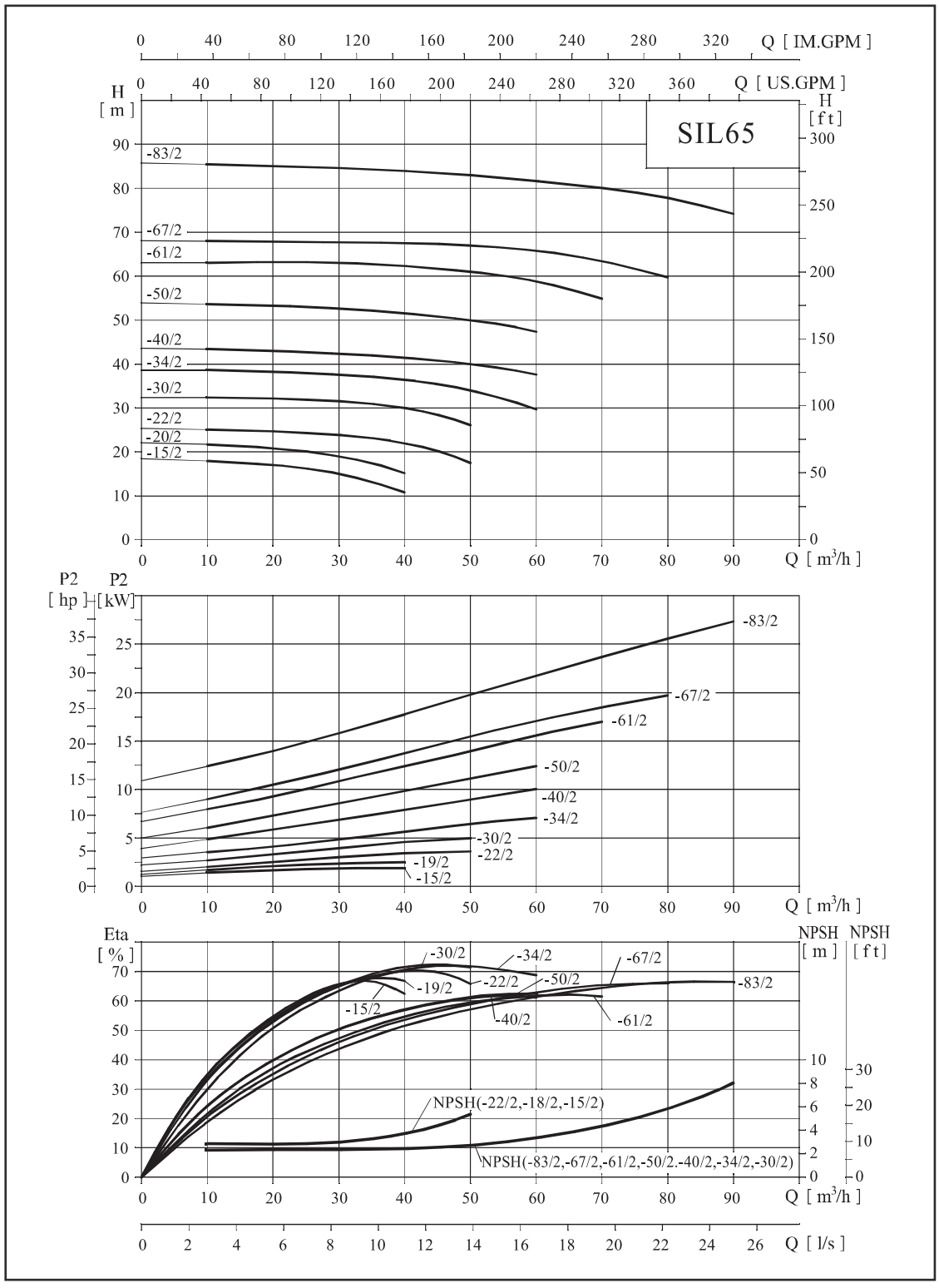
Performance Table

For SIL65

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	5	10	15	20	25	30	35
SIL65-36/2	5.5	7.5	H (m)	39.2	39.1	38.9	38.2	36	31.8	24.8
SIL65-48/2	7.5	10		50.4	50.3	50	49.3	48	45.9	42.5

Performance Curve

For SIL65



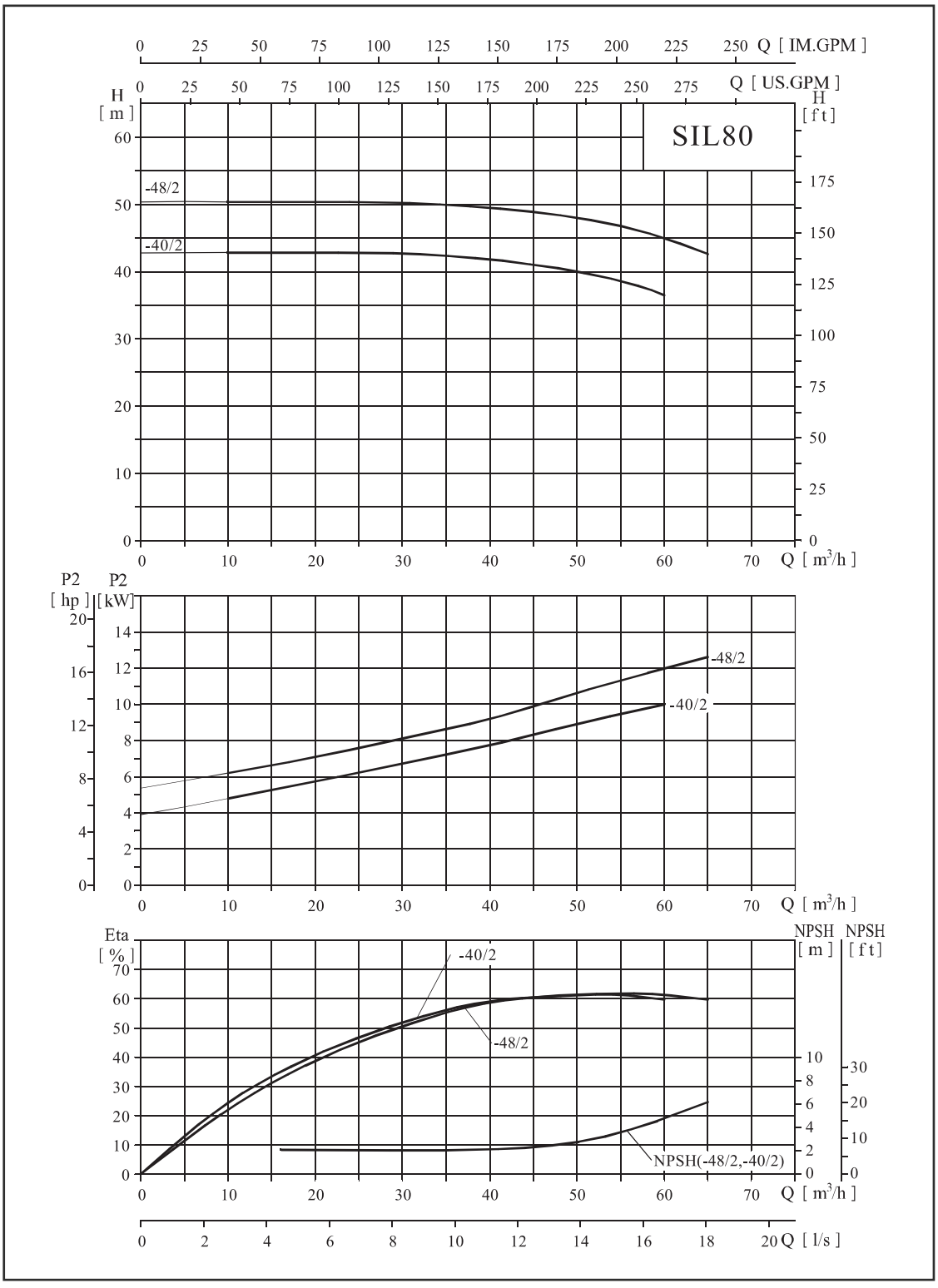
Performance Table

For SIL65

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	10	20	30	40	50	60	70	80	90
SIL65-15/2	2.2	3	H (m)	17.9	17	15	10.7					
SIL65-20/2	3	4		21.7	20.8	19	15.2					
SIL65-22/2	4	5.5		25.1	24.7	23.9	22	17.5				
SIL65-30/2	5.5	7.5		32.4	32.1	31.5	30	26.1				
SIL65-34/2	7.5	10		38.6	38.2	37.6	36.4	34	29.6			
SIL65-40/2	11	15		43.4	42.9	42.3	41.4	40	37.6			
SIL65-50/2	15	20		53.6	53.3	52.7	51.6	50	47.3			
SIL65-61/2	18.5	25		63.1	63.2	63	62.3	61	58.8	54.8		
SIL65-67/2	22	30		68	67.8	67.7	67.5	67	65.8	63.4	59.7	
SIL65-83/2	30	40		85.4	85.1	84.6	83.9	83	81.7	80	77.8	74.2

Performance Curve

For SIL80



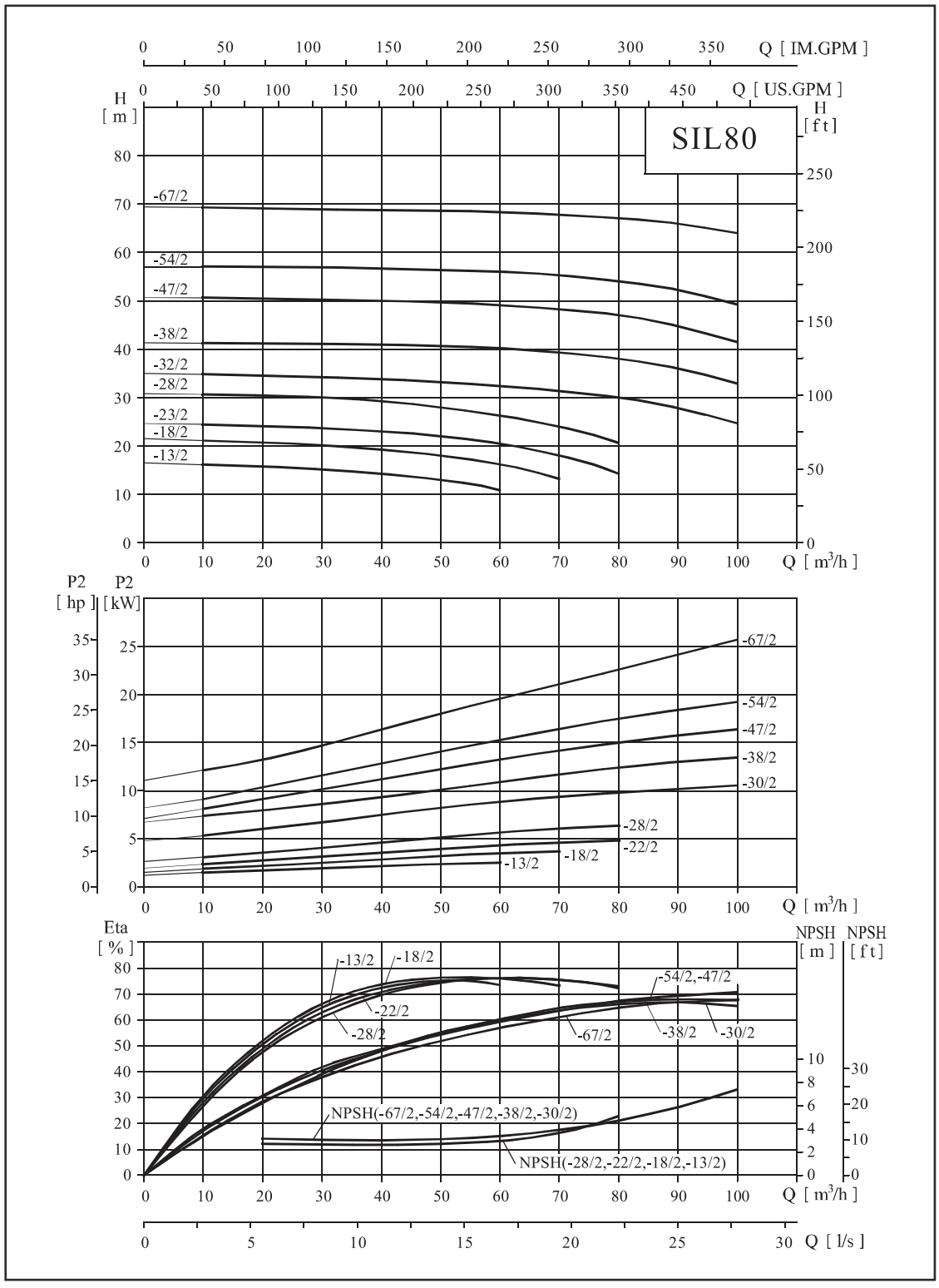
Performance Table

For SIL80

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	10	20	30	40	50	60	65
SIL80-40/2	11	15	H (m)	42.8	42.8	42.7	41.8	40	36.5	
SIL80-48/2	15	20		50.4	50.4	50.2	49.5	48	45	42.6

Performance Curve

For SIL80



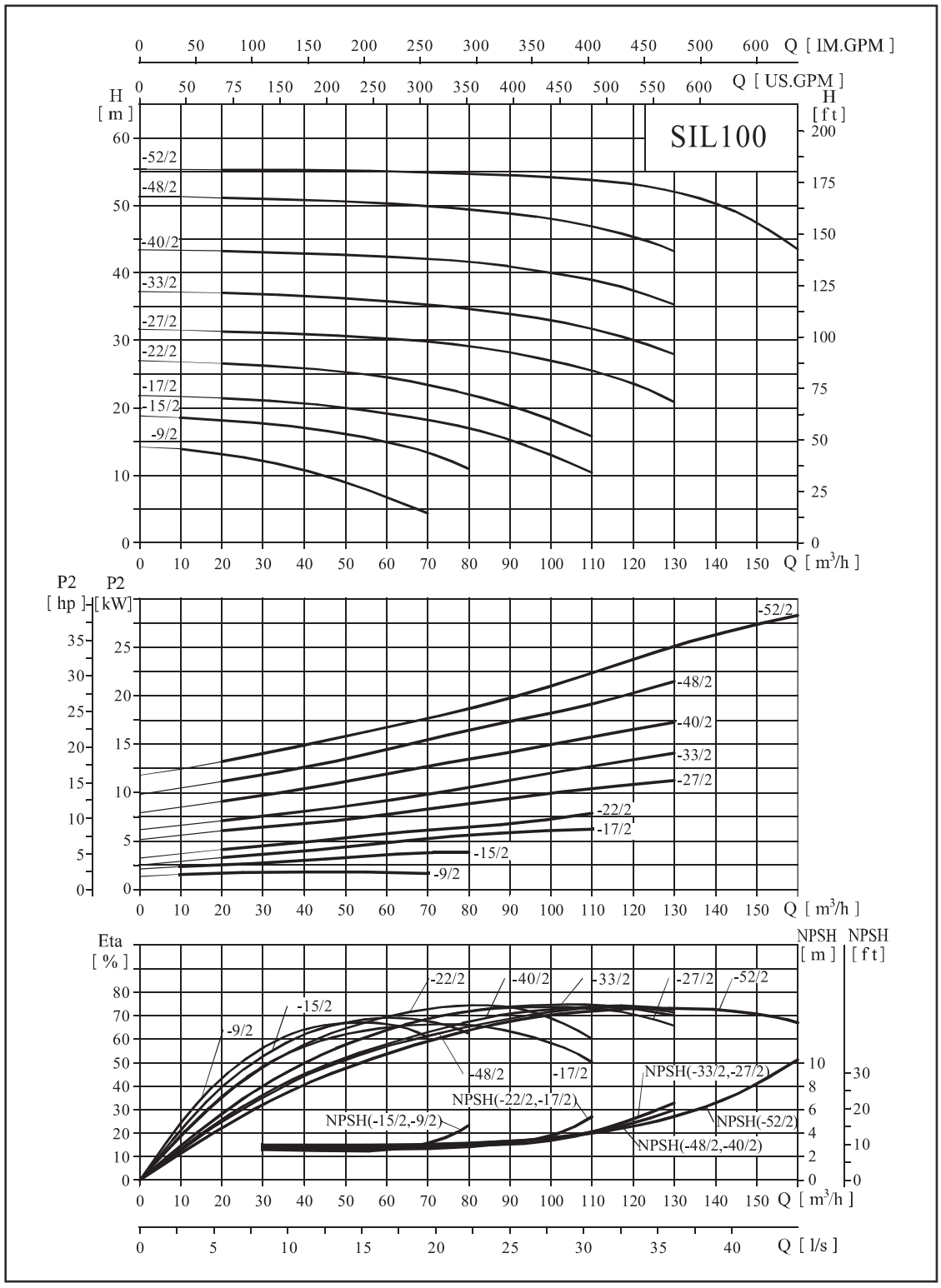
Performance Table

For SIL80

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	10	20	30	40	50	60	70	80	90	100
SIL80-13/2	3	4	H (m)	16.1	15.8	15.2	14.3	13	10.9				
SIL80-18/2	4	5.5		21.1	20.8	20.2	19.2	18	16.2	13.2			
SIL80-23/2	5.5	7.5		24.4	24.1	23.7	23	22	20.5	18	14.3		
SIL80-28/2	7.5	10		30.6	30.4	30	29.3	28	26.3	24	20.6		
SIL80-32/2	11	15		34.8	34.5	34.2	33.8	33.2	32.4	31.3	30	27.8	24.7
SIL80-38/2	15	20		41.2	41.2	41.1	40.9	40.6	40.1	39.3	38	36	32.9
SIL80-47/2	18.5	25		50.6	50.4	50	49.8	49.6	49.1	48.3	47	44.8	41.4
SIL80-54/2	22	30		57	57	56.8	56.6	56.3	56	55.3	54	52.2	49.2
SIL80-67/2	30	40		69.2	69	68.8	68.7	68.6	68.3	67.8	67	65.9	63.9

Performance Curve

For SIL100



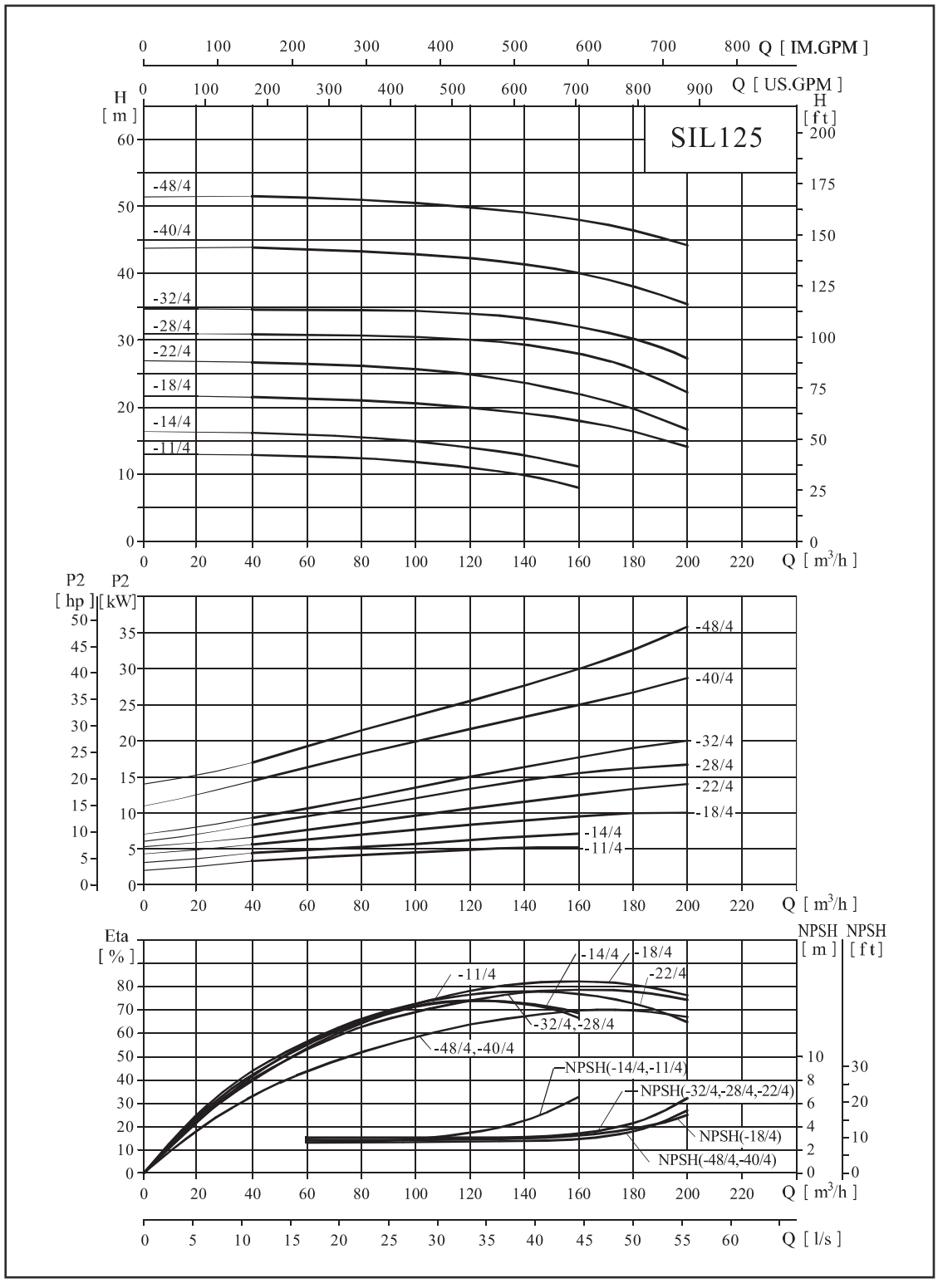
Performance Table

For SIL100

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	10	20	30	40	50	60	70	80	90	100	110	120	130	145	160
SIL100-9/2	2.2	3	H (m)	13.9	13.2	12.2	10.8	9	6.8	4.4								
SIL100-15/2	4	5.5		18.6	18.2	17.7	17.1	16.2	15	13.4	11							
SIL100-17/2	5.5	7.5		21.7	21.5	21.1	20.7	20	19.2	18.3	17	15.3	13	10.4				
SIL100-22/2	7.5	10		26.8	26.6	26.3	25.9	25.3	24.5	23.4	22	20.3	18.2	15.8				
SIL100-27/2	11	15		31.5	31.3	31.1	30.9	30.7	30.3	29.8	29.2	28.2	27	25.5	23.6	20.8		
SIL100-33/2	15	20		37.1	37	36.8	36.6	36.2	35.8	35.3	34.7	33.9	33	31.7	30.1	27.9		
SIL100-40/2	18.5	25		43.3	43.2	43.1	42.9	42.7	42.4	42.1	41.6	40.9	40	38.9	37.4	35.3		
SIL100-48/2	22	30		51.2	51.1	51	50.8	50.6	50.3	49.9	49.4	48.8	48	46.9	45.3	43.2		
SIL100-52/2	30	40		55.3	55.3	55.3	55.3	55.2	55.1	54.8	54.6	54.4	54.2	53.8	53.1	52	49	43.5

Performance Curve

For SIL125



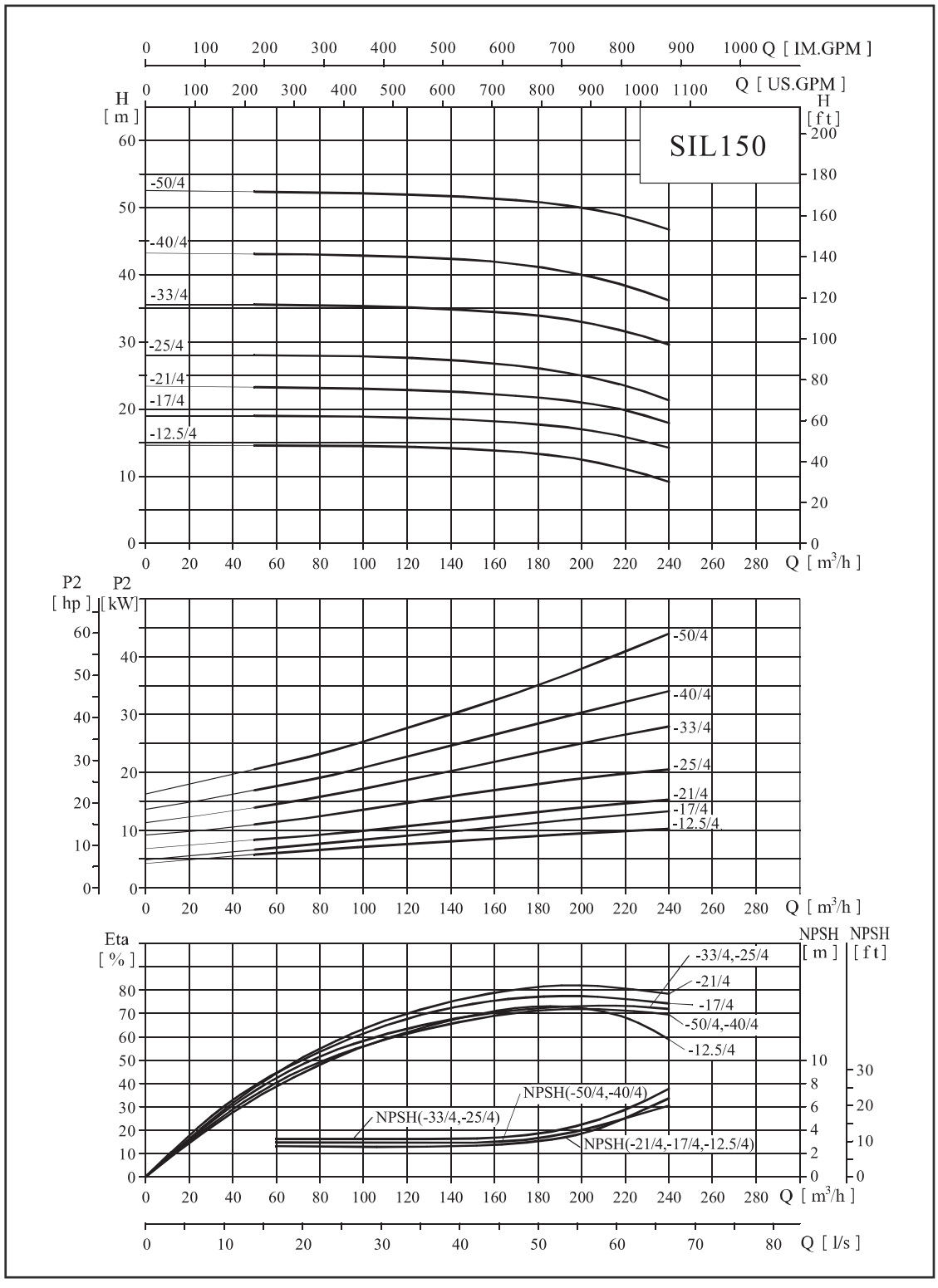
Performance Table

For SIL125

Model	Driving motor		Q	40	60	80	100	120	140	160	180	200
	(kW)	(hp)	(m^3/h)									
SIL125-11/4	5.5	7.5	H (m)	12.9	12.7	12.4	11.8	11	9.9	8		
SIL125-14/4	7.5	10		16.2	15.9	15.5	14.9	14	12.8	11.2		
SIL125-18-4	11	15		21.5	21.3	21	20.6	19.9	19.1	18	16.4	14.1
SIL125-22/4	15	20		26.7	26.5	26.2	25.7	24.9	23.7	22	19.8	16.7
SIL125-28/4	18.5	25		30.9	30.8	30.7	30.5	30.1	29.3	28	25.8	22.2
SIL125-32/4	22	30		34.6	34.6	34.5	34.4	34	33.3	32	30.2	27.3
SIL125-40/4	30	40		43.9	43.6	43.3	42.9	42.2	41.3	40	38	35.4
SIL125-48/4	37	50		51.5	51.3	51	50.5	49.9	49.1	48	46.4	44.2

Performance Curve

For SIL150



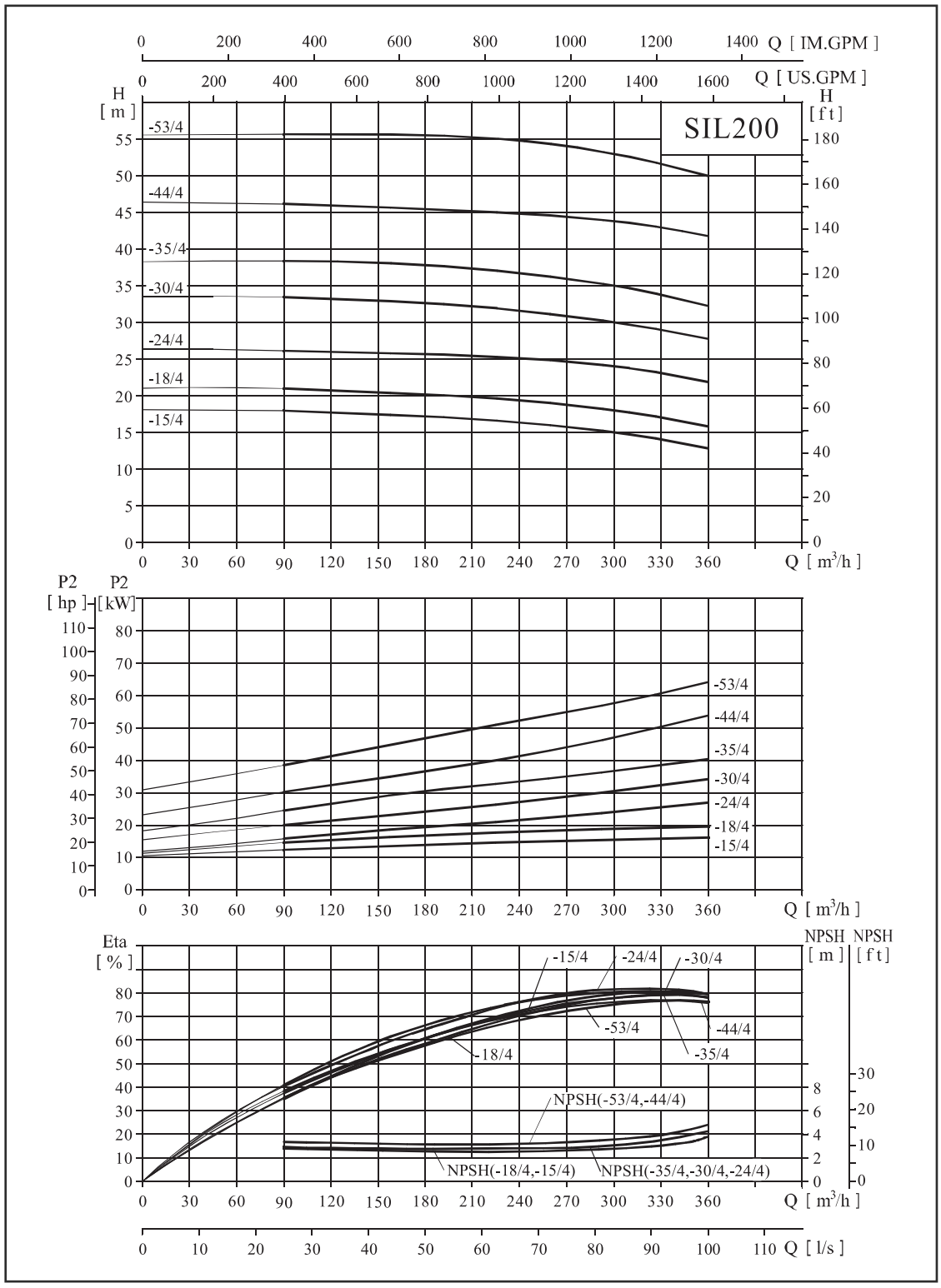
Performance Table

For SIL150

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	50	80	110	140	170	200	220	240
SIL150-12.5/4	11	15	H (m)	14.6	14.5	14.4	14.2	13.7	12.5	11.1	9.2
SIL150-17/4	15	20		18.8	18.8	18.7	18.5	18	17	16.1	15
SIL150-21/4	18.5	25		23.3	23.1	22.9	22.6	22	21	19.8	17.9
SIL150-25/4	22	30		28	28	27.8	27.3	26.5	25	23.5	21.3
SIL150-33/4	30	40		35.5	35.4	35.2	34.8	34.2	33	31.5	29.6
SIL150-40/4	37	50		43.1	43	42.8	42.4	41.6	40	38.4	36.2
SIL150-50/4	45	60		52.4	52.4	52	51.7	51.1	50	48.7	46.7

Performance Curve

For SIL200



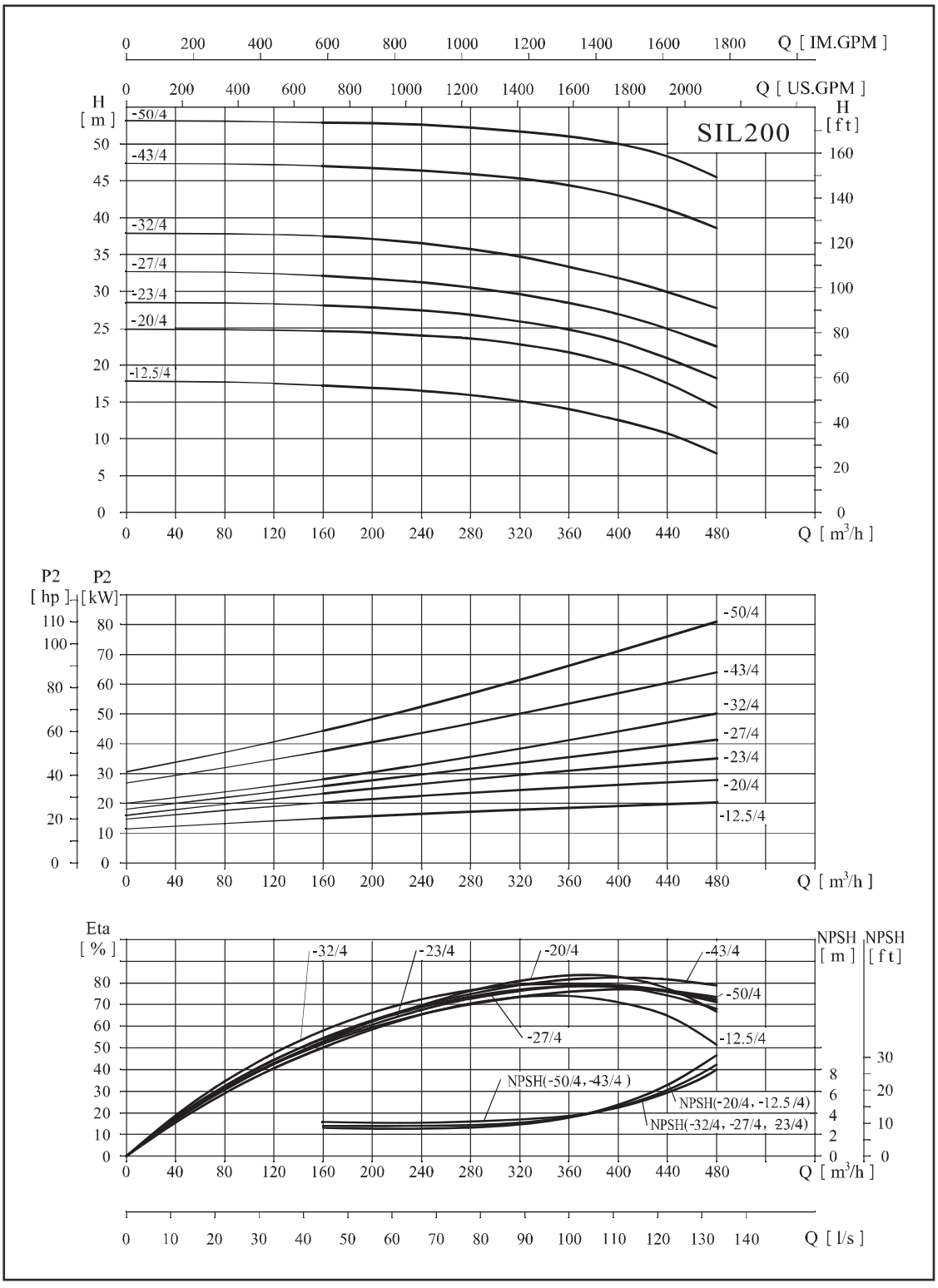
Performance Table

For SIL200

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	90	120	150	180	210	240	270	300	330	360
SIL200-15/4	18.5	25	H (m)	18	17.7	17.5	17.2	16.8	16.4	15.8	15	14.1	12.9
SIL200-18/4	22	30		21	20.7	20.5	20.2	19.8	19.4	18.8	18	17.1	15.8
SIL200-24/4	30	40		26.1	26	25.8	25.7	25.4	25.1	24.6	24	23.1	21.9
SIL200-30/4	37	50		33.4	33.2	33	32.6	32.2	31.6	30.9	30	29	27.7
SIL200-35/4	45	60		38.3	38.3	38.1	37.8	37.3	36.7	35.9	35	33.8	32.2
SIL200-44/4	55	75		46.3	46.1	45.9	45.6	45.4	45	44.6	44	43.1	41.9
SIL200-53/4	75	100		55.7	55.7	55.7	55.5	55.3	54.8	54	53	51.6	50

Performance Curve

For SIL200



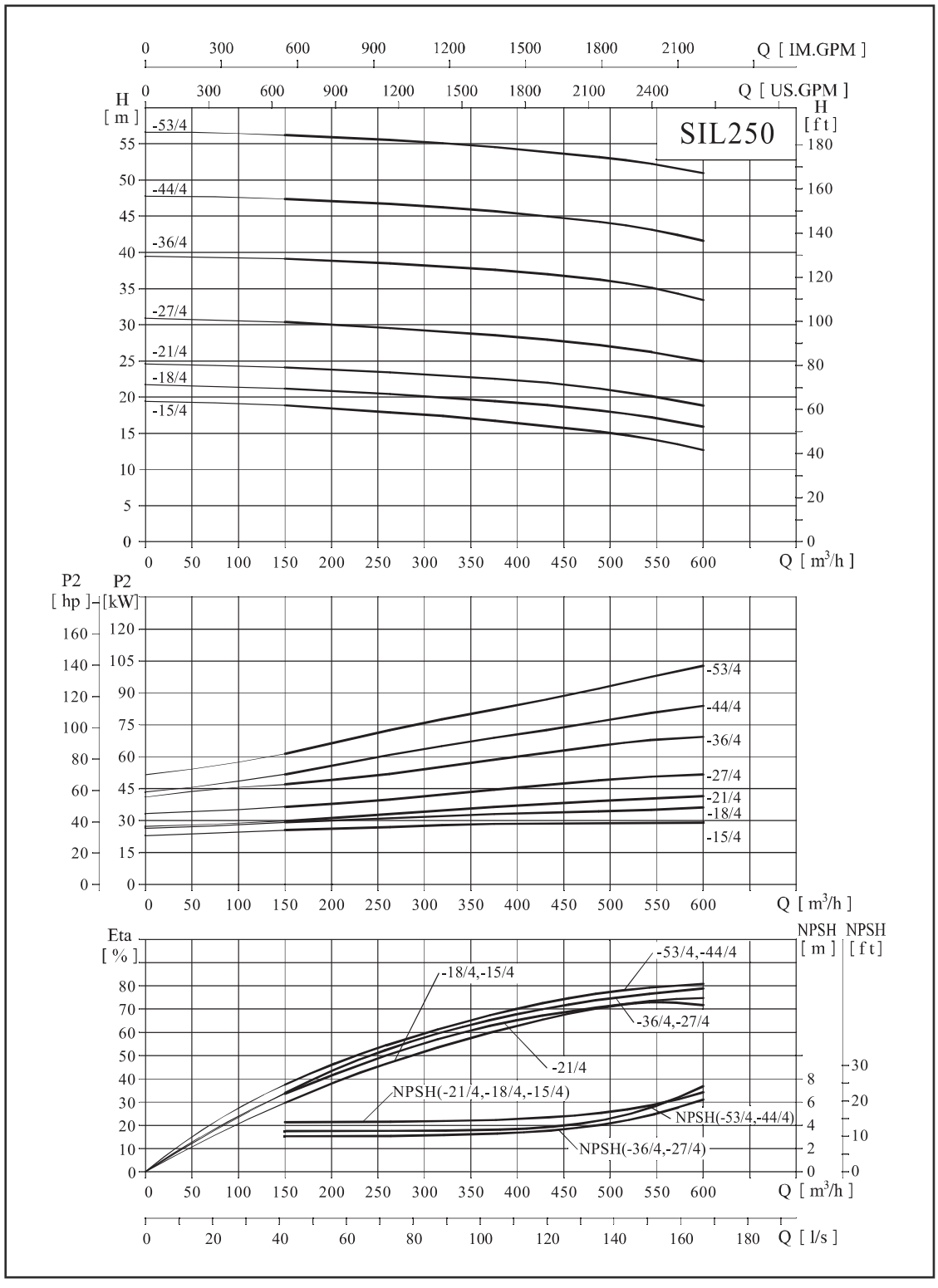
Performance Table

For SIL200

Model	Driving motor		Q (m^3/h)	160	200	240	280	320	360	400	440	480
	(kW)	(hp)										
SIL200-12.5/4	22	30	H (m)	17.2	16.9	16.5	15.9	15.1	14	12.5	10.7	8
SIL200-20/4	30	40		24.6	24.4	24	23.6	22.8	21.7	20	17.5	14.2
SIL200-23/4	37	50		28.1	27.8	27.4	26.8	25.9	24.8	23	20.9	18.2
SIL200-27/4	45	60		32.1	31.7	31.2	30.5	29.6	28.4	27	24.9	22.5
SIL200-32/4	55	75		37.5	37.1	36.5	35.7	34.7	33.3	32	29.9	27.7
SIL200-43/4	75	100		47	46.7	46.4	45.9	45.3	44.4	43	41.1	38.6
SIL200-50/4	90	120		52.9	52.8	52.6	52.2	51.7	51	50	48.3	45.5

Performance Curve

For SIL250



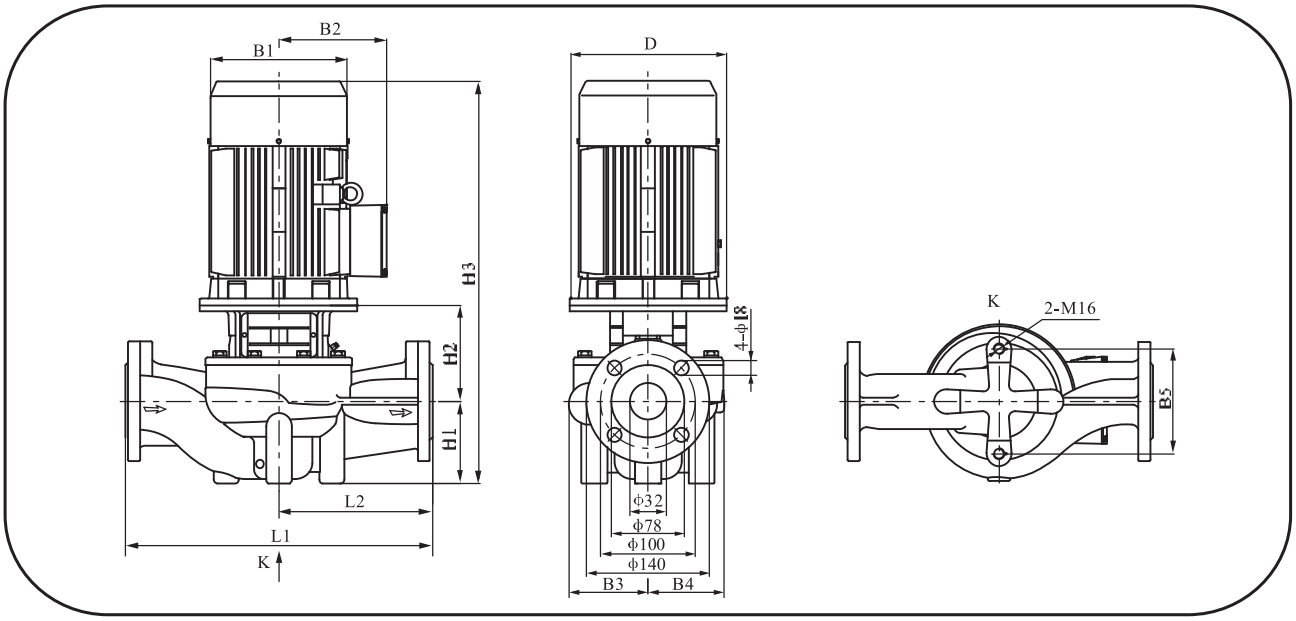
Performance Table

For SIL250

Model	Driving motor (kW)	Driving motor (hp)	Q (m^3/h)	150	200	250	300	350	400	450	500	550	600
SIL250-15/4	30	40	H (m)	18.8	18.4	18	17.6	17.1	16.4	15.8	15	14.1	12.7
SIL250-18/4	37	50		21.2	20.9	20.5	20.1	19.7	19.2	18.7	18	17.1	15.9
SIL250-21/4	45	60		24.1	23.8	23.5	23.1	22.8	22.3	21.8	21	20	18.8
SIL250-27/4	55	75		30.3	30	29.6	29.2	28.8	28.3	27.7	27	26.1	24.9
SIL250-36/4	75	100		39.1	38.8	38.5	38.2	37.8	37.3	36.8	36	35	33.4
SIL250-44/4	90	120		47.4	47.1	46.8	46.4	45.9	45.4	44.8	44	43	41.6
SIL250-53/4	110	150		56.2	55.9	55.6	55.3	54.8	54.3	53.7	53	52.1	50.9

Dimensional Drawing

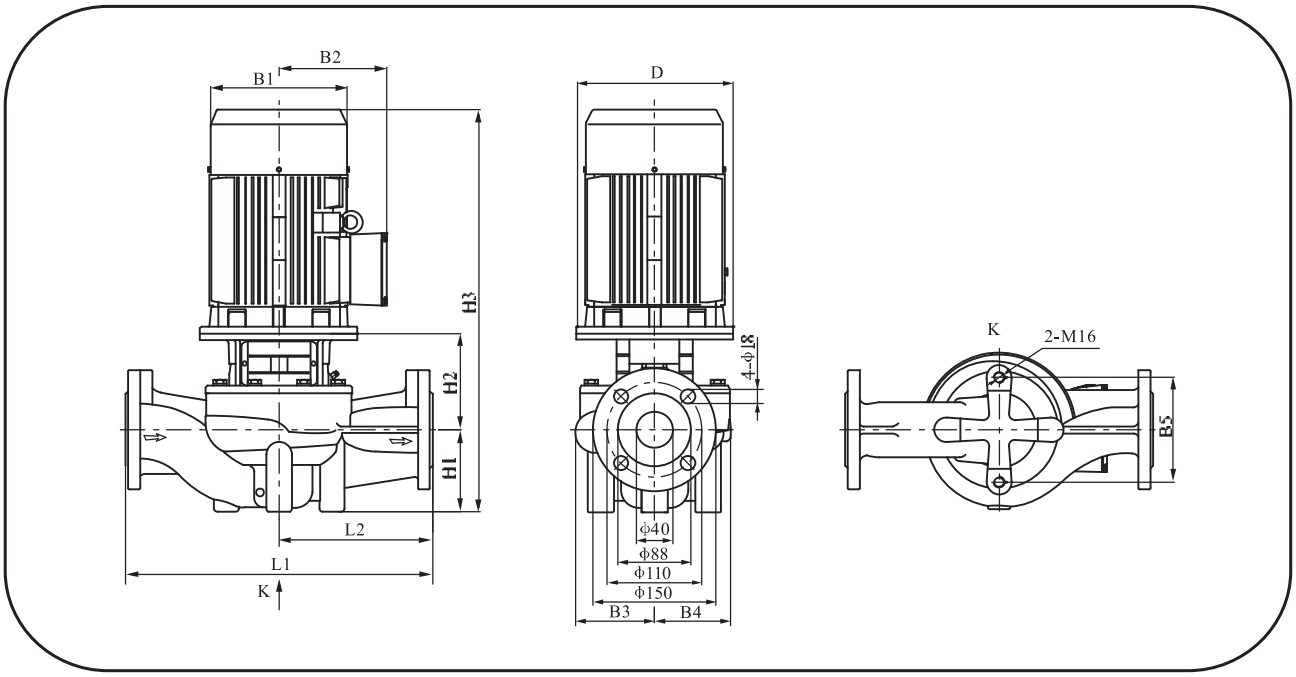
For SIL32



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL32-18/2	120	170	142	125	117	144	100	166	511	340	170	50
SIL32-21/2	140	190	155	125	117	144	100	166	556	340	170	56
SIL32-25/2	140	190	155	125	117	144	100	166	556	340	170	59
SIL32-32/2	160	197	165	125	117	144	100	185	630	340	170	68
SIL32-38/2	160	230	188	144	144	144	100	185	640	440	220	79
SIL32-50/2	200	260	208	144	144	144	100	213	703	440	220	104

Dimensional Drawing

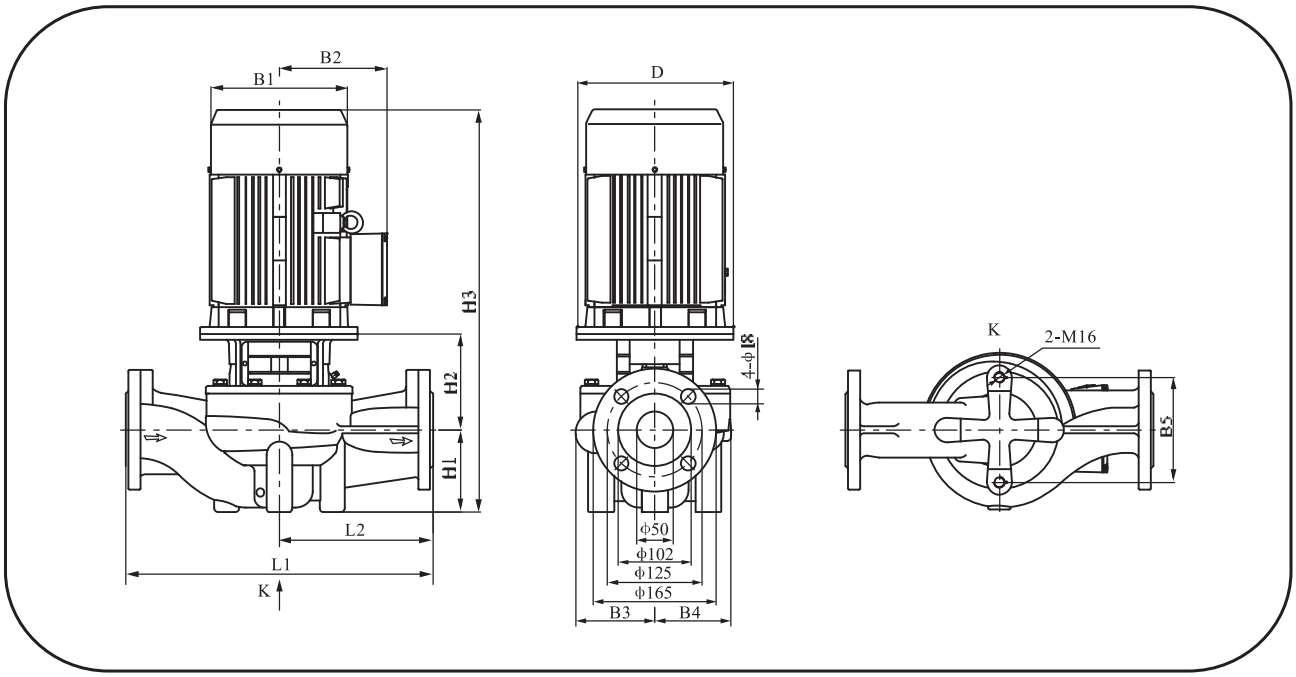
For SIL40



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL40-16/2	120	170	142	97	96	120	68	150	463	320	160	40
SIL40-20/2	140	190	155	97	96	120	68	160	518	320	160	46
SIL40-18/2	140	190	155	110	95	144	100	167	557	340	170	53
SIL40-25/2	160	197	165	127	115	144	100	185	630	340	170	70
SIL40-30/2	160	230	188	127	115	144	100	185	640	340	170	77
SIL40-36/2	200	260	208	138	125	144	110	213	713	440	220	106
SIL40-48/2	200	260	208	138	125	144	110	213	713	440	220	110

Dimensional Drawing

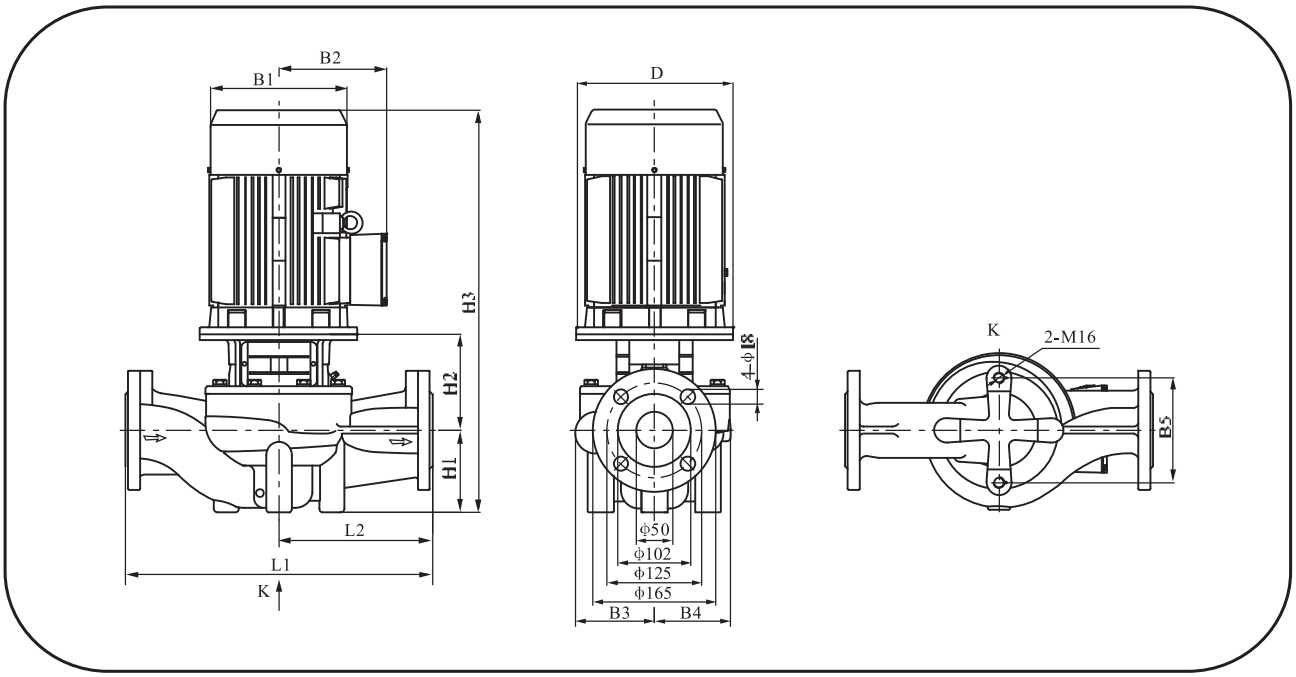
For SIL50



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL50-32/2	160	197	165	128	128	144	105	162	612	400	200	65
SIL50-38/2	160	230	188	128	128	144	105	162	622	400	200	71
SIL50-48/2	200	260	208	128	128	144	105	186	681	400	200	85
SIL50-58/2	200	260	208	163	163	144	105	196	692	440	220	110
SIL50-80/2	350	330	255	163	163	144	105	196	852	440	220	185

Dimensional Drawing

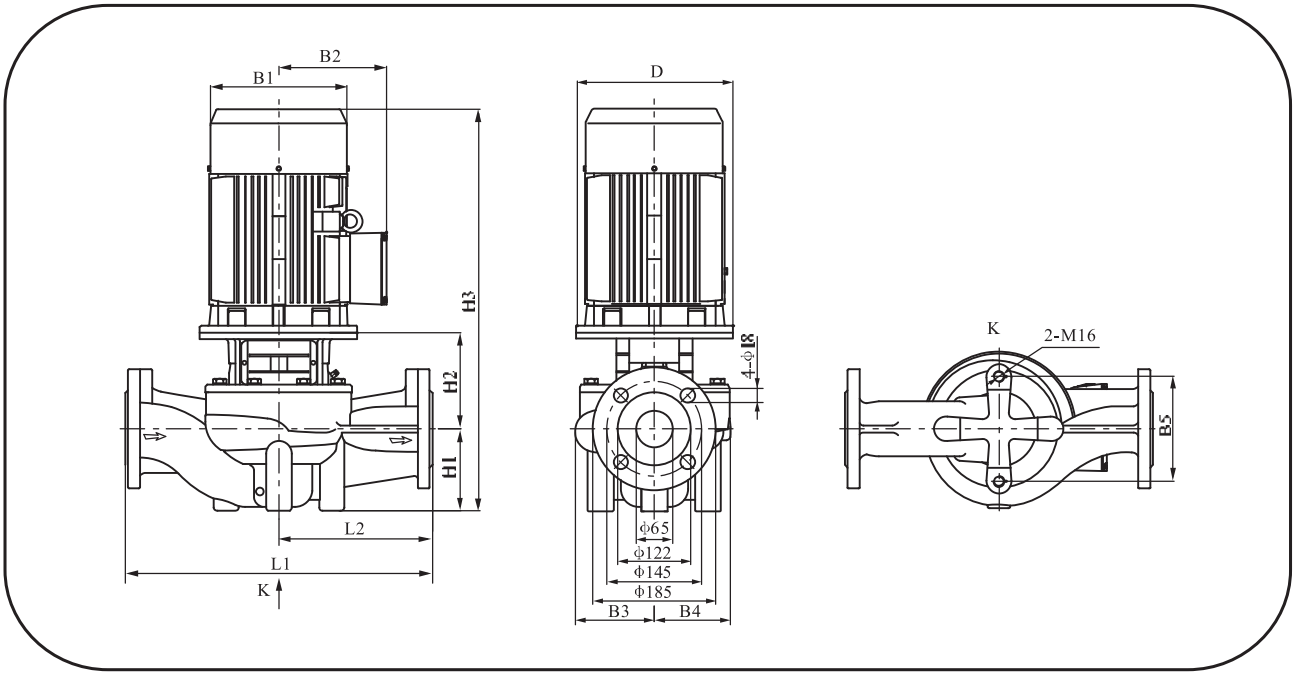
For SIL50



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL50-12/2	120	170	142	117	115	144	115	153	513	340	170	56
SIL50-15/2	140	190	155	117	115	144	115	153	558	340	170	62
SIL50-18/2	140	190	155	117	115	144	115	153	558	340	170	65
SIL50-24/2	160	197	165	117	115	144	115	172	632	340	170	74
SIL50-28/2	160	230	188	129	115	144	115	175	645	340	170	79
SIL50-35/2	200	260	208	129	115	144	115	197	702	340	170	103
SIL50-40/2	200	260	208	171	158	144	115	187	692	440	220	118
SIL50-50/2	350	330	255	171	158	144	115	250	865	440	220	181
SIL50-60/2	350	330	255	171	158	144	115	250	865	440	220	191
SIL50-70/2	350	330	255	171	158	144	115	250	915	440	220	209
SIL50-81/2	350	360	285	171	158	144	115	250	940	440	220	245

Dimensional Drawing

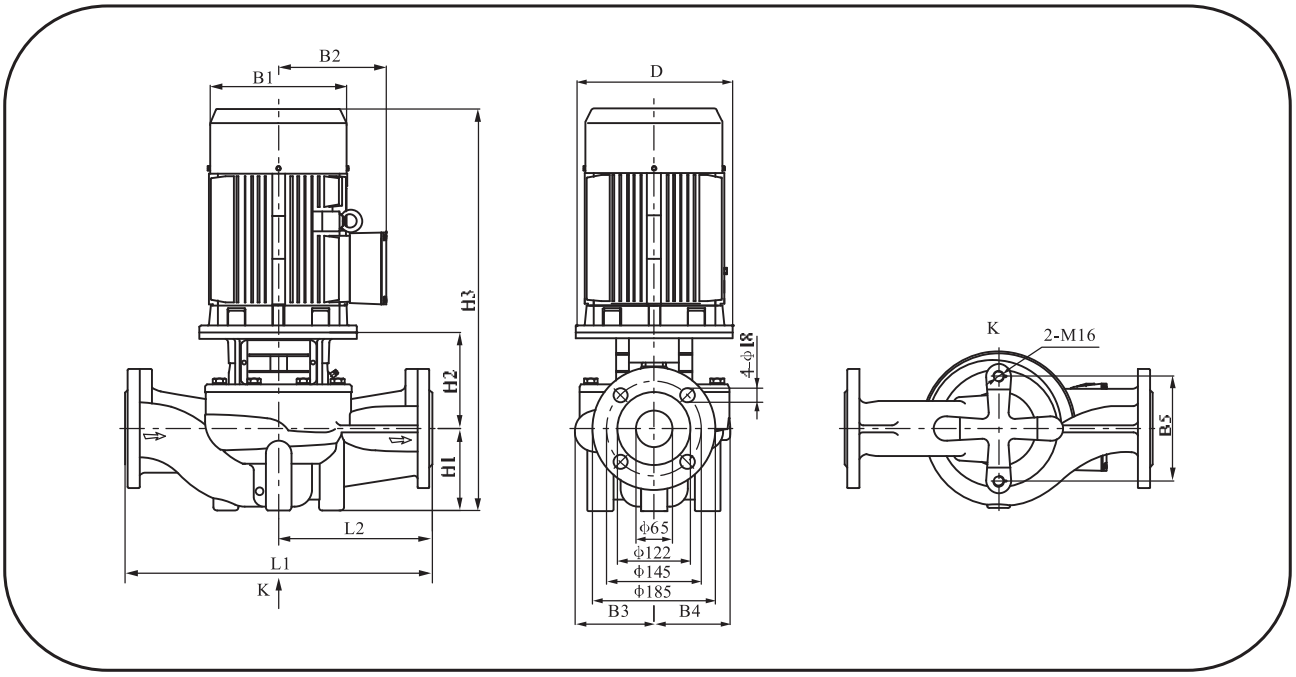
For SIL65



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL65-36/2	200	260	208	128	128	144	105	194	689	400	200	87
SIL65-48/2	200	260	208	128	128	144	105	194	689	400	200	91

Dimensional Drawing

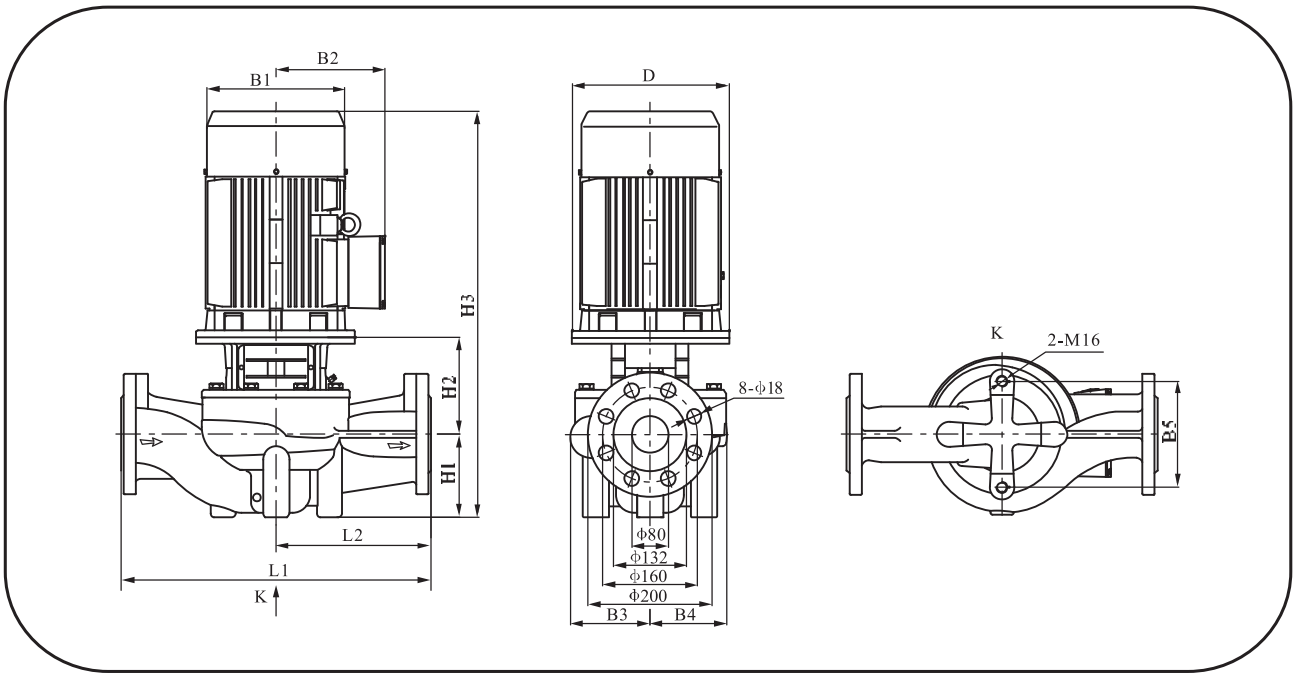
For SIL65



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL65-15/2	140	190	155	142	124	144	105	172	567	360	180	65
SIL65-20/2	160	197	165	142	124	144	105	191	641	360	180	74
SIL65-22/2	160	230	188	142	124	144	105	191	651	360	180	81
SIL65-30/2	200	260	208	142	124	144	105	213	708	360	180	105
SIL65-34/2	200	260	208	142	124	144	105	213	708	360	180	108
SIL65-40/2	350	330	255	179	167	144	125	262	887	475	238	183
SIL65-50/2	350	330	255	179	167	144	125	262	887	475	238	193
SIL65-61/2	350	330	255	179	167	144	125	262	937	475	238	210
SIL65-67/2	350	330	255	179	167	144	125	262	962	475	238	248
SIL65-83/2	400	400	310	179	167	144	125	262	1037	475	238	309

Dimensional Drawing

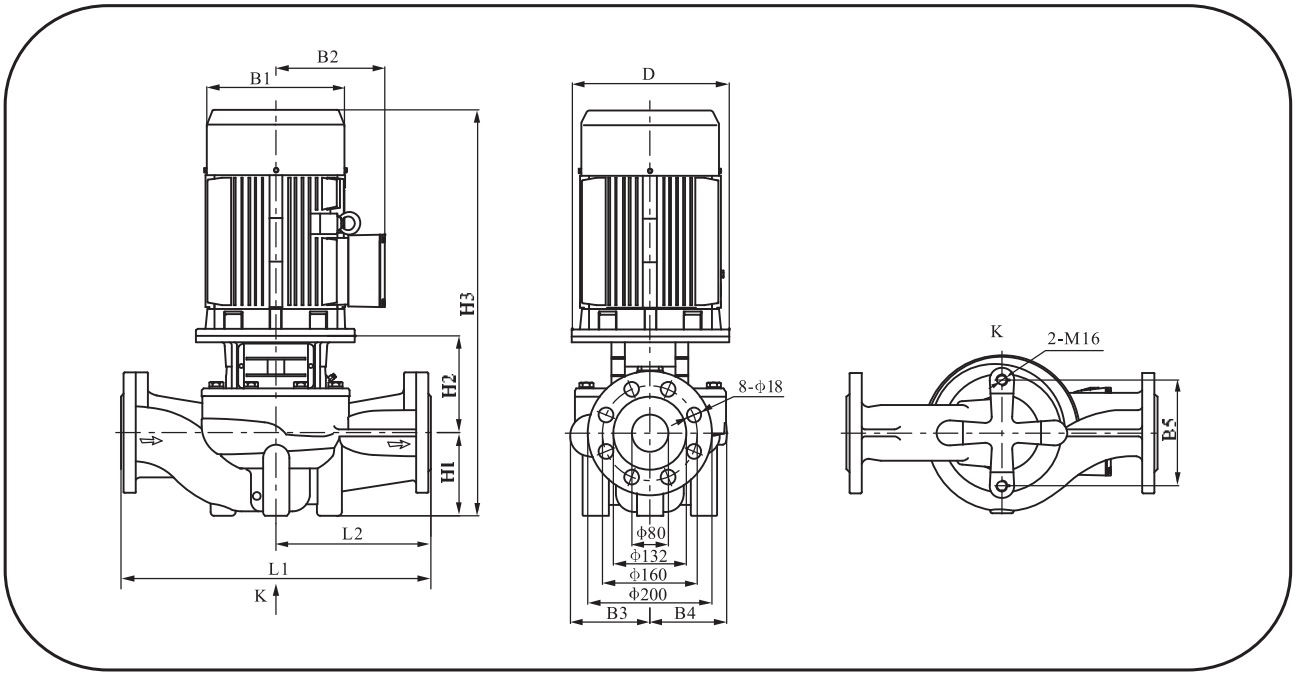
For SIL80



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL80-40/2	350	330	255	137	128	144	115	240	855	500	250	170
SIL80-48/2	350	330	255	137	128	144	115	240	855	500	250	181

Dimensional Drawing

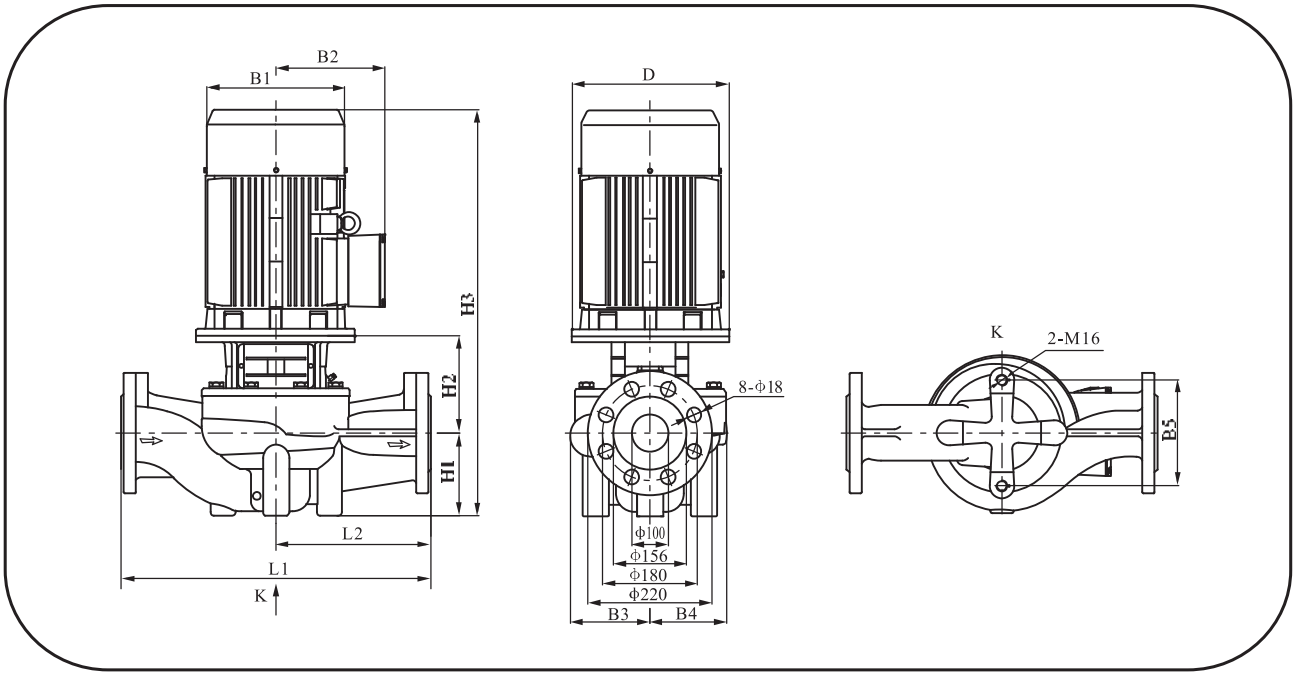
For SIL80



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL80-13/2	160	197	165	142	124	160	97	219	661	450	225	84
SIL80-18/2	160	230	188	142	124	160	97	219	671	450	225	91
SIL80-23/2	200	260	208	142	124	160	97	241	728	450	225	114
SIL80-28/2	200	260	208	142	124	160	97	241	728	450	225	117
SIL80-32/2	350	330	255	182	163	144	115	279	894	500	250	194
SIL80-38/2	350	330	255	182	163	144	115	279	894	500	250	204
SIL80-47/2	350	330	255	182	163	144	115	279	944	500	250	222
SIL80-54/2	350	330	255	182	163	144	115	279	969	500	250	258
SIL80-67/2	400	400	310	182	163	144	115	279	1044	500	250	319

Dimensional Drawing

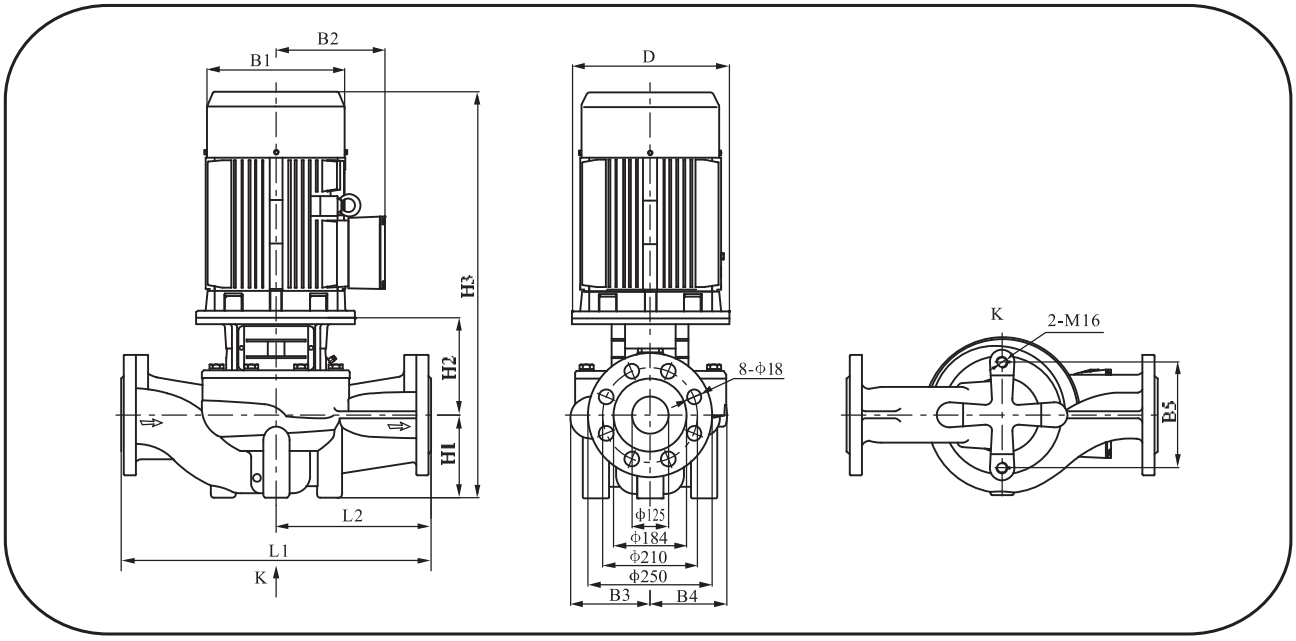
For SIL100



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL100-9/2	140	175	155	134	101	160	105	178	573	450	225	65
SIL100-15/2	160	215	190	134	101	160	105	190	650	450	225	83
SIL100-17/2	200	260	205	150	117	144	140	215	745	500	250	119
SIL100-22/2	200	260	205	150	117	144	140	215	745	500	250	122
SIL100-27/2	350	350	245	147	123	144	140	260	900	550	275	183
SIL100-33/2	350	350	265	147	123	144	140	260	900	550	275	194
SIL100-40/2	350	350	265	181	152	230	140	270	960	550	275	224
SIL100-48/2	350	350	280	181	152	230	140	270	985	550	275	260
SIL100-52/2	400	400	305	181	152	230	140	270	1060	550	275	318

Dimensional Drawing

For SIL125



Model	Size (mm)													Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H2*	H3	H3*	L1	L2	
SIL125-11/4	200	260	208	216	176	230	215	228	--	873	--	620	310	166(--)
SIL125-14/4	200	260	208	216	176	230	215	228	--	873	--	620	310	169(--)
SIL125-18-4	350	330	255	211	177	230	215	276	376	989	1089	800	400	257(265)
SIL125-22/4	350	330	255	236	208	230	215	292	395	1047	1150	800	400	302(314)
SIL125-28/4	350	330	255	236	208	230	215	292	395	1084	1187	800	400	321(348)
SIL125-32/4	350	330	255	236	208	230	215	292	395	1122	1225	800	400	356(362)
SIL125-40/4	400	400	310	272	248	230	215	315	411	1179	1275	800	400	442(460)
SIL125-48/4	450	450	325	272	248	230	215	315	442	1204	1331	800	400	498(528)

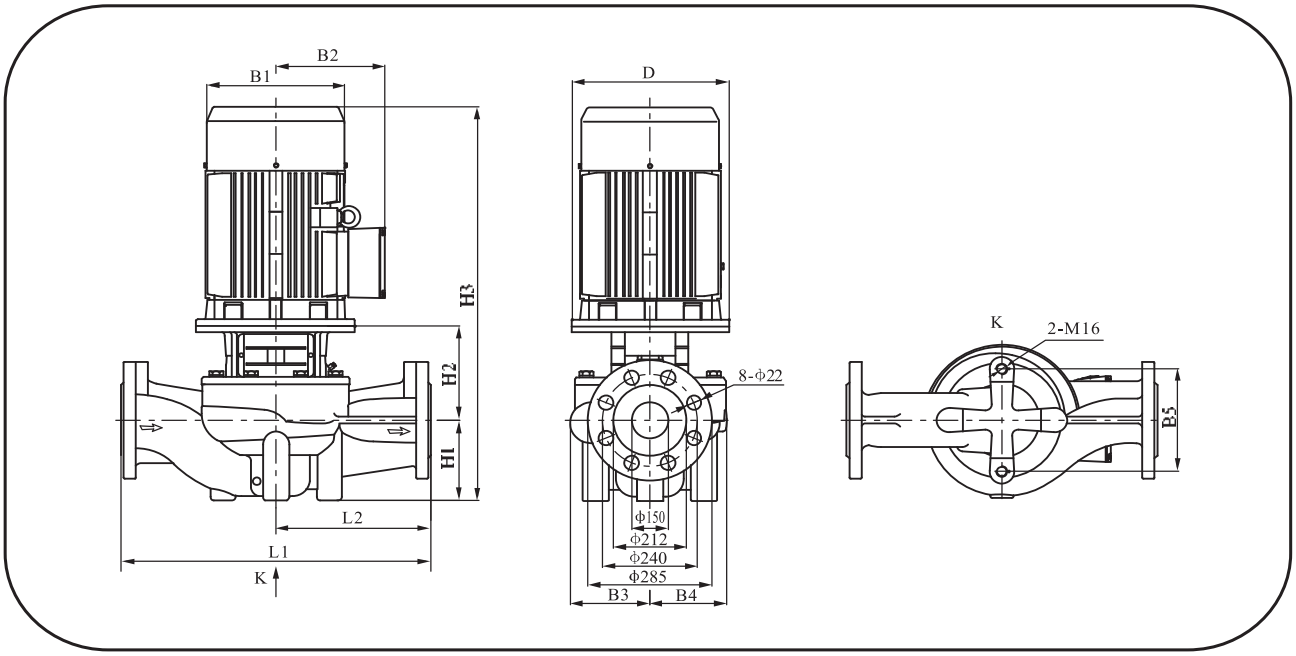
Note:

*1. The size with " * " in the data is the size for Easy-Maintenance structure.*

2. The weight in the bracket is the weight of Easy-Maintenance structure.

Dimensional Drawing

For SIL150



Model	Size (mm)													Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H2*	H3	H3*	L1	L2	
SIL150-12.5/4	350	315	250	217	180	230	215	272	372	985	1085	800	400	257(271)
SIL150-17/4	350	315	250	217	180	230	215	272	372	1027	1127	800	400	278(291)
SIL150-21/4	350	360	275	217	180	230	215	272	372	1064	1164	800	400	313(325)
SIL150-25/4	350	360	275	238	208	230	215	269	372	1099	1202	800	400	354(373)
SIL150-33/4	400	400	305	238	208	230	215	269	385	1133	1249	800	400	406(425)
SIL150-40/4	450	450	325	267	248	230	230	288	416	1188	1316	900	450	511(537)
SIL150-50/4	450	450	325	267	248	230	230	288	416	1215	1343	900	450	548(573)

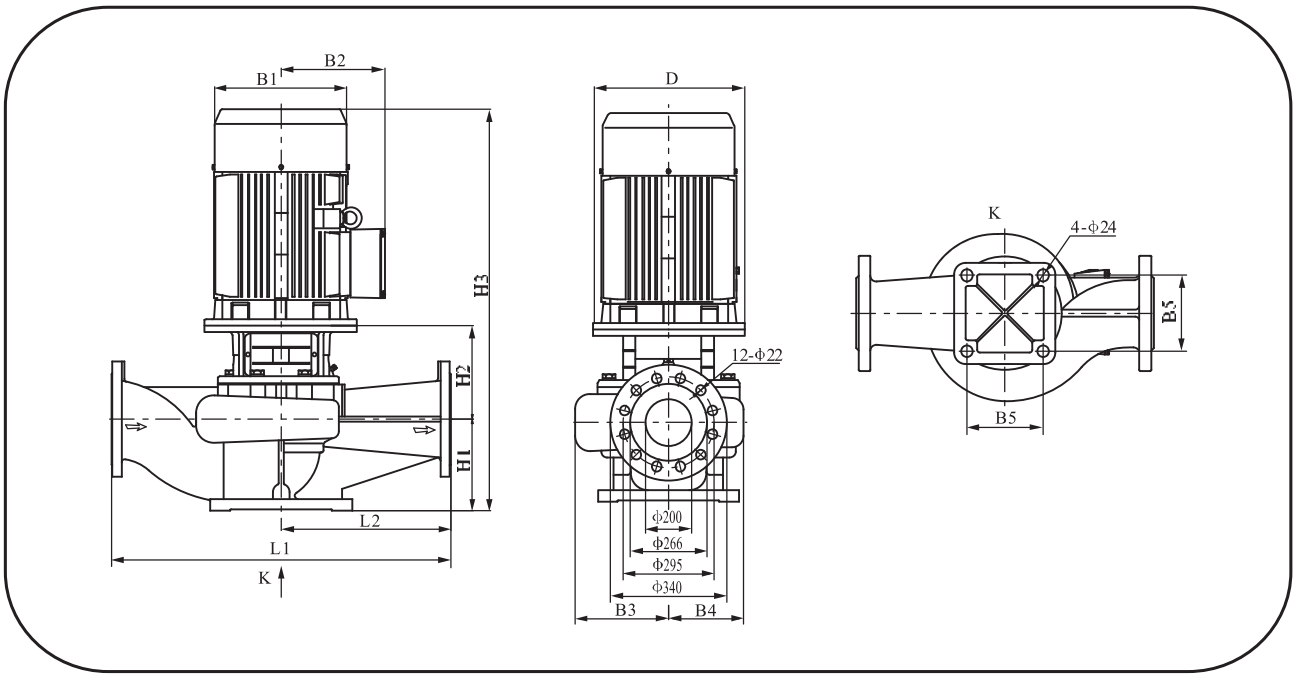
Note:

*1. The size with " * " in the data is the size for Easy-Maintenance structure.*

2. The weight in the bracket is the weight of Easy-Maintenance structure.

Dimensional Drawing

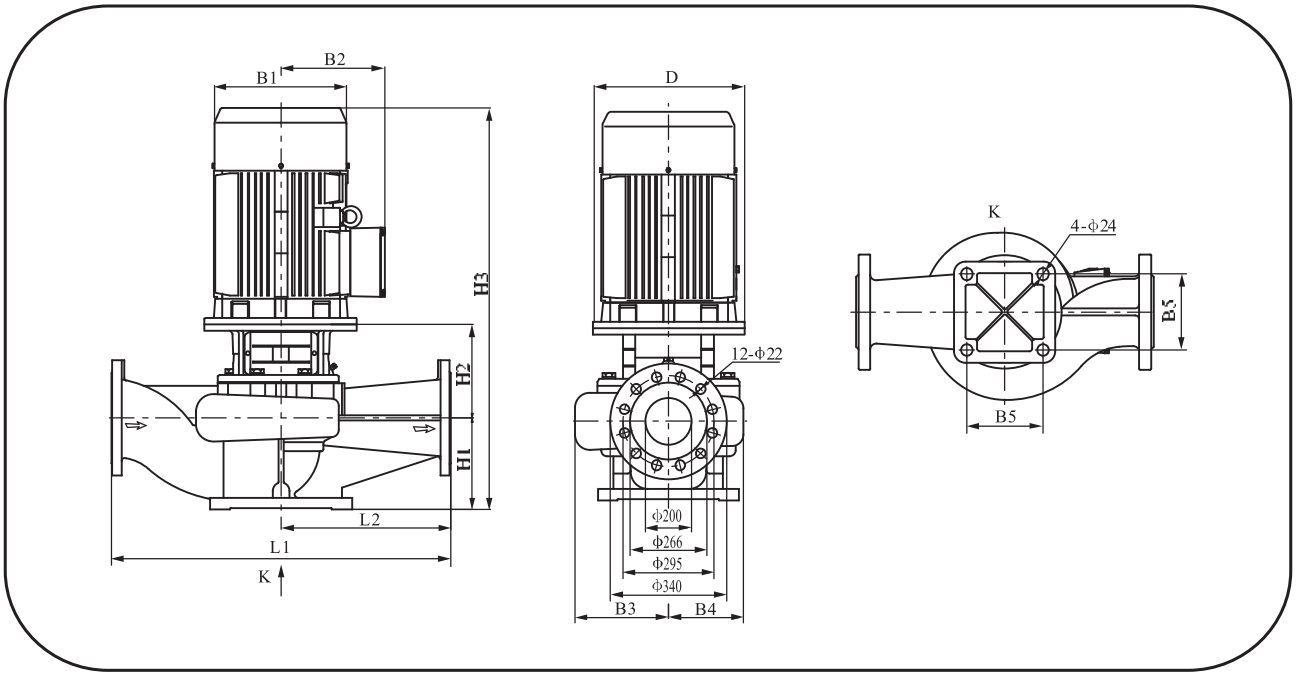
For SIL200



Model	Size (mm)											Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL200-15/4	350	360	280	278	219	360	270	415	1262	1000	500	418
SIL200-18/4	350	360	280	278	219	360	270	415	1300	1000	500	435
SIL200-24/4	400	400	305	303	252	360	270	415	1334	1100	550	537
SIL200-30/4	450	450	335	303	252	360	270	445	1389	1100	550	603
SIL200-35/4	450	450	335	303	252	360	270	445	1412	1100	550	649
SIL200-44/4	550	490	365	315	269	360	270	457	1500	1100	550	751
SIL200-53/4	550	550	400	315	269	360	270	457	1556	1100	550	884

Dimensional Drawing

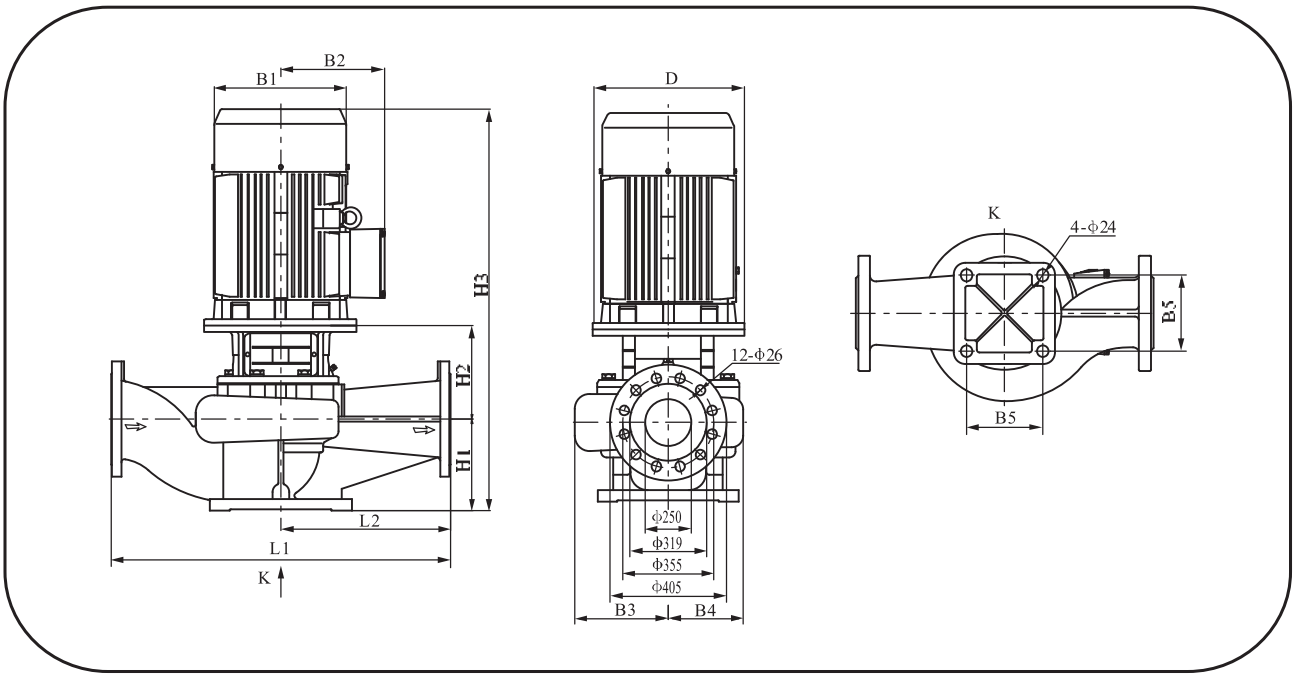
For SIL200



Model	Size (mm)										Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL200-12.5/4	350	360	280	278	219	360	270	415	1300	1000	500	432
SIL200-20/4	400	400	305	278	219	360	270	415	1334	1000	500	492
SIL200-23/4	450	450	335	303	252	360	270	445	1389	1100	550	602
SIL200-27/4	450	450	335	303	252	360	270	445	1412	1100	550	638
SIL200-32/4	550	490	365	303	252	360	270	445	1488	1100	550	710
SIL200-43/4	550	550	400	315	269	360	270	457	1556	1100	550	883
SIL200-50/4	550	550	400	315	269	360	270	457	1607	1100	550	975

Dimensional Drawing

For SIL250



Model	Size (mm)										Weight (kg)
	D	B1	B2	B3	B4	B5	H1	H2	H3	L1	L2	
SIL250-15/4	400	400	305	316	243	390	300	465	1414	1100	550	553
SIL250-18/4	450	450	335	316	243	390	300	495	1469	1100	550	614
SIL250-21/4	450	450	335	316	243	390	300	495	1492	1100	550	650
SIL250-27/4	550	490	365	329	264	440	300	507	1580	1100	550	780
SIL250-36/4	550	550	400	329	264	440	300	507	1636	1100	550	909
SIL250-44/4	550	550	400	347	292	440	305	485	1670	1200	600	1032
SIL250-53/4	660	625	555	347	292	440	305	525	1840	1200	600	1391


Shindo