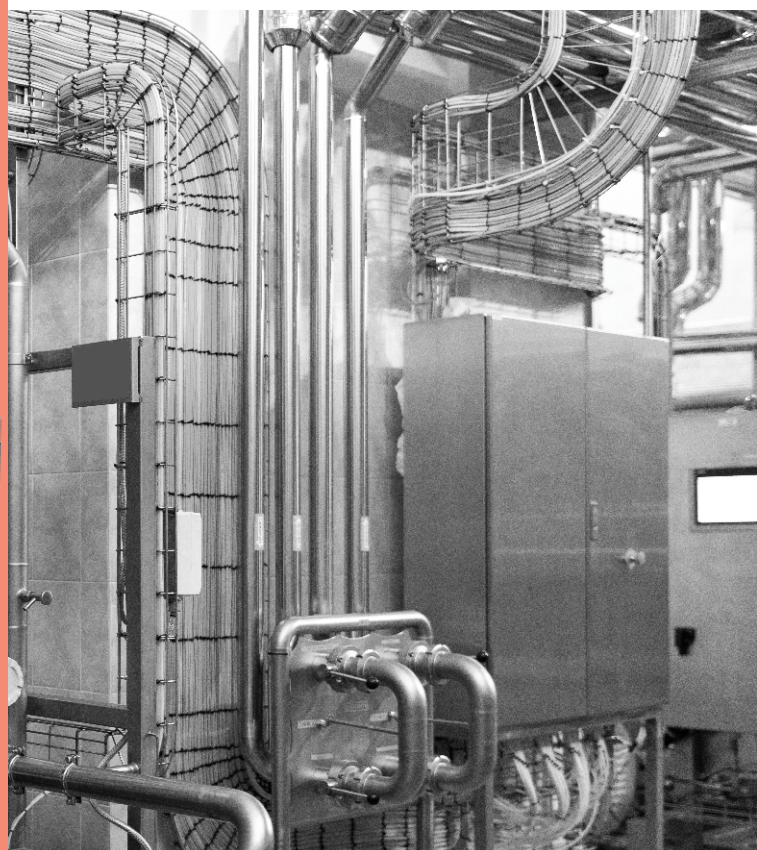


**Vertical Multistage
Inline Pumps
FV Series - 50 Hz**

NEW

Zirantec

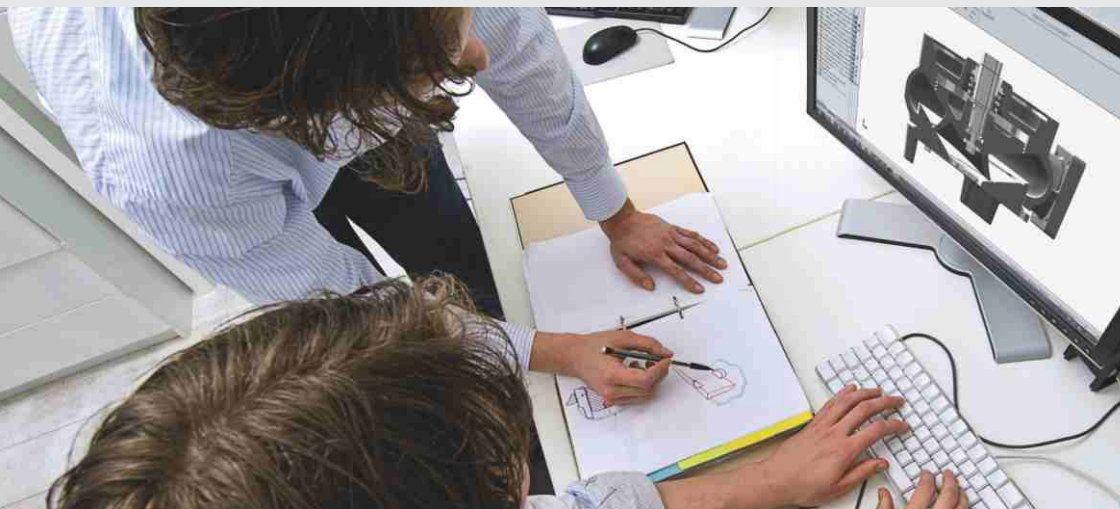


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An ISO 9001 Company



Zirantec



ZIRANTEC products are designed & manufactured by well qualified and experienced Engineers in state of the art manufacturing facilities

CERTIFICATION



ZIRANTEC Pumps & Motors are from the house of **Fabbrica Italiana Pompe Sommergibili S.r.l.** a four decades old Italian company of high repute, offering complete waste water solutions around the world. Its current product portfolio includes world class Waste Water Pumps of various types, Multistage Centrifugal Pressure Booster Pumps, Borehole Submersible Pumps & Motors, End Suction Centrifugal Pumps, Industrial Pumps for various applications.

Founded as early as 1978 in Rozzano, South of Milan, Italy by Mr.Orfeo Agostini, the company has witnessed steady growth and market expansion continuously ever since. In these four decades of existence, the company has carved a niche for itself in the waste water and sewage pump market in Italy and other countries. Its products are employed in Municipal, Domestic and Industrial applications. The Company is well known for the unique and robust designs of its products and their workmanship. Due to its superior quality ZIRANTEC products are also exported to many European, African and Asian countries.

ZIRANTEC's products are designed and manufactured to meet high quality Standards and they are 'CE' certified. The Facility is accredited with ISO 9001 Certification.

Over the years, the company has metamorphosed and ventured into manufacturing of high quality water pumps, for domestic, agricultural and industrial applications. In the due process, Fabbrica Italiana Pompe Sommergibili S.r.l. has shed its image of an exclusive sewage and waste water pumps manufacturer to a complete pump production company with an ability to manufacture diverse kinds of pumps for different applications.

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GENERAL

FV SERIES - 50 Hz

ZIRANTEC VERTICAL MULTISTAGE PUMPS - FV SERIES

The ZIRANTEC vertical multistage centrifugal pumps are non-self-priming with inline suction and discharge ports on the same level. The inline construction provides a smooth flow of liquid through the entire system. The vertical inline pump is ideal for applications where space is an issue as its horizontal alternative can take up to 2-3 times more space. These pumps are specially designed for high pressure applications where no suction lift is required. All wetted parts are made of corrosion resistant stainless steel which offers best hydraulic efficiency and durability. All pumps are fitted with maintenance free cartridge mechanical seal for safe handling, easy service and access. ZIRANTEC pumps have wider choice to suit any kind of high pressure requirements in its category. These pumps are being supplied with DIN flanges (Round and PJE) as standard option and other type also can be supplied against specific requirement.

The ZIRANTEC vertical multistage pumps are offered with ZIRANTEC energy efficient motors to give better efficiency and life. All single phase motors are fitted with thermal overload protector to safe guard the winding while overloading and extreme operating conditions. These pumps are supplied with high efficient IE2 motors in 3 Phase; IE3 motors also can be supplied on request.

PERFORMANCE CURVE CONDITIONS

- The conditions below apply to the curves shown on this entire catalogue.
- Curve tolerance are according to ISO 9906, Grade 2B.
- The performance are taken at rated voltage & speed that are only indicative.
- Actual discharge depends on availability of water in well / tank, height of water column from the suction pipe end.
- The measurements were made with airless water at 20°C. When pumping liquids with a density higher than of water, motors with correspondingly higher outputs must be used.
- The bold curves indicate the recommended performance range.
- Pipe friction losses have not been included in the performance curves & performance tables.

The ZIRANTEC can also offer complete pressure boosting system with single or multiple pumps, VFD controller, manifold, pressure gauge, pressure switch, pressure tank etc with single and multi-pump options.

FEATURES

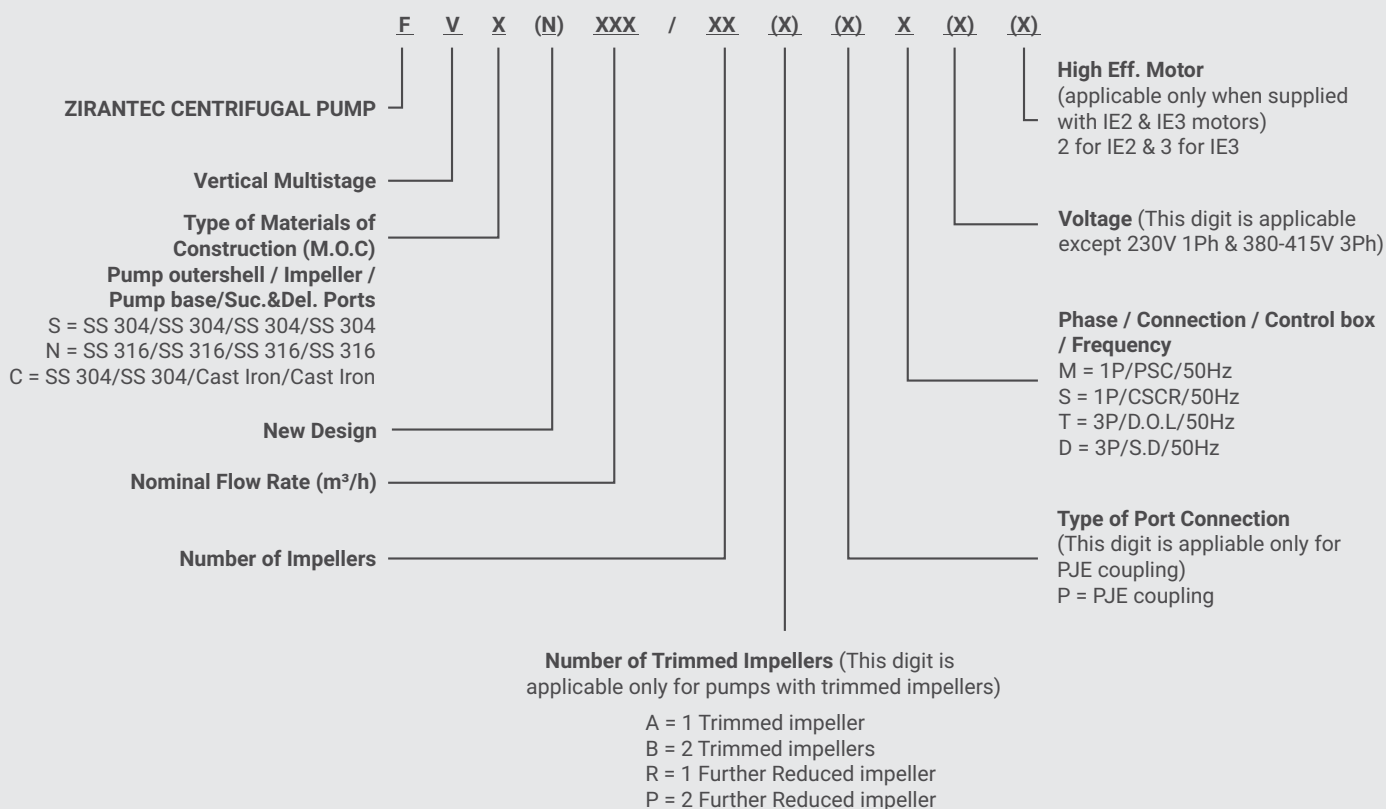
- Mechanical seal can be replaced in the installed position without removing pump from the system
- Different type of flange options against specific requirement
- Optional customized pressure boosting systems
- Inbuilt thermal overload protector for single phase motors

APPLICATIONS

- Pressure boosting systems
- Fire fighting systems
- Industrial washing systems
- Sprinkler irrigation systems
- High pressure pumping application in water treatment plant and boiler plant
- Utility water supply in industries

IMPORTANT NOTES

MODEL IDENTIFICATION CODE



VERTICAL MULTISTAGE PUMP SET

PUMP MODEL	/	CODE
F V X XXX / XX X	/	FVS(N)-5/02T



TECHNICAL SPECIFICATIONS

Power Range	0,5 to 150 HP
Speed	2900 rpm
Degree of protection	IP 55 (Optional IP44 / IP54)
Insulation class	'F' (Optional 'B')
Versions	Single Phase 230V, 50Hz, A.C. Supply (0,37 - 2,2kW) (Permanent Split Capacitor-PSC & CSCR) Incorporated with thermal over load protector. Three Phase 380-415V, 50Hz, A.C. Supply (0,37 - 110kW)
Sealing	Mechanical seal - Cartridge type
Direction of rotation	Anti-clockwise viewed from driving end
Type of Duty	S1 (continuous)
Flange type	Round / PJE
Flange Standard	DIN
Pipe Connection	DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, DN 100, DN 125 & DN 150

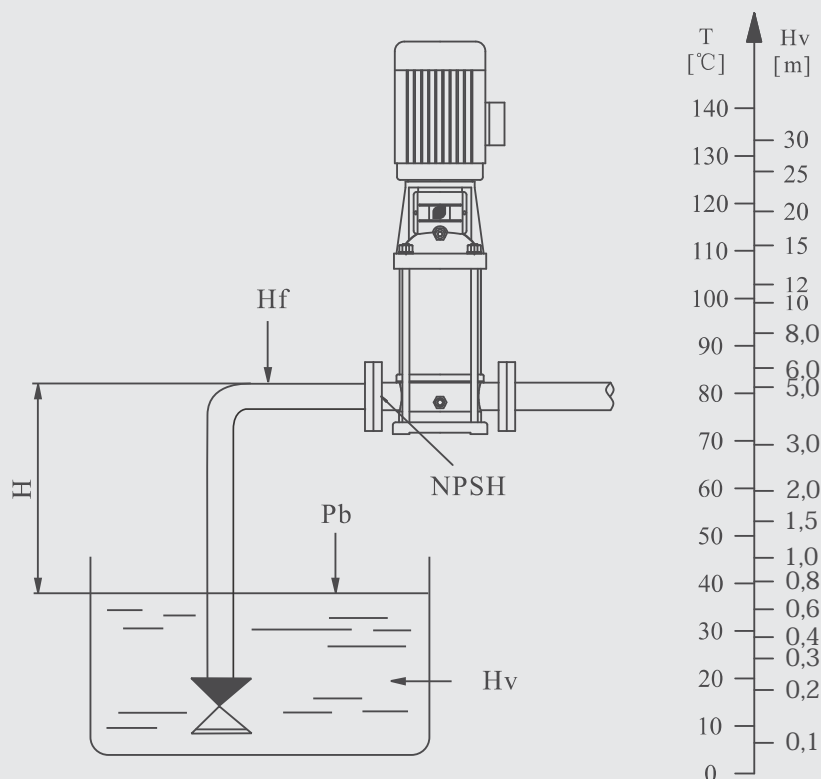
OPERATION LIMITS

Maximum Suction Lift	upto 3 m
Maximum Liquid Temperature	- 15°C to + 120°C
Maximum Ambient Temperature	40°C
Maximum Operating Pressure Range	25 Bar

PERFORMANCE RANGE

Maximum Nominal Flow	200 m³/h
Maximum Head	320 m

INLET PRESSURE



MAXIMUM INLET PRESSURE

The actual inlet pressure plus the Shut off Pressure (Head) should always be lower than the "maximum operating pressure".

MINIMUM INLET PRESSURE

In case that the pressure in pump is lower than steam pressure used to convey liquid, the cavitations will occur. To avoid the cavitations, and lessen the vibration and noise, you are suggested to adopt NPSH to make sure that the pump are under optimal operation condition.

The following formula can be used for calculation of minimum inlet pressure :

$$H = Pb \times 10,2 - NPSH - Hf - Hv - Hs$$

H : Maximum suction head (m)

Pb : Atmosphere 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 Max.flow rate shown on NPSH curve.

Hf : Pipeline loss at the inlet (m)

It is in accordance with pipeline possible Max.flow.

Hv : Stream pressure (m)

It depends on liquid temperature and system pressure value.

Hs : Safety margin (m)

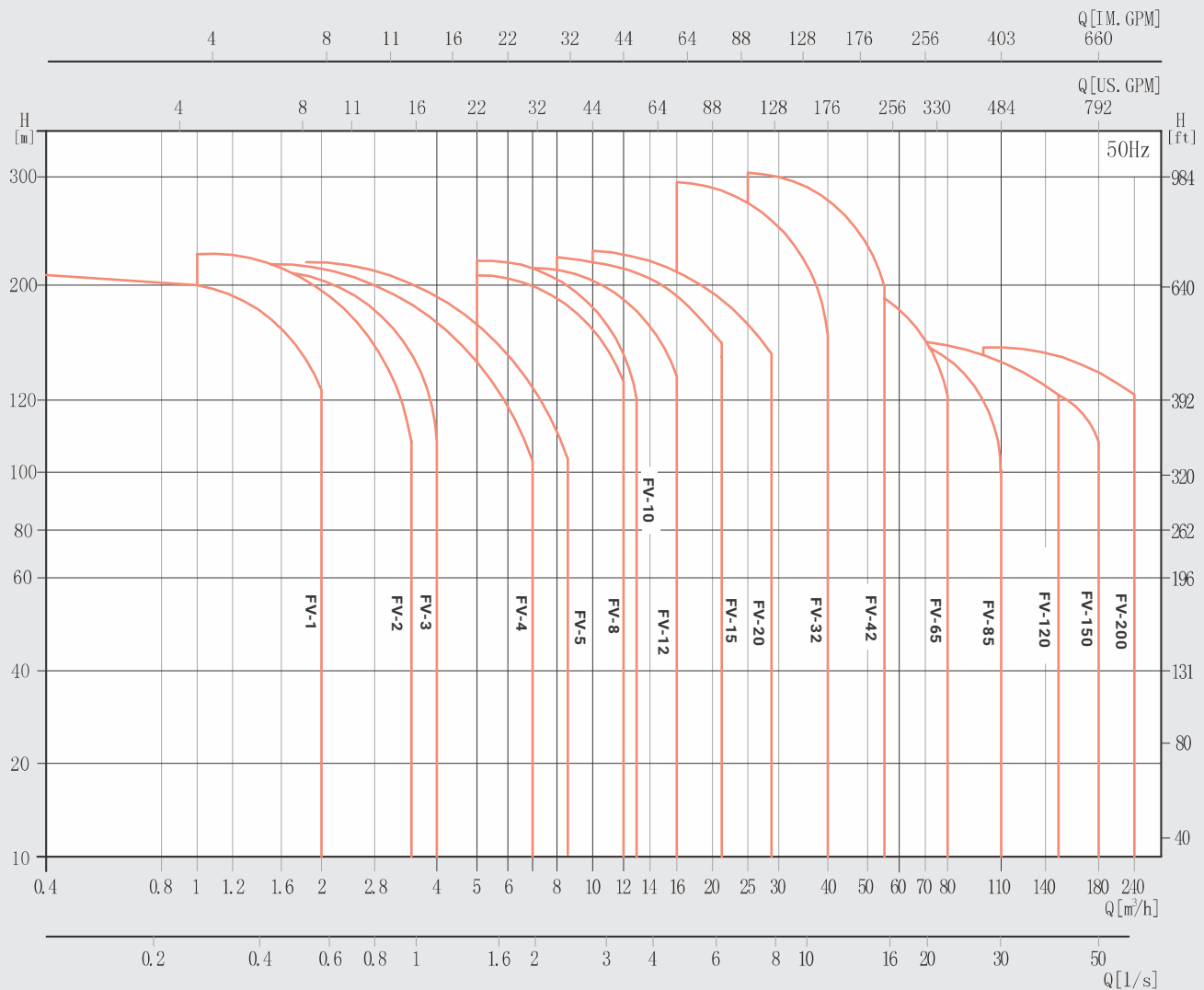
Minimum 0,5m delivery head

If the calculated result H is negative, the pump may run under the Max. suction head H. In case the calculated result H is negative, a delivery head if Min.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 pipeline long.
4. System pressure is too low.
5. Bad inlet condition.

GROUP PERFORMANCE CURVE

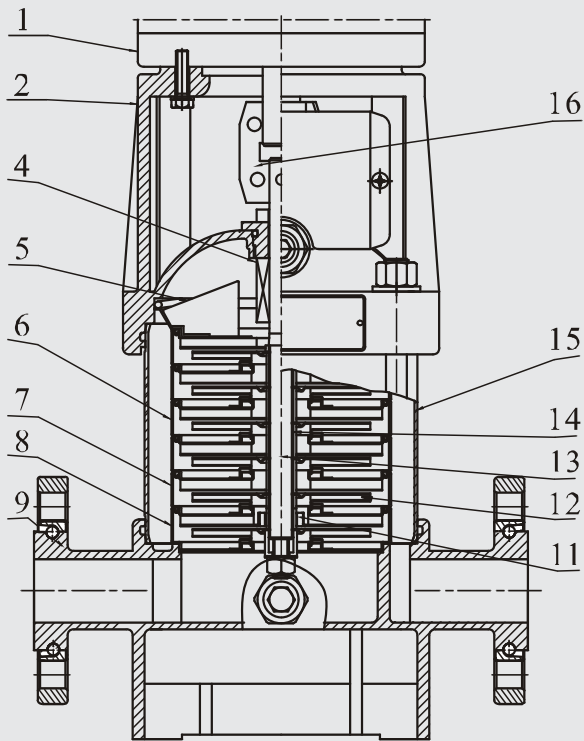


CURVE CONDITIONS

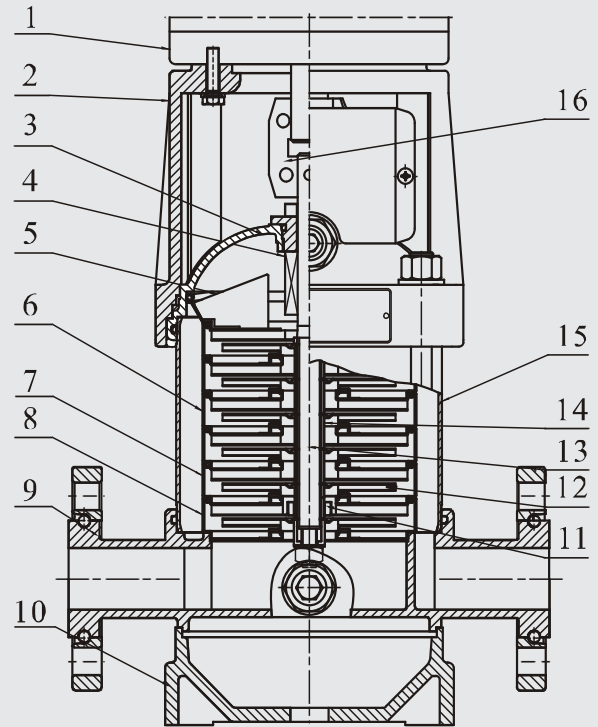
| Curve tolerance are according to ISO 9906 | The performance are taken at rated voltage & speed that are only indicative | Actual discharge depends on availability of water in well / tank, height of water column from the suction pipe end | The measurements were made with airless water at 20°C when pumping liquids with a density higher than of water, motors with correspondingly higher outputs must be used | The bold curves indicate the recommended performance range | Pipe friction losses have not been included in the performance curves & performance tables | The pipe connection threads are given as per BSP standard | The main scales of the performance curve are "meter" and "m³/h", which have been given for head and flow respectively | The performance curves are common for all type of materials of construction.

CROSS SECTIONAL DRAWING

FV : 1, 2, 3, 4 & 5 m³/h



FVC



FVS

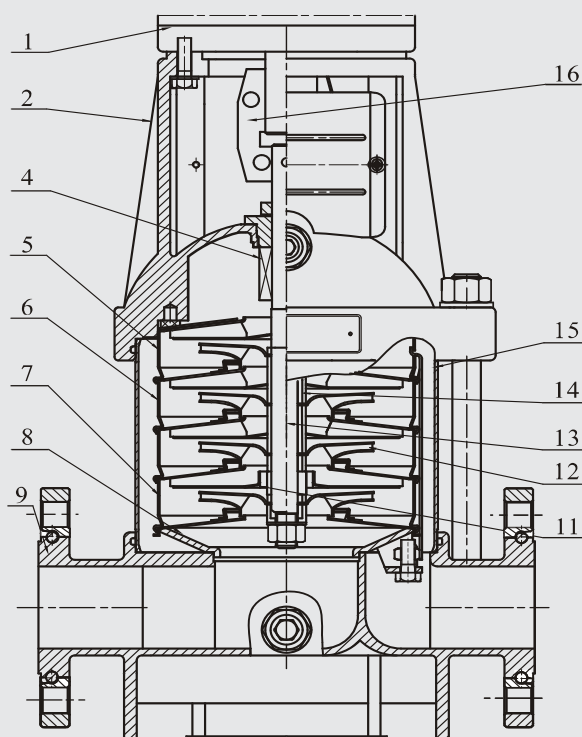
MATERIAL OF CONSTRUCTION

No.	Name	Material	AISI / ASTM
1	Motor	-	-
2	Pump head	Cast iron	ASTM25B
4	Mechanical seal	SiC / TC / FKM	-
5	Top diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Support diffuser	Stainless steel	AISI304
8	Inducer	Stainless steel	AISI304
11	Bearing	Tungsten carbide	-
12	Impeller	Stainless steel	AISI304
13	Shaft	Stainless steel	AISI304 / AISI316L
14	Impeller sleeve	Stainless steel	AISI304
15	Cylinder	Stainless steel	AISI304
16	Coupling	carbon steel	-
FVS			
3	Seal base	Stainless steel	AISI304
9	Inlet and outlet Chamber	Stainless steel	AISI304
10	Base plate	Cast iron	ASTM25B
FVC			
9	Inlet and outlet Chamber	Cast iron	ASTM25B

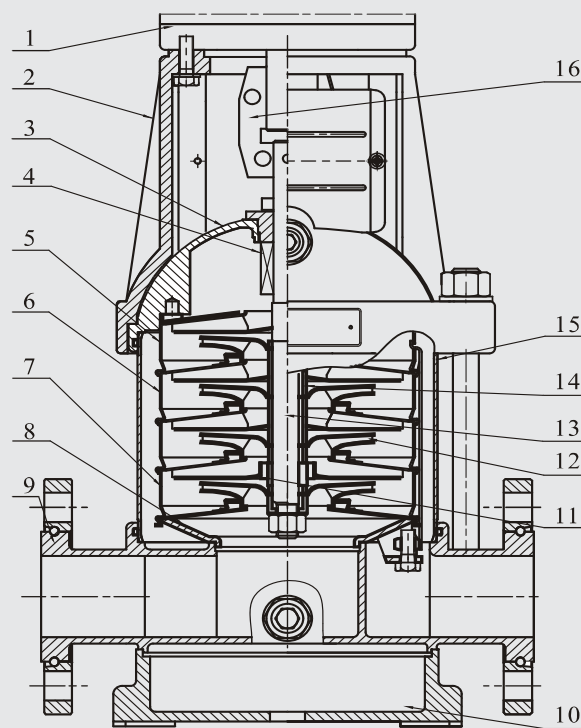
In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

CROSS SECTIONAL DRAWING

FV : 8, 10, 12, 15 & 20 m³/h



FVC



FVS

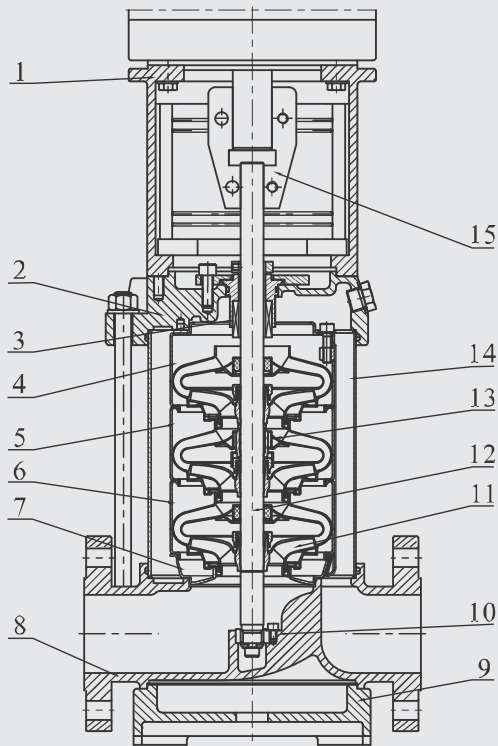
MATERIAL OF CONSTRUCTION

No.	Name	Material	AISI / ASTM
1	Motor	-	-
2	Pump head	Cast iron	ASTM25B
4	Mechanical seal	SiC / TC / FKM	-
5	Top diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Support diffuser	Stainless steel	AISI304
8	Inducer	Stainless steel	AISI304
11	Bearing	Tungsten carbide	-
12	Impeller	Stainless steel	AISI304
13	Shaft	Stainless steel	AISI304 / AISI316L
14	Impeller sleeve	Stainless steel	AISI304
15	Cylinder	Stainless steel	AISI304
16	Coupling	carbon steel	-
FVS			
3	Seal base	Stainless steel	AISI304
9	Inlet and outlet Chamber	Stainless steel	AISI304
10	Base plate	Cast iron	ASTM25B
FVC			
9	Inlet and outlet Chamber	Cast iron	ASTM25B

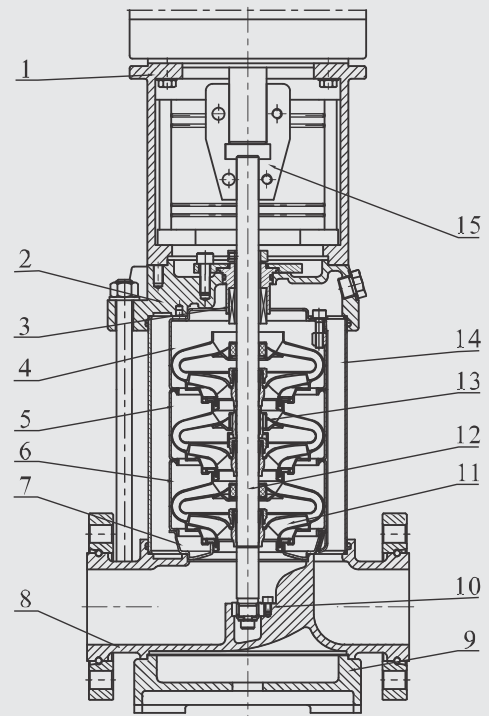
In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

CROSS SECTIONAL DRAWING

FV : 32, 42, 65 & 85 m³/h



FVC



FVS

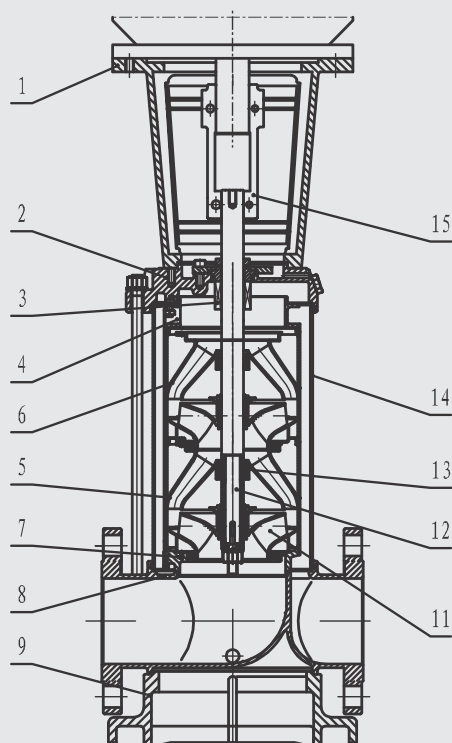
MATERIAL OF CONSTRUCTION

No.	Name	Material	AISI / ASTM
1	Bracket	Cast iron	ASTM25B
3	Mechanical seal	SiC / TC / FKM	-
4	Top diffuser	Stainless steel	AISI304
5	Support diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Inducer	Stainless steel	AISI304
9	Base plate	Cast iron	ASTM25B
10	Bottom Bearing	Tungsten carbide	-
11	Impeller	Stainless steel	AISI304
12	Shaft	Stainless steel	AISI316L / AISI304 / AISI431
13	Intermediate bearing	Tungsten carbide	-
14	Cylinder	Stainless steel	AISI304
15	Coupling	Carbon steel	-
	Rubber parts	NBR	-
FVC			
2	Pump head	Cast iron	ASTM25B
8	Inlet and outlet Chamber	Cast iron	ASTM25B
FVS			
2	Pump head	Stainless steel	AISI304
8	Inlet and outlet Chamber	Stainless steel	AISI304

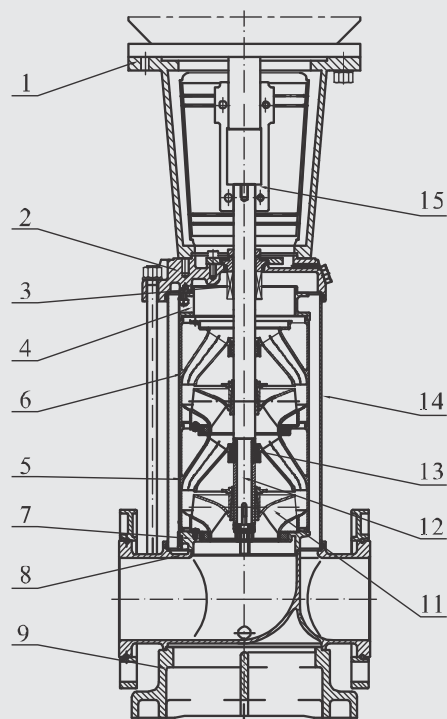
In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

CROSS SECTIONAL DRAWING

FV : 120, 150 & 200 m³/h



FVC



FVS

MATERIAL OF CONSTRUCTION

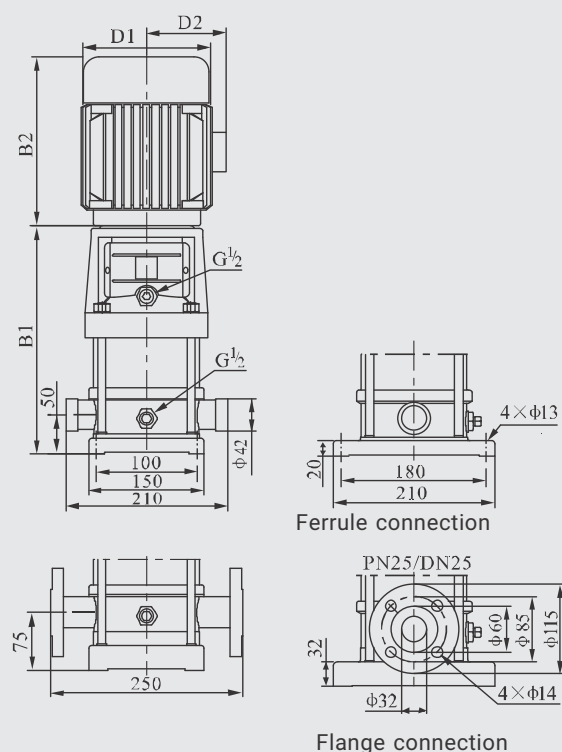
No.	Name	Material	AISI / ASTM
1	Bracket	Cast iron	ASTM25B
3	Mechanical seal	SiC / TC / FKM	-
4	Top diffuser	Stainless steel	AISI304
5	Support diffuser	Stainless steel	AISI304
6	Diffuser	Stainless steel	AISI304
7	Inducer	Stainless steel	AISI304
9	Base plate	Cast iron	ASTM 80-55-06
11	Impeller	Stainless steel	AISI304
12	Shaft	Stainless steel	AISI316L / AISI304 / AISI431
13	Intermediate bearing	Tungsten carbide	-
14	Cylinder	Stainless steel	AISI304
15	Coupling	Carbon steel	-
	Rubber parts	NBR	-
FVC			
2	Pump head	Cast iron	ASTM25B
8	Inlet and outlet Chamber	Cast iron	ASTM25B
FVS			
2	Pump head	Stainless steel	AISI304
8	Inlet and outlet Chamber	Stainless steel	AISI304

PERFORMANCE TABLE

FVS 1

PUMP MODEL	POWER (kW)	Q m³/h	0	0.5	0.8	1	1.2	1.4	1.6	1.8	2	2.2
FVS(N)-1/02	0.37	HEAD (m)	12.9	12.6	12	11.6	11.3	10.8	10	9	7.9	6.6
FVS(N)-1/03	0.37		18.6	18	17.6	17	16.6	15.9	14.6	13	11	9.6
FVS(N)-1/04	0.37		24	24	23.6	22.6	22	20.9	19	17	14.6	12
FVS(N)-1/05	0.37		30	29.6	29	28	27	25.6	23.6	21	18	15
FVS(N)-1/06	0.37		36	35.6	34.6	33.6	32.6	31	28	25	21.6	18
FVS(N)-1/07	0.37		42	41.6	40.6	40	38	36	32.6	29	25	21
FVS(N)-1/08	0.55		48	47	46	44.6	43	41	37.6	34	28.6	24.6
FVS(N)-1/09	0.55		53.6	53	52	50	48	46	42	38	33	28
FVS(N)-1/10	0.55		59.6	59	57.6	56	53.6	51	47	43	37.6	31.6
FVS(N)-1/11	0.55		65	64.6	63.6	62	59.6	56	52	48	41	34.6
FVS(N)-1/12	0.75		71	70	69	68	65.6	62	57.6	53	45.6	38
FVS(N)-1/13	0.75		76.6	76	75	74	71	67.6	62.6	57	50	41.6
FVS(N)-1/15	0.75		88	87.6	86.6	85	82	77.6	72	66	58	48
FVS(N)-1/17	1.1		96.6	96	94.6	93	90	84.6	78.6	71	62	51
FVS(N)-1/19	1.1		108	107	105.6	104	101	94.6	88.6	80	70	54
FVS(N)-1/21	1.1		120	119	117	115	111	105	98	88	77	63.6
FVS(N)-1/22	1.1		126	125	123	120.6	116	110.6	110.6	93	81	67
FVS(N)-1/23	1.5		132	131	129	126	121	116	108	98	85	70.6
FVS(N)-1/25	1.5		146	143	140.5	137	132	126	118	107	93	77.6
FVS(N)-1/27	1.5		156	155	152.1	148	143	136	128	116	101	84
FVS(N)-1/30	1.5		174	171	169	165	159	151	143	130	114	94.6
FVS(N)-1/32	2.2		186	184	181	178	170	161	153	139	123	101.6
FVS(N)-1/33	2.2		192	190	187	184	175	166	158	144	157	105
FVS(N)-1/34	2.2		198	196	193	190	181	171	163	149	131	109
FVS(N)-1/36	2.2		210	209	205	201	193	182	173	158	139	116
FVS(N)-1/38	2.2		223	222	218	213	205	192	183	167	147	123
FVS(N)-1/40	2.2		235	234	230	224	217	203	193	176	155	130
FVS(N)-1/42	2.2		247	246	242	235	229	213	203	185	163	137

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-1/02	12.9	12.9	12.9	12.9	12.9	12.9
FVS(N)-1/03	18.6	18.6	18.6	18.6	18.6	18.6
FVS(N)-1/04	24	24	24	24	24	24
FVS(N)-1/05	30	30	30	30	30	30
FVS(N)-1/06	36	36	36	36	36	36
FVS(N)-1/07	42	42	42	42	42	42
FVS(N)-1/08	48	48	48	48	48	48
FVS(N)-1/09	53.6	53.6	53.6	53.6	53.6	53.6
FVS(N)-1/10	59.6	59.6	59.6	59.6	59.6	59.6
FVS(N)-1/11	65	65	65	65	65	65
FVS(N)-1/12	71	71	71	71	71	71
FVS(N)-1/13	76.6	76.6	76.6	76.6	76.6	76.6
FVS(N)-1/15	88	88	88	88	88	88
FVS(N)-1/17	96.6	96.6	96.6	96.6	96.6	96.6
FVS(N)-1/19	108	108	108	108	108	108
FVS(N)-1/21	120	120	120	120	120	120
FVS(N)-1/22	126	126	126	126	126	126
FVS(N)-1/23	132	132	132	132	132	132
FVS(N)-1/25	146	146	146	146	146	146
FVS(N)-1/27	156	156	156	156	156	156
FVS(N)-1/30	174	174	174	174	174	174
FVS(N)-1/32	186	186	186	186	186	186
FVS(N)-1/33	192	192	192	192	192	192
FVS(N)-1/34	198	198	198	198	198	198
FVS(N)-1/36	210	210	210	210	210	210
FVS(N)-1/38	223	223	223	223	223	223
FVS(N)-1/40	235	235	235	235	235	235
FVS(N)-1/42	247	247	247	247	247	247

FVS(N)-1/25, 1/36 has no oval flange connection.

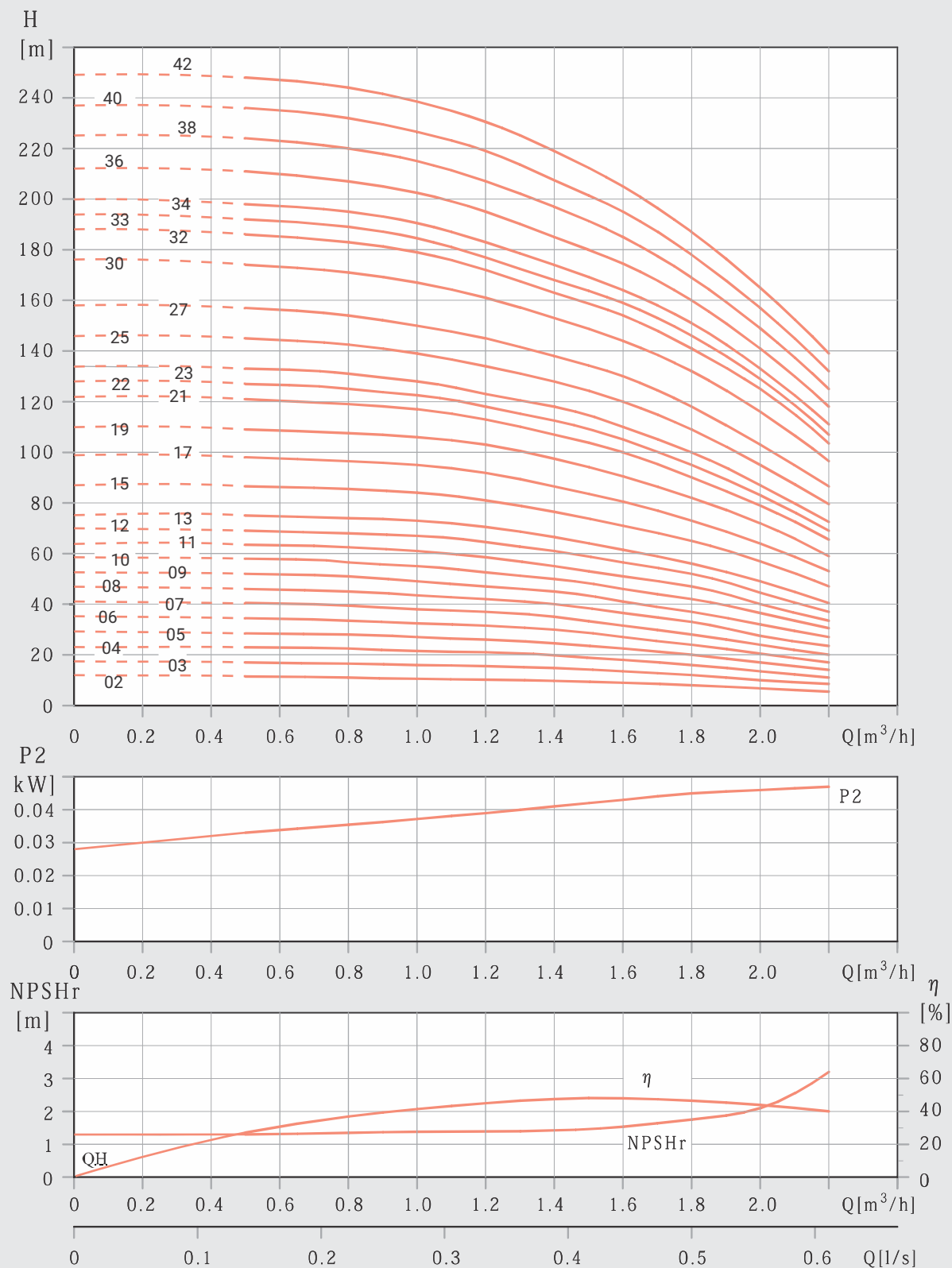
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 1m³/h

FVS-1

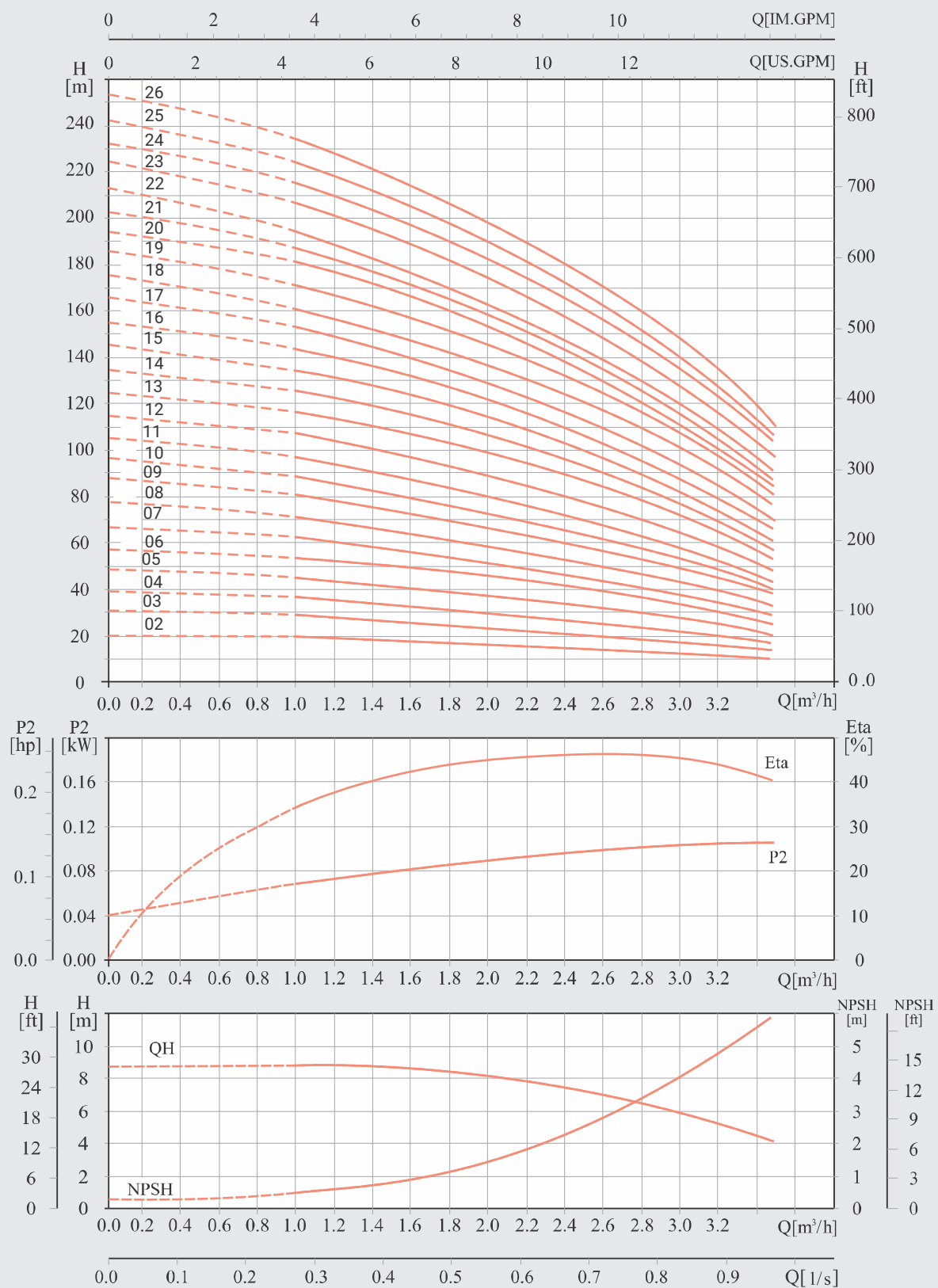


Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 2m³/h

FVS-2



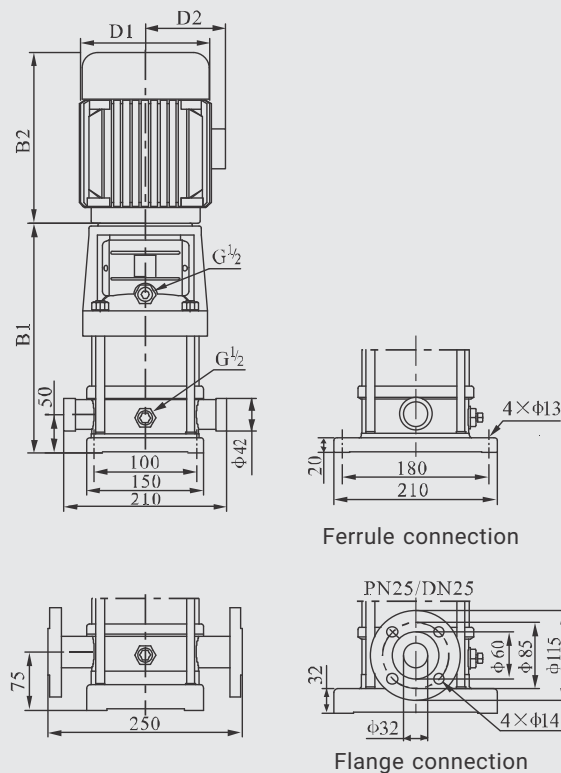
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 3

PUMP MODEL	POWER (kW)	Q m³/h	0	1.2	1.6	2	2.8	3	3.2	3.6	4	4.4
FVS(N)-3/02	0.37	HEAD (m)	15.8	15	14.6	14	12.6	12	11.6	10.6	9	7
FVS(N)-3/03	0.37		23.3	22.6	22	21.6	19	18	17.6	16	13.6	10.6
FVS(N)-3/04	0.37		30.8	30	29.6	28.6	25	24	23	21.6	18	14
FVS(N)-3/05	0.55		38.3	37	36.6	35	31	30	29	26.6	22.6	17
FVS(N)-3/06	0.55		46	44.6	43.6	42	37.6	36	35	31.6	27	21
FVS(N)-3/07	0.75		53.6	52	51	50	44	42	41	37	32	25
FVS(N)-3/08	0.75		61	59.6	58.6	57	50	48	46.6	42	36	28
FVS(N)-3/09	1.1		68.6	67	66	64	56	54	52.6	47	40	32
FVS(N)-3/10	1.1		76	74	73	71	62	60	58	52	44	36
FVS(N)-3/11	1.1		83.6	81	80	78	69	66	64	57	49	40
FVS(N)-3/12	1.1		91	89	87	84	75	72	69	61	53	43.6
FVS(N)-3/13	1.5		99	96	94	91	81	78	75	66	57	47
FVS(N)-3/14	1.5		106	103	102	98.6	87	84	81	71	62	50
FVS(N)-3/15	1.5		114	111	109	106	94	91	87	77	67	54
FVS(N)-3/16	1.5		118	116	114	110	98	94	90	79	69	55
FVS(N)-3/18	2.2		134	131	128	124	111	106	102	90	77	62
FVS(N)-3/19	2.2		141	138	135	131	117	112	108	95	82	65
FVS(N)-3/20	2.2		149	146	142	138	123	118	114	100	86	68
FVS(N)-3/21	2.2		156	153	150	145	129	124	120	105	90	72
FVS(N)-3/22	2.2		164	160	157	152	135	130	125	110	94	75
FVS(N)-3/23	2.2		171	168	164	159	142	136	131	115	98	79
FVS(N)-3/24	2.2		179	175	171	166	148	142	137	120	102	83
FVS(N)-3/25	3		186	183	179	173	154	148	143	125	106	87
FVS(N)-3/27	3		202	198	193	186	167	160	155	137	116	94
FVS(N)-3/28	3		210	205	200	193	173	166	161	143	121	97
FVS(N)-3/29	3		218	213	208	200	180	173	168	149	126	101
FVS(N)-3/31	3		233	228	222	214	192	185	179	160	136	108

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-3/02	261	220	481	138	103	23
FVS(N)-3/03	279	220	499	138	103	23
FVS(N)-3/04	297	220	517	138	103	24
FVS(N)-3/05	315	220	535	138	103	24
FVS(N)-3/06	333	220	553	138	103	25
FVS(N)-3/07	361	248	609	148	108	30
FVS(N)-3/08	379	248	627	148	108	30
FVS(N)-3/09	397	248	645	148	108	31
FVS(N)-3/10	415	248	663	148	108	31
FVS(N)-3/11	433	248	681	148	108	32
FVS(N)-3/12	451	248	699	148	108	32
FVS(N)-3/13	479	292	771	171	119	39
FVS(N)-3/14	497	292	789	171	119	39
FVS(N)-3/15	515	292	807	171	119	40
FVS(N)-3/16	533	292	825	171	119	40
FVS(N)-3/18	569	292	861	171	119	44
FVS(N)-3/19	587	292	879	171	119	44
FVS(N)-3/20	605	292	897	171	119	45
FVS(N)-3/21	623	292	915	171	119	45
FVS(N)-3/22	641	292	933	171	119	46
FVS(N)-3/23	659	292	951	171	119	46
FVS(N)-3/24	677	292	969	171	119	47
FVS(N)-3/25	705	343	1048	196	131	55
FVS(N)-3/27	741	343	1084	196	131	56
FVS(N)-3/28	759	343	1102	196	131	57
FVS(N)-3/29	777	343	1120	196	131	57
FVS(N)-3/31	813	343	1156	196	131	58

FVS(N)-3/25, 03/36 has no oval flange connection.

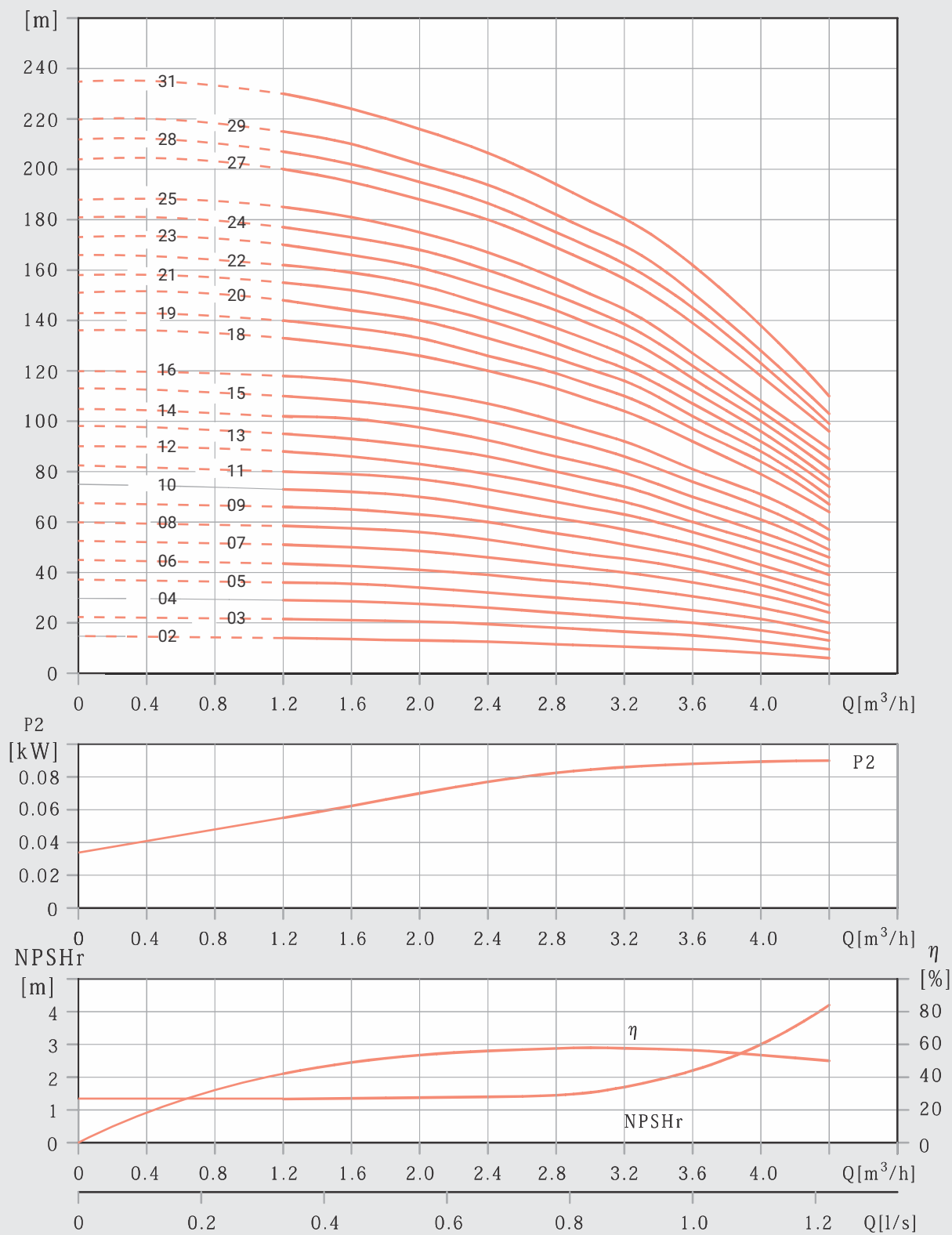
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 3m³/h

FVS-3



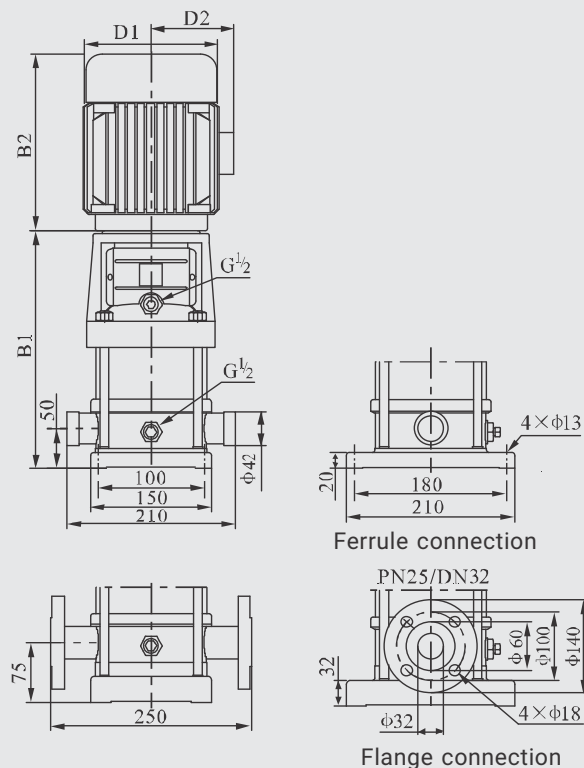
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 4

PUMP MODEL	POWER (kW)	Q m³/h	1.5	2.0	3.0	4.0	5.0	6.0	7.0
FVS(N)-4/02	0.37	HEAD (m)	19	18	17	15	13	10	8
FVS(N)-4/03	0.55		28	27	26	24	20	18	13
FVS(N)-4/04	0.75		38	36	34	32	27	24	19
FVS(N)-4/05	1.1		47	45	43	40	34	31	23
FVS(N)-4/06	1.1		56	54	52	48	41	37	28
FVS(N)-4/07	1.5		66	63	61	56	48	43	33
FVS(N)-4/08	1.5		74	72	70	64	55	50	38
FVS(N)-4/09	2.2		82	80	78	72	63	58	46
FVS(N)-4/10	2.2		96	90	87	81	71	62	48
FVS(N)-4/11	2.2		103	97	94	88	78	69	55
FVS(N)-4/12	2.2		114	108	104	95	85	75	58
FVS(N)-4/13	3		122	116	112	103	93	83	66
FVS(N)-4/14	3		136	126	122	112	101	89	68
FVS(N)-4/15	3		144	134	130	120	109	97	76
FVS(N)-4/16	3		152	144	140	129	115	101	78
FVS(N)-4/17	4		160	152	148	137	123	109	86
FVS(N)-4/18	4		168	160	156	145	131	117	94
FVS(N)-4/19	4		183	171	168	153	137	122	93
FVS(N)-4/20	4		191	179	176	161	145	130	101
FVS(N)-4/21	4		199	187	184	169	153	138	109
FVS(N)-4/22	4		211	200	192	178	160	138	108

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-4/02	276	225	501	148	117	22
FVS(N)-4/03	303	225	528	148	117	24
FVS(N)-4/04	340	245	585	170	142	30
FVS(N)-4/05	367	245	612	170	142	32
FVS(N)-4/06	394	245	639	170	142	33
FVS(N)-4/07	431	290	721	190	155	39
FVS(N)-4/08	458	290	748	190	155	40
FVS(N)-4/09	485	290	775	190	155	40
FVS(N)-4/10	512	290	802	190	155	43
FVS(N)-4/11	539	290	829	190	155	43
FVS(N)-4/12	566	290	856	190	155	44
FVS(N)-4/13	603	345	948	197	165	44
FVS(N)-4/14	630	345	975	197	165	52
FVS(N)-4/15	657	345	1002	197	165	52
FVS(N)-4/16	684	345	1029	197	165	54
FVS(N)-4/17	711	355	1066	230	188	56
FVS(N)-4/18	738	355	1093	230	188	56
FVS(N)-4/19	765	355	1120	230	188	56
FVS(N)-4/20	792	355	1147	230	188	59
FVS(N)-4/21	819	355	1174	230	188	59
FVS(N)-4/22	846	355	1201	230	188	59

FVS(N)-4/19, 04/22 has no oval flange connection.

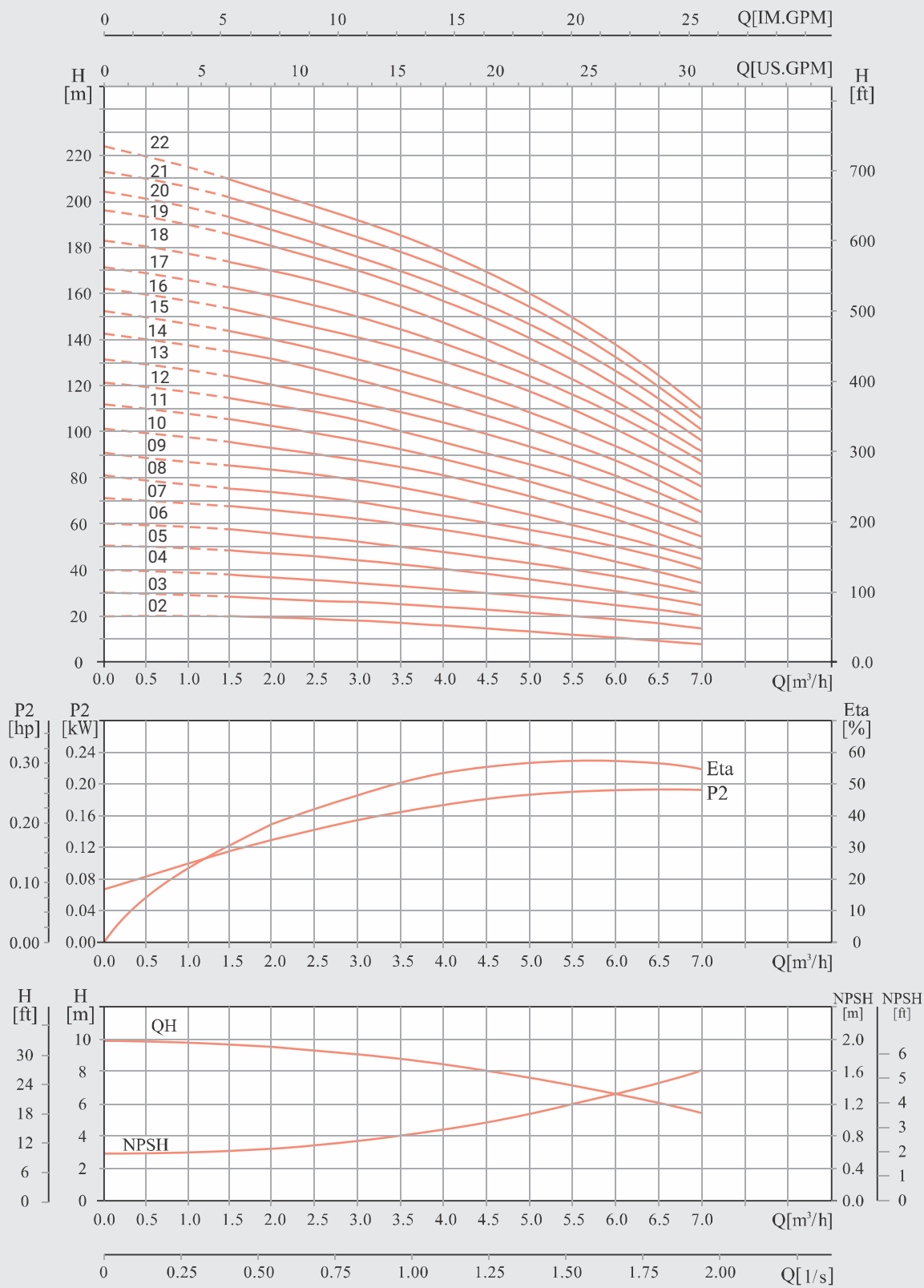
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 4m³/h

FVS-4



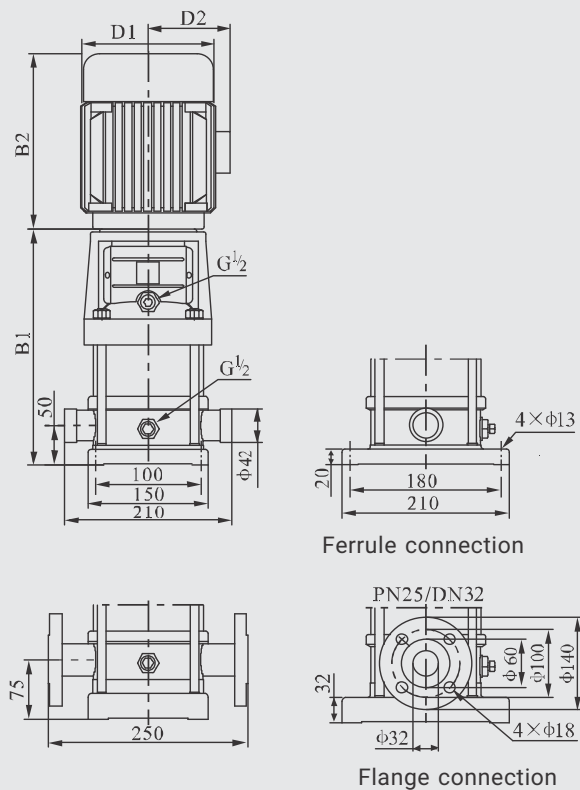
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 5

PUMP MODEL	POWER (kW)	Q m³/h	0	2.5	3	4	5	6	7	8	8.5
FVS(N)-5/02	0.37	HEAD (m)	15.8	14.6	14.3	13.6	12.6	10	8	6	5
FVS(N)-5/03	0.55		23	22	21.6	20	18.6	16	13	10	8.6
FVS(N)-5/04	0.55		30.5	29	28.6	27	25	22	18	14	12
FVS(N)-5/05	0.75		38	36	35.6	34	31	28	24	19	15.6
FVS(N)-5/06	1.1		45.6	43	42.6	41	38	34	28	22	19
FVS(N)-5/07	1.1		53	50.6	49.6	47	43.6	39.6	32.6	25.6	22
FVS(N)-5/08	1.1		60	58	57	54	50	45	37	29	25
FVS(N)-5/09	1.5		68	65	64	60.6	56	50.6	42	32.6	28
FVS(N)-5/10	1.5		75.6	72	70.6	67	63	56	47	36.6	31
FVS(N)-5/11	1.5		83	79	78	74	69	61.6	52	40	34
FVS(N)-5/12	2.2		90.6	86	85	81.6	75.6	67	56	44	37.6
FVS(N)-5/13	2.2		98	93	92	88	81	72.6	61	48	41
FVS(N)-5/14	2.2		105.6	101	99	94.6	88	78	66	52	44.6
FVS(N)-5/15	2.2		113	108	107	101	94	83.6	70	55.6	47.6
FVS(N)-5/16	2.2		117	112	110.6	104.6	97	86	72	56	48
FVS(N)-5/17	3		125	119	117	111	103	91.6	77	60	51
FVS(N)-5/18	3		132.6	126	124	118	109	97	82	64	54
FVS(N)-5/20	3		147.6	141	138	131	122	108	91	71	60.6
FVS(N)-5/21	3		155	148	145	137.6	128	114	96	75	64
FVS(N)-5/22	4		162.6	155	152	144	134	120	101	79	68
FVS(N)-5/23	4		170	163	159	151	140	126	106	83	72
FVS(N)-5/24	4		177.6	170	166	158	147	131.6	111	87	75
FVS(N)-5/25	4		185	177	173	165	153	137	115.6	91	78
FVS(N)-5/27	4		200	191	187	178	166	148	125	99	84
FVS(N)-5/28	4		208	199	195	185	172	154	130	103	88
FVS(N)-5/29	5.5		215	206	202	192	178	160.6	136	108	92
FVS(N)-5/30	5.5		223	214	210	199	184	167	142	113	96
FVS(N)-5/33	5.5		247	236	232	220	204	185	158	126	107

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-5/02	279	220	499	138	103	22
FVS(N)-5/03	306	220	526	138	103	24
FVS(N)-5/04	333	220	553	138	103	25
FVS(N)-5/05	370	248	618	148	108	28
FVS(N)-5/06	397	248	645	148	108	30
FVS(N)-5/07	424	248	672	148	108	30
FVS(N)-5/08	451	248	699	148	108	31
FVS(N)-5/09	488	292	780	171	119	36
FVS(N)-5/10	515	292	807	171	119	36
FVS(N)-5/11	542	292	834	171	119	37
FVS(N)-5/12	569	292	861	171	119	41
FVS(N)-5/13	596	292	888	171	119	41
FVS(N)-5/14	623	292	915	171	119	42
FVS(N)-5/15	650	292	942	171	119	42
FVS(N)-5/16	677	292	969	171	119	43
FVS(N)-5/17	714	343	1057	196	131	51
FVS(N)-5/18	741	343	1084	196	131	51
FVS(N)-5/20	795	343	1138	196	131	52
FVS(N)-5/21	822	343	1165	196	131	52
FVS(N)-5/22	849	348	1197	215	150	59
FVS(N)-5/23	876	348	1224	215	150	59
FVS(N)-5/24	903	348	1251	215	150	60
FVS(N)-5/25	930	348	1278	215	150	60
FVS(N)-5/27	984	348	1332	215	150	61
FVS(N)-5/28	1011	348	1359	215	150	61
FVS(N)-5/29	1116	383	1499	257	167	83
FVS(N)-5/30	1143	383	1526	257	167	83
FVS(N)-5/33	1224	383	1607	257	167	84

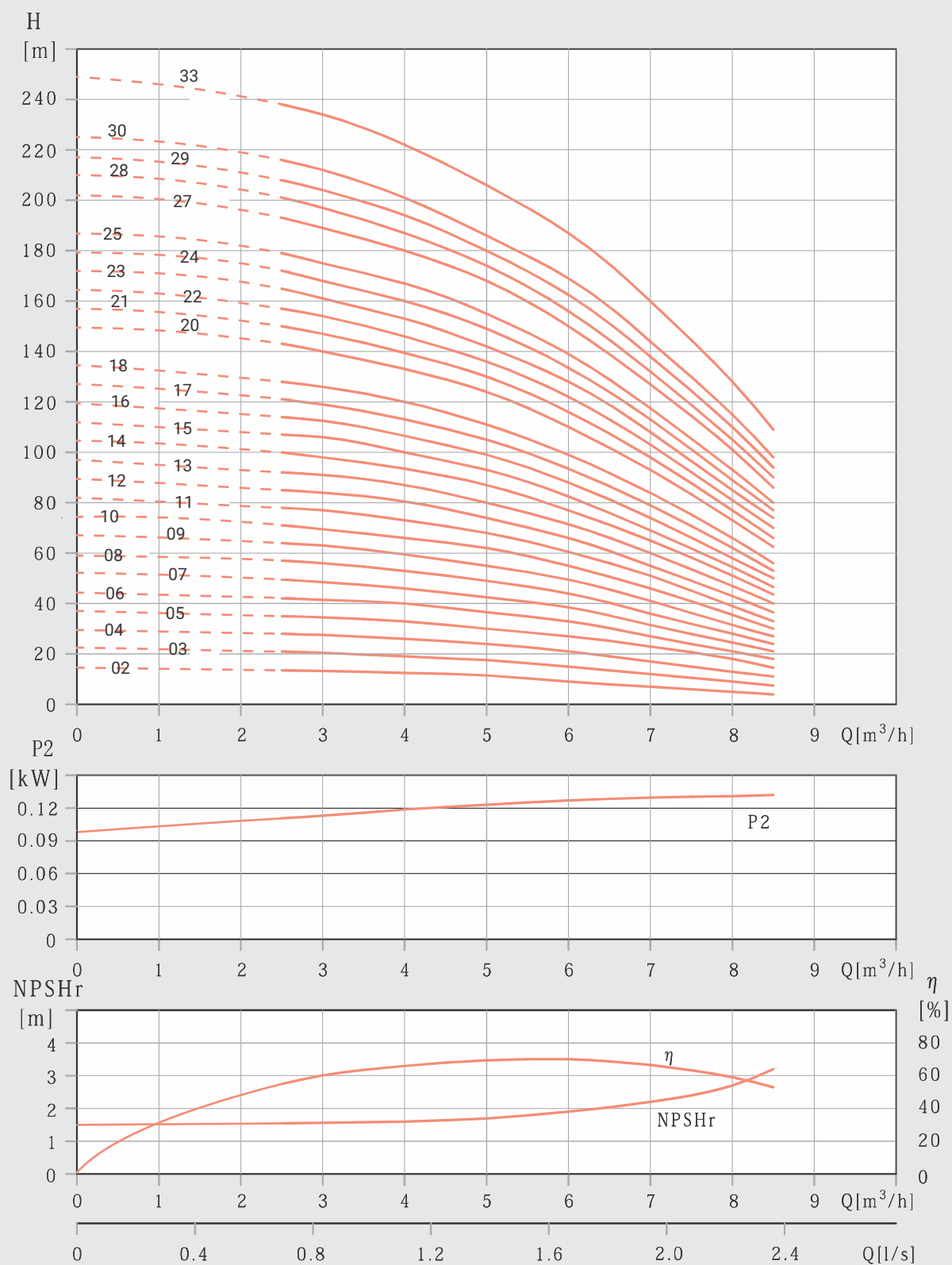
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

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PERFORMANCE CURVES

NOMINAL FLOW : 5m³/h

FVS-5



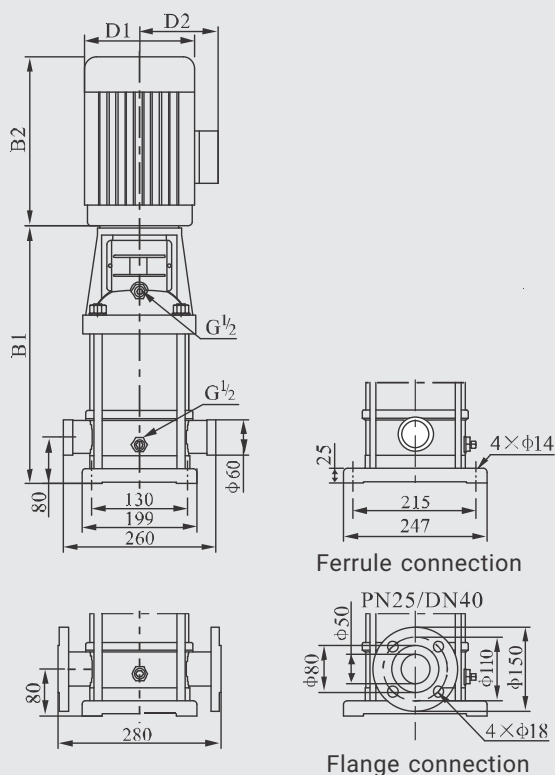
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 8

PUMP MODEL	POWER (kW)	Q m³/h	5	6	7	8	9	10	11	12
FVS(N)-8/01	0.75	HEAD (m)	10	9.5	9.3	9	8.5	8	7	6
FVS(N)-8/02	0.75		20	19.5	19	18	17	16	14	13
FVS(N)-8/03	1.1		30	29.5	28.5	27	25	24	21	19
FVS(N)-8/04	1.5		41	39.5	38	36	34	32	28	26
FVS(N)-8/05	2.2		52	50	48	45	42	40	36	32
FVS(N)-8/06	2.2		62	60	57	54	51	48	43	39
FVS(N)-8/07	3		71	69	66	63	60	57	52	48
FVS(N)-8/08	3		83	80	77	73	69	65	58	52
FVS(N)-8/09	4		92	89	86	82	78	74	67	61
FVS(N)-8/10	4		104	100	97	92	87	81	73	65
FVS(N)-8/11	4		113	109	106	101	96	90	82	74
FVS(N)-8/12	4		124	120	116	111	104	92	87	78
FVS(N)-8/13	5.5		133	129	125	120	113	101	96	87
FVS(N)-8/14	5.5		145	141	136	130	122	113	102	92
FVS(N)-8/15	5.5		154	150	145	139	131	122	111	101
FVS(N)-8/16	5.5		166	161	156	148	139	130	118	106
FVS(N)-8/17	7.5		175	170	165	157	148	139	127	115
FVS(N)-8/18	7.5		187	182	175	167	157	146	134	120
FVS(N)-8/19	7.5		196	191	184	176	166	155	143	129
FVS(N)-8/20	7.5		208	202	195	186	175	163	150	135

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-8/01	347	245	592	170	142	33
FVS(N)-8/02	347	245	592	170	142	33
FVS(N)-8/03	377	245	622	170	142	35
FVS(N)-8/04	417	290	707	190	155	42
FVS(N)-8/05	447	290	737	190	155	46
FVS(N)-8/06	477	290	767	190	155	47
FVS(N)-8/07	507	345	852	197	165	55
FVS(N)-8/08	547	345	892	197	165	55
FVS(N)-8/09	577	355	932	230	188	67
FVS(N)-8/10	607	355	962	230	188	67
FVS(N)-8/11	637	355	992	230	188	70
FVS(N)-8/12	667	355	1022	230	188	70
FVS(N)-8/13	717	390	1107	260	208	85
FVS(N)-8/14	747	390	1137	260	208	85
FVS(N)-8/15	777	390	1167	260	208	88
FVS(N)-8/16	807	390	1197	260	208	88
FVS(N)-8/17	837	390	1227	260	208	98
FVS(N)-8/18	867	390	1257	260	208	98
FVS(N)-8/19	897	390	1287	260	208	99
FVS(N)-8/20	927	390	1317	260	208	99

FVS(N)-8/14, 8/20 has no oval flange connection.

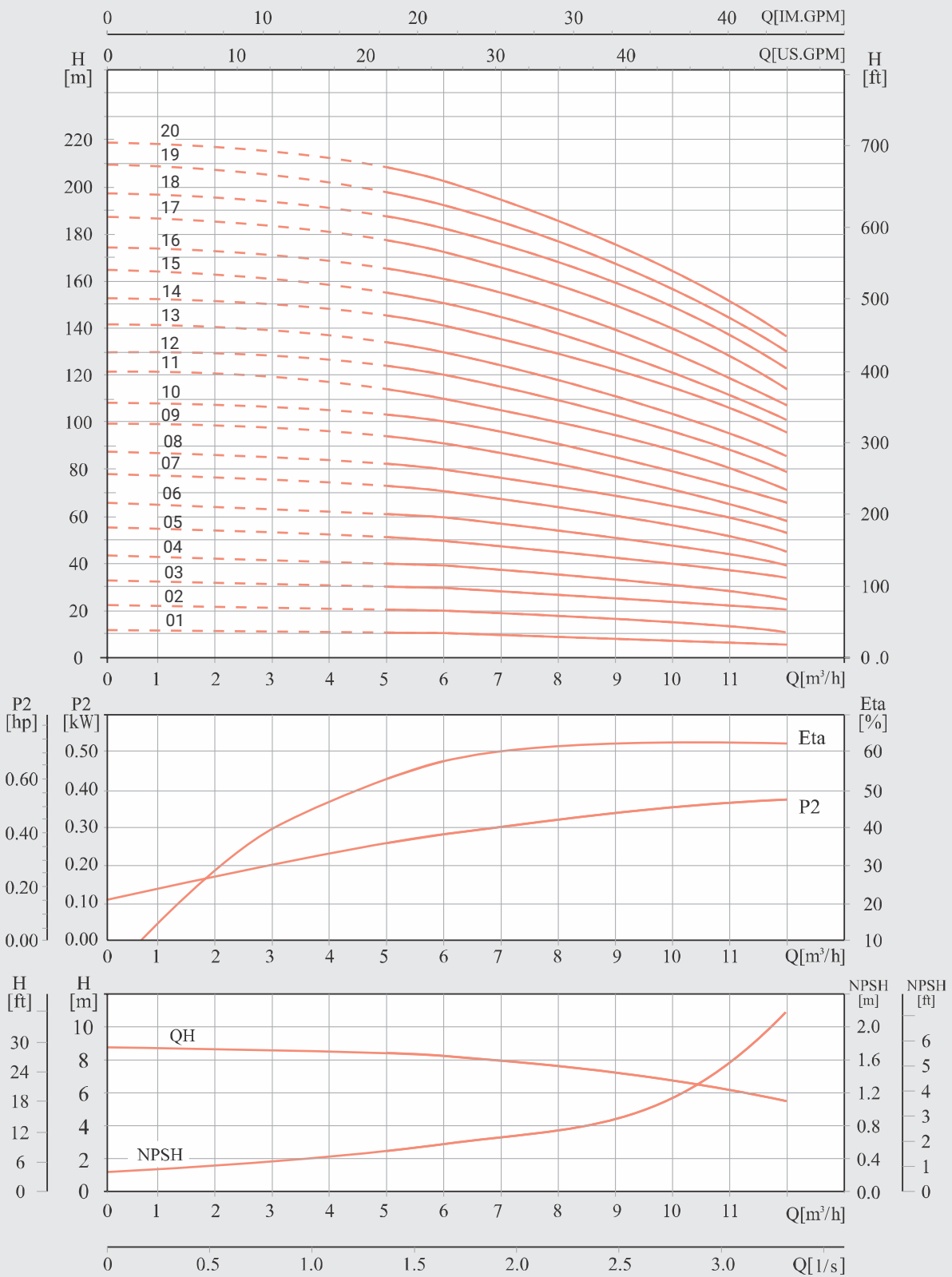
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 8m³/h

FVS-8



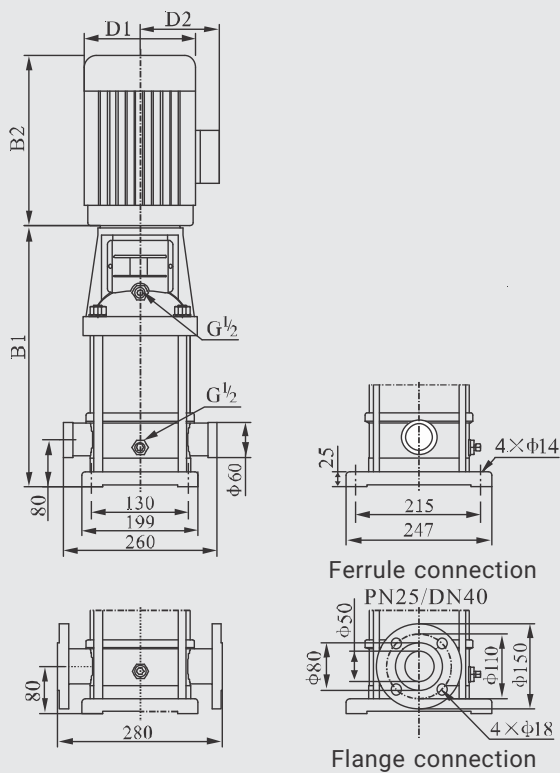
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 10

PUMP MODEL	POWER (kW)	Q m³/h	5	6	7	8	9	10	11	12	13
FVS(N)-10/01	0.75	HEAD (m)	9.7	9.3	8.9	8.3	7.7	7	6	5	4
FVS(N)-10/02	0.75		19.5	19	18	17	16	15	13.5	11.5	10
FVS(N)-10/03	1.1		29.5	29	28	27	25	23	21	18	16
FVS(N)-10/04	1.5		39.5	38.5	37.5	36	34	31	28	25	22
FVS(N)-10/05	2.2		49.5	48.5	47	44	42	39	35	32	28
FVS(N)-10/06	2.2		60	58	56	54	51	48	43	39	34
FVS(N)-10/07	3		70	68	66	63	60	56	51	45	39
FVS(N)-10/08	3		80	78	75	73	69	64	58	52	44
FVS(N)-10/09	3		90	87	85	81	77	72	66	58	50
FVS(N)-10/10	4		100	97	95	90	85	80	74	66	56
FVS(N)-10/12	4		120	117	114	109	104	96	89	79	68
FVS(N)-10/14	5.5		140	137	134	129	122	113	103	92	79
FVS(N)-10/16	5.5		160	158	153	148	140	129	119	106	91
FVS(N)-10/18	7.5		180	177	172	166	156	145	133	119	102
FVS(N)-10/20	7.5		200	196	191	184	173	162	147	132	114
FVS(N)-10/22	7.5		220	216	210	202	190	178	162	145	126

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-10/01	347	245	592	170	142	40
FVS(N)-10/02	347	245	592	170	142	41
FVS(N)-10/03	377	245	622	170	142	43
FVS(N)-10/04	417	290	707	190	155	49
FVS(N)-10/05	447	290	737	190	155	53
FVS(N)-10/06	477	290	767	190	155	54
FVS(N)-10/07	517	345	862	197	165	64
FVS(N)-10/08	547	345	892	197	165	65
FVS(N)-10/09	577	345	922	197	165	66
FVS(N)-10/10	607	355	962	230	188	74
FVS(N)-10/12	667	355	1022	230	188	76
FVS(N)-10/14	747	390	1137	260	208	100
FVS(N)-10/16	807	390	1197	260	208	102
FVS(N)-10/18	867	390	1257	260	208	107
FVS(N)-10/20	927	390	1317	260	208	109
FVS(N)-10/22	987	390	1377	260	208	111

FVS(N)-10/16, 10/22 has no oval flange connection.

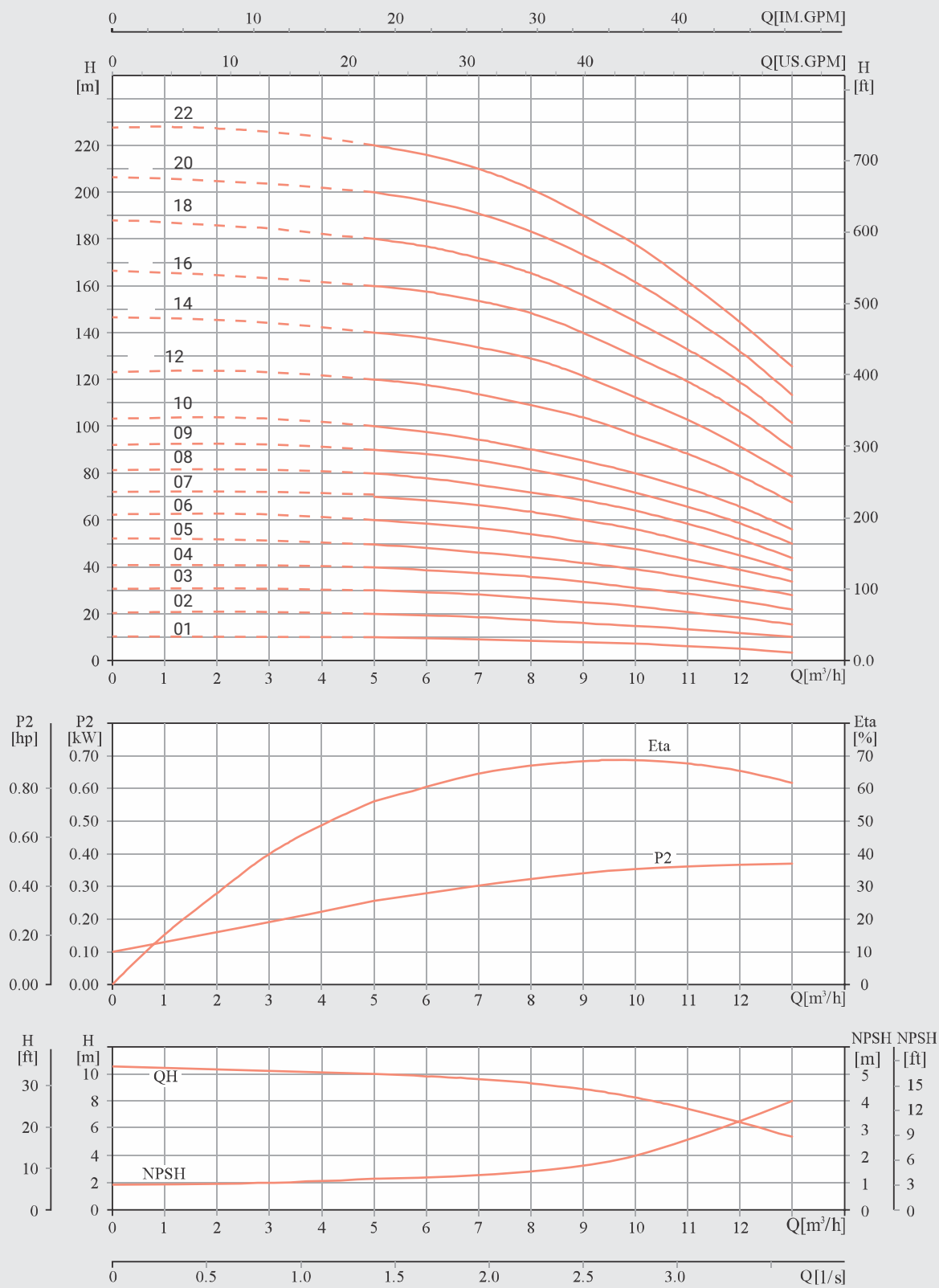
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 10m³/h

FVS-10



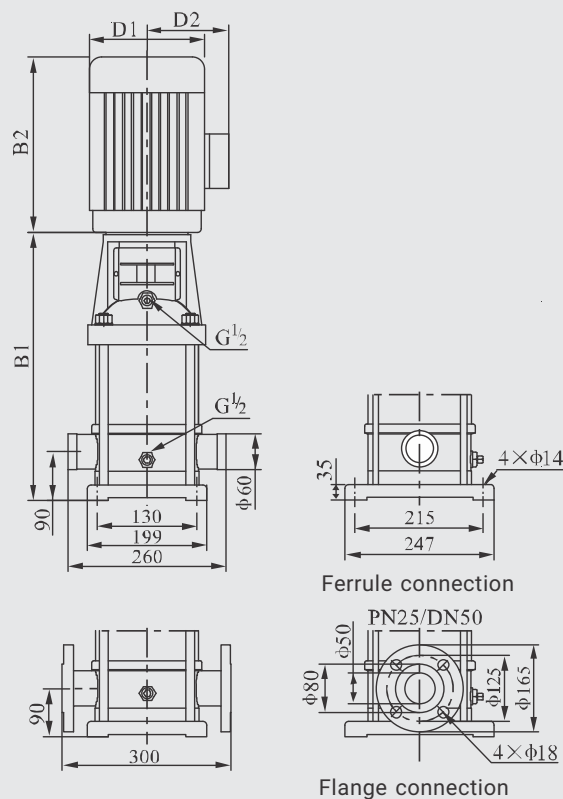
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 12

PUMP MODEL	POWER (kW)	Q m³/h	7	8	9	10	11	12	13	14	15	16
FVS(N)-12/02	1.5	HEAD (m)	23.5	23	22.5	22	21	20	18.5	17	15.5	14
FVS(N)-12/03	2.2		35.5	35	34	33	31.5	30	28	26	23.5	21
FVS(N)-12/04	3		47	46	45	44	42	40	37	34	31	28
FVS(N)-12/05	3		59.5	58	56.5	55	52.5	50	46.5	43	39	35
FVS(N)-12/06	4		71.5	70	68	66	63	60	56	52	47	42
FVS(N)-12/07	5.5		83.5	82	79.5	77	73.5	70	65.5	61	55	49
FVS(N)-12/08	5.5		95.5	94	91	88	84	80	75	70	63	56
FVS(N)-12/09	5.5		108	106	103	100	95.5	91	85	79	71.5	64
FVS(N)-12/10	7.5		120	118	114.5	111	106	101	94.5	88	80	72
FVS(N)-12/11	7.5		130	128	124.5	121	116	111	104.5	98	90	82
FVS(N)-12/12	7.5		143.5	141	137	133	127	121	113.5	106	96	86
FVS(N)-12/13	11		153.5	151	147	143	137	131	123.5	116	106	96
FVS(N)-12/14	11		168	165	160	155	148	141	132.5	124	112	100
FVS(N)-12/15	11		178	175	170	165	158	151	142.5	134	122	110
FVS(N)-12/16	11		192.5	189	183.5	178	170	162	152	142	128.5	115
FVS(N)-12/17	11		202.5	199	193.5	188	180	172	162	152	138.5	125
FVS(N)-12/18	11		217	213	207.5	202	192.5	183	171.5	160	145	130

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-12/02	367	290	657	190	155	40
FVS(N)-12/03	397	290	687	190	155	45
FVS(N)-12/04	437	345	782	197	165	55
FVS(N)-12/05	467	345	812	197	165	57
FVS(N)-12/06	497	355	852	230	188	66
FVS(N)-12/07	547	390	937	260	208	77
FVS(N)-12/08	577	390	967	260	208	78
FVS(N)-12/09	607	390	997	260	208	80
FVS(N)-12/10	637	390	1027	260	208	88
FVS(N)-12/11	667	390	1057	260	208	90
FVS(N)-12/12	697	390	1087	260	208	92
FVS(N)-12/13	815	500	1315	330	255	155
FVS(N)-12/14	845	500	1345	330	255	162
FVS(N)-12/15	875	500	1375	330	255	164
FVS(N)-12/16	905	500	1405	330	255	167
FVS(N)-12/17	935	500	1435	330	255	168
FVS(N)-12/18	965	500	1465	330	255	168

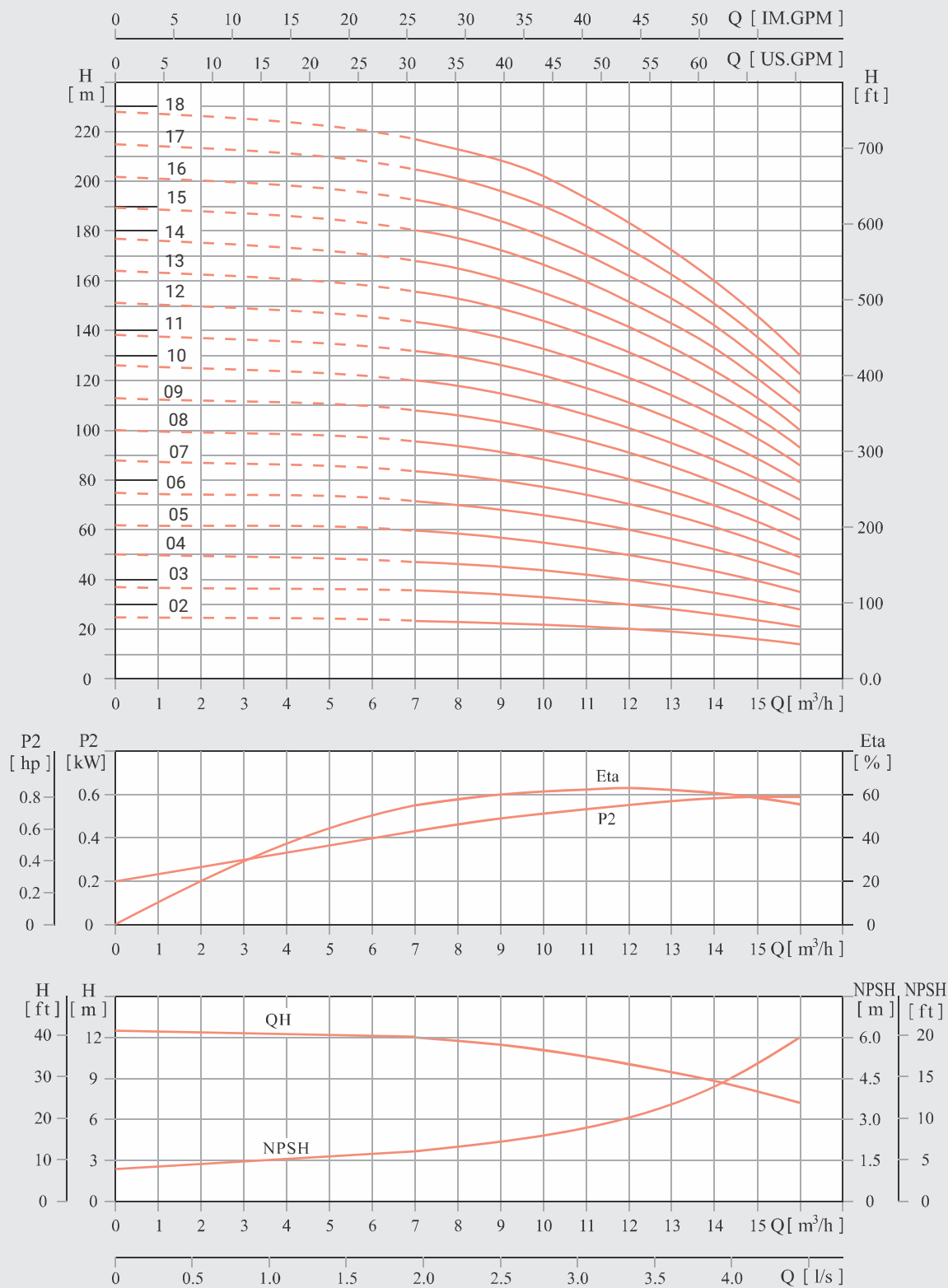
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 12m³/h

FVS-12



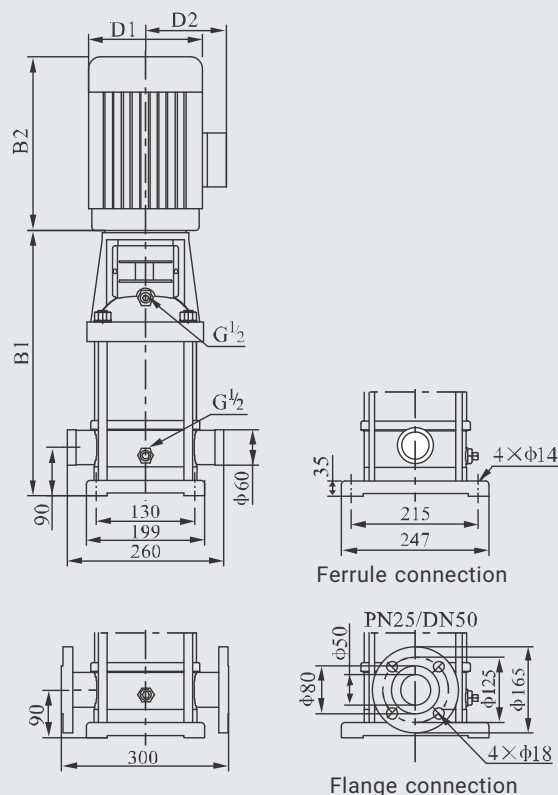
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 15

PUMP MODEL	POWER (kW)	Q m³/h	8	10	12	14	15	16	18	20	22
FVS(N)-15/01	1.1	HEAD (m)	12	11.5	11	10.5	10	9.5	8.5	7.5	6.5
FVS(N)-15/02	2.2		25	24.5	24	23	22.5	21.5	20	18	16
FVS(N)-15/03	3		39	38	37	35	34	33	30	28	25
FVS(N)-15/04	4		52	51	49	46	45	44	40	37	33
FVS(N)-15/05	4		65	63	61	59	57	55	51	47	42
FVS(N)-15/06	5.5		78	76	74	71	69	67	62	57	51
FVS(N)-15/07	5.5		92	90	87	83	81	79	73	67	60
FVS(N)-15/08	7.5		106	103	100	96	93	90	84	77	69
FVS(N)-15/09	7.5		120	117	114	109	106	103	95	87	79
FVS(N)-15/10	11		133	130	126	121	118	114	106	97	88
FVS(N)-15/11	11		145	142	138	133	130	126	118	109	100
FVS(N)-15/12	11		160	157	152	146	142	138	128	117	106
FVS(N)-15/13	11		172	169	164	158	154	150	140	129	118
FVS(N)-15/14	11		187	182	177	169	165	160	149	137	124
FVS(N)-15/15	15		199	194	189	181	177	172	161	149	136
FVS(N)-15/16	15		211	206	201	193	189	184	173	161	148
FVS(N)-15/17	15		227	222	215	206	201	195	182	167	151

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-15/01	387	245	632	170	142	33
FVS(N)-15/02	397	290	687	190	155	42
FVS(N)-15/03	452	345	797	197	165	51
FVS(N)-15/04	497	355	852	230	188	60
FVS(N)-15/05	542	355	897	230	188	62
FVS(N)-15/06	607	390	997	260	208	78
FVS(N)-15/07	652	390	1042	260	208	80
FVS(N)-15/08	697	390	1087	260	208	86
FVS(N)-15/09	742	390	1132	260	208	88
FVS(N)-15/10	875	500	1375	330	255	166
FVS(N)-15/11	920	500	1420	330	255	167
FVS(N)-15/12	965	500	1465	330	255	170
FVS(N)-15/13	1010	500	1510	330	255	172
FVS(N)-15/14	1055	500	1555	330	255	173
FVS(N)-15/15	1100	500	1600	330	255	180
FVS(N)-15/16	1145	500	1645	330	255	183
FVS(N)-15/17	1190	500	1690	330	255	186

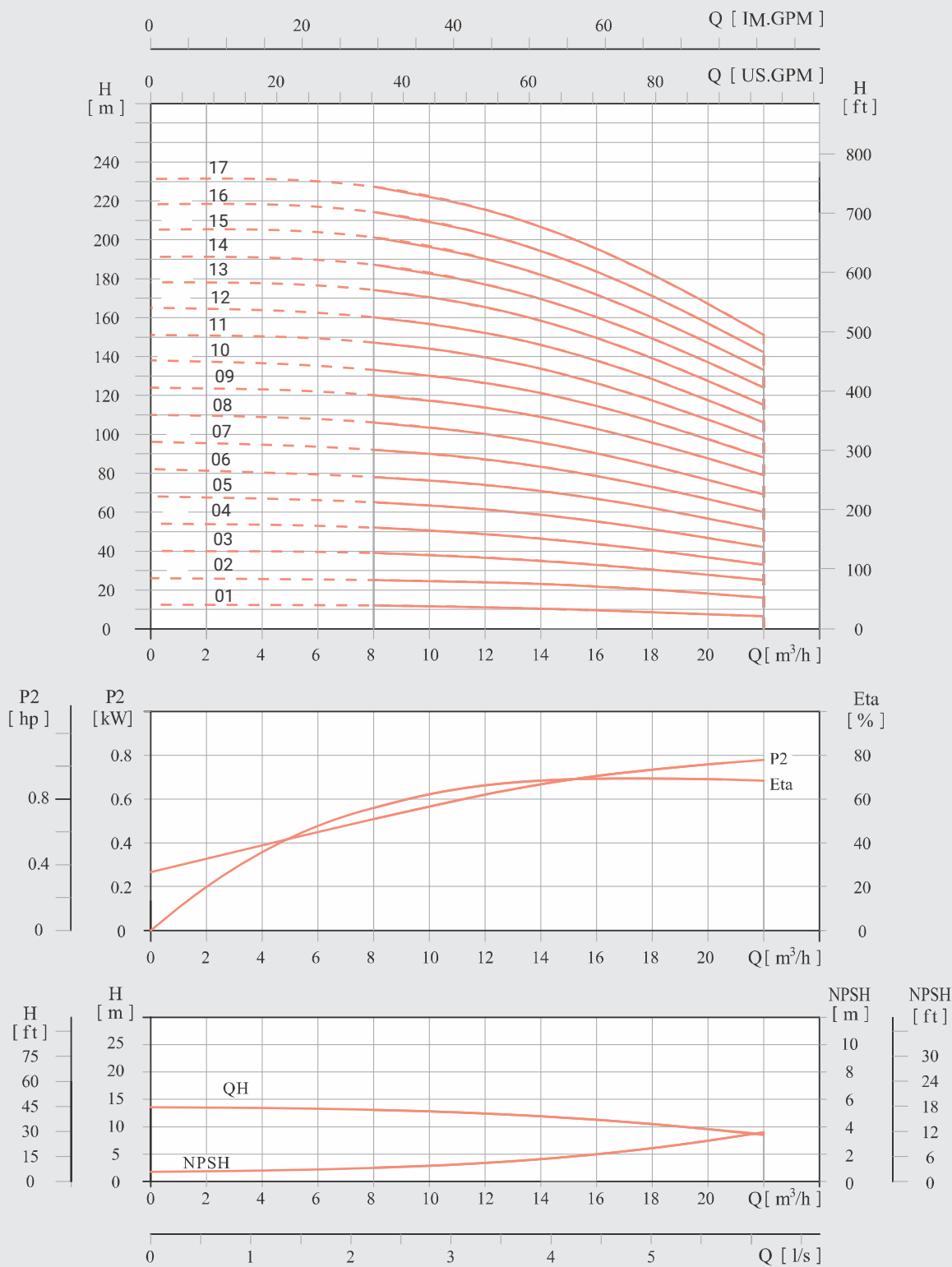
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 15m³/h

FVS-15



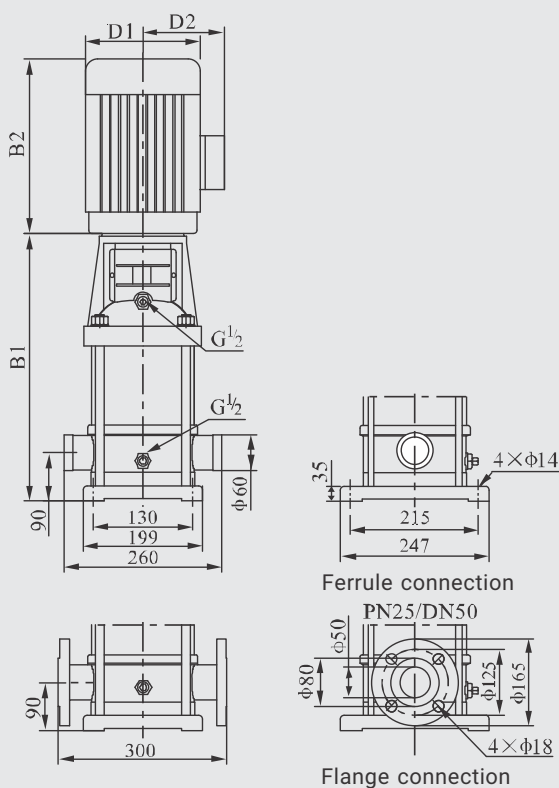
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 20

PUMP MODEL	POWER (kW)	Q m³/h	10	12	14	16	18	20	22	24	26	28
FVS(N)-20/01	1.1	HEAD (m)	13.5	13	12.5	12	11	10	9	8	7	6
FVS(N)-20/02	2.2		27	26.5	26	25	24	23	22	20	18	15
FVS(N)-20/03	4		40	39.5	39	38	37	35	33	30	27	24
FVS(N)-20/04	5.5		54	53	52	51	49	47	44	41	37	33
FVS(N)-20/05	5.5		67	66	64	62	60	58	55	50	45	40
FVS(N)-20/06	7.5		81	79	77	75	73	70	66	61	55	49
FVS(N)-20/07	7.5		95	93	91	89	86	82	77	71	65	58
FVS(N)-20/08	11		109	107	105	102	99	94	89	82	75	67
FVS(N)-20/10	11		136	134	131	128	124	118	111	103	95	85
FVS(N)-20/12	15		164	162	158	154	149	142	133	124	114	102
FVS(N)-20/14	15		192	189	185	180	174	166	156	145	133	119
FVS(N)-20/17	18.5		234	230	225	219	212	202	190	177	162	145

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-20/01	387	245	632	170	142	33
FVS(N)-20/02	397	290	687	190	155	42
FVS(N)-20/03	452	355	807	230	188	58
FVS(N)-20/04	517	390	907	260	208	74
FVS(N)-20/05	562	390	952	260	208	75
FVS(N)-20/06	607	390	997	260	208	84
FVS(N)-20/07	652	390	1042	260	208	86
FVS(N)-20/08	785	500	1285	330	255	157
FVS(N)-20/10	875	500	1375	330	255	162
FVS(N)-20/12	965	500	1465	330	255	176
FVS(N)-20/14	1055	500	1555	330	255	178
FVS(N)-20/17	1190	550	1740	330	255	201

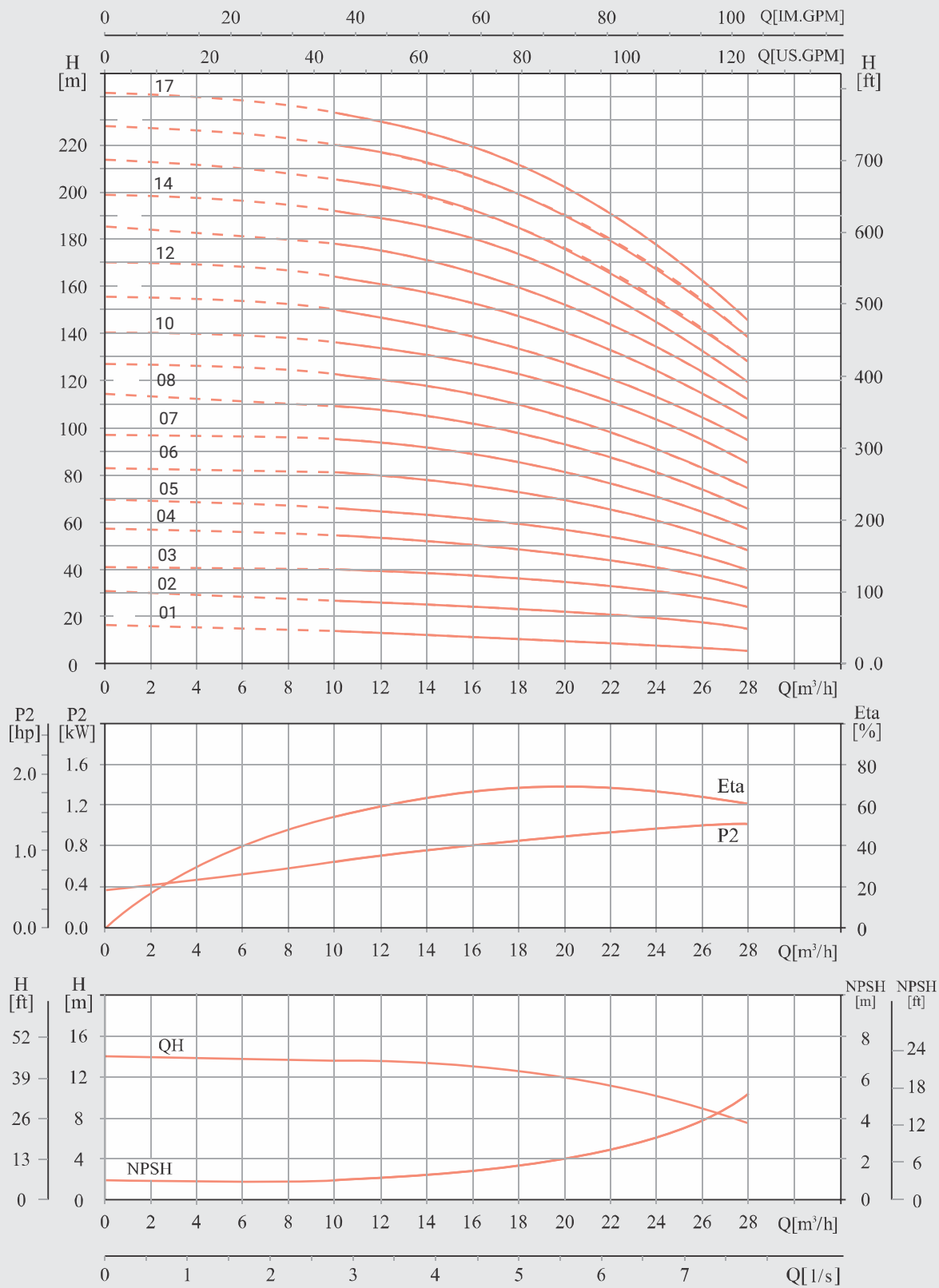
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 20m³/h

FVS-20



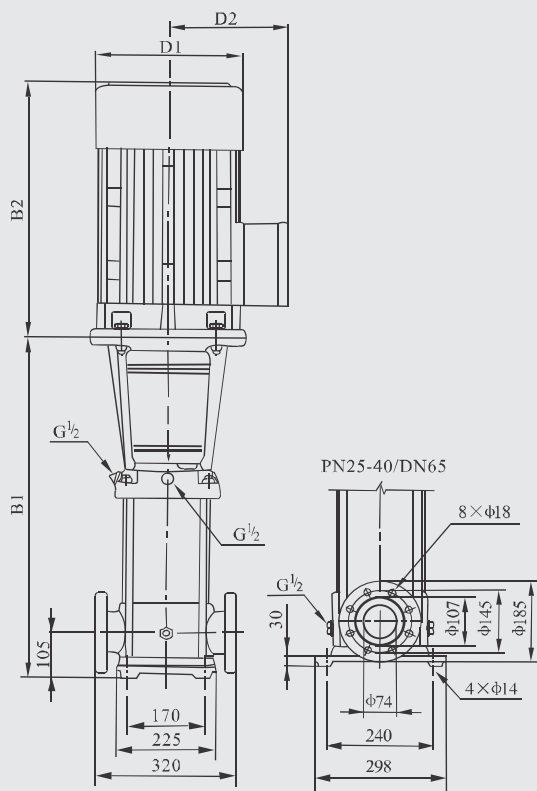
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 32

PUMP MODEL	POWER (kW)	Q m³/h	16	20	24	28	32	36	40
FVS(N)-32/01A	1.5	HEAD (m)	14	13	12	11	9	7	4
FVS(N)-32/01	2.2		18	17	15	14	13	11	8
FVS(N)-32/02B	3.0		29	28	26	23	20	16	11
FVS(N)-32/02	4.0		36	34	32	29	27	23	18
FVS(N)-32/03B	5.5		47	44	41	38	33	28	21
FVS(N)-32/03	5.5		54	51	48	44	40	35	27
FVS(N)-32/04B	7.5		65	62	58	53	46	40	30
FVS(N)-32/04	7.5		72	69	65	59	53	47	37
FVS(N)-32/05B	11		83	79	74	68	60	52	41
FVS(N)-32/05	11		90	86	81	74	67	59	47
FVS(N)-32/06B	11		101	97	90	83	74	65	51
FVS(N)-32/06	11		108	104	97	90	81	72	57
FVS(N)-32/07B	15		119	114	107	98	88	78	60
FVS(N)-32/07	15		126	121	113	105	95	85	67
FVS(N)-32/08B	15		136	131	123	114	102	90	71
FVS(N)-32/08	15		144	138	130	120	109	97	77

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-32/01A	505	290	795	190	155	63
FVS(N)-32/01	505	290	795	190	155	67
FVS(N)-32/02B	575	345	920	197	165	76
FVS(N)-32/02	575	355	930	230	180	84
FVS(N)-32/03B	645	390	1035	260	208	99
FVS(N)-32/03	645	390	1035	260	208	99
FVS(N)-32/04B	715	390	1105	260	208	108
FVS(N)-32/04	715	390	1105	260	208	108
FVS(N)-32/05B	890	500	1390	330	255	187
FVS(N)-32/05	890	500	1390	330	255	187
FVS(N)-32/06B	960	500	1460	330	255	193
FVS(N)-32/06	960	500	1460	330	255	193
FVS(N)-32/07B	1030	500	1530	330	255	205
FVS(N)-32/07	1030	500	1530	330	255	205
FVS(N)-32/08B	1100	500	1600	330	255	207
FVS(N)-32/08	1100	500	1600	330	255	207

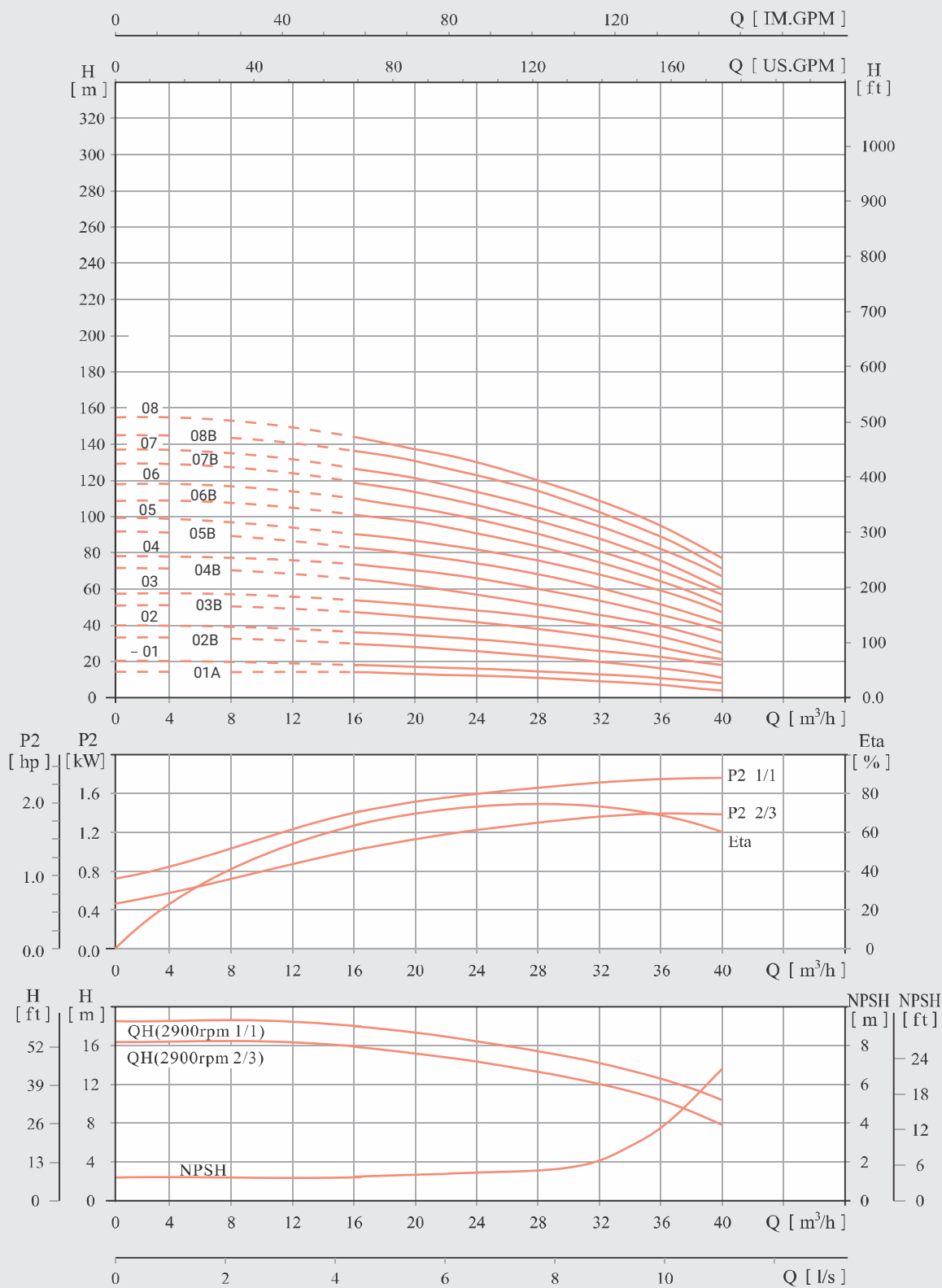
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

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PERFORMANCE CURVES

NOMINAL FLOW : 32m³/h

FVS-32



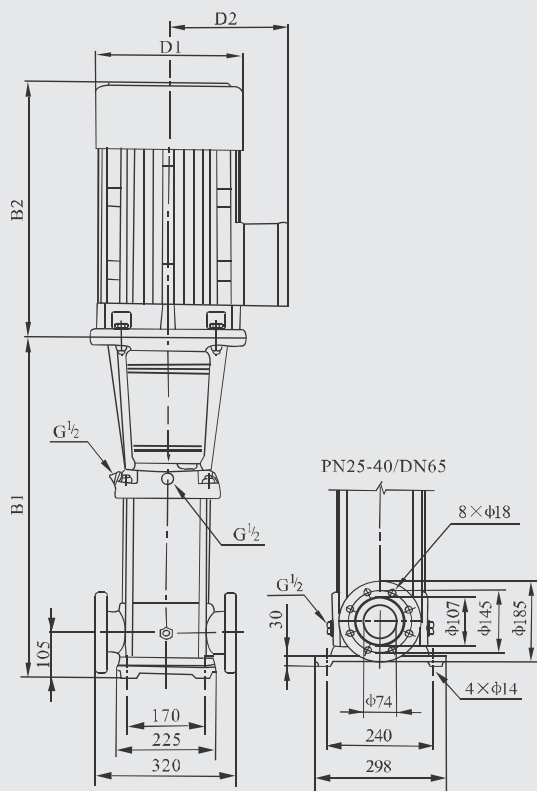
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 32

PUMP MODEL	POWER (kW)	Q m³/h	16	20	24	28	32	36	40
FVS(N)-32/09A	18.5	HEAD (m)	154	148	140	129	117	102	82
FVS(N)-32/09	18.5		162	156	147	136	124	109	88
FVS(N)-32/10A	18.5		175	166	157	146	131	115	91
FVS(N)-32/10	18.5		182	173	164	152	138	122	98
FVS(N)-32/11A	22		193	184	173	164	146	128	102
FVS(N)-32/11	22		200	191	180	168	153	135	109
FVS(N)-32/12A	22		211	201	189	178	160	140	113
FVS(N)-32/12	22		218	208	196	184	167	147	120
FVS(N)-32/13A	30		230	218	206	193	174	153	124
FVS(N)-32/13	30		237	225	213	200	181	160	131
FVS(N)-32/14A	30		247	235	222	210	189	165	135
FVS(N)-32/14	30		255	242	229	216	196	172	142
FVS(N)-32/15A	30		266	253	239	224	203	178	145
FVS(N)-32/15	30		274	260	246	231	210	185	152
FVS(N)-32/16A	30		284	270	255	240	218	190	156
FVS(N)-32/16	30		292	277	262	246	225	197	163

DIMENSIONAL DRAWING & WEIGHT DETAILS



PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-32/09A	1170	550	1720	330	255	226
FVS(N)-32/09	1170	550	1720	330	255	226
FVS(N)-32/10A	1240	550	1790	330	255	232
FVS(N)-32/10	1240	550	1790	330	255	232
FVS(N)-32/11A	1310	575	1885	360	285	278
FVS(N)-32/11	1310	575	1885	360	285	278
FVS(N)-32/12A	1380	575	1955	360	285	282
FVS(N)-32/12	1380	575	1955	360	285	282
FVS(N)-32/13A	1450	650	2100	400	310	343
FVS(N)-32/13	1450	650	2100	400	310	343
FVS(N)-32/14A	1520	650	2170	400	310	347
FVS(N)-32/14	1520	650	2170	400	310	347
FVS(N)-32/15A	1590	650	2240	400	310	350
FVS(N)-32/15	1590	650	2240	400	310	350
FVS(N)-32/16A	1660	650	2310	400	310	356
FVS(N)-32/16	1660	650	2310	400	310	356

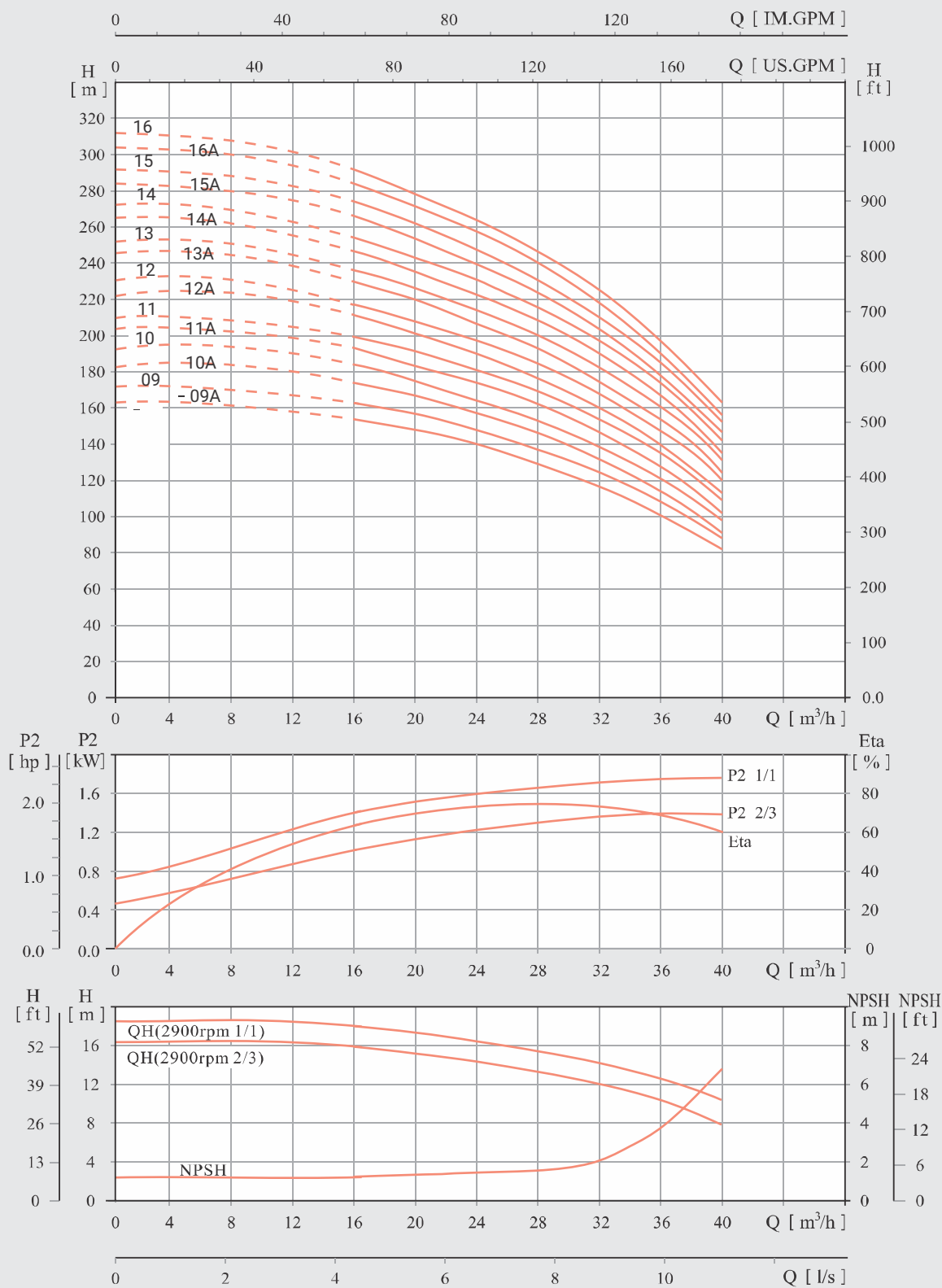
If single phase motor or explosion proof motor is equipped, then overall size may need to be updated.

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 32m³/h

FVS-32



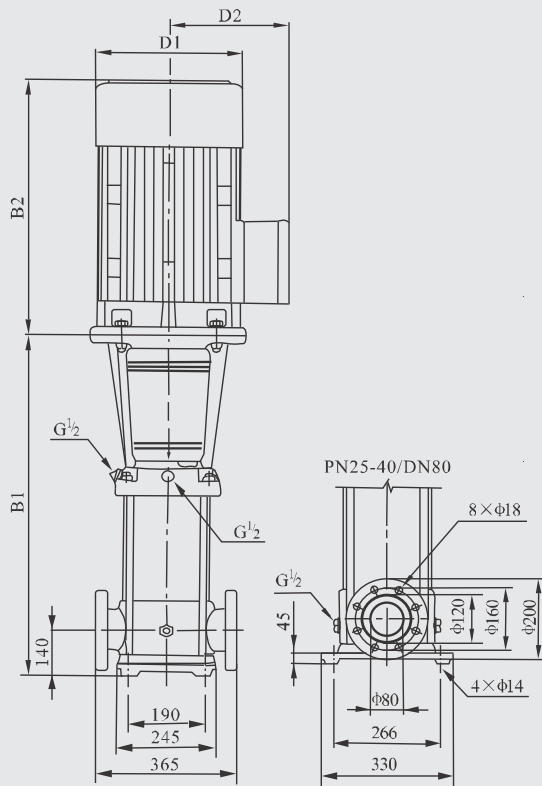
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 42

PUMP MODEL	POWER (kW)	Q m³/h	25	30	35	40	42	45	50	55
FVS(N)-42/01A	3.0	HEAD (m)	20	19	18	17	16	15	13	11
FVS(N)-42/01	4.0		24	23	22	21	20	19	18	16
FVS(N)-42/02A	5.5		40	38	36	33	32	30	27	23
FVS(N)-42/02	7.5		48	46	44	42	41	39	35	31
FVS(N)-42/03A	11		63	61	58	54	52	50	44	38
FVS(N)-42/03	11		71	69	66	63	61	58	53	47
FVS(N)-42/04A	15		87	84	80	75	73	69	62	54
FVS(N)-42/04	15		95	92	88	84	81	78	71	62
FVS(N)-42/05A	18.5		111	107	102	96	93	88	80	69
FVS(N)-42/05	18.5		119	115	110	105	101	97	88	78
FVS(N)-42/06A	22		135	130	124	117	113	108	97	85
FVS(N)-42/06	22		143	138	132	125	122	116	106	93
FVS(N)-42/07A	30		158	152	146	138	134	127	115	100
FVS(N)-42/07	30		166	161	154	146	142	135	124	109
FVS(N)-42/08A	30		182	175	168	159	154	146	133	116
FVS(N)-42/08	30		190	184	176	167	162	154	141	124
FVS(N)-42/09A	30		205	198	190	180	174	166	150	132
FVS(N)-42/09	37		214	207	198	188	183	174	159	140
FVS(N)-42/10A	37		230	221	212	200	194	185	168	147
FVS(N)-42/10	37		238	230	220	209	203	193	177	155
FVS(N)-42/11A	45		255	246	236	223	217	206	188	165
FVS(N)-42/11	45		263	255	244	232	225	214	196	173
FVS(N)-42/12A	45		280	270	259	245	238	226	206	181
FVS(N)-42/12	45		289	280	268	255	247	236	216	190
FVS(N)-42/13	45		305	294	282	267	259	247	225	198

DIMENSIONAL DRAWING & WEIGHT DETAILS



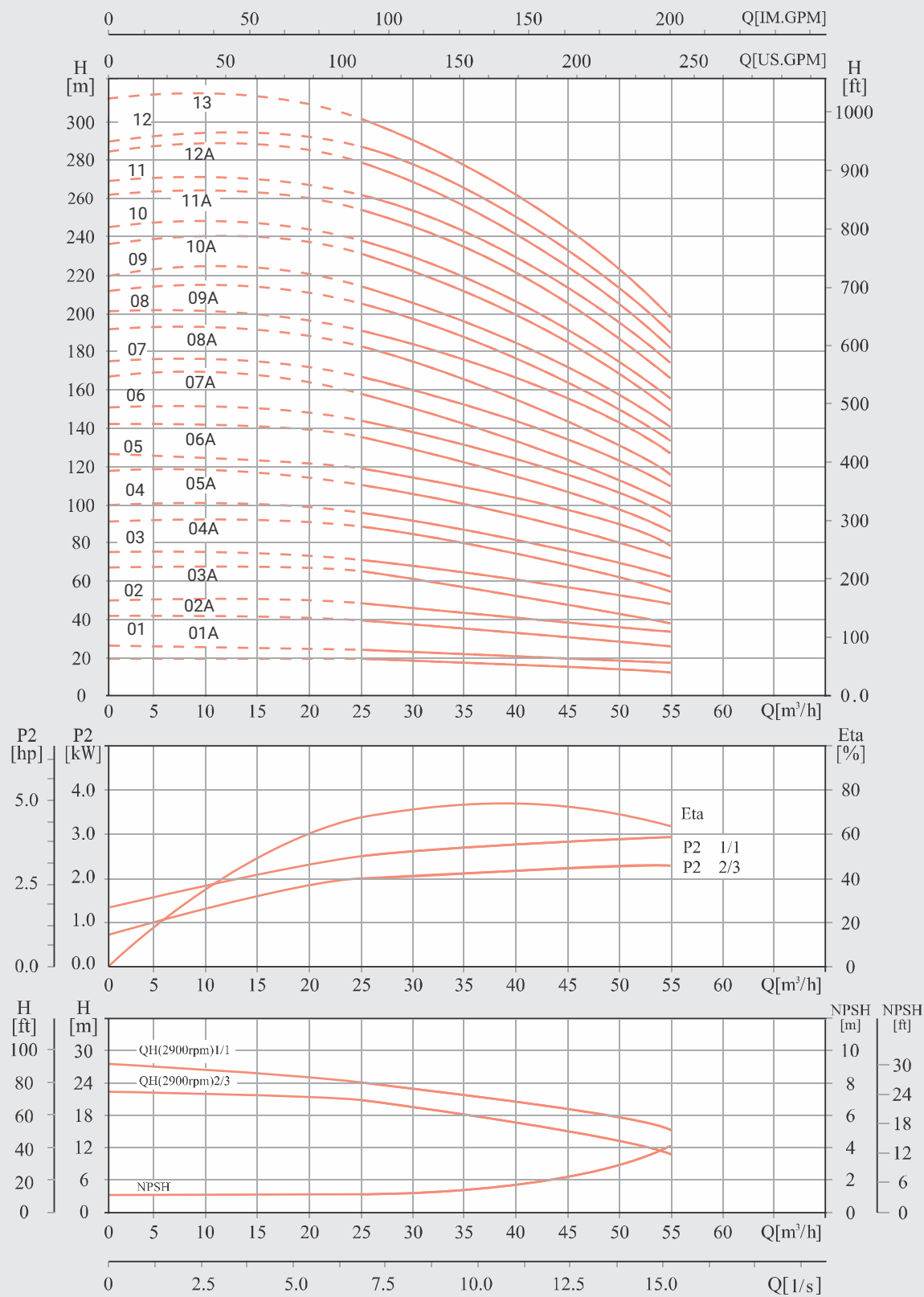
PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-42/01A	561	345	906	197	165	84
FVS(N)-42/01	561	355	916	230	188	91
FVS(N)-42/02A	641	390	1031	260	208	106
FVS(N)-42/02	641	390	1031	260	208	111
FVS(N)-42/03A	826	500	1326	330	255	187
FVS(N)-42/03	826	500	1326	330	255	187
FVS(N)-42/04A	906	500	1406	330	255	203
FVS(N)-42/04	906	500	1406	330	255	203
FVS(N)-42/05A	986	550	1536	330	255	225
FVS(N)-42/05	986	550	1536	330	255	225
FVS(N)-42/06A	1066	575	1641	360	285	266
FVS(N)-42/06	1066	575	1641	360	285	266
FVS(N)-42/07A	1146	650	1796	400	310	326
FVS(N)-42/07	1146	650	1796	400	310	326
FVS(N)-42/08A	1226	650	1876	400	310	330
FVS(N)-42/08	1226	650	1876	400	310	330
FVS(N)-42/09A	1306	650	1956	400	310	334
FVS(N)-42/09	1306	650	1956	400	310	334
FVS(N)-42/10A	1386	650	2036	400	310	360
FVS(N)-42/10	1386	650	2036	400	310	360
FVS(N)-42/11A	1466	685	2151	450	345	430
FVS(N)-42/11	1466	685	2151	450	345	430
FVS(N)-42/12A	1546	685	2231	450	345	438
FVS(N)-42/12	1546	685	2231	450	345	438
FVS(N)-42/13	1626	685	2311	450	345	444

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 42m³/h

FVS-42



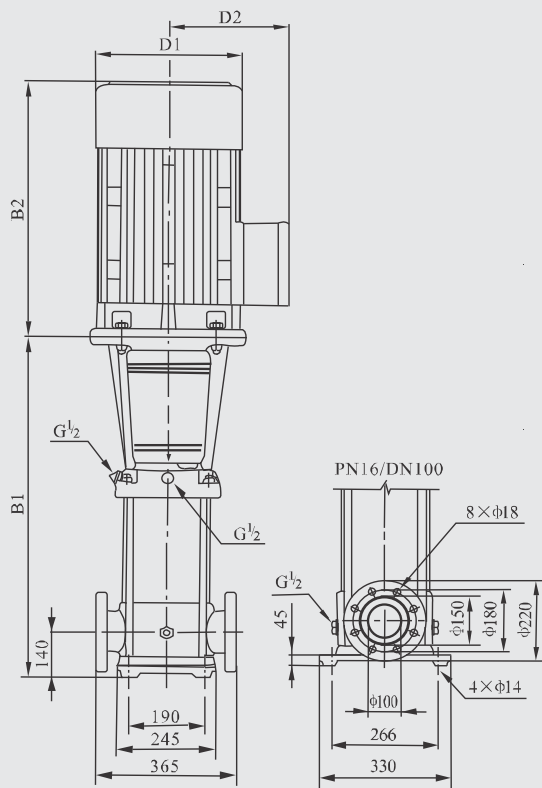
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 65

PUMP MODEL	POWER (kW)	Q m³/h	30	40	50	60	65	70	80
FVS(N)-65/01A	4.0	HEAD (m)	19	18	16	14	13	11	8
FVS(N)-65/01	5.5		27	25	23	21	20	18	15
FVS(N)-65/02B	7.5		39	36	33	29	26	23	17
FVS(N)-65/02A	11		46	44	40	36	33	30	24
FVS(N)-65/02	11		53	51	47	43	40	37	30
FVS(N)-65/03-B	15		66	62	56	50	46	41	32
FVS(N)-65/03A	15		73	69	63	57	53	48	39
FVS(N)-65/03	18.5		80	76	70	64	60	55	46
FVS(N)-65/04B	18.5		92	87	80	71	66	60	47
FVS(N)-65/04A	22		100	94	87	78	73	67	54
FVS(N)-65/04	22		107	101	94	85	80	74	61
FVS(N)-65/05B	30		121	114	105	95	88	80	64
FVS(N)-65/05A	30		128	121	112	102	95	87	71
FVS(N)-65/05	30		136	129	119	109	102	94	78
FVS(N)-65/06B	30		150	142	131	118	110	101	81
FVS(N)-65/06A	37		157	149	138	125	117	108	88
FVS(N)-65/06	37		164	156	145	132	124	115	95
FVS(N)-65/07B	37		179	169	156	141	132	121	99
FVS(N)-65/07A	37		186	176	163	148	139	128	106
FVS(N)-65/07	45		193	183	170	155	146	135	112
FVS(N)-65/08A	45		207	196	182	164	154	142	116
FVS(N)-65/08	45		215	203	189	171	161	149	123

DIMENSIONAL DRAWING & WEIGHT DETAILS



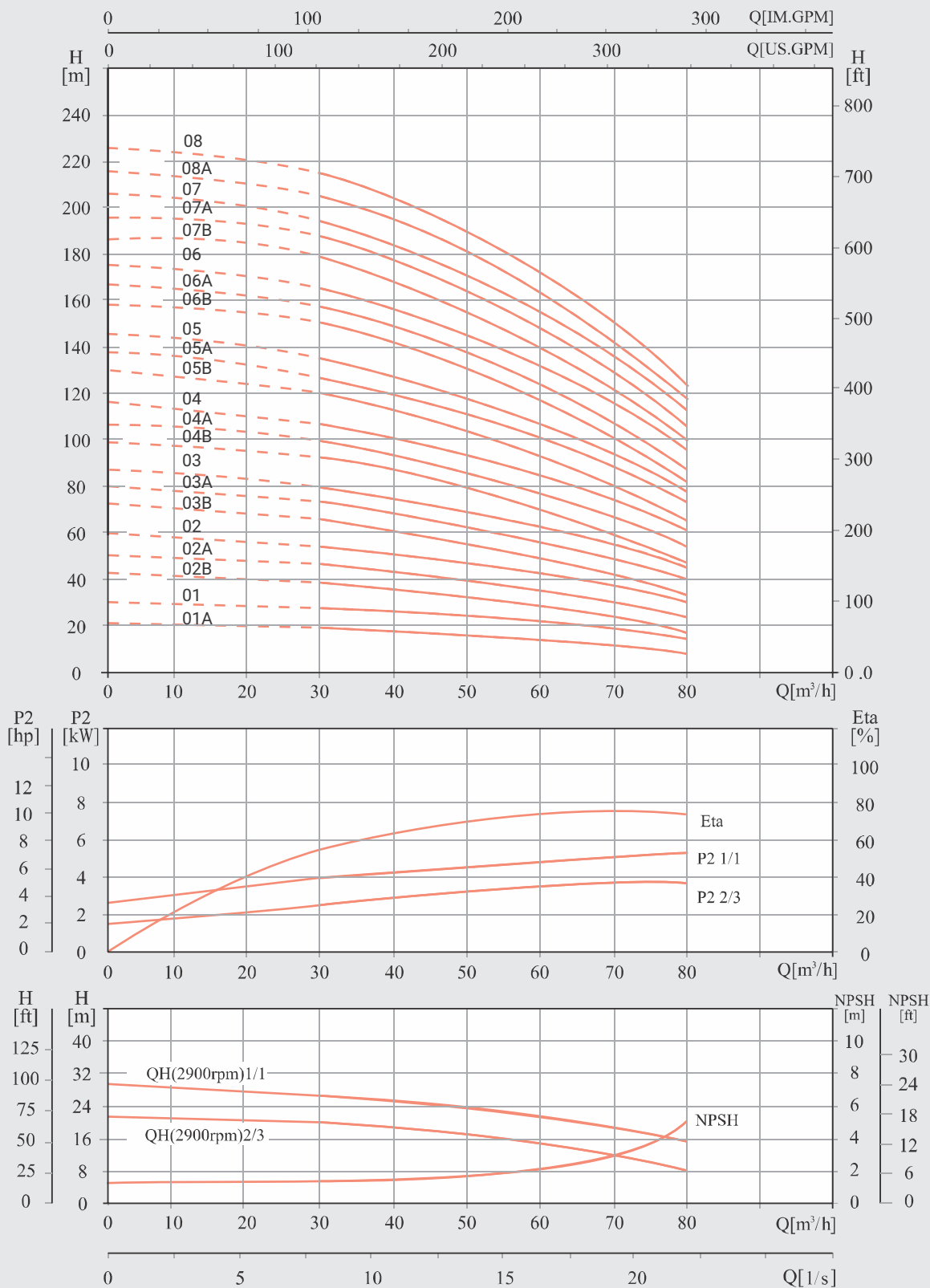
PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-65/01A	561	355	916	230	188	98
FVS(N)-65/01	561	390	951	260	208	110
FVS(N)-65/02B	644	390	1034	260	208	115
FVS(N)-65/02A	754	500	1254	330	255	197
FVS(N)-65/02	754	500	1254	330	255	197
FVS(N)-65/03-B	836	500	1336	330	255	206
FVS(N)-65/03A	836	500	1336	330	255	207
FVS(N)-65/03	836	550	1386	330	255	232
FVS(N)-65/04B	919	550	1469	330	255	239
FVS(N)-65/04A	919	575	1494	360	285	272
FVS(N)-65/04	919	575	1494	360	285	272
FVS(N)-65/05B	1001	650	1651	400	310	334
FVS(N)-65/05A	1001	650	1651	400	310	334
FVS(N)-65/05	1001	650	1651	400	310	335
FVS(N)-65/06B	1084	650	1734	400	310	340
FVS(N)-65/06A	1084	650	1734	400	310	365
FVS(N)-65/06	1084	650	1734	400	310	365
FVS(N)-65/07B	1166	650	1816	400	310	370
FVS(N)-65/07A	1166	650	1816	400	310	370
FVS(N)-65/07	1166	685	1851	460	340	437
FVS(N)-65/08A	1248	685	1933	460	340	440
FVS(N)-65/08	1248	685	1933	460	340	440

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 65m³/h

FVS-65



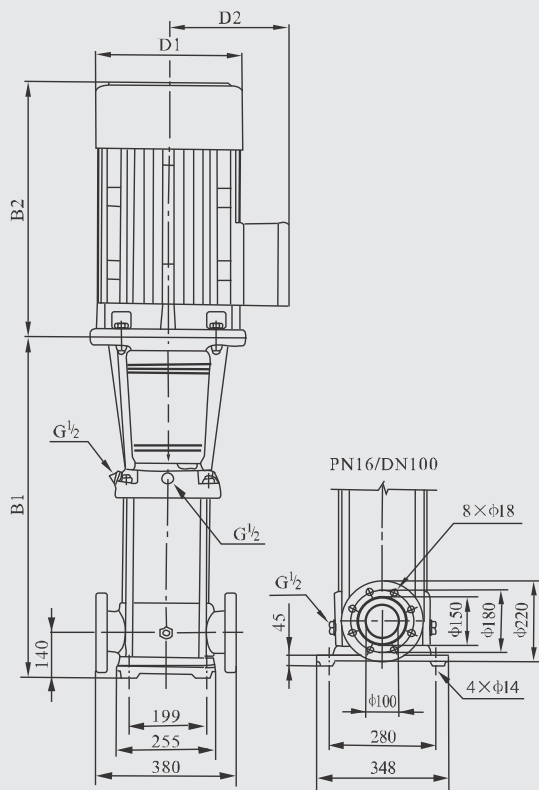
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 85

PUMP MODEL	POWER (kW)	Q m³/h	50	60	70	80	85	90	100	110
FVS(N)-85/01A	5.5	HEAD (m)	22	19	17	16	14	13	10	6
FVS(N)-85/01	7.5		25	24	22	21	20	19	16	12
FVS(N)-85/02A	11		41	39	36	32	30	28	22	15
FVS(N)-85/02	15		53	50	47	44	41	40	36	30
FVS(N)-85/03A	18.5		68	65	60	55	52	49	41	32
FVS(N)-85/03	22		81	77	72	67	64	62	55	48
FVS(N)-85/04A	30		98	93	87	80	75	72	62	50
FVS(N)-85/04	30		110	105	100	92	86	84	76	66
FVS(N)-85/05A	37		126	120	113	104	98	93	81	68
FVS(N)-85/05	37		139	131	124	115	110	106	94	83
FVS(N)-85/06A	45		155	148	139	129	122	117	102	86
FVS(N)-85/06	45		168	160	150	141	134	130	117	103

DIMENSIONAL DRAWING & WEIGHT DETAILS

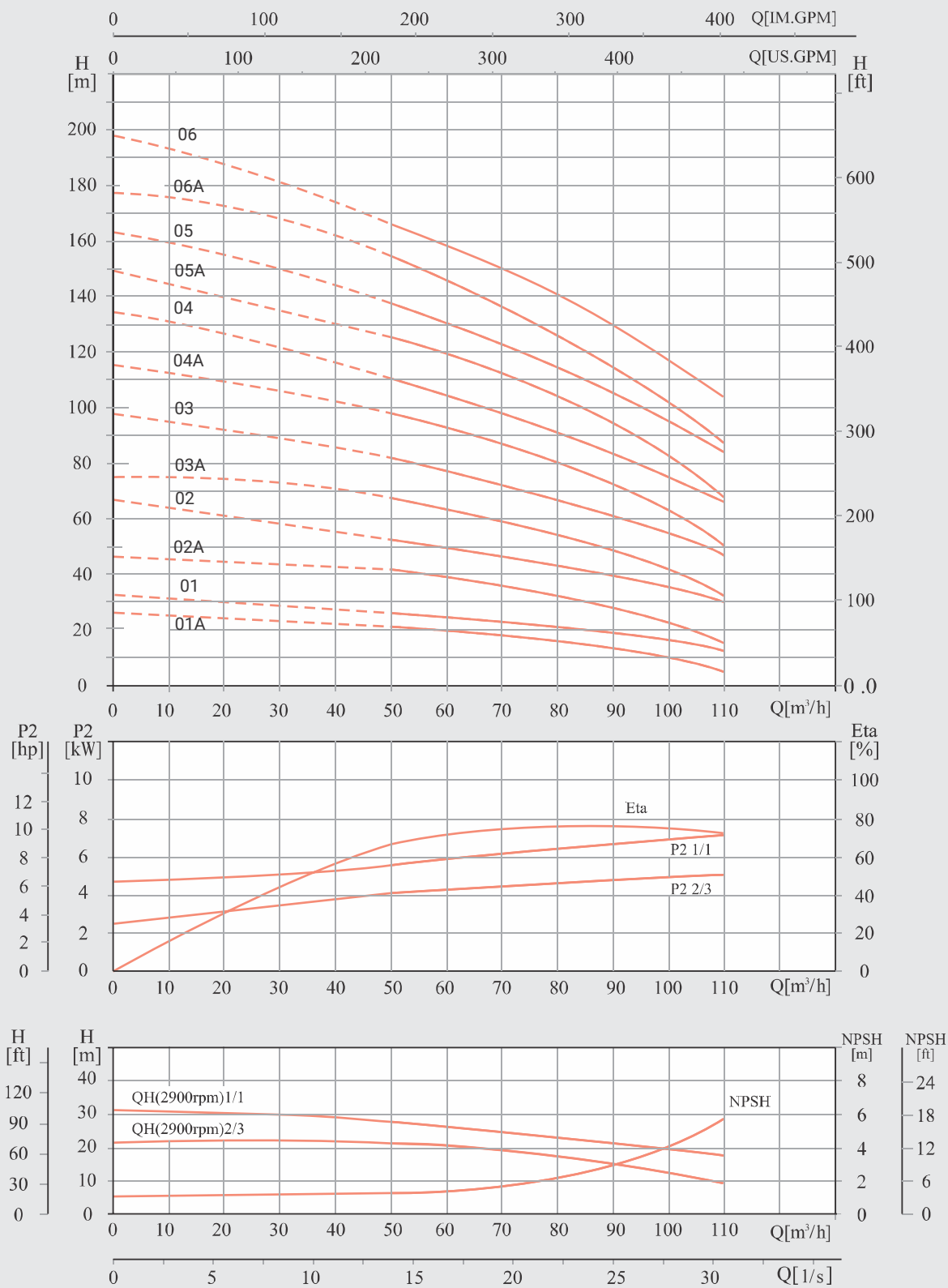


PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-85/01A	571	390	961	260	208	109
FVS(N)-85/01	571	390	961	260	208	115
FVS(N)-85/02A	773	500	1273	330	255	185
FVS(N)-85/02	773	500	1273	330	255	202
FVS(N)-85/03A	865	550	1415	330	255	225
FVS(N)-85/03	865	575	1440	360	285	268
FVS(N)-85/04A	957	650	1607	400	310	328
FVS(N)-85/04	957	650	1607	400	310	328
FVS(N)-85/05A	1049	650	1699	400	310	351
FVS(N)-85/05	1049	650	1699	400	310	351
FVS(N)-85/06A	1141	685	1826	460	340	428
FVS(N)-85/06	1141	685	1826	460	340	428

PERFORMANCE CURVES

NOMINAL FLOW : 85m³/h

FVS-85



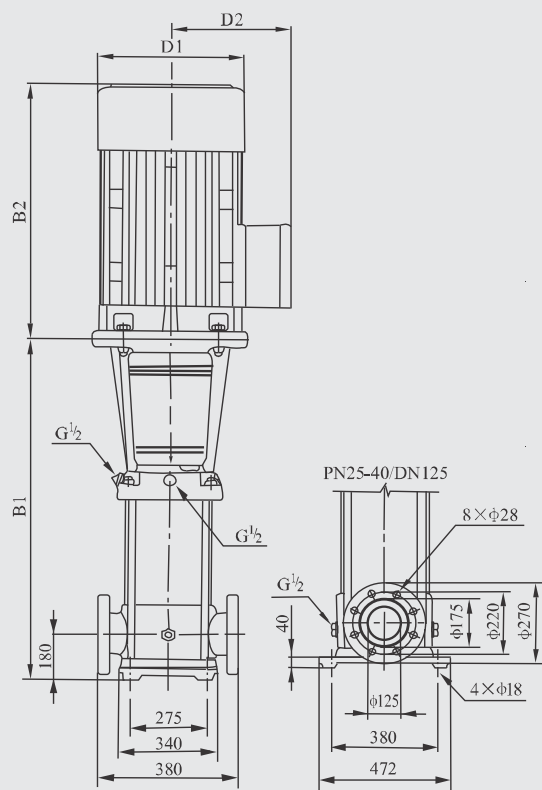
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 120

PUMP MODEL	POWER (kW)	Q m³/h	60	70	80	90	100	110	120	130	140	150
FVS(N)-120/01	11	HEAD (m)	22	21.8	21.6	21	20.5	19.5	18.5	17	16	15
FVS(N)-120/02B	15		34	33.6	33	31	30.2	30	28.5	27	25	24
FVS(N)-120/02A	18.5		41	40	39.5	38.5	37	36.5	34.5	32.5	30	27.5
FVS(N)-120/02	22		46	45	44.5	43.5	42.4	41	40	38	36	33.5
FVS(N)-120/03B	30		57	56	55	53.5	52	51	49	46.5	43.5	41
FVS(N)-120/03A	30		64	63	62	60	58.5	57.5	55.5	52	49	46
FVS(N)-120/03	30		69.5	68.5	67.5	66	64.4	62.5	61	57.5	54.5	51
FVS(N)-120/04B	37		80.5	79	78	76	73.5	72	69	66	61.5	58
FVS(N)-120/04A	37		87	86	84.5	82	80	78	76	72	68	64.5
FVS(N)-120/04	45		92.5	91	90	88	85.5	83	81	77	73	68.5
FVS(N)-120/05B	45		104.5	103	101	99	96	93	90	85.5	80.5	75.5
FVS(N)-120/05A	45		110.5	109	107.5	105	102	100	97	92	86.5	83
FVS(N)-120/05	55		115.5	114	113	110	107.5	104.5	101.5	96	91	86
FVS(N)-120/06B	55		128	125.5	123	121	117.3	113.5	110	104.5	98.5	92.5
FVS(N)-120/06A	55		134	132	130.5	127	124	121	118	111	105	100
FVS(N)-120/06	75		139	137	135	132	128.8	126	123	116	110	104
FVS(N)-120/07B	75		151	148	145.5	143	138.6	134	130	123.5	116.5	109
FVS(N)-120/07A	75		156.5	154	152	148.5	144.5	141	137.5	130	123	116.5
FVS(N)-120/07	75		162.5	160.5	158.5	155	151	148	145	137	129	123

DIMENSIONAL DRAWING & WEIGHT DETAILS



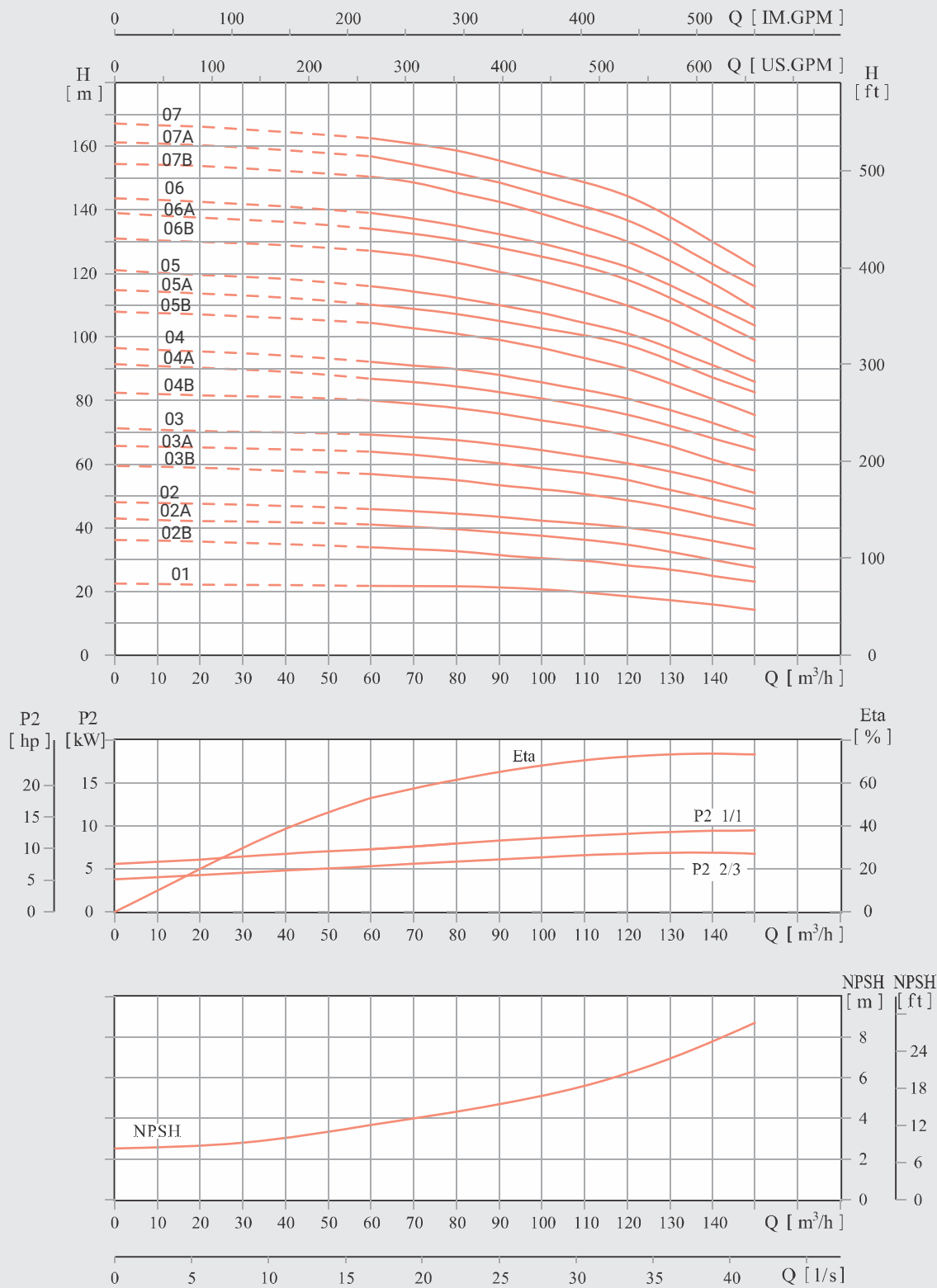
PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-120/01	840	500	1340	330	255	226
FVS(N)-120/02B	1000	500	1500	330	255	250
FVS(N)-120/02A	1000	550	1550	330	255	263
FVS(N)-120/02	1000	575	1575	360	285	310
FVS(N)-120/03B	1160	650	1810	400	310	375
FVS(N)-120/03A	1160	650	1810	400	310	375
FVS(N)-120/03	1160	650	1810	400	310	375
FVS(N)-120/04B	1320	650	1970	400	310	405
FVS(N)-120/04A	1320	650	1970	400	310	405
FVS(N)-120/04	1320	685	2005	460	340	501
FVS(N)-120/05B	1480	685	2165	460	340	509
FVS(N)-120/05A	1480	685	2165	460	340	509
FVS(N)-120/05	1510	760	2270	540	370	632
FVS(N)-120/06B	1670	760	2430	540	370	641
FVS(N)-120/06A	1670	760	2430	540	370	641
FVS(N)-120/06	1670	845	2515	580	410	757
FVS(N)-120/07B	1830	845	2675	580	410	766
FVS(N)-120/07A	1830	845	2675	580	410	766
FVS(N)-120/07	1830	845	2675	580	410	766

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PERFORMANCE CURVES

NOMINAL FLOW : 120m³/h

FVS-120



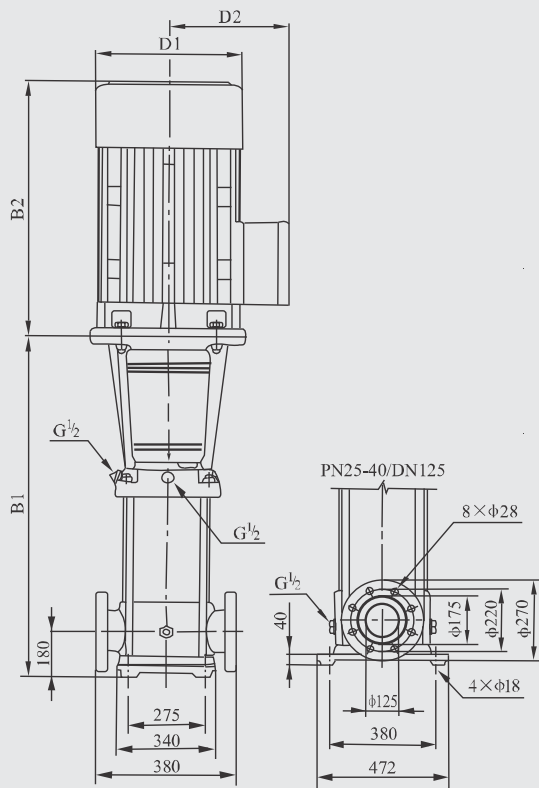
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 150

PUMP MODEL	POWER (kW)	Q m³/h	80	90	100	110	120	130	140	150	160	170	180
FVS(N)-150/01A	11	HEAD (m)	18.3	17.8	17.3	17	16	15	14	12.5	11	10	8.5
FVS(N)-150/01	15		24	23	22.5	22	21.5	20.5	20	18.5	17	16	15
FVS(N)-150/02B	18.5		37	35.5	34	33	32	31	29	27.5	26	23	21
FVS(N)-150/02A	22		44.3	43	42	40	39	38.5	37.5	35	33	30	27
FVS(N)-150/02	30		50	49	48	47	45.5	44	42	40	37	34	32
FVS(N)-150/03B	30		63.5	61	59	57.5	56	54.5	53	49	45.5	42	39
FVS(N)-150/03A	37		70	68	67	65	63	62	60	56	53	49	45
FVS(N)-150/03	37		78	76.5	75	73	70.5	68	66	63	59	55	50.5
FVS(N)-150/04B	45		89	87	84	81.5	79	77	74.5	70.5	65.5	60	56
FVS(N)-150/04A	45		96.5	94	91.5	89	86.5	84	81.5	77	72.5	67	62
FVS(N)-150/04	55		104	102	100	97	95	91	88	84	79.5	74	68
FVS(N)-150/05B	55		115.5	112	109	106	102.5	100	97	92	86	79	73.5
FVS(N)-150/05A	75		122.5	119.5	117	113.5	111.5	107.5	104.5	99	93.5	87	80
FVS(N)-150/05	75		130	127.5	125	121	119	115	111.5	106.5	101	94.5	86.5
FVS(N)-150/06B	75		140	137	133	130	126	121	118	112	106	98	91
FVS(N)-150/06A	75		148.5	145	141.7	137.5	135	131	127	120.5	114.5	106.5	97.5
FVS(N)-150/06	75		157	153	149	145	142	139.5	137	130	123.5	116	109

DIMENSIONAL DRAWING & WEIGHT DETAILS



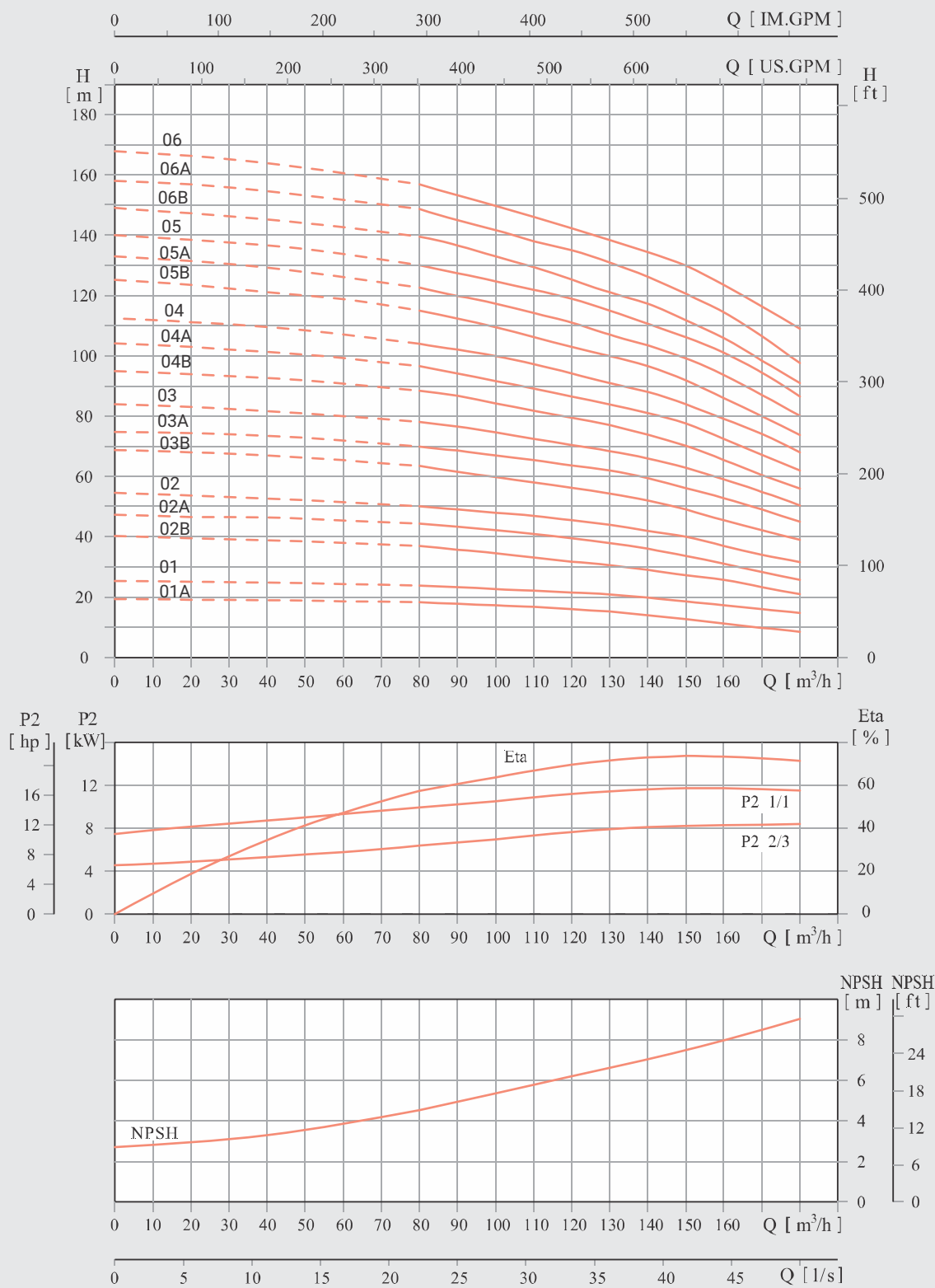
PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-150/01A	840	500	1340	330	255	227
FVS(N)-150/01	840	500	1340	330	255	240
FVS(N)-150/02B	1000	550	1550	330	255	263
FVS(N)-150/02A	1000	575	1575	360	285	311
FVS(N)-150/02	1000	650	1650	400	310	364
FVS(N)-150/03B	1160	650	1810	400	310	374
FVS(N)-150/03A	1160	650	1810	400	310	395
FVS(N)-150/03	1160	650	1810	400	310	395
FVS(N)-150/04B	1320	685	2005	460	340	502
FVS(N)-150/04A	1320	685	2005	460	340	502
FVS(N)-150/04	1350	760	2110	540	370	625
FVS(N)-150/05B	1510	760	2270	540	370	636
FVS(N)-150/05A	1510	845	2355	580	410	752
FVS(N)-150/05	1510	845	2355	580	410	752
FVS(N)-150/06B	1670	845	2515	580	410	762
FVS(N)-150/06A	1670	845	2515	580	410	762
FVS(N)-150/06	1670	845	2515	580	410	762

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 150m³/h

FVS-150



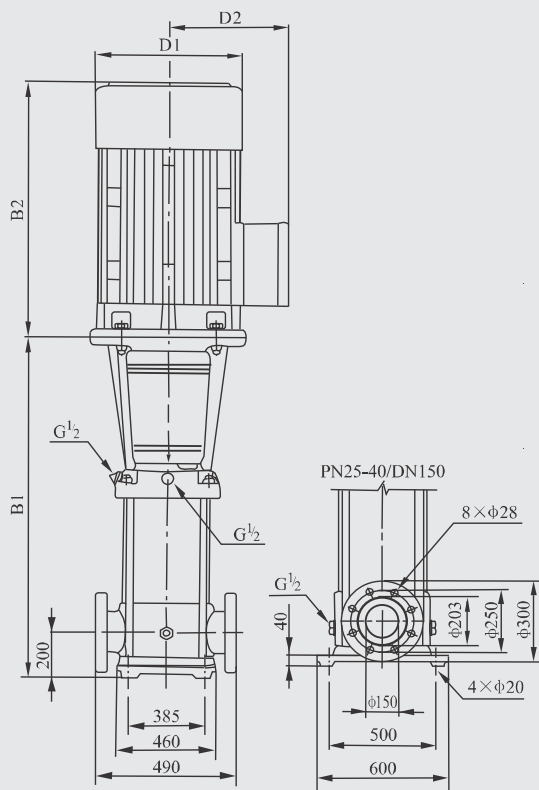
Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

PERFORMANCE TABLE

FVS 200

PUMP MODEL	POWER (kW)	Q m³/h	100	120	140	160	180	200	220	240
FVS(N)-200/01B	18.5	HEAD (m)	25.5	25	24	23	21.5	20	18	15.5
FVS(N)-200/01A	22		29	28.5	27.5	26.5	25.5	24	22	20
FVS(N)-200/01	30		38.5	38	37.5	36.5	35	34	32.5	30
FVS(N)-200/02R	37		53	51	49	47	44	41	37	32
FVS(N)-200/02B	45		59.5	58	56	54	52.5	49	44.5	40.5
FVS(N)-200/02A	55		69	68	66	64	62	59	55.5	51
FVS(N)-200/02	55		78.5	77.5	76	74	71.5	69	66	61.5
FVS(N)-200/03R	75		99.5	97.5	94.5	91.5	89	84	78.5	72
FVS(N)-200/03B	75		104.5	102.5	100	97	93	89	84.5	77.5
FVS(N)-200/03A	75		108	106	103.5	100.5	97.5	93	88	81.5
FVS(N)-200/03	90		117.5	116	113.5	110.5	107	103	99	92
FVS(N)-200/04R	90		131.5	129	125.5	121	115.5	110	103.5	94
FVS(N)-200/04B	110		138.5	136	132	128	124	118	111	102.5
FVS(N)-200/04A	110		148	145.5	142.5	138	134	128	122	113
FVS(N)-200/04	110		157.5	155.5	152.5	148	143.5	138	132.5	123.5

DIMENSIONAL DRAWING & WEIGHT DETAILS



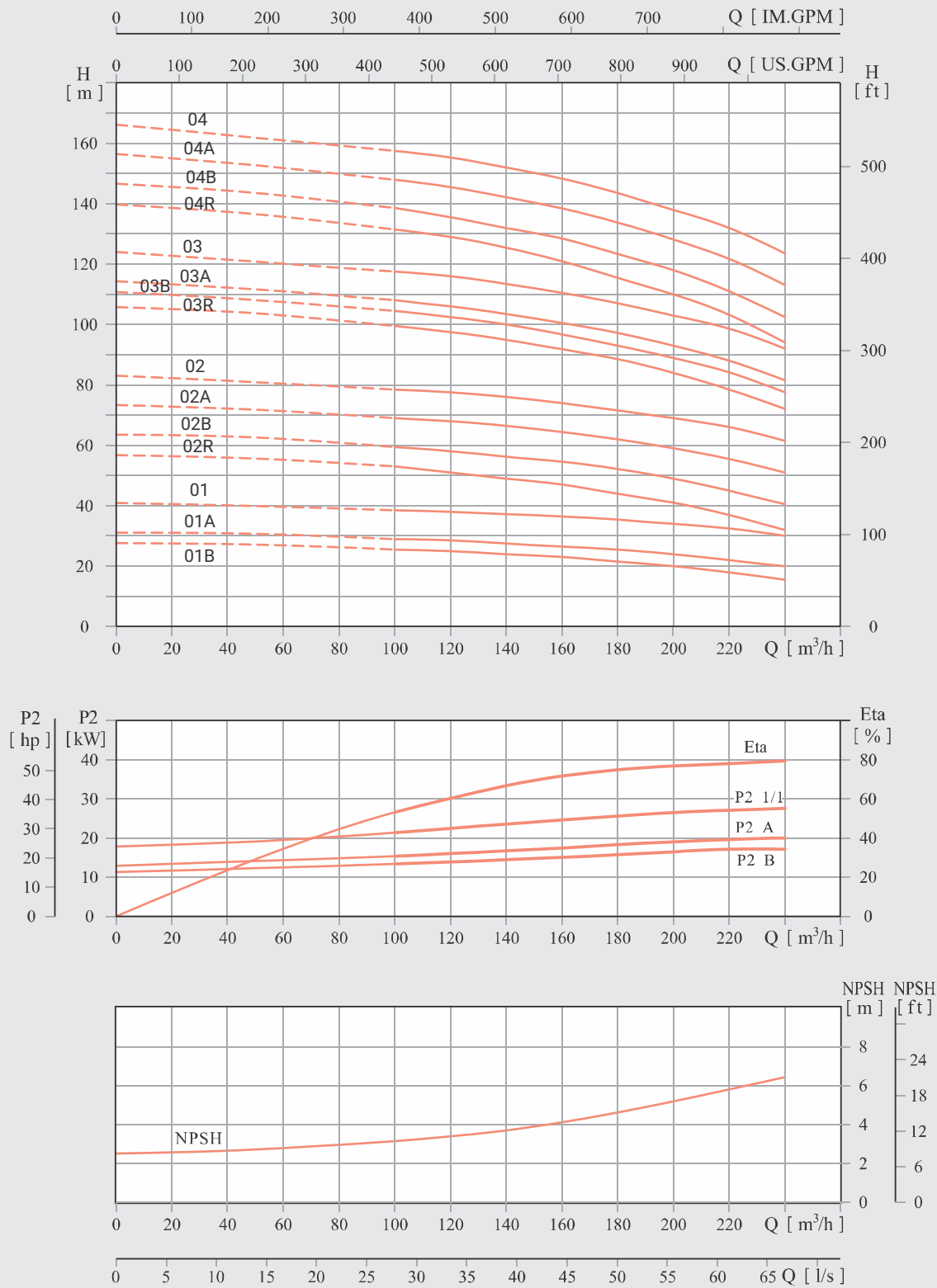
PUMP MODEL	Dimension (mm)					Weight (kg)
	B1	B2	B1+B2	D1	D2	
FVS(N)-200/01B	907	550	1457	330	255	343
FVS(N)-200/01A	907	575	1482	360	285	390
FVS(N)-200/01	907	650	1557	400	310	443
FVS(N)-200/02R	1101	650	1751	400	310	482
FVS(N)-200/02B	1101	685	1786	460	340	578
FVS(N)-200/02A	1131	760	1891	540	370	710
FVS(N)-200/02	1131	760	1891	540	370	710
FVS(N)-200/03R	1325	845	2170	580	410	845
FVS(N)-200/03B	1325	845	2170	580	410	845
FVS(N)-200/03A	1325	845	2170	580	410	845
FVS(N)-200/03	1325	895	2220	580	410	921
FVS(N)-200/04R	1519	895	2414	580	410	938
FVS(N)-200/04B	1519	1140	2659	645	550	1148
FVS(N)-200/04A	1519	1140	2659	645	550	1148
FVS(N)-200/04	1519	1140	2659	645	550	1148

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.

PERFORMANCE CURVES

NOMINAL FLOW : 200m³/h

FVS-200



Performance curve tolerances are as per HI : 14.6 / ISO: 9906, Grade 3B
In view of the continuous developments the information / Descriptions / Specifications / illustrations are subject to change without notice.

CONVERSION TABLE

FLOW RATE

litre per second l/s	litre per minute l/min	cubic meter per hour m ³ /h	cubic foot per hour ft ³ /h	cubic foot per minute ft ³ /min	Imp.gallon per minute Imp.gal./min	US gallon per minute US gal./min	Us barrel per day ls barrel/d (Petroleum)
1	60	3.6	127.133	2.1189	13.2	15.85	543.439
0.017	1	0.06	2.1189	0.0353	0.22	0.264	9.057
0.278	16.667	1	35.3147	0.5886	3.666	4.403	150.955
0.008	0.472	0.0283	1	0.0167	0.104	0.125	4.275
0.472	28.317	1.6990	60	1	6.229	7.480	256.475
0.076	4.546	0.2728	9.6326	0.1605	1	1.201	41.175
0.063	3.785	0.2271	8.0209	0.1337	0.833	1	34.286
0.002	0.110	0.0066	0.2339	0.0039	0.024	0.029	1

LIQUID

Cubic meter m ³	litre l	Milli litre ml	Imp. gallon Imp. Gal	US gallon US gal	cubic foot ft ³
1	1000	1 x 10 ⁶	220	264.2	35.3147
0.001	1	1000	0.22	0.2642	0.0353
1 x 10 ⁻⁶	0.001	1	2.2 X 10 ⁻⁴	2.642 x 10 ⁻⁴	3.53 x 10 ⁻⁵
0.00455	4.546	4546	1	1.201	0.1605
0.00378	3.785	3785	0.8327	1	0.1337
0.0283	28.317	28317	6.2288	7.4805	1

LIQUID HEAD AND PRESSURE

newton per square meter N/m ² (Pa)	kilo pascal kPa	bar bar	kilogram force per square centimeter Kg/cm ²	pound force per square inch psi	foot for water ft H ₂ O	meter of water m H ₂ O	millimeter of mercury mm Hg	inch of mercury in Hg
1	0.001	1 x 10 ⁻⁵	1.02 x 10 ⁻⁵	1.45 x 10 ⁻⁴	3.35 x 10 ⁻⁴	1.02 x 10 ⁻⁴	0.0075	2.95 x 10 ⁻⁴
1000	1	0.01	0.0102	0.145	0.335	0.102	7.5	0.295
1 x 10 ⁻⁵	100	1	1.02	14.5	33.52	10.2	750.1	29.53
98,067	98.07	0.981	1	14.22	32.81	10	735.6	28.96
6895	6.895	0.069	0.0703	1	2.31	0.703	51.72	2.036
2984	2.984	0.03	0.0305	0.433	1	0.305	22.42	0.882
9789	9.789	0.098	0.1	1.42	3.28	1	73.42	2.891
133.3	0.133	0.0013	0.0014	0.019	0.045	0.014	1	0.039
3386	3.386	0.0338	0.0345	0.491	1.133	0.0345	25.4	1

LENGTH

millimeter mm	centimeter cm	meter m	inch in	feet ft	yard yd
1	0.1	0.001	0.0394	0.0033	0.0011
10	1	0.01	0.3937	0.0328	0.0109
1000	100	1	39.3701	3.2808	1.0936
25.4	2.54	0.0254	1	0.0833	0.0278
304.8	30.48	0.3048	12	1	0.3333
914.4	91.44	0.9144	36	3	1

1 Kilometer = 1000 metres = 0.62137 miles 1 mile = 1609.37 metres = 1.60934 kilometers

MASS

kilogram kg	pound lb	hundred weight (cwt)	tonne t	ton long tn	short ton sh tn
1	2.205	0.0197	0.001	9.84 x 10 ⁻⁴	0.0011
0.454	1	0.0089	4.54 x 10 ⁻⁴	4.46 x 10 ⁻⁴	5.0 x 10 ⁻⁴
50.802	112	1	0.0508	0.05	0.056
1000	2204.6	19.684	1	0.9842	1.1023
1016	2240	20	1.0161	1	1.102
907.2	2000	17.857	0.9072	0.8929	1

TEMPERATURE

To Convert From	To	Use Formula
Temperature Celsius, tc	Temperature Kelvin, tk	K = tc + 273.15
Temperature Fahrenheit, tf	Temperature Kelvin, tk	K = (tf + 459.67 / 1.8)
Temperature Celsius, tc	Temperature Fahrenheit, tf	F = 1.8 tc + 32
Temperature Fahrenheit, tf	Temperature Celsius, tc	C = (tf - 32) / 1.8
Temperature Kelvin, tk	Temperature Celsius, tc	C = tk - 273.15
Temperature Kelvin, tk	Temperature Fahrenheit, tf	F = 1.8tk - 459.67



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