Joinleader Pump Industry Co.,Ltd,

VS Series Stainless Steel Vertical Multi-stage Centrifugal Pump

Brief introduction

With more than 20 years experience, Joinleader Pump Industry Co., Ltd has now become a worldwide supplier of many different kinds of pumps. Our company has passed ISO9001 : 2000 certification and our pumps are certified with TUV in Germany and CE in EU. Our products have been exported to more than 30 countries including America, Europe, Australia and so on. Being specialized in the pump area, we are able to provide our customers with high-quality products, services and solutions to water supply. We have won the reputation widely.

Joinleader Pump Industry Co.,Ltd,

CONTENTS

VS Series Stainless Steel Vertical Multi-stage Centrifugal Pump

★ GENERAL INTRODUCTION ★

VS Series Stainless Steel Multistage Centrifugal Pump is a kind of non self-priming vertical multistage centrifugal pumps, which adopts classical vertical electric motor and assembly mechanical, seal. It possesses many advantages, such as small volume, light weight, low noise, easy maintenance, elegant appearance, etc. VS Series are widely used in the areas of daily life, industry, agriculture, water treatment system,and so on.

★ FEATURES ★

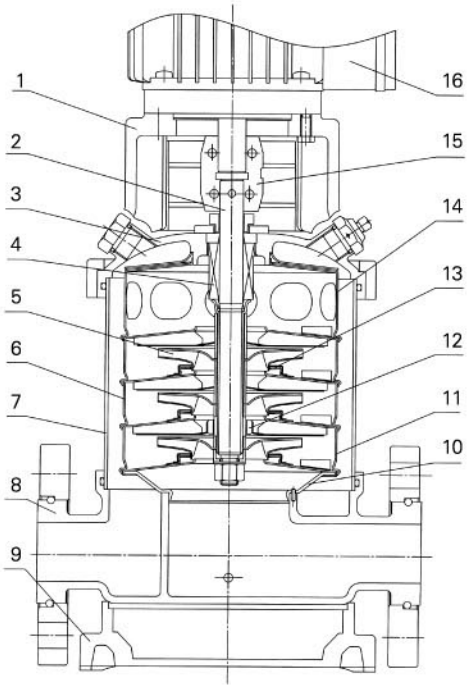
☆ Pumps

- Vertical and compact structure, the inlet and outlet flanges are located at the same central line, small area occupation and easy installation.
- Assembly mechanical seal, making installation and maintenance safer and more convenient, and guaranteeing the reliability of the mechanical seal.
- Flow parts are made of stainless steel, which will not contaminate medium and possess lengthy service life and elegant appearance.
- Electric motor shaft directly and accurately connects with pump shaft through coupling.
- Lower noise and less vibration.
- Standardized design and outstanding universality.

☆ Electric motor

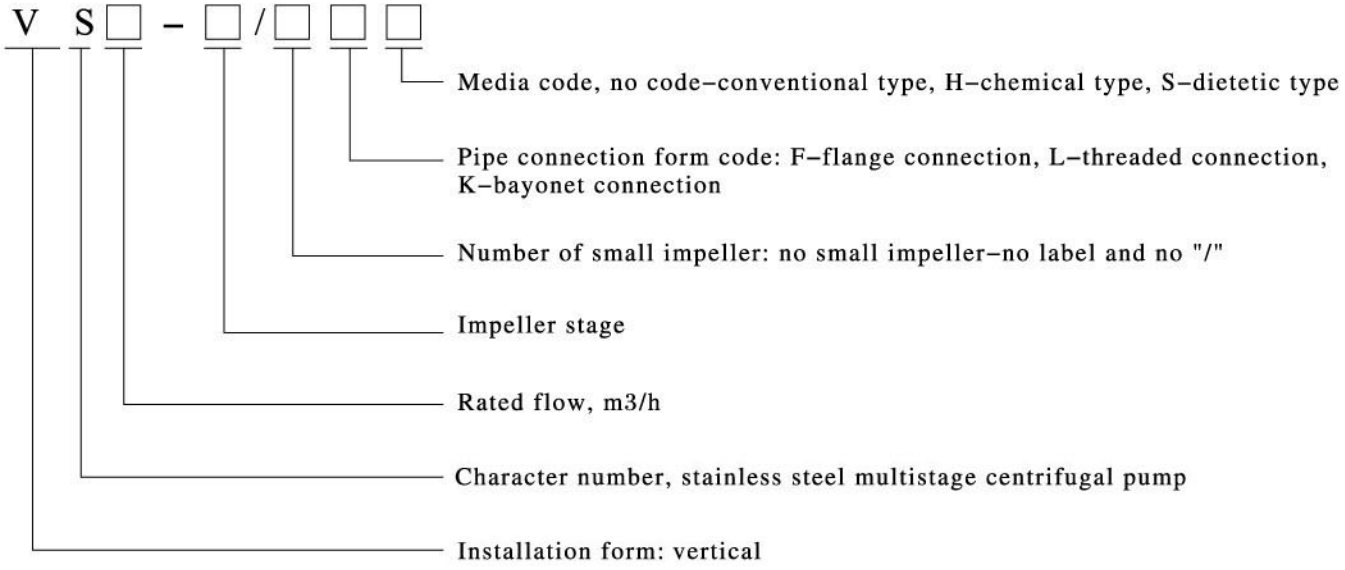
- Protection class: IP55
- Insulation class: F
- Working mode: S1

★ STRUCTURE ★



NO	NAME	MATERIALS
1	Electric motor bed HT200	HT200
2	Pump shaft 0Cr18Ni9	0Cr18Ni9
3	Mechanical seal bed ZG0Cr18Ni9	ZG0Cr18Ni9
4	Mechanical seal Subassembly	Subassembly
5	Impeller 0Cr18Ni9	0Cr18Ni9
6	Intermediate body 0Cr18Ni9	0Cr18Ni9
7	External body 0Cr18Ni9	0Cr18Ni9
8	Inlet and outlet section ZG0Cr18Ni9	ZG0Cr18Ni9
9	Base plate HT200	HT200
10	Inlet intermediate body 0Cr18Ni9	0Cr18Ni9
11	Intermediate body with bearing 0Cr18Ni9	0Cr18Ni9
12	Sliding bearing YG6	YG6
13	Sealing ring F-4	F-4
14	Outlet intermediate body 0Cr18Ni9	0Cr18Ni9
15	Coupling ZG25	ZG25
16	Electric motor Subassembly	Subassembly

★ MODEL EXPLANATION ★



For example: VS 32-4/2F

The above example means that is a stainess steel vertical malti–stage centrifugal pump with 4 impeller stages, 2small impellers and flange connection, whose rated flow is 32 m^3/h.

★ TRANSPORTATION MEDIA ★

- Transportation medium temperature: −15℃~120℃
- Transport rarefied, clean, nonflammable and non−explosive medium without solid particles and fibers
- Transport mildly corrosive medium without solid particles

★ APPLICATION ★

- Ambient temperature: +40℃ at most. If the temperature is above +40℃ or the electric motor is installed 1000 meters above sea level, the motor output power will reduce. In this case, more powerful motors are recommended.
- Water supply: water transportation in water plants, boosting system in high−rise buildings etc.
- Industrial liquid conveying: air−condition system, boiler water supply and machine−associate purpose, etc.
- Irrigation: farmland irrigation, spray irrigation and dripping irrigation.
- Water treatment: reverse osmosis system, water treatment system of swimming pools.

★ PRODUCTS ★

Parameter	VS2	VS4	VS8	VS16	VS32	VS45	VS64	VS90
Rated flow(m^3/h)	2	4	8	16	32	45	64	90
Flow range(m^3/h)	1~3.2	2~7	6~11	8~20	15~36	22~55	30~80	45~110
Max pressure(bar)	24	22	22	23	28	32	22	20
Electric power(kW)	0.37~3	0.37~4	0.75~7.5	2.2~15	1.5~30	3~45	4~45	5.5~45
Temperature range(℃)	−15~120							
Max efficiency(%)	48	59	64	70	78	79	80	81
Flange	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN100

● Max working pressure

Pump Model	Max working pressure (bar)	Pump Model	Max working pressure (bar)
VS2	25	VS45–1/1~VS45–5	16
VS4	25	VS45–6/2~VS45–9	25
VS8	25	VS45–10/2~VS45–13/2	33
VS16	25	VS64–1/1~VS64–5	16
VS32–1/1~VS32–7	16	VS64–6/2~VS64–8/1	25
VS32–8/2~VS32–12	25	VS90–1/1~VS90–4	16
VS32–13/2~VS32–14	30	VS90–5/2~VS90–6	25

● Max inlet pressure

Pump Model	Max inlet pressure (bar)	Pump Model	Max inlet pressure (bar)
VS2–2	6	VS32–5/2~VS32–10	10
VS2–3~VS2–11	10	VS32–11/2~VS32–14	15
VS2–12~VS2–26	15	VS45–1/1	3
VS4–2	6	VS45–1~VS45–2	4
VS4–3~VS4–10	10	VS45–3/2~VS45–4	10
VS4–11~VS4–22	15	VS45–5/2~ VS45–13/2	15
VS8–2~VS8–6	6	VS64–1/1~ VS64–2/2	4
VS8–7~VS8–20	10	VS64–2/1~ VS64–3/1	10
VS16–2~VS16–3	6	VS64–3~ VS64–8/1	15
VS16–4~VS16–16	10	VS90–1/1~ VS90–1	4
VS32–1/1~VS32–2/2	3	VS90–2/2~ VS90–2	10
VS32–2~VS32–4	4	VS90–3/2~ VS90–6	15

Note: when the pump is in practical use, the actual inlet pressure plus the closing valve pressure must be lower than the max working pressure

● Minimum inlet pressure NPSH

If the pressure in pump is lower than the steaming pressure, cavitations might occur. To avoid cavitations, a minimum pressure at the inlet side of the pump must be guaranteed. The maximum suction head can refer to the below figure and be calculated as the following formula:

H=Pb × 10.2−NPSH−Hf−Hv−Hs (m)

Pb=atmosphere pressure (bar), the pressure can be set as 1 bar. In a closed system, Pb means system pressure (bar)

NPSH=Net positive suction head (m), it can be read out from the point of possible max flow rate shown on NPSH curve

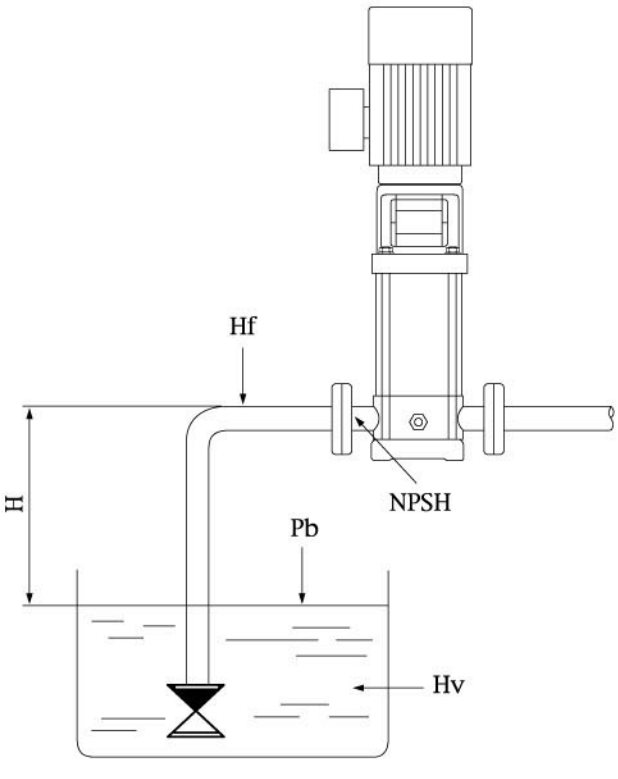
Hf=Pipeline loss at the inlet (m)

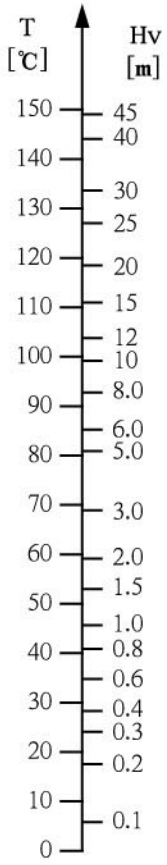
Hv=Steaming pressure (m)

Hs=Safety margin, it means minimum 0.5m delivery head

If the calculated result H is positive, the pump may run under the max suction head H.

If the calculated result H is negative, a pressure over H is reguired at the inlet side of the pump.





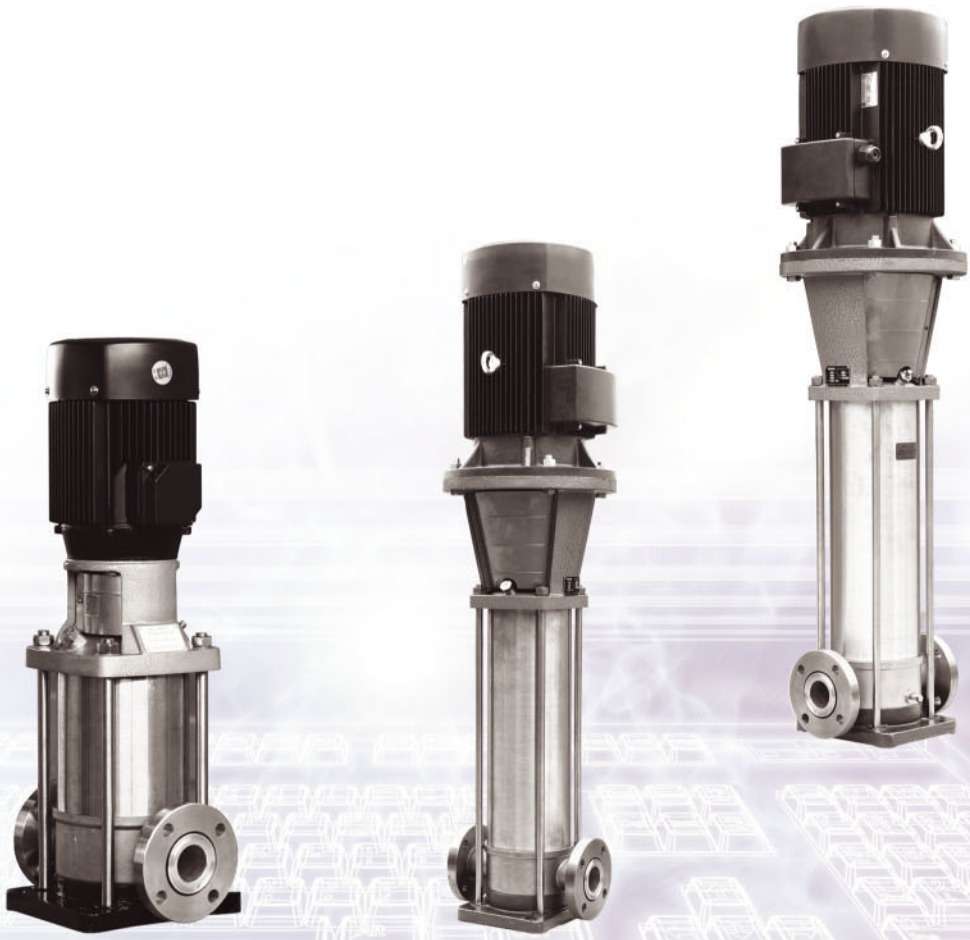
Note: T−Hv at the right side of the figure means steaming pressure of water at different temperatures.

● Minimum flow rate

To avoid damages caused by overheating, the pump mustn't run under minimum flow rate

Pump Model	Minimum flow rate m^3/h	
	< 80℃	80℃~120℃
VS2	0.2	0.5
VS4	0.4	1.0
VS8	0.8	2.0
VS16	1.6	4.0

Pump Model	Minimum flow rate m^3/h	
	< 80℃	80℃~120℃
VS32	3.2	8.0
VS45	4.5	10.0
VS64	6.4	15.0
VS90	9.0	20.0

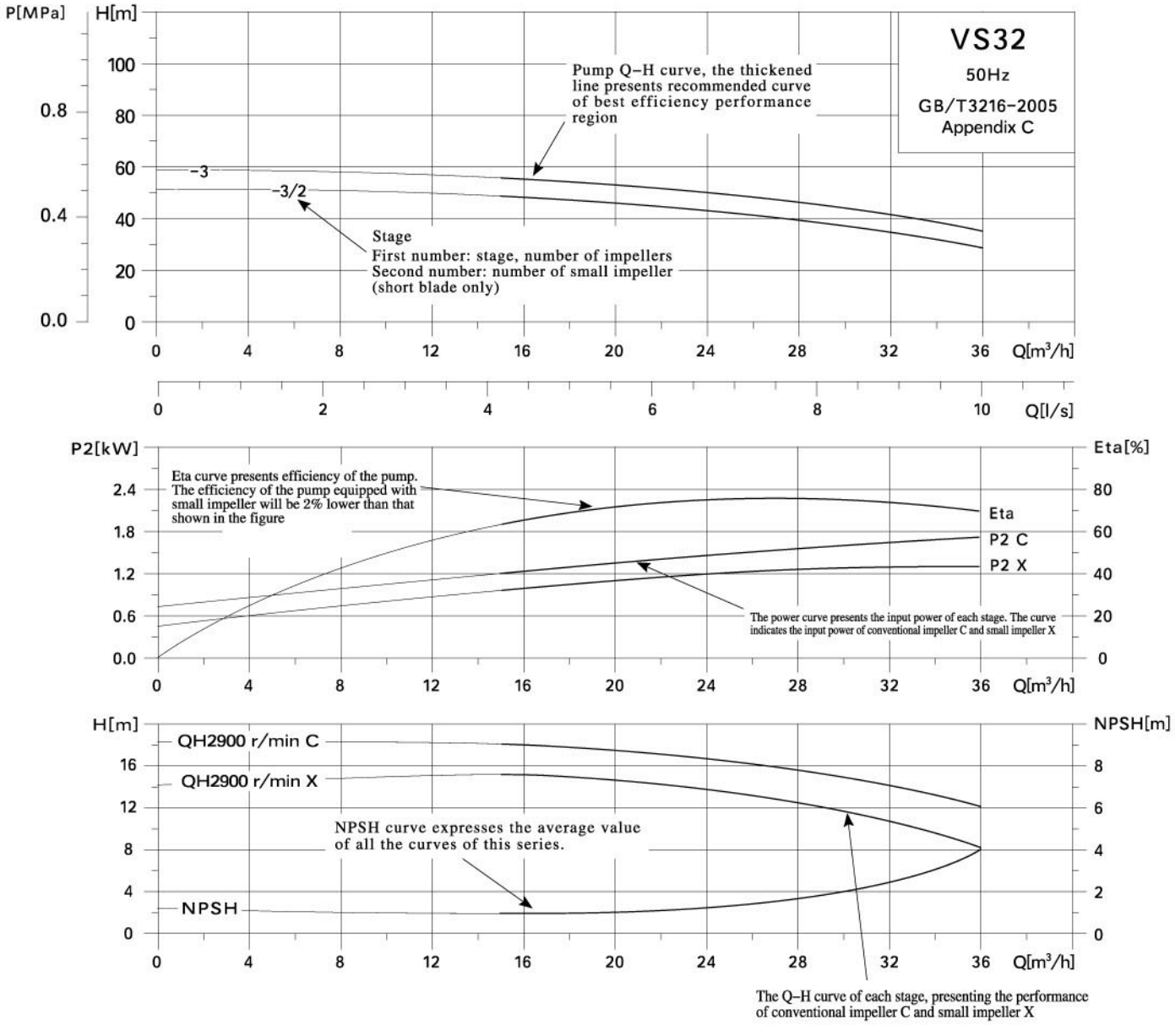


★ INTRODUCTION OF PERFORMANCE CURVE ★

The following instructions are suitable for the performance curves shown below:

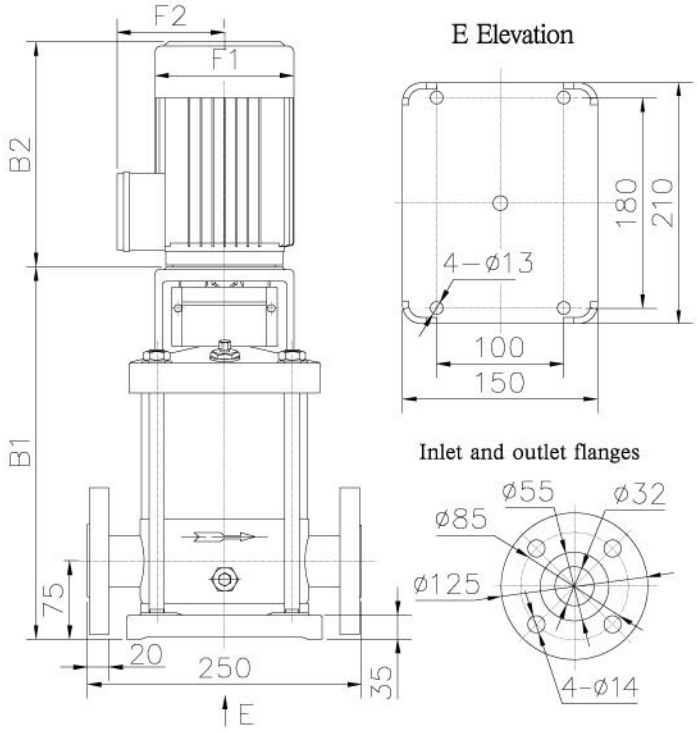
- All the performance curves are based on the measured values of 3 phase–380~450V, 50Hz and a constant motor speed at 2900 rpm.
- Curve tolerance is in conformity with GB/T3216–2005, appendix C.
- Measurement is done with air–free water at normal temperature.
- The operation of pump shall refer to the recommended performance region indicated by the thickened line to prevent dangers due to too small or too large folw rate.

Curve explanation



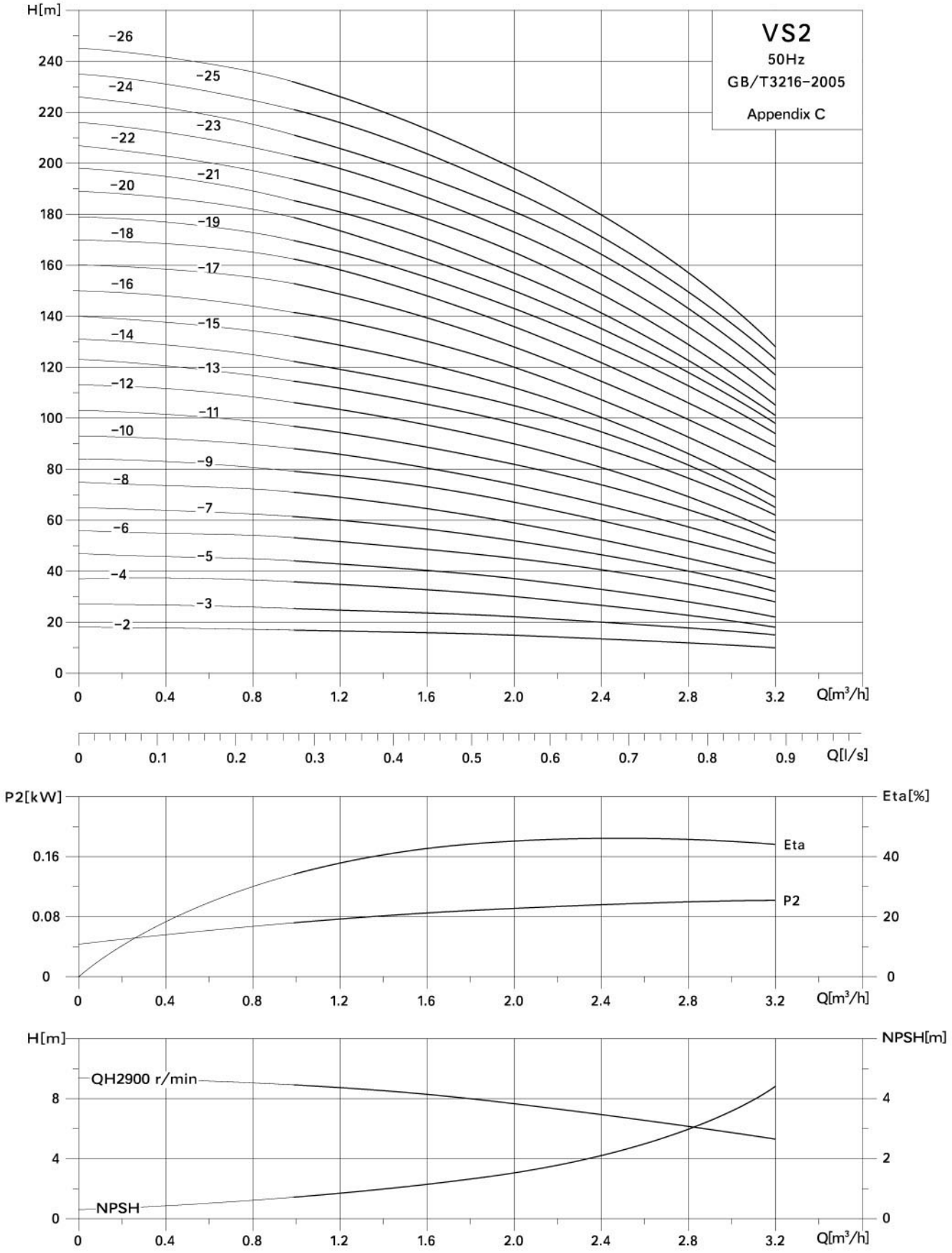
VS2

● Installation sketch



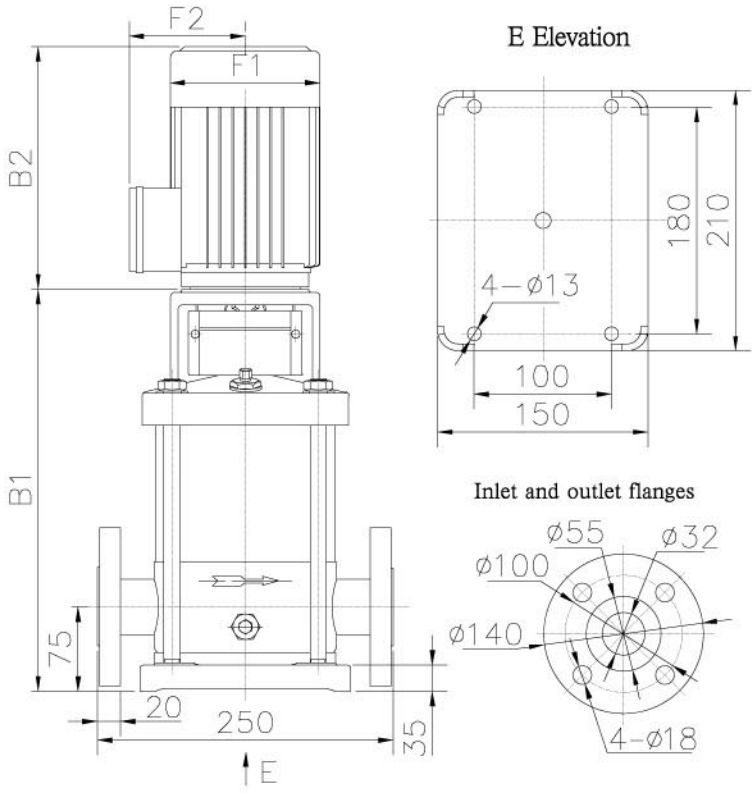
● Performance parameter (for reference only) and size table

Pump Model	Motor power (kW)	Flow rate (m^3/h)	1.0	1.2	1.6	2.0	2.4	2.8	3.2	Size (mm)				
										B1	B2	B1+B2	F1	F2
VS2−2	0.37		17	17	16	15	13	12	10	257	240	497	145	140
VS2−3	0.37		25	25	24	22	20	18	15	275	240	515	145	140
VS2−4	0.55		36	35	33	30	27	23	18	293	240	533	145	140
VS2−5	0.55		44	43	40	37	33	28	22	311	240	551	145	140
VS2−6	0.75		53	52	49	45	41	35	28	338	255	593	175	150
VS2−7	0.75		62	60	57	52	47	40	32	356	255	611	175	150
VS2−8	1.1		71	70	65	59	53	45	37	374	255	629	175	150
VS2−9	1.1		79	78	73	67	60	53	43	392	255	647	175	150
VS2−10	1.1		88	87	81	74	67	58	47	410	255	665	175	150
VS2−11	1.1		95	95	89	82	74	65	52	428	255	683	175	150
VS2−12	1.5		107	104	98	90	81	70	55	457	285	742	195	155
VS2−13	1.5		115	113	106	98	89	77	58	475	285	760	195	155
VS2−14	1.5	Head	123	119	113	105	95	83	64	493	285	778	195	155
VS2−15	1.5	(m)	133	130	122	112	101	87	69	511	285	796	195	155
VS2−16	2.2		142	139	131	120	108	93	76	529	285	814	195	155
VS2−17	2.2		153	148	139	128	115	100	83	547	285	832	195	155
VS2−18	2.2		163	159	147	136	123	107	90	565	285	850	195	155
VS2−19	2.2		170	167	156	143	130	114	94	583	285	868	195	155
VS2−20	2.2		176	174	163	150	136	119	98	601	285	886	195	155
VS2−21	2.2		185	182	171	157	142	124	101	619	285	904	195	155
VS2−22	2.2		192	190	179	165	150	130	105	637	285	922	195	155
VS2−23	3		201	198	187	173	157	137	111	665	325	990	215	180
VS2−24	3		210	206	195	181	165	144	117	683	325	1008	215	180
VS2−25	3		221	216	205	189	172	151	123	701	325	1026	215	180
VS2−26	3		232	227	214	198	180	158	128	719	325	1044	215	180


VS2
50Hz
GB/T3216-2005
Appendix C
H[m]
-26
-25
-24
-23
-22
-21
-20
-19
-18
-17
-16
-15
-14
-13
-12
-11
-10
-9
-8
-7
-6
-5
-4
-3
-2
0
20
40
60
80
100
120
140
160
180
200
220
240
0
0.4
0.8
1.2
1.6
2.0
2.4
2.8
3.2
Q[m³/h]
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
Q[l/s]
P2[kW]
0
0.08
0.16
Eta[%]
0
20
40
Eta
P2
Q[m³/h]
H[m]
0
4
8
QH2900 r/min
NPSH
NPSH[m]
0
2
4
Q[m³/h]

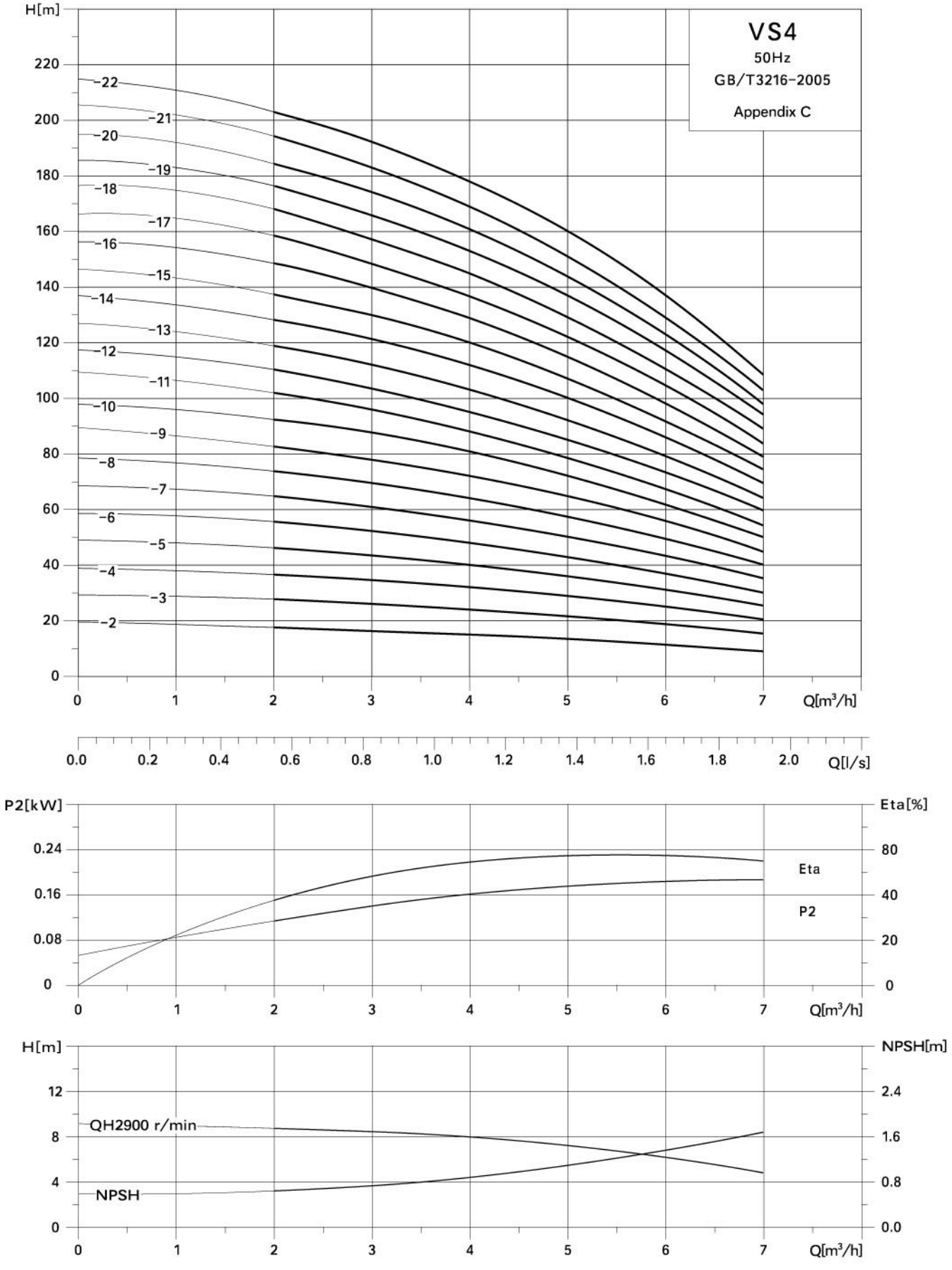
VS4

● Installation sketch



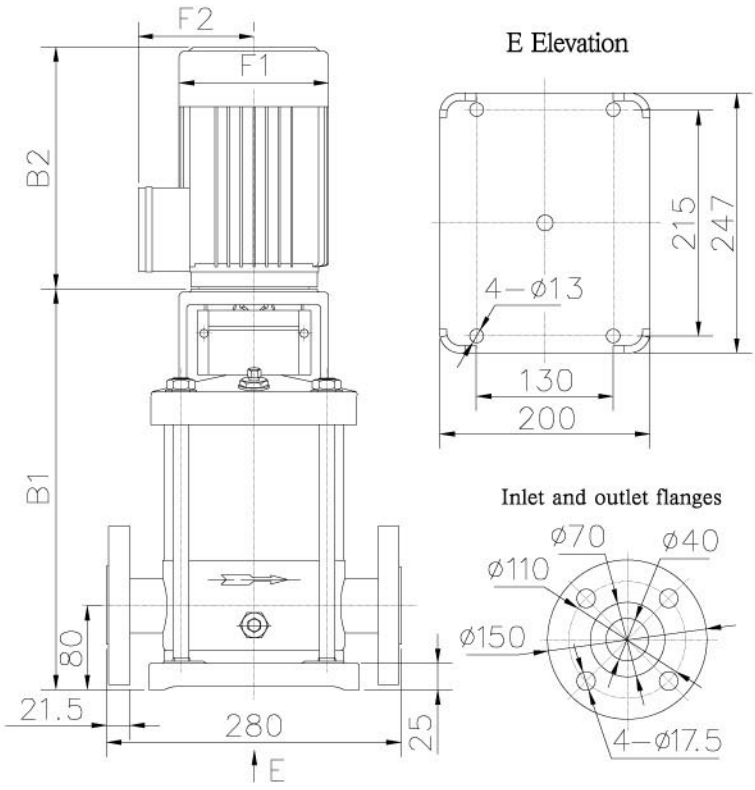
● Performance parameter (for reference only) and size table

Pump Model	Motor power (kW)	Flow rate (m^3/h)	2.0	3.0	4.0	5.0	6.0	7.0	Size (mm)				
									B1	B2	B1+B2	F1	F2
VS4−2	0.37		18	16	15	13	11	9	275	240	515	145	140
VS4−3	0.55		28	26	24	21	19	15	302	240	542	145	140
VS4−4	0.75		37	35	32	29	25	20	338	255	593	175	150
VS4−5	1.1		46	43	40	36	31	26	365	255	620	175	150
VS4−6	1.1		56	52	48	43	37	30	392	255	647	175	150
VS4−7	1.5		65	61	56	50	43	35	430	285	715	195	155
VS4−8	1.5		74	69	64	57	49	39	457	285	742	195	155
VS4−9	2.2		83	78	72	65	56	45	484	285	769	195	155
VS4−10	2.2		92	88	81	72	61	50	511	285	796	195	155
VS4−11	2.2		102	96	88	79	67	55	538	285	823	195	155
VS4−12	2.2	Head	110	103	95	85	73	60	565	285	850	195	155
VS4−13	3	(m)	119	112	103	92	79	64	602	325	927	215	180
VS4−14	3		128	121	112	100	86	69	629	325	954	215	180
VS4−15	3		137	130	120	107	91	74	656	325	981	215	180
VS4−16	3		148	140	129	115	98	78	683	325	1008	215	180
VS4−17	4		158	148	137	122	105	83	710	340	1050	240	190
VS4−18	4		168	157	145	129	110	89	737	340	1077	240	190
VS4−19	4		176	166	153	137	117	94	764	340	1104	240	190
VS4−20	4		184	174	161	143	123	98	791	340	1131	240	190
VS4−21	4		194	183	169	151	129	103	818	340	1158	240	190
VS4−22	4		203	192	178	160	137	107	845	340	1185	240	190


VS4
50Hz
GB/T3216-2005
Appendix C
H[m]
-22
-21
-20
-19
-18
-17
-16
-15
-14
-13
-12
-11
-10
-9
-8
-7
-6
-5
-4
-3
-2
Q[m³/h]
Q[l/s]
P2[kW]
Eta[%]
Eta
P2
H[m]
NPSH[m]
QH2900 r/min
NPSH

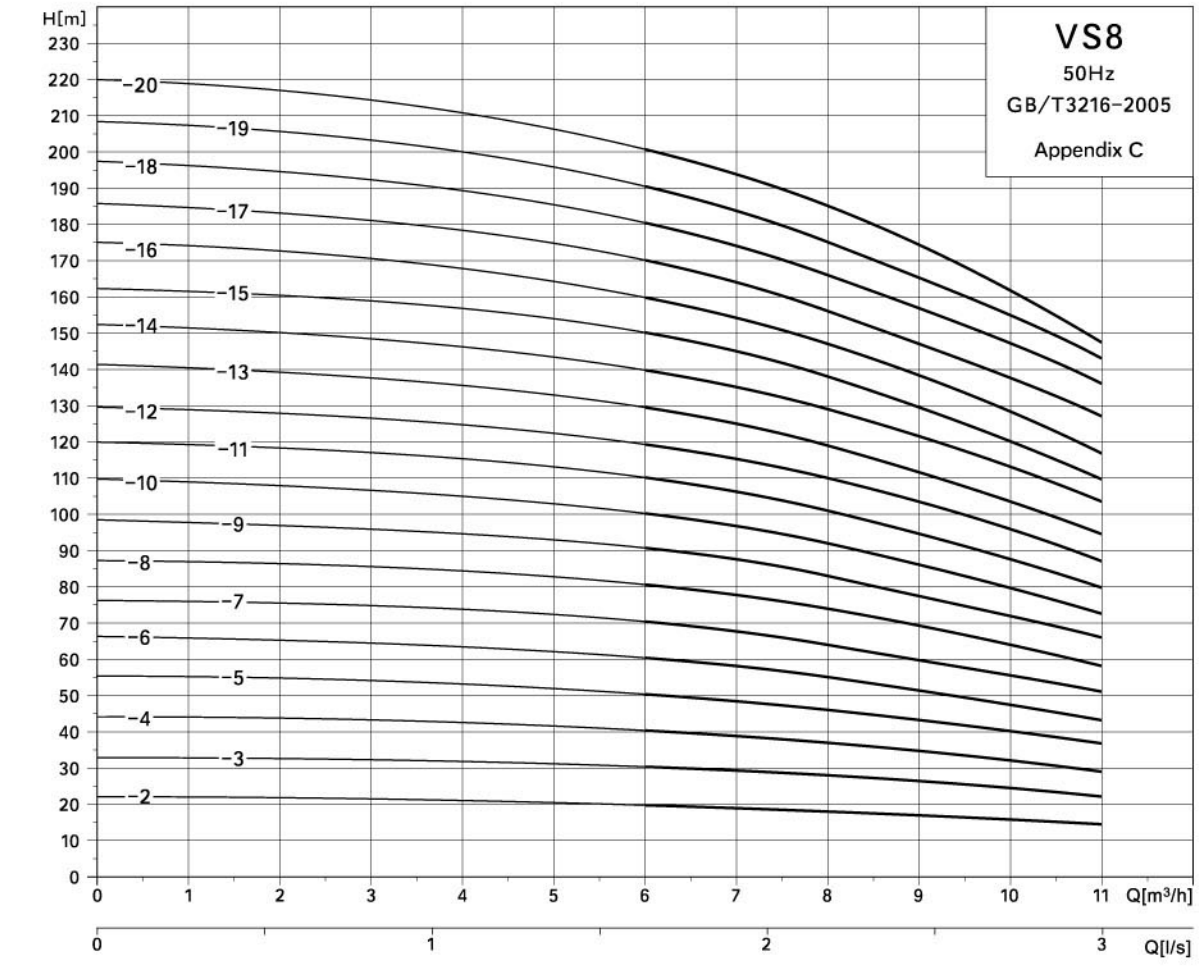
VS8

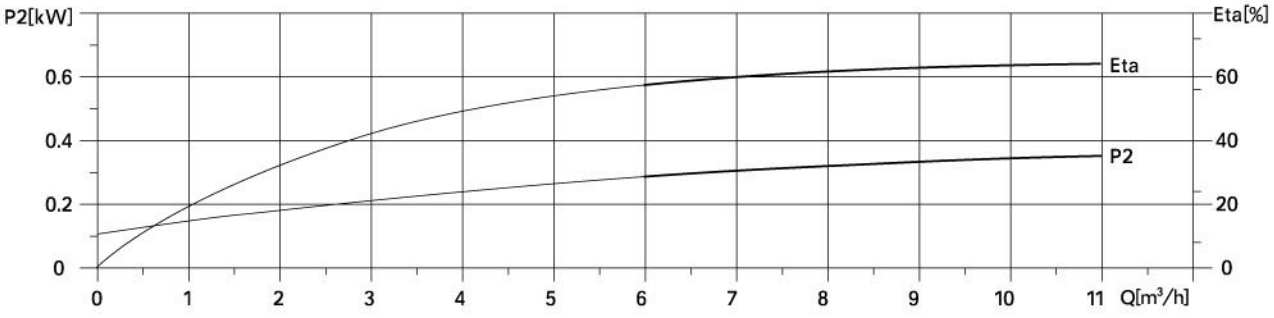
● Installation sketch

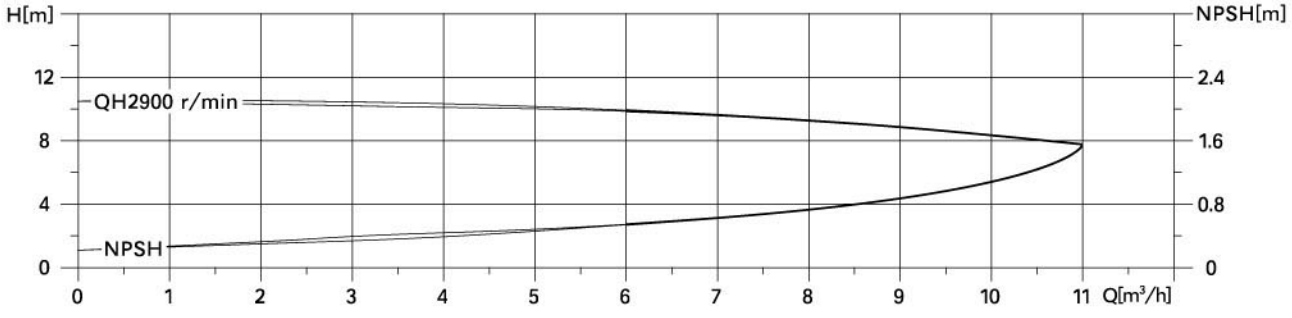


● Performance parameter (for reference only) and size table

Pump Model	Motor power (kW)	Flow rate (m^3/h)	6	7	8	9	10	11	Size (mm)				
									B1	B2	B1+B2	F1	F2
VS8−2	0.75		20	19	18	16	15	15	347	255	602	175	150
VS8−3	1.1		30	29	28	26	24	22	377	255	632	175	150
VS8−4	1.5		41	39	37	35	33	29	422	285	707	195	155
VS8−5	2.2		50	49	46	43	40	37	452	285	737	195	155
VS8−6	2.2		60	59	55	51	47	43	482	285	767	195	155
VS8−7	3		70	68	64	60	55	51	517	325	842	215	180
VS8−8	3		81	78	74	69	63	58	547	325	872	215	180
VS8−9	4		91	88	83	77	72	66	577	340	917	240	190
VS8−10	4		100	97	92	86	80	72	607	340	947	240	190
VS8−11	4	Head	111	107	101	94	88	80	637	340	977	240	190
VS8−12	4		119	116	110	103	96	87	667	340	1007	240	190
VS8−13	5.5	(m)	130	125	119	111	103	94	717	390	1107	275	210
VS8−14	5.5		140	135	129	121	113	103	747	390	1137	275	210
VS8−15	5.5		150	145	138	129	120	110	677	390	1067	275	210
VS8−16	5.5		160	155	147	138	129	117	807	390	1197	275	210
VS8−17	7.5		170	164	156	147	137	127	837	390	1227	275	210
VS8−18	7.5		181	174	166	157	147	136	867	390	1257	275	210
VS8−19	7.5		191	184	175	165	155	143	897	390	1287	275	210
VS8−20	7.5		201	194	185	175	162	147	927	390	1317	275	210

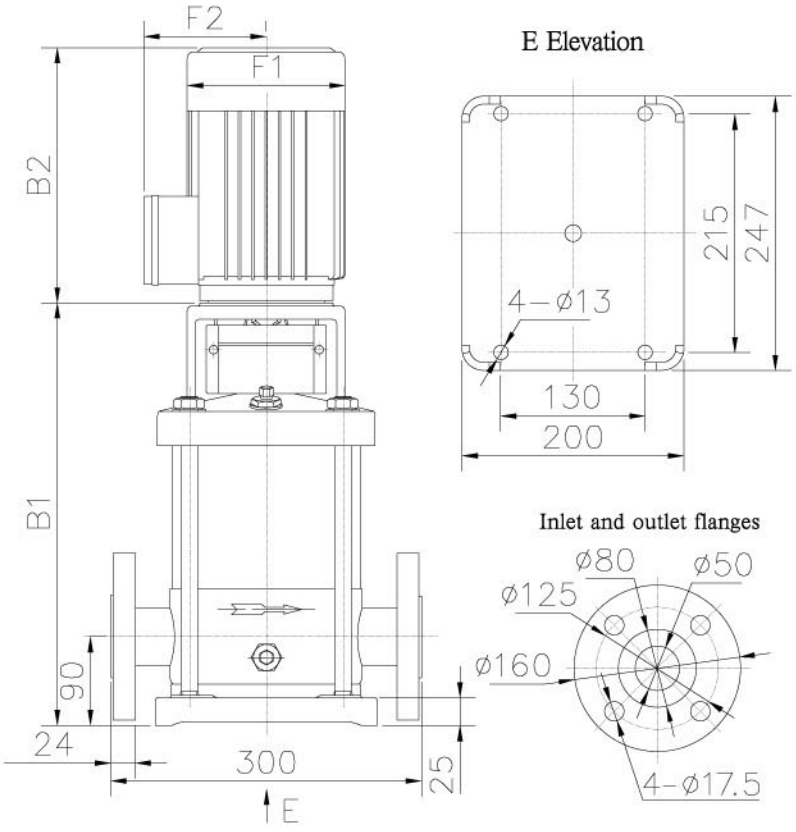

VS8
50Hz
GB/T3216-2005
Appendix C
H[m]
-20
-19
-18
-17
-16
-15
-14
-13
-12
-11
-10
-9
-8
-7
-6
-5
-4
-3
-2
Q[m³/h]
Q[l/s]


P2[kW]
Eta[%]
Eta
P2
Q[m³/h]


H[m]
NPSH[m]
QH2900 r/min
NPSH
Q[m³/h]

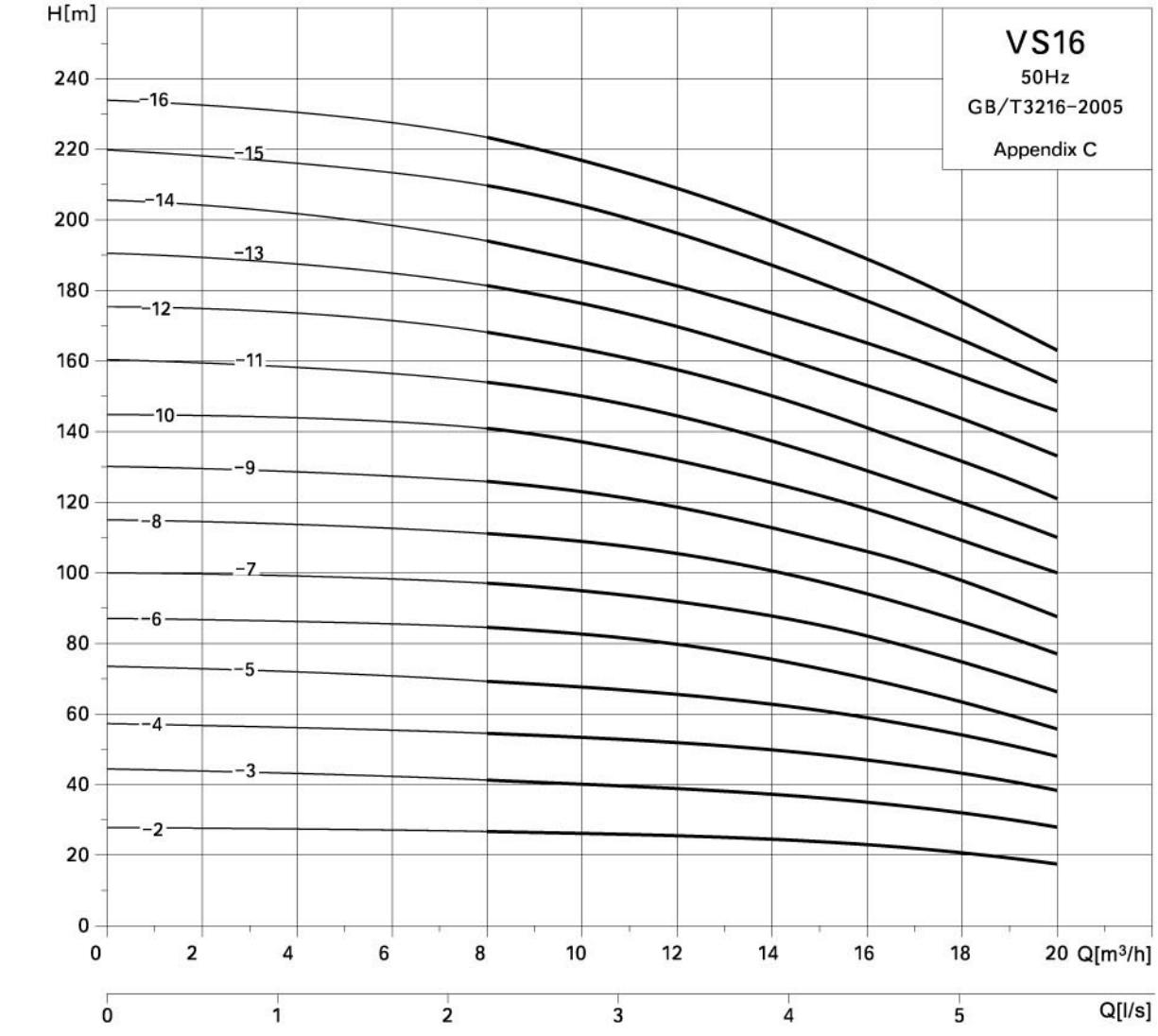
VS16

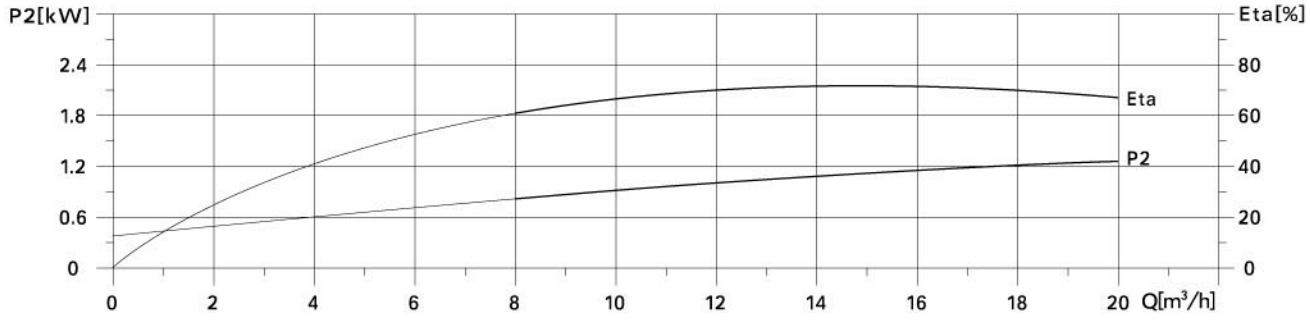
● Installation sketch

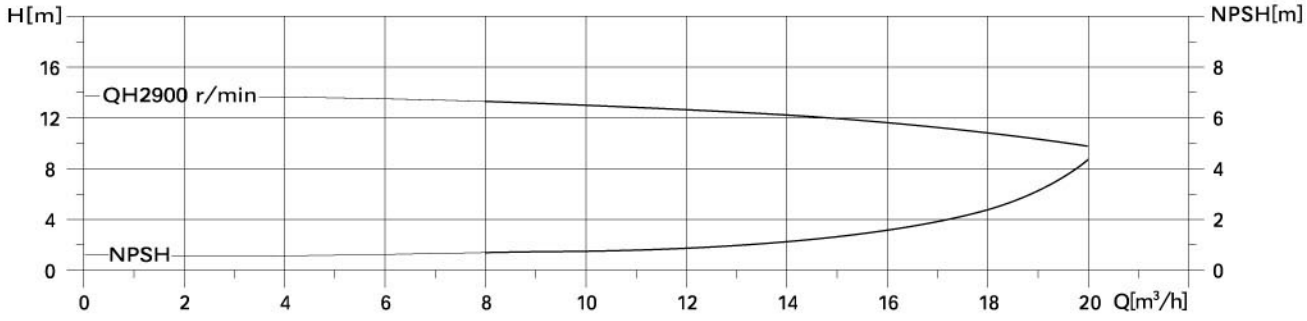


● Performance parameter (for reference only) and size table

Pump Model	Motor power (kW)	Flow rate (m^3/h)	8	10	12	14	16	18	20	Size (mm)				
										B1	B2	B1+B2	F1	F2
VS16–2	2.2	Head (m)	26	26	25	24	23	20	17	405	285	690	195	155
VS16–3	3		41	40	38	37	35	32	28	455	325	780	215	180
VS16–4	4		54	53	52	50	47	43	38	500	340	840	240	190
VS16–5	5.5		69	68	65	62	59	54	47	625	390	1015	275	210
VS16–6	5.5		85	83	80	75	70	64	56	670	390	1060	275	210
VS16–7	7.5		97	95	92	87	82	75	66	715	390	1105	275	210
VS16–8	7.5		111	109	105	100	94	86	77	760	390	1150	275	210
VS16–9	11		126	123	119	113	106	98	87	865	500	1465	315	250
VS16–10	11		141	137	132	125	118	110	100	910	500	1510	315	250
VS16–11	11		154	150	144	137	129	120	110	955	500	1555	315	250
VS16–12	11		168	164	158	150	141	132	121	1000	500	1600	315	250
VS16–13	15		182	177	170	162	153	144	133	1045	500	1645	315	250
VS16–14	15		195	188	182	173	165	155	146	1090	500	1690	315	250
VS16–15	15		210	204	196	187	177	166	154	1135	500	1735	315	250
VS16–16	15		224	217	209	199	189	177	164	1180	500	1780	315	250

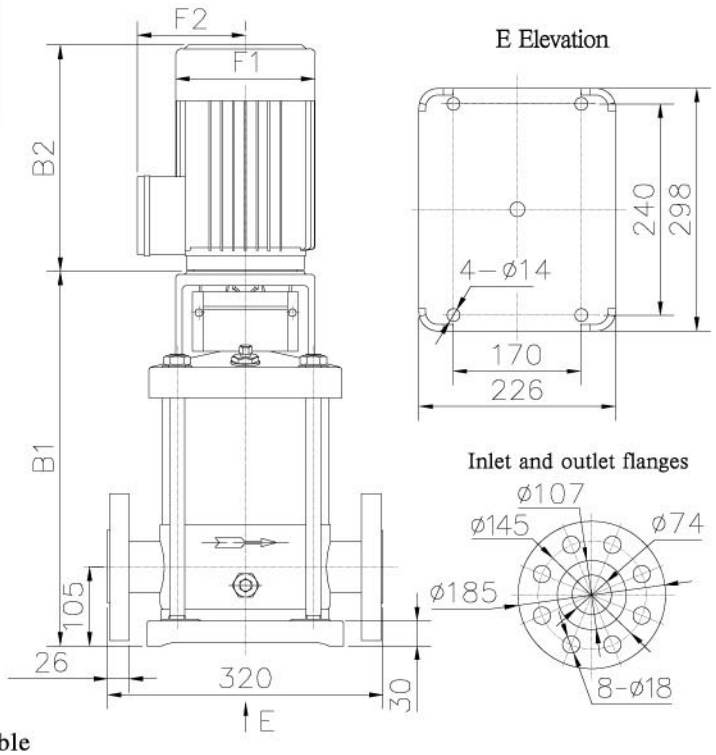

VS16
50Hz
GB/T3216-2005
Appendix C
H[m]
-16
-15
-14
-13
-12
-11
-10
-9
-8
-7
-6
-5
-4
-3
-2
Q[m³/h]
Q[l/s]


P2[kW]
Eta[%]
Eta
P2
Q[m³/h]


H[m]
NPSH[m]
QH2900 r/min
NPSH
Q[m³/h]

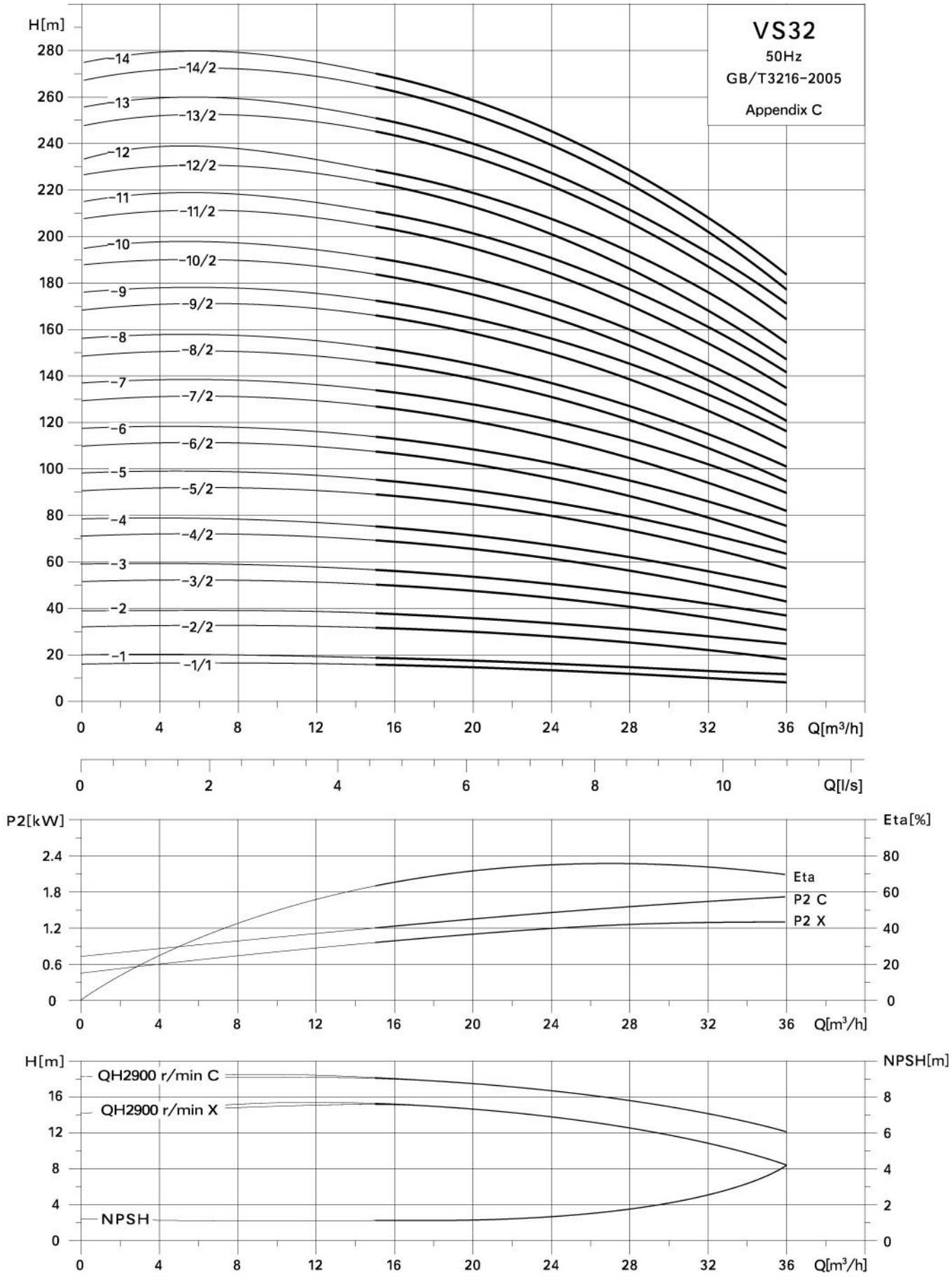
VS32

● Installation sketch



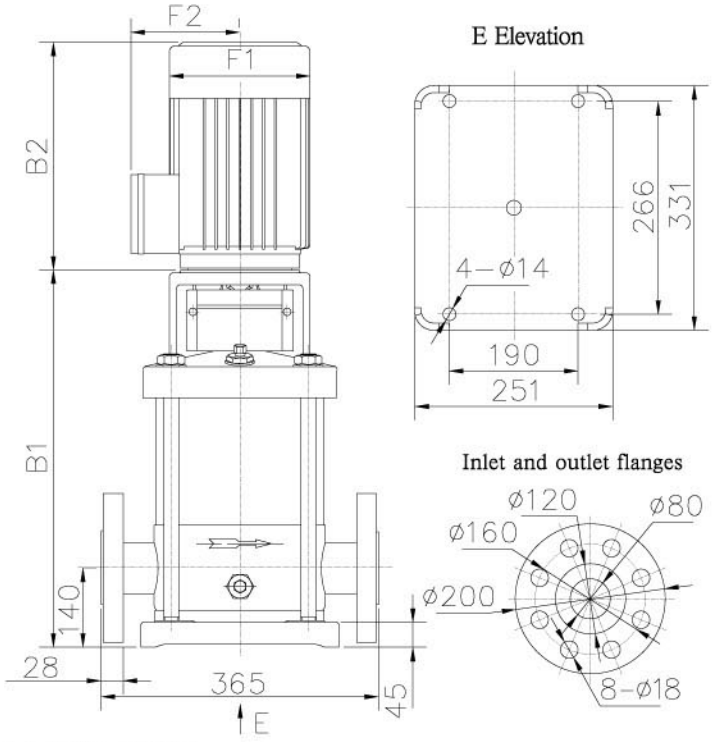
● Performance parameter (for reference only) and size table

Pump Model	Motor power (kW)	Flow rate (m^3/h)	15	16	20	24	28	32	36	Size (mm)				
										B1	B2	B1+B2	F1	F2
VS32–1/1	1.5		16	16	14	13	12	10	8	505	285	790	195	155
VS32–1	2.2		19	18	17	16	14	13	12	505	285	790	195	155
VS32–2/2	3		32	31	30	28	25	22	18	575	325	900	215	180
VS32–2	4		38	37	36	34	31	28	24	575	340	915	240	190
VS32–3/2	5.5		51	50	47	45	41	36	30	645	390	1035	275	210
VS32–3	5.5		57	56	53	50	46	42	36	645	390	1035	275	210
VS32–4/2	7.5		69	68	66	61	56	50	43	715	390	1105	275	210
VS32–4	7.5		76	75	71	67	62	56	49	715	390	1105	275	210
VS32–5/2	11		89	88	85	80	74	66	57	895	490	1385	315	250
VS32–5	11		95	94	91	85	79	72	63	895	490	1385	315	250
VS32–6/2	11		108	107	102	96	88	79	69	965	490	1455	315	250
VS32–6	11		114	113	109	102	95	86	76	965	490	1455	315	250
VS32–7/2	15		127	126	121	114	105	94	82	1035	490	1525	315	250
VS32–7	15	Head	134	133	128	121	112	102	90	1035	490	1525	315	250
VS32–8/2	15		146	145	139	131	121	109	94	1105	490	1595	315	250
VS32–8	15	(m)	152	151	145	137	127	115	101	1105	490	1595	315	250
VS32–9/2	18.5		166	165	158	150	139	125	109	1175	530	1705	315	250
VS32–9	18.5		173	171	165	157	145	132	117	1175	530	1705	315	250
VS32–10/2	18.5		184	182	175	166	153	138	121	1245	530	1775	315	250
VS32–10	18.5		191	190	182	173	160	145	128	1245	530	1775	315	250
VS32–11/2	22		205	203	196	184	171	154	135	1315	580	1895	360	275
VS32–11	22		211	209	202	191	178	161	142	1315	580	1895	360	275
VS32–12/2	22		223	222	214	201	186	168	147	1385	580	1965	360	275
VS32–12	22		229	227	220	208	194	176	155	1385	580	1965	360	275
VS32–13/2	30		246	244	235	223	207	187	165	1455	650	2105	400	305
VS32–13	30		251	249	240	228	212	193	172	1455	650	2105	400	305
VS32–14/2	30		265	263	254	239	223	202	178	1525	650	2175	400	305
VS32–14	30		271	269	259	246	229	208	184	1525	650	2175	400	305


VS32
50Hz
GB/T3216-2005
Appendix C
H[m]
Q[m³/h]
Q[l/s]
P2[kW]
Eta[%]
Eta
P2 C
P2 X
H[m]
NPSH[m]
QH2900 r/min C
QH2900 r/min X
NPSH
Q[m³/h]

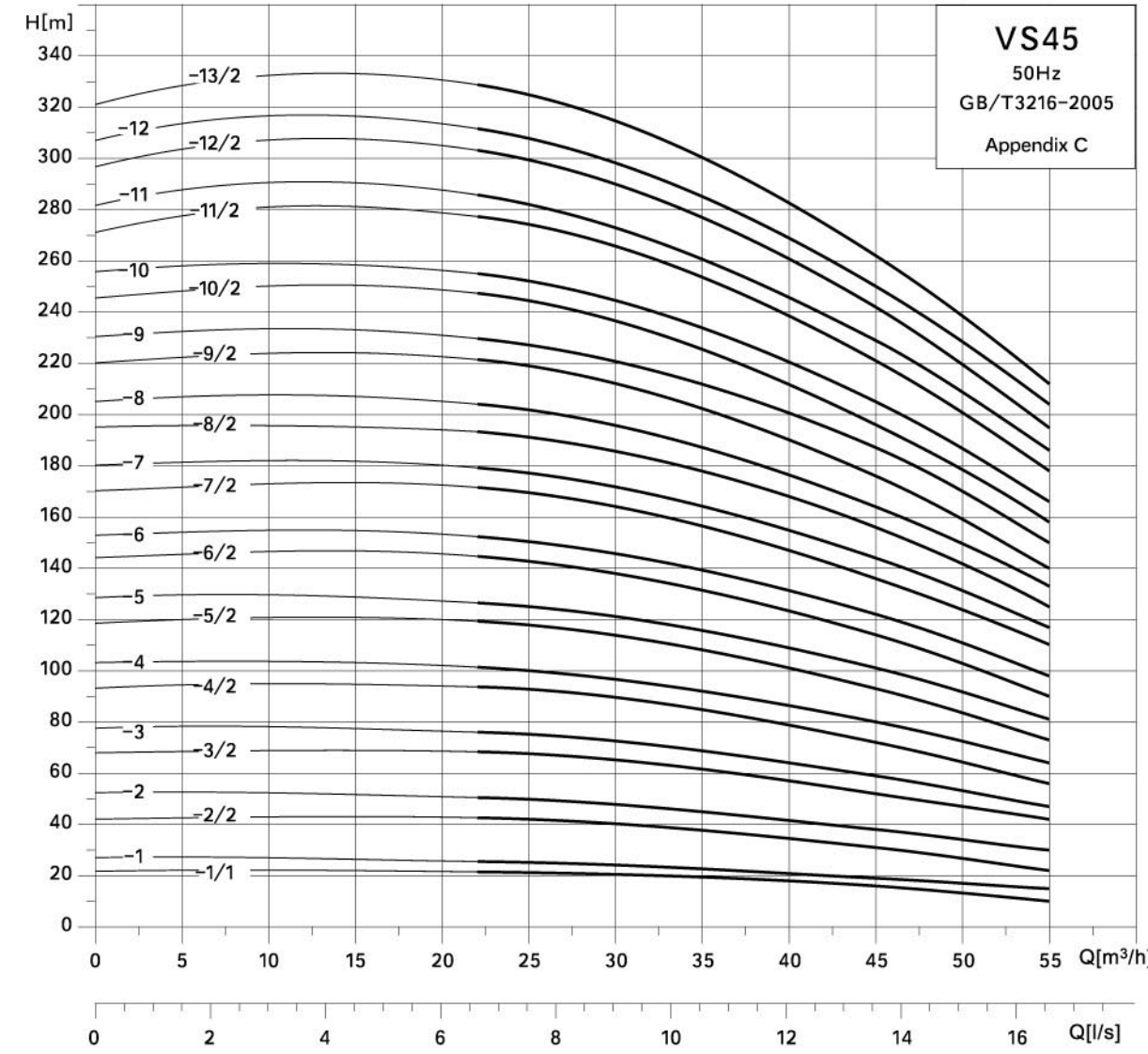
VS45

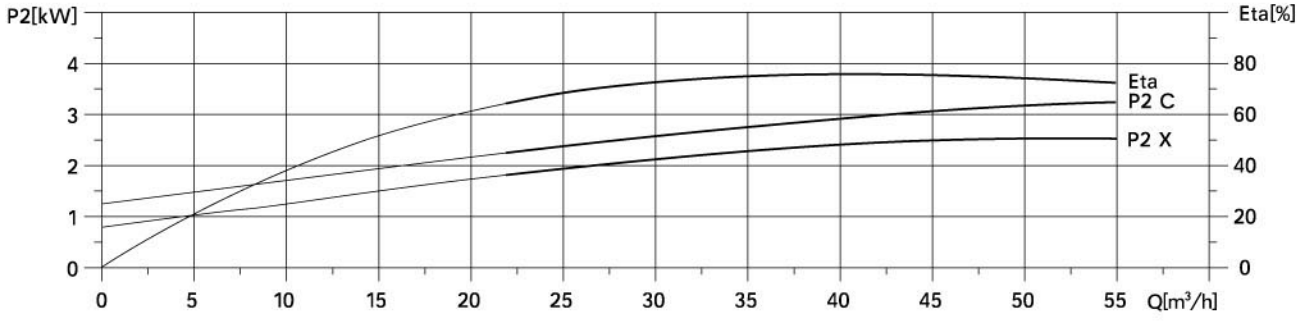
● Installation sketch

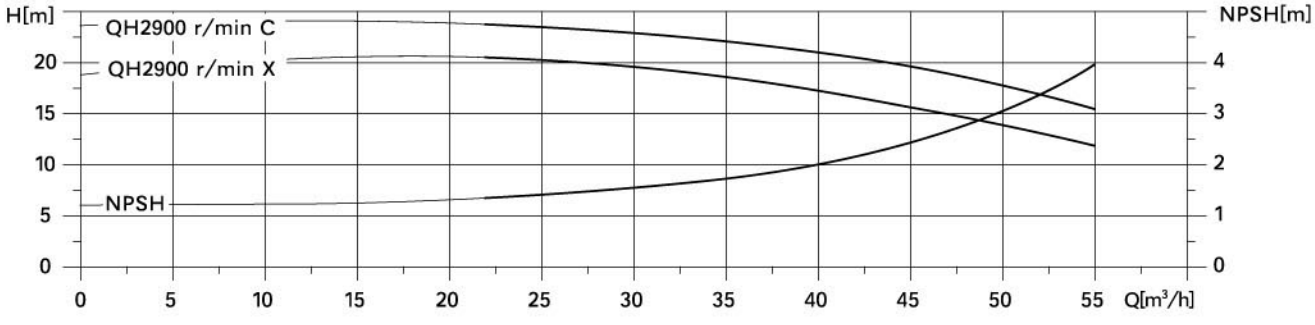


● Performance parameter (for reference only) and size table

Pump Model	Motor power (kW)	Flow rate (m^3/h)	22	25	30	35	40	45	50	55	Size (mm)				
											B1	B2	B1+B2	F1	F2
VS45–1/1	3		22	21	20	18	17	16	13	10	558	325	883	215	180
VS45–1	4		26	25	24	22	21	19	17	15	558	340	898	240	190
VS45–2/2	5.5		42	41	40	37	35	31	27	22	638	390	1028	275	210
VS45–2	7.5		51	50	48	44	41	38	34	30	638	390	1028	275	210
VS45–3/2	11		68	67	65	61	56	52	47	40	828	490	1318	315	250
VS45–3	11		76	75	73	68	64	59	53	47	828	490	1318	315	250
VS45–4/2	15		93	92	90	85	79	72	64	56	908	490	1398	315	250
VS45–4	15		101	100	97	92	87	80	73	64	908	490	1398	315	250
VS45–5/2	18.5		119	118	114	108	101	93	83	73	988	530	1518	315	250
VS45–5	18.5		127	126	121	116	110	101	92	81	988	530	1518	315	250
VS45–6/2	22		144	143	138	131	124	114	103	90	1068	580	1648	360	275
VS45–6	22	Head	152	151	146	140	132	122	112	98	1068	580	1648	360	275
VS45–7/2	30		171	169	165	156	147	136	124	111	1148	650	1798	400	305
VS45–7	30	(m)	179	178	172	164	155	144	132	117	1148	650	1798	400	305
VS45–8/2	30		193	191	185	178	168	156	142	125	1228	650	1878	400	305
VS45–8	30		204	202	196	188	177	164	150	133	1228	650	1878	400	305
VS45–9/2	30		221	219	213	203	190	176	159	140	1308	650	1958	400	305
VS45–9	37		230	228	221	211	200	187	170	150	1308	650	1958	400	305
VS45–10/2	37		247	245	236	226	213	196	178	158	1388	650	2038	400	305
VS45–10	37		255	253	245	234	220	205	187	166	1388	650	2038	400	305
VS45–11/2	45		278	274	266	254	239	221	201	178	1468	695	2163	450	325
VS45–11	45		286	283	273	260	246	229	209	186	1468	695	2163	450	325
VS45–12/2	45		304	300	291	278	261	242	220	195	1556	695	2251	450	325
VS45–12	45		312	308	298	285	270	250	228	204	1556	695	2251	450	325
VS45–13/2	45		330	325	316	300	283	262	239	212	1636	695	2331	450	325

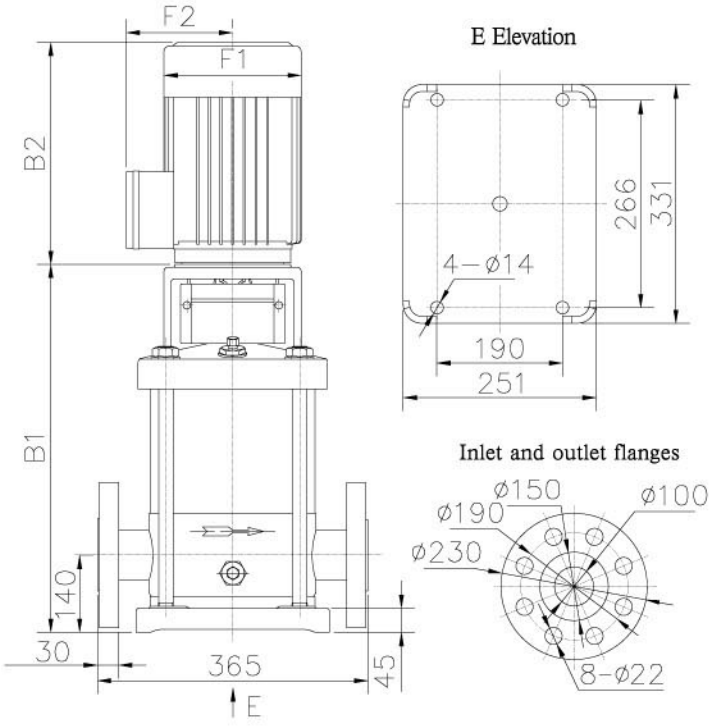

VS45
50Hz
GB/T3216-2005
Appendix C
H[m]
-13/2
-12
-12/2
-11
-11/2
-10
-10/2
-9
-9/2
-8
-8/2
-7
-7/2
-6
-6/2
-5
-5/2
-4
-4/2
-3
-3/2
-2
-2/2
-1
-1/1
Q[m³/h]
Q[l/s]


P2[kW]
Eta[%]
Eta
P2 C
P2 X
Q[m³/h]


H[m]
NPSH[m]
QH2900 r/min C
QH2900 r/min X
NPSH
Q[m³/h]

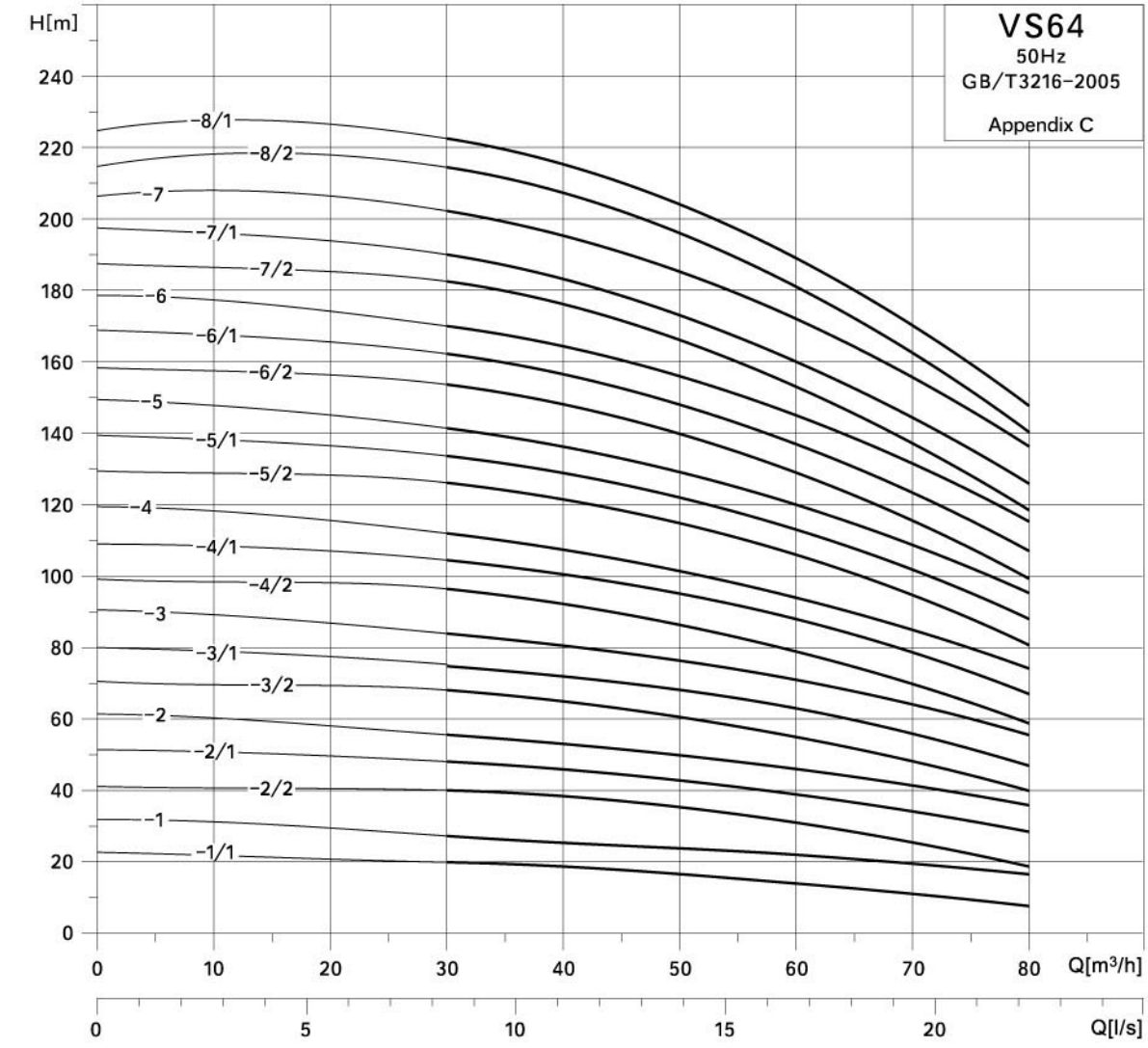
VS6 4

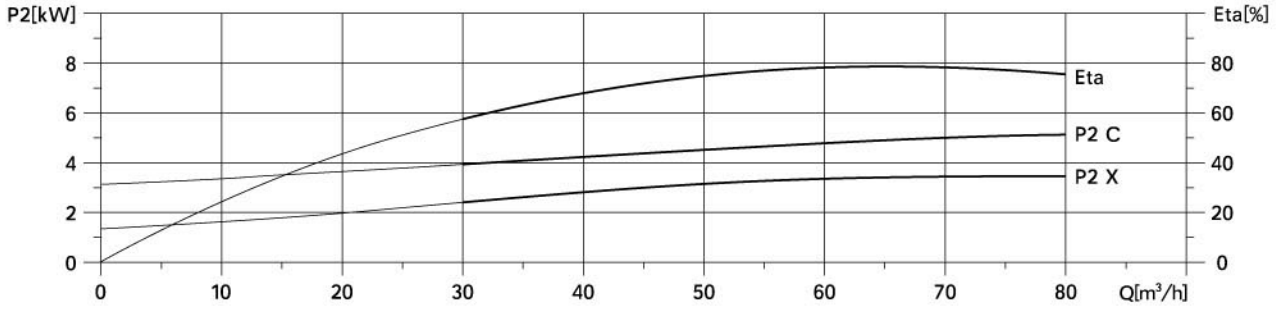
● Installation sketch

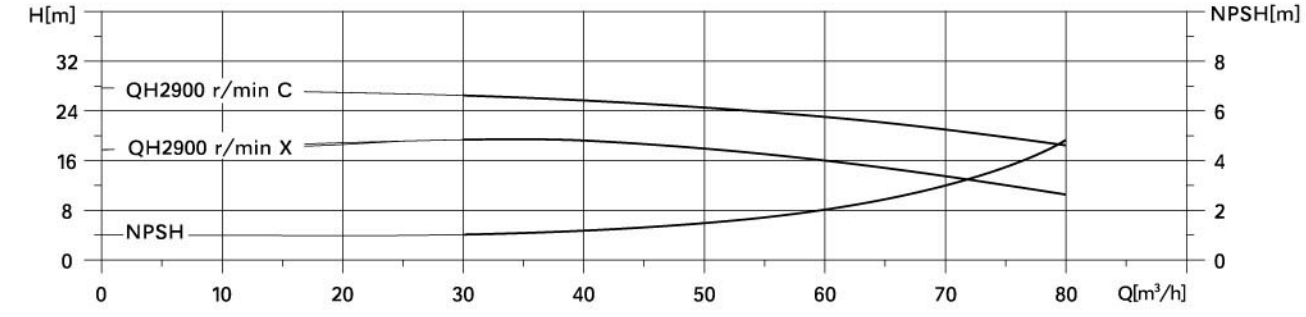


● Performance parameter (for reference only) and size table

Pump Model	Motor power (kW)	Flow rate (m^3/h)	30	40	50	60	70	80	Size (mm)				
									B1	B2	B1+B2	F1	F2
VS64−1/1	4		20	19	16	14	12	8	561	340	901	240	190
VS64−1	5.5		27	25	24	22	19	16	561	390	951	275	210
VS64−2/2	7.5		40	38	36	31	26	18	754	390	1144	275	210
VS64−2/1	11		48	46	43	39	34	28	754	490	1244	315	250
VS64−2	11		55	53	49	46	42	36	754	490	1244	315	250
VS64−3/2	15		68	65	61	55	48	40	836	490	1326	315	250
VS64−3/1	15		75	72	68	63	56	47	836	490	1326	315	250
VS64−3	18.5		84	81	76	71	63	56	836	530	1366	315	250
VS64−4/2	18.5		96	92	86	79	71	59	919	530	1449	315	250
VS64−4/1	22		104	100	95	88	78	67	919	580	1499	360	275
VS64−4	22	Head	112	107	102	94	85	75	919	580	1499	360	275
VS64−5/2	30		126	122	115	106	94	81	1001	650	1651	400	305
VS64−5/1	30	(m)	134	129	122	113	102	88	1001	650	1651	400	305
VS64−5	30		141	136	129	120	108	96	1001	650	1651	400	305
VS64−6/2	30		154	148	140	129	116	99	1084	650	1734	400	305
VS64−6/1	37		163	156	148	137	123	107	1084	650	1734	400	305
VS64−6	37		170	164	155	145	131	115	1084	650	1734	400	305
VS64−7/2	37		182	176	166	153	137	118	1166	650	1816	400	305
VS64−7/1	37		190	184	173	160	144	126	1166	650	1816	400	305
VS64−7	45		202	195	185	172	155	136	1166	695	1861	450	325
VS64−8/2	45		214	207	196	181	162	140	1248	695	1943	450	325
VS64−8/1	45		223	215	203	189	170	147	1248	695	1943	450	325

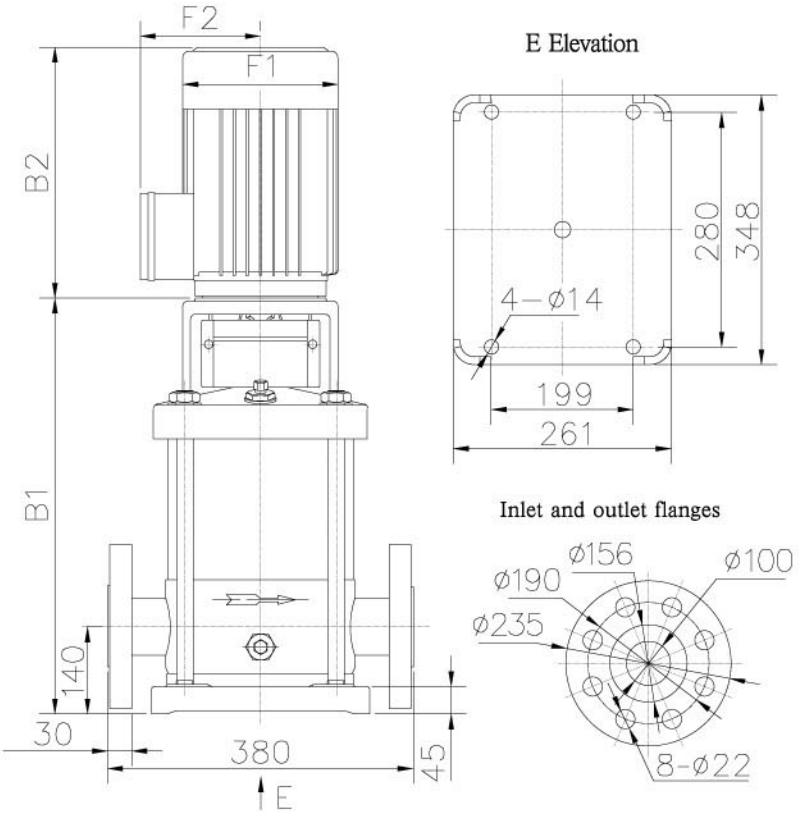

VS64
50Hz
GB/T3216-2005
Appendix C
H[m]
-8/1
-8/2
-7
-7/1
-7/2
-6
-6/1
-6/2
-5
-5/1
-5/2
-4
-4/1
-4/2
-3
-3/1
-3/2
-2
-2/1
-2/2
-1
-1/1
Q[m³/h]
Q[l/s]


P2[kW]
Eta[%]
Eta
P2 C
P2 X
Q[m³/h]


H[m]
NPSH[m]
QH2900 r/min C
QH2900 r/min X
NPSH
Q[m³/h]

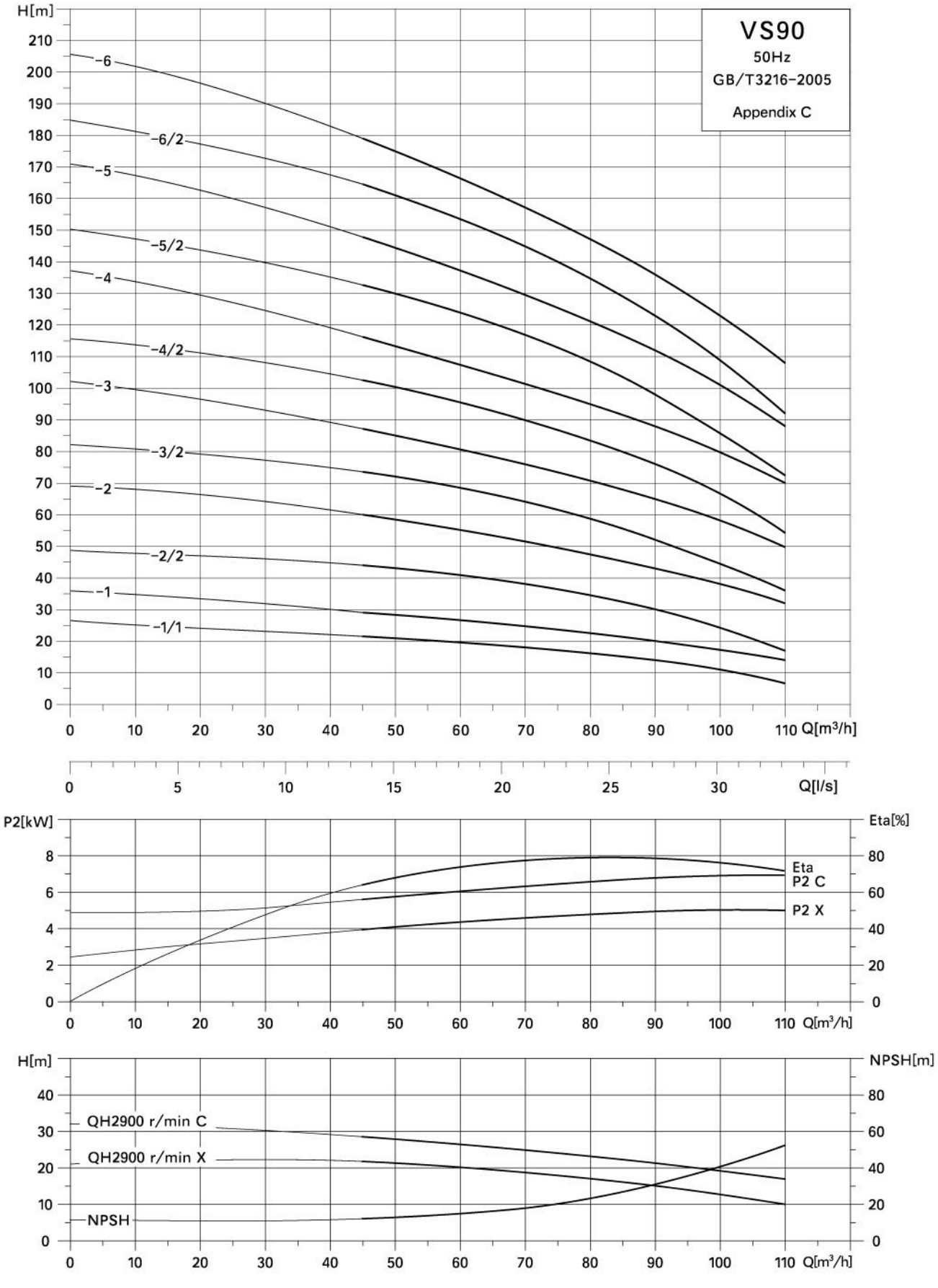
VS90

● Installation sketch



● Performance parameter (for reference only) and size table

Pump Model	Motor power (kW)	Flow rate (m^3/h)	45	50	60	70	80	90	100	110	Size (mm)				
											B1	B2	B1+B2	F1	F2
VS90−1/1	5.5	Head (m)	22	21	20	18	16	14	11	7	571	390	961	275	210
VS90−1	7.5		29	29	27	24	22	20	18	14	571	390	961	275	210
VS90−2/2	11		44	43	41	38	35	30	24	17	773	490	1263	315	250
VS90−2	15		58	56	55	51	47	43	38	32	773	490	1263	315	250
VS90−3/2	18.5		73	72	68	64	58	52	44	35	865	530	1395	315	250
VS90−3	22		87	85	81	76	71	65	58	51	865	580	1445	360	275
VS90−4/2	30		102	100	96	90	84	76	66	55	957	650	1607	400	305
VS90−4	30		116	113	108	101	95	88	80	70	957	650	1607	400	305
VS90−5/2	37		132	130	124	117	109	98	86	73	1049	650	1699	400	305
VS90−5	37		148	144	137	129	121	112	100	88	1049	650	1699	400	305
VS90−6/2	45		165	161	154	145	135	123	109	92	1141	695	1836	450	325
VS90−6	45		179	175	166	157	147	136	123	107	1141	695	1836	450	325


VS90
50Hz
GB/T3216-2005
Appendix C
H[m]
-6
-6/2
-5
-5/2
-4
-4/2
-3
-3/2
-2
-2/2
-1
-1/1
Q[m³/h]
Q[l/s]
P2[kW]
Eta[%]
Eta
P2 C
P2 X
H[m]
NPSH[m]
QH2900 r/min C
QH2900 r/min X
NPSH

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