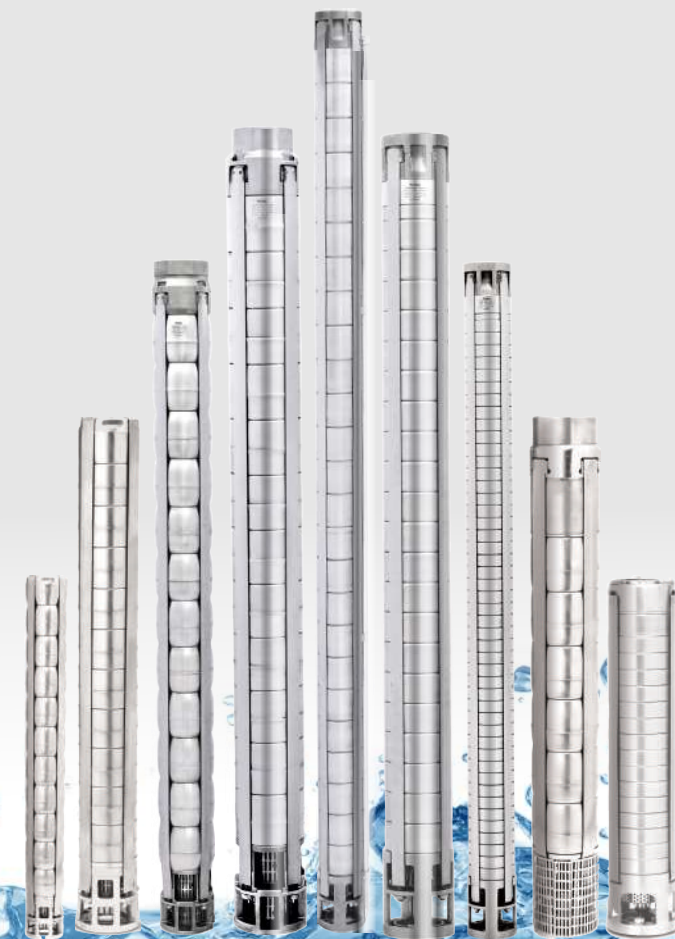


STAINLESS STEEL SUBMERSIBLE PUMPS

60HZ CATALOGUE

AN ISO 9001:2015 COMPANY,  



SINCE 1935

VARUNA
ELECTRIC

La Gajjar Machineries Pvt. Ltd.

La-gajjar Machineries Pvt. Ltd., | Acidwala Estste, nagarwel Hanuman Road, Amraiwadi, Ahmedabad-380 026 (Gujarat), India
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SINCE 1935

VARUNA
ELECTRIC



FOR OVER 85 YEARS, WE HAVE TAKEN WATER TO FARMS, HOMES AND FACTORIES ACROSS INDIA AND THE WORLD.

AN 85-YEAR LEGACY

What started with the production of a one-of-its-kind hand blower in 1935 by Shri Laljibhai Gajjar has today grown into one of India's most respectable pumps brand with an international presence with a manufacturing prowess and distribution networks across the world. As the creator of India's first oil-based submersible pumps in 1991 to introducing Stainless Steel Pumps in 2009 to integrated Solar Pumps in this decade, we continue to deliver well-engineered pumps that bring water where it is needed.

Strategic partnership with KOELsince 2017, one of the most admired Indian MNC.

OUR VISION

To be the preferred water solutions Company for the domestic and agricultural sector across the world by virtue of its vision, techno-pioneering spirit, reliable technology and a growth-focused, customer-centric approach.

OUR MISSION

To work relentlessly towards the Company's vision. To reach out to customers across sectors and geographic domains. To build prosperous partnerships across the world. To set new standards in pumping solutions and to respond efficiently to the world's water and energy challenges.

OUR VALUES

La Gajjar Machineries is driven by the spirit of innovation that makes a difference. We genuinely believe that we are more than a manufacturing company. We are a brand that is adding value to water, the lifeline of the world. This drives us to create reliable, innovative and sustainable solutions for the world.



PROVIDING WATER SOLUTIONS ACROSS INDIA AND 55 COUNTRIES OF THE WORLD FROM OUR 1 LAKH SQ.M. INTEGRATED INFRASTRUCTURE

BEST-IN-CLASS MANUFACTURING INFRASTRUCTURE

La Gajjar Machineries has an integrated manufacturing infrastructure with in-built R&D department,testing and warehousing in Ahmedabad, Gujarat.

- Spread across over 1,00,000 square meters (14 football fields)
- Five major manufacturing plants with ancillary units
 - Stainless Steel Pump Unit - Domestic Pump Unit - Agriculture Pump Unit
 - CMB Plant -Rotor Unit - LGM [Depot]
- Equipped with modern manufacturing and testing facilities
- Computer Aided Design
- Powered by over 2000 professional manpower



SETTING STANDARDS IN RESEARCH, QUALITY AND ENERGY- AN UNMATCHED EFFICIENCY .

R&D AND STANDARDS BEYOND COMPROMISE

La Gajjar Machineries we have a stringent quality control process and R&D to ensure that every product we create ives u pto the highest expectation and ever y prescribed qualiti ynorm. The reco gnitions, certifications and awards at national and international forums bear an apt testimony to this fact.

			
World-class R&D Team	Government recognised Star rated Export House	Maximum Star Rated pumps approved by the Bureau of Energy Efficiency (BEE)	Winner of Global Quality Award

				
ISI certification	Product certified by ISO 9001, IS: 8034, IS: 9283, IS: 14220 & CE	CE Certification	RoHS Compliant	ISO 9001 accredited production facility

HARNESSING THE POWER OF SUN

Committed to contributing to energy efficiency, we have created Solar Pump for AC/DC Current. These Submersible Pumps are specially designed to work from solar panels without the need for electricity or batteries as they are driven by electronically commuted motors. The safety switches within the controller prevents them from drying. Solar Pumps are highly efficient and perform even in low-intensity sunlight.



HOLISTIC CONTRIBUTION TO THE NATION

	Core active member of Indian Pump Manufacturers Association (IPMA)		Major contributor to energy efficiency initiatives of the government - 13020 Submersibles supplied to EESL in just one year
	One of India's most reliable OEMs		

INDEX

SUBMERSIBLE PUMPS

	PAGE
■ 4" STAINLESS STEEL SUBMERSIBLE PUMP	1 - 16
■ 6" STAINLESS STEEL SUBMERSIBLE PUMP	17 - 39
■ 8" STAINLESS STEEL SUBMERSIBLE PUMP	40 - 44
■ 10" STAINLESS STEEL SUBMERSIBLE PUMP	45 - 50

STAINLESS STEEL SUBMERSIBLE PUMPS

60Hz

PRODUCT ADVANTAGES AND SPECIFICATION

The specific feature of SS Submersible Pump is its high ratio of working pressure to delivery. Due to efficient design, these pumps have reduced stages resulting in longer pump life and trouble free operations.

SPECIFICATIONS & ADVANTAGES:

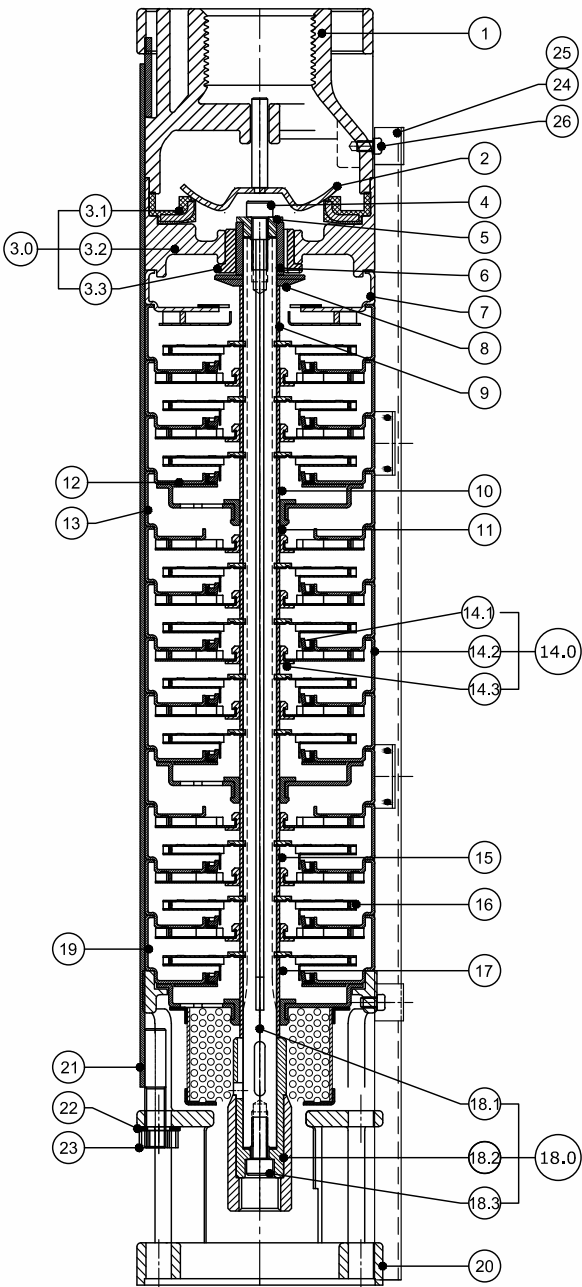
- Suction, Stage Casing and Discharge Outlets are made of Stainless Steel.
- Impellers are made of Stainless Steel.
- Pump shaft is made of SS 431.
- Bearing Bush for shaft is made of anti friction Rubber to provide wear resistance against sand.
- Non Return Valve is made of Stainless Steel.
- Cable Guard and Strainer are made of Stainless Steel.
- Pump and Motor couplings are according to NEMA Standard.
- Minimum Water on aspiration is one meter.
- Maximum level of sand content: 50 gm/m³
- Application : These pumps are for domestic, agriculture & industrial usage.
- Operating Range - 4" - Head range : 12 mtr to 500 mtr
 Flow rate : 7 lpm to 200 lpm
 Immersion : 1 mtr minimum
- 6" - Head range : 7 mtr to 670 mtr
 Flow rate : 60 lpm to 1500 lpm
 Immersion : 1 mtr minimum
- 8" - Head range : 10 mtr to 375 mtr
 Flow rate : 335 lpm to 2417 lpm
 Immersion : 1 mtr minimum
- 10" - Head range : 8 mtr to 549 mtr
 Flow rate : 333 lpm to 3251 lpm
 Immersion : 1 mtr minimum

*Performance tolerance can be +/- 7%

4VP 3 SERIES PUMP DESIGN

Material Specification

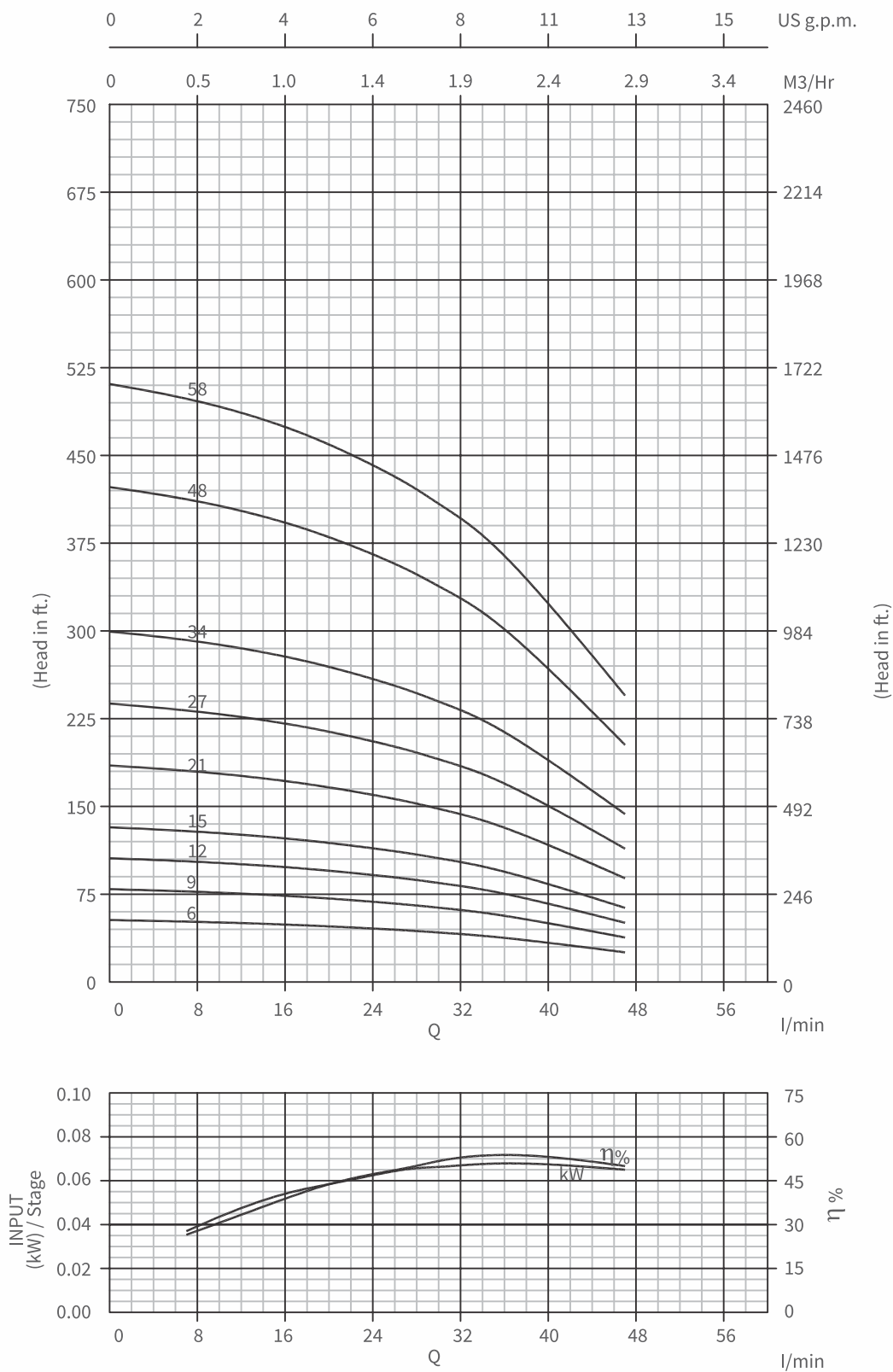
No.	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE CONE	S.S. 304
3.0	TOP BEARING + VALVE SEAT + GM BUSH	SUB ASSLY
3.1	VALVE SEAT	N.B.R. + S.S. 304
3.2	TOP BEARING HOUSING	STEEL CAST 304
3.3	TOP BEARING BUSH	GUN METAL
4	ALLEN BOLT M6X20	S.S. 304
5	TOP BUSH T-TYPE	S.S. 304
6	TOP DIFFUSER SLEEVE	S.S. 304
7	TOP DIFFUSER	S.S. 304
8	THRUST WASHER	S.S. 420
9	TOP SLEEVE	S.S. 304
10	MIDDLE BEARING SLEEVE_L-24	S.S. 304
11	MIDDLE BEARING SLEEVE_L-16	S.S. 304
12	MIDDLE BEARING ASSLY WITH BUSH	SUB ASSLY
13	DIFFUSER WITH BUSH	SUB ASSLY
14.0	DIFFUSER WITH BUSH & NECKRING ASSLY	SUB ASSLY
14.1	NECKRING	N.B.R. + S.S. 304
14.2	BEARING BUSH	N.B.R.
15	IMPELLER STAGE SLEEVE_L-19	S.S. 304
16	IMPELLER	S.S. 304
17	IMPELLER 1st STAGE SLEEVE_L-30.5	S.S. 304
18.0	SHAFTING WITH COUPLING	SUB ASSLY
18.1	PUMP SHAFT	S.S. 1.4362
18.2	COUPLING	S.S. 304
18.3	ALLEN BOLT M6 x 20	S.S. 304
19	1St DIFFUSER_21 MM	S.S. 304
20	SUCTION	STEEL CAST 304
21	CLAMPING STRIP	S.S. 304
22	WASHER	S.S. 304
23	HEX NUT M8	S.S. 316
24	CABLE GUARD	S.S. 304
25	CLAMP OF CABLE GUARD	S.S. 304
26	SCREW_M4	S.S. 304



NOTE :
 PUMPS UP TO 33 STAGE DISCHARGE CHAMBER COMES WITH S.S. FABRICATED AND FROM 34 STAGE & ONWARDS WITH STEEL CAST .

4VP 3, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES

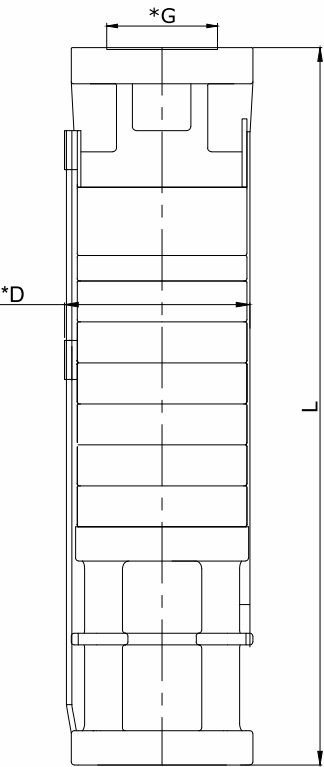


4VP 3, 60Hz
ISO 9906 Annexure A

PERFORMANCE CHART

MODEL NAME		STAGE	RATING		l/min m ³ /h	DISCHARGE									
SINGLE PHASE	THREE PHASE		kW	HP		0	7	14	20	27	30	34	40	47	
							0	0.42	0.84	1.20	1.62	1.80	2.04	2.40	2.82
4VP 3-06	4VP 3-06	06	0.37	0.50	HEAD IN Mtrs.	53	52	50	48	44	42	40	34	25	
4VP 3-09	4VP 3-09	09	0.37	0.50		79	78	75	71	66	63	60	50	38	
4VP 3-12	4VP 3-12	12	0.55	0.75		106	103	100	95	89	84	80	67	51	
4VP 3-15	4VP 3-15	15	0.75	1.00		132	129	125	119	111	106	100	84	63	
4VP 3-21	4VP 3-21	21	1.10	1.50		185	181	175	167	155	148	139	118	89	
4VP 3-27	4VP 3-27	27	1.50	2.00		238	233	224	214	199	190	179	151	114	
4VP 3-34	4VP 3-34	34	2.20	3.00		300	293	283	270	251	239	226	191	143	
4VP 3-48	4VP 3-48	48	4.00	5.50		423	414	399	381	354	338	319	269	203	
4VP 3-58	4VP 3-58	58	4.00	5.50		511	500	482	461	428	408	385	325	245	

Dimensions & Weights



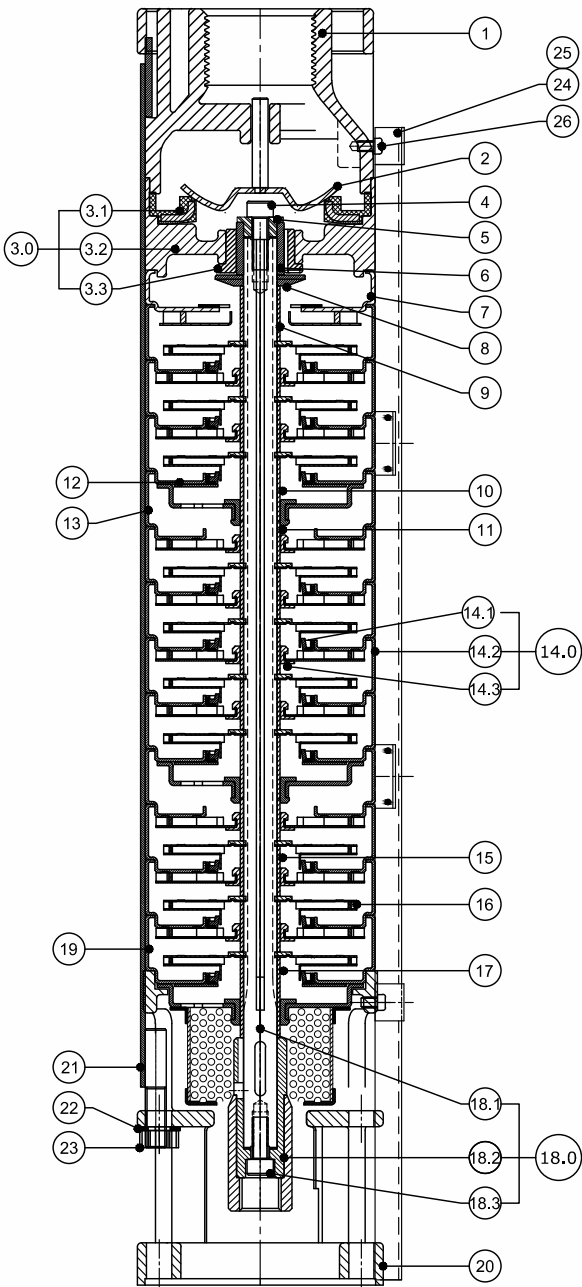
Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (incl.pkg.) Kg.
4VP 3 - 06	98	282	3.2	3.5
4VP 3 - 09	98	345	4.2	4.7
4VP 3 - 12	98	408	5.2	5.8
4VP 3 - 15	98	471	6.2	7.0
4VP 3 - 21	98	618	8.3	9.4
4VP 3 - 27	98	744	10.0	11.4
4VP 3 - 34	98	968	12.4	13.9
4VP 3 - 48	98	1283	14.6	16.8
4VP 3 - 58	98	1493	16.6	18.9

*G: Available Outlet Size 1.25" NPT
*D: With Cable Guard

4VP 4 SERIES PUMP DESIGN

Material Specification

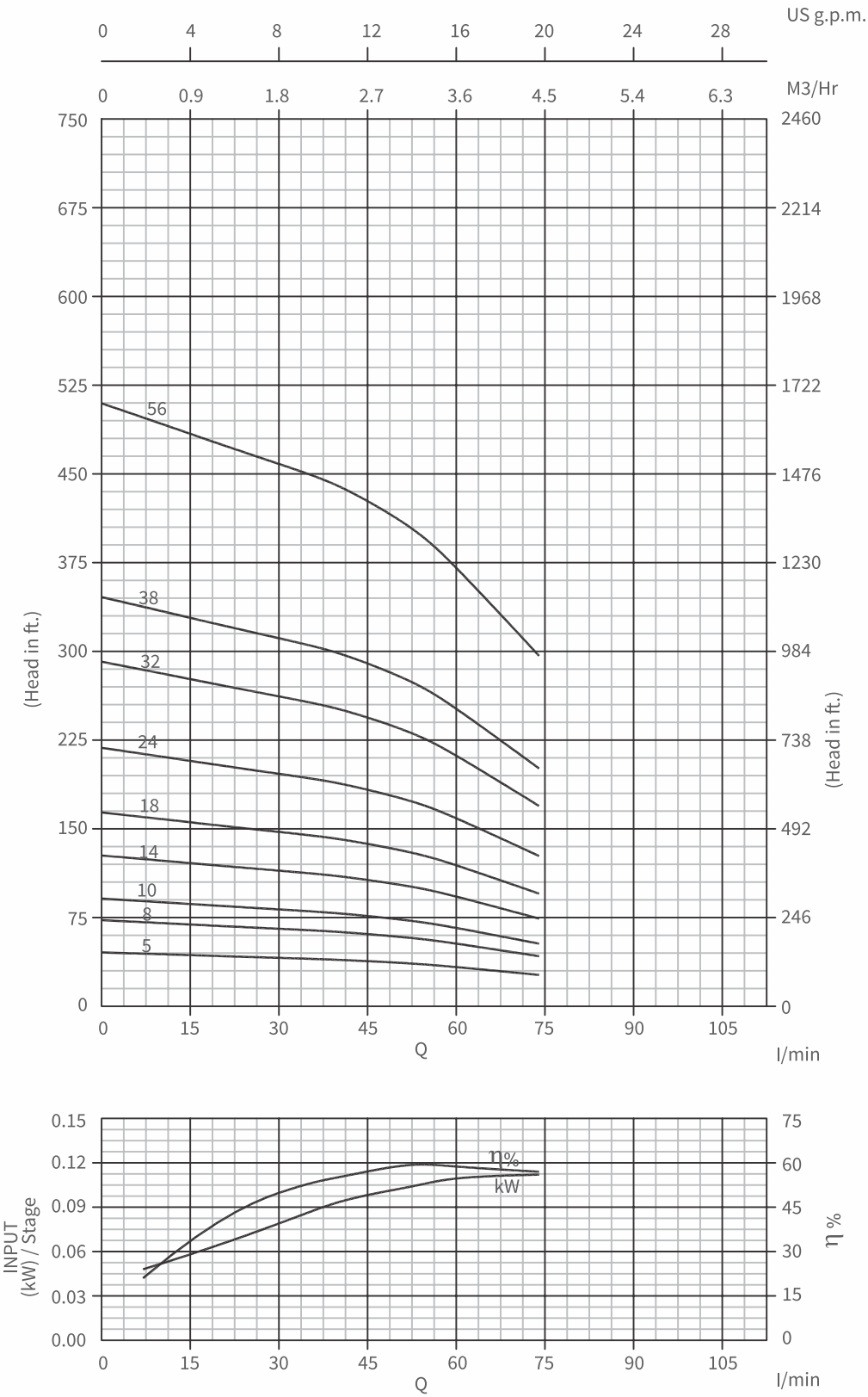
No.	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE CONE	S.S. 304
3.0	TOP BEARING + VALVE SEAT + GM BUSH	SUB ASSLY
3.1	VALVE SEAT	N.B.R. + S.S. 304
3.2	TOP BEARING HOUSING	STEEL CAST 304
3.3	TOP BEARING BUSH	GUN METAL
4	ALLEN BOLT M6X20	S.S. 304
5	TOP BUSH T-TYPE	S.S. 304
6	TOP DIFFUSER SLEEVE	S.S. 304
7	TOP DIFFUSER	S.S. 304
8	THRUST WASHER	S.S. 420
9	TOP SLEEVE	S.S. 304
10	MIDDLE BEARING SLEEVE_L-24	S.S. 304
11	MIDDLE BEARING SLEEVE_L-16	S.S. 304
12	MIDDLE BEARING ASSLY WITH BUSH	SUB ASSLY
13	DIFFUSER WITH BUSH	SUB ASSLY
14.0	DIFFUSER WITH BUSH & NECKRING ASSLY	SUB ASSLY
14.1	NECKRING	N.B.R. + S.S. 304
14.2	BEARING BUSH	N.B.R.
15	IMPELLER STAGE SLEEVE_L-19	S.S. 304
16	IMPELLER	S.S. 304
17	IMPELLER 1st STAGE SLEEVE_L-30.5	S.S. 304
18.0	SHAFTING WITH COUPLING	SUB ASSLY
18.1	PUMP SHAFT	S.S. 1.4362
18.2	COUPLING	S.S. 304
18.3	ALLEN BOLT M6 x 20	S.S. 304
19	1St DIFFUSER_21 MM	S.S. 304
20	SUCTION	STEEL CAST 304
21	CLAMPING STRIP	S.S. 304
22	WASHER	S.S. 304
23	HEX NUT M8	S.S. 316
24	CABLE GUARD	S.S. 304
25	CLAMP OF CABLE GUARD	S.S. 304
26	SCREW_M4	S.S. 304



NOTE :
PUMPS UP TO 33 STAGE DISCHARGE CHAMBER COMES WITH S.S. FABRICATED AND FROM 34 STAGE & ONWARDS WITH STEEL CAST .

4VP 4, 60Hz
ISO 9906 Annexure A

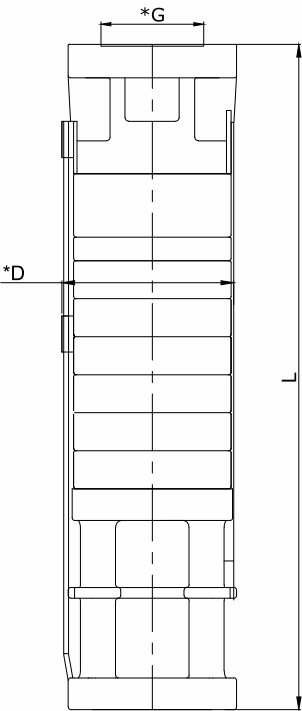
PERFORMANCE CURVES



PERFORMANCE CHART

MODEL NAME			RATING			DISCHARGE								
SINGLE PHASE	THREE PHASE	STAGE	kW	HP	l/min	0	7	20	34	40	47	54	60	67
					m³/h	0	0.42	1.20	2.04	2.40	2.82	3.24	3.60	4.02
4VP 4-05	4VP 4-05	05	0.37	0.50	HEAD IN Mtrs.	46	44	42	40	39	38	36	33	26
4VP 4-08	4VP 4-08	08	0.55	0.75		73	68	68	65	63	60	57	53	42
4VP 4-10	4VP 4-10	10	0.75	1.00		91	85	85	81	79	75	71	66	53
4VP 4-14	4VP 4-14	14	1.10	1.50		127	124	119	113	110	105	100	93	74
4VP 4-18	4VP 4-18	18	1.50	2.00		164	160	153	145	142	136	129	120	95
4VP 4-24	4VP 4-24	24	2.20	3.00		218	213	204	194	189	181	171	159	127
4VP 4-32	4VP 4-32	32	3.00	4.00		291	284	271	258	252	241	228	212	169
4VP 4-38	4VP 4-38	38	4.00	5.50		346	338	322	307	299	286	271	252	201
	4VP 4-56	56	5.50	7.50		510	498	475	452	441	422	400	372	296

Dimensions & Weights



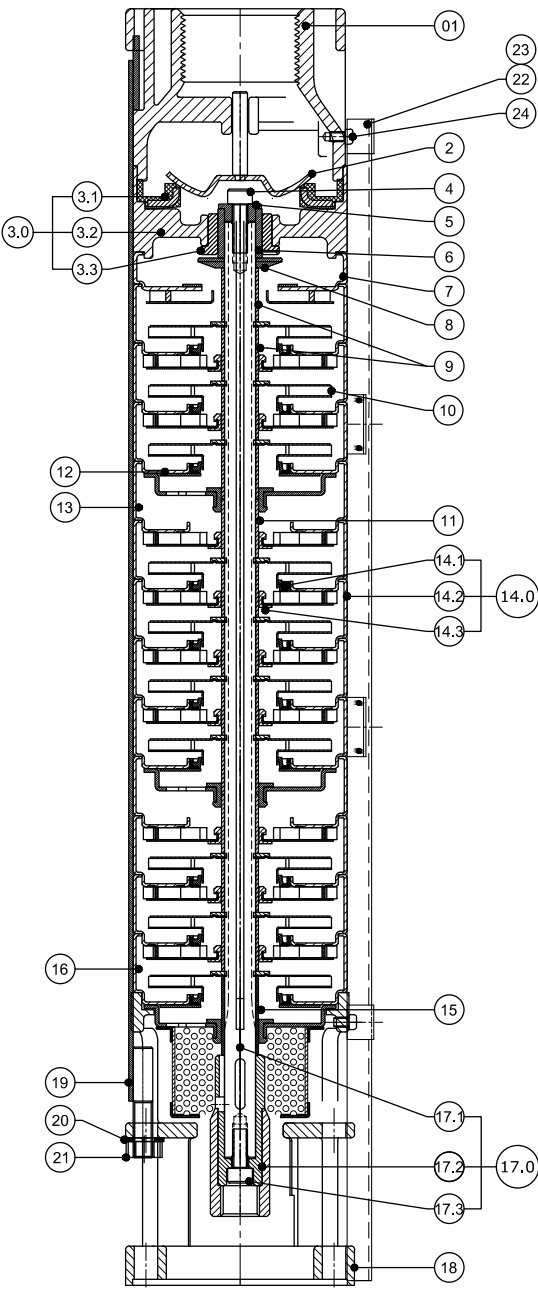
Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (incl. pkg.) Kg.
4VP 4 - 05	98	261	3.2	3.7
4VP 4 - 08	98	324	4.2	4.9
4VP 4 - 10	98	366	4.8	6.0
4VP 4 - 14	98	450	6.2	7.2
4VP 4 - 18	98	534	7.4	8.3
4VP 4 - 24	98	681	9.5	9.8
4VP 4 - 32	98	849	11.9	11.0
4VP 4 - 38	98	1052	12.5	12.4
4VP 4 - 56	98	1451	16.3	18.5
4VP 4 - 56	138	1468	18.4	20.7

*G: Available Outlet Size 1.25" NPT
*D: With Cable Guard
4VP 4 -56 pump available in 6" Joining

4VP 6 SERIES PUMP DESIGN

Material Specification

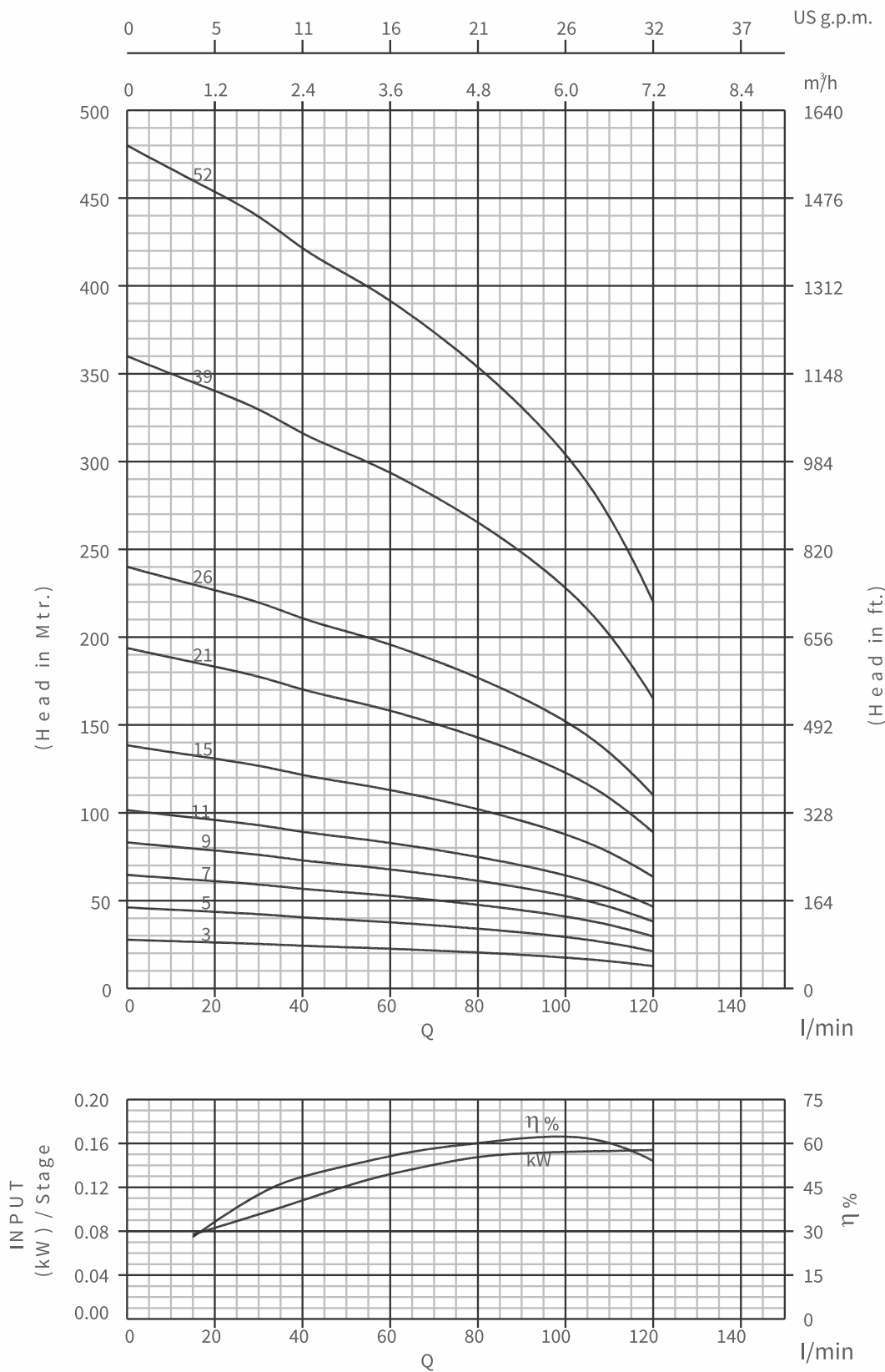
No.	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE CONE	S.S. 304
3.0	TOP BEARING + VALVE SEAT + GM BUSH	SUB ASSLY
3.1	VALVE SEAT	N.B.R. + S.S. 304
3.2	TOP BEARING HOUSING	STEEL CAST 304
3.3	TOP BEARING BUSH	GUN METAL
4	ALLEN BOLT M6X20	S.S. 304
5	TOP BUSH T-TYPE	S.S. 304
6	TOP DIFFUSER SLEEVE	S.S. 304
7	TOP DIFFUSER	S.S. 304
8	THRUST WASHER	S.S. 420
9	TOP & IMPELLER STAGE SLEEV_L-22	S.S. 304
10	IMPELLER	S.S. 304
11	MIDDLE BEARING SLEEVE_L-24	S.S. 304
12	MIDDLE BEARING ASSLY WITH BUSH	SUB ASSLY
13	DIFFUSER WITH BUSH	SUB ASSLY
14.0	DIFFUSER WITH BUSH & NECKRING ASSLY	SUB ASSLY
14.1	NECKRING	N.B.R. + S.S. 304
14.2	DIFFUSER	S.S. 304
14.3	BEARING BUSH	N.B.R.
15	IMPELLER 1ST STAGE SLEEVE_L-32	S.S. 304
16	1ST DIFFUSER_24 MM	S.S. 304
17.0	SHAFTING WITH COUPLING	SUB ASSLY
17.1	PUMP SHAFT	S.S. 1.4362
17.2	COUPLING	S.S. 304
17.3	ALLEN BOLT M6 x 20	S.S. 304
18	SUCTION	STEEL CAST 304
19	CLAMPING STRIP	S.S. 304
20	WASHER	S.S. 304
21	HEX NUT M8	S.S. 316
22	CABLE GUARD	S.S. 304
23	CLAMP OF CABLE GUARD	S.S. 304
24	SCREW_M4	S.S. 304



NOTE :
PUMPS UP TO 33 STAGE DISCHARGE CHAMBER COMES WITH S.S. FABRICATED AND FROM 34 STAGE & ONWARDS WITH STEEL CAST .

4VP 6, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES

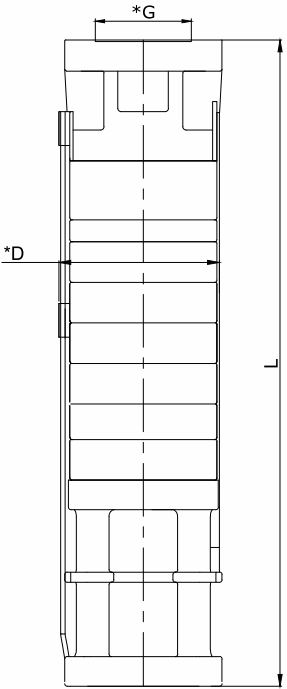


4VP 6, 60Hz
ISO 9906 Annexure A

PERFORMANCE CHART

MODEL NAME		STAGE	RATING		DISCHARGE												
SINGLE PHASE	THREE PHASE		kW	HP		l/min	0	15	30	40	55	67	80	95	110	120	
						m³/h	0	0.9	1.8	2.4	3.3	4.0	4.8	5.7	6.6	7.2	
4VP 6-03	4VP 6-03	3	0.37	0.50	HEAD IN Mtr	28	27	26	24	23	22	20	18	16	13		
4VP 6-05	4VP 6-05	5	0.55	0.75		46	44	42	40	38	36	34	31	26	21		
4VP 6-07	4VP 6-07	7	0.75	1.00		65	62	60	56	54	51	48	43	37	30		
4VP 6-09	4VP 6-09	9	1.10	1.50		83	80	76	73	69	66	61	55	48	38		
4VP 6-11	4VP 6-11	11	1.50	2.00		102	97	94	89	85	80	75	68	58	47		
4VP 6-15	4VP 6-15	15	2.20	3.00		138	133	128	121	116	110	102	92	79	63		
4VP 6-21	4VP 6-21	21	3.00	4.00		194	186	178	169	162	153	143	129	111	89		
4VP 6-26	4VP 6-26	26	4.00	5.50		240	230	221	210	200	190	177	160	137	110		
	4VP 6-39	39	5.50	7.50		360	345	332	315	300	285	266	240	206	165		
	4VP 6-52	52	7.50	10.00		480	460	442	420	400	380	355	320	275	220		

Dimensions & Weights



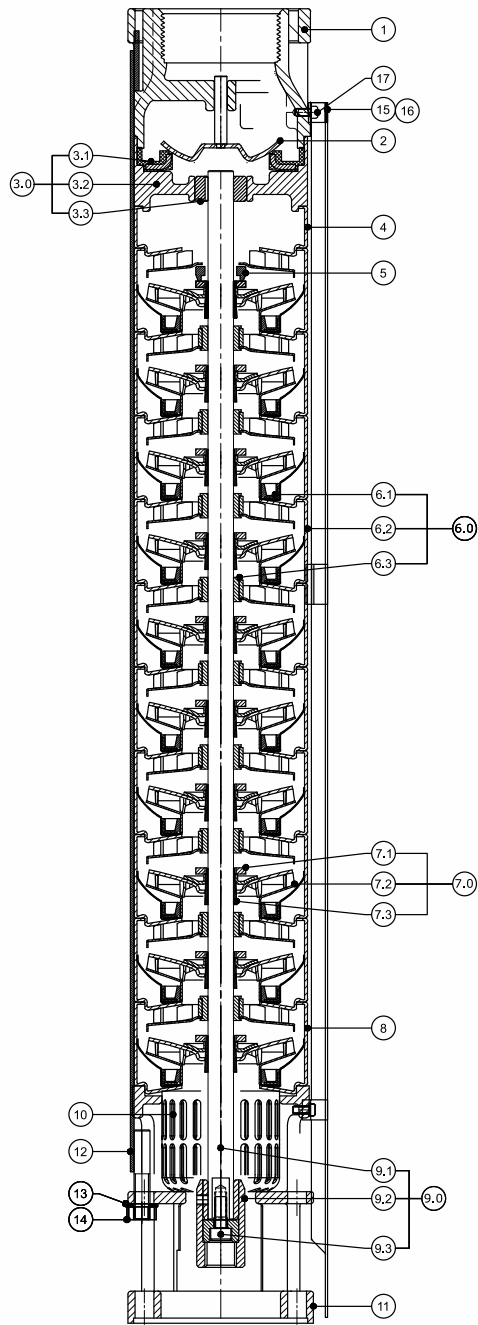
Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (incl. pkg.) Kg.
4VP 6 - 03	98	228	3.2	3.7
4VP 6 - 05	98	276	3.5	4.2
4VP 6 - 07	98	324	4.0	4.6
4VP 6 - 09	98	372	4.4	6.8
4VP 6 - 11	98	420	5.4	7.7
4VP 6 - 15	98	516	6.9	8.1
4VP 6 - 21	98	684	8.8	9.9
4VP 6 - 26	98	804	10.5	11.5
4VP 6 - 39	98	1193	14.1	14.8
4VP 6 - 52	98	1529	18.0	20.6
4VP 6 - 39	138	1210	15.8	17.4
4VP 6 - 52	138	1546	20.2	22.2

*G: Available Outlet Size 1.5" NPT
*D: With Cable Guard
4VP 6 -39 and 4VP 6-52 pump available in 6" Joining

4VP 9 SERIES PUMP DESIGN

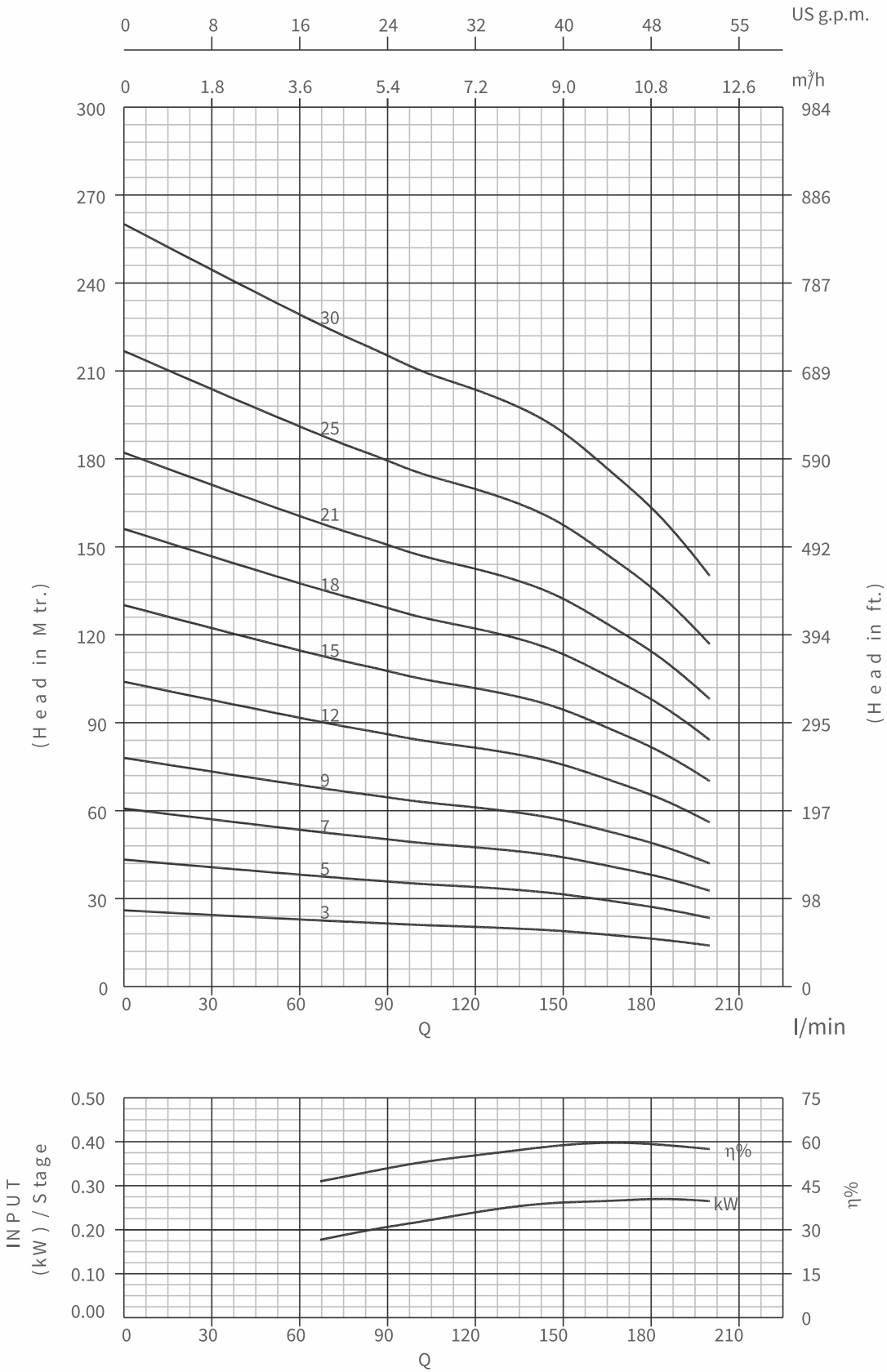
Material Specification

No.	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE CONE	S.S. 304
3.0	TOP BEARING + VALVE SEAT + GM BUSH	SUB ASSLY
3.1	VALVE SEAT	N.B.R.
3.2	TOP BEARING HOUSING	STEEL CAST 304
3.3	TOP BEARING BUSH	GUN METAL
4	TOP DIFFUSER	S.S. 304
5	SPACING WASHER	PTFE
6.0	DIFFUSER ASSLY	SUB ASSLY
6.1	NECK RING	N.B.R. + S.S. 304
6.2	DIFFUSER	S.S. 304
6.3	BEARING BUSH	N.B.R.
7.0	IMPELLER ASSLY	SUB ASSLY
7.1	COLLET NUT	S.S. 304
7.2	IMPELLER	S.S. 304
7.3	COLLET	S.S. 304
8	DIFFUSER 1st	S.S. 304
9.0	SHAFTING WITH COUPLING	SUB ASSLY
9.1	PUMP SHAFT	S.S. 431
9.2	COUPLING	S.S. 304
9.3	ALLEN BOLT	S.S. 304
10	STRAINER	S.S. 304
11	SUCTION	STEEL CAST 304
12	CLAMPING STRIP	S.S. 304
13	WASHER	S.S. 304
14	HEX NUT	S.S. 316
15	CABLE GUARD	S.S. 304
16	CLAMP OF CABLE GUARD	S.S. 304
17	SCREW_M4	S.S. 304



4VP 9, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES

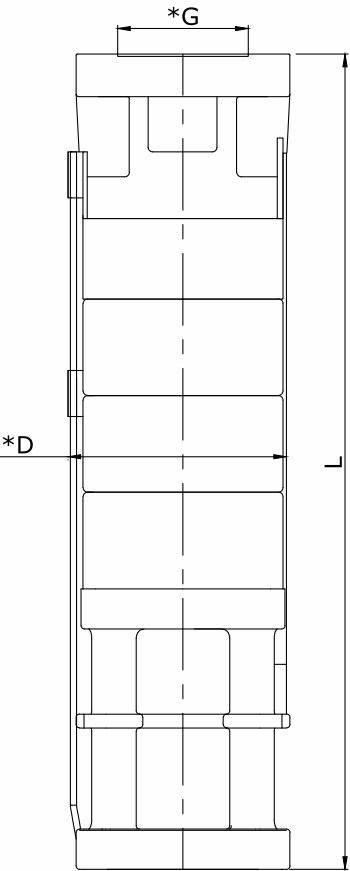


PERFORMANCE CHART

MODEL NAME		RATING			DISCHARGE										
SINGLE PHASE	THREE PHASE	STAGE	kW	HP	l/min	0	67	85	100	117	135	150	167	185	200
					m³/h	0	4.0	5.1	6.0	7.0	8.1	9.0	10.0	11.1	12.0

4VP 9-03	4VP 9-03	3	0.55	0.75	HEAD IN Mtrs.	26	22.5	22	21	20.5	20	19	17	16	14
4VP 9-05	4VP 9-05	5	1.10	1.50		43	38	36	35	34	33	32	29	27	23
4VP 9-07	4VP 9-07	7	1.50	2.00		61	52	51	49	48	46	44	41	37	33
4VP 9-09	4VP 9-09	9	2.20	3.00		78	68	65	63	61	59	57	52	48	42
4VP 9-12	4VP 9-12	12	3.00	4.00		104	90	87	84	82	79	76	70	64	56
4VP 9-15	4VP 9-15	15	4.00	5.50		130	112	109	105	102	99	95	87	80	70
	4VP 9-18	18	5.50	7.50		156	135	131	126	123	119	114	105	96	84
	4VP 9-21	21	5.50	7.50		182	158	153	147	143	139	133	122	112	98
	4VP 9-25	25	5.50	7.50		217	188	182	175	171	165	158	146	133	117
	4VP 9-30	30	7.50	10.00		260	225	218	210	205	198	190	175	160	140

Dimensions & Weights



Model Name	Specification			
	*D (MM)	L (MM)	Pump Weight Kg.	Weight (incl. pkg.) Kg.
4VP 9 - 03	98	367	5.70	6.3
4VP 9 - 05	98	451	6.60	7.3
4VP 9 - 07	98	535	7.50	8.3
4VP 9 - 09	98	619	7.90	8.7
4VP 9 - 12	98	745	9.70	10.7
4VP 9 - 15	98	871	11.00	12.1
4VP 9 - 18	98	997	12.30	13.5
4VP 9 - 21	98	1123	13.60	15.0
4VP 9 - 25	98	1291	15.40	16.9
4VP 9 - 30	98	1501	17.60	19.4
4VP 9 - 37	98	1795	20.70	22.8
4VP 9 - 44	98	2089	24.30	26.7
4VP 9 - 50	98	2341	27.10	29.8
4VP 9 - 15	138	888	11.70	12.9
4VP 9 - 18	138	1014	13.00	14.3
4VP 9 - 21	138	1140	14.30	15.7
4VP 9 - 25	138	1308	16.10	17.7
4VP 9 - 30	138	1518	19.60	21.6
4VP 9 - 37	138	1812	22.90	25.2
4VP 9 - 44	138	2106	25.80	28.4
4VP 9 - 50	138	2358	29.60	32.6
4VP 9 - 58	138	2694	31.40	34.5

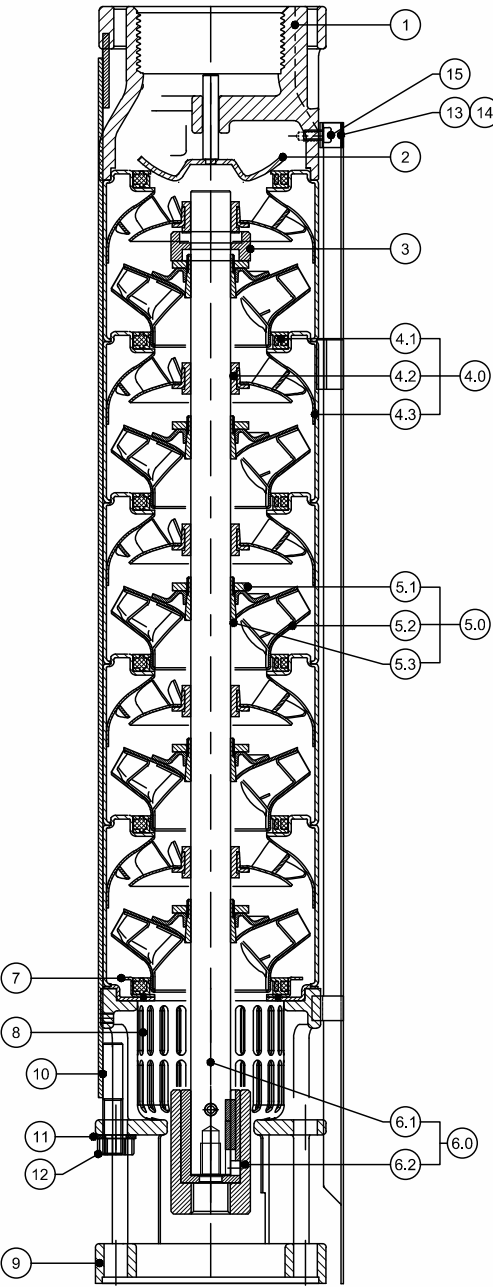
* G: Available Outlet Size 2.0" NPT
* D: With Cable Guard

4VP 9-15, 4VP 9-18, 4VP 9-21, 4VP 9-25, 4VP 9-30, 4VP 9-37, 4VP 9-44 & 4VP 9-50 pump are also available in 6" Joining.

4VP 14 SERIES PUMP DESIGN

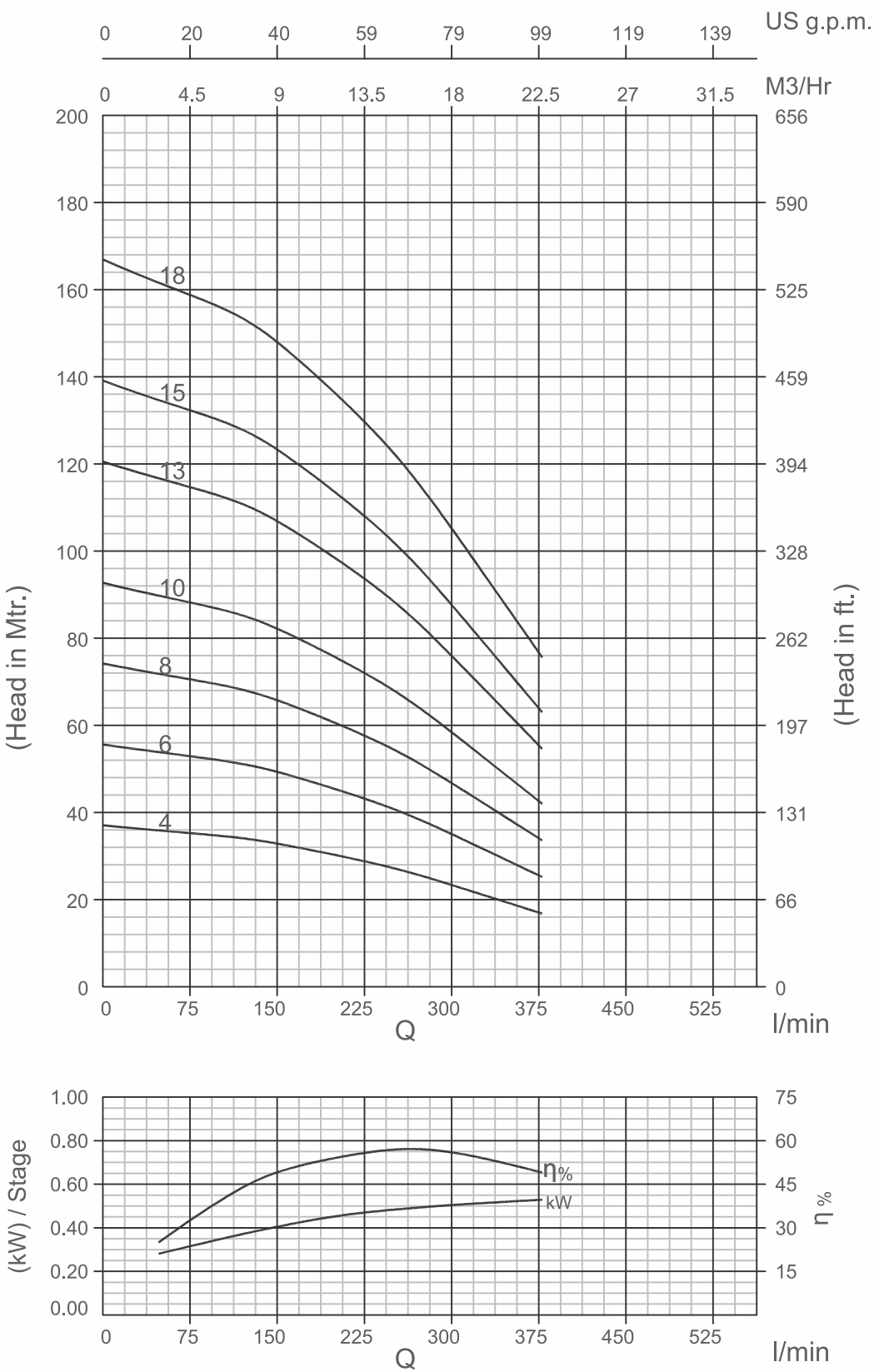
Material Specification

No.	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE CONE	S.S. 304
3	SPACING WASER	PTFE
4.0	DIFFUSER ASSLY	SUB ASSLY
4.1	NECKRING	N.B.R + NYLON
4.2	BEARING BUSH	N.B.R
4.3	DIFFUSER	S.S. 304
5.0	IMPELLER	S.S. 304
5.1	NUT OF COLLET	S.S. 304
5.2	IMPELLER	S.S. 304
5.3	COLLET	S.S. 304
6.0	PUMP SHAFT & COUPLING	SUB ASSLY
6.1	PUMP SHAFT	S.S. 1.4362
6.2	COUPLING	S.S. 304
7	S.S. CONNECTOR	S.S. 304
8	STRAINER	S.S. 304
9	SUCTION	STEEL CAST 304
10	CLAMPING STRIP	S.S. 304
11	WASHER	S.S. 304
12	HEX NUT	S.S. 316
13	CABLE GUARD	S.S. 304
14	CLAMP OF CABLE GUARD	S.S. 304
15	SCREW_M4	S.S. 304



4VP 14, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES

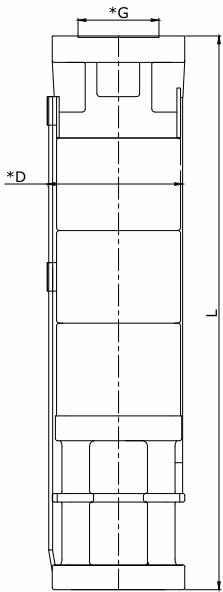


4VP 14, 60Hz
ISO 9906 Annexure A

PERFORMANCE CHART

Model Name		Rating			Discharge							
Three Phase	Stage	kW	HP	l/min	0	48	114	156	204	258	312	378
				m ³ /h	0	2.84	6.84	9.36	12.23	15.48	18.72	22.68
4VP 14-04	04	1.50	2.00	HEAD IN Mtrs.	37	36	35	33	30	27	22	17
4VP 14-06	06	2.20	3.00		56	54	52	49	45	40	34	25
4VP 14-08	08	3.00	4.00		74	72	69	65	60	54	45	34
4VP 14-10	10	4.00	5.50		93	90	86	82	75	67	56	42
4VP 14-13	13	5.50	7.50		121	116	112	106	98	87	73	55
4VP 14-15	15	5.50	7.50		139	134	130	122	113	101	84	63
4VP 14-18	18	7.50	10.00		167	161	130	147	135	121	101	76

Dimensions & Weights



Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (incl.pkg.) Kg.
4VP 14 - 4	98	452	5.40	6.2
4VP 14 - 6	98	582	6.9	7.9
4VP 14 - 8	98	712	8.4	9.7
4VP 14 - 10	98	842	9.9	11.4
4VP 14 - 13	98	1037	12.1	13.9
4VP 14 - 15	98	1167	13.6	15.6
4VP 14 - 18	98	1362	16.6	19.1

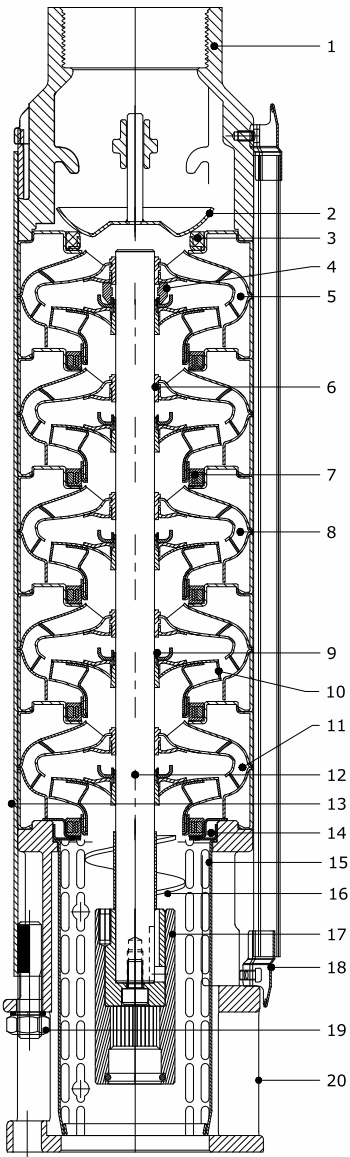
* G: Available Outlet Size 2.0" NPT
* D: With Cable Guard

4VP 14 -13, 4VP 14 -15 & 4VP 14 -18 pump are also available in 6" Joining

6VP 15 SERIES PUMP DESIGN

Material Specification

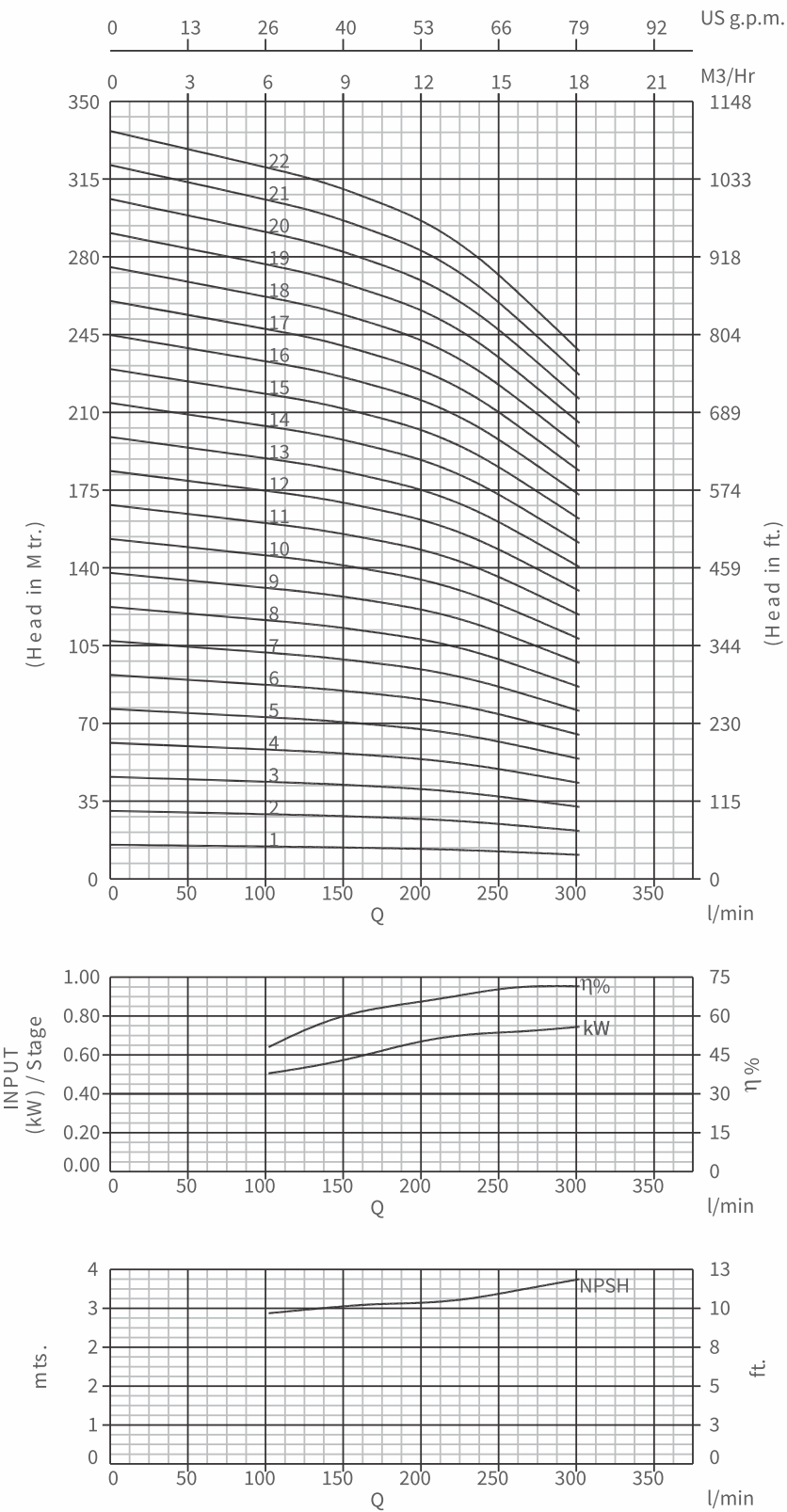
No	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE	S.S.304
3	VALVE SEAT	N.B.R. + S.S.304
4	SPACING WASHER	25% CFT
5	INTERMEDIATE CHAMBER TOP	S.S.304
6	BEARING BUSH	N.B.R.
7	NECKRING	N.B.R. + NYLON
8	INTERMEDIATE CHAMBER	S.S.304
9	COLLET & COLLET NUT	S.S.304
10	IMPELLER	S.S.304
11	INTERMEDIATE CHAMBER 1St	S.S.304
12	PUMP SHAFT (UP TO 26 STAGES)	S.S.431
	PUMP SHAFT (27 STAGE & ABOVE)	S.S.1.4362
13	CLAMPING STRIP	S.S.304
14	SUCTION CONNECTOR	S.S.304
15	STRAINER	S.S.304
16	PRIMING SCREW	S.S.304
17	NEMA COUPLING	S.S.304
18	CABLE GUARD	S.S.304
19	HEX NUT	S.S.316
20	SUCTION	STEEL CAST 304



Note:
PUMPS UP TO 20 STAGE DISCHARGE
CHAMBER COMES WITH S.S.
FABRICATED AND FROM 21 STAGE &
ONWARDS WITH STEEL CAST.

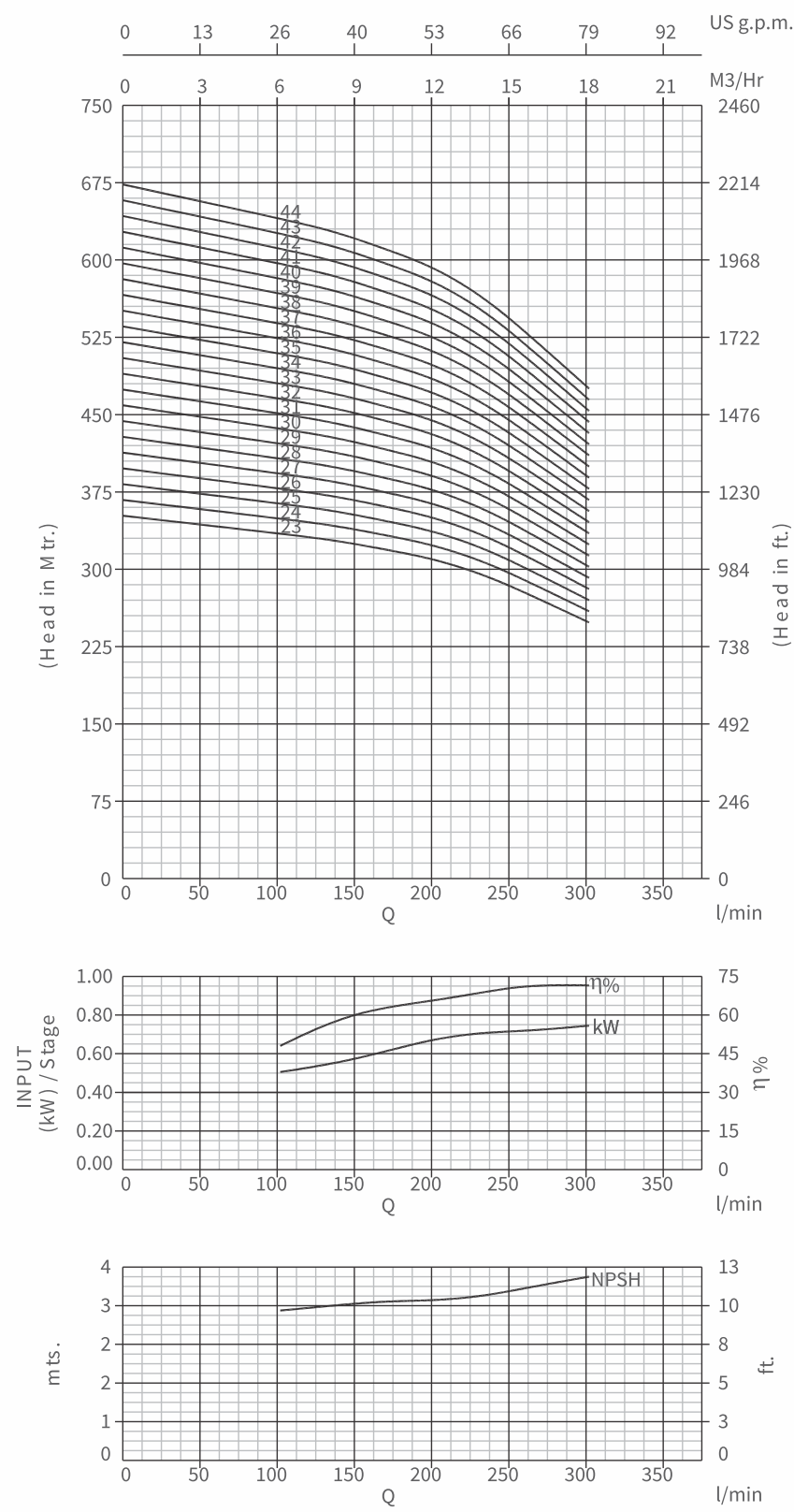
6VP 15, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



6VP 15, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



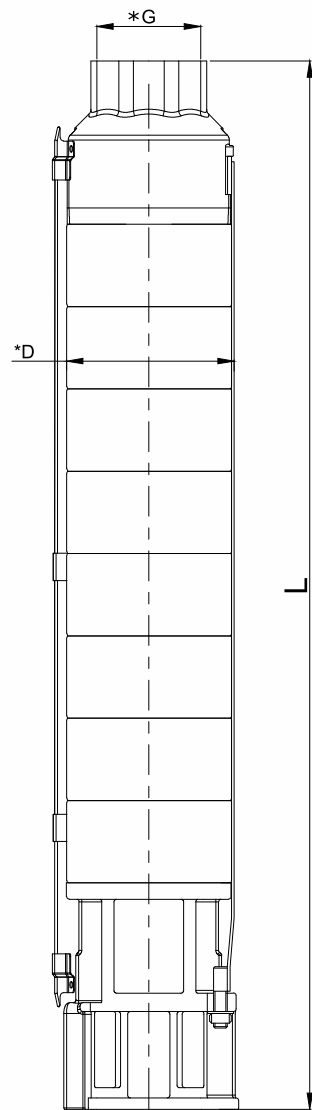
6VP 15, 60Hz
ISO 9906 Annexure A

PERFORMANCE CHART

MODEL NAME		RATING			DISCHARGE							
THREE PHASE	STAGE	kW	HP	l/min	0	102	135	168	201	235	266	302
				m³/h	0	6.1	8.1	10.0	12.0	14.1	15.9	18.1

6VP 15-01	1	0.75	1.00	HEAD IN M trs.	15.3	14.5	14.3	14	13.5	13	12	11
6VP 15-02	2	1.50	2.00		31	29	29	28	27	26	24	22
6VP 15-03	3	2.20	3.00		46	44	43	42	40	38	36	32
6VP 15-04	4	3.00	4.00		61	58	57	56	54	51	48	43
6VP 15-05	5	4.00	5.50		76	73	72	70	68	64	60	54
6VP 15-06	6	5.50	7.50		92	87	86	83	81	77	71	65
6VP 15-07	7	5.50	7.50		107	102	100	97	94	90	83	76
6VP 15-08	8	7.50	10.00		122	116	114	111	108	102	95	86
6VP 15-09	9	7.50	10.00		138	131	129	125	122	115	107	97
6VP 15-10	10	7.50	10.00		153	146	143	139	135	128	119	108
6VP 15-11	11	9.30	12.50		168	160	157	153	148	141	131	119
6VP 15-12	12	9.30	12.50		184	175	172	167	162	154	143	130
6VP 15-13	13	9.30	12.50		199	189	186	181	176	166	155	140
6VP 15-14	14	11.00	15.00		214	204	200	195	189	179	167	151
6VP 15-15	15	11.00	15.00		230	218	214	208	202	192	178	162
6VP 15-16	16	13.00	17.50		245	233	229	222	216	205	190	173
6VP 15-17	17	13.00	17.50		260	247	243	236	230	218	202	184
6VP 15-18	18	13.00	17.50		275	262	257	250	243	230	214	194
6VP 15-19	19	15.00	20.00		291	276	272	264	256	243	226	205
6VP 15-20	20	15.00	20.00		306	291	286	278	270	256	238	216
6VP 15-21	21	15.00	20.00		321	306	300	292	284	269	250	227
6VP 15-22	22	18.50	25.00		337	320	315	306	297	282	262	238
6VP 15-23	23	18.50	25.00		352	335	329	320	310	294	274	248
6VP 15-24	24	18.50	25.00		367	349	343	334	324	307	286	259
6VP 15-25	25	18.50	25.00		382	364	358	348	338	320	298	270
6VP 15-26	26	18.50	25.00		398	378	372	361	351	333	309	281
6VP 15-27	27	22.00	30.00		413	393	386	375	364	346	321	292
6VP 15-28	28	22.00	30.00		428	407	400	389	378	358	333	302
6VP 15-29	29	22.00	30.00		444	422	415	403	392	371	345	313
6VP 15-30	30	22.00	30.00		459	436	429	417	405	384	357	324
6VP 15-31	31	22.00	30.00		474	451	443	431	418	397	369	335
6VP 15-32	32	26.00	35.00		490	466	458	445	432	410	381	346
6VP 15-33	33	26.00	35.00		505	480	472	459	446	422	393	356
6VP 15-34	34	26.00	35.00		520	495	486	473	459	435	405	367
6VP 15-35	35	26.00	35.00		536	509	500	486	472	448	416	378
6VP 15-36	36	26.00	35.00		551	524	515	500	486	461	428	389
6VP 15-37	37	26.00	35.00		566	538	529	514	500	474	440	400
6VP 15-38	38	30.00	40.00		581	553	543	528	513	486	452	410
6VP 15-39	39	30.00	40.00		597	567	558	542	526	499	464	421
6VP 15-40	40	30.00	40.00		612	582	572	556	540	512	476	432
6VP 15-41	41	30.00	40.00		627	597	586	570	554	525	488	443
6VP 15-42	42	30.00	40.00		643	611	601	584	567	538	500	454
6VP 15-43	43	37.00	50.00		658	626	615	598	580	550	512	464
6VP 15-44	44	37.00	50.00		673	640	629	612	594	563	524	475

Dimensions & Weights



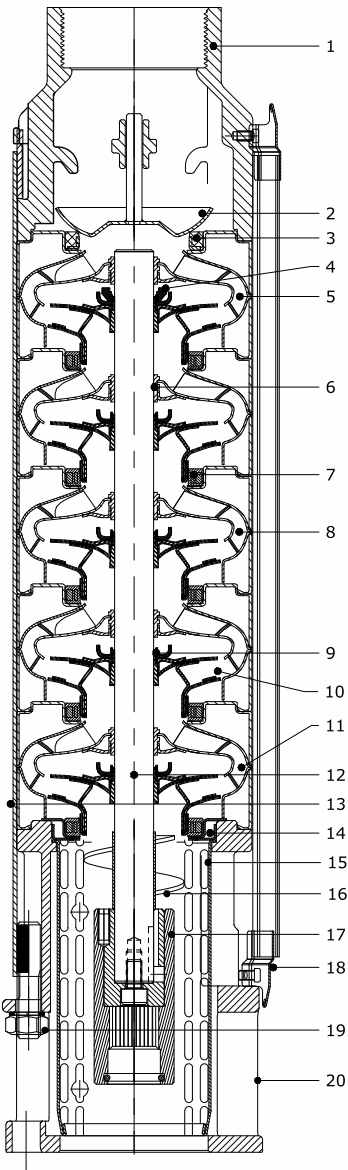
Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (Incl. pkg.) Kg.
6VP 15 - 01	142	331	8	10
6VP 15 - 02	142	392	9	11
6VP 15 - 03	142	452	10	12
6VP 15 - 04	142	513	12	14
6VP 15 - 05	142	573	13	15
6VP 15 - 06	142	634	14	16
6VP 15 - 07	142	694	15	17
6VP 15 - 08	142	755	17	19
6VP 15 - 09	142	815	18	20
6VP 15 - 10	142	894	19	21
6VP 15 - 11	142	955	20	23
6VP 15 - 12	142	1015	22	24
6VP 15 - 13	142	1076	23	25
6VP 15 - 14	142	1136	24	26
6VP 15 - 15	142	1197	25	28
6VP 15 - 16	142	1257	26	29
6VP 15 - 17	142	1318	28	31
6VP 15 - 18	142	1378	29	32
6VP 15 - 19	142	1439	30	33
6VP 15 - 20	142	1499	31	34
6VP 15 - 21	142	1560	33	36
6VP 15 - 22	142	1620	34	37
6VP 15 - 23	142	1681	35	39
6VP 15 - 24	142	1741	36	40
6VP 15 - 25	142	1802	38	41
6VP 15 - 26	142	1862	39	42
6VP 15 - 27	142	1923	40	43
6VP 15 - 28	142	1983	41	45
6VP 15 - 29	142	2044	42	46
6VP 15 - 30	142	2104	44	47
6VP 15 - 31	142	2165	45	49
6VP 15 - 32	142	2225	46	50
6VP 15 - 33	142	2286	47	51
6VP 15 - 34	142	2346	49	53
6VP 15 - 35	142	2407	50	54
6VP 15 - 36	142	2467	51	55
6VP 15 - 37	142	2528	52	56
6VP 15 - 38	142	2588	53	57
6VP 15 - 39	142	2649	55	59
6VP 15 - 40	142	2709	56	60
6VP 15 - 41	142	2770	57	62
6VP 15 - 42	142	2830	58	63
6VP 15 - 43	142	2891	60	64
6VP 15 - 44	142	2951	61	65

*G : Available Outlet Size 2.5" NPT & 3.0" NPT
*D : With Cable Guard
VP15A-01 to VP15-10 Pumps Are Also Available In 4" Joining.

6VP 18 SERIES PUMP DESIGN

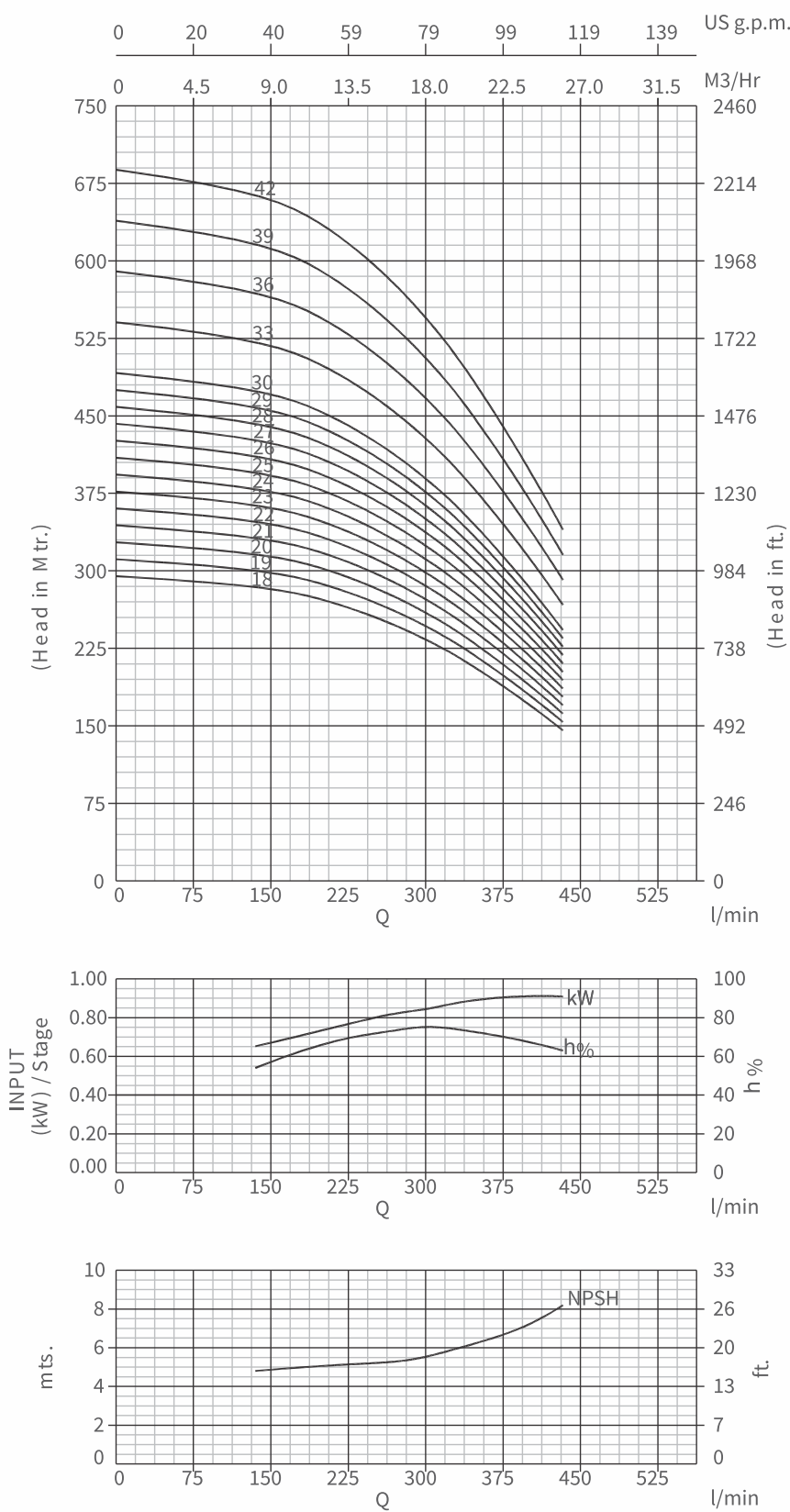
Material Specification

No	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE	S.S.304
3	VALVE SEAT	N.B.R. + S.S.304
4	SPACING WASHER	25% CFT
5	INTERMEDIATE CHAMBER TOP	S.S.304
6	BEARING BUSH	N.B.R.
7	NECKRING	N.B.R. + NYLON
8	INTERMEDIATE CHAMBER	S.S.304
9	COLLET & COLLET NUT	S.S.304
10	IMPELLER	S.S.304
11	INTERMEDIATE CHAMBER 1st	S.S.304
12	PUMP SHAFT (UP TO 26 STAGES)	S.S.431
	PUMP SHAFT (27 STAGE & ABOVE)	S.S.1.4362
13	CLAMPING STRIP	S.S.304
14	SUCTION CONNECTOR	S.S.304
15	STRAINER	S.S.304
16	PRIMING SCREW	S.S.304
17	NEMA COUPLING	S.S.304
18	CABLE GUARD	S.S.304
19	HEX NUT	S.S.316
20	SUCTION	STEEL CAST 304



Note:
PUMPS UP TO 20 STAGE DISCHARGE CHAMBER COMES WITH S.S. FABRICATED AND FROM 21 STAGE & ONWARDS WITH STEEL CAST.

PERFORMANCE CURVES



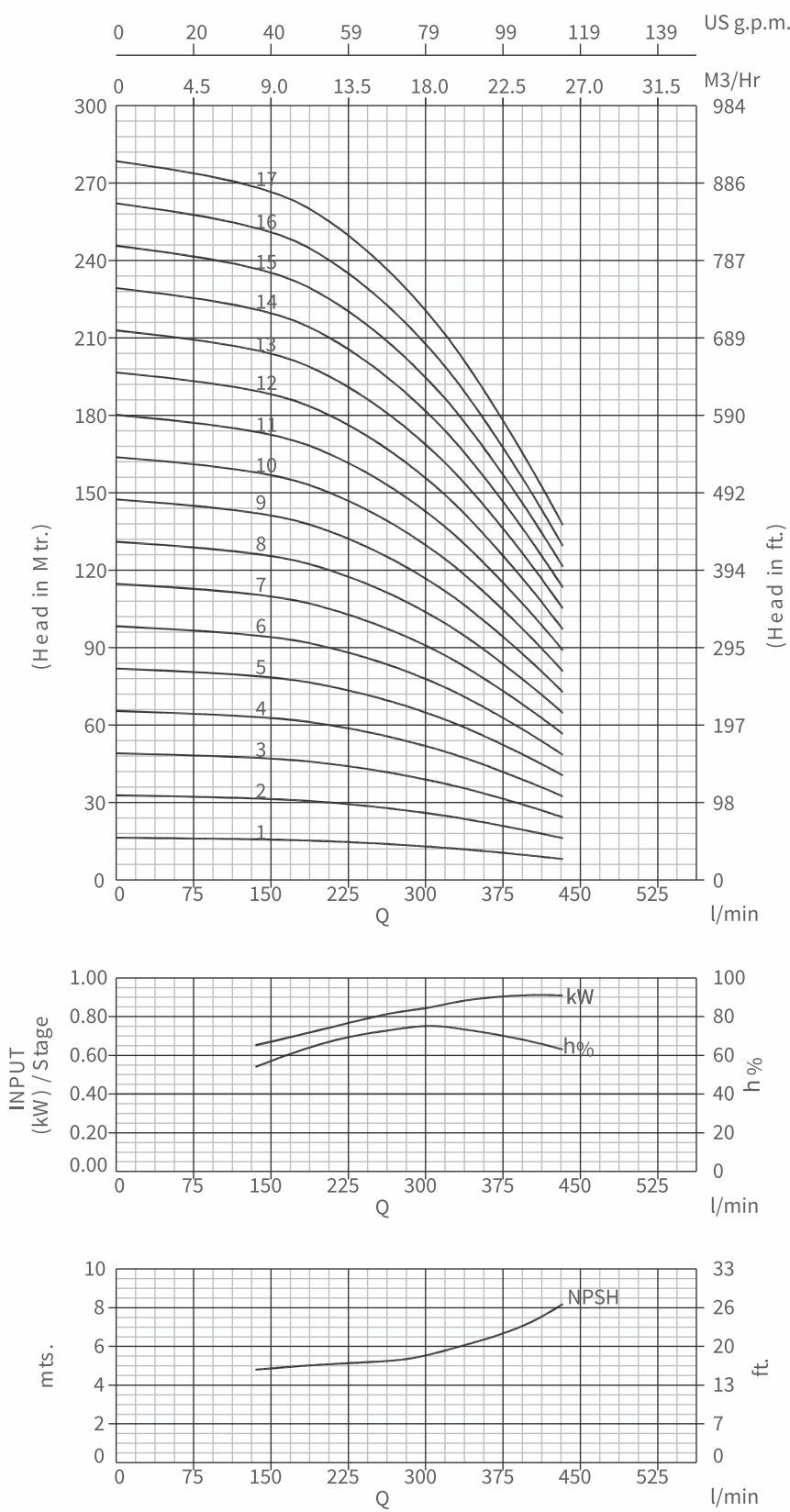
PERFORMANCE CHART

MODEL NAME		RATING			DISCHARGE							
THREE PHASE	STAGE	kW	HP	l/min	0	135	200	267	300	333	400	433
				m³/h	0	8.1	12	16	18	20	24	26

6VP 18-18	18	15.00	20.00	HEAD IN Mtrs.	295	287	274	249	234	217	172	146
6VP 18-19	19	18.50	25.00		311	303	290	263	247	229	181	154
6VP 18-20	20	18.50	25.00		328	319	305	277	260	241	191	162
6VP 18-21	21	18.50	25.00		344	335	320	291	273	253	201	170
6VP 18-22	22	18.50	25.00		360	351	335	305	286	265	210	178
6VP 18-23	23	22.00	30.00		377	367	351	319	299	277	220	186
6VP 18-24	24	22.00	30.00		393	383	366	333	312	289	229	194
6VP 18-25	25	22.00	30.00		409	399	381	346	324	301	239	202
6VP 18-26	26	22.00	30.00		426	415	396	360	337	313	248	210
6VP 18-27	27	26.00	35.00		442	431	411	374	350	325	258	218
6VP 18-28	28	26.00	35.00		459	447	427	388	363	337	267	227
6VP 18-29	29	26.00	35.00		475	463	442	402	376	349	277	235
6VP 18-30	30	26.00	35.00		491	478	457	416	389	362	286	243
6VP 18-33	33	30.00	40.00		541	526	503	457	428	398	315	267
6VP 18-36	36	30.00	40.00		590	574	549	499	467	434	344	291
6VP 18-39	39	37.00	50.00		639	622	594	541	506	470	372	316
6VP 18-42	42	37.00	50.00		688	670	640	582	545	506	401	340

6VP 18, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



6VP 18, 60Hz
ISO 9906 Annexure A

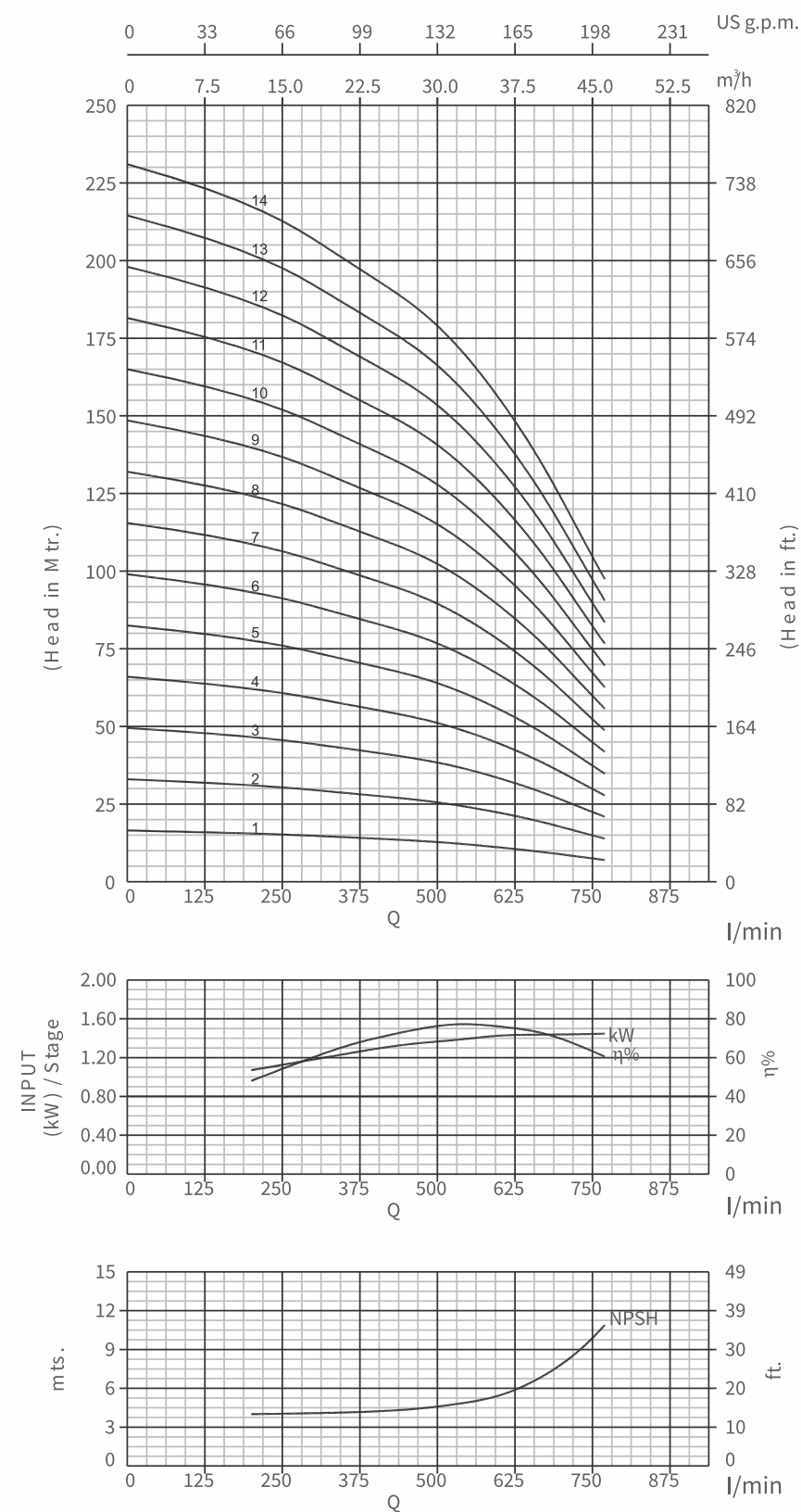
PERFORMANCE CHART

MODEL NAME		RATING			DISCHARGE							
THREE PHASE	STAGE	kW	HP	l/min	0	135	200	267	300	333	400	433
				m ³ /h	0	8.1	12	16	18	20	24	26

6VP 18-01	1	1.10	1.50	HEAD IN Mtrs.	16.4	16	15	14	13	12	10	8
6VP 18-02	2	2.20	3.00		33	32	30	28	26	24	19	16
6VP 18-03	3	3.00	4.00		49	48	46	42	39	36	29	24
6VP 18-04	4	4.00	5.50		66	64	61	55	52	48	38	32
6VP 18-05	5	5.50	7.50		82	80	76	69	65	60	48	40
6VP 18-06	6	5.50	7.50		98	96	91	83	78	72	57	49
6VP 18-07	7	7.50	10.00		115	112	107	97	91	84	67	57
6VP 18-08	8	7.50	10.00		131	128	122	111	104	96	76	65
6VP 18-09	9	7.50	10.00		147	144	137	125	117	108	86	73
6VP 18-10	10	9.30	12.50		164	160	152	139	130	120	96	81
6VP 18-11	11	9.30	12.50		180	175	168	152	143	133	105	89
6VP 18-12	12	11.00	15.00		197	191	183	166	156	145	115	97
6VP 18-13	13	11.00	15.00		213	207	198	180	169	157	124	105
6VP 18-14	14	13.00	17.50		229	223	213	194	182	169	134	113
6VP 18-15	15	13.00	17.50		246	239	229	208	195	181	143	121
6VP 18-16	16	15.00	20.00		262	255	244	222	208	193	153	129
6VP 18-17	17	15.00	20.00		278	271	259	236	221	205	162	138

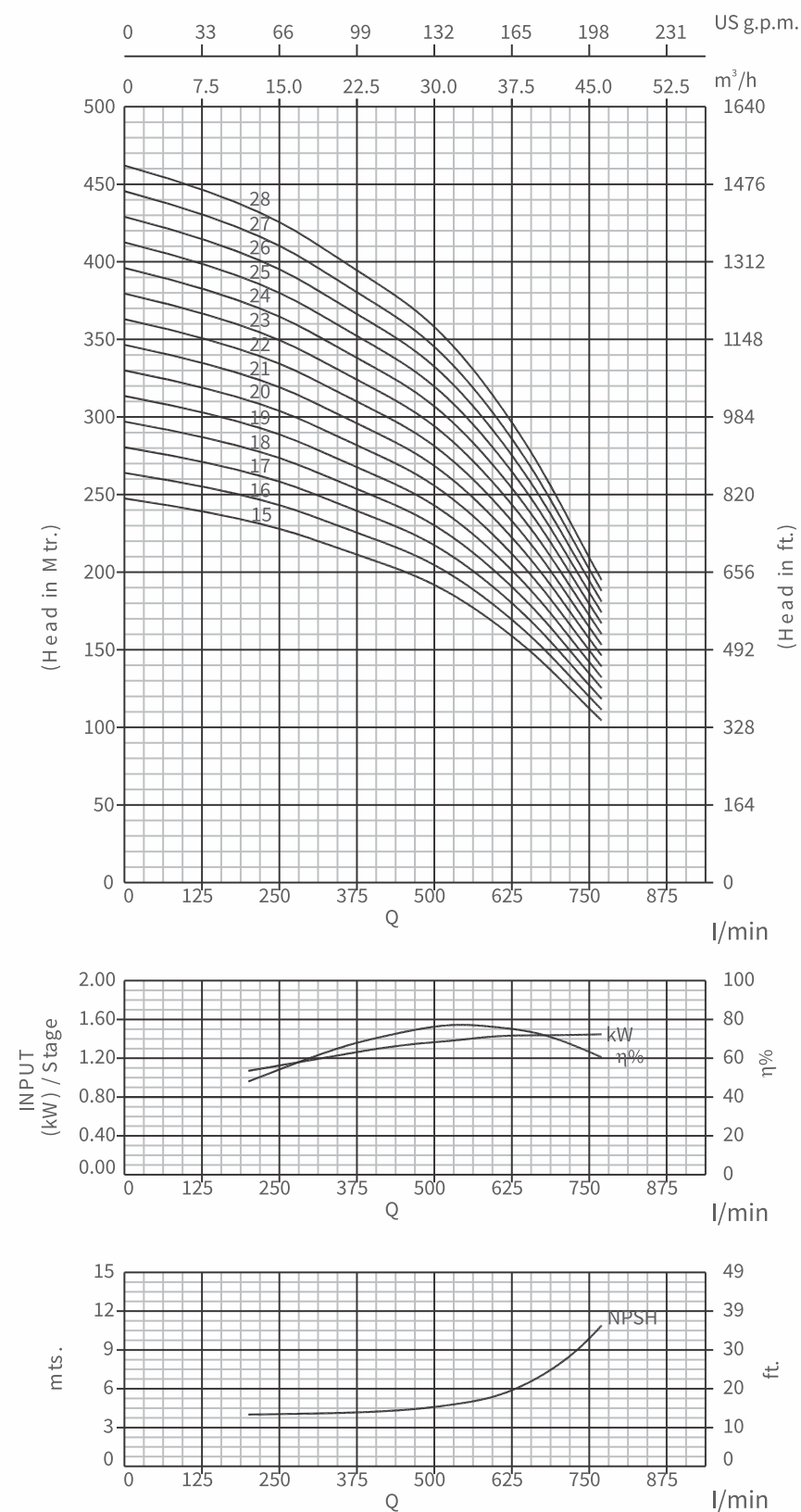
6VP 32, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



6VP 32, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES

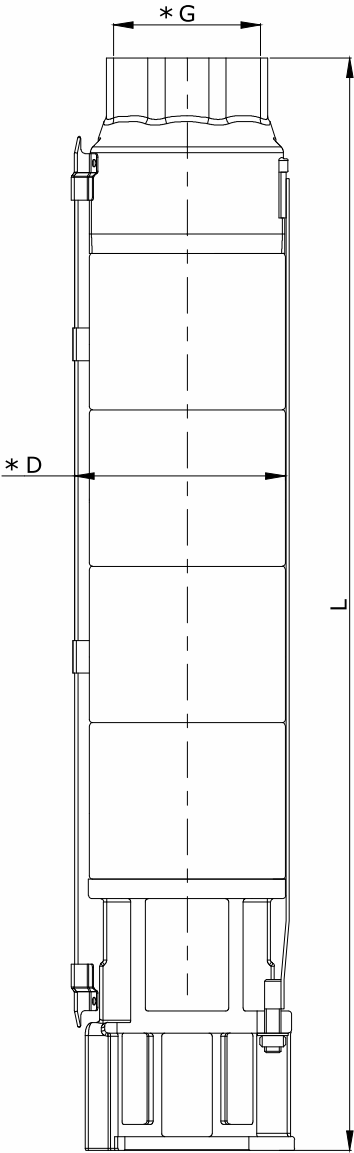


PERFORMANCE CHART

Model Name		Rating			Discharge									
Three Phase	Stage	kW	HP	l/min	0	200	335	400	470	535	600	670	735	770
				m³/h	0	12.0	20.1	24.0	28.2	32.1	36.0	40.2	44.1	46.2

6VP 32-01	1	1.50	2.00	HEAD IN Mtrs.	16.5	16	14.5	14	13	12	11	10	8	7
6VP 32-02	2	3.00	4.00		33	31	29	28	26	25	22	19	16	14
6VP 32-03	3	4.00	5.50		50	47	43	42	40	37	33	29	24	21
6VP 32-04	4	5.50	7.50		66	63	58	55	53	49	45	39	31	28
6VP 32-05	5	7.50	10.00		82	79	72	69	66	62	56	48	39	35
6VP 32-06	6	9.30	12.50		99	94	87	83	79	74	67	58	47	42
6VP 32-07	7	9.30	12.50		116	110	101	97	92	86	78	67	55	49
6VP 32-08	8	11.00	15.00		132	126	116	111	106	99	89	77	63	56
6VP 32-09	9	13.00	17.50		148	141	130	125	119	111	100	87	71	63
6VP 32-10	10	13.00	17.50		165	157	145	139	132	123	111	96	79	70
6VP 32-11	11	15.00	20.00		182	173	159	152	145	136	123	106	86	77
6VP 32-12	12	18.50	25.00		198	189	174	166	159	148	134	116	94	84
6VP 32-13	13	18.50	25.00		214	204	188	180	172	160	145	125	102	90
6VP 32-14	14	18.50	25.00		231	220	202	194	185	172	156	135	110	97
6VP 32-15	15	22.00	30.00		248	236	217	208	198	185	167	145	118	104
6VP 32-16	16	22.00	30.00		264	251	231	222	211	197	178	154	126	111
6VP 32-17	17	22.00	30.00		280	267	246	236	225	209	189	164	134	118
6VP 32-18	18	26.00	35.00		297	283	260	249	238	222	201	174	141	125
6VP 32-19	19	26.00	35.00		314	298	275	263	251	234	212	183	149	132
6VP 32-20	20	26.00	35.00		330	314	289	277	264	246	223	193	157	139
6VP 32-21	21	30.00	40.00		346	330	304	291	277	259	234	202	165	146
6VP 32-22	22	30.00	40.00		363	346	318	305	291	271	245	212	173	153
6VP 32-23	23	30.00	40.00		380	361	333	319	304	283	256	222	181	160
6VP 32-24	24	37.00	50.00		396	377	347	333	317	296	267	231	189	167
6VP 32-25	25	37.00	50.00		412	393	362	346	330	308	278	241	196	174
6VP 32-26	26	37.00	50.00		429	408	376	360	343	320	290	251	204	181
6VP 32-27	27	37.00	50.00		446	424	390	374	357	333	301	260	212	188
6VP 32-28	28	37.00	50.00		462	440	405	388	370	345	312	270	220	195

Dimensions & Weights



Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (Incl. pkg.) Kg.
6VP 32 - 01	142	369	9	14
6VP 32 - 02	142	465	11	16
6VP 32 - 03	142	561	13	18
6VP 32 - 04	142	657	15	20
6VP 32 - 05	142	753	11	16
6VP 32 - 06	142	849	19	24
6VP 32 - 07	142	947	21	26
6VP 32 - 08	142	1041	23	28
6VP 32 - 09	142	1137	25	30
6VP 32 - 10	142	1249	27	32
6VP 32 - 11	142	1345	29	34
6VP 32 - 12	142	1441	31	36
6VP 32 - 13	142	1537	33	38
6VP 32 - 14	142	1633	35	40
6VP 32 - 15	142	1729	37	47
6VP 32 - 16	142	1825	39	49
6VP 32 - 17	142	1921	41	51
6VP 32 - 18	142	2017	43	53
6VP 32 - 19	142	2113	45	55
6VP 32 - 20	142	2209	47	57
6VP 32 - 21	142	2305	49	59
6VP 32 - 22	142	2401	51	63
6VP 32 - 23	142	2497	53	65
6VP 32 - 24	142	2593	55	67
6VP 32 - 25	142	2689	57	69
6VP 32 - 26	142	2785	59	71
6VP 32 - 27	142	2881	61	73
6VP 32 - 28	142	2977	63	75

*G : Available Outlet Size & 3.0" NPT
*D : With Cable Guard

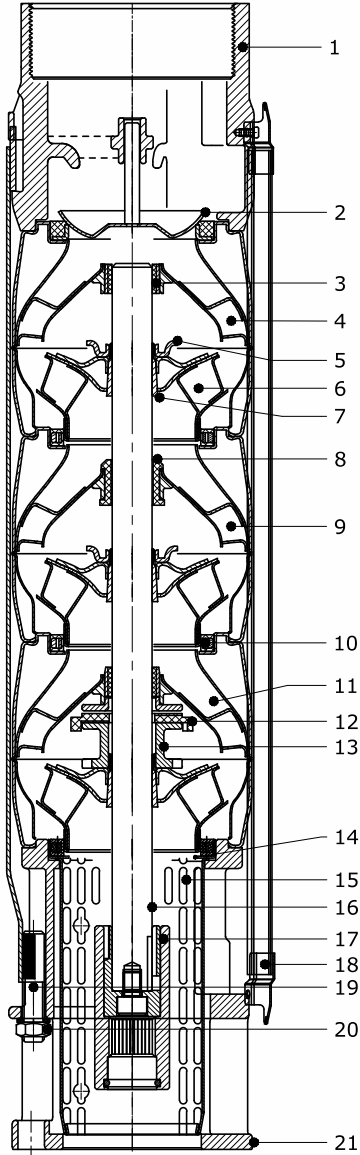
6VP 32 -01 to 6VP 32 -05 pumps are also available in 4" joining.

6VP 32 -29, 6VP 32 -31, 6VP 32 -33, 6VP 32 -36 & 6VP 32 -39 pumps are also available with & without mounted sleeve in 8" joining.

6VP 48 & 6VP 62 SERIES PUMP DESIGN

Material Specification

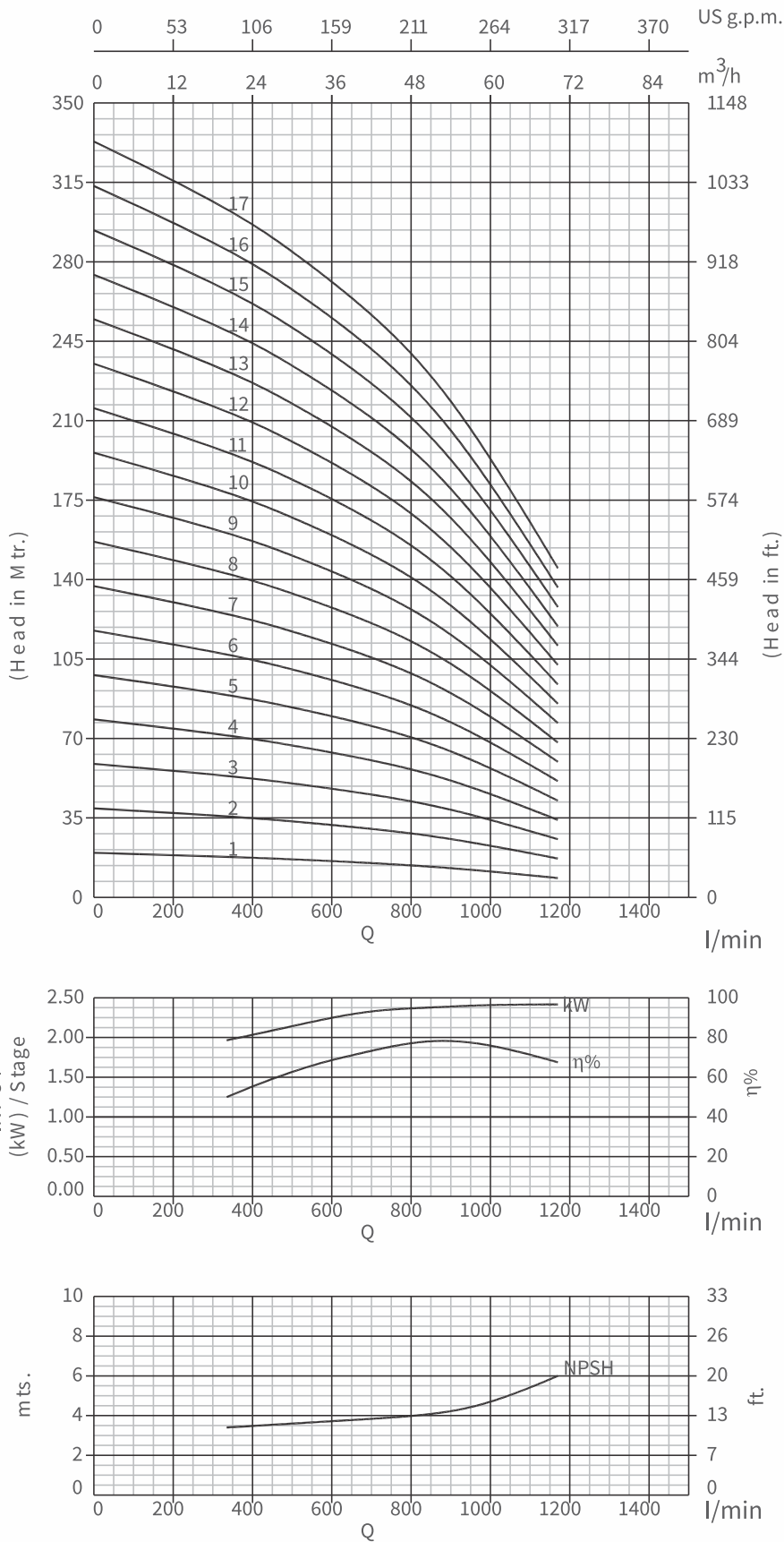
No	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE	S.S.304
3	TOP & FIRST BEARING BUSH	N.B.R. + S.S.304
4	INTERMEDIATE CHAMBER TOP	S.S.304
5	COLLET NUT	S.S.304
6	IMPELLER	S.S.304
7	COLLET	S.S.304
8	BEARING BUSH	NBR
9	INTERMEDIATE CHAMBER STAGE	S.S.304
10	NECKRING	N.B.R. + NYLON
11	INTERMEDIATE CHAMBER 1st	S.S.304
12	SPACING WASHER	25% CFT
13	FIRST STAGE NUT	STEEL CAST 304
14	RETAINER	S.S.304
15	STRAINER	S.S.304
16	PUMP SHAFT (UP TO 09 STAGES)	S.S.431
	PUMP SHAFT (10 STAGE & ABOVE)	S.S.1.4362
17	NEMA COUPLING	S.S.304
18	CABLE GUARD	S.S.304
19	CLAMPING STRIP	S.S.304
20	HEX NUT	S.S. 316
20	SUCTION	STEEL CAST 304



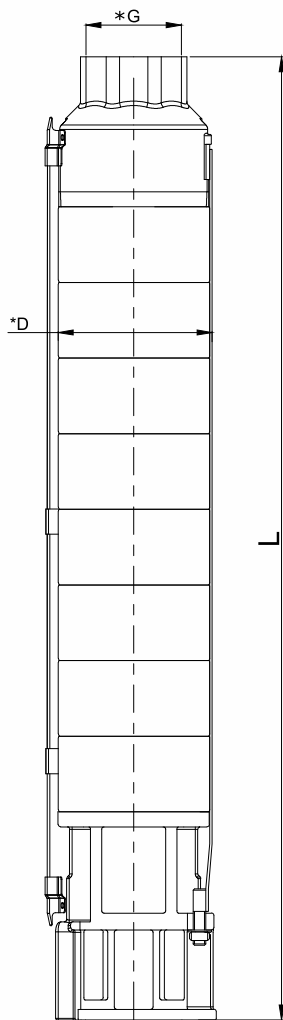
Note:
PUMPS UP TO 20 STAGE DISCHARGE
CHAMBER COMES WITH S.S.
FABRICATED AND FROM 21 STAGE &
ONWARDS WITH STEEL CAST.

6VP 48, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



Dimensions & Weights



Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (Incl. pkg.) Kg.
6VP 18 - 01	142	331	8	10
6VP 18 - 02	142	392	9	11
6VP 18 - 03	142	452	11	13
6VP 18 - 04	142	513	12	14
6VP 18 - 05	142	573	13	15
6VP 18 - 06	142	634	14	16
6VP 18 - 07	142	694	16	18
6VP 18 - 08	142	755	17	19
6VP 18 - 09	142	815	18	20
6VP 18 - 10	142	894	19	21
6VP 18 - 11	142	955	21	23
6VP 18 - 12	142	1015	22	24
6VP 18 - 13	142	1076	23	26
6VP 18 - 14	142	1136	24	27
6VP 18 - 15	142	1197	26	28
6VP 18 - 16	142	1257	27	30
6VP 18 - 17	142	1318	28	31
6VP 18 - 18	142	1378	29	32
6VP 18 - 19	142	1439	31	34
6VP 18 - 20	142	1499	32	35
6VP 18 - 21	142	1560	33	37
6VP 18 - 22	142	1620	34	38
6VP 18 - 23	142	1681	36	39
6VP 18 - 24	142	1741	37	40
6VP 18 - 25	142	1802	38	42
6VP 18 - 26	142	1862	39	43
6VP 18 - 27	142	1923	41	44
6VP 18 - 28	142	1983	42	45
6VP 18 - 29	142	2044	43	47
6VP 18 - 30	142	2104	44	48
6VP-18 - 33	142	2286	48	52
6VP-18 - 36	142	2467	52	56
6VP-18 - 39	142	2649	56	60
6VP-18 - 42	142	2830	60	64

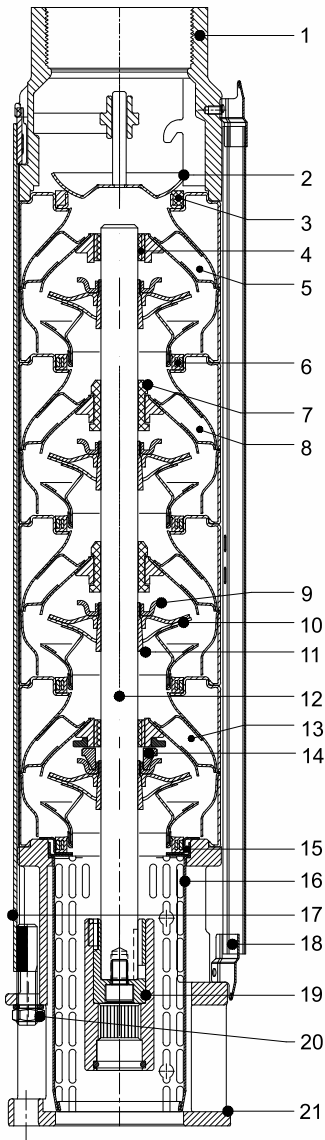
*G : Available Outlet Size 2.5" NPT & 3.0" NPT
*D : With Cable Guard

6VP 18-01 to 6VP 18-09 pumps are also available in 4" joining.

6VP 32 SERIES PUMP DESIGN

Material Specification

No	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	VALVE	S.S.304
3	VALVE SEAT	N.B.R. + S.S.304
4	TOP & FIRST BEARING BUSH	N.B.R. + S.S.304
5	INTERMEDIATE CHAMBER TOP	S.S.304
6	NECKRING	N.B.R. + NYLON
7	BEARING BUSH	N.B.R.
8	INTER MEDIATE CHAMBER	S.S.304
9	COLLET NUT	S.S.304
10	IMPELLER	S.S.304
11	COLLET	S.S.304
12	PUMP SHAFT (UP TO 18 STAGES)	S.S.431
	PUMP SHAFT (19 STAGE & ABOVE)	S.S.1.4362
13	INTER MEDIATE CHAMBER 1st	S.S.304
14	SPACING WASHER	25% CFT
15	CONNECTOR	S.S.304
16	STRAINER	S.S.304
17	CLAMPING STRIP	S.S.304
18	CABLE GUARD	S.S.304
19	NEMA COUPLING	S.S.304
20	HEX NUT	S.S.316
21	SUCTION	STEEL CAST 304



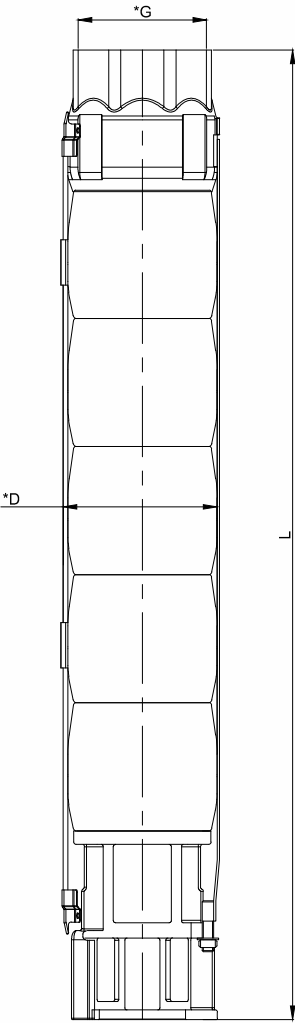
Note:
PUMPS UP TO 20 STAGE DISCHARGE CHAMBER COMES WITH S.S. FABRICATED AND FROM 21 STAGE & ONWARDS WITH STEEL CAST.

PERFORMANCE CHART

MODEL NAME		RATING			DISCHARGE						
THREE PHASE	STAGE	kW	HP	l/min	0	335	500	670	835	1000	1170
				m ³ /h	0	20.1	30.0	40.2	50.1	60.0	70.2

6VP 48-01	1	3.00	4.00	HEAD IN M trs.	20	18	17	15	14	11	9
6VP 48-02	2	5.50	7.50		39	36	34	31	28	23	17
6VP 48-03	3	7.50	10.00		59	54	50	46	41	34	26
6VP 48-04	4	9.30	12.50		78	72	67	62	55	46	34
6VP 48-05	5	13.00	17.50		98	90	84	77	69	57	43
6VP 48-06	6	15.00	20.00		118	108	101	92	83	69	51
6VP 48-07	7	18.50	25.00		137	126	117	108	97	80	60
6VP 48-08	8	18.50	25.00		157	144	134	123	111	92	68
6VP 48-09	9	22.00	30.00		176	161	151	139	124	103	77
6VP 48-10	10	22.00	30.00		196	179	168	154	138	115	85
6VP 48-11	11	26.00	35.00		215	197	184	170	152	126	94
6VP 48-12	12	30.00	40.00		235	215	201	185	166	138	102
6VP 48-13	13	30.00	40.00		255	233	218	200	180	149	111
6VP 48-14	14	37.00	50.00		274	251	235	216	193	161	119
6VP 48-15	15	37.00	50.00		294	269	251	231	207	172	128
6VP 48-16	16	37.00	50.00		313	287	268	247	221	184	136
6VP 48-17	17	37.00	50.00		333	305	285	262	235	195	145

Dimensions & Weights



Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (Incl. pkg.) Kg.
6VP 48 - 01	147	400	10	13
6VP 48 - 02	147	513	12	15
6VP 48 - 03	147	628	14	17
6VP 48 - 04	147	741	16	19
6VP 48 - 05	147	854	18	22
6VP 48 - 06	147	967	20	24
6VP 48 - 07	147	1080	22	26
6VP 48 - 08	147	1193	24	28
6VP 48 - 09	147	1306	26	30
6VP 48 - 10	147	1436	28	33
6VP 48 - 11	147	1549	30	35
6VP 48 - 12	147	1662	32	39
6VP 48 - 13	147	1775	34	41
6VP 48 - 14	147	1888	36	43
6VP 48 - 15	147	2001	38	45
6VP 48 - 16	147	2114	40	48
6VP 48 - 17	147	2227	42	50

*G : Available outlet size 3" NPT & 4" NPT

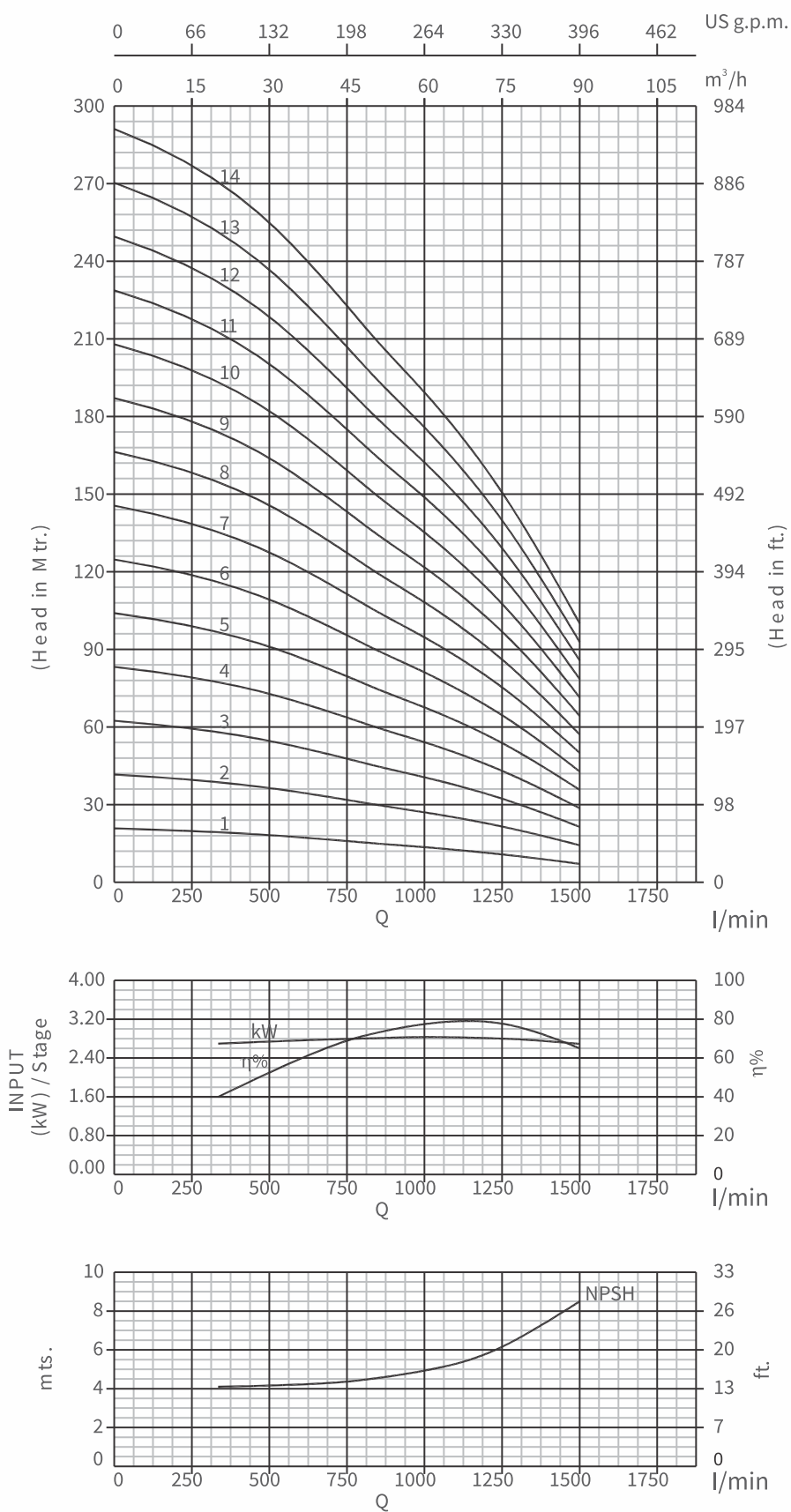
*D : With cable Guard

6VP 48 -01 to 6VP 48 -03 pumps are also available in 4" joining.

6VP 48 -18, 6VP 48 -19, 6VP 48 -20, 6VP 48 -22 & 6VP 48 -24 pumps are also available with & without mounted sleeve in 8" joining.

6VP 62, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



6VP 62, 60Hz
ISO 9906 Annexure A

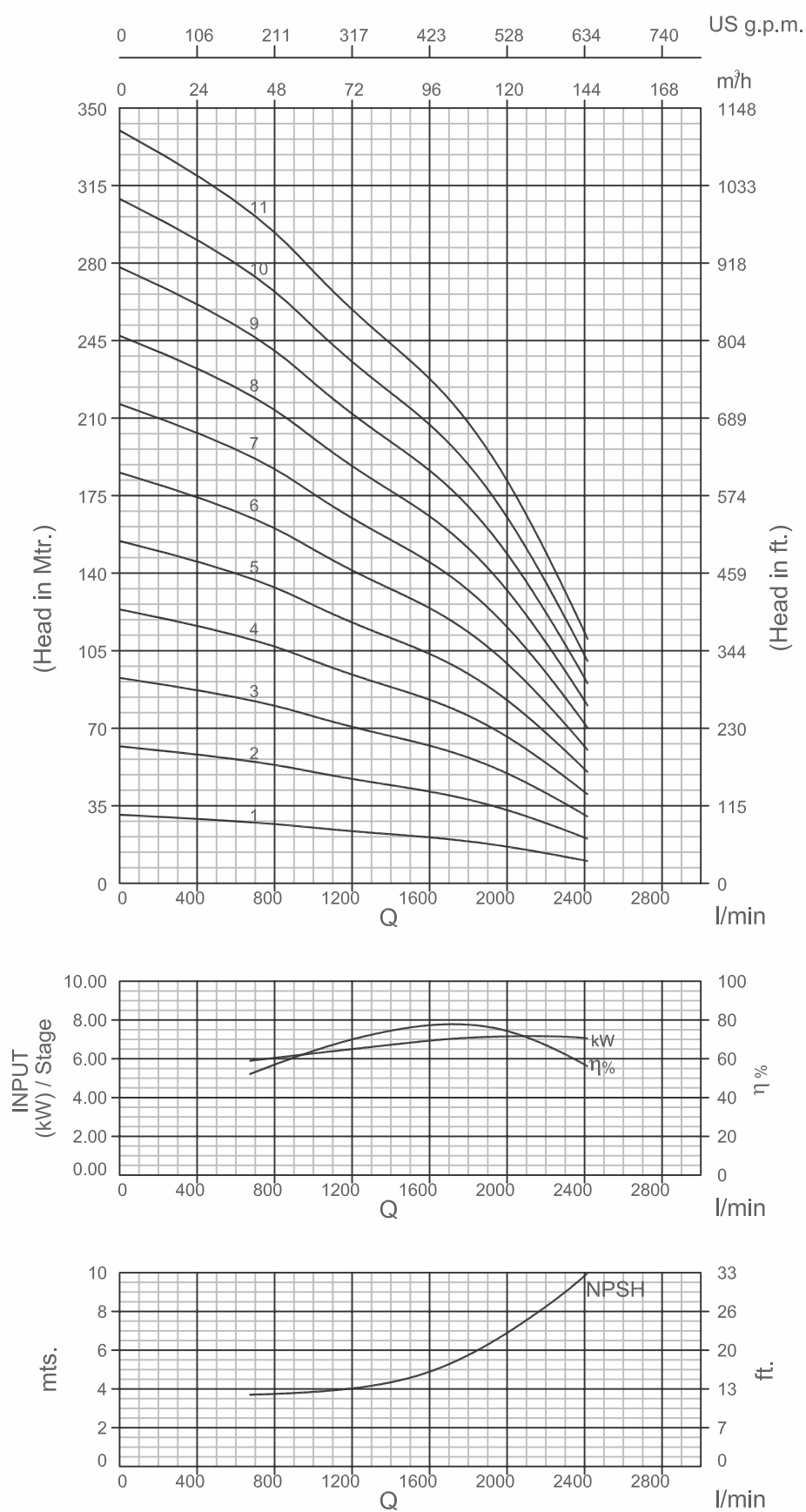
PERFORMANCE CHART

MODEL NAME		RATING			DISCHARGE							
THREE PHASE	STAGE	kW	HP	l/min	0	335	670	835	1000	1170	1335	1500
				m³/h	0	20.1	40.2	50.1	60.0	70.2	80.1	90.0

6VP 62-01	1	4.00	5.50	HEAD IN M trs.	21	20	17	15	14	12	10	7
6VP 62-02	2	5.50	7.50		42	39	34	30	27	24	19	14
6VP 62-03	3	9.30	12.50		62	59	50	45	41	35	29	21
6VP 62-04	4	11.00	15.00		83	79	67	60	54	47	39	29
6VP 62-05	5	13.00	17.50		104	99	84	75	68	59	49	36
6VP 62-06	6	18.50	25.00		125	118	101	90	81	71	58	43
6VP 62-07	7	18.50	25.00		146	138	118	105	95	83	68	50
6VP 62-08	8	22.00	30.00		166	158	134	120	109	94	78	57
6VP 62-09	9	26.00	35.00		187	177	151	135	122	106	87	64
6VP 62-10	10	26.00	35.00		208	197	168	150	136	118	97	71
6VP 62-11	11	30.00	40.00		229	217	185	165	149	130	107	79
6VP 62-12	12	37.00	50.00		249	237	201	180	163	141	117	86
6VP 62-13	13	37.00	50.00		270	256	218	195	176	153	126	93
6VP 62-14	14	37.00	50.00		291	276	235	210	190	165	136	100

8VP 80, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES

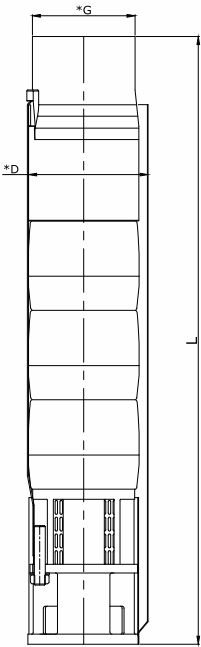


8VP 80, 60Hz
ISO 9906 Annexure A

PERFORMANCE CHART

MODEL NAME		RATING			DISCHARGE											
					l/min	0	335	670	1000	1166	1335	1500	1670	1835	2000	
THREE PHASE	STAGE	kW	HP	m ³ /h	0	20.1	40.2	60.0	70.0	80.1	90.0	100.2	110.1	120.0		
8VP 80-01	1	5.50	7.50			29.5	29	27	23	22	20	19	17	14	11	
8VP 80-02	2	11.00	15.00			59	58	53	47	44	41	38	34	28	22	
8VP 80-03	3	18.50	25.00			88	87	80	70	66	61	57	50	42	32	
8VP 80-04	4	22.00	30.00			118	115	106	94	88	82	75	67	55	43	
8VP 80-05	5	26.00	35.00			147	144	133	117	110	102	94	84	69	54	
8VP 80-06	6	37.00	50.00			177	173	159	141	132	122	113	101	83	65	
8VP 80-07	7	37.00	50.00			206	202	186	164	153	143	132	117	97	75	
8VP 80-08	8	45.00	60.00			236	231	212	188	175	163	151	134	111	86	
8VP 80-09	9	55.00	75.00			265	260	239	211	197	183	170	151	125	97	
8VP 80-10	10	55.00	75.00			294	288	265	235	219	204	188	168	138	108	
8VP 80-11	11	63.00	85.00			324	317	292	258	241	224	207	184	152	118	
8VP 80-12	12	63.00	85.00			353	346	318	282	263	245	226	201	166	129	
8VP 80-13	13	75.00	100.0			383	375	345	305	285	265	245	218	180	140	

Dimensions & Weights



Model Name	Specification				
	D* (mm)	D** (mm)	L (mm)	Pump Weight (in Kg.)	Weight (Incl. pkg.) Kg.
8VP 80 - 01	175	180	620	21	23
8VP 80 - 02	175	180	748	25	28
8VP 80 - 03	175	180	876	29	32
8VP 80 - 04	175	180	1004	33	36
8VP 80 - 05	175	180	1132	37	41
8VP 80 - 06	175	180	1260	41	45
8VP 80 - 07	175	180	1388	45	50
8VP 80 - 08	196	200	1516	49	54
8VP 80 - 09	196	200	1644	53	58
8VP 80 - 10	196	200	1772	55	63
8VP 80 - 11	196	200	1900	59	67
8VP 80 - 12	196	200	2028	63	72
8VP 80 - 13	196	200	2156	67	76

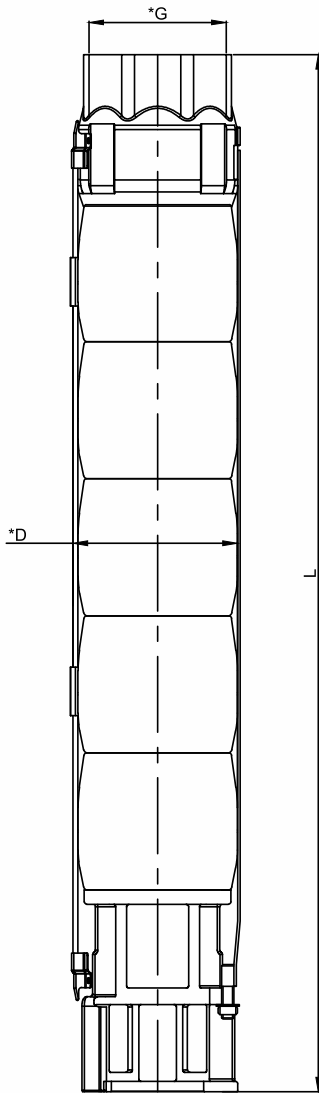
* G: Available Outlet Size 5" NPT

* D: Maximum Diameter With Single Cable Guard

** D: Maximum Diameter With Double Cable Guard upto 50 HP 6" Motor Joining

8VP 80 -01 to 8VP 80 -07 pump are available in 6" joining.
8VP 80 -08 to 8VP 80 -13 pump are available in 8" joining.

Dimensions & Weights



Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg.	Weight (Incl. pkg.) Kg.
6VP 62 - 01	147	400	10	13
6VP 62 - 02	147	513	12	15
6VP 62 - 03	147	628	14	17
6VP 62 - 04	147	741	16	19
6VP 62 - 05	147	854	18	22
6VP 62 - 06	147	967	20	24
6VP 62 - 07	147	1080	22	26
6VP 62 - 08	147	1193	24	28
6VP 62 - 09	147	1306	26	30
6VP 62 - 10	147	1436	28	33
6VP 62 - 11	147	1549	30	35
6VP 62 - 12	147	1662	32	39
6VP 62 - 13	147	1775	34	41
6VP 62 - 14	147	1888	36	43

*G : Available outlet size 4" NPT

*D : With cable Guard

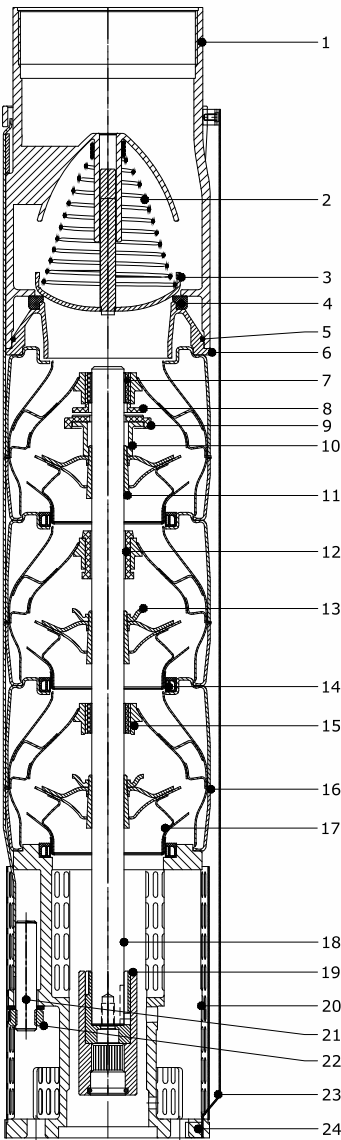
6VP 62 -01 to 6VP 62 -03 pumps are also available in 4" joining.

6VP 62 -15 to 6VP 62 -21 pumps are also available with & without mounted sleeve in 8" joining.

8VP 80 & 8VP 98 SERIES PUMP DESIGN

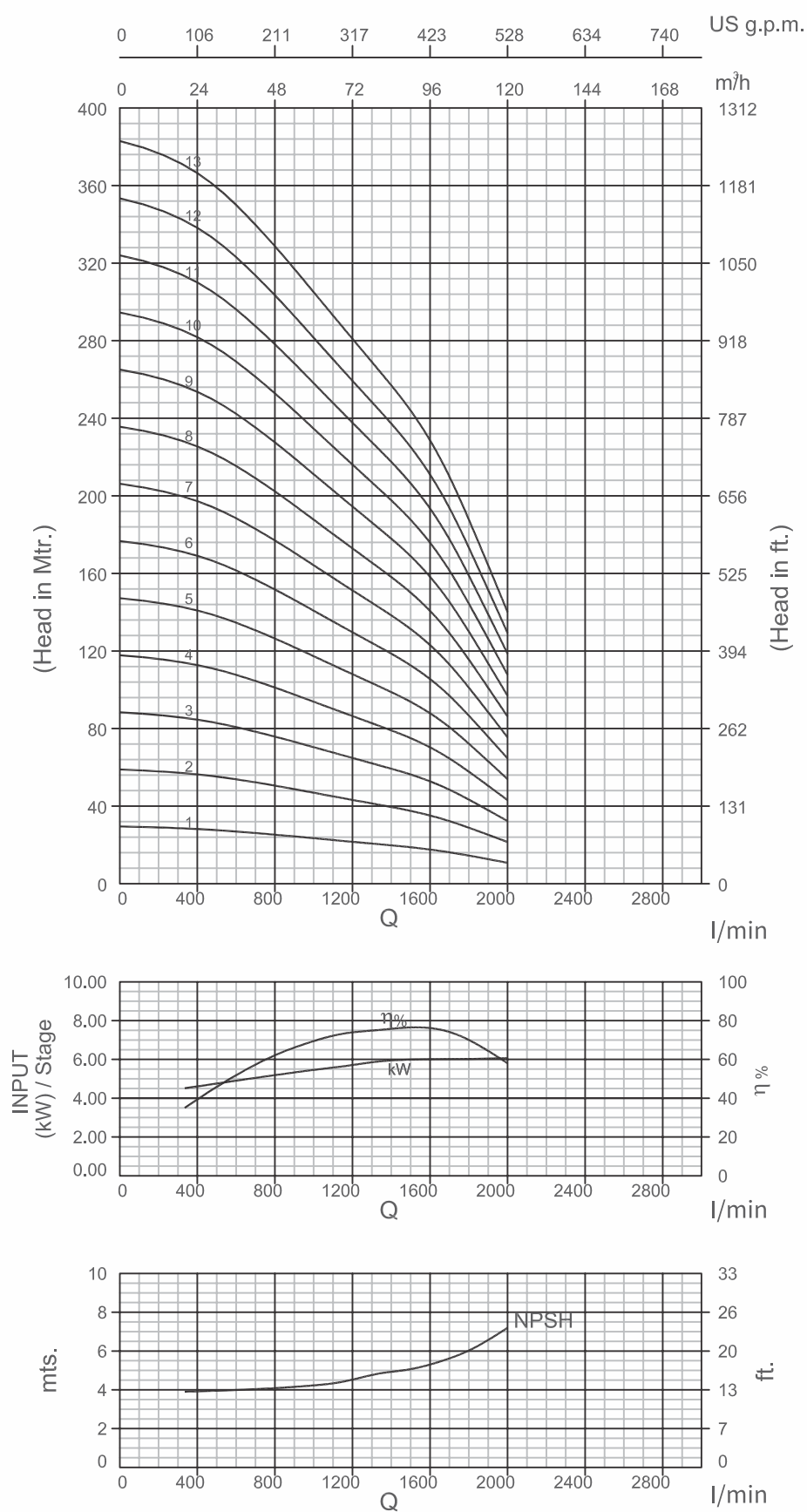
Material Specification

No	PART NAME	MATERIAL
1	DISCHARGE CHAMBER HOUSING	STEEL CAST 304
2	SPRING	S.S.302
3	VALVE	S.S.304
4	VALVE SEAT	N.B.R.
5	"O" RING	N.B.R.
6	VALVE SEAT HOUSING	STEEL CAST 304
7	FIRST STAGE BEARING BUSH	N.B.R. + S.S.304
8	STOP RING	S.S.304
9	SPACING WASHER	25% CFT
10	FIRST STAGE NUT	STEEL CAST 304
11	IMPELLER COLLET	S.S.304
12	BEARING BUSH STAGE	N.B.R.
13	COLLET NUT	S.S.304
14	NECKRING	N.B.R. + NYLON
15	IMC SLEEVE	S.S.304
16	INTERMEDIATE CHAMBER	S.S.304
17	IMPELLER	S.S.304
18	PUMP SHAFT (UP TO 04 STAGES)	S.S.431
	PUMP SHAFT (05 STAGE & ABOVE)	S.S.1.4362
19	NEMA COUPLING	S.S.304
20	STRAINER	S.S.304
21	CLAMPING STRIP	S.S.304
22	HEX NUT	S.S.316
23	CABLE GUARD	S.S.304
24	SUCTION	STEEL CAST 304



8VP 98, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES

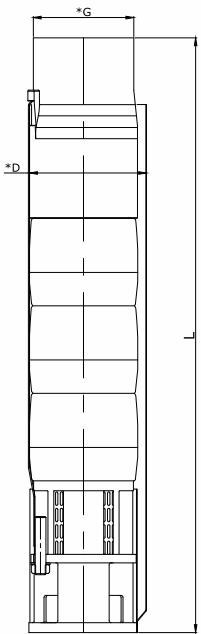


8VP 98, 60Hz
ISO 9906 Annexure A

PERFORMANCE CHART

MODEL NAME		RATING			DISCHARGE							
THREE PHASE	STAGE	kW	HP	l/min	0	670	1000	1335	1670	2000	2335	2417
				m³/h	0	40.2	60.0	80.1	100.2	120.0	140.1	145.0
8VP 98-01	1	7.50	10.00	HEAD IN Mtrs.	31	28	25	23	20	17	11	10
8VP 98-02	2	13.00	17.50		62	56	50	45	41	34	23	20
8VP 98-03	3	22.00	30.00		93	84	75	68	61	50	34	30
8VP 98-04	4	26.00	35.00		124	112	100	90	81	67	46	40
8VP 98-05	5	37.00	50.00		154	140	125	113	102	84	57	50
8VP 98-06	6	37.00	50.00		185	168	150	135	122	101	69	60
8VP 98-07	7	45.00	60.00		216	196	175	158	143	118	80	70
8VP 98-08	8	55.00	75.00		247	224	200	180	163	135	92	80
8VP 98-09	9	63.00	85.00		278	252	225	203	183	151	103	90
8VP 98-10	10	63.00	85.00		309	280	250	225	204	168	114	100
8VP 98-11	11	75.00	100.0		340	308	275	248	224	185	126	110

Dimensions & Weights



Model Name	Specification				
	D* (mm)	D** (mm)	L (mm)	Pump Weight (in Kg.)	Weight (incl. pkg.) Kg.
8VP 98 - 01	175	180	620	21	23
8VP 98 - 02	175	180	748	25	28
8VP 98 - 03	175	180	876	29	32
8VP 98 - 04	175	180	1004	33	36
8VP 98 - 05	175	180	1132	37	41
8VP 98 - 06	175	180	1260	41	45
8VP 98 - 07	196	200	1388	45	50
8VP 98 - 08	196	200	1516	49	54
8VP 98 - 09	196	200	1644	53	58
8VP 98 - 10	196	200	1772	55	63
8VP 98 - 11	196	200	1900	59	67

* G: Available Outlet Size 5" NPT

* D: Maximum Diameter With Single Cable Guard

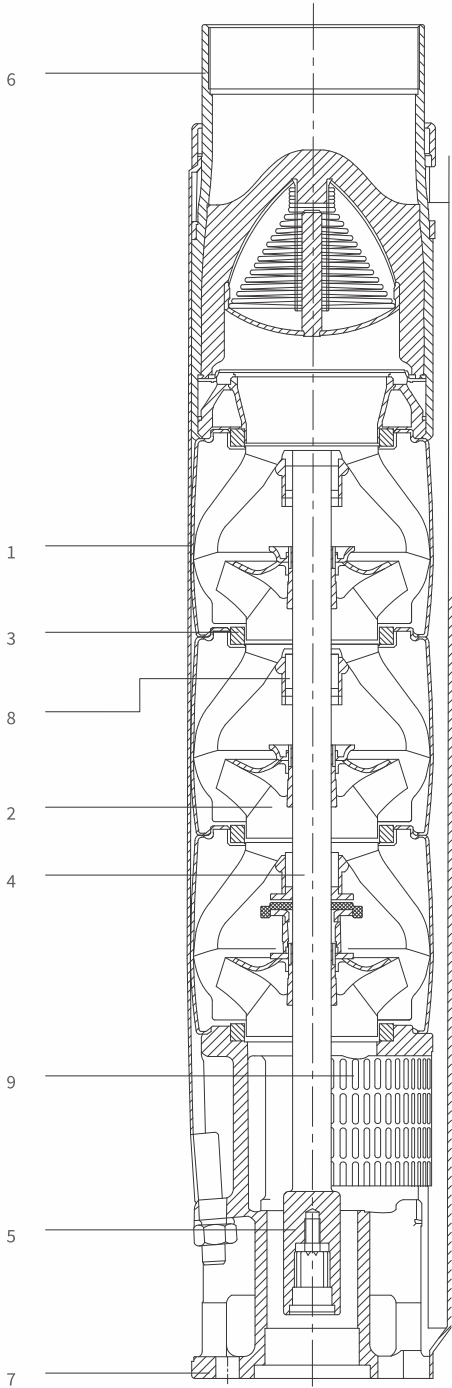
** D: Maximum Diameter With Double Cable Guard upto 50 HP 6" Motor Joining

8VP 98 -01 to 8VP 98 -06 pump are available in 6" joining.
8VP 98 -07 to 8VP 98 -11 pump are available in 8" joining.

10VP 128 SERIES PUMP DESIGN

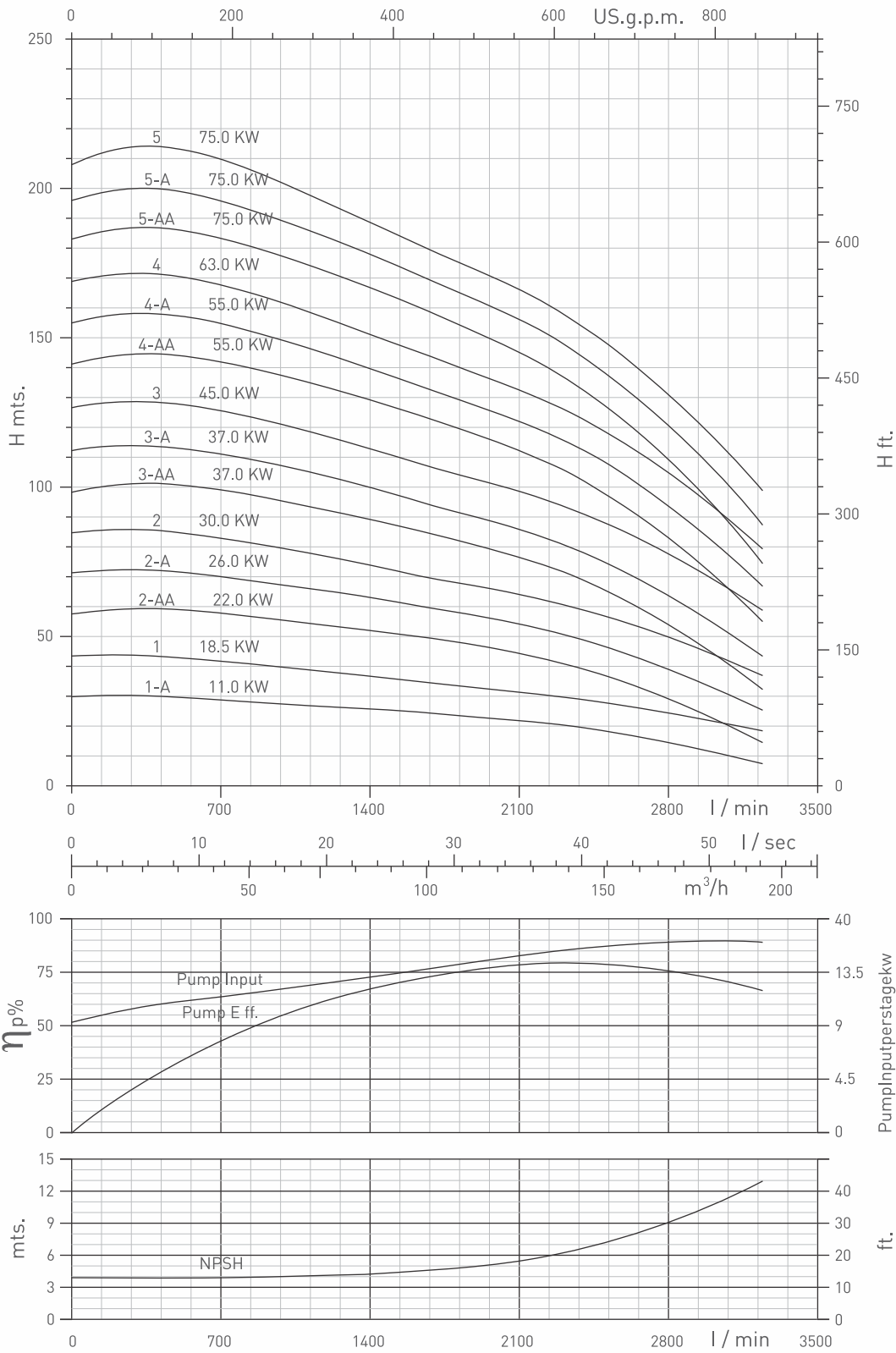
Material Specification

NO	PART NAME	MATERIAL	STANDARD
1	BOWL / DIFFUSER	STAINLESS STEEL	304
2	IMPELLER	STAINLESS STEEL	304
3	NECK RING	NBR	
4	SHAFT	STAINLESS STEEL	431
5	COUPLE	STAINLESS STEEL	316
6	DELIVERY CASING	STAINLESS STEEL	304
7	SUCTION CASE	STAINLESS STEEL	304
8	BEARING BUSH	NBR	
9	STRAINER	STAINLESS STEEL	304



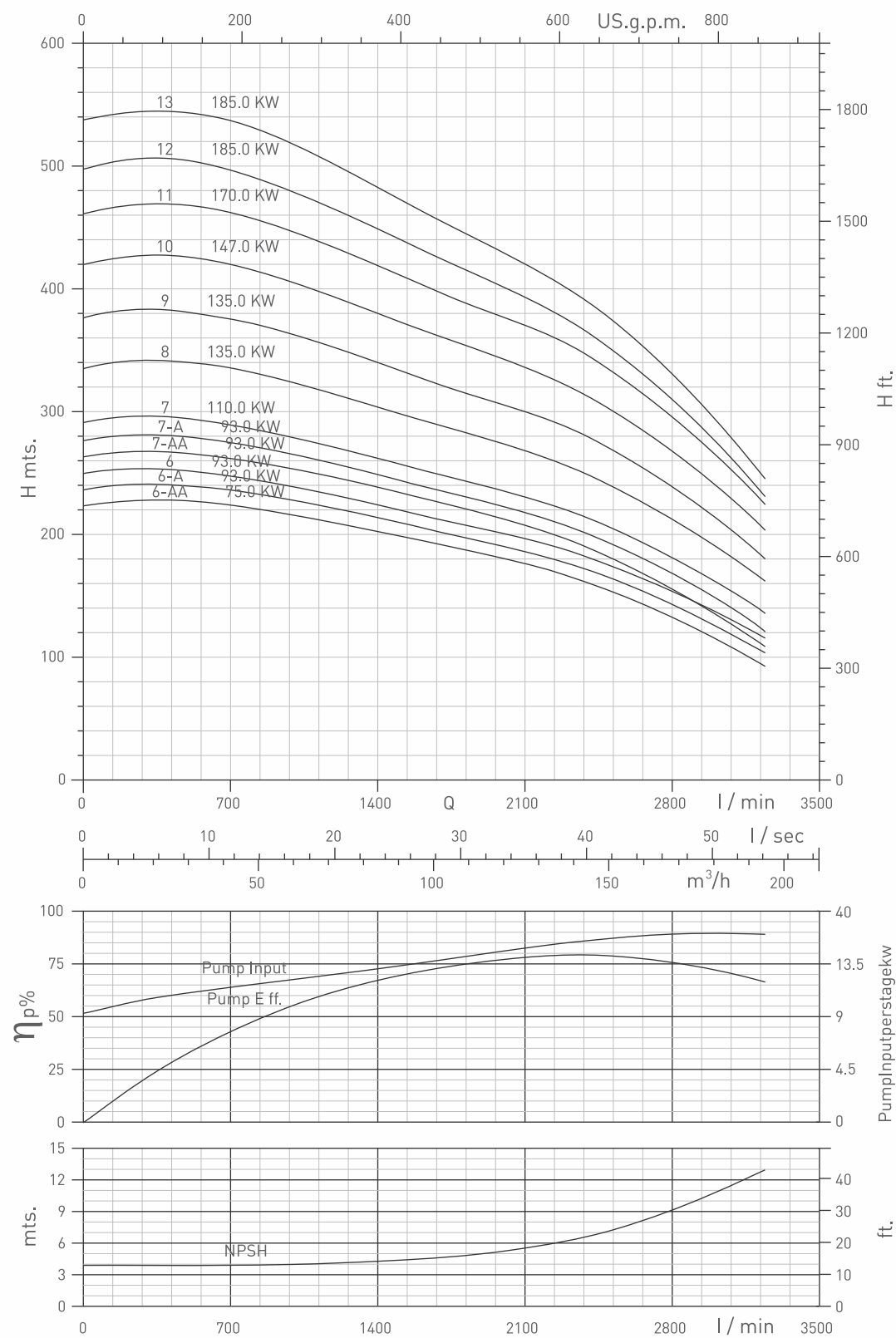
10VP 128, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



10VP 128, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



10VP 128, 60Hz
ISO 9906 Annexure A

PERFORMANCE CHART

Model Name	Rating		Discharge					
	kW	HP	l/min m³/h	333 20.0	1000 60.0	1667 100.0	2334 140.0	3251 195.1

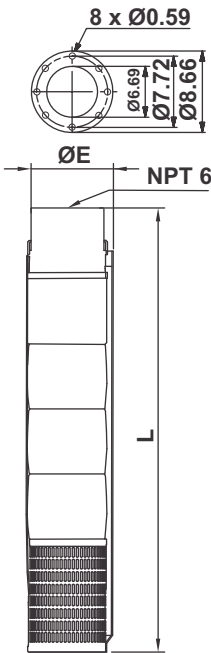
10VP-128-1-A	15.0	11.0	HEAD IN Mtrs.	31	28	25	21	8
10VP-128-1	25.0	18.5		44	41	35	30	19
10VP-128-2-AA	30.0	22.0		60	56	50	41	15
10VP-128-2-A	35.0	26.0		73	68	60	51	26
10VP-128-2	40.0	30.0		87	80	71	61	38
10VP-128-3-AA	50.0	37.0		102	96	85	72	33
10VP-128-3-A	50.0	37.0		115	108	95	81	44
10VP-128-3	60.0	45.0		130	122	108	94	59
10VP-128-4-AA	75.0	55.0		146	138	124	106	56
10VP-128-4-A	75.0	55.0		159	150	134	116	68
10VP-128-4	85.0	63.0		173	162	145	126	80
10VP-128-5-AA	100.0	75.0		188	178	160	137	75
10VP-128-5-A	100.0	75.0		201	190	171	148	88
10VP-128-5	100.0	75.0		215	203	181	158	100
10VP-128-6-AA	100.0	75.0		230	218	195	167	94
10VP-128-6-A	125.0	93.0		243	230	205	177	105
10VP-128-6	125.0	93.0		255	241	215	188	117
10VP-128-7-AA	125.0	93.0		270	256	230	196	110
10VP-128-7-A	125.0	93.0		283	267	239	207	122
10VP-128-7	150.0	110.0		298	282	252	220	137
10VP-128-8	180.0	135.0		344	326	292	256	164
10VP-128-9	180.0	135.0		385	365	326	287	182
10VP-128-10	200.0	147.0		430	408	365	321	205
10VP-128-11	225.0	170.0		472	450	402	355	226
10VP-128-12	250.0	185.0		509	482	430	375	233
10VP-128-13	250.0	185.0		549	520	461	401	247

10VP 162, 60Hz
ISO 9906 Annexure A

PERFORMANCE CHART

Model Name	kW	HP	Stage	Q	n = 3450 rpm					
				L/min	0	333	1333	2334	3334	4168
				USgpm	0	88	352	617	881	1101
10VP-162/1-A	15.0	20.0	1	H ft.	116	114	95	79	57	19
10VP-162/1	22.0	30.0	1		160	161	141	112	92	60
10VP-162/2-AA	30.0	40.0	2		220	217	191	161	118	45
10VP-162/2-A	37.0	50.0	2		263	266	240	195	154	88
10VP-162/2	37.0	50.0	2		308	309	276	223	184	121
10VP-162/3-AA	45.0	60.0	3		364	371	338	281	217	117
10VP-162/3-A	55.0	75.0	3		417	420	380	315	256	162
10VP-162/3	55.0	75.0	3		462	466	417	344	285	190
10VP-162/4-AA	75.0	100.0	4		518	525	476	394	312	180
10VP-162/4-A	75.0	100.0	4		566	571	517	427	348	223
10VP-162/4	75.0	100.0	4		614	617	551	459	381	254
10VP-162/5-AA	93.0	125.0	5		666	673	607	509	404	243
10VP-162/5-A	93.0	125.0	5		712	719	646	538	436	277
10VP-162/5	93.0	125.0	5		753	761	681	568	466	305
10VP-162/6	110.0	150.0	6		904	914	820	679	558	374
10VP-162/7	135.0	180.0	7		1063	1076	968	807	666	453
10VP-162/8	150.0	200.0	8		1217	1230	1112	928	768	522
10VP-162/9	165.0	225.0	9		1370	1385	1247	1043	866	587
10VP-162/10	185.0	250.0	10		1496	1511	1355	1129	919	604

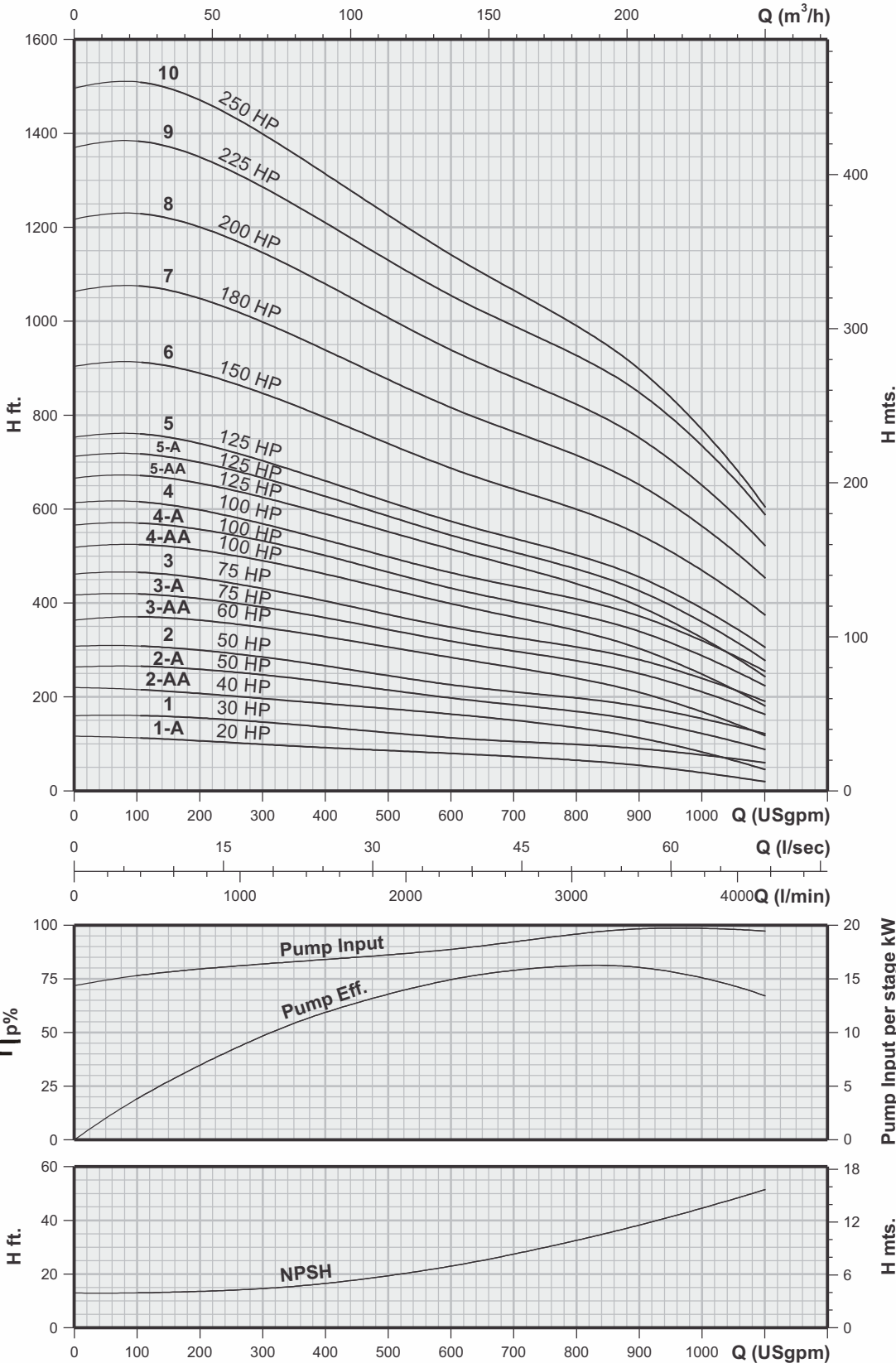
Dimensions & Weights



Model Name	Motor Joining Size	ØE (inch)	L (inch)	Pump Gross weight (lbs)	Pump Gross volume (ft³)
10VP-162/1-A	6"	8.31	25.00	57.0	0.95
10VP-162/1	6"	8.31	25.00	57.0	0.95
10VP-162/2-AA	6"	8.31	31.00	66.0	1.11
10VP-162/2-A	6"	8.31	31.00	66.0	1.11
10VP-162/2	6"	8.31	31.00	66.0	1.11
10VP-162/3-AA	8"	8.39	37.00	76.0	1.27
10VP-162/3-A	8"	8.39	37.00	76.0	1.27
10VP-162/3	8"	8.39	37.00	76.0	1.27
10VP-162/4-AA	8"	8.39	44.00	85.0	1.43
10VP-162/4-A	8"	8.39	44.00	85.0	1.43
10VP-162/4	8"	8.39	44.00	85.0	1.43
10VP-162/5-AA	8"	8.39	50.00	94.0	1.59
10VP-162/5-A	8"	8.39	50.00	94.0	1.59
10VP-162/5	8"	8.39	50.00	94.0	1.59
10VP-162/6	8"	8.39	56.00	103.0	1.75
10VP-162/7	10"	9.45	62.00	112.0	1.91
10VP-162/8	10"	9.45	68.00	122.0	2.07
10VP-162/9	10"	9.45	74.00	131.0	2.23
10VP-162/10	10"	9.45	80.00	140.0	2.39

10VP 162, 60Hz
ISO 9906 Annexure A

PERFORMANCE CURVES



CONVERSION TABLES

Volume (Capacity)					
Cubic metre m³	Litre L	Millilitre mL	Imperial gallon Imp. gal	Us gallon USgal	Cubic feet ft³
1	1000	1 x 10 ⁶	219.9692	264.1721	35.3147
0.001	1	1000	0.2200	0.2642	0.0353
1 x 10 ⁻⁶	0.001	1	0.0002	0.0003	3.515 x 10 ⁻⁷
0.0045	4.5461	4546.09	1	1.2009	0.1605
0.0038	3.7854	3785.4118	0.8327	1	0.1337
0.0283	28.3168	28316.8488	6.2288	7.4805	1

Volume (Flow)							
Litre per second l/s	Liter per minute l/min	Cubic metre per hour m³/hr	Cubic feet per hour ft³/hr	Cubic feet per minute ft³/min	Imp. gallon per minute lgpm	US gallon per minute USgpm	US barrel per day US barrel/day
1	60	3.600	127.1328	2.1189	13.1982	15.8504	543.4390
0.0167	1	0.0600	2.1189	0.0353	0.2200	0.2642	9.0570
0.2778	16.6667	1	35.3147	0.5886	3.6662	4.4029	150.9550
0.0079	0.4719	0.0283	1	0.0167	0.1038	0.1247	4.2750
0.4719	28.3168	1.6990	60.0000	1	6.2288	7.4805	265.4750
0.0758	4.5461	0.2728	9.6326	0.1605	1	1.2010	41.1750
0.0631	3.7854	0.2271	8.0208	0.1337	0.8327	1	34.2860
0.0020	0.1100	0.0060	0.2400	0.0040	0.0240	0.0310	1

Liquid head and pressure								
Newton per square metre N/m²	Kilo Pascal kPa	bar	Kilogram force per square centimetre kgf/cm²	Pound force per square inch psi	Feet of water ft H ₂ O	Meters 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	0.010	0.0102	0.1450	0.3346	0.1020	7.5	0.2953
1 x 10 ⁵	100	1	1.0197	14.5038	33.4553	10.1973	750.0638	29.5300
98066.50	98.0665	0.9807	1	14.2233	32.8084	10	735.5613	28.9590
6894.76	6.8949	0.0689	0.0703	1	2.3067	0.7031	51.7151	2.0360
2989.07	2.9891	0.0299	0.0305	0.4335	1	0.3048	22.4199	0.8827
9806.55	9.8066	0.0981	0.1000	1.4223	3.2808	1	73.5554	2.8959
133.32	0.1333	0.0013	0.0014	0.0193	0.0446	0.0136	1	0.0394
3386.39	3.3864	0.0339	0.0345	0.4912	1.1329	0.3453	25.4001	1

CONVERSION TABLES

Power		
HP	W	kW
1 (SI)	746	0.746
1 (Metric)	736	0.736
1.34 x 10 ⁻³	1 (SI)	0.001
1.36 x 10 ⁻³	1 (Metric)	0.001
1.3405	1000	1 (SI)
1.3587	1000	1 (Metric)

Length					
Metre m	Feet ft	Yard yd	Centimetre cm	Millimeter mm	Inch in
1	3.2808	1.0936	100	1000	39.3701
0.3048	1	0.3333	30.48	304.8	12
0.9144	3	1	91.14	914.4	36
0.01	0.0328	0.0109	1	10	0.3937
0.001	0.0033	0.0011	0.1	1	0.0394
0.0254	0.0833	0.0278	2.54	25.4	1

Mass			
Kilogram kg	Pound lb	Hundred weight (long)	Tonne t
1	2.2046	0.0199	0.001
0.4536	1	0.009	0.0005
50.3592	111.02	1	0.0504
1000	2204.6226	19.8573	1

Temperature		
To convert from	To	Use formula
Temperature Celsius (C) - tC	Temperature Kelvin (K) - tK	tK = tC + 273.15
Temperature Fahrenheit (F) - tF	Temperature Kelvin (K) - tK	tK = (tF + 459.67) / 1.8
Temperature Celsius (C) - tC	Temperature Fahrenheit (F) - tF	tF = 1.8tC + 32
Temperature Fahrenheit (F) - tF	Temperature Celsius (C) - tC	tC = (tF - 32) / 1.8
Temperature Kelvin (K) - tK	Temperature Celsius (C) - tC	tC = tK - 273.15
Temperature Kelvin (K) - tK	Temperature Fahrenheit (F) - tF	tF = 1.8tK - 459.67

Head losses in ordinary water pipes

Quantity of water		Head losses in ordinary water pipes											
Litres/min.	Litres/sec.	Nominal pipe diameter in inches and internal diameter in [mm]											
		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"
		15.75	21.25	27.00	35.75	41.25	52.50	68.00	80.25	92.50	105.0	130.0	155.5
10	0.16	0.855 9.910	0.470 2.407	0.292 0.784									
15	0.25	1.282 20.11	0.705 4.862	0.438 1.570	0.249 0.416								
20	0.33	1.710 33.53	0.940 8.035	0.584 2.588	0.331 0.677	0.249 0.346							
25	0.42	2.138 49.93	1.174 11.91	0.730 3.834	0.415 1.004	0.312 0.610							
30	0.50	2.565 69.34	1.409 16.50	0.876 5.277	0.498 1.379	0.374 0.700	0.231 0.223						
35	0.58	2.993 91.64	1.644 21.75	1.022 6.949	0.581 1.811	0.436 0.914	0.269 0.291						
40	0.67		1.879 27.66	1.168 8.820	0.664 2.290	0.499 1.160	0.308 0.368						
50	0.83		2.349 41.40	1.460 13.14	0.830 3.403	0.623 1.719	0.385 0.544	0.229 0.159					
60	1.00		2.819 57.74	1.751 18.28	0.996 4.718	0.748 2.375	0.462 0.751	0.275 0.218					
70	1.12		3.288 76.49	2.043 24.18	1.162 6.231	0.873 3.132	0.539 0.988	0.321 0.287	0.231 0.131				
80	1.33			2.335 30.87	1.328 7.940	0.997 3.988	0.616 1.254	0.367 0.363	0.263 0.104				
90	1.50			2.627 38.30	1.494 9.828	1.122 4.927	0.693 1.551	0.413 0.449	0.269 0.203				
100	1.67			2.919 46.49	1.660 11.90	1.247 5.972	0.770 1.875	0.459 0.542	0.329 0.244	0.248 0.124			
125	2.08			3.649 70.41	2.075 17.93	1.558 8.967	0.982 2.802	0.574 0.809	0.412 0.365	0.310 0.185	0.241 0.101		
150	2.50				2.490 25.11	1.870 12.53	1.154 3.903	0.688 1.124	0.494 0.506	0.372 0.256	0.289 0.140		
175	2.92				2.904 33.32	2.182 16.66	1.347 5.179	0.803 1.488	0.576 0.670	0.434 0.338	0.337 0.184		
200	3.33				3.319 42.75	2.493 21.36	1.539 6.624	0.918 1.901	0.659 0.855	0.496 0.431	0.385 0.234	0.251 0.084	
250	4.17				4.149 64.86	3.117 32.32	1.924 10.03	1.147 2.860	0.823 1.282	0.620 0.646	0.481 0.350	0.314 0.126	
300	5.00					3.740 45.52	2.309 14.04	1.377 4.009	0.988 1.792	0.744 0.903	0.577 0.488	0.377 0.175	0.263 0.074
400	6.67					4.987 78.17	3.078 24.04	1.836 6.828	1.317 3.053	0.992 1.530	0.770 0.829	0.502 0.294	0.351 0.124
500	8.33						3.848 36.71	2.295 10.40	1.647 4.622	1.240 2.315	0.962 1.254	0.628 0.445	0.439 0.187
600	10.0							2.753 14.62	1.976 6.505	1.488 3.261	1.155 1.757	0.526 0.623	0.260
700	11.7							3.212 19.52	2.308 8.693	1.738 4.356	1.347 2.345	0.879 0.931	0.614 0.347
800	13.3							3.671 25.20	2.635 11.18	1.984 5.582	1.540 3.009	1.005 1.066	0.702 0.445
900	15.0							4.130 31.51	2.984 13.97	2.232 6.983	1.732 3.762	1.130 1.328	0.790 0.555
1000	16.7							4.589 38.43	3.294 17.06	2.480 8.521	1.925 4.595	1.256 1.616	0.877 0.674
1250	20.8								4.117 26.10	3.100 13.00	2.406 7.010	1.570 2.458	1.097 1.027
1500	25.0								4.941 36.97	3.720 18.42	2.887 9.892	1.883 3.468	1.316 1.444
1750	29.2									4.340 24.76	3.368 13.30	2.197 4.665	1.535 1.934
2000	33.3									4.980 31.94	3.850 17.16	2.511 5.995	1.754 2.496
2500	41.7										4.812 26.26	3.139 9.216	2.193 3.807
3000	50.0											3.767 13.06	2.632 5.417
4000	66.7											5.023 22.72	3.509 8.926
5000	83.3												4.388 14.42
90° bends, slide valves		1.0	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.7	2.0	2.5
T-pieces, non-return valves		4.0	4.0	4.0	5.0	5.0	5.0	6.0	6.0	6.0	7.0	8.0	9.0

The upper figures indicate the velocity of water in m/sec.
The lower figures indicate head loss in metres per 100 metres of straight pipes.

The table is calculated in accordance with H. Lang's new formula $a=0.02$ and for a water temperature of 10 degree C.
The head loss in bends, slide valves, T-pieces and non-return valves is equivalent to the metres of straight pipes states in the last two lines of the table.
To find the head loss in foot valves, multiply the loss in T-pieces by two.

Head losses in plastic pipes

Upper figures indicate the velocity of in m/sec. Lower figures indicate head loss in metres per 100 metres of straight pipes.

Quantity of water		PELM/PEH PN 10											
Litres/min.	Litres/sec.	PELM						PEH					
		25	32	40	50	63	75	90	110	125	140	160	180
		20.4	26.2	32.6	40.8	51.4	61.4	73.6	90.0	102.2	114.6	130.8	147.2
10	0.16	0.49 1.8	0.30 0.66	0.19 0.27	0.12 0.085								
15	0.25	0.76 4.0	0.46 1.14	0.3 0.6	0.19 0.18	0.12 0.63							
20	0.33	1.0 6.4	0.61 2.2	0.39 0.9	0.25 0.28	0.16 0.11							
25	0.42	1.3 10.0	0.78 3.5	0.5 1.4	0.32 0.43	0.2 0.17	0.14 0.074						
30	0.50	1.53 13.0	0.93 4.6	0.6 1.9	0.38 0.57	0.24 0.22	0.17 0.092						
35	0.58	1.77 16.0	1.08 6.0	0.69 2.0	0.44 0.70	0.28 0.27	0.2 0.12						
40	0.67	2.05 22.0	1.24 7.5	0.80 3.3	0.51 0.93	0.32 0.35	0.23 0.16	0.16 0.063					
50	0.83	2.54 37.0	1.54 11.0	0.99 4.8	0.63 1.40	0.4 0.50	0.28 0.22	0.2 0.09					
60	1.00	3.06 43.0	1.85 15.0	1.2 6.5	0.76 1.90	0.48 0.70	0.34 0.32	0.24 0.13	0.16 0.050				
70	1.12	3.43 50.0	2.08 18.0	1.34 8.0	0.86 2.50	0.54 0.83	0.38 0.38	0.26 0.17	0.18 0.068				
80	1.33		2.47 25.0	1.59 10.5	1.02 3.00	0.64 1.20	0.45 0.50	0.31 0.22	0.2 0.084				
90	1.50		2.78 30.0	1.8 12.0	1.15 3.50	0.72 1.30	0.51 0.57	0.35 0.26	0.24 0.092	0.18 0.05			
100	1.67		3.1 39.0	2.0 16.0	1.28 4.6	0.8 1.80	0.56 0.73	0.39 0.30	0.26 0.12	0.2 0.07			
125	2.08		3.86 50.0	2.49 24.0	1.59 6.6	1.00 2.50	0.70 1.10	0.49 0.50	0.33 0.18	0.25 0.10	0.20 0.055		
150	2.50			3.00 33.0	1.91 8.6	1.20 3.5	0.84 1.40	0.59 0.63	0.39 0.24	0.30 0.13	0.24 0.075		
175	2.92			3.5 38.0	2.23 11.0	1.41 4.3	0.99 1.80	0.69 0.78	0.46 0.30	0.36 0.18	0.28 0.09		
200	3.33			3.99 50.0	2.55 14.0	1.60 5.5	1.12 2.40	0.78 1.0	0.52 0.40	0.41 0.22	0.32 0.12	0.25 0.055	
250	4.17				3.19 21.0	2.01 8.0	1.41 3.70	0.98 1.50	0.66 0.57	0.51 0.34	0.40 0.18	0.31 0.105	0.25 0.06
300	5.00				3.82 28.0	2.41 10.5	1.69 4.60	1.18 1.95	0.78 0.77	0.61 0.45	0.48 0.25	0.37 0.13	0.29 0.085
400	6.67				3.21 19.0	2.25 8.0	1.57 3.60	1.05 1.40	0.81 0.78	0.65 0.44	0.50 0.23	0.39 0.15	
500	8.33					4.01 28.0	2.81 11.5	1.96 5.0	1.31 2.0	1.02 1.20	0.81 0.63	0.62 0.33	0.49 0.21
600	10.0					4.82 37.0	3.38 15.0	2.35 6.6	1.57 2.60	1.22 1.50	0.97 0.82	0.74 0.45	0.59 0.28
700	11.7					5.64 47.0	3.95 24.0	2.75 8.0	1.84 3.50	1.43 1.90	1.13 1.10	0.87 0.60	0.69 0.40
800	13.3						4.49 26.0	3.13 11.0	2.09 4.5	1.62 2.60	1.29 1.40	0.99 0.81	0.78 0.48
900	15.0						5.07 33.0	3.53 13.5	2.36 5.5	1.83 3.20	1.45 1.70	1.12 0.95	0.08 0.58
1000	16.7						5.64 40.0	3.93 16.0	2.63 6.7	2.04 3.90	1.62 2.2	1.24 1.2	0.96 0.75
1250	20.8							4.89 25.0	3.27 9.0	2.54 5.0	2.02 3.0	1.65 1.6	1.22 0.95
1500	25.0							5.88 33.0	3.93 13.0	3.05 8.0	2.42 4.1	1.86 2.3	1.47 1.40
1750	29.2							6.86 44.0	4.59 17.5	3.56 9.7	2.83 5.7	2.17 3.2	1.72 1.9
2000	33.3								5.23 23.0	4.06 13.0	3.23 7.0	2.48 4.0	1.96 2.4
2500	41.7								6.55 34.0	5.08 18.0	4.04 10.5	3.10 6.0	2.45 3.5
3000	50.0								7.86 45.0	6.1 27.0	4.85 14.0	3.72 7.5	2.94 4.4
4000	66.7									8.13 43.0	6.47 24.0	4.96 13.0	3.92 7.5
5000	83.3										8.08 33.0	6.2 18.0	4.89 11.0

The table is based on a nomogram.
Roughness: $K = 0.01$ mm.
Water temperature : $t = 10$ Degree C

NOTE

[illegible]

NOTE

[illegible]

NOTE

[illegible]

NOTE

[illegible]