



WATERIN

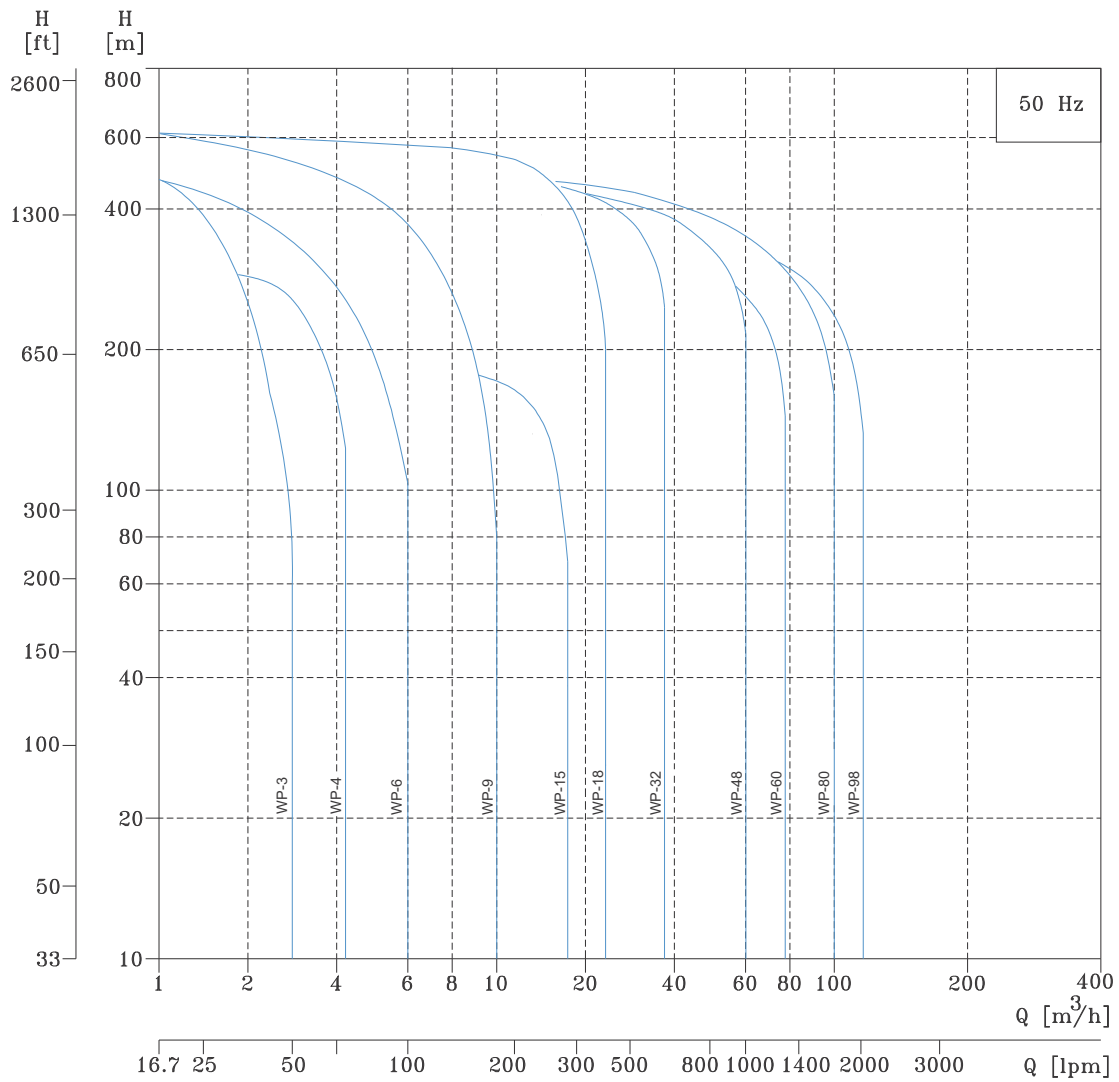
4" to 8"
STAINLESS STEEL
SUBMERSIBLE PUMPS



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Performance Range



Pump Range

Model	WP 3	WP 4	WP 6	WP 9	WP 15	WP 18	WP 32	WP 48	WP 62	WP 80	WP 98
Steel: AISI SS 304	+	+	+	+	+	+	+	+	+	+	+
Connection: Rp (Inches) BSP Thread	1 1/4	1 1/4	1 1/2	2	3	3	3	3 4	3 4	5	5
NPT Thread	1 1/4	1 1/4	1 1/2	2	3	3	3	3 4	3 4	5	5

Applications

The pumps are suitable for the following applications:

- raw water supply
- irrigation systems
- groundwater lowering
- pressure boosting
- industrial applications

Operating Conditions

Flow rate Q: 0.1 - 120 m³/h

Head H: max. 670m

Max. installation pressure: 20 bar max (290 PSI)

Maximum Liquid Temp :

Motor	Installation		
	Flow velocity past motor	Vertical	Horizontal
4", 6" & 8"	0.15 m/s	35 °C	35 °C

Operating pressure: Maximum 670m (67 bar)

Features and Benefits

A wide Pump Range

We offers submersible pumps with energy- efficient duty points ranging from 0.1 to 120 m³/h. The pump range consists of many pump sizes - and each pump size is available with an optional number of stages to match any duty point.

Low Installation Costs

Stainless steel means low weight facilitating the handling of pumps and resulting in low equipment costs and reduced installation and service time. In addition pumps will be as new after service due to the high wear resistance of stainless steel.

Curve Conditions

- Curve tolerance according to ISO 9906, Annex A

- The performance curves show pump performance at actual speed cf. standard motor range.

- The speed of the motors is approximately :

4" and 6" motors : n=2870 min-1

8" to 12" motors : n=2900 min-1

- The measurements were made with airless water at a temperature of 20°C. The curves apply to a kinematic viscosity of 1mm²/5. When pumping liquids with density higher than that of water, motors with correspondingly higher outputs must be used.

- The bold curves indicate the recommended performance range.

- The performance curves are inclusive of possible losses such as non-return valve loss.

Pumped Liquids

Clean, thin, non-aggressive liquids without solid particles or fibres. The max. sand content is 50 mg/lit.

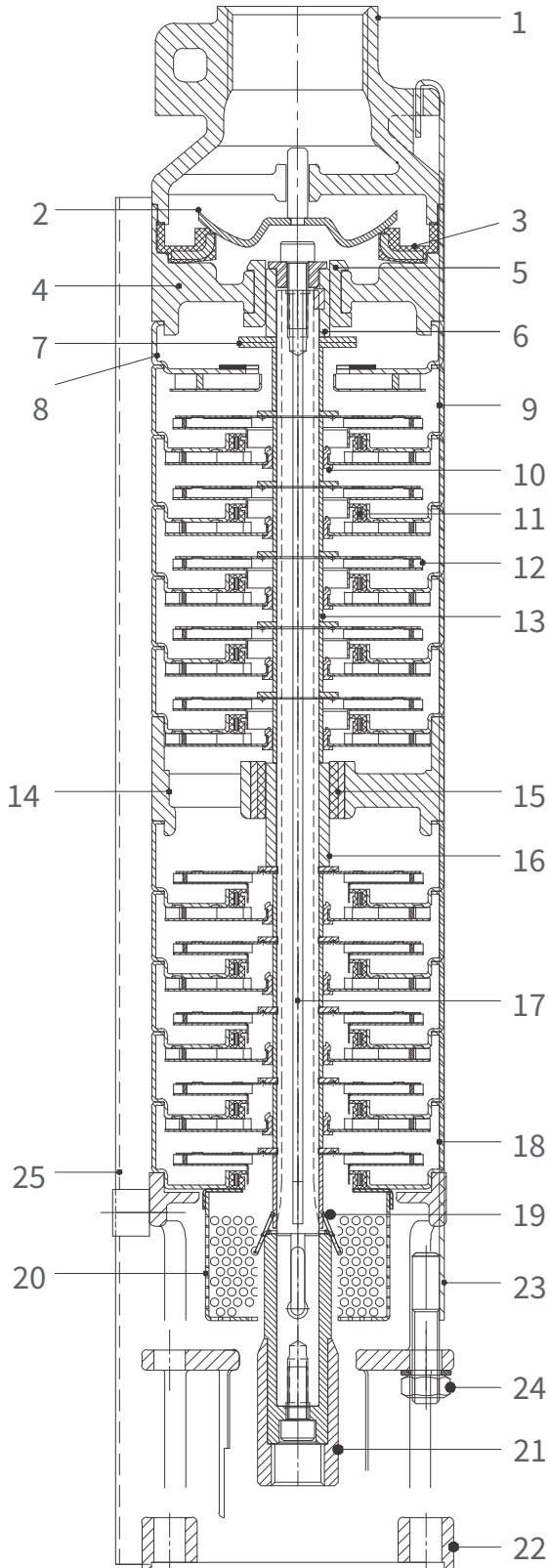
Applications

We offers a complete range of pumps and motors which as a standard are made completely of stainless steel AISI - 304. This provides for good wear resistance and a reduced risk of corrosion when pumping ordinary cold water with a minor content of chloride.

High Pumps Efficiency

Often pump efficiency is a neglected factor compared to the price variations are without importance of pump and motor efficiencies.

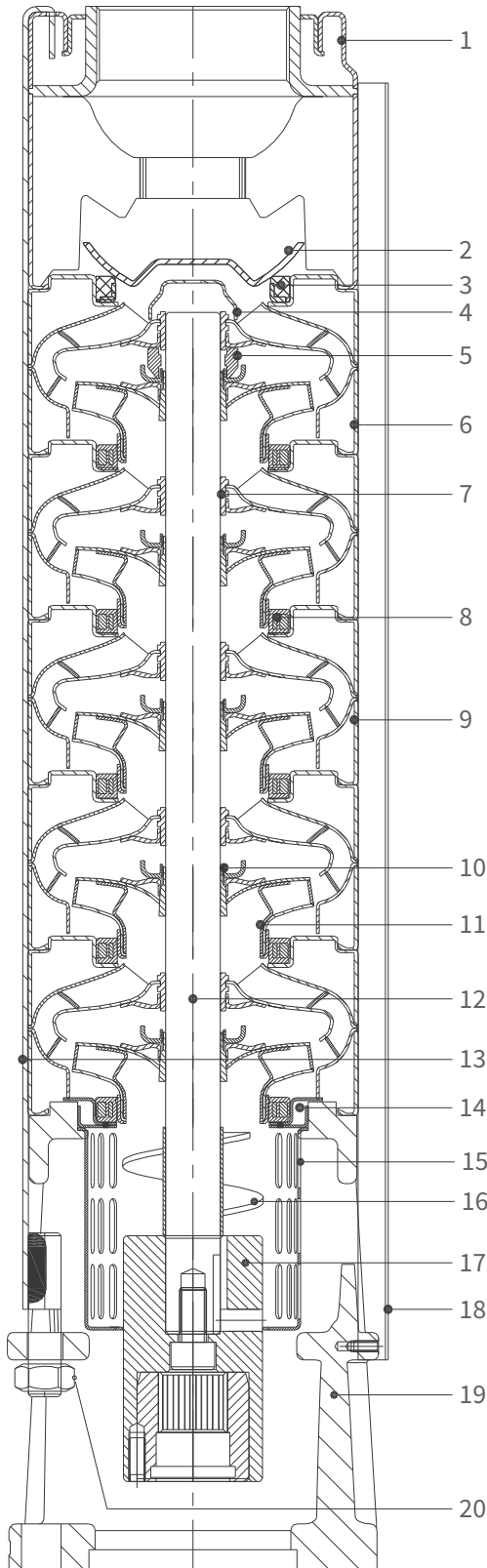
Material Specification 4"



Material Specification

No.	PART NAME	MATERIAL
1	N.R.V. 1.25"	S.S.304
2	VALVE	S.S.304
3	VALVE SEAT	N.B.R.
4	TOP BEARING HOUSING	S.S.304
5	TOP BEARING HOUSING BUSH	N.B.R.
6	TOP BEARING HOUSING SLEEVE	S.S.304
7	THRUST WASHER	S.S.304
8	TOP DIFFUSER	S.S.304
9	DIFFUSER	S.S.304
10	BEARING BUSH	N.B.R.
11	NECKRING	N.B.R. + P.P.S.
12	IMPELLER	S.S.304
13	STAGE SLEEVE	S.S.304
14	MIDDLE BEARING HOUSING	S.S.304
15	MIDDLE BEARING HOUSING BUSH	N.B.R. + S.S.304
16	MIDDLE BEARING HOUSING SLEEVE	S.S.304
17	PUMP SHAFT	S.S.431
18	FIRST STAGE DIFFUSER	S.S.304
19	PRIMING SCREW	S.S.304
20	STRAINER	S.S.304
21	NEMA COUPLING	S.S.304
22	SUCTION INTERCONNECTOR	S.S.304
23	CLAMPING STRIP	S.S.304
24	HEX NUT	S.S.316
25	CABLE GUARD	S.S.304

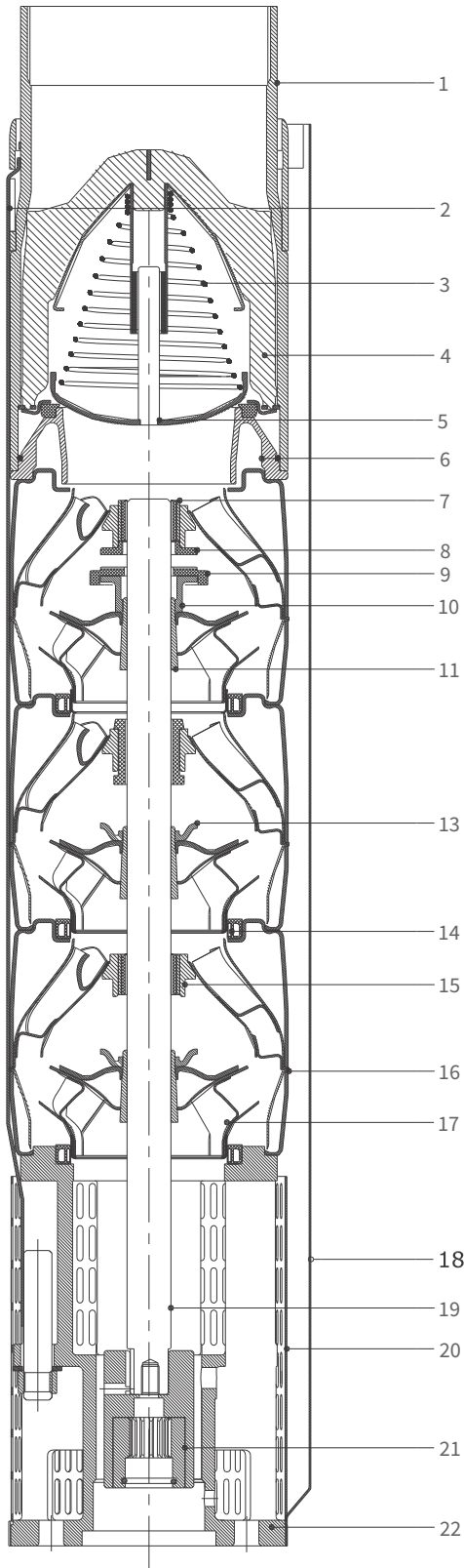
Material Specification 6"



Material Specification

NO	PART NAME	MATERIAL
1	N.R.V.	S.S.304
2	VALVE	S.S.304
3	VALVE SEAT	N.B.R. + S.S.304
4	TOP CAP	S.S.304
5	SPACING WASHER	TEFLON
6	INTERMEDIATE CHAMBER TOP	S.S.304
7	BEARING BUSH	N.B.R.
8	NECKRING	N.B.R. + NYLON
9	INTERMEDIATE CHAMBER	S.S.304
10	COLLET & COLLET NUT	S.S.304
11	IMPELLER	S.S.304
12	PUMP SHAFT	S.S.431
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	SUCTION	S.S.304
20	HEX NUT	S.S.316

Material Specification 8"



Material Specification

NO	PART NAME	MATERIAL
1	DCH SLEEVE	S.S. 304
2	CLAMPING STRIP	S.S. 304
3	SPRING	S.S. 304
4	VALVE GUIDE RIB ASSEMBLY	S.S. 304
5	VALVE ASSEMBLY	S.S. 304
6	VALVE SEAT HOUSING	S.S. 304
7	FIRST STAGE BEARING BUSH	S.S. 304 + NBR
8	STOP RING	S.S. 304
9	SPACING WASHER	25% CFT
10	FIRST STAGE NUT	S.S. 304
11	IMPELLER COLLET	S.S. 304
12	BEARING BUSH STAGE	NBR
13	COLLET NUT	S.S. 304
14	NECKRING	NBR + PPS
15	IMC SLEEVE	S.S. 304
16	INTERMEDIATE CHAMBER	S.S. 304
17	IMPELLER ASSEMBLY	S.S. 304
18	CABLE GUARD	S.S. 304
19	SHAFT	S.S. 431
20	STRAINER	S.S. 304
21	NEMA COUPLING	S.S. 304
22	SUCTION INTERCONNECTOR	S.S. 304

Parts

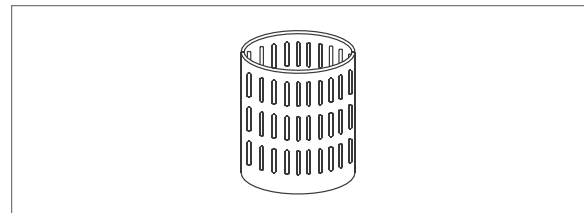
Bearings with Sand Channels

All bearings are water-Lubricated and have a squared shape enabling sand particles, If any, to leave the pump together with the pumped liquid.



Inlet Strainer

The inlet strainer prevents particles over a certain size from entering the pump.

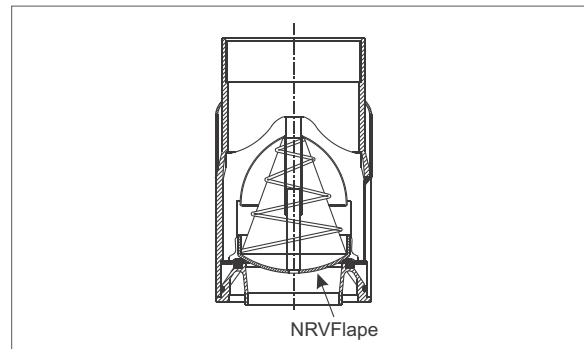


Non-Return Valve (NRV)

All pumps are equipped with a reliable non-return valve in the valve casing preventing back flow in connection with pump stoppage.

Furthermore , the short closing time of the non-return valve means that the risk of destructive is reduced to a minimum.

The valve casing is designed for optimum hydraulic properties, to minimize the pressure loss across the valve and thus contributes to the high efficiency of the pump



Stop Ring

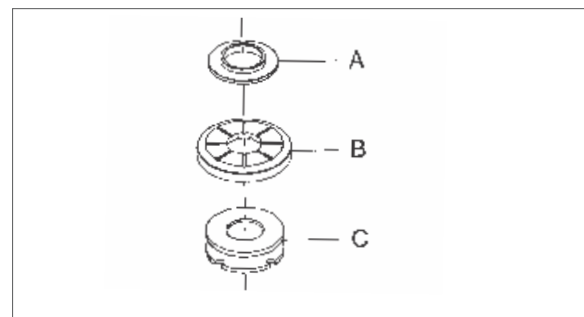
The stop ring prevents damage to the pump during transport and in case of up-thrust in connection with start-up.

The stop ring, which is designed as a thrust bearing limits axial movements of the pump shaft.

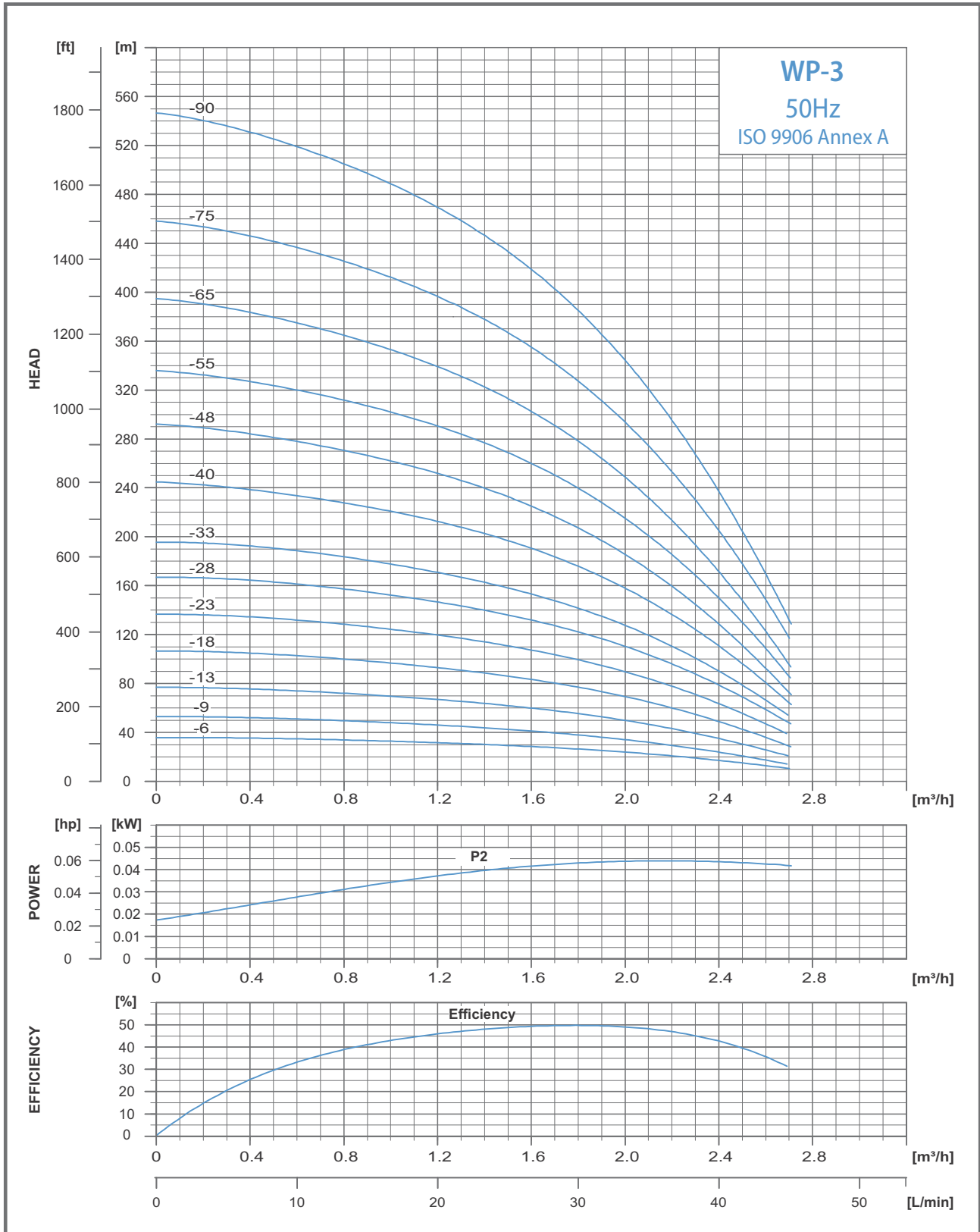
Example: WF 98

The stationary part of the stop ring (A) is secured in the top bowl (Upper intermediate chamber).

The rotating part (B) is fitted above the cullet split cone (C).



Performance Curves



Performance Chart

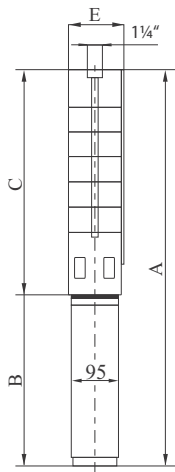
WP-3, 50Hz

ISO 9906 Annex A

Model Name		Rating			Discharge								
Single Phase	Three Phase	Stage	kW	HP	l/min	0	9	14	20	27	30	33	41
					m ³ /h	0	0.54	0.84	1.20	1.62	1.80	1.98	2.46

Model Name	Three Phase	Stage	kW	HP	HEAD IN Mtrs.	37	36	34	32	28	26	23	16
						WP-3/06	WP-3/06	6	0.37	0.50	55	53	51
WP-3/09	WP-3/09	8	0.37	0.50		79	77	74	69	61	57	51	36
WP-3/13	WP-3/13	13	0.55	0.75		110	107	102	95	85	78	70	49
WP-3/18	WP-3/18	18	0.75	1.00		141	137	130	122	109	100	90	63
WP-3/23	WP-3/23	23	1.10	1.50		171	166	159	148	132	122	109	77
WP-3/28	WP-3/28	28	1.50	2.00		202	196	187	175	156	144	129	90
WP-3/33	WP-3/33	33	1.50	2.00		244	238	227	212	189	174	156	110
WP-3/40	WP-3/40	40	2.20	3.00		293	285	272	254	227	209	188	132
WP-3/48	WP-3/48	48	2.20	3.00		336	327	312	291	260	240	215	151
	WP-3/55	55	3.00	4.00									

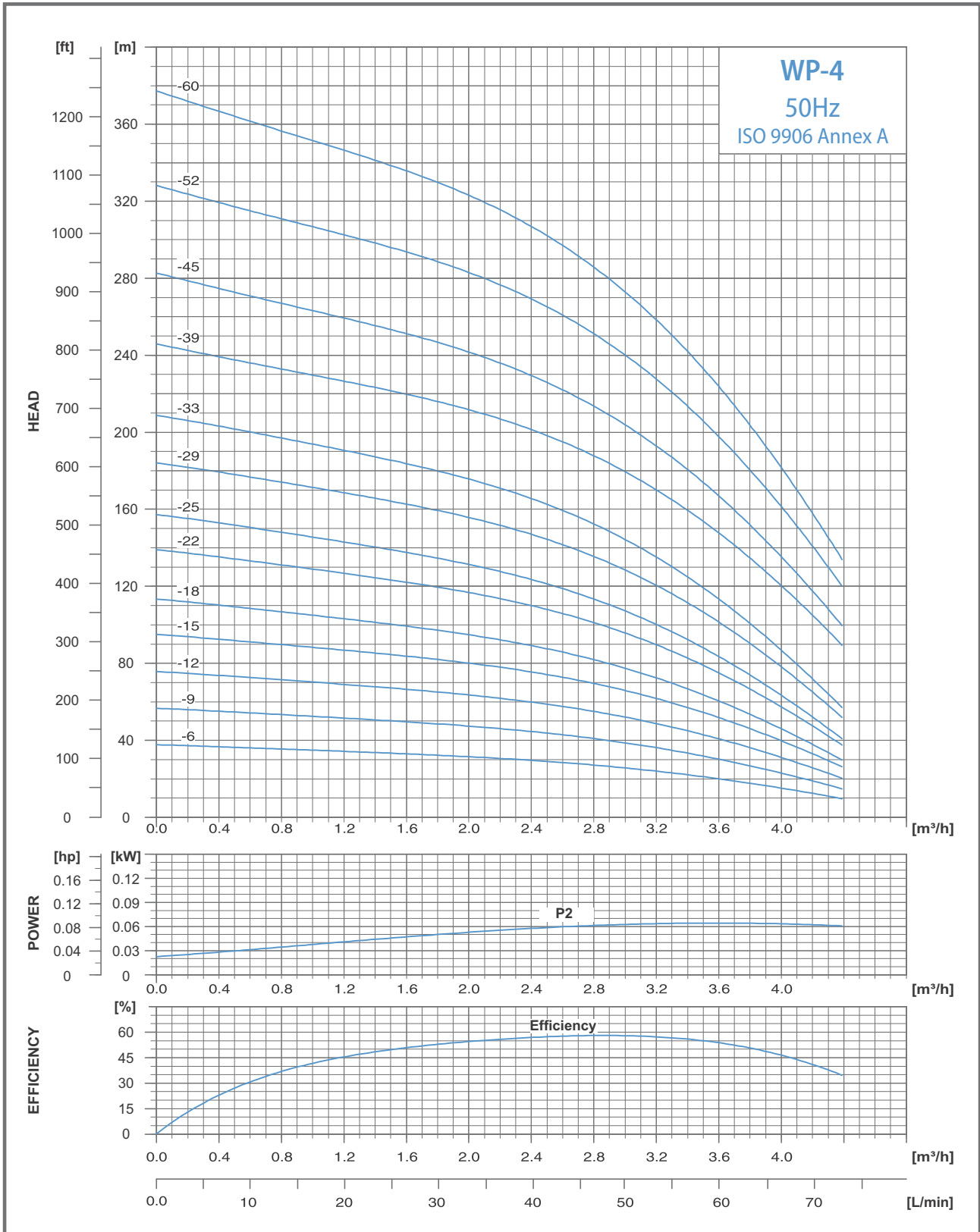
Dimensions and Weights



E = Max. Dia of Pump inclusive of cable guard & motor.

PUMP TYPE	MOTOR		DIMENSIONS (mm)							NET WEIGHT (kg)	
	TYPE WM....	POWER (KW/HP)	C	B		A		D	E	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
WP-3/6	WM4/0.5	0.37 / 0.5	293	427	531	720	824	96	98	15.9	17.4
WP-3/9	WM4/0.5	0.37 / 0.5	356	427	531	783	887	96	98	16.5	18
WP-3/13	WM4/0.75	0.55 / 0.75	440	447	-	887	-	96	98	17.3	-
WP-3/18	WM4/1.0	0.75 / 1	545	477	-	1022	-	96	98	19.2	-
WP-3/23	WM4/1.5	1.1 / 1.5	650	512	477	1162	1127	96	98	21.2	22.7
WP-3/28	WM4/2	1.5 / 2	755	579	599	1334	1354	96	98	23.6	29.6
WP-3/33	WM4/2	1.5 / 2	883	579	599	1462	1482	96	98	26.7	32.7
WP-3/40	WM4/3	2.2 / 3	1030	657	637	1687	1667	96	98	39.5	35.5
WP-3/48	WM4/3	2.2 / 3	1198	657	637	1855	1835	96	98	41.5	37.5
WP-3/55	WM4/4	3 / 4	1345		677		2022	96	98		

Performance Curves



Performance Chart

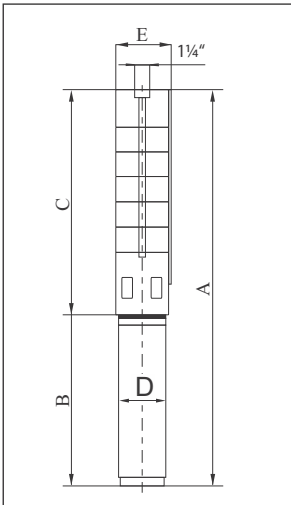
WP-4, 50Hz

ISO 9906 Annex A

Model Name		Rating			Discharge								
Single Phase	Three Phase	Stage	kW	HP	l/min	7	20	34	40	47	54	60	67
					m ³ /h	0.42	1.20	2.04	2.40	2.82	3.24	3.60	4.02

WP-4/06	WP-4/06	06	0.37	0.50	HEAD IN Mtrs.	38	37	35	32	31	28	26	22	18
WP-4/09	WP-4/09	09	0.55	0.75		57	55	52	48	46	43	39	33	17
WP-4/12	WP-4/12	12	0.75	1.00		76	73	69	64	62	57	52	45	36
WP-4/15	WP-4/15	15	1.10	1.50		95	92	87	81	77	71	64	56	45
WP-4/18	WP-4/18	18	1.10	1.50		114	110	104	97	93	86	77	67	54
WP-4/22	WP-4/22	22	1.50	2.00		139	134	127	118	113	104	95	82	66
WP-4/25	WP-4/25	25	1.50	2.00		158	152	144	134	128	119	108	93	75
WP-4/29	WP-4/29	29	2.20	3.00		183	177	168	156	149	138	125	108	87
WP-4/33	WP-4/33	33	2.20	3.00		209	201	191	177	170	157	142	122	99
	WP-4/39	39	3.00	4.00		246	238	225	209	200	185	168	145	117
	WP-4/45	45	3.00	4.00		284	274	260	242	231	214	194	167	135
	WP-4/52	52	4.00	5.50		329	317	301	279	267	247	224	193	156
	WP-4/60	60	4.00	5.50		379	366	347	322	308	285	258	223	180

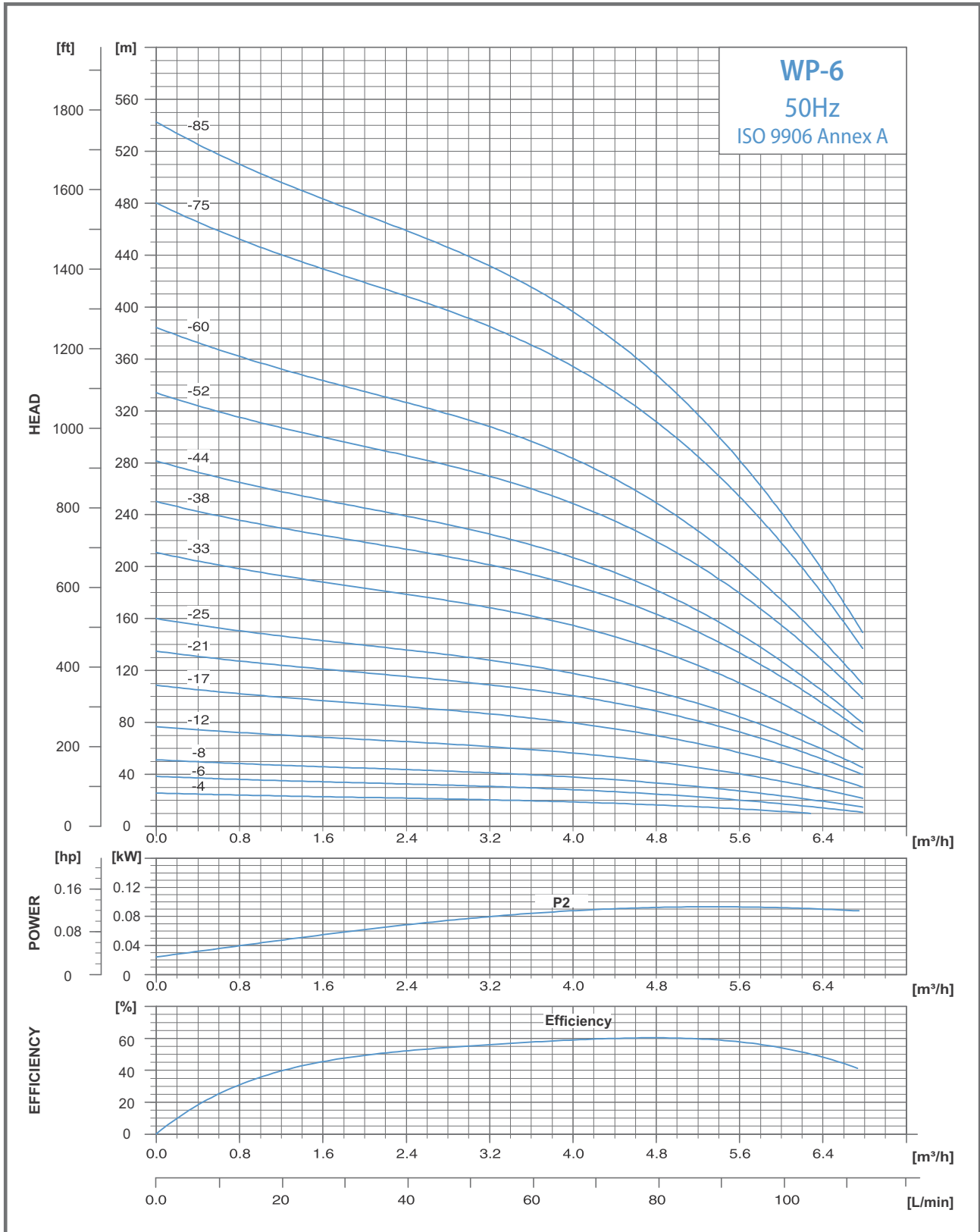
Dimensions and Weight



E = Max. Dia of Pump inclusive of cable guard & motor.

PUMP TYPE	MOTOR		DIMENSIONS (mm)						NET WEIGHT (kg)		
	TYPE WM....	POWER	C	B		A		D	E	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
WP-4/6	WM4/0.5	0.37 / 0.5	293	427	531	720	824	96	98	15.9	17.4
WP-4/9	WM4/0.75	0.55 / 0.75	356	447	-	803	-	96	98	16.5	-
WP-4/12	WM4/1	0.75 / 1	419	477	-	896	-	96	98	18.1	-
WP-4/15	WM4/1.5	1.1 / 1.5	482	512	477	994	959	96	98	19.7	21.2
WP-4/18	WM4/1.5	1.1 / 1.5	545	512	477	1057	1022	96	98	20.2	21.7
WP-4/22	WM4/2	1.5 / 2	629	579	599	1208	1228	96	98	22.5	28.5
WP-4/25	WM4/2	1.5 / 2	692	579	599	1271	1291	96	98	23.1	29.1
WP-4/29	WM4/3	2.2 / 3	776	657	637	1433	1413	96	98	34.8	30.8
WP-4/33	WM4/3	2.2 / 3	883	657	637	1540	1520	96	98	37.7	33.7
WP-4/39	WM4/4	3 / 4	1009		677		1686	96	98		37.2
WP-4/45	WM4/4	3 / 4	1135		677		1812	96	98		38.7
WP-4/52	WM4/5.5	4 / 5.5	1282		737		2019	96	98		43.7
WP-4/60	WM4/5.5	4 / 5.5	1450		737		2187	96	98		45.5

Performance Curves



Performance Chart

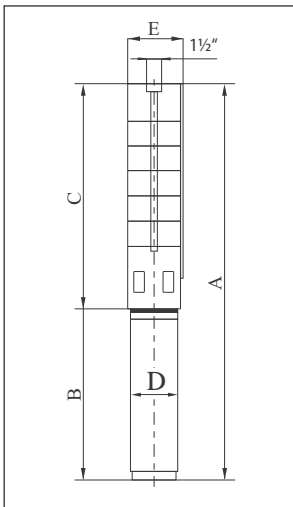
WP-6, 50Hz

ISO 9906 Annex A

Model Name		Stage	Rating		Discharge									
Single Phase	Three Phase		kW	HP	l/min m ³ /h	0	17	25	31	40	57	74	84	101

Model Name	Stage	kW	HP	HEAD IN Mtrs.	0	17	25	31	40	57	74	84	101	112
WP-6/04	4	0.37	0.50	26	24	23	22.5	22	20	18	16	12	9	
WP-6/06	6	0.55	0.75	38	36	34.5	34	33	30	27	24	18	13	
WP-6/08	8	0.75	1.00	51	48	46	45	43	40	36	32	23	17	
WP-6/12	12	1.10	1.50	77	72	69	68	65	61	54	48	35	26	
WP-6/15	15	1.50	2.00	96	90	86	85	81	76	67	60	44	33	
WP-6/17	17	1.50	2.00	109	102	98	96	92	86	76	67	50	37	
WP-6/21	21	2.20	3.00	134	126	121	119	114	106	94	83	61	46	
WP-6/25	25	2.20	3.00	160	150	144	141	136	126	112	99	73	54	
	WP-6/33	33	3.00	4.00	211	198	190	186	179	167	148	131	96	72
	WP-6/38	38	4.00	5.50	243	228	218	215	206	192	170	151	111	82
	WP-6/44	44	4.00	5.50	282	264	253	249	238	222	197	175	128	95
	WP-6/52	52	5.50	7.50	333	312	299	294	282	263	233	206	152	113
	WP-6/60	60	5.50	7.50	384	360	345	339	325	303	269	238	175	130
	WP-6/75	75	7.50	10.00	480	450	431	424	406	379	336	298	219	163
	WP-6/85	85	7.50	10.00	544	510	489	480	461	429	381	337	248	184

Dimensions and Weight

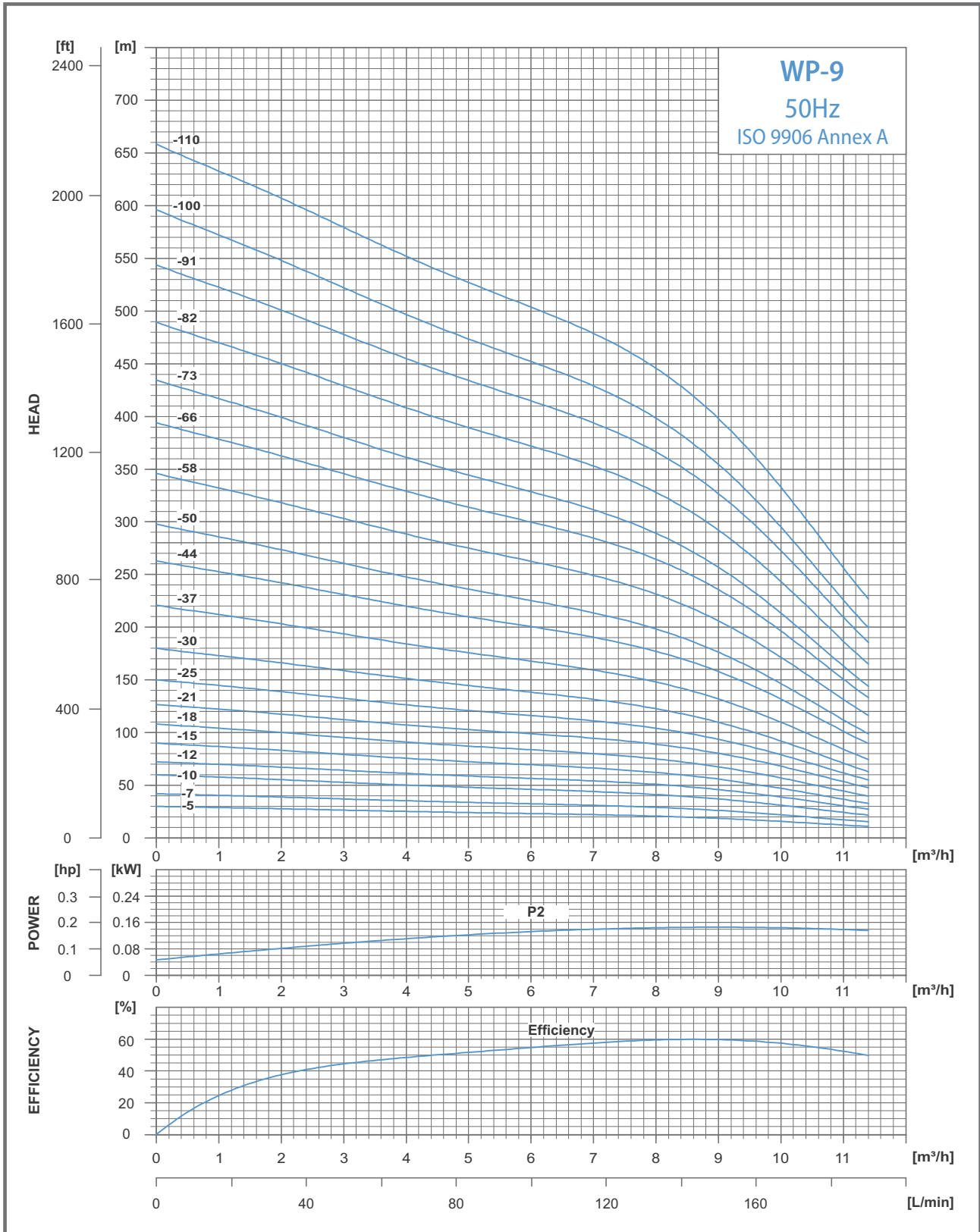


E = Max. Dia of Pump inclusive of cable guard & motor.

WP-6/75 is mounted in sleeve for R 1½" connection.

PUMP TYPE	MOTOR		DIMENSIONS (mm)						NET WEIGHT (kg)		
	TYPE WM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E	1x230V	3x230V 3x400V
WP-6/4	WM4/0.5	0.37 / 0.5	251	427	531	678	782	96	98	15.5	17
WP-6/6	WM4/0.75	0.55 / 0.75	293	447	-	740	-	96	98	15.9	-
WP-6/8	WM4/1	0.75 / 1	335	477	-	812	-	96	98	17.3	-
WP-6/12	WM4/1.5	1.1 / 1.5	419	512	477	931	896	96	98	19.1	20.6
WP-6/17	WM4/2	1.5 / 2	524	579	599	1103	1123	96	98	21.5	27.5
WP-6/21	WM4/3	2.2 / 3	608	657	637	1265	1245	96	98	33.3	29.3
WP-6/25	WM4/3	2.2 / 3	692	657	637	1349	1329	96	98	34	30
WP-6/33	WM4/4	3 / 4	868		677		1545	96	98		35.6
WP-6/38	WM4/5.5	4 / 5.5	973		737		1710	96	98		39.9
WP-6/44	WM4/5.5	4 / 5.5	1099		737		1836	96	98		41.4
WP-6/52	WM4/7.5	5.5 / 7.5	1362		877		2239	96	98		51.05
WP-6/60	WM4/7.5	5.5 / 7.5	1530		877		2407	96	98		52.7
WP-6/52	WM6/7.5	5.5 / 7.5	1424		676		2100	144	136		64.1
WP-6/60	WM6/7.5	5.5 / 7.5	1592		676		2268	144	136		65.75
WP-6/75	WM6/10	7.5 / 10	1907		706		2613	144	142		-

Performance Curves



Performance Chart

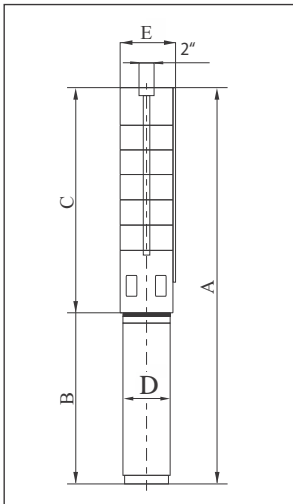
WP-9, 50Hz

ISO 9906 Annex A

Model Name		Rating			Discharge									
Single Phase	Three Phase	Stage	kW	HP	l/min	0	24	34	67	101	134	151	168	185
					m ³ /h	0	1.44	2.0	4.0	6.0	8.0	9.0	10.0	11.1

WP-9/05	WP-9/05	5	0.75	1.00	HEAD IN Mtrs.	30	28	27	25	23	20	18	15	11	
WP-9/07	WP-9/07	7	1.10	1.50		42	40	38	35	32	28	25	21	16	
WP-9/10	WP-9/10	10	1.50	2.00		60	57	55	50	45	40	36	30	23	
WP-9/12	WP-9/12	12	2.20	3.00		72	68	66	60	54	48	43	36	27	
WP-9/15	WP-9/15	15	2.20	3.00		90	85	82	75	68	60	54	45	34	
	WP-9/18	18	3.00	4.00		107	102	98	89	82	72	64	53	41	
	WP-9/21	21	4.00	5.50		125	119	115	104	95	84	75	62	48	
	WP-9/25	25	4.00	5.50		149	142	136	124	114	100	89	74	57	
	WP-9/30	30	5.50	7.50		179	170	164	149	136	120	107	89	68	
	WP-9/37	37	5.50	7.50		221	210	202	184	168	148	132	110	84	
	WP-9/44	44	7.50	10.00		263	249	240	219	200	176	157	131	100	
	WP-9/50	50	7.50	10.00		298	284	273	248	227	200	178	148	114	

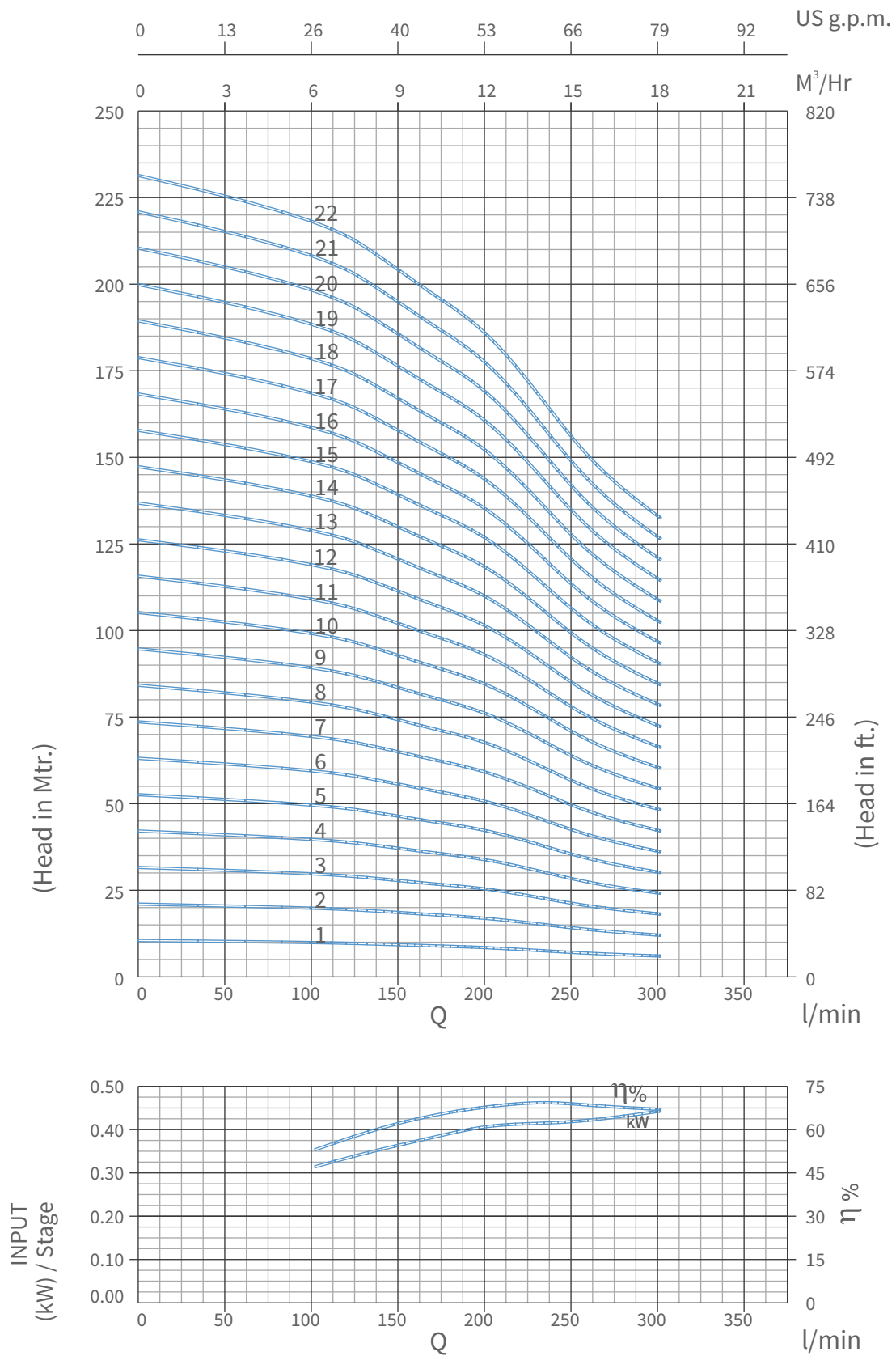
Dimensions and Weight



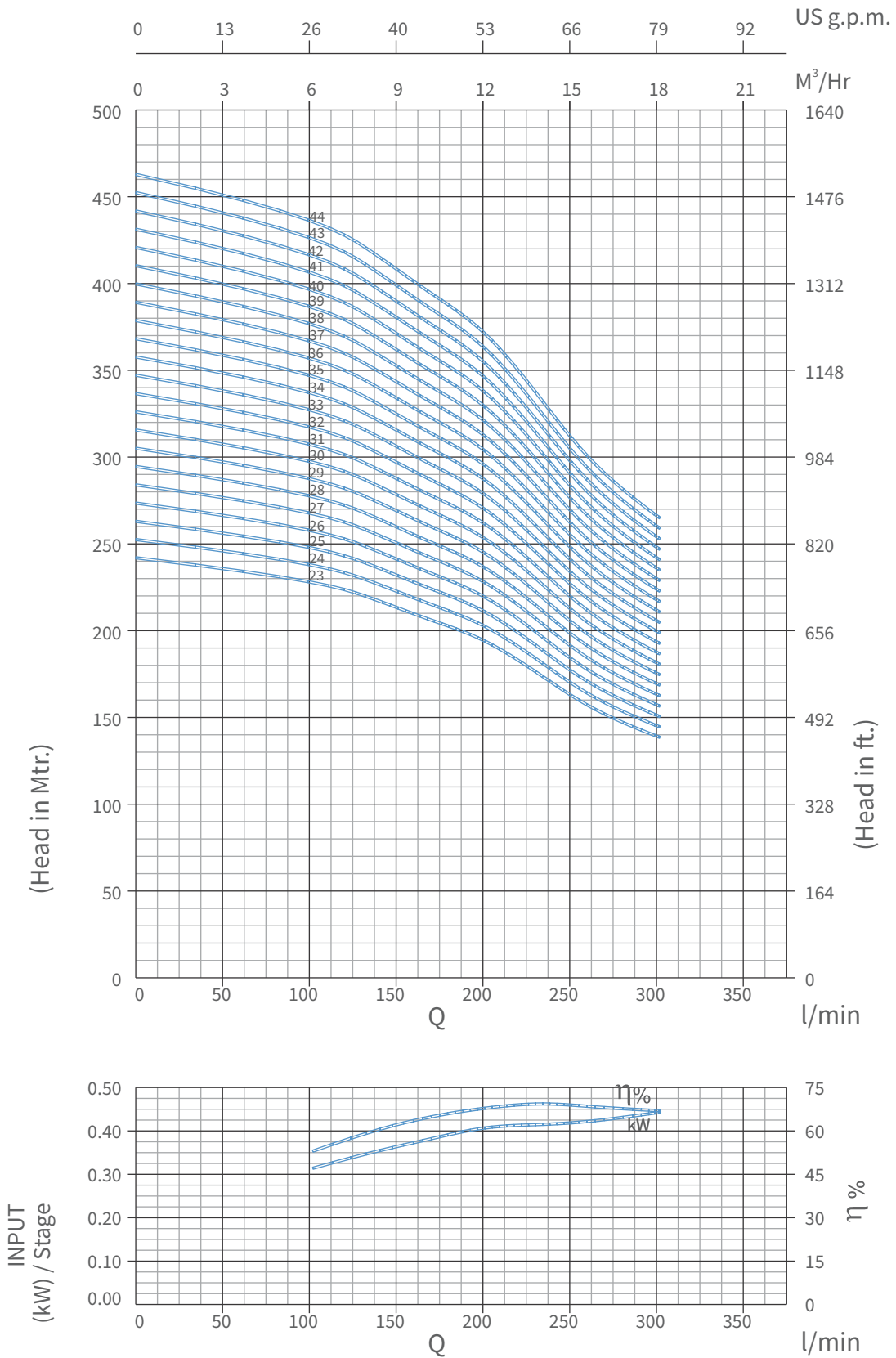
E = Max. Dia of Pump inclusive of cable guard & motor.

PUMP TYPE	MOTOR		DIMENSIONS (mm)						NET WEIGHT (kg)		
	TYPE WM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V				
WP-9/5	WM4/1	0.75 / 1	412	477	-	889	-	96	98	18.8	-
WP-9/7	WM4/1.5	1.1 / 1.5	496	512	-	1008	-	96	98	20.8	-
WP-9/10	WM4/2	1.5 / 2	622	579	599	1201	1221	96	98	23.8	29.8
WP-9/12	WM4/3	2.2 / 3	706	657	637	1363	1343	96	98	35.8	31.8
WP-9/15	WM4/3	2.2 / 3	832	657	637	1489	1469	96	98	37.3	33.3
WP-9/18	WM4/4	3 / 4	958		677		1635	96	98		36.8
WP-9/21	WM4/5.5	4 / 5.5	1084		737		1821	96	98		41.3
WP-9/25	WM4/5.5	4 / 5.5	1252		737		1989	96	98		43.3
WP-9/30	WM4/7.5	5.5 / 7.5	1462		877		2339	96	98		53.1
WP-9/37	WM4/7.5	5.5 / 7.5	1753		877		2630	96	98		56.6
WP-9/44	WM4/10	7.5 / 10	2050		1017		3067	96	98		66.8
WP-9/50	WM4/10	7.5 / 10	2302		1017		3319	96	98		69.8

Performance Curves



Performance Curves



Performance Chart

WP-15, 50Hz

ISO 9906 Annex A

MODEL NAME		RATING			DISCHARGE							
THREE PHASE	STAGE	kW	HP	l/min	0	102	135	168	201	235	266	302
				m ³ /h	0	6.1	8.1	10.0	12.0	14.1	15.9	18.1

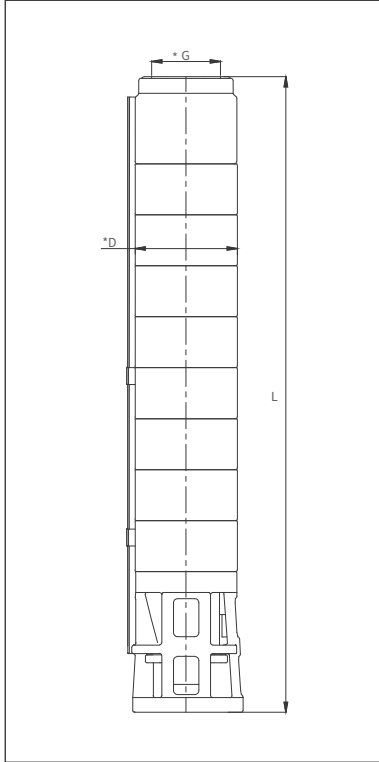
MODEL NAME	STAGE	kW	HP	HEAD IN Mtrs.	10.5	10	9.5	9	8.5	7.5	7	6
WP-15/01	1	0.55	0.75		21	20	19	18	17	15	13	12
WP-15/02	2	1.10	1.50		32	30	29	27	26	23	20	18
WP-15/03	3	1.50	2.00		42	40	38	36	34	30	26	24
WP-15/04	4	2.20	3.00		53	50	48	45	43	38	33	30
WP-15/05	5	2.20	3.00		63	60	57	54	51	45	40	36
WP-15/06	6	3.00	4.00		74	70	67	63	60	53	46	42
WP-15/07	7	3.00	4.00		84	80	76	72	68	60	53	48
WP-15/08	8	4.00	5.50		95	90	86	81	77	68	59	54
WP-15/09	9	4.00	5.50		105	100	95	90	85	75	66	60
WP-15/10	10	5.50	7.50		116	110	105	99	94	83	73	66
WP-15/11	11	5.50	7.50		126	120	114	108	102	90	79	72
WP-15/12	12	5.50	7.50		137	130	124	117	111	98	86	78
WP-15/13	13	7.50	10.00		147	140	134	126	119	106	92	84
WP-15/14	14	7.50	10.00		158	150	143	135	128	113	99	90
WP-15/15	15	7.50	10.00		168	160	153	144	136	121	106	96
WP-15/16	16	7.50	10.00		179	170	162	153	145	128	112	102
WP-15/17	17	9.30	12.50		189	180	172	162	153	136	119	108
WP-15/18	18	9.30	12.50		200	190	181	171	162	143	125	114
WP-15/19	19	9.30	12.50		210	200	191	180	170	151	132	120
WP-15/20	20	9.30	12.50		221	210	200	189	179	158	139	126
WP-15/21	21	11.00	15.00		231	220	210	198	187	166	145	132
WP-15/22	22	11.00	15.00		242	230	219	207	196	173	152	138
WP-15/23	23	11.00	15.00		252	240	229	216	204	181	158	144
WP-15/24	24	11.00	15.00		263	250	238	224	213	188	165	150
WP-15/25	25	13.00	17.50		274	260	248	233	222	196	172	157
WP-15/26	26	13.00	17.50		284	270	258	242	230	204	178	163
WP-15/27	27	13.00	17.50		295	280	267	251	239	211	185	169
WP-15/28	28	13.00	17.50		305	290	277	260	247	219	191	175
WP-15/29	29	15.00	20.00		316	300	286	269	256	226	198	181
WP-15/30	30	15.00	20.00		326	310	296	278	264	234	205	187
WP-15/31	31	15.00	20.00		337	320	305	287	273	241	211	193
WP-15/32	32	15.00	20.00		347	330	315	296	281	249	218	199
WP-15/33	33	15.00	20.00		358	340	324	305	290	256	224	205
WP-15/34	34	18.50	25.00		368	350	334	314	298	264	231	211
WP-15/35	35	18.50	25.00		379	360	343	323	307	271	238	217
WP-15/36	36	18.50	25.00		389	370	353	332	315	279	244	223
WP-15/37	37	18.50	25.00		400	380	363	341	324	287	251	229
WP-15/38	38	18.50	25.00		410	390	372	350	332	294	257	235
WP-15/39	39	18.50	25.00		421	400	382	359	341	302	264	241
WP-15/40	40	18.50	25.00		431	410	391	368	349	309	271	247
WP-15/41	41	22.00	30.00		442	420	401	377	358	317	277	253
WP-15/42	42	22.00	30.00		452	430	410	386	366	324	284	259
WP-15/43	43	22.00	30.00		463	440	420	395	375	332	290	265
WP-15/44	44	22.00	30.00									

Technical Data

WP-15, 50Hz

ISO 9906 Annex A

Dimensions and Weight



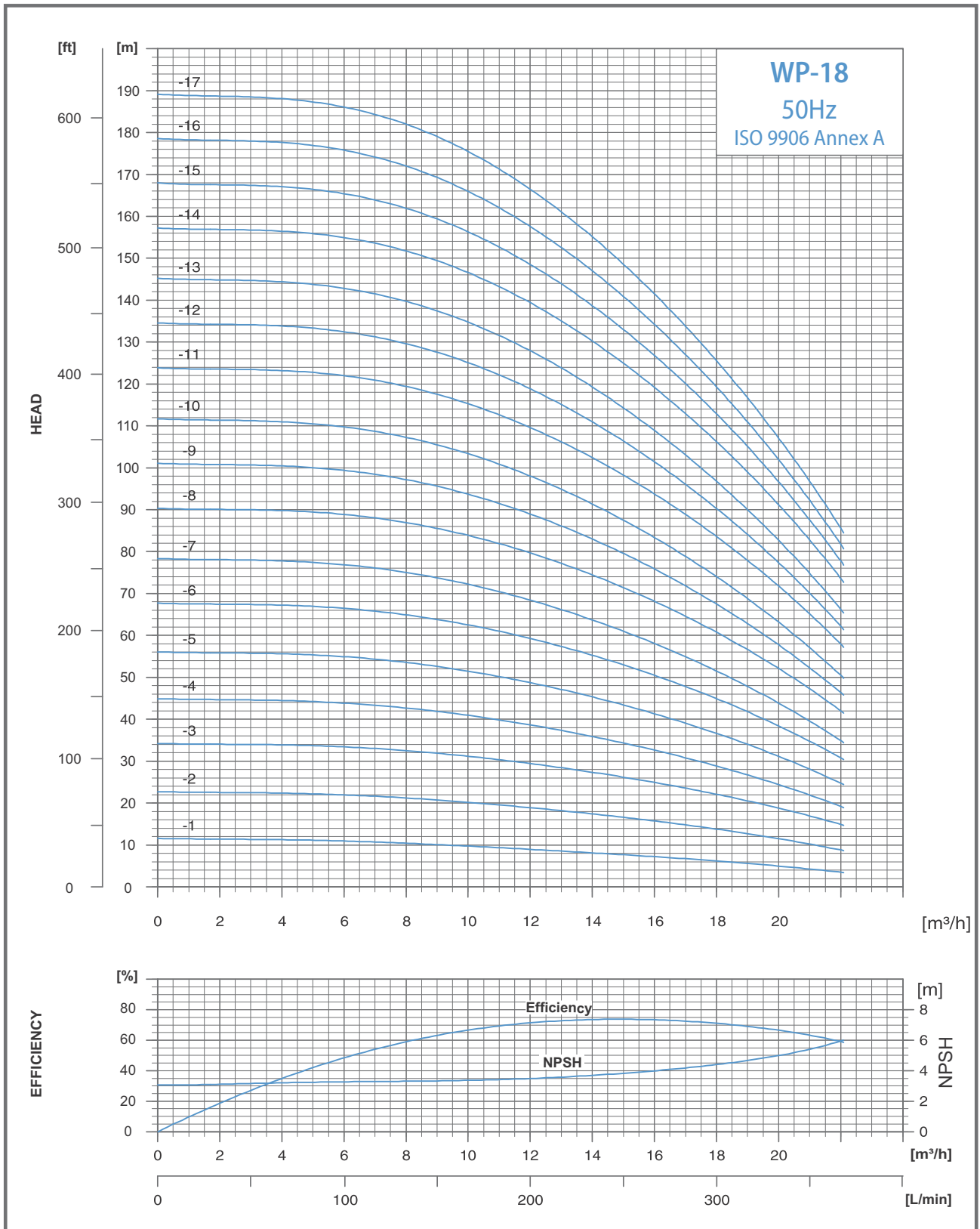
Model Name	Specification			
	*D (mm)	L (mm)	Pump Weight Kg	Weight (Incl. pkg) Kg
WP-15/ 1	142	331	8	10
WP-15/ 2	142	392	9	11
WP-15/ 3	142	452	10	12
WP-15/ 4	142	513	12	14
WP-15/ 5	142	573	13	15
WP-15/ 6	142	634	14	16
WP-15/ 7	142	694	15	17
WP-15/ 8	142	755	17	19
WP-15/ 9	142	815	18	20
WP-15/ 10	142	876	19	21
WP-15/ 11	142	936	20	23
WP-15/ 12	142	997	22	24
WP-15/ 13	142	1057	23	25
WP-15/ 14	142	1118	24	26
WP-15/ 15	142	1178	25	28
WP-15/ 16	142	1239	26	29
WP-15/ 17	142	1299	28	31
WP-15/ 18	142	1360	29	32
WP-15/ 19	142	1420	30	33
WP-15/ 20	142	1481	31	34
WP-15/ 21	142	1541	33	36
WP-15/ 22	142	1602	34	37
WP-15/ 23	142	1662	35	39
WP-15/ 24	142	1723	36	40
WP-15/ 25	142	1783	38	41
WP-15/ 26	142	1844	39	42
WP-15/ 27	142	1904	40	43
WP-15/ 28	142	1965	41	45
WP-15/ 29	142	2025	42	46
WP-15/ 30	142	2086	44	47
WP-15/ 31	142	2146	45	49
WP-15/ 32	142	2207	46	50
WP-15/ 33	142	2267	47	51
WP-15/ 34	142	2328	49	53
WP-15/ 35	142	2388	50	54
WP-15/ 36	142	2449	51	55
WP-15/ 37	142	2509	52	56
WP-15/ 38	142	2570	53	57
WP-15/ 39	142	2630	55	59
WP-15/ 40	142	2691	56	60
WP-15/ 41	142	2751	57	62
WP-15/ 42	142	2812	58	63
WP-15/ 43	142	2872	60	64
WP-15/ 44	142	2933	61	65

*G : Available Outlet Size BSP 2.5"

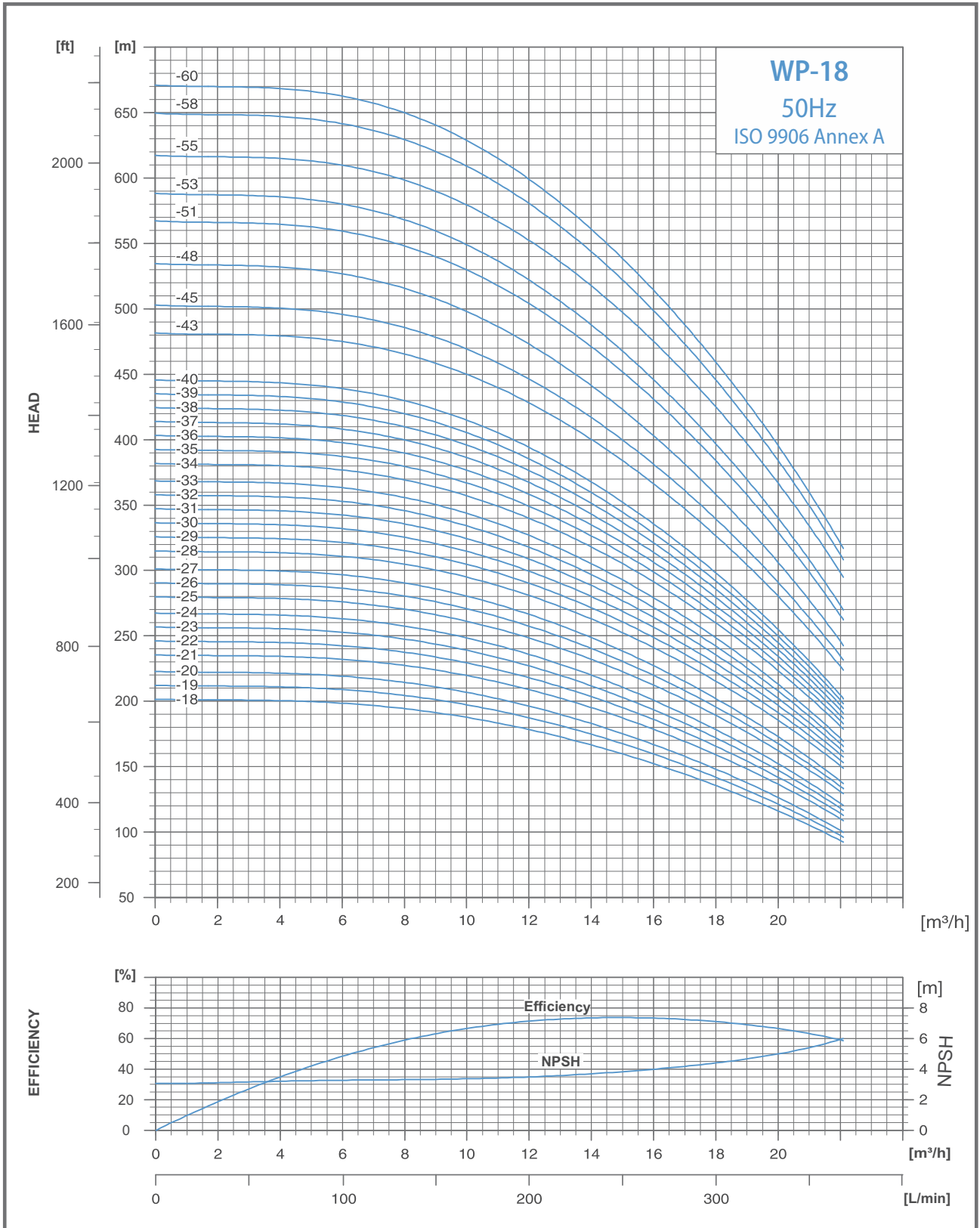
*D : With Cable Guard

6VP 15-01 to 6VP 15-16 Pumps Are Also Available In 4" Joining

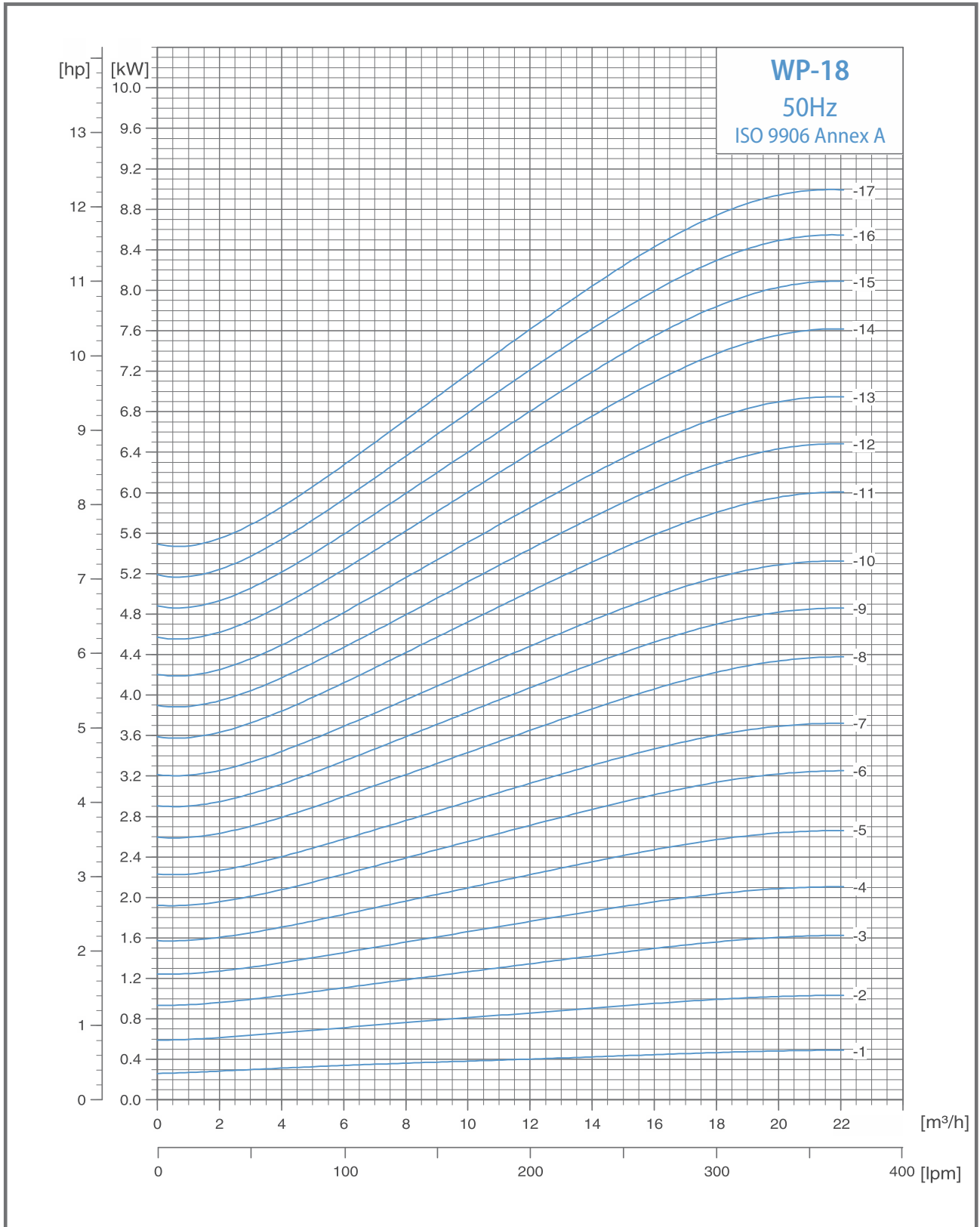
Performance Curves



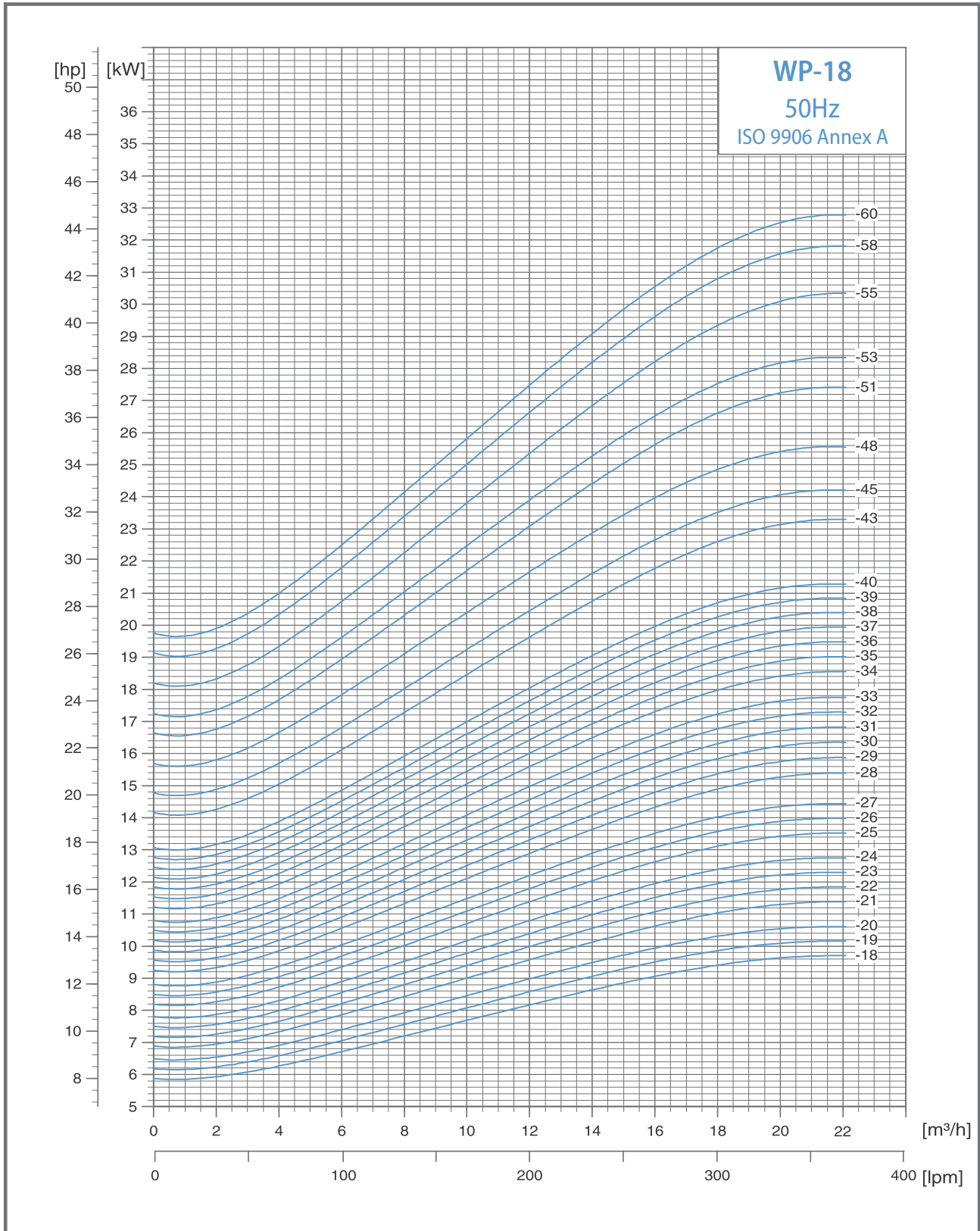
Performance Curves



Power Curves



Power Curves

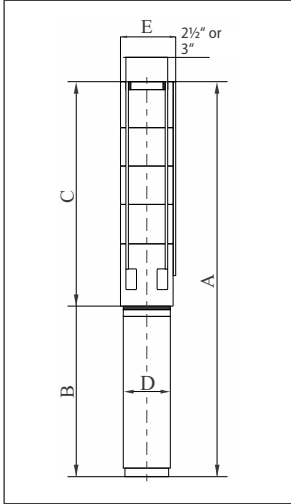


Technical Data

WP-18, 50Hz

ISO 9906 Annex A

Dimensions and Weight



WP-18/43 to WP-18/60 are mounted in sleeve for R 3" connection.

PUMP TYPE	MOTOR		DIMENSIONS (mm)							NET WEIGHT (kg)		
	TYPE WM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E*	E**	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V					
WP-18/1	WM4/0.75	0.55 / 0.75	343	447	-	790	-	96	131		20	-
WP-18/2	WM4/1.5	1.1 / 1.5	403	512	477	915	880	96	131		23.2	23.4
WP-18/3	WM4/3	2.2 / 3	435	657	637	1092	1072	96	131		35.3	31.3
WP-18/4	WM4/3	2.2 / 3	524	657	637	1181	1161	96	131		37.3	33.3
WP-18/5	WM4/4	3 / 4	585		677		1262	96	131			36.8
WP-18/6	WM4/5.5	4 / 5.5	616		737		1353	96	131			41.2
WP-18/7	WM4/5.5	4 / 5.5	677		737		1414	96	131			42.7
WP-18/8	WM4/7.5	5.5 / 7.5	737		877		1614	96	131			50.4
WP-18/9	WM4/7.5	5.5 / 7.5	798		877		1675	96	131			51.7
WP-18/10	WM4/7.5	5.5 / 7.5	858		877		1735	96	131			54.3
WP-18/11	WM4/10	7.5 / 10	919		1017		1936	96	142			61.2
WP-18/12	WM4/10	7.5 / 10	979		1017		1996	96	142			62.6
WP-18/13	WM4/10	7.5 / 10	1040		1017		2057	96	142			64
WP-18/8	WM6/7.5	5.5 / 7.5	753		676		1429	144	142			63
WP-18/9	WM6/7.5	5.5 / 7.5	814		676		1490	144	142			64.6
WP-18/10	WM6/7.5	5.5 / 7.5	874		676		1550	144	142			66
WP-18/11	WM6/10	7.5 / 10	935		706		1641	144	142			69.5
WP-18/12	WM6/10	7.5 / 10	995		706		1701	144	142			71
WP-18/13	WM6/10	7.5 / 10	1056		706		1762	144	142			72.4
WP-18/14	WM6/12.5	9.2 / 12.5	1116		736		1852	144	142	142		75.6
WP-18/15	WM6/12.5	9.2 / 12.5	1177		736		1913	144	142	142		77
WP-18/16	WM6/12.5	9.2 / 12.5	1237		736		1973	144	142	142		78.5
WP-18/17	WM6/12.5	9.2 / 12.5	1311		736		2047	144	142	142		80
WP-18/18	WM6/15	11 / 15	1358		776		2134	144	142	142		89.2
WP-18/19	WM6/15	11 / 15	1419		776		2195	144	142	142		90.7
WP-18/20	WM6/15	11 / 15	1492		776		2268	144	142	142		92
WP-18/21	WM6/17.5	13 / 17.5	1540		826		2366	144	142	142		99.2
WP-18/22	WM6/17.5	13 / 17.5	1613		826		2439	144	142	142		100.5
WP-18/23	WM6/17.5	13 / 17.5	1661		826		2487	144	142	142		102
WP-18/24	WM6/17.5	13 / 17.5	1734		826		2560	144	142	142		103.5
WP-18/25	WM6/20	15 / 20	1782		866		2648	144	142	142		108.4
WP-18/26	WM6/20	15 / 20	1842		866		2708	144	142	142		109.8
WP-18/27	WM6/20	15 / 20	1916		866		2782	144	142	142		111.3
WP-18/28	WM6/25	18.5 / 25	1963		921		2884	144	142	142		118.5
WP-18/29	WM6/25	18.5 / 25	2037		921		2958	144	142	142		120
WP-18/30	WM6/25	18.5 / 25	2084		921		3005	144	142	142		121.4
WP-18/31	WM6/25	18.5 / 25	2158		921		3079	144	142	142		123
WP-18/32	WM6/25	18.5 / 25	2205		921		3126	144	142	142		124.3
WP-18/33	WM6/25	18.5 / 25	2279		921		3200	144	142	142		125.8
WP-18/34	WM6/30	22 / 30	2326		996		3322	144	142	142		137
WP-18/35	WM6/30	22 / 30	2387		996		3383	144	142	142		138.9
WP-18/36	WM6/30	22 / 30	2460		996		3456	144	142	142		140
WP-18/37	WM6/30	22 / 30	2508		996		3504	144	142	142		141.8
WP-18/38	WM6/30	22 / 30	2581		996		3577	144	142	142		142.8
WP-18/39	WM6/30	22 / 30	2629		996		3625	144	142	142		144.7
WP-18/40	WM6/30	22 / 30	2702		996		3698	144	142	142		145.7
WP-18/43	WM6/35	26 / 35	3196		1056		4252	144	167			169.8
WP-18/45	WM6/35	26 / 35	3317		1056		4373	144	167			-
WP-18/48	WM6/35	26 / 35	3499		1056		4555	144	167			187.3
WP-18/51	WM6/40	30 / 40	3680		1176		4856	144	167			232.8
WP-18/53	WM6/40	30 / 40	3749		1176		4925	144	167			237.2
WP-18/55	WM8/50	37 / 50	3870		1010		4880	190	183			281.3
WP-18/58	WM8/50	37 / 50	4052		1010		5062	190	183			286.4
WP-18/60	WM8/50	37 / 50	4173		1010		5183	190	183			291.7

- Pump mounted in Sleeve
- Maximum diameter of pump with one motor cable
- Maximum diameter of pump with two motor cables
- On Request

Performance Chart

WP-18, 50Hz

ISO 9906 Annex A

MODEL NAME		RATING			Discharge						
THREE PHASE	STAGE	kW	HP	l/min	0	150	200	250	300	333	383
				m ³ /h	0	9	12	15	18	20	23

MODEL NAME	STAGE	kW	HP	HEAD IN Mtrs.	11.3	11	10	9	8	7	5
WP-18/01	1	0.55	0.75		11.3	11	10	9	8	7	5
WP-18/02	2	1.10	1.50		23	22	20	18	16	13	11
WP-18/03	3	2.20	3.00		34	32	30	27	24	20	16
WP-18/04	4	2.20	3.00		45	43	40	37	33	27	21
WP-18/05	5	3.00	4.00		57	54	50	46	41	34	27
WP-18/06	6	4.00	5.50		68	65	60	55	49	40	32
WP-18/07	7	4.00	5.50		79	76	70	64	57	47	37
WP-18/08	8	5.50	7.50		91	87	80	73	65	54	43
WP-18/09	9	5.50	7.50		102	97	91	82	73	60	48
WP-18/10	10	5.50	7.50		113	108	101	92	81	67	53
WP-18/11	11	7.50	10.00		125	119	111	101	89	74	59
WP-18/12	12	7.50	10.00		136	130	121	110	98	80	64
WP-18/13	13	7.50	10.00		147	141	131	119	106	87	69
WP-18/14	14	9.30	12.50		158	152	141	128	114	94	75
WP-18/15	15	9.30	12.50		170	162	151	137	122	100	80
WP-18/16	16	9.30	12.50		181	173	161	147	130	107	85
WP-18/17	17	9.30	12.50		192	184	171	156	138	114	91
WP-18/18	18	11.00	15.00		204	195	181	165	146	121	96
WP-18/19	19	11.00	15.00		215	206	191	174	154	127	101
WP-18/20	20	11.00	15.00		226	217	201	183	163	134	107
WP-18/21	21	13.00	17.50		238	227	211	192	171	141	112
WP-18/22	22	13.00	17.50		249	238	221	202	179	147	117
WP-18/23	23	13.00	17.50		260	249	231	211	187	154	123
WP-18/24	24	13.00	17.50		272	260	241	220	195	161	128

Performance Chart

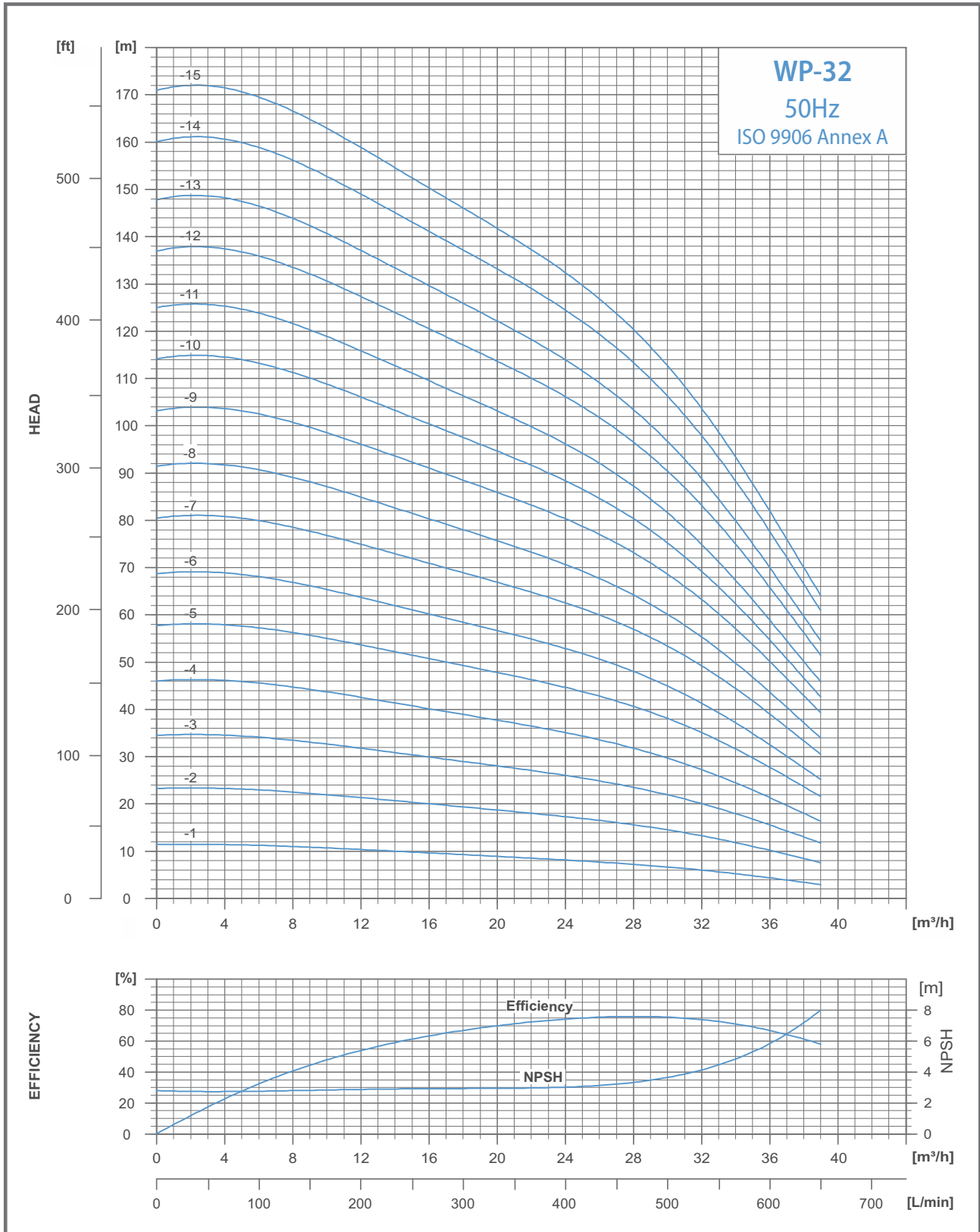
WP-18, 50Hz

ISO 9906 Annex A

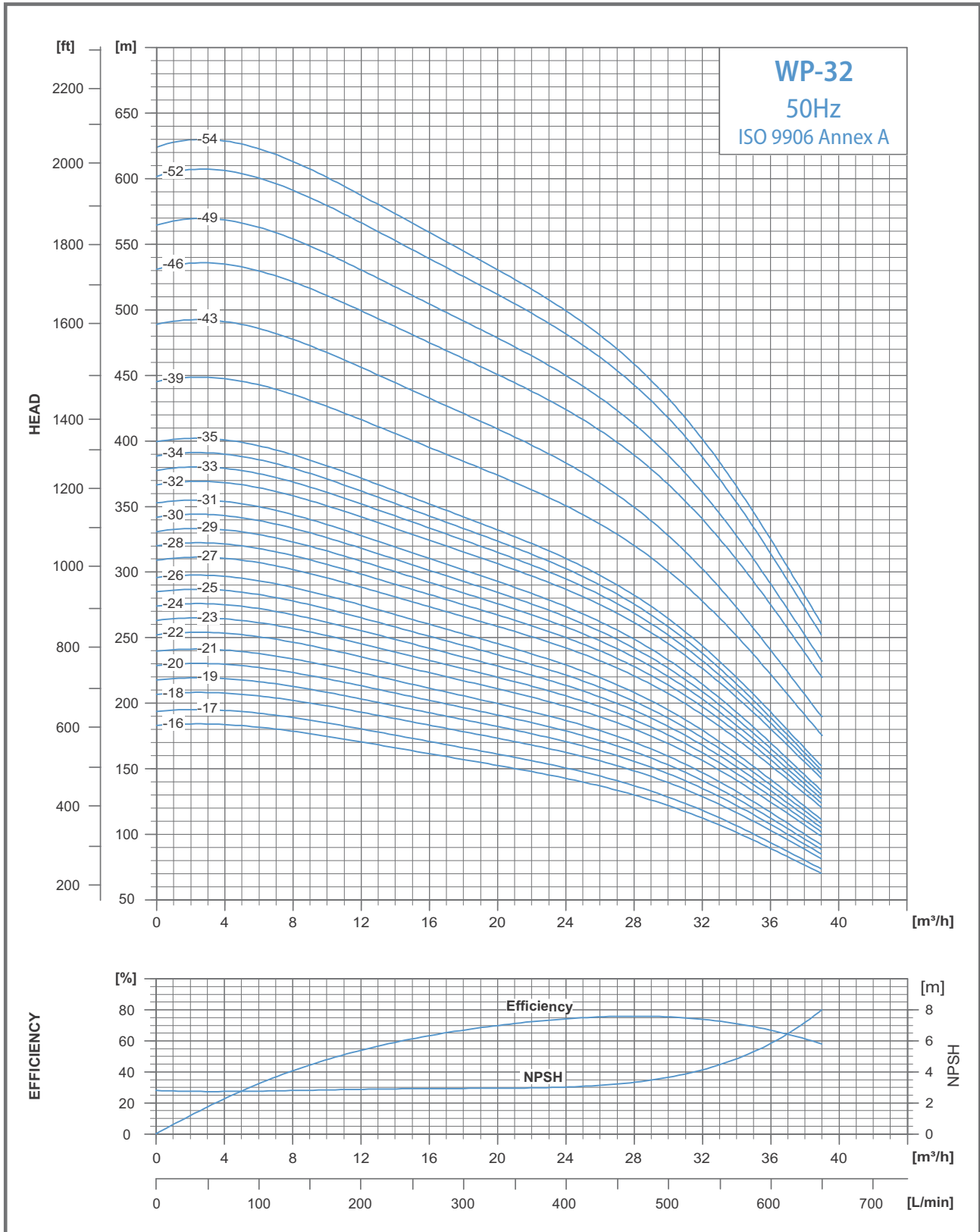
MODEL NAME	STAGE	RATING		l/min m ³ /h	Discharge						
		kW	HP		0	150	200	250	300	333	383
THREE PHASE					0	9	12	15	18	20	23

MODEL NAME	STAGE	kW	HP	HEAD IN Mtrs.	0	150	200	250	300	333	383
WP-18/25	25	15.00	20.00		283	271	252	229	203	168	133
WP-18/26	26	15.00	20.00		294	282	262	238	211	174	139
WP-18/27	27	15.00	20.00		306	292	272	247	220	181	144
WP-18/28	28	18.50	25.00		317	303	282	256	228	188	149
WP-18/29	29	18.50	25.00		328	314	292	266	236	194	155
WP-18/30	30	18.50	25.00		340	325	302	275	244	201	160
WP-18/31	31	18.50	25.00		351	336	312	284	252	208	165
WP-18/32	32	18.50	25.00		362	347	322	293	260	214	171
WP-18/33	33	18.50	25.00		374	357	332	302	268	221	176
WP-18/34	34	22.00	30.00		385	368	342	311	276	228	181
WP-18/35	35	22.00	30.00		396	379	352	321	285	234	187
WP-18/36	36	22.00	30.00		408	390	362	330	293	241	192
WP-18/37	37	22.00	30.00		419	401	372	339	301	248	197
WP-18/38	38	22.00	30.00		430	412	382	348	309	255	203
WP-18/39	39	22.00	30.00		441	422	392	357	317	261	208
WP-18/40	40	22.00	30.00		453	433	402	366	325	268	213
WP-18/43	43	26.00	35.00		487	466	433	394	350	288	229
WP-18/45	45	26.00	35.00		509	487	453	412	366	302	240
WP-18/48	48	26.00	35.00		543	520	483	440	390	322	256
WP-18/51	51	30.00	40.00		577	552	513	467	415	342	272
WP-18/53	53	30.00	40.00		600	574	533	485	431	355	282
WP-18/55	55	37.00	50.00		623	596	553	504	447	368	293
WP-18/58	58	37.00	50.00		657	628	583	531	472	389	309
WP-18/60	60	37.00	50.00		679	650	604	550	488	402	320

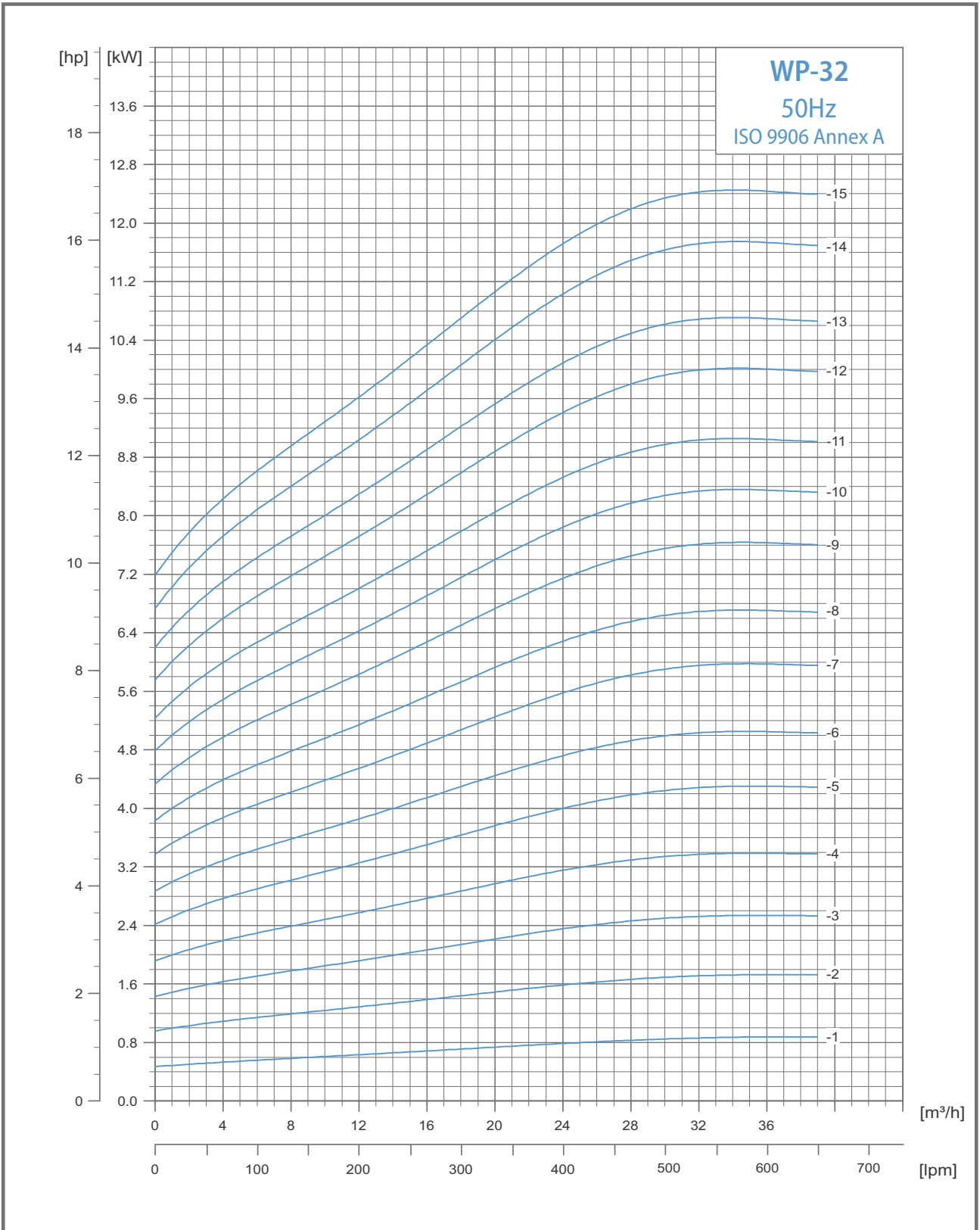
Performance Curves



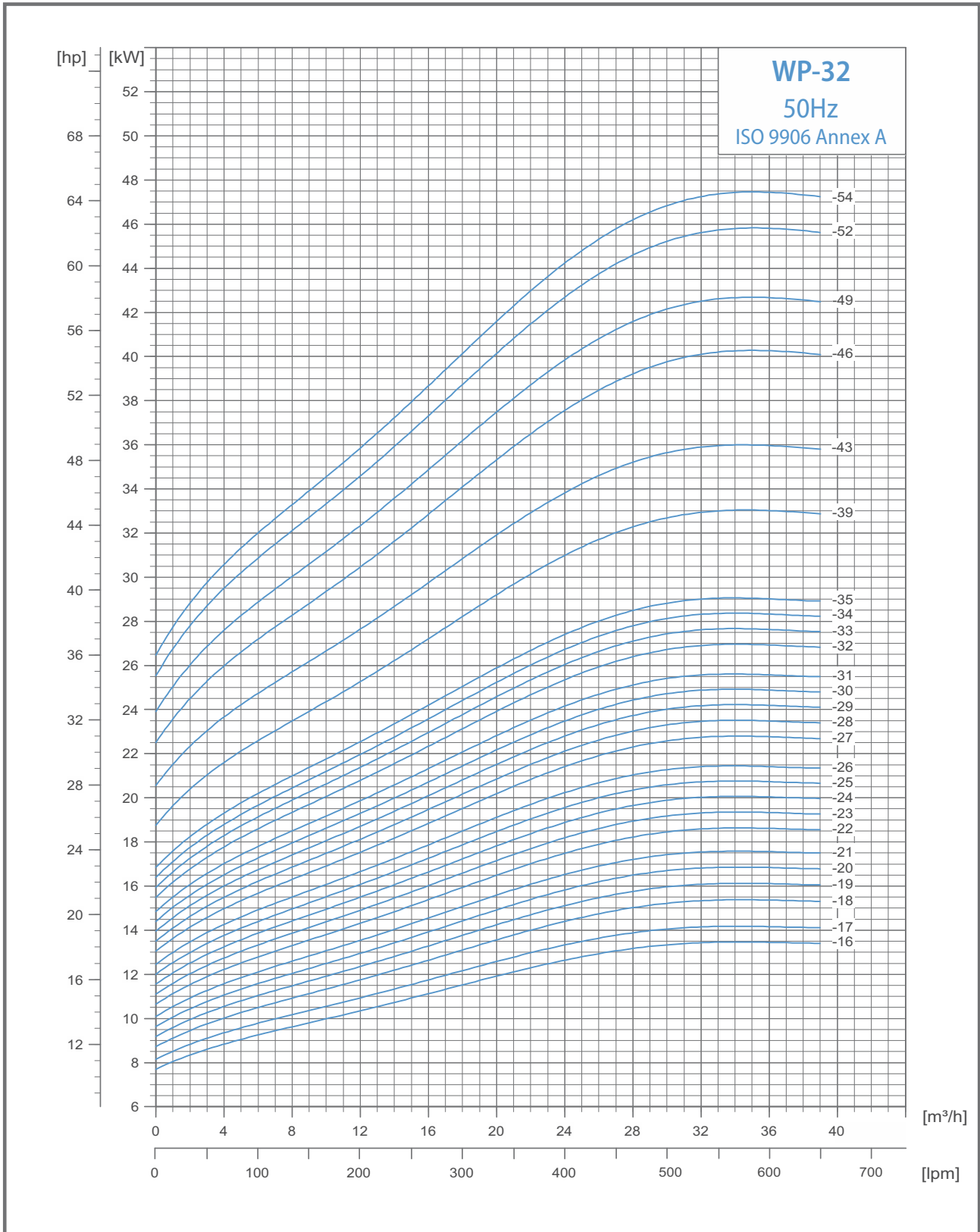
Performance Curves



Power Curves



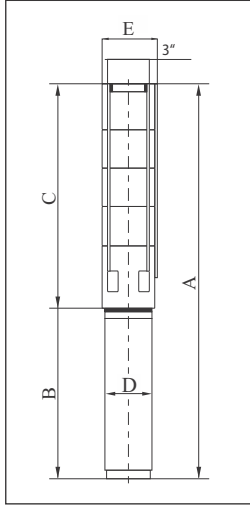
Power Curves



WP-32, 50Hz

ISO 9906 Annex A

Dimensions and Weight



WP-32/39 to WP-32/54 are mounted

PUMP TYPE	MOTOR		DIMENSIONS (mm)						NET WEIGHT (kg)			
	TYPE WM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E*	E**	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V					
WP-32/1	WM4/1.5	1.1 / 1.5	350	512	477	862	827	96	13		22.2	23.7
WP-32/2	WM4/3	2.2 / 3	462	657	637	1119	1099	96	13		36.5	32.4
WP-32/3	WM4/4	3 / 4	558		677		1235	96	131			34.1
WP-32/4	WM4/5.5	4 / 5.5	654		737		1391	96	131			40.8
WP-32/5	WM4/7.5	5.5 / 7.5	734		877		1611	96	131			48.6
WP-32/6	WM4/7.5	5.5 / 7.5	830		877		1707	96	131			50.4
WP-32/7	WM4/10	7.5 / 10	926		1017		1943	96	142			58.9
WP-32/8	WM4/10	7.5 / 10	1038		1017		2055	96	142	142		60.7
WP-32/5	WM6/7.5	5.5 / 7.5	750		676		1426	144	142	142		61.5
WP-32/6	WM6/7.5	5.5 / 7.5	846		676		1522	144	142	142		63.2
WP-32/7	WM6/10	7.5 / 10	842		706		1548	144	142	142		66.9
WP-32/8	WM6/10	7.5 / 10	1038		706		1744	144	142	142		68.6
WP-32/9	WM6/12.5	9.2 / 12.5	1134		736		1870	144	142	142		72.1
WP-32/10	WM6/12.5	9.2 / 12.5	1230		736		1966	144	142	142		73.8
WP-32/11	WM6/15	11 / 15	1326		776		2102	144	142	142		75.4
WP-32/12	WM6/15	11 / 15	1422		776		2198	144	142	142		85
WP-32/13	WM6/15	11 / 15	1518		776		2294	144	142	142		86.6
WP-32/14	WM6/17.5	13 / 17.5	1614		826		2440	144	142	142		94
WP-32/15	WM6/20	15 / 20	1710		866		2576	144	142	142		99
WP-32/16	WM6/20	15 / 20	1806		866		2672	144	142	142		100
WP-32/17	WM6/20	15 / 20	1902		866		2768	144	142	142		102.4
WP-32/18	WM6/25	18.5 / 25	1998		921		2919	144	142	142		110
WP-32/19	WM6/25	18.5 / 25	2094		921		3015	144	142	142		111.6
WP-32/20	WM6/25	18.5 / 25	2190		921		3111	144	142	142		113.4
WP-32/21	WM6/25	18.5 / 25	2286		921		3207	144	142	142		115
WP-32/22	WM6/30	22 / 30	2382		996		3378	144	142	142		126.6
WP-32/23	WM6/30	22 / 30	2478		996		3474	144	142	142		128.3
WP-32/24	WM6/30	22 / 30	2574		996		3570	144	142	142		129.8
WP-32/25	WM6/30	22 / 30	2670		996		3666	144	142	142		131.7
WP-32/26	WM6/30	22 / 30	2766		996		3762	144	142	142		133.2
WP-32/27	WM6/35	26 / 35	2862		1056		3918	144	142	142		143.9
WP-32/28	WM6/35	26 / 35	2958		1056		4014	144	142	142		145.6
WP-32/29	WM6/35	26 / 35	3054		1056		4110	144	142	142		147.1
WP-32/30	WM6/35	26 / 35	3150		1056		4206	144	142	142		149
WP-32/31	WM6/40	30 / 40	3246		1176		4422	144	142	142		157.7
WP-32/32	WM6/40	30 / 40	3342		1176		4518	144	142	142		159.2
WP-32/33	WM6/40	30 / 40	3438		1176		4614	144	142	142		161.1
WP-32/34	WM6/40	30 / 40	3534		1176		4710	144	142	142		163.74
WP-32/35	WM6/40	30 / 40	3630		1176		4806	144	142	142		164.3
WP-32/39	WM8/50	37 / 50	4360		1010		5370	190	178	181		264
WP-32/43	WM8/50	37 / 50	4744		1010		5754	190	178	181		284
WP-32/46	WM8/60	45 / 60	5032		1062		6094	190	192	192		306
WP-32/49	WM8/60	45 / 60	5320		1062		6382	190	192	192		321
WP-32/52	WM8/75	55 / 75	5608		1168		6776	190	192	192		348
WP-32/54	WM8/75	55 / 75	5800		1168		6968	190	192	192		358

- Pump mounted in Sleeve
- Maximum diameter of pump with two motor cables
- On Request

Performance Chart

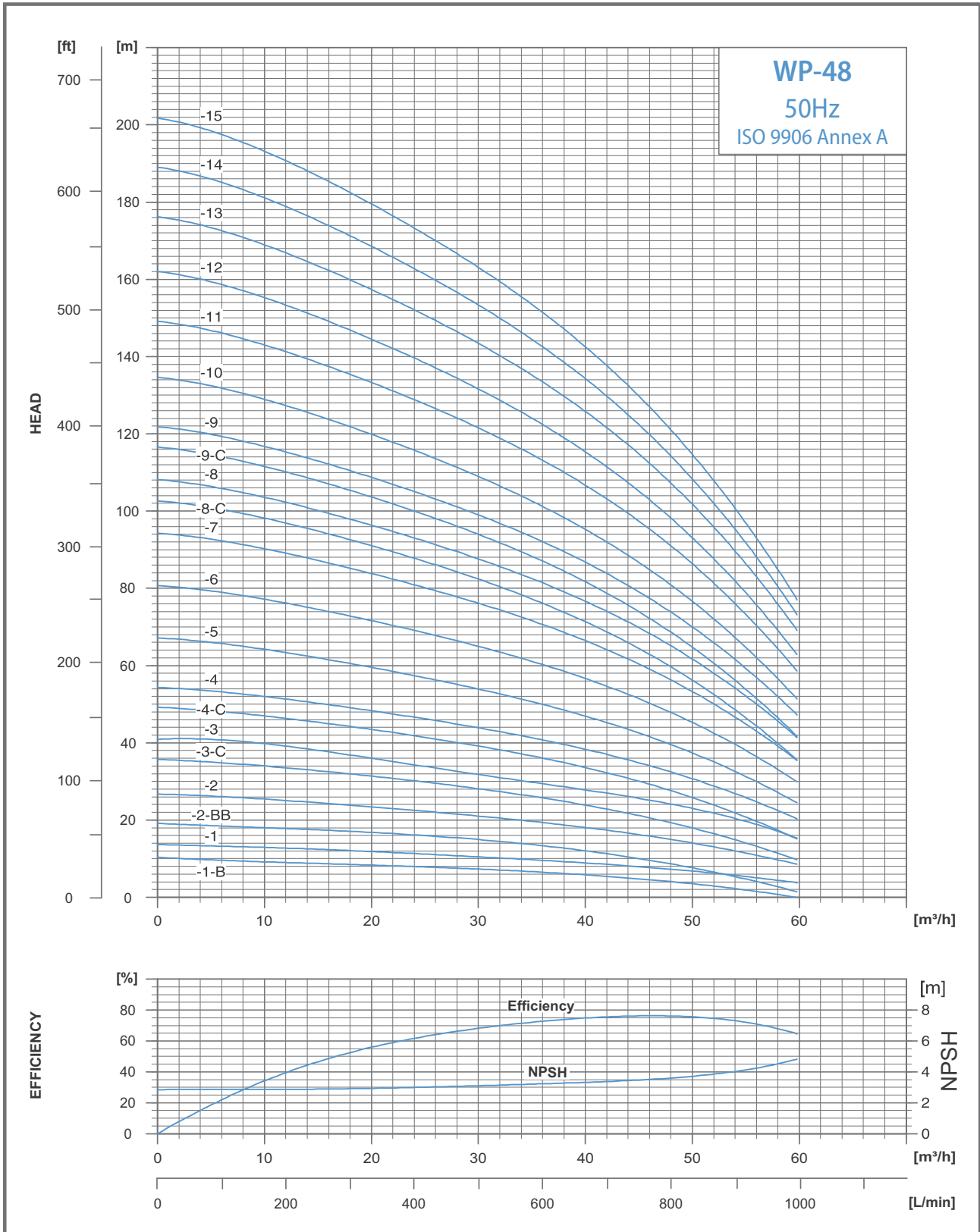
WP-32, 50Hz

ISO 9906 Annex A

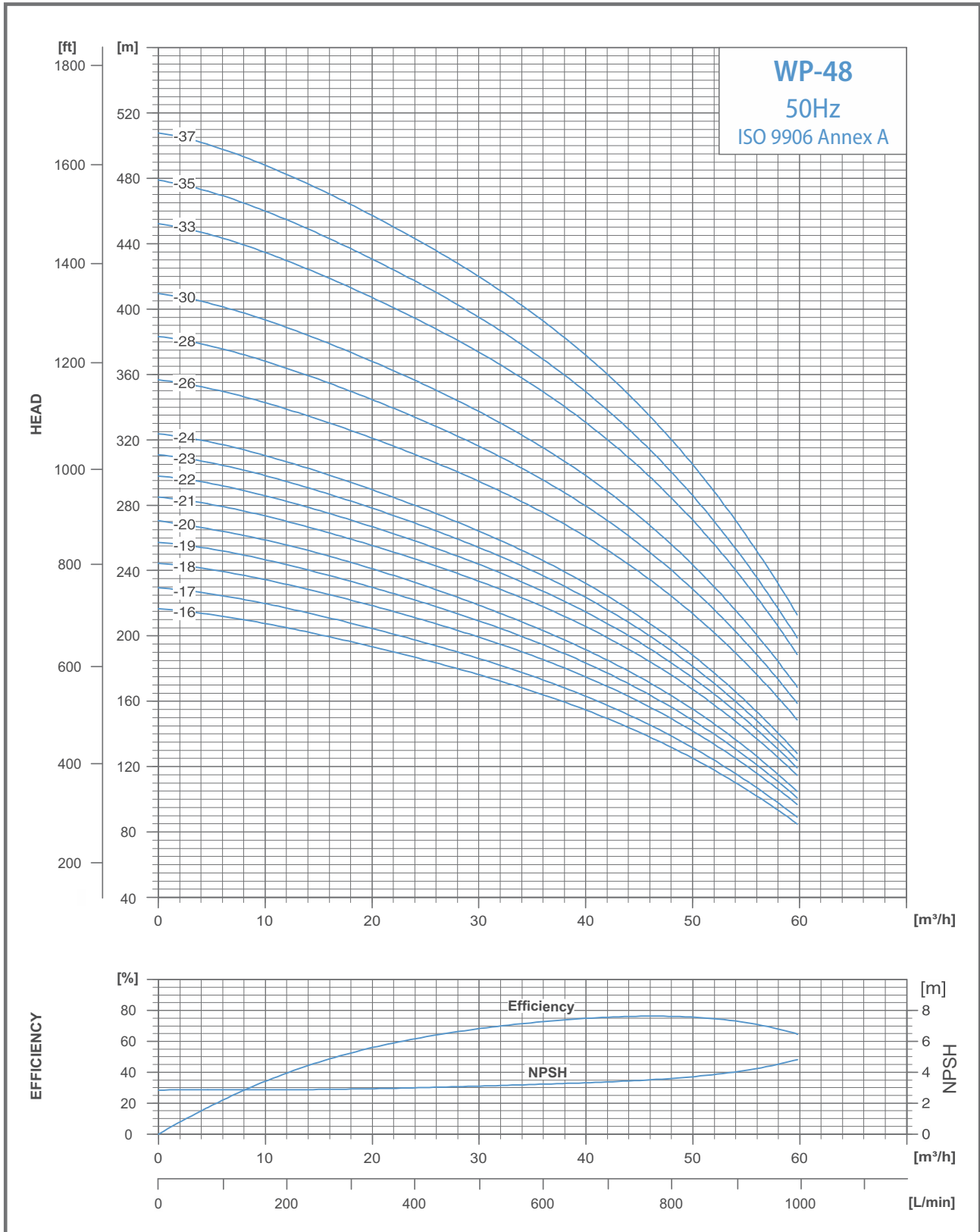
Model Name		Rating			Discharge									
Three Phase	Stage	kW	HP	l/min	0	70	135	200	270	335	400	470	535	650
				m ³ /h	0	4.2	8.1	12.0	16.2	20.1	24.0	28.2	32.1	39.0

Model Name	Stage	kW	HP	HEAD IN Mtrs.	11.5	11.3	11	10.5	10	9.5	9	8	7	4
WP-32/01	1	1.10	1.50		11.5	11.3	11	10.5	10	9.5	9	8	7	4
WP-32/02	2	2.20	3.00		23	22.5	22	21	20	19	18	16	14	9
WP-32/03	3	3.00	4.00		34.5	34	33	32	30	29	27	24	21	13
WP-32/04	4	4.00	5.50		46	45	44	42	40	38	36	33	28	18
WP-32/05	5	5.50	7.50		58	57	56	53	50	48	45	41	35	22
WP-32/06	6	5.50	7.50		69	68	67	64	60	57	53	49	42	27
WP-32/07	7	7.50	10.00		80.5	80	78	74	70	67	62	57	49	31
WP-32/08	8	7.50	10.00		92	91	89	85	81	76	71	65	56	35
WP-32/09	9	9.30	12.50		104	102	100	95	91	86	80	73	63	40
WP-32/10	10	9.30	12.50		115	114	111	106	101	95	89	81	70	44
WP-32/11	11	9.30	12.50		126	125	122	117	111	105	98	90	78	49
WP-32/12	12	11.00	15.00		138	136	133	127	121	114	107	98	85	53
WP-32/13	13	11.00	15.00		150	148	145	138	131	124	116	106	92	57
WP-32/14	14	13.00	17.50		161	159	156	148	141	133	125	114	99	62
WP-32/15	15	13.00	17.50		172	171	167	159	151	143	134	122	106	66
WP-32/16	16	15.00	20.00		184	182	178	170	161	152	143	130	113	71
WP-32/17	17	15.00	20.00		196	193	189	180	171	162	151	138	120	75
WP-32/18	18	18.50	25.00		207	205	200	191	181	171	160	147	127	80
WP-32/19	19	18.50	25.00		218	216	211	201	191	181	169	155	134	84
WP-32/20	20	18.50	25.00		230	227	222	212	201	190	178	163	141	88
WP-32/21	21	18.50	25.00		242	239	234	223	211	200	187	171	148	93
WP-32/22	22	22.00	30.00		253	250	245	233	222	209	196	179	155	97
WP-32/23	23	22.00	30.00		264	262	256	244	232	219	205	187	162	102
WP-32/24	24	22.00	30.00		276	273	267	254	242	228	214	195	169	106
WP-32/25	25	22.00	30.00		288	284	278	265	252	238	223	204	176	110
WP-32/26	26	22.00	30.00		299	296	289	276	262	247	232	212	183	115
WP-32/27	27	26.00	35.00		310	307	300	286	272	257	241	220	190	119
WP-32/28	28	26.00	35.00		322	318	311	297	282	266	249	228	197	124
WP-32/29	29	26.00	35.00		334	330	322	307	292	276	258	236	204	128
WP-32/30	30	26.00	35.00		345	341	334	318	302	285	267	244	212	133
WP-32/31	31	26.00	35.00		356	352	345	329	312	295	276	252	219	137
WP-32/32	32	30.00	40.00		368	364	356	339	322	304	285	260	226	141
WP-32/33	33	30.00	40.00		380	375	367	350	332	314	294	269	233	146
WP-32/34	34	30.00	40.00		391	387	378	360	342	323	303	277	240	150
WP-32/35	35	30.00	40.00		402	398	389	371	352	333	312	285	247	155
WP-32/39	39	37.00	50.00		448	443	434	413	393	371	347	317	275	172
WP-32/43	43	37.00	50.00		494	489	478	456	433	409	383	350	303	190

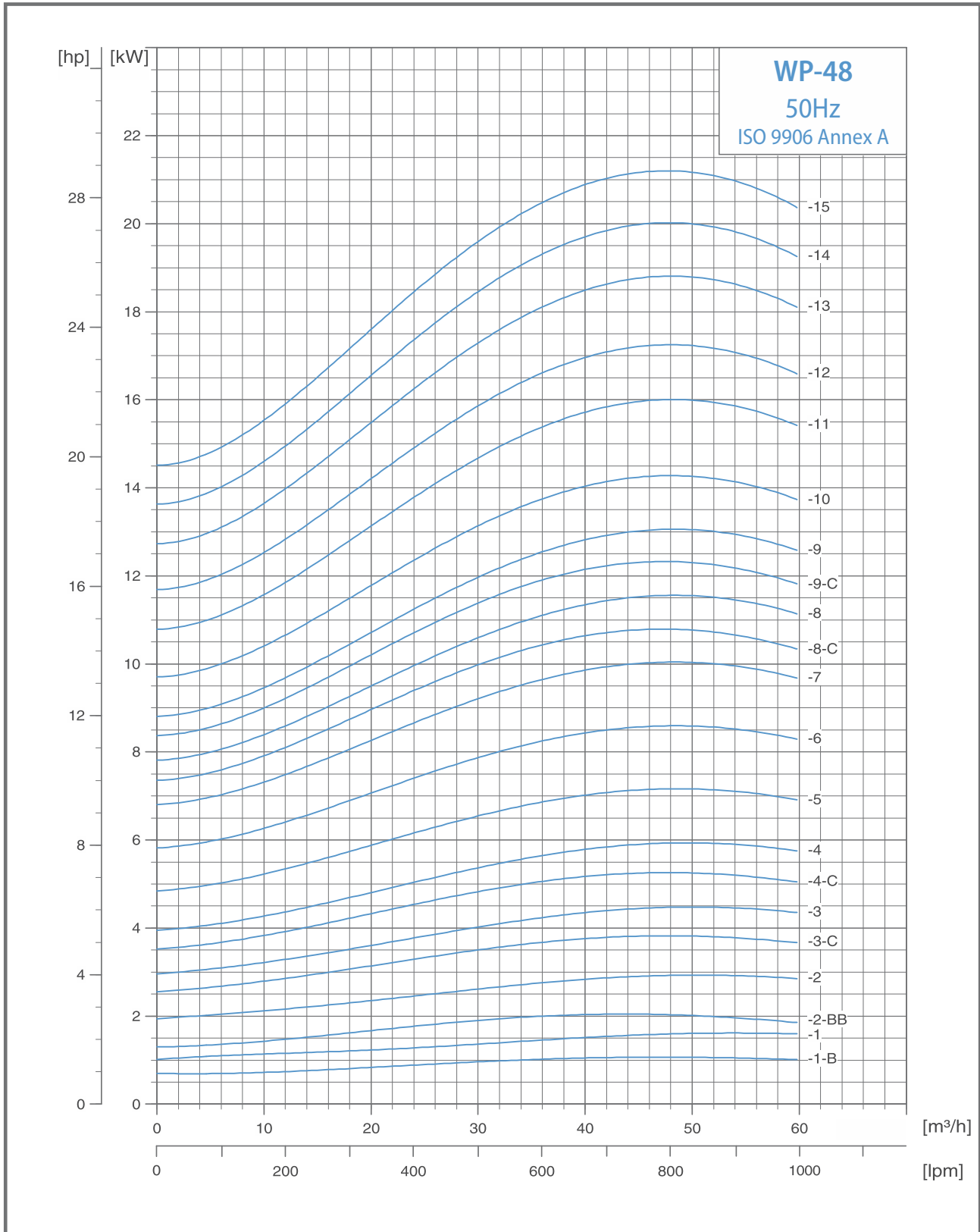
Performance Curves



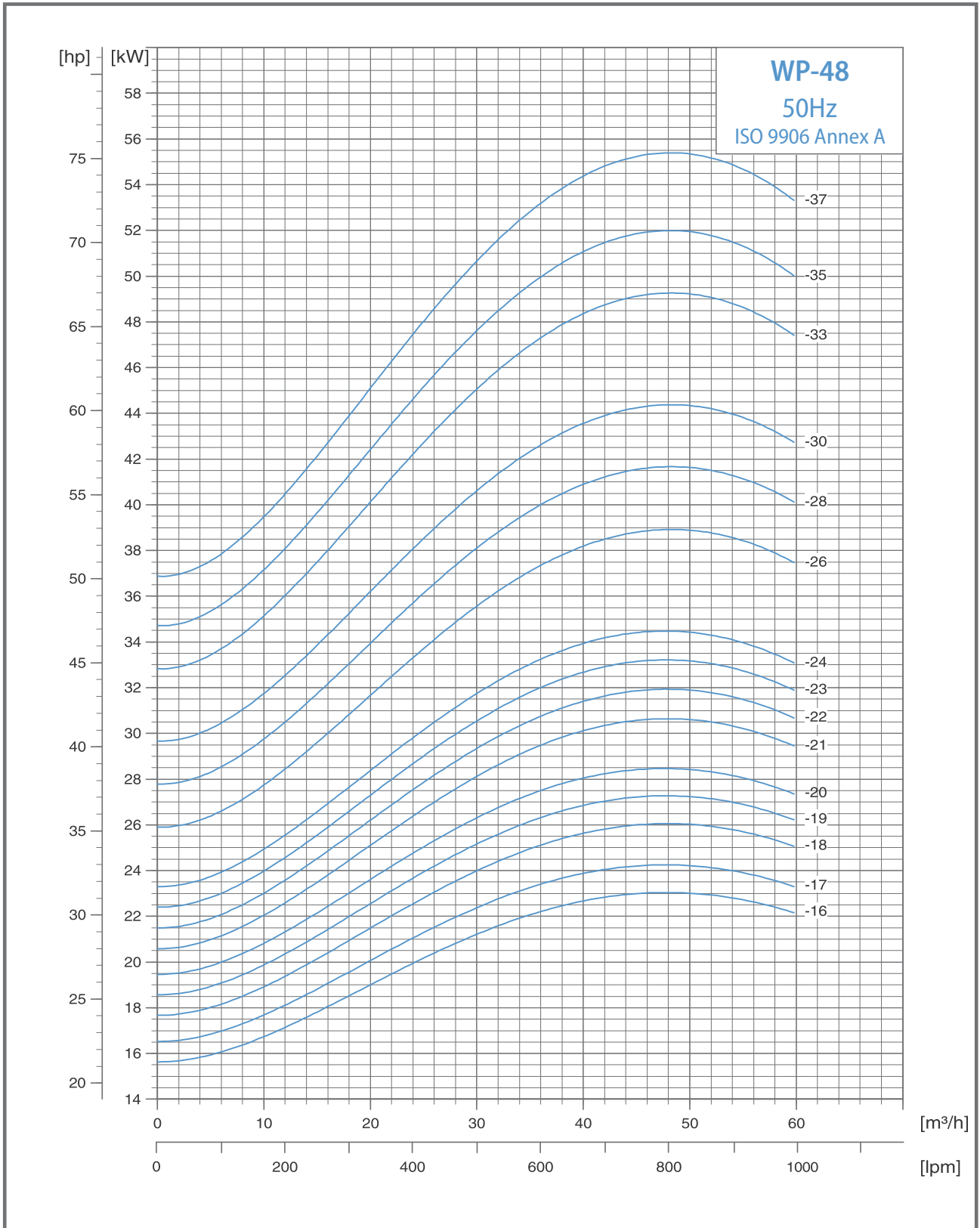
Performance Curves



Power Curves



Power Curves

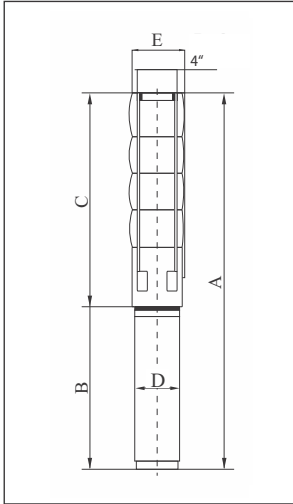


Technical Data

WP-48, 50Hz

ISO 9906 Annex A

Dimensions and Weight



WP-48/26 to WP-48/37 are mounted in sleeve for R 4" connection.

PUMP TYPE UGM...	MOTOR		DIMENSIONS (mm)						NET WEIGHT (kg)			
	POWER WM..... (kW/HP)	POWER (KW/HP)	C	B		A		D	E*	E**	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V					
WP-48/1-B	WM4/1.5	1.1 / 1.5	367	512	477	879	844	96	146		23.5	23
WP-48/1	WM4/3	2.2 / 3	367	657	637	1024	1004	96	146		34	30
WP-48/2-BB	WM4/3	2.2 / 3	480	657	637	1137	1117	96	146		36	31.9
WP-48/2	WM4/4	3 / 4	496		677		1173	96	146			35.2
WP-48/3-C	WM4/5.5	4 / 5.5	609		737		1346	96	146			40.5
WP-48/3	WM4/7.5	5.5 / 7.5	609		877		1486	96	146			47.8
WP-48/4-C	WM4/7.5	5.5 / 7.5	722		877		1599	96	146			50
WP-48/4	WM4/10	7.5 / 10	706		1017		1723	96	-			61.3
WP-48/4	WM6/10	7.5 / 10	722		706		1428	144	-			63.8
WP-48/5	WM6/10	7.5 / 10	835		706		1541	144	149	152		66
WP-48/6	WM6/12.5	9.2 / 12.5	948		736		1684	144	149	152		70.1
WP-48/7	WM6/15	11 / 15	1061		776		1837	144	149	152		80.2
WP-48/8-C	WM6/15	11 / 15	1174		776		1950	144	149	152		82.5
WP-48/8	WM6/17.5	13 / 17.5	1174		826		2000	144	149	152		88
WP-48/9-C	WM6/17.5	13 / 17.5	1287		826		2113	144	149	152		90.4
WP-48/10	WM6/20	15 / 20	1400		866		2266	144	149	152		96
WP-48/11	WM6/25	18.5 / 25	1513		921		2434	144	149	152		104.1
WP-48/12	WM6/25	18.5 / 25	1626		921		2547	144	149	152		106.4
WP-48/13	WM6/30	22 / 30	1739		996		2735	144	149	152		118.4
WP-48/14	WM6/30	22 / 30	1852		996		2848	144	149	152		120.6
WP-48/15	WM6/30	22 / 30	1965		996		2961	144	149	152		123
WP-48/16	WM6/35	26 / 35	2078		1056		3134	144	149	152		133.9
WP-48/17	WM6/35	26 / 35	2191		1056		3247	144	149	152		136.4
WP-48/18	WM6/40	30 / 40	2304		1176		3480	144	149	152		145.4
WP-48/19	WM6/40	30 / 40	2417		1176		3593	144	149	152		147.9
WP-48/20	WM6/40	30 / 40	2530		1176		3706	144	149	152		149.9
WP-48/21	WM8/50	37 / 50	2643		1010		3653	190	149	152		188.2
WP-48/22	WM8/50	37 / 50	2756		1010		3766	190	149	152		190.8
WP-48/23	WM8/50	37 / 50	2869		1010		3879	190	149	152		192.7
WP-48/24	WM8/50	37 / 50	2982		1010		3992	190	149	152		195.3
WP-48/26	WM8/60	45 / 60	3570		1062		4632	190	-	-		-
WP-48/28	WM8/60	45 / 60	3810		1062		4872	190	-	-		-
WP-48/30	WM8/60	45 / 60	4050		1062		5112	190	-	-		-
WP-48/33	WM8/75	55 / 75	4410		1168		5578	190	-	-		-
WP-48/35	WM8/75	55 / 75	4650		1168		5818	190	-	-		-
WP-48/37	WM8/90	67 / 90	4890		1262		6152	192	-	-		-

- Pump mounted in Sleeve
- Maximum diameter of pump with one motor cable
- Maximum diameter of pump with two motor cables
- On Request

Performance Chart

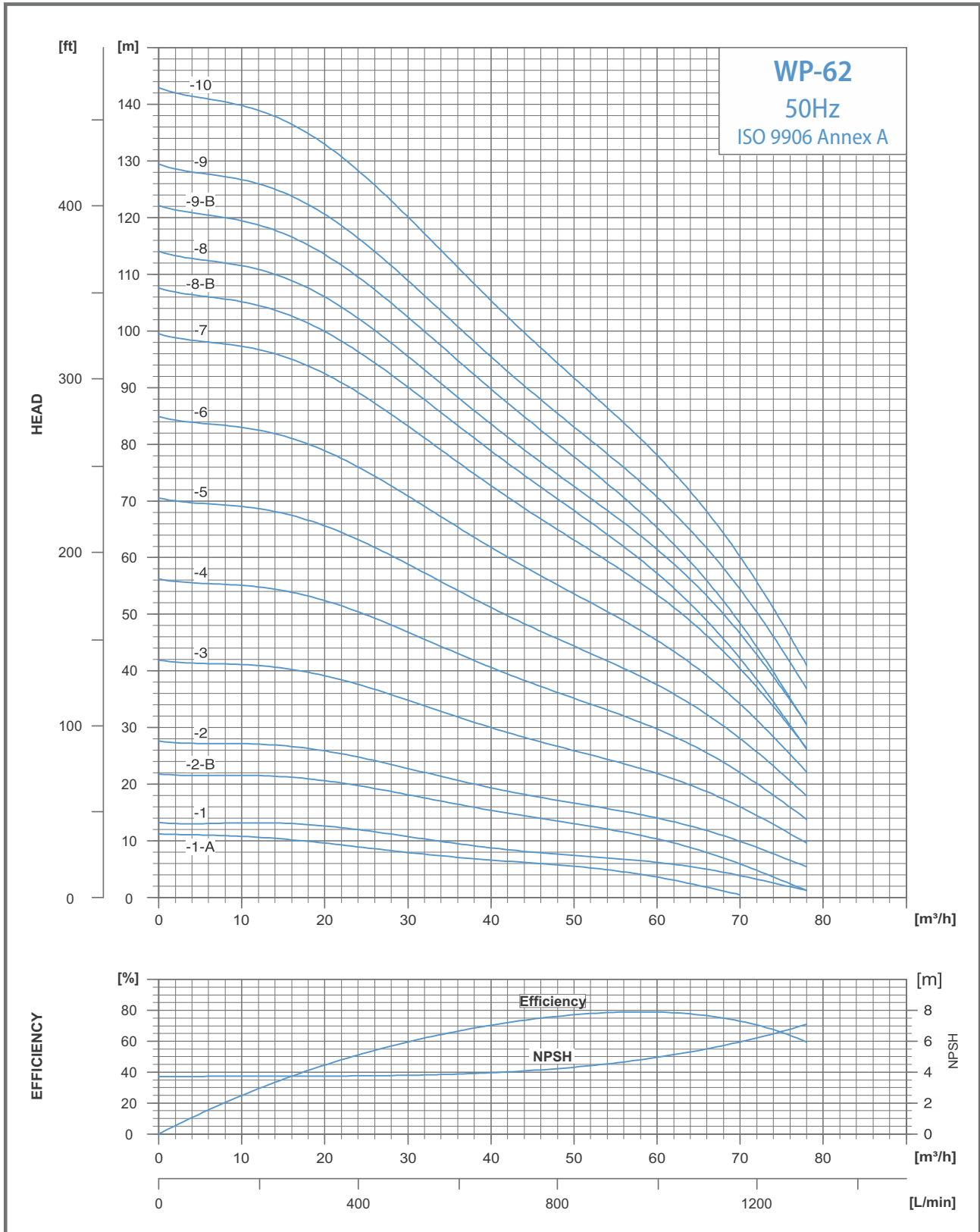
WP-48, 50Hz

ISO 9906 Annex A

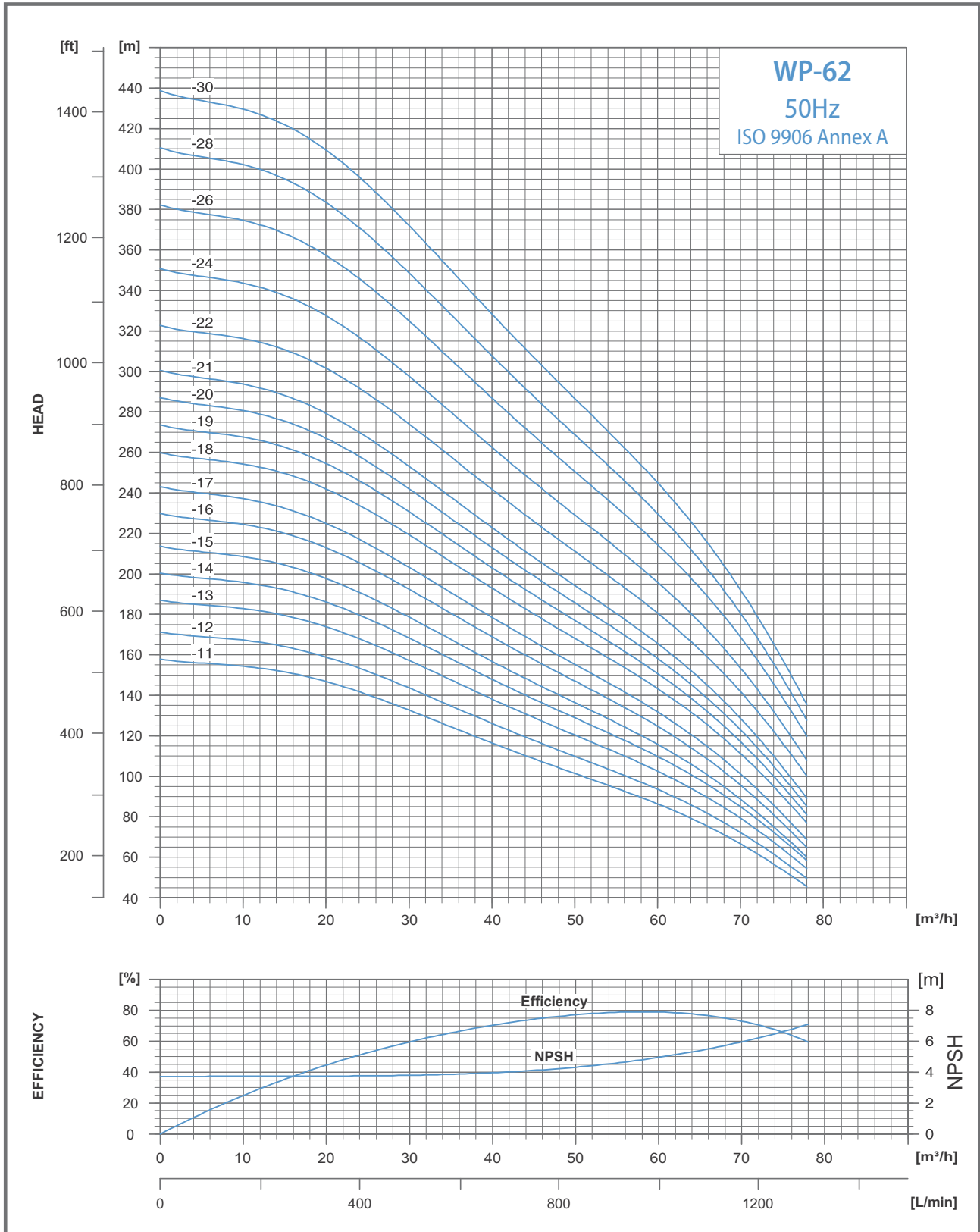
MODEL NAME		RATING			DISCHARGE									
THREE PHASE	STAGE	kW	HP	l/min	0	167	335	500	585	670	750	835	917	1000
				m ³ /h	0	10.0	20.1	30.0	35.1	40.2	45.0	50.1	55.0	60.0

WP-48/01	1	2.20	3.00	HEAD IN Mtrs.	14	13	12	11	10	9.5	9	8	7	5	
WP-48/02	2	3.00	4.00		27	26	24	22	21	19	18	16	13	11	
WP-48/03	3	5.50	7.50		40	39	36	33	31	29	26	23	20	16	
WP-48/04	4	7.50	10.00		54	52	48	44	41	39	35	31	27	21	
WP-48/05	5	7.50	10.00		68	64	60	55	52	48	44	39	33	27	
WP-48/06	6	9.30	12.50		81	77	72	66	62	58	53	47	40	32	
WP-48/07	7	11.00	15.00		94	90	84	77	73	68	62	55	47	37	
WP-48/08	8	13.00	17.50		108	103	96	88	83	77	71	63	53	43	
WP-48/09	9	15.00	20.00		122	116	108	99	93	87	79	70	60	48	
WP-48/10	10	15.00	20.00		135	129	120	110	104	97	88	78	67	53	
WP-48/11	11	18.50	25.00		148	142	132	121	114	106	97	86	73	59	
WP-48/12	12	18.50	25.00		162	155	144	132	124	116	106	94	80	64	
WP-48/13	13	22.00	30.00		176	168	157	143	135	126	115	102	87	69	
WP-48/14	14	22.00	30.00		189	181	169	154	145	135	124	110	93	75	
WP-48/15	15	22.00	30.00		202	194	181	165	156	145	132	117	100	80	
WP-48/16	16	26.00	35.00		216	206	193	176	166	155	141	125	107	85	
WP-48/17	17	26.00	35.00		230	219	205	187	176	164	150	133	113	91	
WP-48/18	18	30.00	40.00		243	232	217	198	187	174	159	141	120	96	
WP-48/19	19	30.00	40.00		256	245	229	209	197	184	168	149	127	101	
WP-48/20	20	30.00	40.00		270	258	241	220	207	193	177	157	133	107	
WP-48/21	21	37.00	50.00		284	271	253	231	218	203	185	164	140	112	
WP-48/22	22	37.00	50.00		297	284	265	242	228	213	194	172	147	117	
WP-48/23	23	37.00	50.00		310	297	277	253	239	222	203	180	153	123	
WP-48/24	24	37.00	50.00		324	310	289	264	249	232	212	188	160	128	
WP-48/26	26	45.00	60.00		351	335	313	286	270	251	230	204	173	139	
WP-48/28	28	45.00	60.00		378	361	337	308	290	271	247	219	187	149	
WP-48/30	30	45.00	60.00		405	387	361	330	311	290	265	235	200	160	
WP-48/33	33	55.00	75.00		446	426	397	363	342	319	291	258	220	176	
WP-48/35	35	55.00	75.00		472	452	421	385	363	338	309	274	233	187	
WP-48/37	37	63.00	85.00		500	477	445	407	384	358	327	290	247	197	

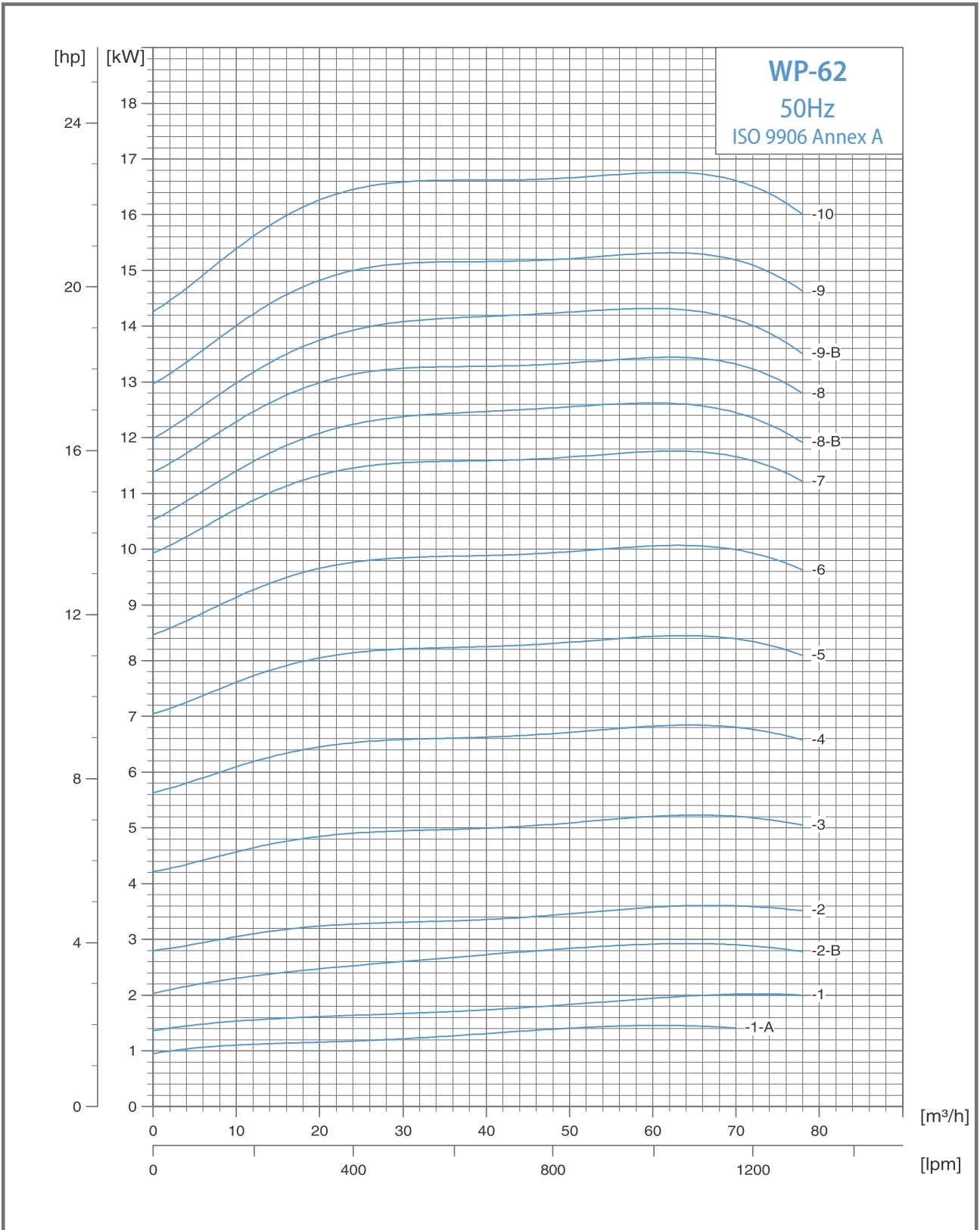
Performance Curves



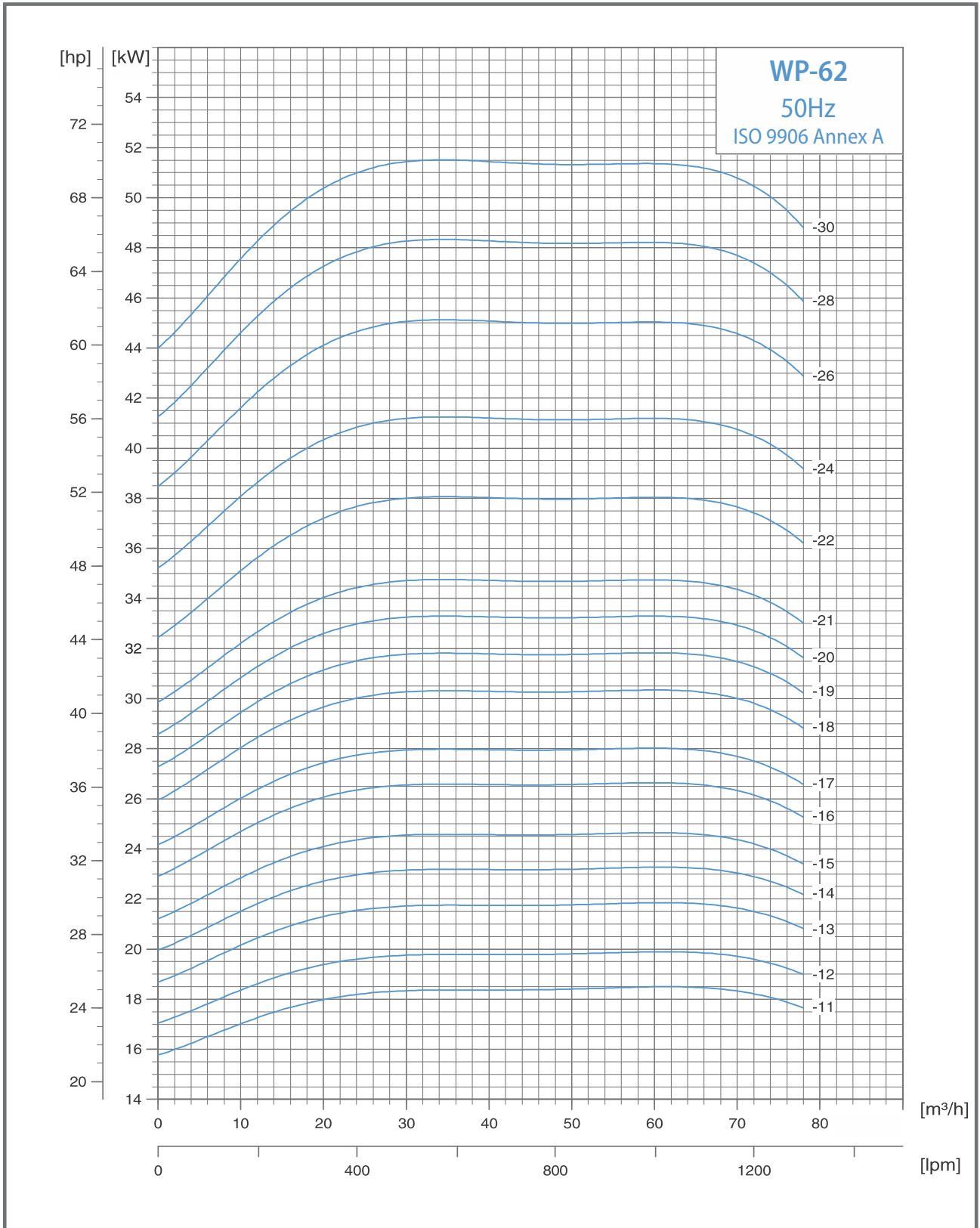
Performance Curves



Power Curves



Power Curves

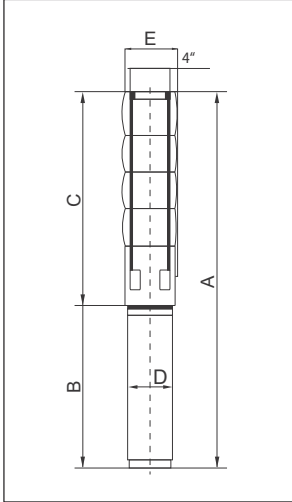


Technical Data

WP-62, 50Hz

ISO 9906 Annex A

Dimensions and Weight



PUMP TYPE	MOTOR		DIMENSIONS (mm)								NET WEIGHT (kg)	
	TYPE WM.... (inch/HP)	POWER (KW/HP)	C	B		A		D	E*	E**	1x230V	3x230V 3x400V
				1x230V	3x230V 3x400V	1x230V	3x230V 3x400V					
WP-62/1-A	WM4/2	1.5 / 2	367	579	599	946	966	96	146		23	29
WP-62/1	WM4/3	2.2 / 3	383	657	637	1040	1020	96	146			31
WP-62/2-B	WM4/4	3 / 4	480		677		1157	96	146			34
WP-62/2	WM4/5.5	4 / 5.5	496		737		1233	96	146			37
WP-62/3	WM4/7.5	5.5 / 7.5	593		877		1470	96	146			47.8
WP-62/4	WM4/10	7.5 / 10	722		1017		1739	96	152	-		54.7
WP-62/3	WM6/7.5	5.5 / 7.5	609		676		1285	144	-			59.5
WP-62/4	WM6/10	7.5 / 10	702		706		1408	144	-	-		63.7
WP-62/5	WM6/12.5	9.2 / 12.5	835		736		1571	144	149	152		67.8
WP-62/6	WM6/15	11 / 15	948		776		1724	144	149	152		78
WP-62/7	WM6/17.5	13 / 17.5	1061		826		1887	144	149	152		85.8
WP-62/8-B	WM6/17.5	13 / 17.5	1174		826		2000	144	149	152		88
WP-62/8	WM6/20	15 / 20	1174		866		2040	144	149	152		91.5
WP-62/9-B	WM6/20	15 / 20	1287		866		2153	144	149	152		93.7
WP-62/9	WM6/25	18.5 / 25	1287		921		2208	144	149	152		99.5
WP-62/10	WM6/25	18.5 / 25	1400		921		2321	144	149	152		101.8
WP-62/11	WM6/30	22 / 30	1513		996		2509	144	149	152		114
WP-62/12	WM6/30	22 / 30	1626		996		2622	144	149	152		116.2
WP-62/13	WM6/35	26 / 35	1739		1056		2795	144	149	152		127.3
WP-62/14	WM6/35	26 / 35	1852		1056		2908	144	149	152		129.5
WP-62/15	WM6/35	26 / 35	1965		1056		3021	144	149	152		131
WP-62/16	WM6/40	30 / 40	2078		1176		3254	144	149	152		141
WP-62/17	WM6/40	37 / 50	2191		1176		3367	144	149	152		143.4
WP-62/18	WM8/50	37 / 50	2304		1010		3314	190	149	152		181.7
WP-62/19	WM8/50	37 / 50	2417		1010		3427	190	149	152		184
WP-62/20	WM8/50	37 / 50	2530		1010		3540	190	149	152		186.2
WP-62/21	WM8/50	37 / 50	2643		1010		3653	190	-	-		188.5

- Maximum diameter of pump with one motor cable
- Maximum diameter of pump with two motor cables
- On Request

Performance Chart

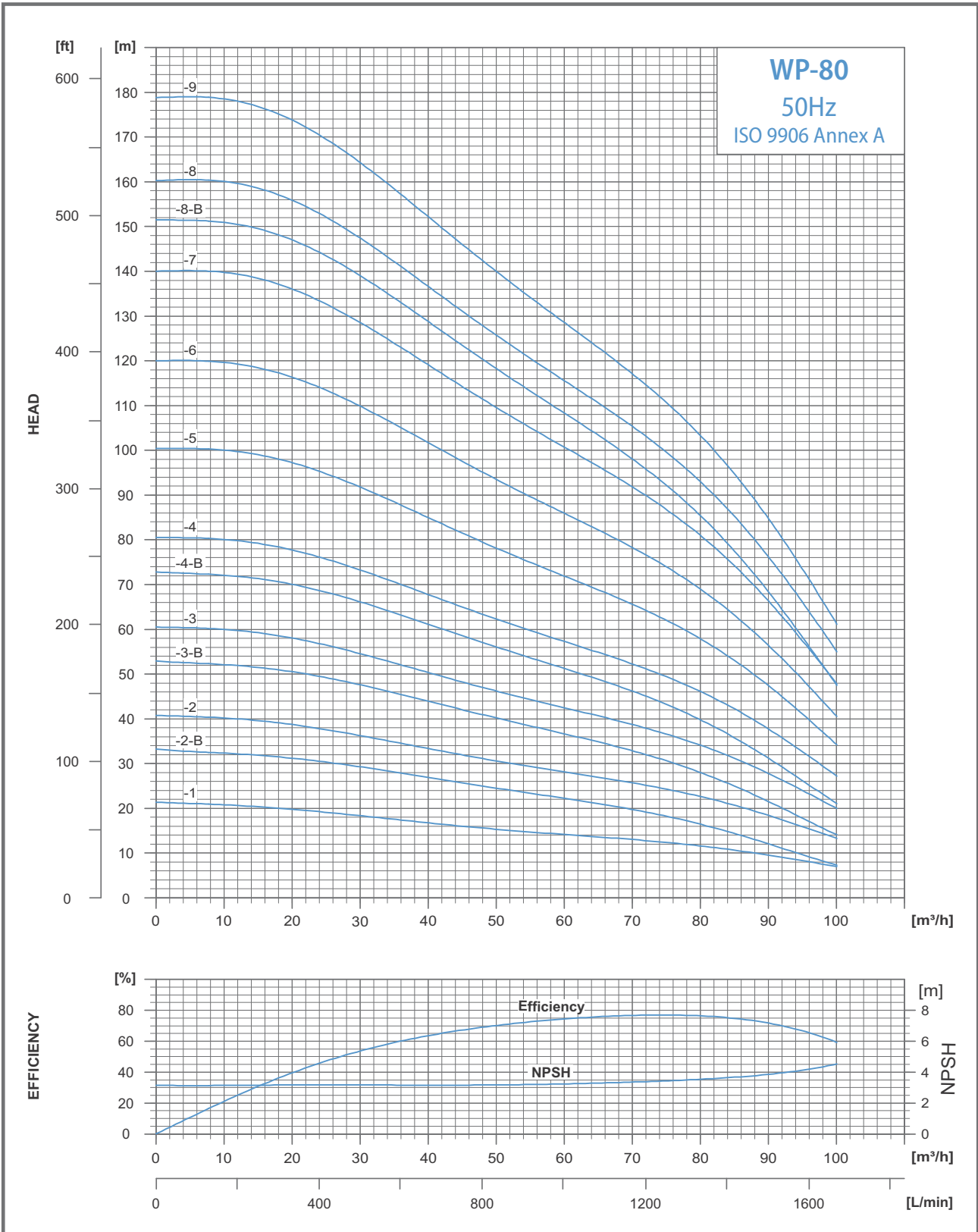
WP-62, 50Hz

ISO 9906 Annex A

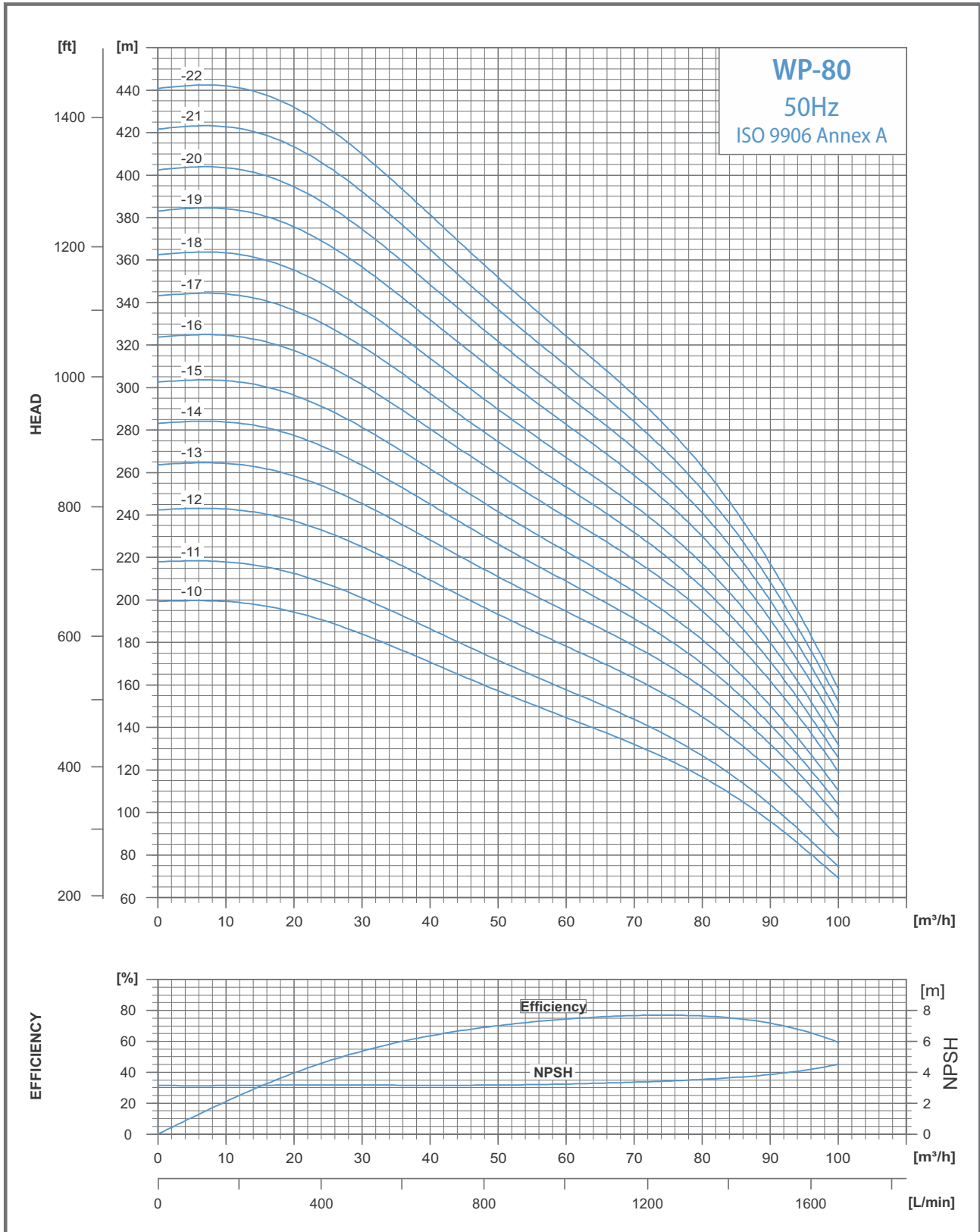
MODEL NAME		RATING			DISCHARGE								
THREE PHASE	STAGE	kW	HP	l/min	0	170	335	500	670	835	1000	1167	1300
				m ³ /h	0	10.2	20.1	30.1	40.2	50.1	60.0	70.0	78.0

WP-62/01	1	2.20	3.00	HEAD IN Mtrs.	14.5	14	13	12	11	9	8	6	4	
WP-62/02	2	4.00	5.50		29	28	27	24	21	18	16	12	8	
WP-62/03	3	5.50	7.50		43	42	40	36	32	28	24	18	13	
WP-62/04	4	7.50	10.00		57	56	53	48	42	37	32	25	17	
WP-62/05	5	9.30	12.50		72	70	66	60	53	46	40	31	21	
WP-62/06	6	11.00	15.00		86	84	80	72	64	55	47	37	25	
WP-62/07	7	13.00	17.50		100	98	93	84	74	65	55	43	30	
WP-62/08	8	15.00	20.00		115	112	106	96	85	74	63	49	34	
WP-62/09	9	18.50	25.00		129	126	120	108	96	83	71	55	38	
WP-62/10	10	18.50	25.00		143	140	133	120	106	92	79	61	42	
WP-62/11	11	22.00	30.00		158	154	146	133	117	102	87	68	47	
WP-62/12	12	22.00	30.00		172	168	159	145	127	111	95	74	51	
WP-62/13	13	26.00	35.00		186	182	173	157	138	120	103	80	55	
WP-62/14	14	26.00	35.00		201	196	186	169	149	129	111	86	59	
WP-62/15	15	26.00	35.00		215	210	199	181	159	139	118	92	64	
WP-62/16	16	30.00	40.00		229	224	212	193	170	148	126	98	68	
WP-62/17	17	30.00	40.00		244	238	226	205	181	157	134	104	72	
WP-62/18	18	37.00	50.00		258	252	239	217	191	166	142	111	76	
WP-62/19	19	37.00	50.00		272	266	252	229	202	176	150	117	81	
WP-62/20	20	37.00	50.00		287	280	266	241	212	185	158	123	85	
WP-62/21	21	37.00	50.00		301	294	279	253	223	194	166	129	89	
WP-62/22	22	45.00	60.00		315	308	292	265	234	203	174	135	93	
WP-62/24	24	45.00	60.00		344	336	319	289	255	222	190	147	102	
WP-62/26	26	55.00	75.00		373	364	345	313	276	240	205	160	110	
WP-62/28	28	55.00	75.00		401	392	372	337	297	259	221	172	119	
WP-62/30	30	55.00	75.00		430	420	398	362	319	277	237	184	127	

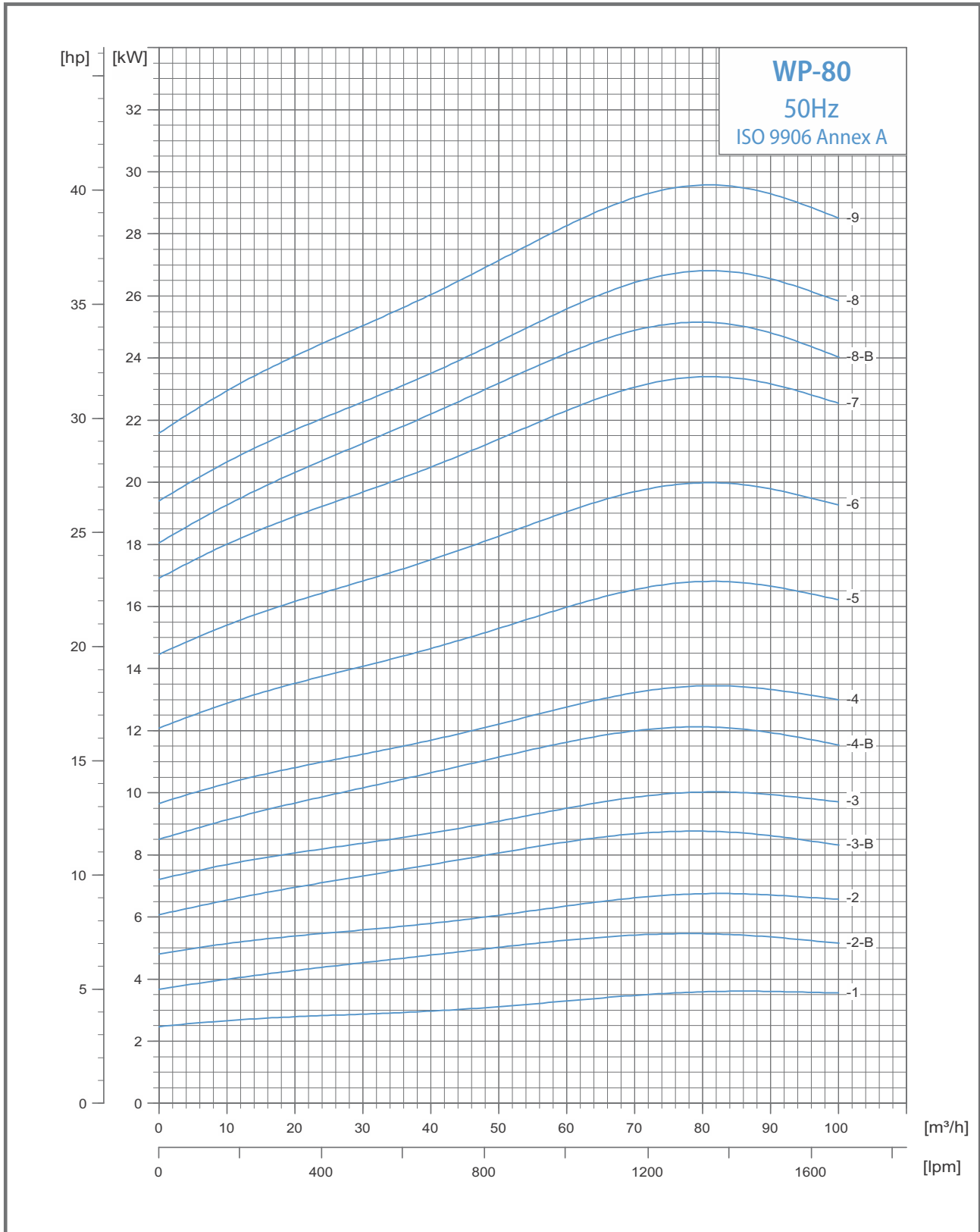
Performance Curves



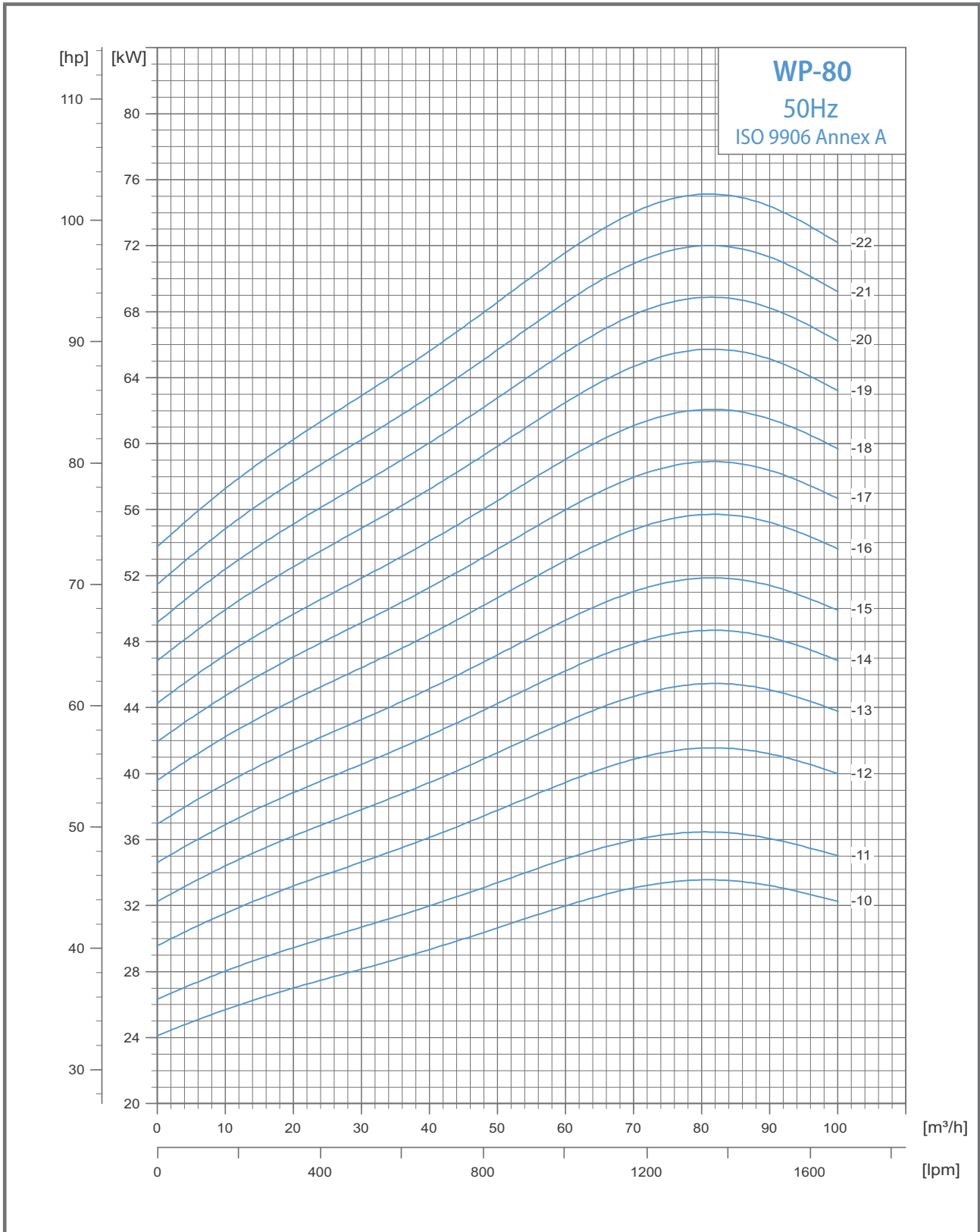
Performance Curves



Power Curves



Power Curves

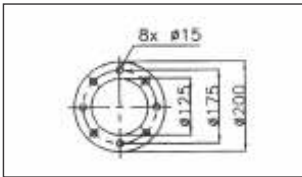
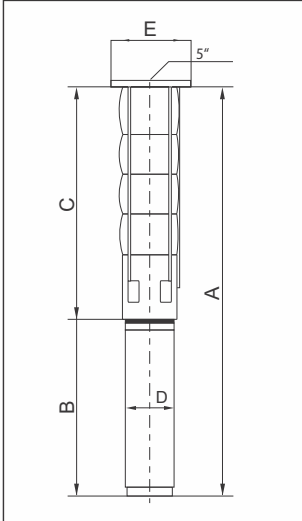


Technical Data

WP-80, 50Hz

ISO 9906 Annex A

Dimensions and Weight



PUMP TYPE	MOTOR		DIMENSIONS										NET WEIGHT (kg)
	TYPE WM.... (inch/HP)	POWER (KW/HP)	5" Connection (RP/NPT)				5" Flange				B	D	
			A	C	E*	E**	A	C	E*	E**			
WP-80/1	WM6/7.5	5.5 / 7.5	1294	618	178	186	1294	618	200	200	676	144	73
WP-80/2-B	WM6/7.5	5.5 / 7.5	1422	746	178	186	1422	746	200	200	676	144	76.7
WP-80/2	WM6/10	7.5 / 10	1452	746	178	186	1452	746	200	200	706	144	78.7
WP-80/3-B	WM6/12.5	9.2 / 12.5	1610	874	178	186	1610	874	200	200	736	144	84.1
WP-80/3	WM6/15	11 / 15	1650	874	178	186	1650	874	200	200	776	144	92
WP-80/4-B	WM6/17.5	13 / 17.5	1829	1003	178	186	1829	1003	200	200	826	144	101
WP-80/4	WM6/20	15 / 20	1869	1003	178	186	1869	1003	200	200	866	144	104.5
WP-80/5	WM6/25	18.5 / 25	2052	1131	178	186	2052	1131	200	200	921	144	114
WP-80/6	WM6/30	22 / 30	2255	1259	178	186	2255	1259	200	200	996	144	127.2
WP-80/7	WM6/35	26 / 35	2343	1287	178	186	2343	1287	200	200	1056	144	139.6
WP-80/8-B	WM6/35	26 / 35	2571	1515	178	186	2571	1515	200	200	1056	144	143.2
WP-80/8	WM6/40	30 / 40	2691	1515	178	186	2691	1515	200	200	1176	144	150.2
WP-80/9	WM6/40	30 / 40	2820	1644	178	186	2820	1644	200	200	1176	144	153.8
WP-80/10	WM8/50	37 / 50	2782	1772	178	186	2782	1772	200	200	1010	190	193.4
WP-80/11	WM8/50	37 / 50	2910	1900	178	186	2910	1900	200	200	1010	190	197
WP-80/12	WM8/60	45 / 60	3101	2039	200	204	3101	2039	209	209	1062	190	202
WP-80/13	WM8/75	55 / 75	3336	2168	200	204	3336	2168	209	209	1168	190	224.6
WP-80/14	WM8/75	55 / 75	3464	2296	200	204							
WP-80/15	WM8/75	55 / 75	3592	2424	200	204					1168	190	231.8
WP-80/16	WM8/90	67 / 90	3814	2552	200	204					1262	192	242.4
WP-80/17	WM8/90	67 / 90	3944	2682	200	204					1262	192	246
WP-80/18	WM8/90	67 / 90	4071	2809	200	204					1262	192	249.6
WP-80/19	WM8/100	75 / 100	4263	2939	200	204					1324	192	275.2
WP-80/20	WM8/100	75 / 100	4389	3065	200	204					1324	192	278.8
WP-80/21	WM8/100	75 / 100	4520	3196	200	204							

- Maximum diameter of pump with one motor cable
- Maximum diameter of pump with two motor cables

Performance Chart

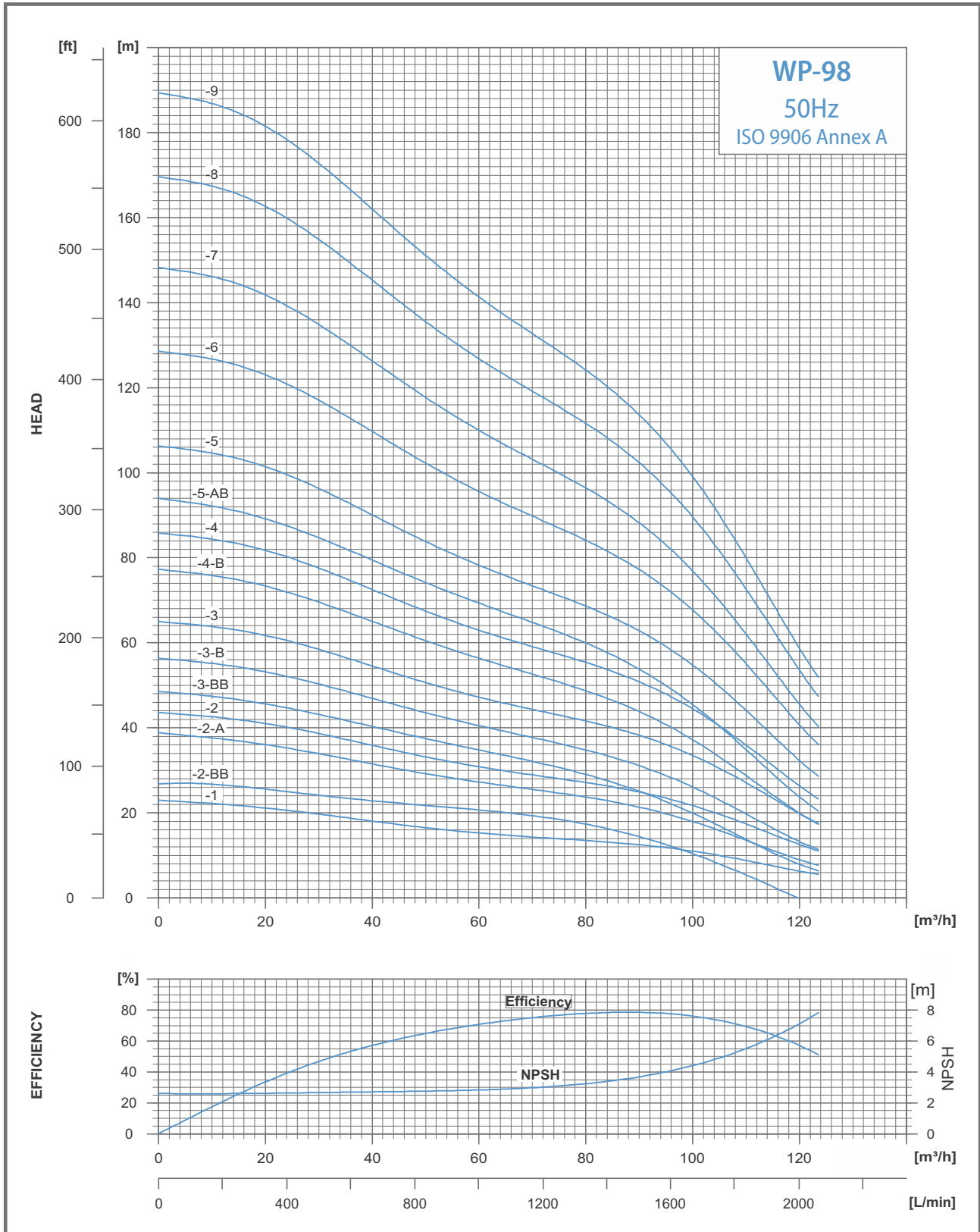
WP-80, 50Hz

ISO 9906 Annex A

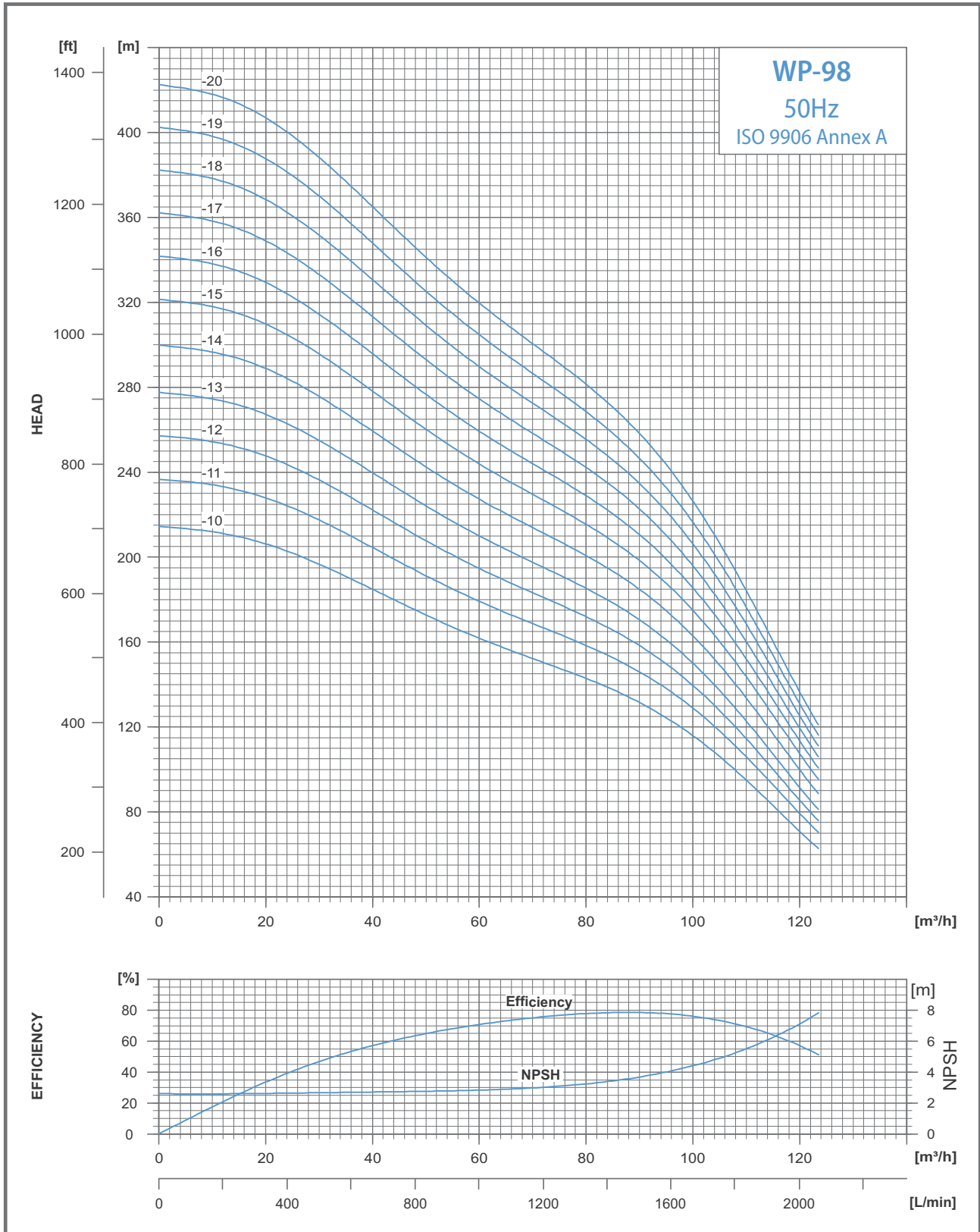
Model Name	Stage	Rating		l/min m ³ /h	Discharge									
		kW	HP		0	335	500	670	835	1000	1170	1335	1500	1670
Three Phase					0	20.0	30.0	40.2	50.1	60.0	70.2	80.1	90.0	100.0

Model Name	Stage	Rating kW	Rating HP	HEAD IN Mtrs.	20.5	20	19	17	16	15	14	12	10	7
WP-80/01	1	5.50	7.50		20.5	20	19	17	16	15	14	12	10	7
WP-80/02	2	7.50	10.00		41	40	38	35	32	30	27	24	20	15
WP-80/03	3	11.00	15.00		62	59	56	52	48	45	41	36	30	22
WP-80/04	4	15.00	20.00		82	79	75	70	64	59	54	48	40	29
WP-80/05	5	18.50	25.00		102	99	94	87	80	74	68	60	50	36
WP-80/06	6	22.00	30.00		123	118	112	105	97	89	81	72	60	44
WP-80/07	7	26.00	35.00		144	138	131	122	113	104	95	84	70	51
WP-80/08	8	30.00	40.00		164	158	150	140	129	119	108	96	80	58
WP-80/09	9	30.00	40.00		184	178	169	157	145	134	122	108	90	66
WP-80/10	10	37.00	50.00		205	198	188	174	161	148	136	120	100	73
WP-80/11	11	37.00	50.00		226	217	206	192	177	163	149	133	110	80
WP-80/12	12	45.00	60.00		246	237	225	209	193	178	163	145	120	88
WP-80/13	13	55.00	75.00		266	257	244	227	209	193	176	157	130	95
WP-80/14	14	55.00	75.00		287	276	262	244	225	208	190	169	140	102
WP-80/15	15	55.00	75.00		308	296	281	262	242	223	203	181	150	110
WP-80/16	16	63.00	85.00		328	316	300	279	258	238	217	193	160	117
WP-80/17	17	63.00	85.00		348	336	319	297	274	252	230	205	170	124
WP-80/18	18	63.00	85.00		369	356	338	314	290	267	244	217	180	131
WP-80/19	19	75.00	100.0		390	375	356	332	306	282	257	229	190	139
WP-80/20	20	75.00	100.0		410	395	375	349	322	297	271	241	200	146

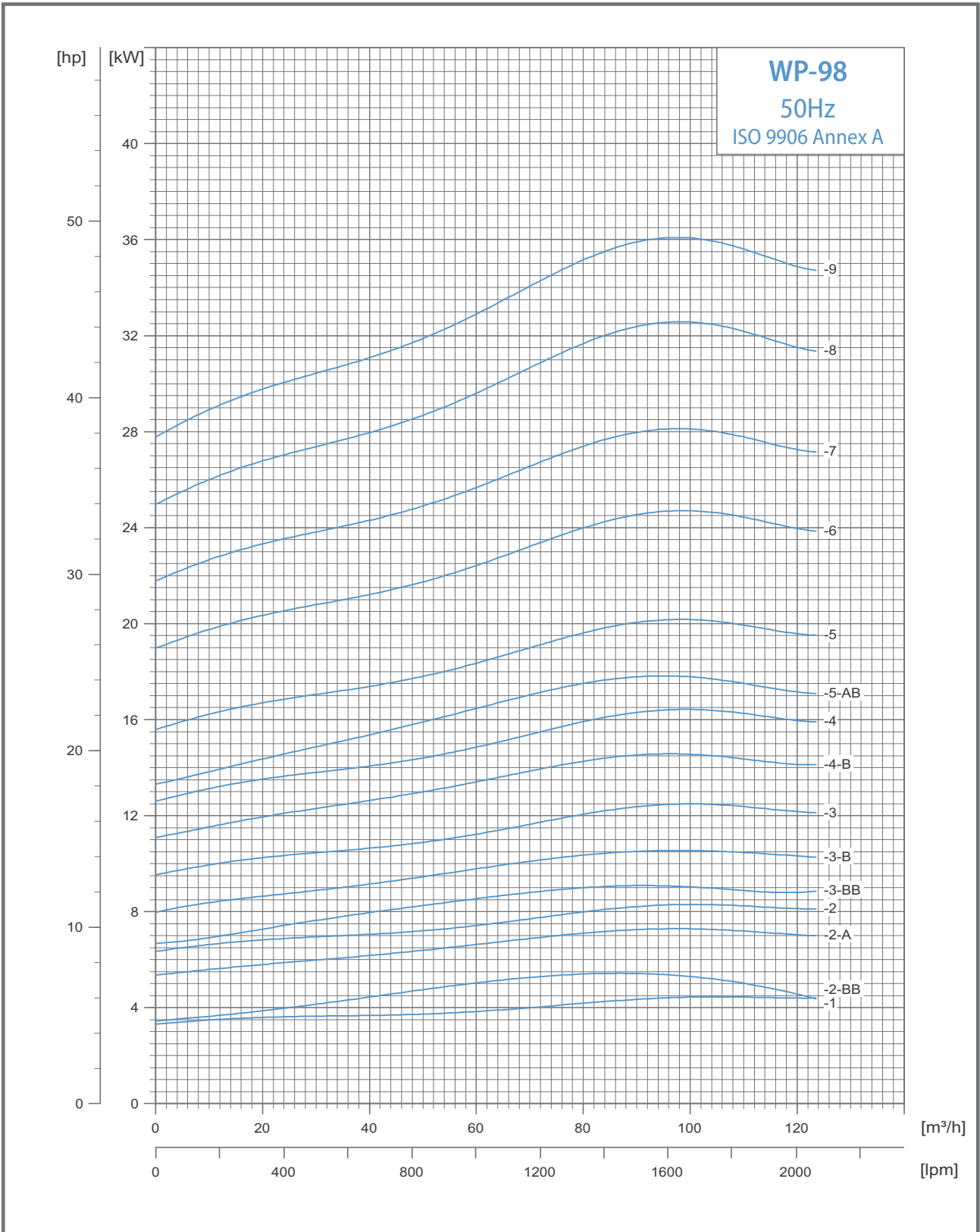
Performance Curves



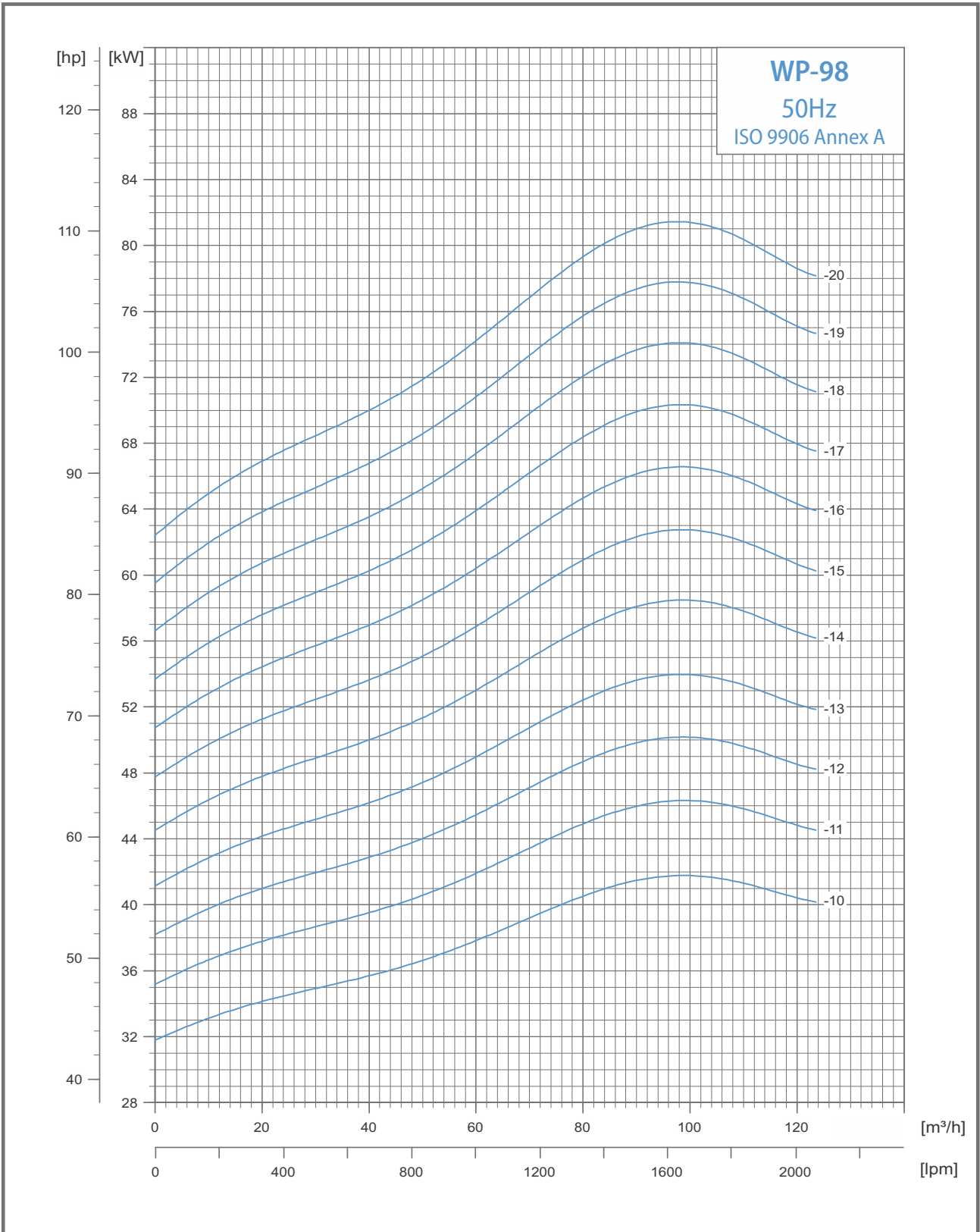
Performance Curves



Power Curves



Power Curves



Performance Chart

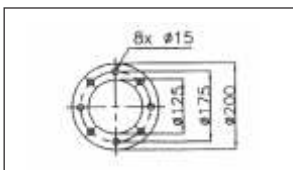
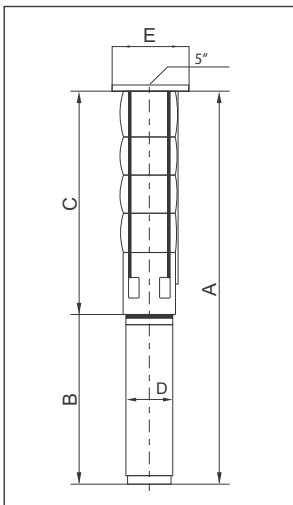
WP-98, 50Hz

ISO 9906 Annex A

Model Name	Stage	Rating		Discharge										
		kW	HP	l/min	0	335	675	1010	1170	1335	1500	1670	1835	2000
Three Phase				m ³ /h	0	20.0	40.5	60.6	70.2	80.1	90.0	100.2	110.1	120.0

Model	Stage	kW	HP	HEAD IN Mtrs.	21.5	21	18	16	15	14	13	12	9	7
					WP-98/01	1	5.50	7.50	21.5	21	18	16	15	14
WP-98/02	2	9.30	12.50	43	41	37	32	30	28	26	23	19	14	
WP-98/03	3	13.00	17.50	64	62	55	49	46	43	39	35	28	21	
WP-98/04	4	18.50	25.00	86	82	74	65	61	57	52	46	38	28	
WP-98/05	5	22.00	30.00	107	103	92	81	76	71	66	58	47	35	
WP-98/06	6	26.00	35.00	128	123	110	97	91	85	79	69	56	42	
WP-98/07	7	30.00	40.00	150	144	129	113	106	100	92	81	66	49	
WP-98/08	8	37.00	50.00	171	164	147	129	121	114	105	92	75	56	
WP-98/09	9	37.00	50.00	193	185	166	146	137	128	118	104	85	63	
WP-98/10	10	45.00	60.00	214	205	184	162	152	142	131	115	94	70	
WP-98/11	11	55.00	75.00	235	226	203	178	167	157	144	127	104	78	
WP-98/12	12	55.00	75.00	257	246	221	194	182	171	157	138	113	85	
WP-98/13	13	55.00	75.00	278	267	239	210	197	185	171	150	122	92	
WP-98/14	14	63.00	85.00	300	287	258	227	212	199	184	161	132	99	
WP-98/15	15	75.00	100.0	321	308	276	243	228	213	197	173	141	106	
WP-98/16	16	75.00	100.0	342	328	295	259	243	228	210	184	151	113	
WP-98/17	17	75.00	100.0	364	349	313	275	258	242	223	196	160	120	

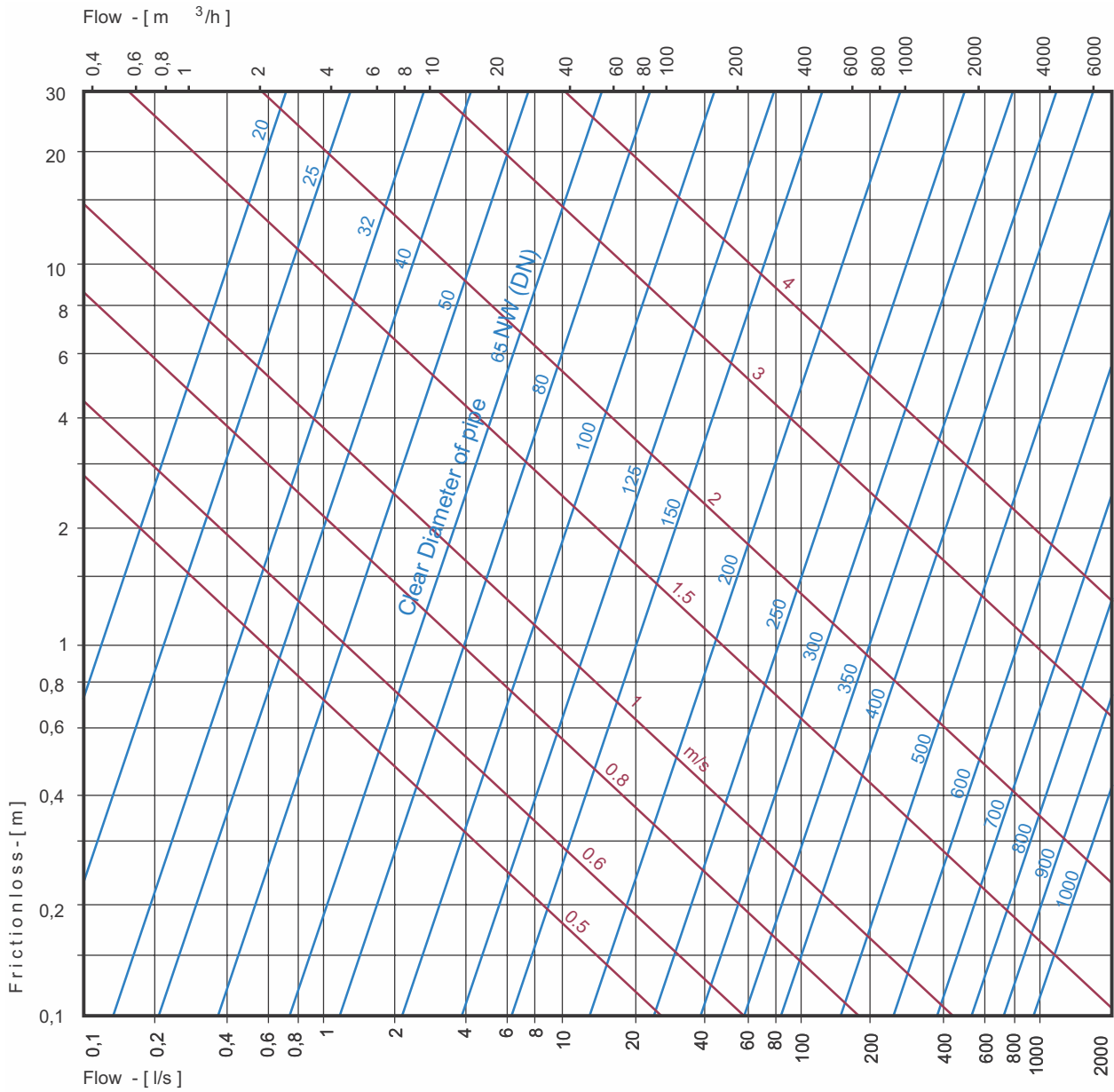
Dimensions and Weight



PUMP TYPE	MOTOR		DIMENSIONS										NET WEIGHT (kg)
	TYPE WM.... (inch/HP)	POWER (KW/HP)	5" Connection (RP/NPT)				5" Flange				B	D	
			A	C	E*	E**	A	C	E*	E**			
WP-98/1	WM6/7.5	5.5/7.5	1294	618	178	186	1294	618	200	200	676	144	73
WP-98/2-BB	WM6/7.5	5.5/7.5	1422	746	178	186	1422	746	200	200	676	144	76.7
WP-98/2-A	WM6/10	7.5/10	1452	746	178	186	1452	746	200	200	706	144	78.7
WP-98/2	WM6/12.5	9.2/12.5	1482	746	178	186	1482	746	200	200	736	144	80.2
WP-98/3-BB	WM6/12.5	9.2/12.5	1610	874	178	186	1610	874	200	200	736	144	84
WP-98/3-B	WM6/15	11 / 15	1650	874	178	186	1650	874	200	200	776	144	92
WP-98/3	WM6/17.5	13/17.5	1700	874	178	186	1700	874	200	200	826	144	97.5
WP-98/4-B	WM6/20	15/20	1869	1003	178	186	1869	1003	200	200	866	144	104.5
WP-98/4	WM6/25	18.5/25	1924	1003	178	186	1924	1003	200	200	921	144	110.3
WP-98/5-AB	WM6/30	22/30	2127	1131	178	186	2127	1131	200	200	996	144	123.7
WP-98/5	WM6/30	22/30	2127	1131	178	186	2127	1131	200	200	996	144	123.7
WP-98/6	WM6/35	26/35	2315	1259	178	186	2315	1259	200	200	1056	144	136
WP-98/7	WM6/40	30/40	2573	1397	178	186	2563	1387	200	200	1176	144	146.6
WP-98/8	WM8/50	37/50	2535	1525	178	186	2525	1515	200	200	1010	190	186.2
WP-98/9	WM8/60	45/60	2706	1644	178	186	2706	1644	200	200	1062	190	196.8
WP-98/10	WM8/60	45/60	2845	1783	196	204	2845	1783	205	205	1062	190	201.8
WP-98/11	WM8/75	55/75	3079	1911	196	204	3079	1911	205	205	1168	190	217.4
WP-98/12	WM8/75	55/75	3207	2039	196	204	3207	2039	205	205	1168	190	221
WP-98/13	WM8/75	55/75	3336	2168	196	204	3336	2168	205	205	1168	190	224.6
WP-98/14	WM8/90	67/90	3558	2296	196	204	3558	2296	205	205	1262	192	235.2
WP-98/15	WM8/100	75/100	3748	2424	196	204					1324	192	260.7
WP-98/16	WM8/100	75/100	3877	2553	196	204							
WP-98/17	WM8/100	75/100	4004	2680	196	204					1324	192	268

- Maximum diameter of pump with one motor cable
- Maximum diameter of pump with two motor cables

Friction Loss in Straight Pipework



Friction loss in metres for 100m new pipeline of cast iron

The friction loss for:

New rolled steel pipes : 0.8 times

New plastic pipes: 0.8 times

Older, rusty cast iron pipes about: 1.25 times

Pipes with encrustations up to: 1.7 times

Head Losses in Ordinary Water Pipes

Upper figures indicate the velocity of water in m/sec.

Lower figures indicate head in metres per 100 metres of straight pipes

Quantity of Water			Head Losses In Ordinary Water Pipes												
m ³ /h	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	
0.6	10	0.16	0.855 9.910	0.470 2.407	0.292 0.78										
0.9	15	0.25	1.282 20.11	0.705 4.862	0.438 1.570	0.249 0.416									
1.2	20	0.33	1.710 33.53	0.940 8.035	0.584 2.588	0.331 0.677	0.249 0.346								
1.5	25	0.42	2.138 49.93	1.174 11.91	0.730 3.834	0.415 1.004	0.312 0.510								
1.8	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							
2.1	35	0.58	2.993 91.54	1.644 21.75	1.022 6.949	0.581 1.811	0.436 0.914	0.269 0.291							
2.4	40	0.67		1.879 27.66	1.168 8.820	0.664 2.290	0.499 1.160	0.308 0.368							
3.0	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						
3.6	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						
4.2	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					
4.8	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 6.164					
5.4	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					
6.0	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				
7.5	125	2.08			3.649 70.41	2.075 17.93	1.558 8.967	0.962 2.802	0.574 0.809	0.412 0.365	0.310 0.185	0.241 0.101			
9.0	150	2.50				2.490 25.11	1.870 12.53	1.154 3.903	0.668 1.124	0.494 0.506	0.372 0.256	0.289 0.140			
10.5	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			
12	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		
15	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		
18	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	
24	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	
30	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	
36	600	10.0						46.18 51.84	2.753 14.62	1.976 6.505	1.488 3.261	1.155 1.757	0.753 0.623	0.526 0.260	
42	700	11.7							3.212 19.52	2.306 8.693	1.736 4.356	1.347 2.345	0.879 0.831	0.614 0.347	
48	800	13.3							3.671 25.20	2.635 5.582	1.984 3.009	1.540 1.066	1.005 0.666	0.702 0.445	
54	900	15.0							4.130 31.51	2.964 13.97	2.232 6.983	1.732 3.762	1.130 1.328	0.790 0.555	
60	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	
75	1250	20.8							4.117 26.10	3.100 13.00	2.406 7.010	1.570 2.458	1.097 1.027	0.977 1.027	
90	1500	25.0							4.941 36.97	3.720 18.42	2.887 9.892	1.883 3.458	1.316 1.444	1.316 1.444	
105	1750	29.2								4.340 24.76	3.368 13.30	1.883 3.468	1.535 1.934	1.535 1.934	1.535 1.934
120	2000	33.3								4.960 31.94	3.850 17.16	2.197 4.665	1.754 2.496	1.754 2.496	1.754 2.496
150	2500	41.7									4.812 26.26	2.511 5.995	2.193 3.807	2.193 3.807	2.193 3.807
180	3000	50.0										3.139 9.216	2.632 5.417	2.632 5.417	2.632 5.417
240	4000	66.7											3.767 13.05	3.767 8.926	3.767 8.926
300	5000	83.3											5.523 22.72	5.523 14.42	5.523 14.42
90°C bends slide valves			1.0	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.6	1.7	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	6.0	7.0	9.0	

The table is calculated in accordance with H. Lang's new formula a = 0.02 and for a water temperature of 10°C

The head loss in bends, slide valves, T-Pieces and non-return valves is equivalent to the metres of straight of straight pipes stated 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 Ordinary Plastic Pipes

Upper figures indicate the velocity of water in m/sec.

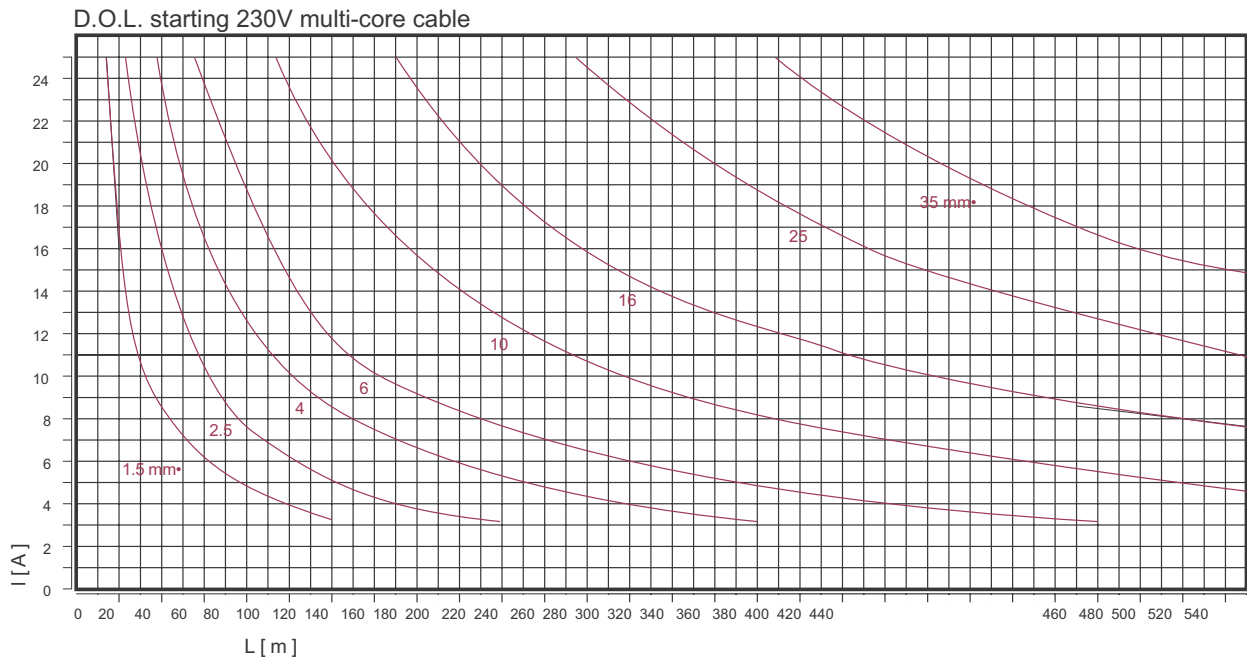
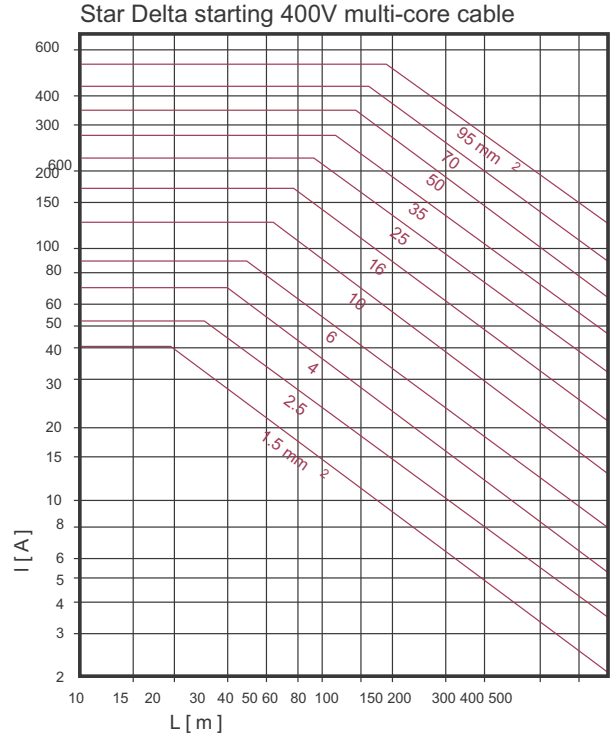
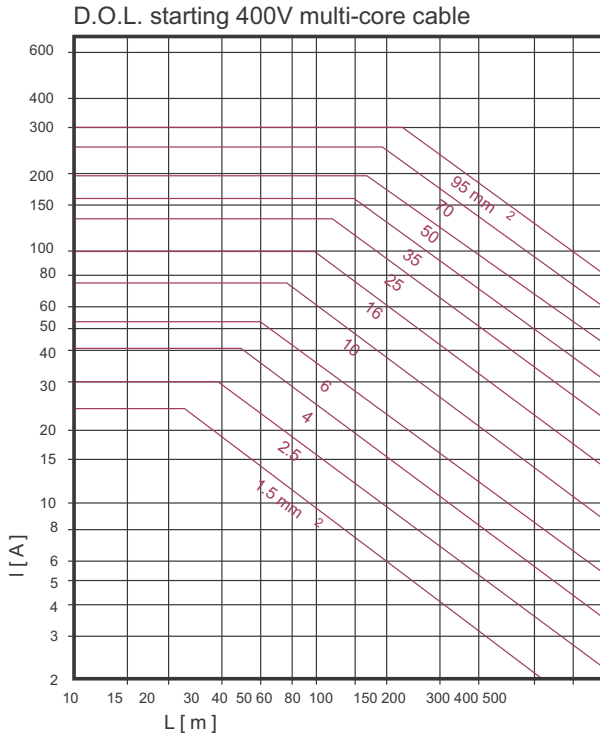
Lower figures indicate head in metres per 100 metres of straight pipes

Quantity of Water			PELM/PEH PN 10													
m ³ /h	Litres/min.	Litres/sec.	PELM				PEH									
			25 20,4	32 26,2	40 32,6	50 40,8	63 51,4	75 73,6	90 73,6	110 90,0	125 102,2	140 11406	160 130,8	180 147,2		
0.6	10	0,16	0,49 1,8	0,30 0,66	0,19 0,27	0,12 0,085										
0.9	15	0,25	0,76 4,0	0,46 1,14	0,3 0,6	0,19 0,18	0,12 0,63									
1.2	20	0,33	1,0 6,4	0,61 2,2	0,39 0,9	0,25 0,28	0,16 0,11									
1.5	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								
1.8	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								
2.1	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								
2.4	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							
3.0	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							
3.6	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						
4.2	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						
4.8	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						
5.4	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					
6.0	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					
7.5	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				
9.0	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				
10.5	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				
12	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 0,065			
15	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		
18	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		
24	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		
30	500	8,33					4,01 28,0	2,81 11,5	1,96 5,0	1,0 2,0	0,81 0,63	0,62 0,33	0,49 0,21			
36	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		
42	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		
48	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		
54	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	0,8 0,58		
60	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		
75	1250	20,8							4,89 25,0	3,27 9,0	2,54 5,0	2,02 3,0	1,55 1,6	1,22 0,95		
90	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		
105	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		
120	2000	33,3								5,23 23,0	4,06 13,0	3,23 7,0	2,48 4,0	1,96 2,4		
150	2500	41,7								6,55 34,0	5,08 18,0	4,04 10,5	3,10 6,0	2,45 3,5		
180	3000	50,0								7,86 45,0	6,1 27,0	4,85 14,0	3,72 7,6	2,94 3,5		
240	4000	66,7									8,13 43,0	6,47 24,0	4,96 13,0	3,92 7,5		
300	5000	83,3										8,08 33,0	6,2 18,0	4,89 11,0		

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

Subject to alterations

Cable Selection Chart



Cable Size

Star - Delta Operation (Y/D) MAX. CABLE LENGTH (m)											
Motor Rating (HP)	CABLE SIZE (mm ²)										
	3x1.5	3x2.5	3x4	3x6	3x10	3x16	3x25	3x35	3x50	3x70	3x95
5.5	97	161	258	388	646	1033	1615	2261	3230	4521	6139
7.5	72	121	193	290	483	773	1207	1690	2415	3381	4588
10	57	96	153	230	383	613	958	1342	1916	2683	3641
12.5	47	78	125	188	313	501	783	1096	1565	2191	2974
15	41	68	109	163	271	434	678	949	1356	1899	2577
17.5	34	57	92	138	230	367	574	803	1148	1607	2181
20	29	49	79	118	196	314	491	688	982	1375	1867
25		40	64	96	159	255	398	558	797	1115	1514
30			54	81	136	217	339	475	678	949	1288
35			46	68	114	182	285	399	570	798	1083
40				60	101	161	252	352	503	705	956
50					84	134	209	293	418	585	794
60					69	110	172	241	344	481	653
70					59	95	149	208	297	416	565
75						90	141	197	281	394	534
80						82	129	180	258	361	490
90						74	115	162	231	323	439
100							103	144	206	289	392
110							95	134	191	267	363
125								118	168	235	319
150								101	144	201	273
175									123	172	233
200										152	207
210										152	196

D.O.L. MAX. CABLE LENGTH (m)											
Motor Rating (HP)	CABLE SIZE (mm ²)										
	3x1.5	3x2.5	3x4	3x6	3x10	3x16	3x25	3x35	3x50	3x70	3x95
5.5	65	108	172	258	431	689	1077	1507	2153	3014	4091
7.5	48	80	129	193	322	515	805	1127	1610	2254	3059
10	38	64	102	153	256	409	639	894	1278	1789	2428
12.5		52	83	125	209	334	522	730	1043	1461	1982
15		45	72	109	181	289	452	633	904	1266	1718
17.5			61	92	153	245	383	536	765	1071	1454
20			52	79	131	210	327	458	655	917	1244
25					106	170	266	372	531	744	1009
30					90	145	226	316	452	633	859
35					76	122	190	266	380	532	722
40					67	107	168	235	336	470	638
50						89	139	195	279	390	529
60							115	160	229	321	435
70								139	198	278	377
75								131	187	262	356
80								120	172	241	326
90									154	215	292
100									137	192	261
110									127	178	242
125										157	213
150											182
175											155
200											
210											



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