



E-Tech[®]

by Franklin Electric

SUBMERSIBLE PUMPS, MOTORS AND ACCESSORIES

60Hz



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VS Series Stainless Steel Submersible Pumps for 6" deep wells and larger

Characteristics and Hydraulic Performances

60 Hz

APPLICATIONS

- Municipal water works
- Water distribution and pressure boosting
- Irrigation and sprinkler systems, water treatment plants, filtration and reverse osmosis
- Industrial cooling and processing
- Mining industry, drainage and dewatering
- Fountains
- Fire-fighting equipment
- General industry

FEATURES

- Fabricated stainless steel impellers and diffusers for corrosion resistance
- Heavy duty stainless steel structure to assure permanent alignment of all the components in order to increase run time and trouble-free operation
- PTFE floating neck ring, ceramic guide journal sleeve (tungsten-carbide on request) and Nitrile rubber fluted bearing to ensure durability against wear for long-lasting constant performances and product reliability
- Compact, reliable and suited to operate in horizontal position
- Built-in check valve to protect the pump against water hammer risk
- External stainless steel sleeve to improve stiffness and assure permanent alignment of all the components
- Mix-flow models longer than 3 mt are equipped with tungsten-carbide (widia) upper journal sleeve and with an intermediate tungsten-carbide (widia) journal sleeve plus special intermediate split cone nut
- The hydraulic design is such to enhance the overall efficiency thus reducing energy consumption and making the pumping systems more cost effective

SPECIFICATIONS

- Capacities up to 100 m³/h at 60Hz
- 70 Bar (700 m) at 60Hz
- Maximum allowable amount of sand 100 gr/m³
- Water temperature range: from -5° C to 60°C
- Rotation: counter clockwise when looking into the discharge
- Motor adapter in compliance with NEMA standard
- Pump can work continuously in vertical or horizontal position
- Motors: see section Submersible Motors Product Overview

AVAILABLE OPTIONS

- 316 Stainless steel (N) version (DIN/EN 1.4401)
- Double cable guard
- Rp 2" and Rp 3" discharge heads for VS 14, VS 19 and VS 25
- Rp 4" discharge head
- 4" motor adapter
- 8" motor adapter
- Tungsten-carbide guide journal sleeve
- High temperature version (up to 90° C)

PUMP IDENTIFICATION CODE

VS 3 0 / 1 5 N

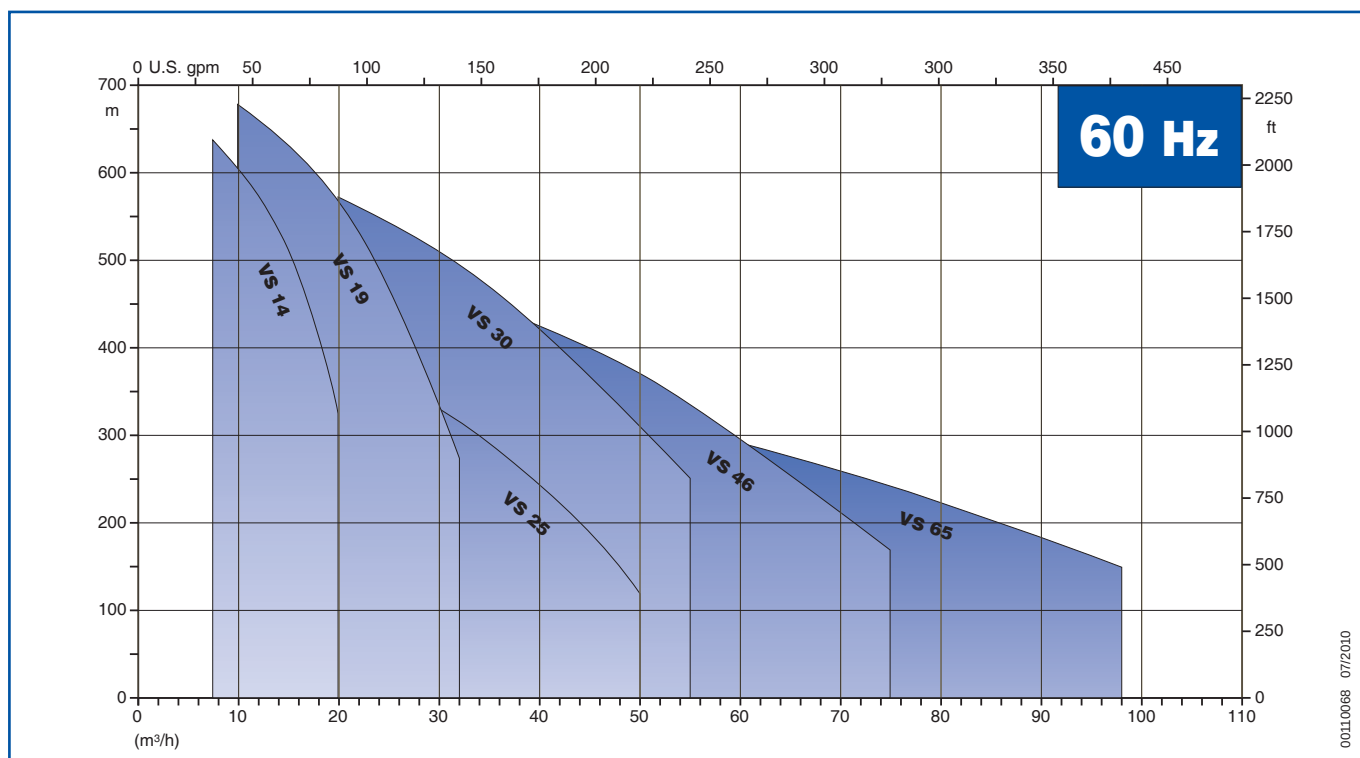
Version with all parts in AISI 316
Motor Power
No. of stages
Nominal flow rate in m³/h
Pump type

0011703 07/2010

VS 3 0 / 1 5 N

Версия со всеми деталями из нержавеющей стали AISI 316
Мощность двигателя
Количество ступеней
Номинальная подача в м³/ч
Тип насоса

0011703 10/2011



MATERIAL IN CONTACT WITH THE LIQUID						
Pos.	PARTS DESCRIPTIONS	Type	MATERIAL			
			Standard version		N version	
			AISI	DIN / EN	AISI	DIN / EN
10.00	Discharge head	Stainless steel	304	1.4301	316	1.4401
10.01 / 04 / 05	Valve	Stainless steel	316	1.4401	316	1.4401
10.02	Sealing O-ring	Nitrile rubber (NBR)	-	-	-	-
10.03	Outer case locking nuts	Stainless steel	316	1.4401	316	1.4401
20.00	Outer case	Stainless steel	304	1.4301	316	1.4401
20.01	Suction strainer	Stainless steel	316	1.4401	316	1.4401
20.02	Cable guard	Stainless steel	316	1.4401	316	1.4401
20.03	Initial spacer	Stainless steel	304	1.4301	316	1.4401
20.04	Flange and screws	Stainless steel	304	1.4301	316	1.4401
20.05	Motor adapter	Stainless steel	304	1.4301	316	1.4401
30.00	Pump shaft	Stainless steel	431	1.4057	316/329	1.4401/1.4460
30.01	Coupling	Stainless steel	431/329	1.4057/1.4460	316/329	1.4401/1.4460
30.02 / 03	Upper / Lower up-thrust washer	Stainless steel	316	1.4401	316	1.4401
30.04	Upper journal sleeve	Stainless steel with ceramic coating	329	1.4460	329	1.4460
30.05	Screw and washer	Stainless steel	316	1.4401	316	1.4401
30.06	Up-thrust ring	PTFE	-	-	-	-
30.07 / 08	Lower / Upper spacer	Stainless steel	316	1.4401	316	1.4401
40.00	Diffuser	Stainless steel	304	1.4301	316	1.4401
40.01	Secondary bearing bush	Nitrile rubber (NBR)	-	-	-	-
40.02	Floating neck ring	PTFE	-	-	-	-
40.03	Flange clamping neck ring	Stainless steel	304	1.4301	316	1.4401
40.04	Bearing bush	Nitrile rubber (NBR)	-	-	-	-
40.05	Last - int. diffuser / Upper bearing guide	Stainless steel	316	1.4401	316	1.4401
40.06 / 07 / 08	First / Last diffuser	Stainless steel	316	1.4401	316	1.4401
50.00 / 05	Impeller / Wear ring	Stainless steel	304	1.4301	316	1.4401
50.01	Split cone / Impeller spacer	Stainless steel	316	1.4401	316	1.4401
50.02 / 03	Split cone nut / Intermediate cone nut	Stainless steel	316	1.4401	316	1.4401
50.04	Up-thrust split cone nut	Stainless steel	316	1.4401	316	1.4401

TABLE OF HYDRAULIC PERFORMANCES AT 60Hz

[illegible]

VS 30 / 46 / 65

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VS Series Stainless Steel Submersible Pumps for 6" deep wells and larger

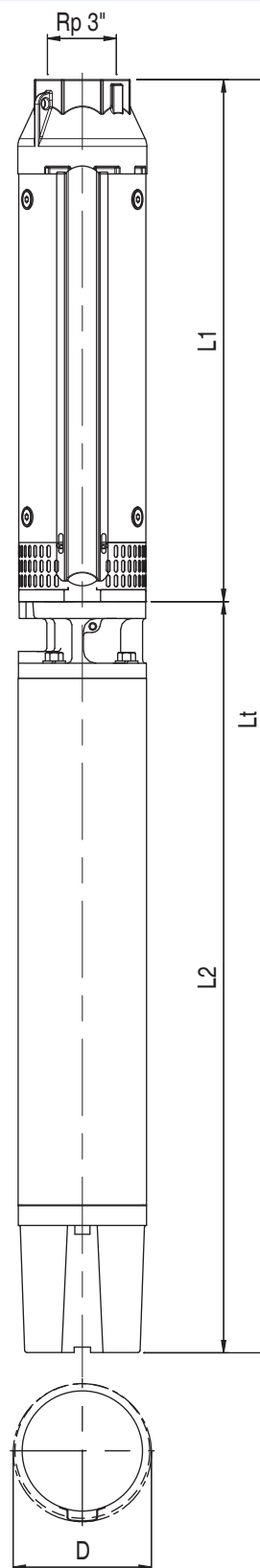
Technical Data and Performance Curves

60 Hz

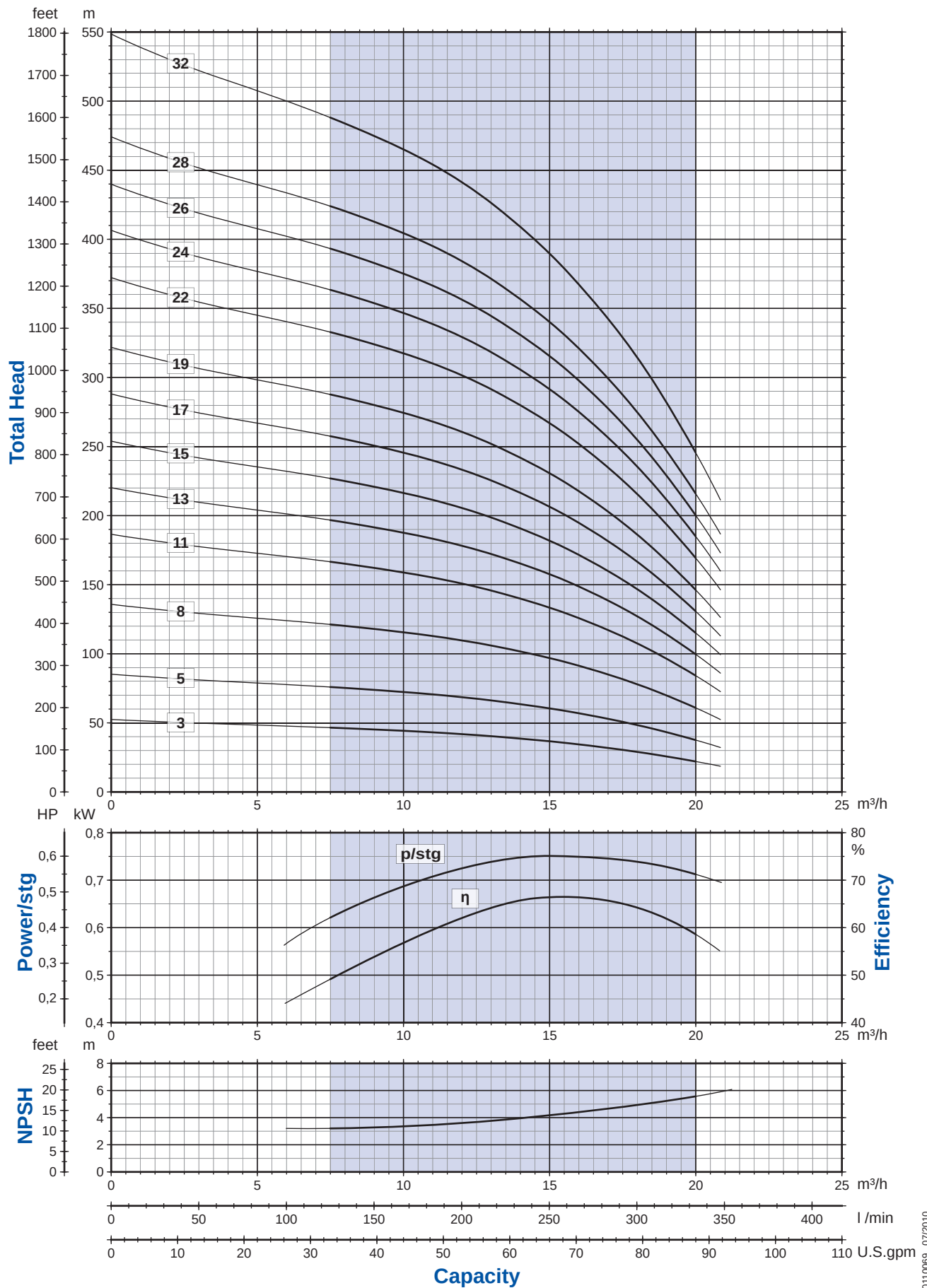
Pumps with Encapsulated Motor

Pump model type	Motor			Dimensions					Weight Pump [Kg]
	Type	kW	HP	L1 [mm]	L2 [mm]	Lt [mm]	D		
							1 cable	2 cable	
VS 14/3	E4	2,2	3	351	338,5	689,5	143	-	21,5
VS 14/5	E6	4	5,5	411	581	992	143	144,5	49
VS 14/8	E6	5,5	7,5	501	614,5	1115,5	143	144,5	55
VS 14/11	E6	7,5	10	591	646	1237	143	144,5	61
VS 14/13	E6	9,3	12,5	651	678,5	1329,5	143	144,5	65
VS 14/15	E6	11	15	711	711	1422	143	144,5	70
VS 14/17	E6	11	15	771	711	1482	143	144,5	71,5
VS 14/19	E6	15	20	831	776	1607	143	144,5	78,5
VS 14/22	E6	15	20	921	776	1697	143	144,5	80,5
VS 14/24	E6	18,5	25	981	841,5	1822,5	143	144,5	89
VS 14/26	E6	18,5	25	1041	841,5	1882,5	143	144,5	90,5
VS 14/28	E6	18,5	25	1101	841,5	1942,5	143	144,5	92,5
VS 14/32	E6	22	30	1220,5	906,5	2127	143	144,5	101

Dimensions



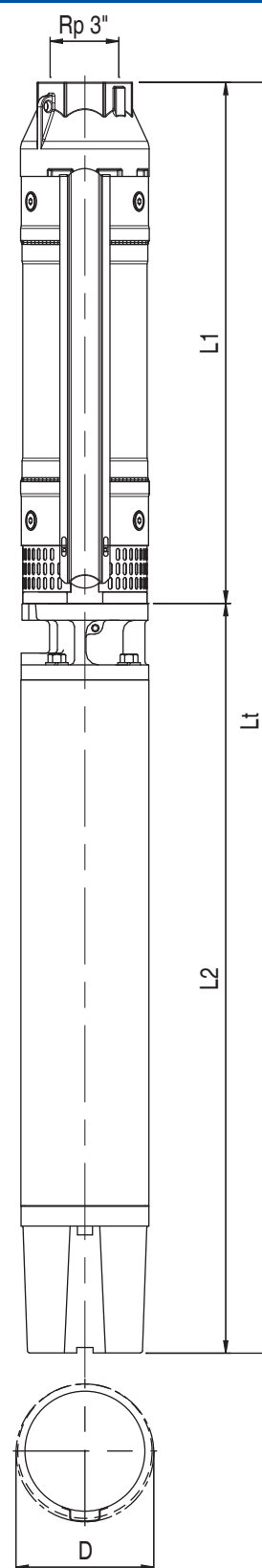
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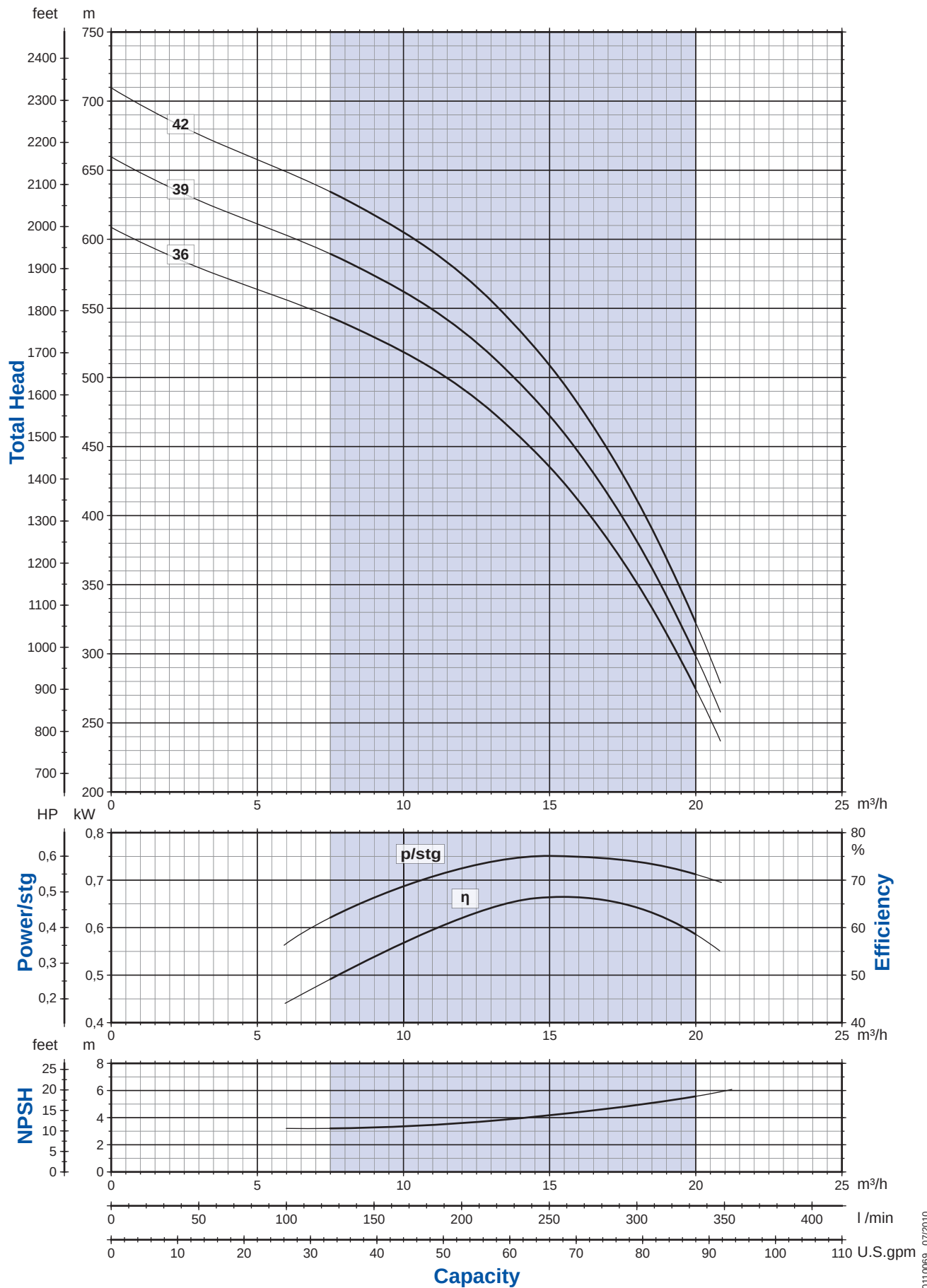
Pumps with Encapsulated Motor

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Dimensions



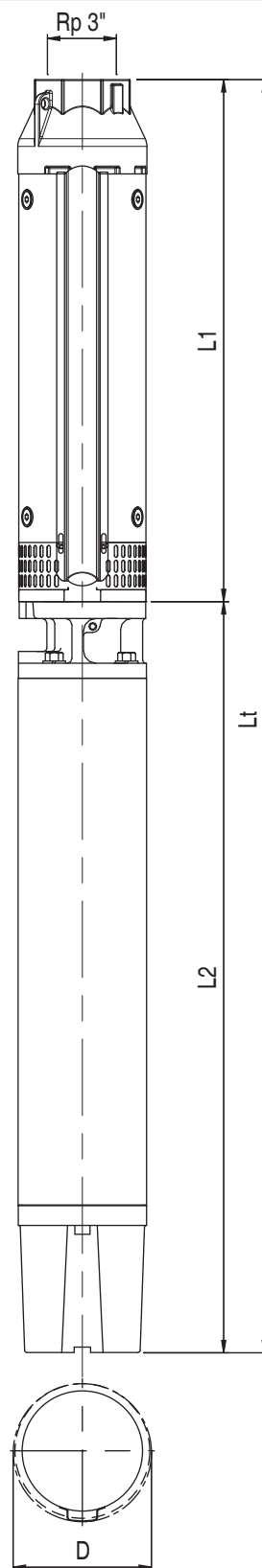
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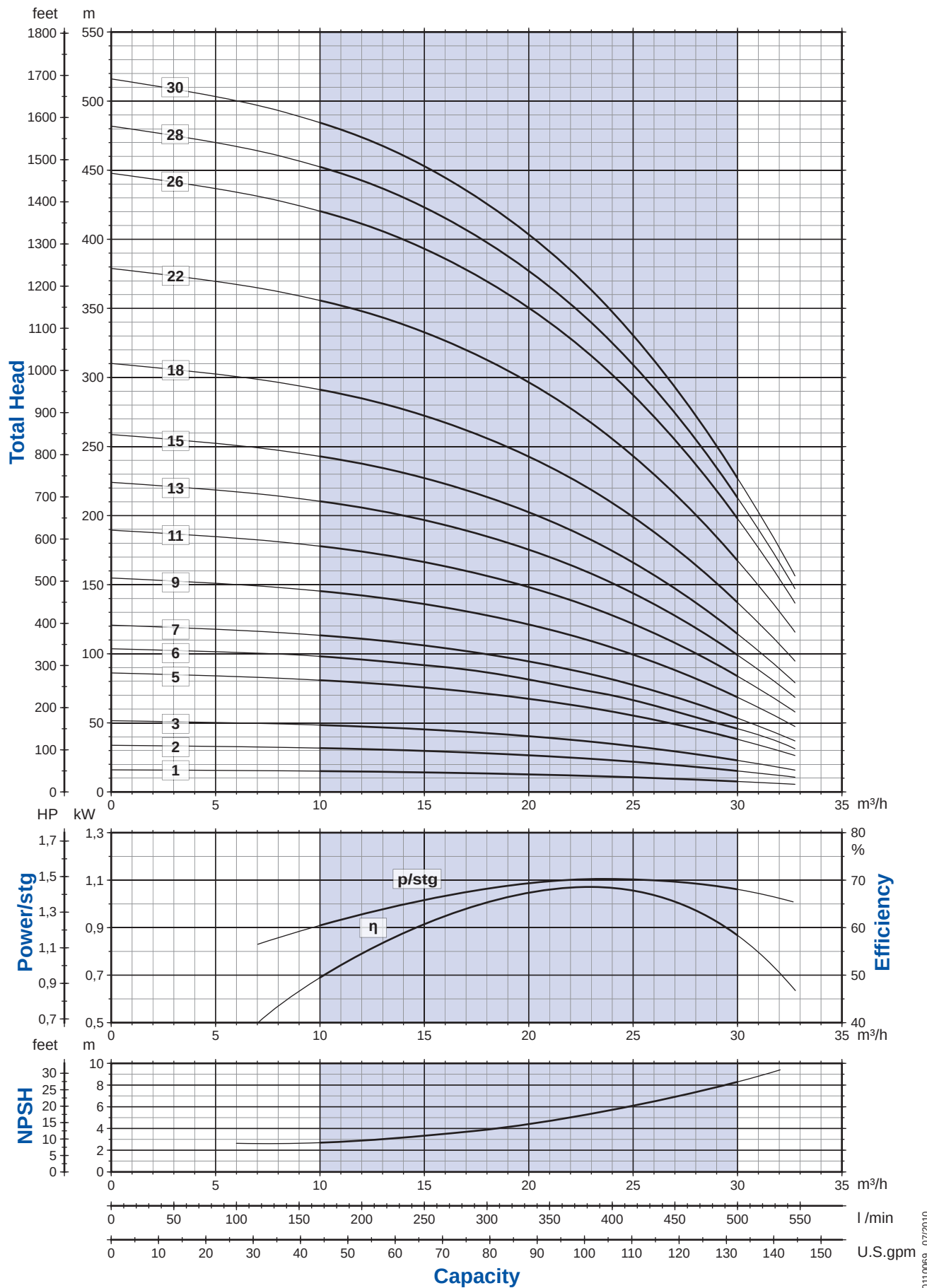
Pumps with Encapsulated Motor

Pump model type	Motor			Dimensions					Weight Pump [Kg]
	Type	kW	HP	L1 [mm]	L2 [mm]	Lt [mm]	D		
							1 cable	2 cable	
VS 19/1	E4	1,1	1,5	345	282,5	627,5	143	-	18
VS 19/2	E4	2,2	3	345	338,5	683,5	143	-	20,5
VS 19/3	E6	4	5,5	382,5	581	581	143	144,5	48
VS 19/5	E6	5,5	7,5	457,5	614,5	614,5	143	144,5	53
VS 19/6	E6	7,5	10	495	646	1141	143	144,5	57,5
VS 19/7	E6	7,5	10	532,5	646	1178,5	143	144,5	58,5
VS 19/9	E6	9,3	12,5	607,5	678,5	1286	143	144,5	62,5
VS 19/11	E6	11	15	682,5	711	1393,5	143	144,5	68
VS 19/13	E6	15	20	757,5	776	1533,5	143	144,5	75
VS 19/15	E6	15	20	832,5	776	1608,5	143	144,5	76,5
VS 19/18	E6	18,5	25	945	841,5	1786,5	143	144,5	86
VS 19/22	E6	22	30	1095	906,5	2001,5	143	144,5	95,5
VS 19/26	E6	30	40	1245	1036,5	2281,5	143	144,5	113
VS 19/28	E6	30	40	1319,5	1036,5	2356	143	144,5	115
VS 19/30	E6	30	40	1394,5	1036,5	2431	143	144,5	116,5

Dimensions



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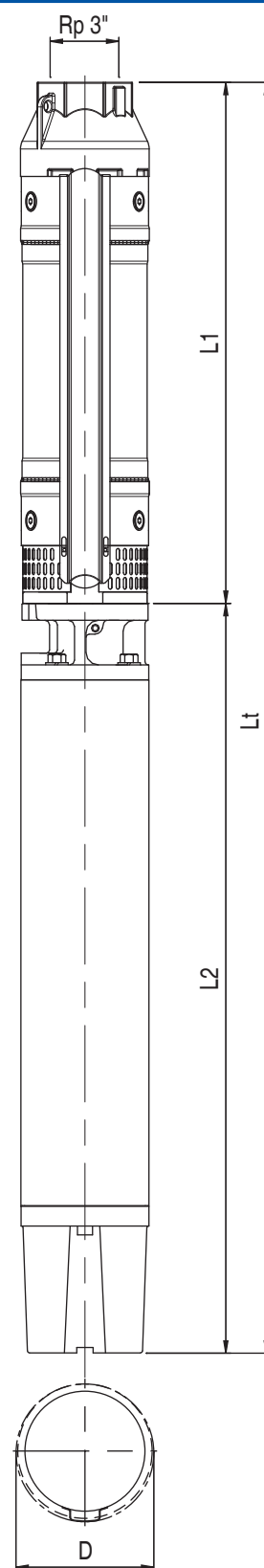


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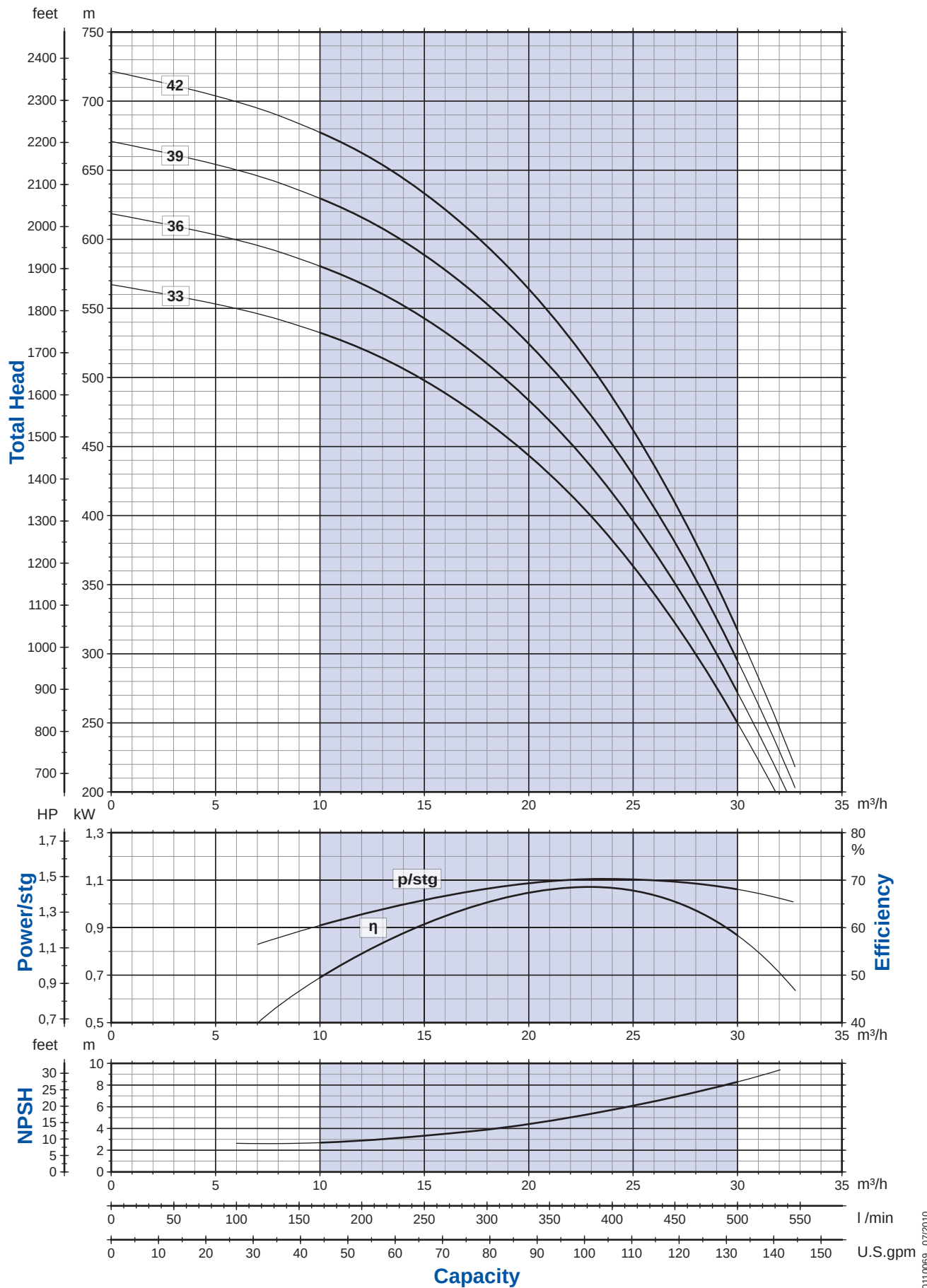
Pumps with Encapsulated Motor

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Dimensions



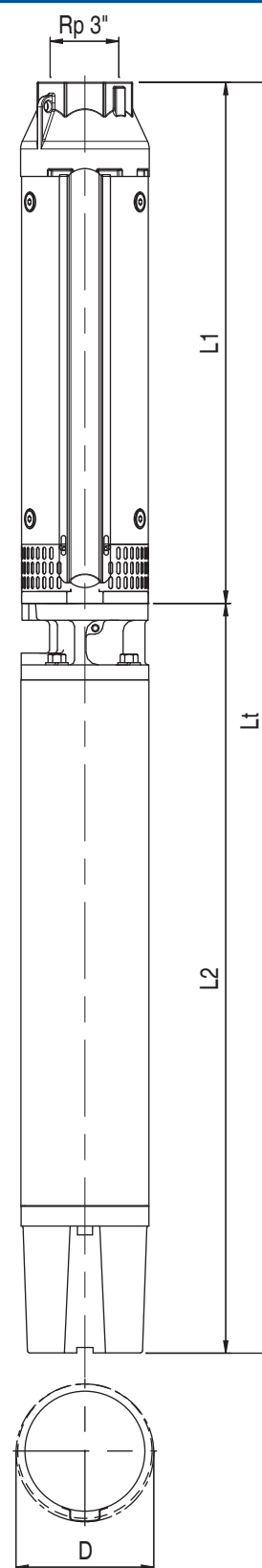
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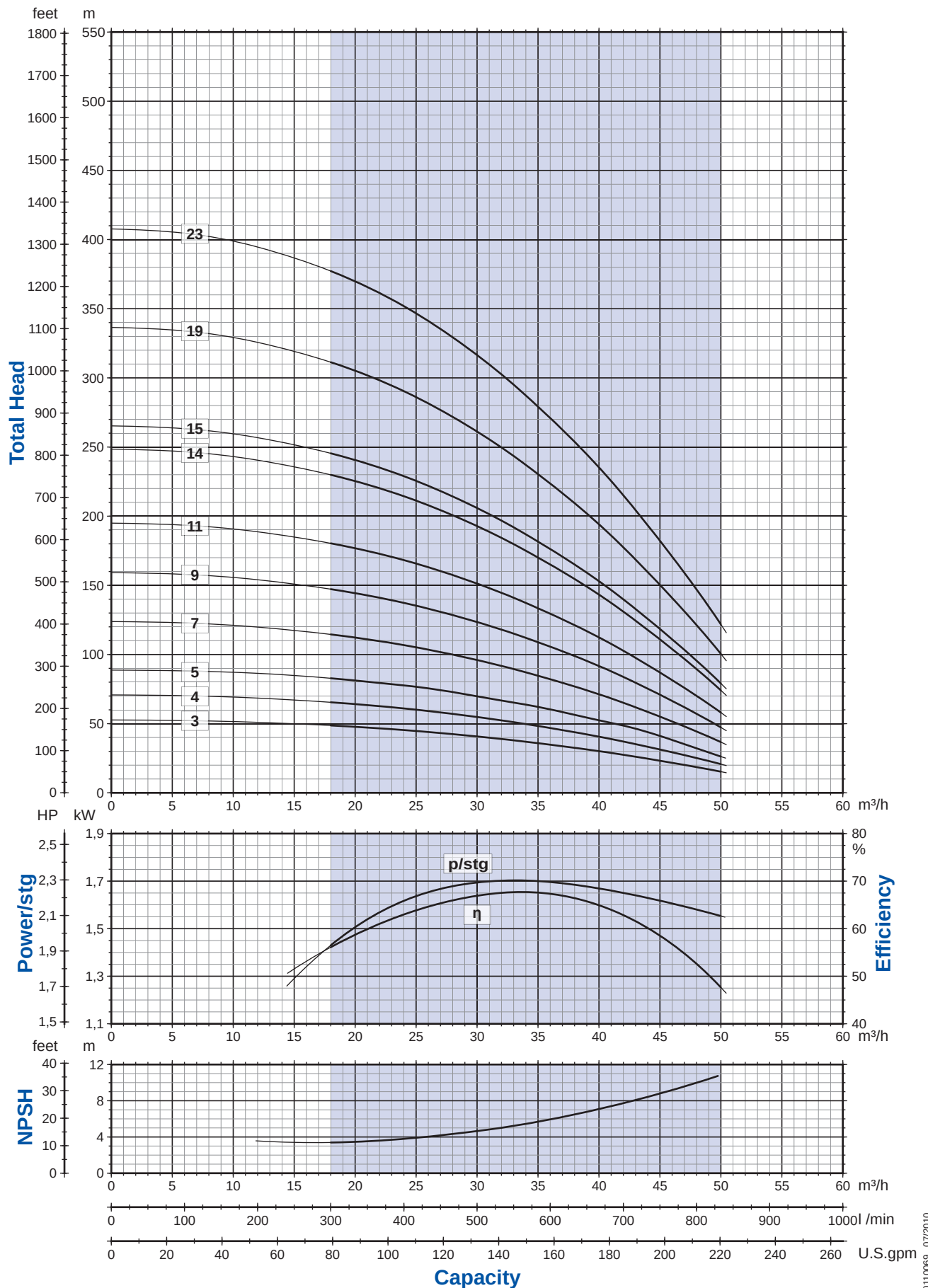
Pumps with Encapsulated Motor

[illegible]

Dimensions



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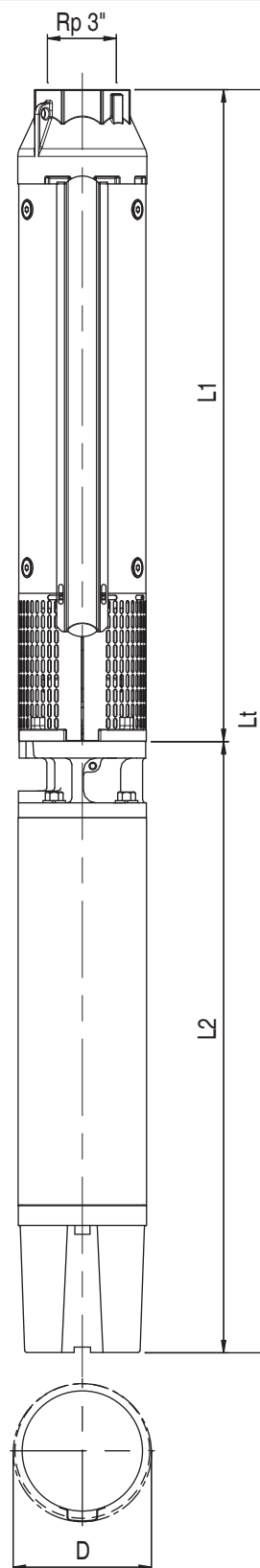


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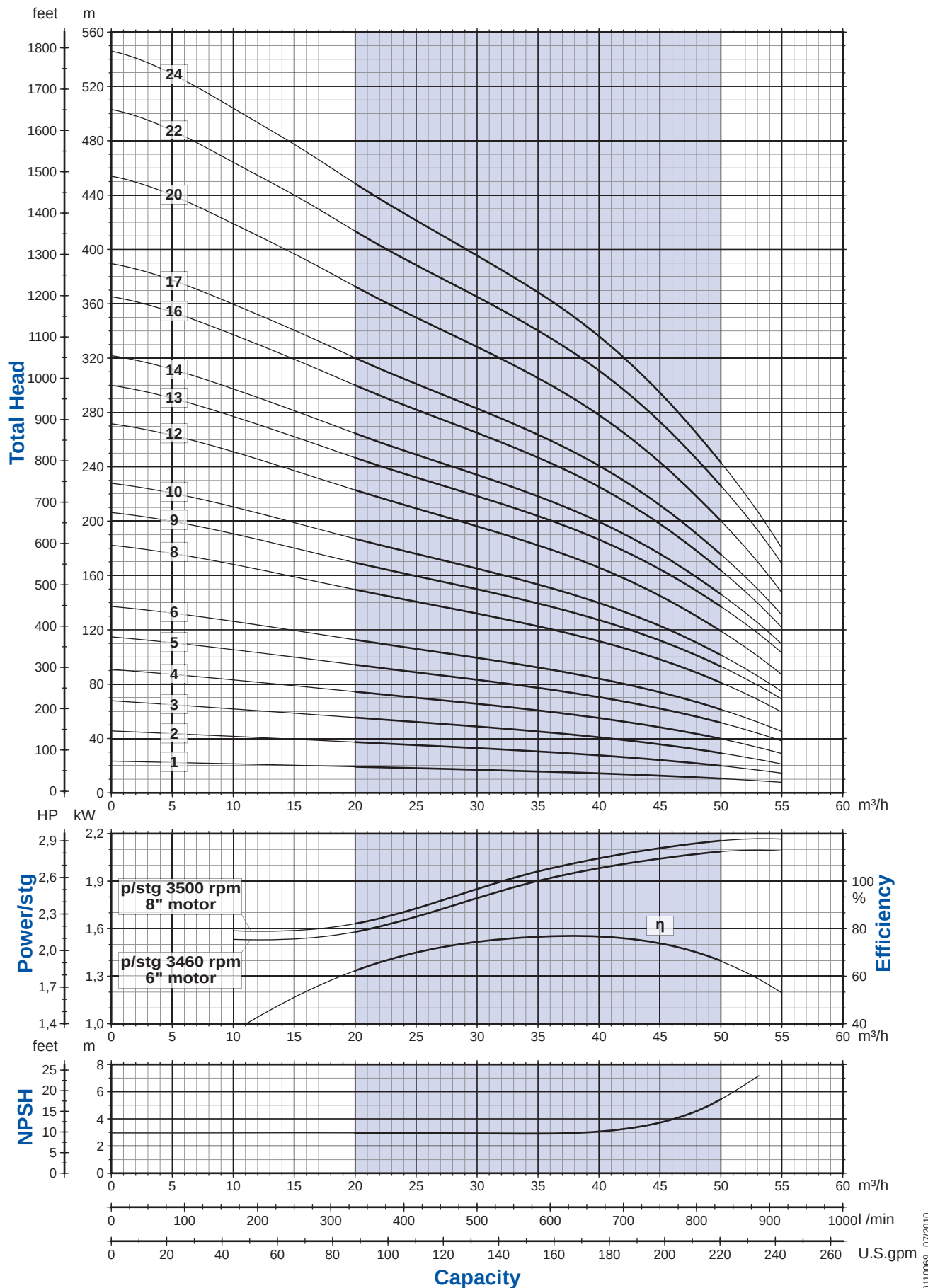
Pumps with Encapsulated Motor

Pump model type	Motor			Dimensions					Weight Pump [Kg]
	Type	kW	HP	L1 [mm]	L2 [mm]	Lt [mm]	D		
							1 cable	2 cable	
VS 30/1	E4	2,2	3	534,5	338,5	873	143	-	24,5
VS 30/2	E6	4	5,5	534,5	581	1115,5	143	144,5	49,5
VS 30/3	E6	5,5	7,5	620	614,5	1234,5	143	144,5	55,5
VS 30/4	E6	7,5	10	705,5	646	1351,5	143	144,5	62
VS 30/5	E6	9,3	12,5	790,5	678,5	1469	143	144,5	66,5
VS 30/6	E6	11	15	876	711	1587	143	144,5	72
VS 30/8	E6	15	20	1047	776	1823	143	144,5	82
VS 30/9	E6	18,5	25	1132,5	841,5	1974	143	144,5	91
VS 30/10	E6	18,5	25	1218	841,5	2059,5	143	144,5	93
VS 30/12	E6	22	30	1389	906,5	2295,5	143	144,5	103
VS 30/13	E6	30	40	1474,5	1036,5	2511	143	144,5	119,5
VS 30/14	E6	30	40	1560	1036,5	2596,5	143	144,5	122
VS 30/16	E6	30	40	1730,5	1036,5	2767	143	144,5	126
VS 30/17	E6	37	50	1816	1421,5	3237,5	143	144,5	182
VS 30/20	E6	37	50	2072,5	1421,5	3494	143	144,5	188,5
VS 30/22	E6	45	60	2243	1574	3817	143	144,5	206,5
VS 30/24	E6	45	60	2414	1574	3988	143	144,5	210,5

Dimensions



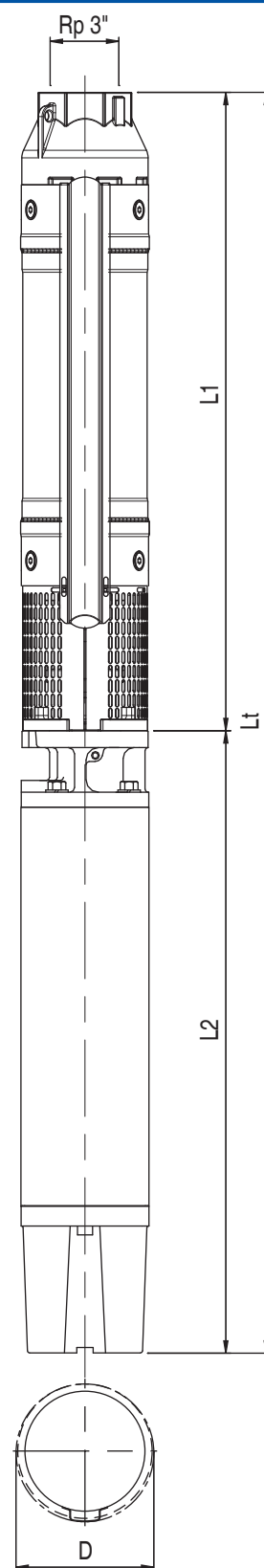
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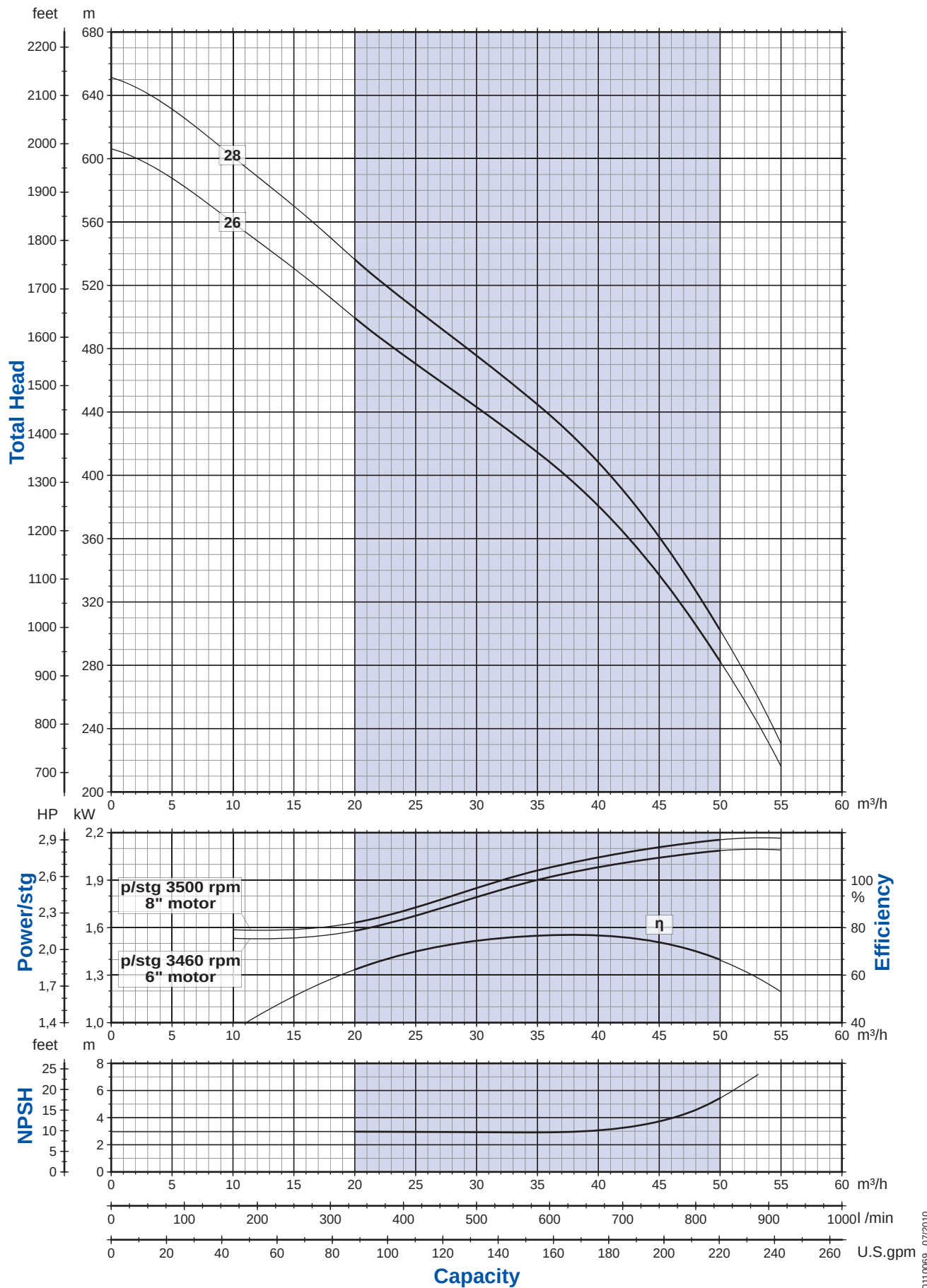
Pumps with Encapsulated Motor

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Dimensions



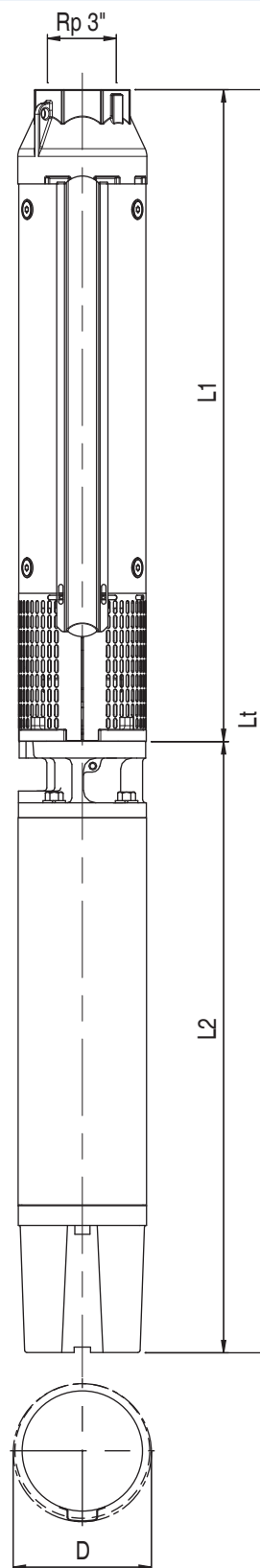
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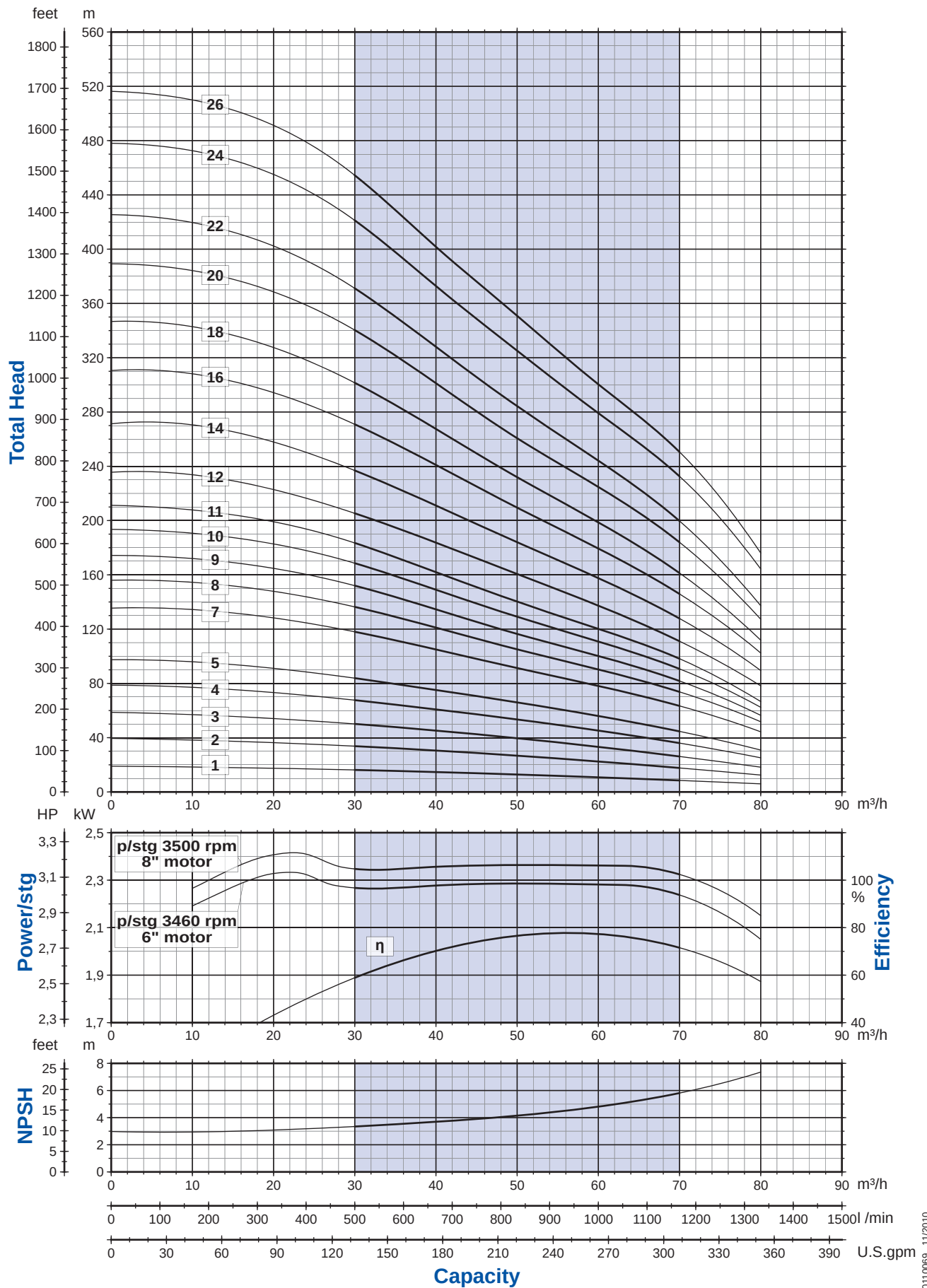
Pumps with Encapsulated Motor

Pump model type	Motor			Dimensions					Weight Pump [Kg]
	Type	kW	HP	L1 [mm]	L2 [mm]	Lt [mm]	D		
							1 cable	2 cable	
VS 46/1	E4	2,2	3	591,5	393,5	985	143	-	26
VS 46/2	E6	5,5	7,5	591,5	614,5	1206	143	144,5	54,5
VS 46/3	E6	7,5	10	705,5	646	1351,5	143	144,5	61
VS 46/4	E6	9,3	12,5	819,5	678,5	1498	143	144,5	66,5
VS 46/5	E6	11	15	933,5	711	1644,5	143	144,5	72,5
VS 46/7	E6	15	20	1161	776	1937	143	144,5	83
VS 46/8	E6	18,5	25	1275	841,5	2116,5	143	144,5	92,5
VS 46/9	E6	18,5	25	1389	841,5	2230,5	143	144,5	95,5
VS 46/10	E6	22	30	1503	906,5	2409,5	143	144,5	104
VS 46/11	E6	22	30	1617	906,5	2523,5	143	144,5	106,5
VS 46/12	E6	30	40	1730,5	1036,5	2767	143	144,5	123,5
VS 46/14	E6	30	40	1958,5	1036,5	2995	143	144,5	129
VS 46/16	E6	37	50	2186	1421,5	3607,5	143	144,5	188
VS 46/18	E6	37	50	2414	1421,5	3835,5	143	144,5	193,5
VS 46/20	E6	45	60	2641,5	1574	4215,5	143	144,5	212,5
VS 46/22	E6	45	60	2869	1574	4443	143	144,5	217,5
VS 46/24	E8	55	75	3196,5	1204	4400,5	190,5	190,5	252
VS 46/26	F8	55	75	3424	1204	4628	190,5	190,5	257,5

Dimensions



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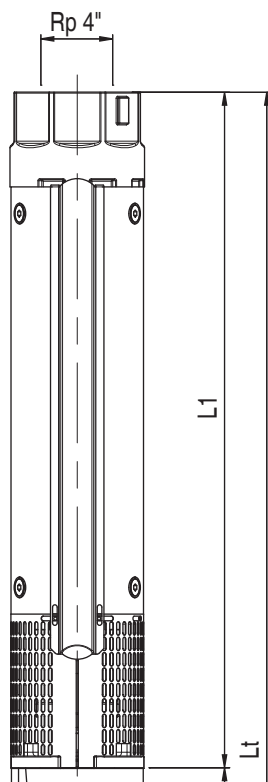


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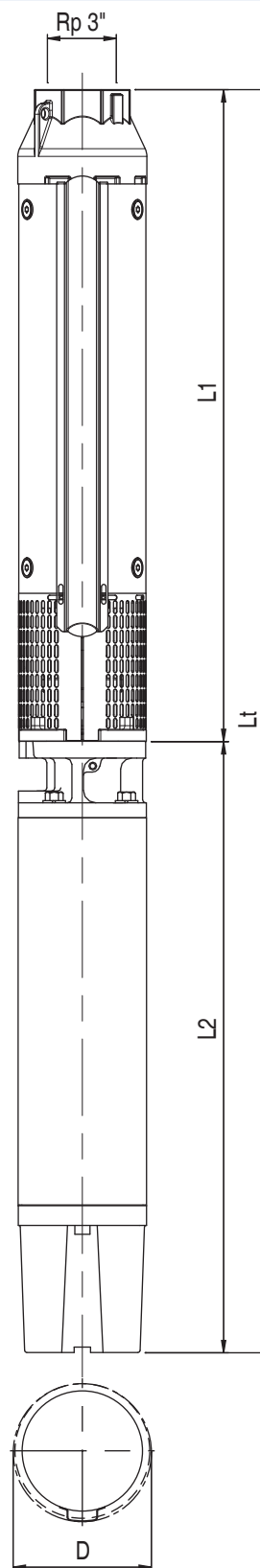
Pumps with Encapsulated Motor

Pump model type	Motor			Dimensions					Weight Pump [Kg]
	Type	kW	HP	L1 [mm]	L2 [mm]	Lt [mm]	D		
							1 cable	2 cable	
VS 65/1	E4	3	4	591,5	393,5	985	143	-	26
VS 65/2	E6	5,5	7,5	591,5	614,5	1206	143	144,5	54,5
VS 65/3	E6	9,3	12,5	705,5	678,5	1384	143	144,5	63,5
VS 65/4	E6	11	15	819,5	711	1530,5	143	144,5	70
VS 65/5	E6	15	20	933,5	776	1709,5	143	144,5	78
VS 65/6	E6	15	20	1047	776	1823	143	144,5	80,5
VS 65/7	E6	18,5	25	1161	841,5	2002,5	143	144,5	90
VS 65/8	E6	22	30	1275	906,5	2181,5	143	144,5	99
VS 65/9	E6	30	40	1389	1036,5	2425,5	143	144,5	116
VS 65/11	E6	30	40	1617	1036,5	2653,5	143	144,5	121
VS 65/12	E6	37	50	1730,5	1421,5	3152	143	144,5	177,5
VS 65/14	E6	37	50	1958,5	1421,5	3380	143	144,5	183
VS 65/16	E6	45	60	2186	1574	3760	143	144,5	202
VS 65/18	E6	45	60	2414	1574	3988	143	144,5	207,5
VS 65/19	E8	55	75	2627,5	1204	3831,5	190,5	190,5	239
VS 65/21	E8	55	75	2855	1204	4059	190,5	190,5	244,5

Dimensions from 8 stages



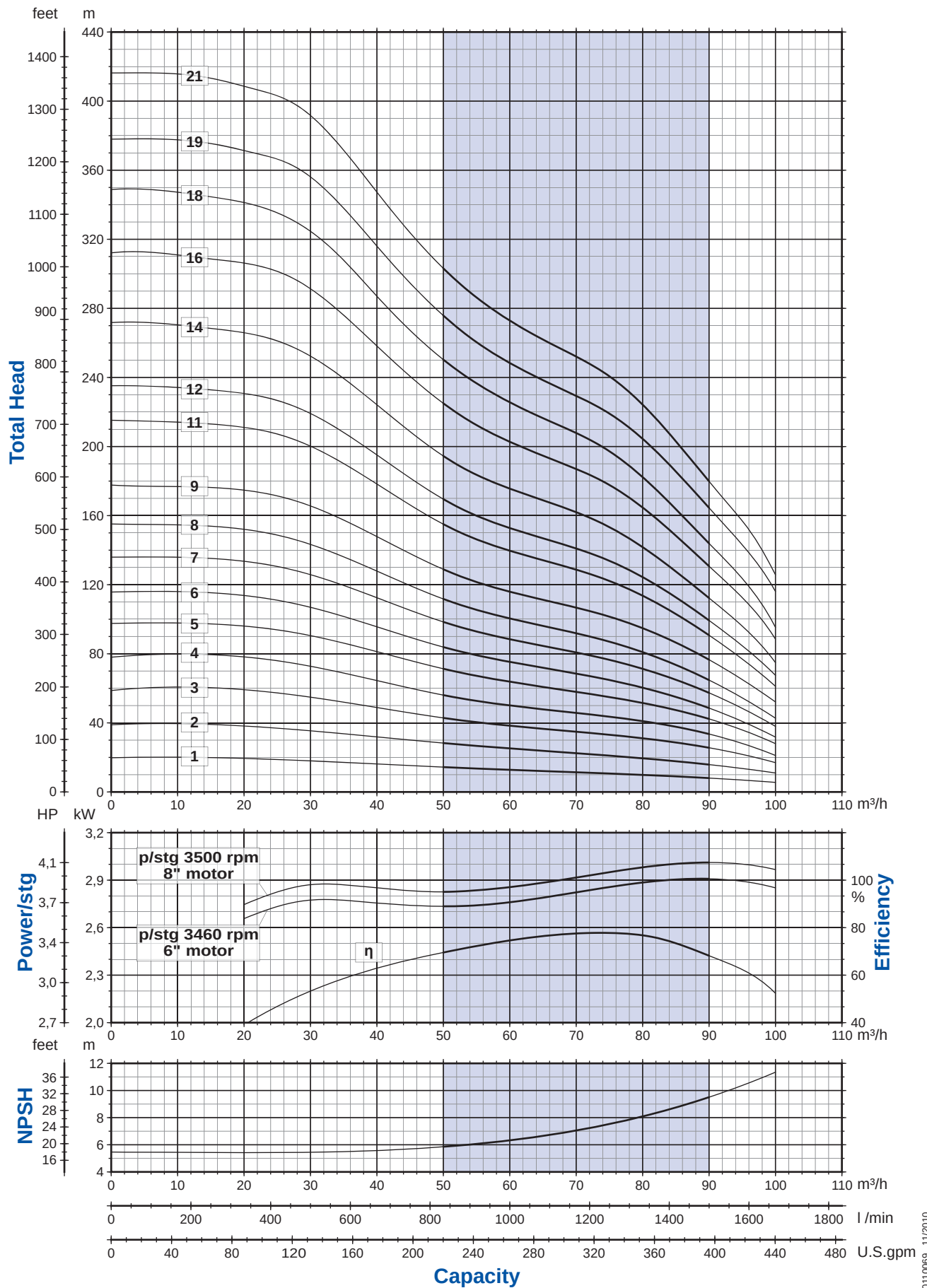
Dimensions up to 7 stages



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Performance curves 60Hz

VS 65



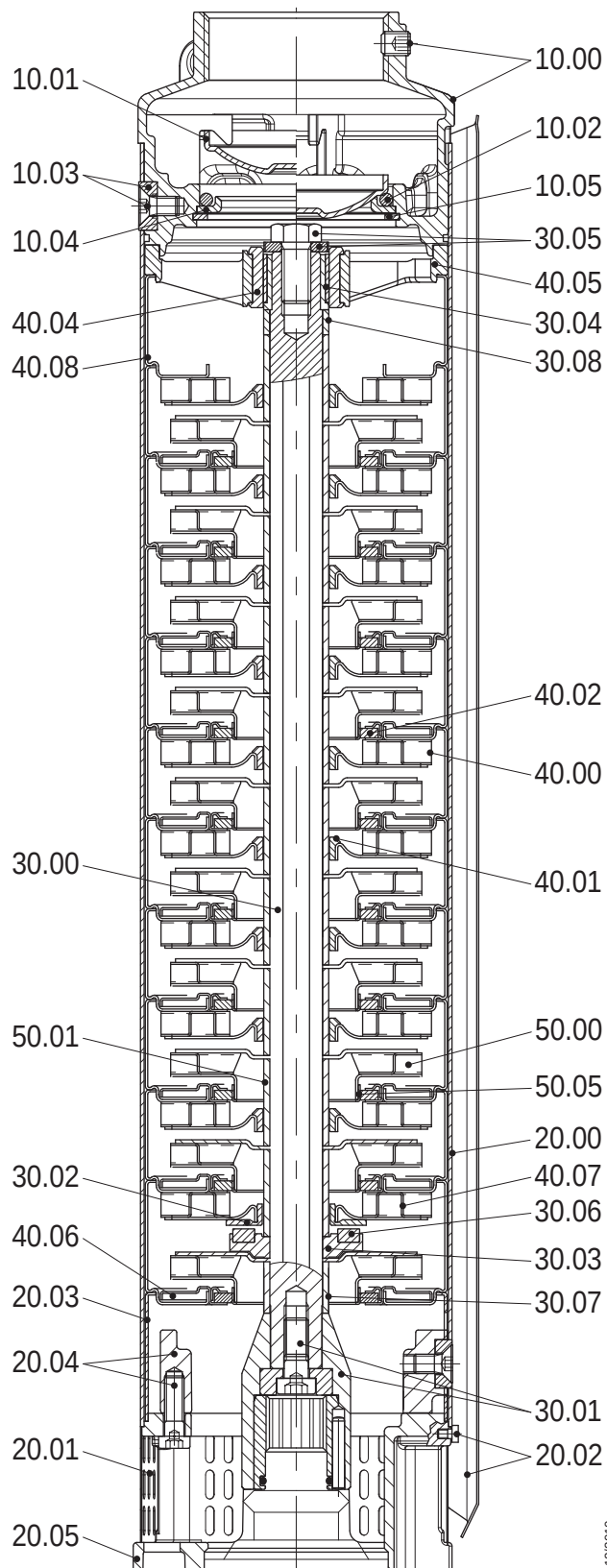
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Section and List of Main Components

VS 14

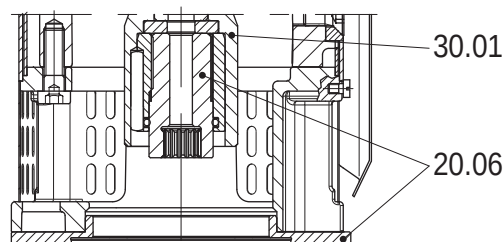
VS 19

VS 25



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Ref. N.	Description
10 00	Discharge head and screw
10 01	Valve
10 02	O-ring
10 03	Screws and outer case locking nuts
10 04	Valve support
10 05	Seeger ring
20 00	Outer case
20 01	Suction strainer
20 02	Cable guard and screws
20 03	Initial spacer
20 04	Flange and bolts
20 05	Motor adapter
20 06	4" motor flange / coupling adapter
30 00	Pump shaft
30 01	Coupling
30 02	Upper up-thrust washer
30 03	Lower up-thrust washer
30 04	Upper journal sleeve
30 05	Screw and washer
30 06	Up-thrust ring
30 07	Lower spacer
30 08	Upper spacer
40 00	Diffusers
40 01	Secondary bearing bush
40 02	Floating neck ring
40 04	Bearing bush
40 05	Upper bearing guide
40 06	First diffuser
40 07	Diffuser with upper up-thrust washer
40 08	Last diffuser
50 00	Impeller
50 01	Impeller spacer
50 05	Wear ring



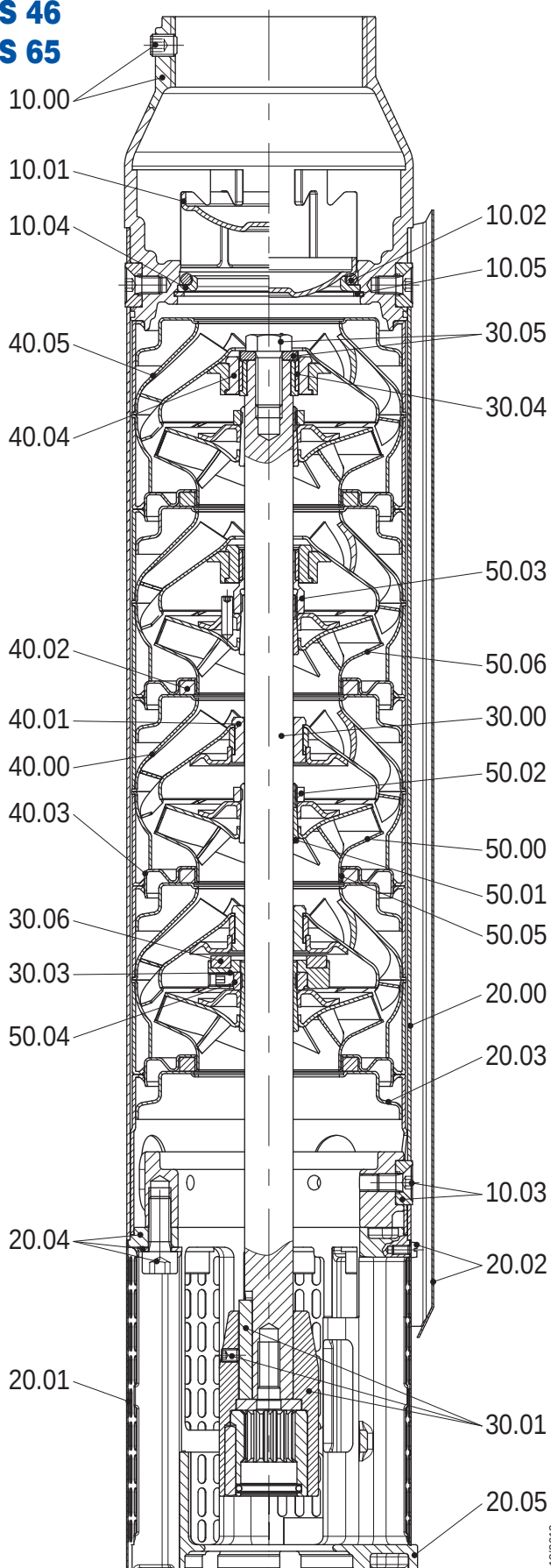
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Section and List of Main Components

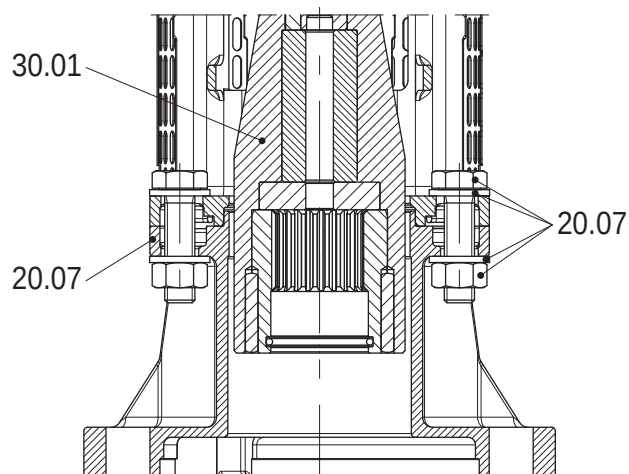
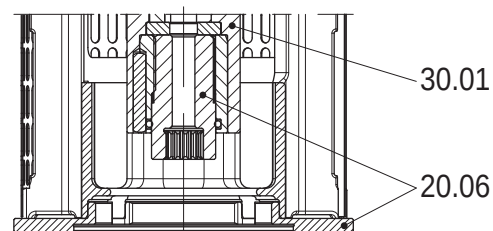
VS 30

VS 46

VS 65



Ref. N.	Description
10 00	Discharge head and screw
10 01	Valve
10 02	O-ring
10 03	Screws and outer case locking nuts
10 04	Valve support
10 05	Seeger ring
20 00	Outer case
20 01	Suction strainer
20 02	Cable guard and screws
20 03	Initial spacer
20 04	Flange and bolts
20 05	Motor adapter
20 06	4" motor flange / coupling adapter
20 07	8" motor adapter / bolts and washer
30 00	Pump shaft
30 01	Coupling
30 03	Lower up-thrust washer
30 04	Upper journal sleeve
30 05	Screw and washer
30 06	Up-thrust ring
40 00	Diffusers
40 01	Secondary bearing bush
40 02	Floating neck ring
40 03	Flange clamping neck ring
40 04	Bearing bush
40 05	Last / intermediate diffuser
50 00	Impeller
50 01	Split cone
50 02	Split cone nut
50 03	Intermediate split cone nut
50 04	Up-thrust split cone nut
50 05	Wear ring





VS Series Stainless Steel Submersible Pumps for 8" deep wells and larger

Characteristics and Hydraulic Performances

60 Hz

APPLICATIONS

- Municipal water works
- Water distribution and pressure boosting
- Irrigation and sprinkler systems, water treatment plants, filtration and reverse osmosis
- Industrial cooling and processing
- Mining industry, drainage and dewatering
- Fountains
- Fire-fighting equipment

FEATURES

- Stainless steel components for durability and robustness, to increase run-time and trouble-free operation. Many design technical features make this pump range very compact and extremely reliable
- Three-dimensional twisted blades of the impeller and diffuser design to enhance efficiency and to reduce energy consumption
- External stainless steel sleeve to improve stiffness and assure permanent alignment of all the components
- Motor adapter and discharge head may be removed without disturbing the impeller / diffuser stack
- Built-in check valve and over size pump shaft
- Very compact and extremely reliable to resist to the most complex and severe conditions
- Easy service without the need of special tools

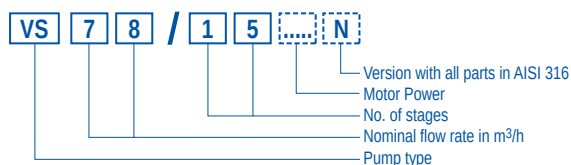
SPECIFICATIONS

- Capacities up to 150 m³/h at 60Hz
- 50 Bar (500 m) at 60Hz
- Maximum allowable amount of sand 100 gr/m³
- Water temperature range: from -5° C to 60°C
- Rotation: counter clockwise when looking into the discharge
- Motor adapter in compliance with NEMA standard
- Pump can work continuously in vertical or horizontal position
- Motors: see section Submersible Motors Product Overview

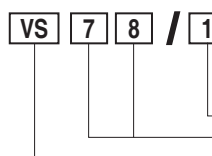
AVAILABLE OPTIONS

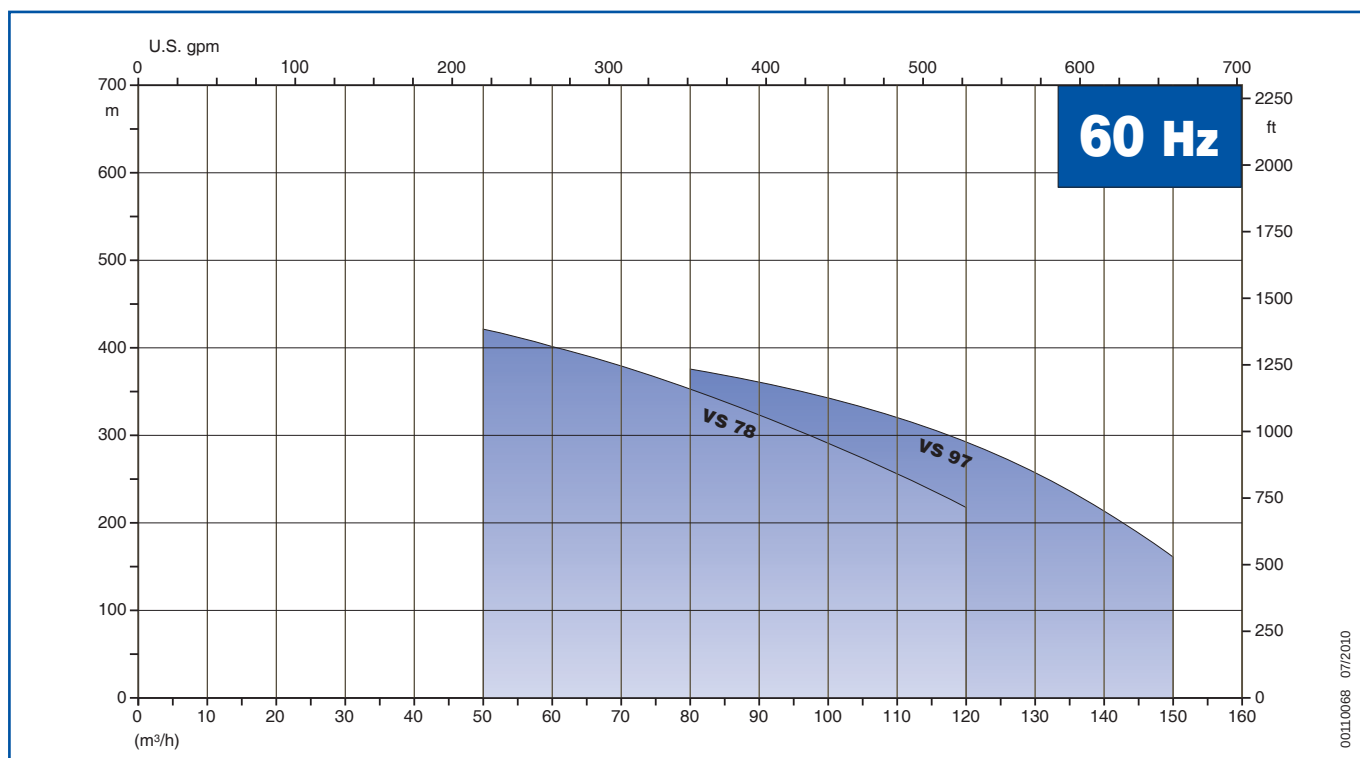
- 316 Stainless steel (N) version (DIN/EN 1.4401)
- Double cable guard
- NPT 4" outlet adapter
- NPT 6" outlet adapter

PUMP IDENTIFICATION CODE



00117017 09/2009





MATERIAL IN CONTACT WITH THE LIQUID						
Pos.	PARTS DESCRIPTIONS	Type	MATERIAL			
			Standard version		N version	
			AISI	DIN / EN	AISI	DIN / EN
10.00	Discharge head	Stainless steel	304	1.4301	316	1.4401
10.01	Valve	Stainless steel	316	1.4401	316	1.4401
10.02	Sealing O-ring	Nitrile rubber (NBR)	-	-	-	-
10.03	Outer case locking nuts	Stainless steel	316	1.4401	316	1.4401
10.04	Valve support	Stainless steel and PTFE	316	1.4401	316	1.4401
10.05	Seeger ring	Stainless steel	316	1.4401	316	1.4401
10.06	Spring	Stainless steel	316	1.4401	316	1.4401
20.00	Outer case	Stainless steel	304	1.4301	316	1.4401
20.01	Suction strainer	Stainless steel	316	1.4401	316	1.4401
20.02	Cable guard	Stainless steel	316	1.4401	316	1.4401
20.03	Initial spacer	Stainless steel	316	1.4401	316	1.4401
20.04	Flange and screws	Stainless steel	304	1.4301	316	1.4401
20.05	Motor adapter	Stainless steel	304	1.4301	316	1.4401
30.00	Pump shaft	Stainless steel	329	1.4460	329	1.4460
30.01	Coupling	Stainless steel	431/329	1.4057/1.4460	316/329	1.4401/1.4460
30.02	Upper up-thrust washer	Stainless steel	329	1.4460	329	1.4460
30.03	Lower up-thrust washer	Stainless steel	329	1.4460	329	1.4460
30.04	Upper journal sleeve ⁽¹⁾	Stainless steel with ceramic casting	-	-	-	-
30.05	Screw and washer	Stainless steel	316	1.4401	316	1.4401
30.06	Up-thrust ring	PTFE	-	-	-	-
40.00	Diffuser	Stainless steel	304	1.4301	316	1.4401
40.01	Secondary bearing bush	Nitrile rubber (NBR)	-	-	-	-
40.02	Floating neck ring	PTFE	-	-	-	-
40.03	Flange clamping neck ring	Stainless steel	316	1.4401	316	1.4401
50.00	Impeller	Stainless steel	316	1.4401	316	1.4401
50.01	Split cone	Stainless steel	316	1.4401	316	1.4401
50.02	Split cone nut	Stainless steel	316	1.4401	316	1.4401

1) only for types with more than 8 stages

TABLE OF HYDRAULIC PERFORMANCES AT 60Hz

34/60

VS Series Stainless Steel Submersible Pumps for 8" deep wells and larger

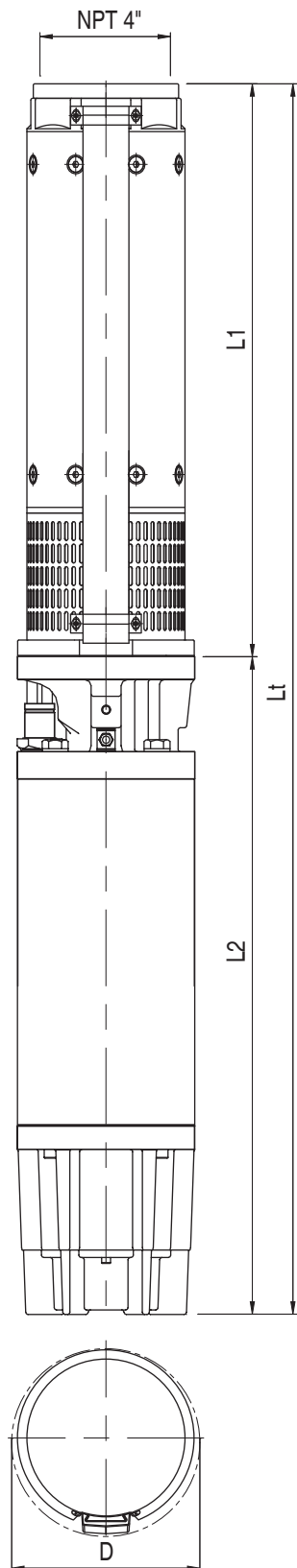
Technical Data and Performance Curves

60 Hz

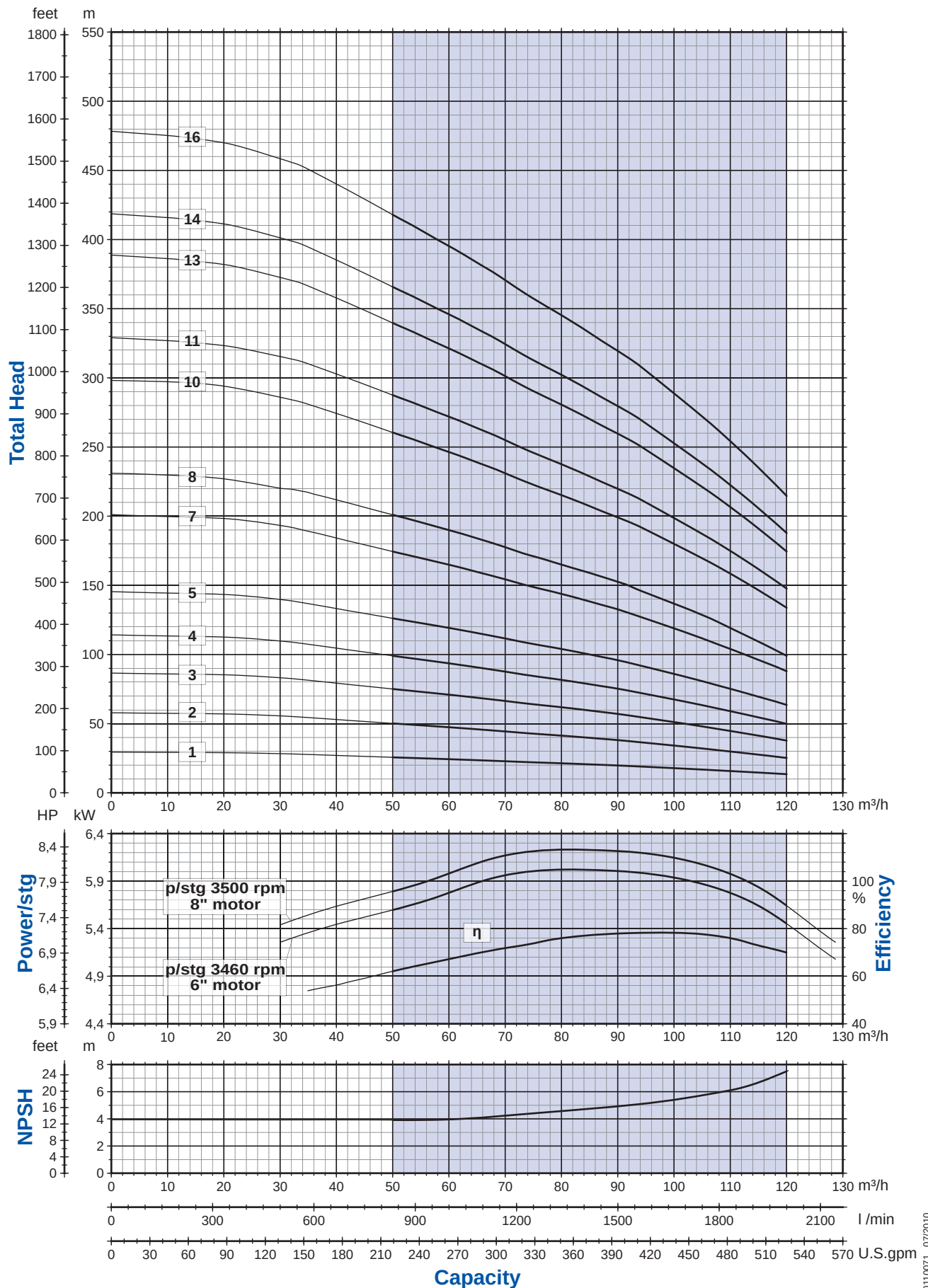
Pumps with Encapsulated Motor

Pump model type	Motor			Dimensions					Weight Pump [Kg]
	Type	kW	HP	L1 [mm]	L2 [mm]	Lt [mm]	D		
							1 cable	2 cable	
VS 78/1	E6	7,5	10	644	646	1290	186,5	192	76,5
VS 78/2	E6	11	15	644	711	1355	186,5	192	82,5
VS 78/3	E6	18,5	25	770	841,5	1611,5	186,5	192	100
VS 78/4	E6	22	30	896	906,5	1802,5	186,5	192	111
VS 78/5	E6	30	40	1022	1036,5	2058,5	186,5	192	130
VS 78/7	E6	37	50	1274	1421,5	2695,5	186,5	192	194
VS 78/8	E6	45	60	1400	1574	2974	186,5	192	213
VS 78/10	E8	55	75	1657	1204	2861	195	197,5	247
VS 78/11	E8	75	100	1783	1395	3178	195	197,5	290
VS 78/13	E8	75	100	2035	1395	3430	195	197,5	300
VS 78/14	E8	93	125	2161	1747	3908	195	197,5	383
VS 78/16	E8	93	125	2413	1747	4160	195	197,5	392,5

Dimensions



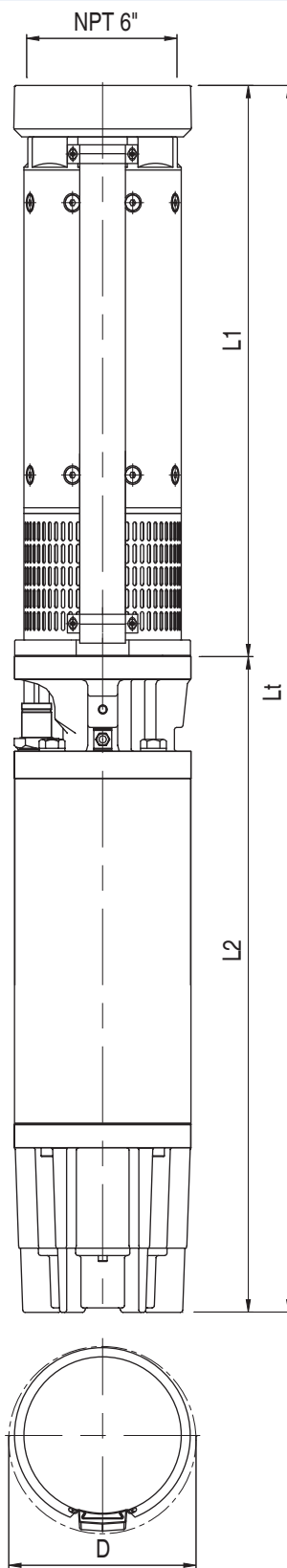
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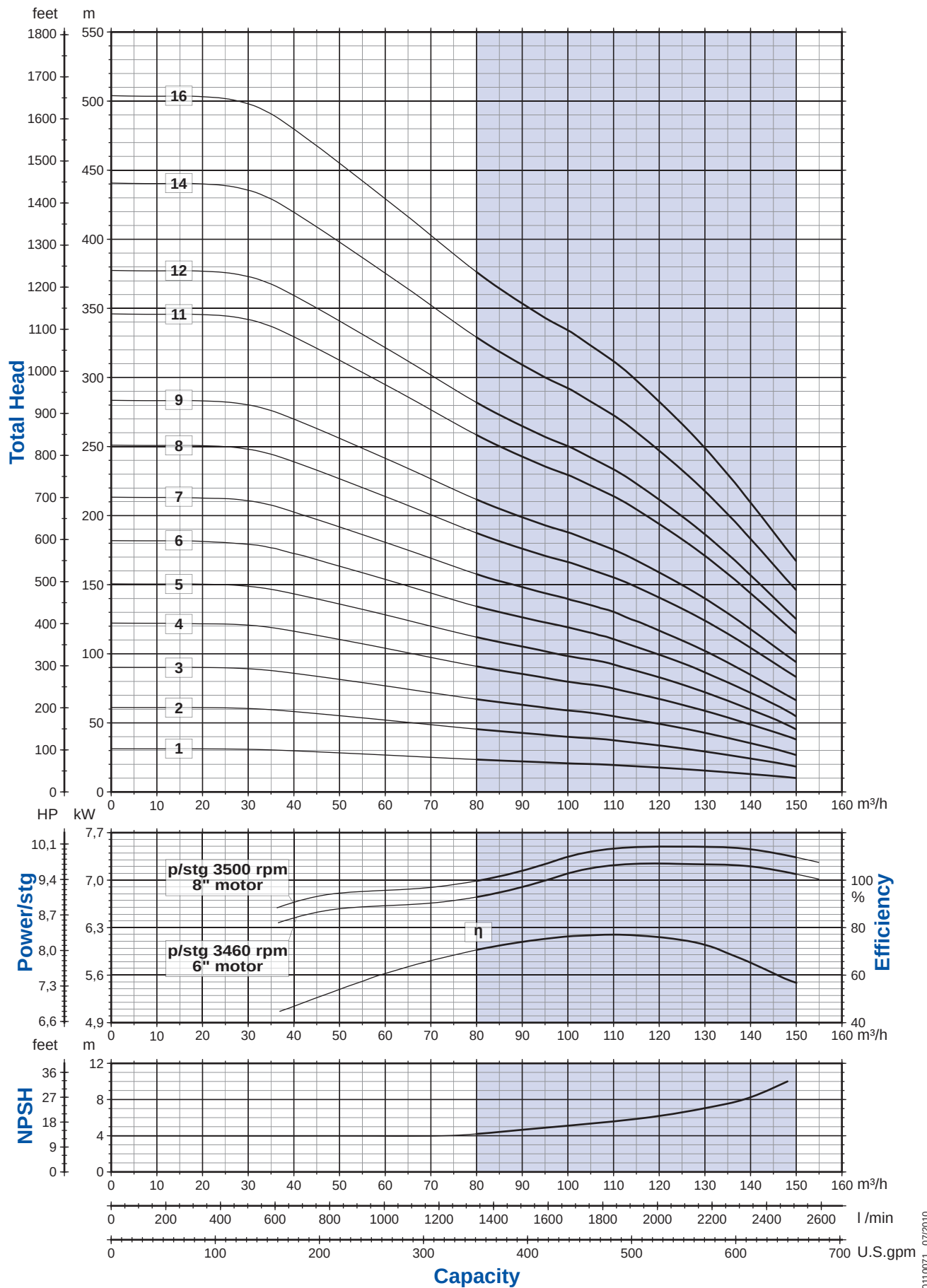
Pumps with Encapsulated Motor

Pump model type	Motor			Dimensions					Weight Pump [Kg]
	Type	kW	HP	L1 [mm]	L2 [mm]	Lt [mm]	D		
							1 cable	2 cable	
VS 97/1	E6	7,5	10	644	646	1290	186,5	192	76,5
VS 97/2	E6	15	20	644	776	1420	186,5	192	88
VS 97/3	E6	22	30	770	906,5	1676,5	186,5	192	106
VS 97/4	E6	30	40	896	1036,5	1932,5	186,5	192	125,5
VS 97/5	E6	37	50	1022	1421,5	2443,5	186,5	192	184
VS 97/6	E6	37	50	1148	1421,5	2569,5	186,5	192	189
VS 97/7	E6	45	60	1274	1574	2848	186,5	192	208
VS 97/8	E8	55	75	1405	1204	2609	195	197,5	237,5
VS 97/9	E8	75	100	1531	1395	2926	195	197,5	280
VS 97/11	E8	75	100	1783	1395	3178	195	197,5	290
VS 97/12	E8	93	125	1909	1747	3656	195	197,5	373
VS 97/14	E8	93	125	2161	1747	3908	195	197,5	383
VS 97/16	E8	110	150	2413	1975,5	4388,5	195	197,5	435,5

Dimensions



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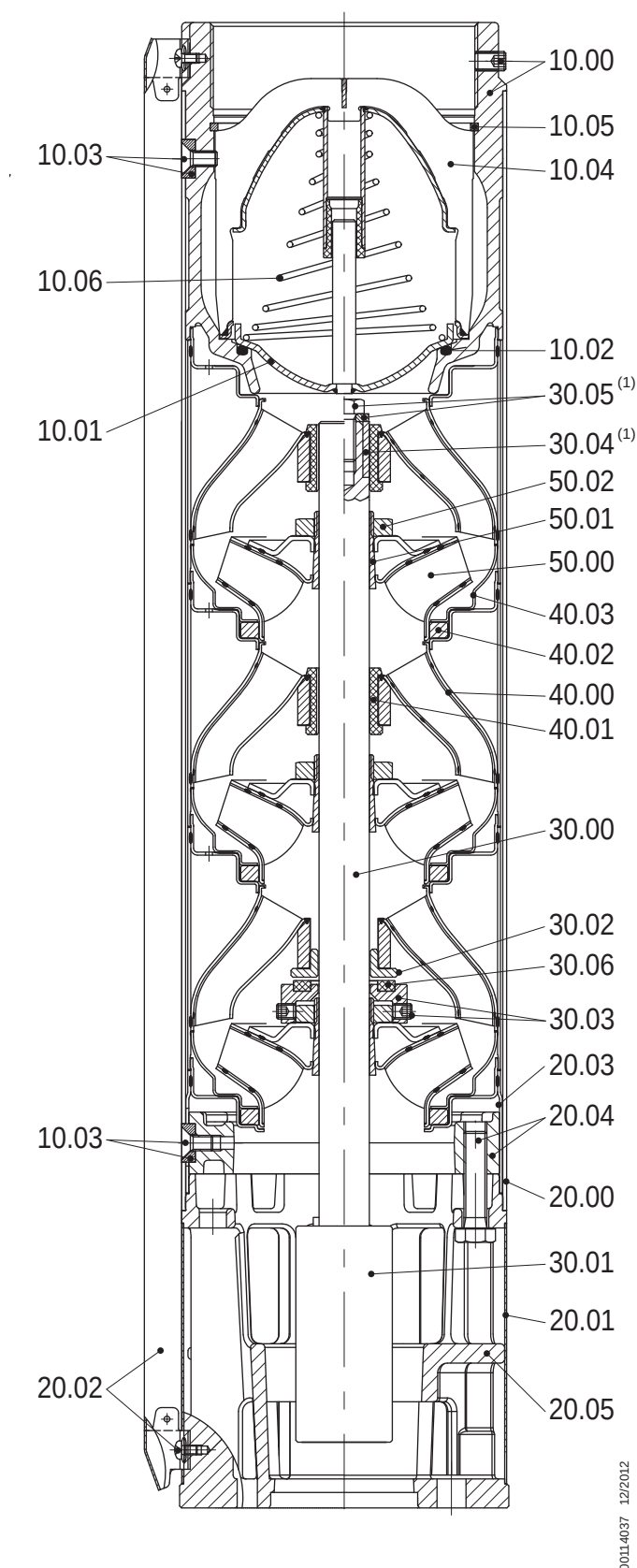


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Section and List of Main Components

VS 78

VS 97

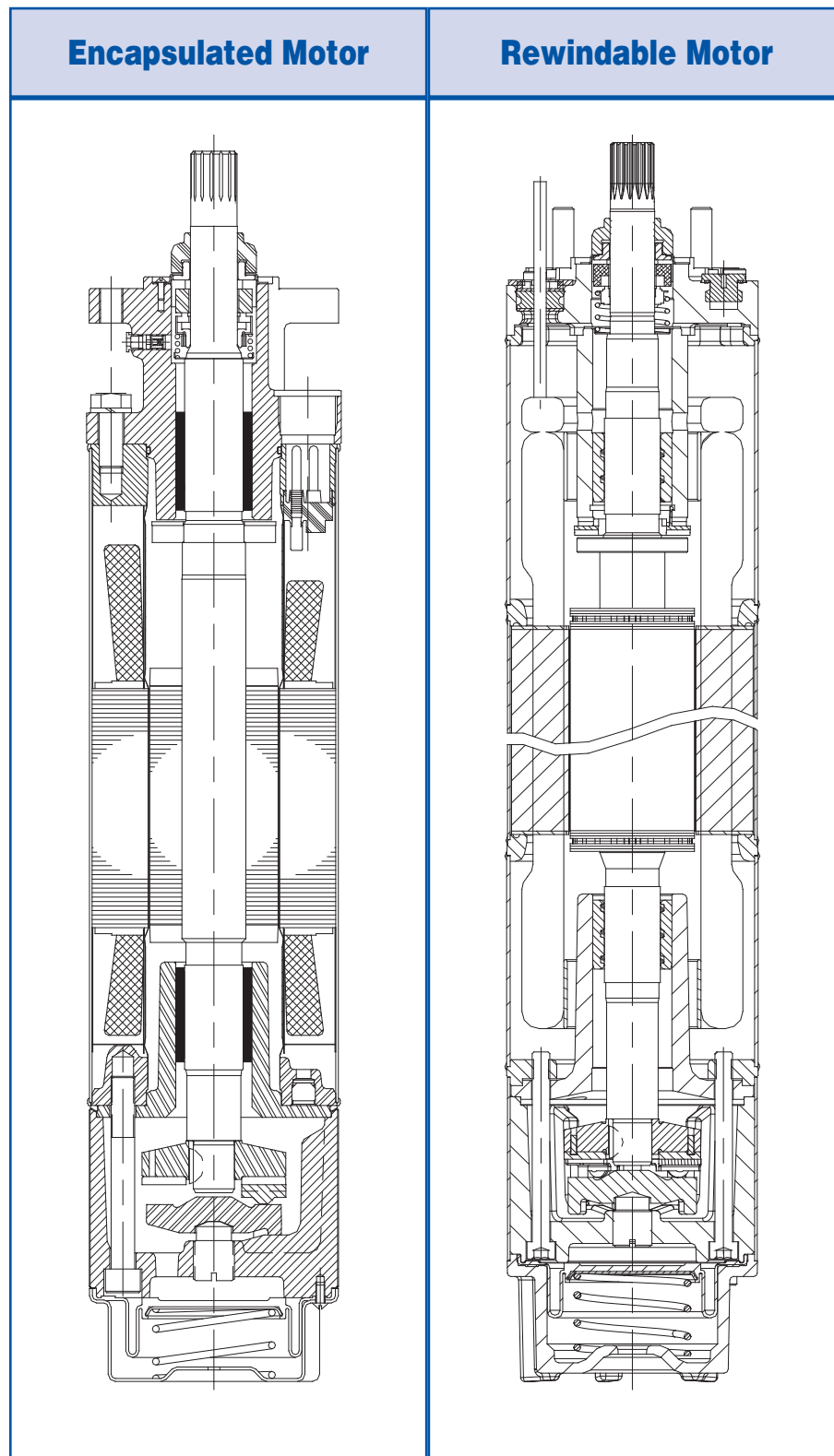


Ref. N.	Description
10 00	Discharge head
10 01	Valve
10 02	Sealing O-ring
10 03	Outer case locking nuts
10 04	Valve support
10 05	Seeger ring
10 06	Spring
20 00	Outer case
20 01	Suction strainer
20 02	Cable guard
20 03	Initial spacer
20 04	Flange
20 05	Motor adapter
30 00	Pump shaft
30 01	Coupling
30 02	Upper up-thrust washer
30 03	Lower up-thrust washer
30 04	Upper journal sleeve
30 05	Screw and washer
30 06	Up-thrust ring
40 00	Diffuser
40 01	Secondary bearing bush
40 02	Floating neck ring
40 03	Flange clamping neck ring
50 00	Impeller
50 01	Split cone
50 02	Split cone nut

1) only for types with more than 8 stages

Submersible Motors Product Overview





4" Encapsulated Motors

4" Super Stainless 3 Phase

SUBMERSIBLE MOTORS

These 4" encapsulated three phase motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 4" diameter or larger water wells. The motor offer you a maintenance free long life submersible pump application.

The motor is filled with a special FES93 fluid, providing frost protection down to -40°C storage temperature. A special diaphragm ensures pressure compensation inside the motor.

FEATURES

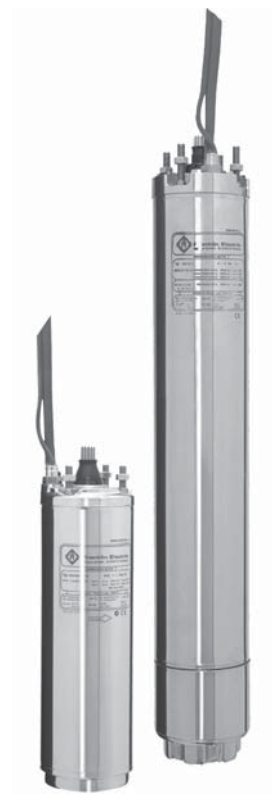
- Hermetically sealed stator. Anti track, self healing stator resin prevents motor burn out
- High efficiency electrical design (low operation cost, cooler winding temperature)
- Removable "Water Bloc™" lead connector
- Cable material according to drinking water regulations (KTW approved)
- Water lubricated radial and thrust bearings
- All motors prefilled and 100% tested.
Non contaminating, FES93- filled design

SPECIFICATIONS

- 0,37 - 7,5kW
- 4" NEMA flange
- Degree of protection: IP68
- Insulation: Cl. B
- Rated ambient temp.: 30°C
- Cooling flow: Motors 2,2 kW and larger: min. 8 cm/s
- Starts/h: 20
- Mounting: vertical/horizontal
- Voltage tolerance: 380-415V/50Hz, 460V/60Hz; -10% / +6% U_N [380-415V = (380-10%) – (415+6%)]
- Motor protection: Select thermal overloads according to EN 60947-4-1, Trip time <10 s at 5 x I_N

AVAILABLE OPTIONS

- Motor cable VDE / KTW approved (1,5m; 2,5m; special lengths available)
- Motors with factory- installed lead in Single Packing
- Special voltages on request
- YΔ - start (pos. of cables 90°) in motors 316SS on request
- Motor complete in AISI 316SS with SiC seal



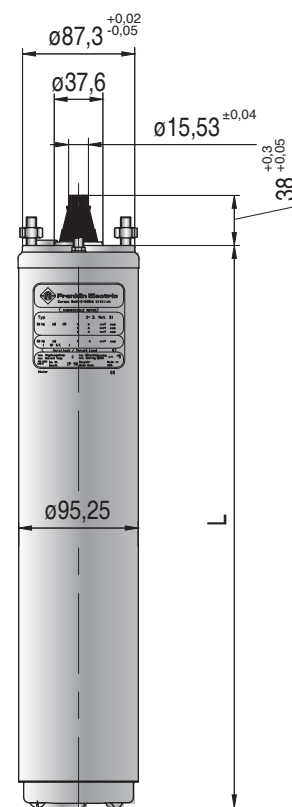
Performance table at ~3460 rpm

Three-Phase 4" Encapsulated Motors 60Hz - 460V

P_N	Thrust	n_N	I_N	I_A	η	$\cos \phi$	T_N	T_A	L	Weight
[kW]	[HP]	F [N]	[min ⁻¹]	[A]	[A]	[%]	[Nm]	[Nm]	[mm]	[kg]
0,37	0,5	3000	3455	1,4	7	73	0,77	1,6	214,2	7,2
0,55	0,75	3000	3445	1,9	9,8	66	0,79	2,3	228,2	7,7
0,75	1	3000	3410	2,3	11	70	0,82	2,8	248,2	8,7
1,1	1,5	3000	3415	3	16,1	74	0,82	3,9	282,6	10,2
1,5	2	3000	3430	3,9	20,4	75	0,8	5	306,6	11,2
2,2	3	4000*	3425	5,4	28,7	76	0,78	7	338,6	12,6
		6500*	3425	5,4	28,7	76	0,78	7	422,2	15,0
3	4	4000*	3425	7,2	39,7	77	0,79	9,5	393,6	15,0
		6500*	3425	7,2	39,7	77	0,79	9,5	477,2	17,0
3,7	5	6500*	3425	8,6	51,8	79	0,8	11,8	520,2	19,1
4	5,5	6500*	3420	9,7	56,8	79	0,79	13,2	543,2	20,0
5,5	7,5	6500*	3440	12,4	71	81	0,83	17,9	652,5	26,6
7,5	10	6500*	3435	16,8	99,7	80	0,83	24,1	730,5	30,6

* High Thrust Version

Dimensions



6" Encapsulated Motors

SUBMERSIBLE MOTORS

These 6" encapsulated motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 6" diameter or larger water wells.

Water lubricated thrust and radial bearings enable a maintenance free operation. A special diaphragm ensures pressure compensation inside the motor. The motor is filled with a special FES91 fluid, providing frost protection down to -15°C storage temperature.

The Sand fighter® SiC seal system is standard.

FEATURES

- Hermetically sealed stator, Anti track, self healing stator resin prevents motor burn out
- 37 and 45kW up to 50°C ambient temperature
- Removable "Water Bloc" lead connector
- Cable material according to drinking water regulations (KTW approved)
- „Sand fighter®" Motor with SiC-Mechanical Seal
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
Max. storage temperature -15°C – + 60°C
- Non contaminating FES91- filled design

SPECIFICATIONS

- 4 - 45 kW
- 6" NEMA flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard voltage: 380-415V/50Hz, 460V/60Hz;
Voltage tolerance: +6% / -10% (Standard: 415 + 6% = 440V, 380 – 10% = 342V)
- Motor protection: Select thermal overloads according to DIN 60947-4-1, trip class 10 or 10A, trip time < 10 s at $5 \times I_N$
- Insulation: Class F
- YΔ - start (pos. of cables 90°)
- „Sand fighter®" Motor with SiC-Mechanical Seal
- Rated ambient temperature: 4 - 30 kW up to 30°C, 37 & 45 kW up to 50°C
- Cooling flow: min. 0,16 m/s
- Motor lead in 4m length (KTW approved)

AVAILABLE OPTIONS

- Other voltages
- Motors complete in 316 SS
- PT 100 temperature sensor (sold separately)
- Special Lead lengths up to 50m
- Built-in PTC temperature sensor
- Built-in SubMonitor Transmitter (standard for 37 & 45 kW)

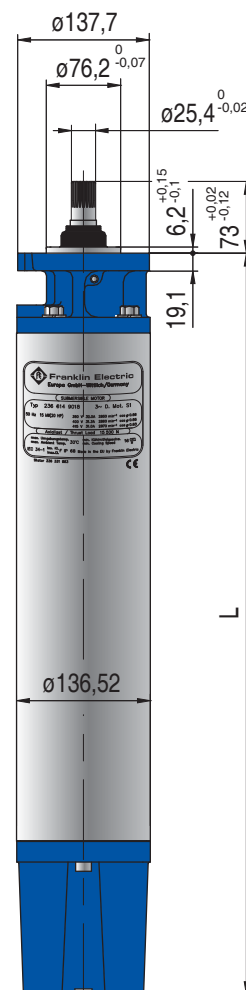


Performance table at ~3460 rpm

Three-Phase 6" Encapsulated Motors 60Hz - 460V

P_N	Thrust	n_N	I_N	I_A	η	$\cos \varphi$	T_N	T_A	L	Weight	
[kW]	[HP]	F [N]	[min ⁻¹]	[A]	[A]	[%]	[%]	[Nm]	[Nm]	[mm]	[kg]
4	5,5	15500	3450	8,3	43,3	79	0,83	10,2	18,7	581,2	37,5
5,5	7,5	15500	3450	12,3	65	80	0,83	15,3	30,9	614,4	41,1
7,5	10	15500	3450	16,1	86	79	0,85	20,5	43,7	646,2	45,2
9,3	12,5	15500	3450	19,5	118	82	0,84	25,5	60,4	678,7	47,5
11	15	15500	3450	23,7	133	81	0,85	30,7	72,6	711,2	50,9
15	20	15500	3450	30,3	181	82	0,87	41	101,7	776,2	56,7
18,5	25	15500	3450	37,5	240	83	0,87	51,1	137	841,5	63,3
22	30	15500	3450	45,2	284	83	0,87	61,6	172,3	906,5	69,3
30	40	27500	3450	61,6	397	83	0,86	81,6	227,9	1036,6	83,9
37	50	27500	3450	77	414	85	0,85	102,5	244,1	1421,4	138,0
45	60	27500	3460	91	518	85	0,85	122,7	288,9	1573,8	152,0

Dimensions



6" Rewindable Motors

SUBMERSIBLE MOTORS

These 6" rewindable motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 6" diameter or larger water wells. Water lubricated thrust and radial bearings enable a maintenance free operation. A special diaphragm ensures pressure compensation inside the motor. The motor is filled with a special FES93 fluid, providing frost protection down to -15°C storage temperature.

The Sand fighter® SiC seal system is the option for sandy applications. For applications in aggressive media, motors made of 316SS and 904L are available.

FEATURES

- Cable material according to drinking water regulations (KTW approved)
- Sand slinger and mechanical seal for high performance in sand
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
- Max. storage temperature -15°C – + 60°C
- Design for retrofittable PT100 sensor
- Approved Franklin Electric „Kingsbury Type“ thrust bearing
- Non contaminating FES93- filled design

SPECIFICATIONS

- 4 - 37 kW
- NEMA flange with Studs (M12)
- Protection: IP 68
- Starts per hour: max. 20
- Installation position: vertical / horizontal
- Motor Lead in 4m length (KTW approved)
- Standard voltage: 380-415V/50Hz, 460V/60Hz;
Voltage tolerance: +6% / -10% (Standard: 415 + 6% = 440V, 380 – 10% = 342V)
- Motor protection: Select thermal overloads according to EN 60947-4-1, trip class 10 or 10A, trip time < 10 s at 5 x I_N
- YΔ - start (pos. of cables 90°)
- Standard motor with PVC winding insulation (37kW in standard with PE2/PA insulation) for max. ambient temp. of 30°C with a min. cooling flow:

4 kW - 15 kW	v = 0,2 m/s
18,5 kW - 37 kW	v = 0,5 m/s

AVAILABLE OPTIONS

- Other voltages
- Motors in complete 316 SS and 904 L
- Motors up to 30 kW with PE2/PA winding insulation for max. ambient temp. of 50°C at the same cooling conditions as standard (37 kW max. 45°C)
- PT 100 temperature sensor (sold separately)
- „Sand fighter®“ Motor with SiC-Shaft Seal
- Lead in different lengths up to 50m



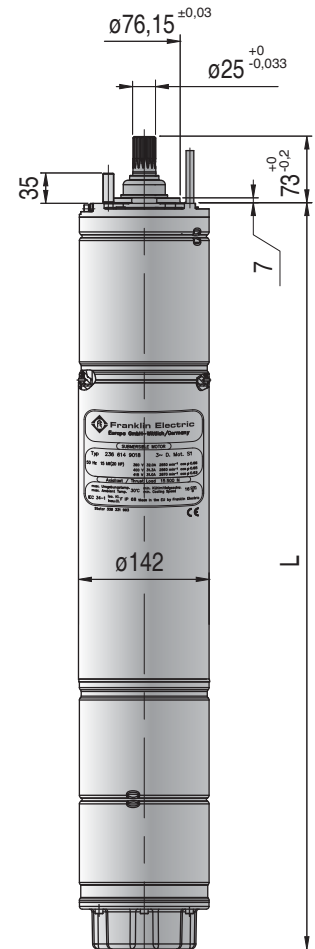
Performance table at ~3460 rpm

RW6

Three-Phase 6" Rewindable Motors 60Hz - 460V

P _N		Thrust	n _N	I _N	I _A	η	cos φ	T _N	T _A	L	Weight
[kW]	[HP]	F [N]	[min ⁻¹]	[A]	[A]	[%]	[%]	[Nm]	[Nm]	[mm]	[kg]
4	5,5	15500	3520	10,1	51	0,78	0,75	12,5	15,3	699	48,0
5,5	7,5	15500	3480	12,9	51	0,77	0,82	17,3	15,1	699	48,0
7,5	10	15500	3470	17,2	64	0,78	0,82	23,7	19,4	719	50,0
9,3	12,5	15500	3460	20,8	78	0,8	0,82	29,4	24,4	749	53,0
11	15	15500	3480	25	98	0,8	0,83	34,7	31,5	779	56,0
13	17,5	15500	3490	29	125	0,81	0,82	40,9	43,3	829	61,0
15	20	15500	3490	32,1	151	0,83	0,84	47,1	55,6	874	66,0
18,5	25	15500	3480	40,6	184	0,82	0,81	58,4	74,5	919	70,0
22	30	15500	3500	47,1	232	0,84	0,82	69,1	85,8	1009	79,0
26	35	15500	3500	55,7	287	0,85	0,84	81,6	117,2	1114	90,0
30	40	27500	3500	64,4	346	0,84	0,82	94	126,4	1214	100,0
37	50	27500	3500	79,1	430	0,85	0,81	116	177,8	1294	107,0

Dimensions



8" Encapsulated Motors

SUBMERSIBLE MOTORS

These 8" encapsulated motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 8" diameter or larger water wells.

It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. A special diaphragm ensures pressure compensation inside the motor. The motor is filled with a special FES91 fluid, providing frost protection down to -15°C storage temperature.

The Sand fighter® SiC seal system is the option for sandy applications.

FEATURES

- Hermetically sealed stator, Anti track, self healing stator resin prevents motor burn out
- Removable "Water Bloc" lead connector
- Cable material according to drinking water regulations (KTW approved)
- Sand slinger and Mechanical seal for high performance in sand
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
Max. storage temperature -15°C – + 60°C
- Non contaminating FES91- filled design

SPECIFICATIONS

- 30 - 150 kW
- 8" NEMA flange
- Protection: IP 68
- Starts per hour: 20
- Installation: vertical/horizontal
- Standard voltage: 380 - 415V/50Hz, 460V/60Hz
Voltage tolerance: +6% / -10%
(Standard: $415 + 6\% = 440V$, $380 - 10\% = 342V$)
- Motor protection: Select thermal overloads according to DIN 60947-4-1, trip class 10 or 10A, trip time < 10 s at $5 \times I_N$
- Insulation: Class F
- YΔ - start (pos. of cables 90°)
- Rated ambient temperature: 30°C
- Cooling flow: min. 0,16 m/s
- Built-in Subtrol Heat Sensor
- Motor lead in 8 m length (KTW approved)

AVAILABLE OPTIONS

- Other voltages
- Motors complete in 316 SS
- PT 100 temperature sensor (sold separately)
- „Sand fighter®" Motor with SiC- Mechanical seal

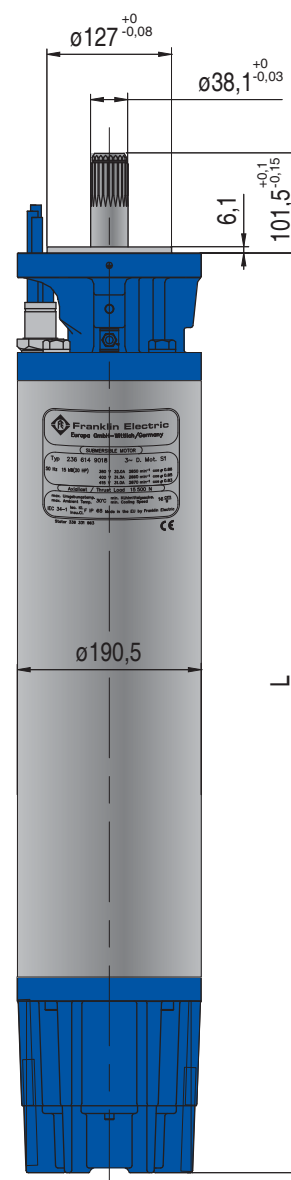


Performance table at ~3500 rpm

Three-Phase 8" Encapsulated Motors 60Hz - 460V

P _N		Thrust	n _N	I _N	I _A	η	cos φ	T _N / T _A	L	Weight
[kW]	[HP]	F [N]	[min ⁻¹]	[A]	[A]	[%]	[%]	[Nm]	[mm]	[kg]
30	40	45000	3525	60	396	86	0,86	2,3	909	116,0
37	50	45000	3525	73	542	87	0,86	2,4	986	131,0
45	60	45000	3515	86	658	88	0,85	2,2	1062	145,0
55	75	45000	3515	107	864	88	0,87	2,9	1204	175,0
75	100	45000	3520	142	1211	87	0,87	2,5	1395	213,0
93	125	45000	3520	188	1318	84	0,84	2,3	1747	291,0
110	150	45000	3520	219	1620	86	0,86	2,3	1975,6	334,0
130	175	45000	3515	249	1645	88	0,88	2,1	2178,8	380,0
150	200	45000	3510	282	1875	89	0,89	2,3	2407,4	429,0

Dimensions



8" Rewindable Motors

SUBMERSIBLE MOTORS

These 8" rewindable motors, manufactured in ISO 9001 certified facilities, are built for dependable operation in 8" diameter or larger water wells. It is fitted with water lubricated radial and thrust bearings for maintenance-free operation. The motor is filled with a special FES93 fluid, providing frost protection down to -15°C storage temperature.

A special diaphragm ensures pressure compensation inside the motor. The Sand fighter® SiC seal system is standard. For applications in aggressive media, motors made of 316SS and 904L are available.

FEATURES

- Easy to assemble with double flange
- Cable material according to drinking water regulations (KTW approved)
- Sand fighter® SiC seal system for high performance in sand
- High efficiency electrical design for low operation cost
- All motors prefilled and 100% tested
- Max. storage temperature -15°C – + 60°C
- Design for retrofitable PT100 sensor
- Non contaminating FES93- filled design

SPECIFICATIONS

- 30 - 93 kW
- 8" NEMA flange
- Protection: IP 68
- Starts per hour: max. 20
- Installation position: vertical / horizontal
- (93 kW motors may not be installed horizontally)
- Motor Lead in 6 m length (KTW approved)
- Standard voltage: 380-415V/50Hz, 460V/60Hz;
Voltage tolerance: +6% / -10% (Standard: 415 + 6% = 440V, 380 – 10% = 342V)
- Motor protection: Select thermal overloads according to EN 60947-4-1, trip class 10 or 10A, trip time < 10 s at $5 \times I_N$
- YΔ - start (pos. of cables 90°)
- Standard motor with PVC winding insulation
- For max. ambient temp. of 30°C with a min. cooling flow:

30 kW - 52 kW	$v = 0,2 \text{ m/s}$
55 kW - 93 kW	$v = 0,5 \text{ m/s}$

AVAILABLE OPTIONS

- Other voltages
- Motors in complete 316 SS and 904 L
- YΔ - start (pos. of cables 90°)
- PE2/PA winding insulation for max. ambient temp. of 50°C at the same cooling conditions as standard
- PT 100 temperature sensor (sold separately)
- Lead in different lengths up to 50m



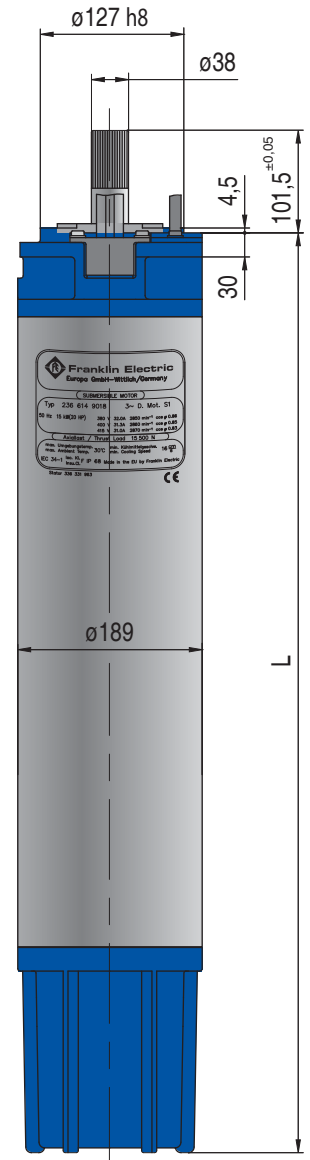
Performance table at ~3500 rpm

RW8

Three-Phase 8" Rewindable Motors 60Hz - 460V

P _N	Thrust	n _N	I _N	I _A	η	cos φ	T _N	T _A	L	Weight	
[kW]	[HP]	F [N]	[min ⁻¹]	[A]	[A]	[%]	[%]	[Nm]	[Nm]	[mm]	[kg]
30	40	45000	3490	61	324	83,5	0,89	99	130	1140	140,0
37	50	45000	3490	75	407	84,8	0,87	123	162	1140	140,0
45	60	45000	3500	89	524	86,3	0,87	149	221	1230	156,0
52	70	45000	3510	102	606	86,2	0,88	175	276	1340	179,0
55	75	45000	3510	109	657	86,7	0,87	181	287	1340	179,0
60	80	45000	3510	116	734	86,7	0,89	198	332	1470	198,0
67	90	45000	3510	131	803	86,9	0,87	220	366	1470	198,0
75	100	45000	3510	145	947	87,4	0,88	247	427	1560	215,0
83	110	45000	3510	158	1090	87,7	0,89	275	489	1560	247,0
93	125	45000	3510	180	1256	88,3	0,87	306	561	1740	247,0

Dimensions





Accessories

ACCESSORIES

Motor Control

SUBMONITOR MOTOR PROTECTION

The SubMonitor is designed to protect 3-phase pumps with horsepower ratings between 3 and 200 Hp. Current, voltage and motor temperature are monitored using three integrated current transformers. A digital display provides current and voltage readings for all three legs and allows the user to set up the SubMonitor quickly and easily. The SubMonitor is the latest innovation in 3-phase pump protection from Franklin Electric. Using state-of-the-art technology, the SubMonitor provides the ultimate protection for a pump and motor. There is simply no better way to protect a large 3-phase submersible pump investment than with a SubMonitor. It's the protection device that can sense overheating straight from the motor windings! And it is made by the world leader in submersible motors - Franklin Electric.



FEATURES

- Quick setup to monitor a motor, simply enter the Line Frequency (Hz), Line Voltage (volts), and Motor Service Factor Amp rating
- Digital display indicates voltage and current on all three legs at the same time, and fault messages are in easily understandable text
- Monitors - Under/Overload; Under/Overtorque; Current Unbalance; Overheated Motor (Subtrol Equipped); False Start (Chattering); Phase Reversal
- For motors with service factor amp ratings between 3 and 359 amps
- One unit covers the entire range from 190 to 600 Volts
- No need to make additional turns around the CT or add external CTs
- Password Protection Option
- DIN Rail Mounting Option
- Stores fault, setting changes, and pump run-time, that can be accessed through the display
- Detachable NEMA 3R display unit can be mounted on panel door
- UL 508 Listed

Model number

Premium Package	586 000 5100
Input Voltage	190 – 600 VAC
Frequency	60/50 Hz
Motor Service Factor Amps	3 to 359 Amps
Maximum Conductor Size Through Sensors	
Max. Diameter	0.920 in. (23 mm)

Trip Response

Motor, Under / Overload, Under / Overtorque, Overheat Unbalance	3 seconds
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Control Circuit Rating

1.5 Amp AC, up to 600 volts

Signal Circuit Rating

1 Amp AC, up to 250 volts
(Incandescent: 100 watts max.)

Wiring Terminals

Wire Gauge	#12 to #18 AWG
Tighten to	4.5 in-lbs

Weight (SubMonitor)

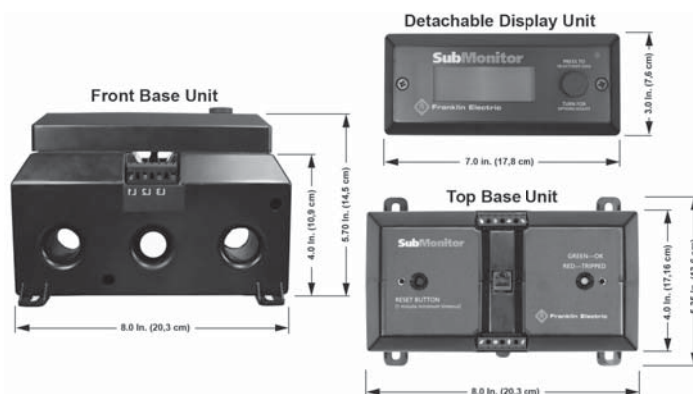
3.3 lbs/7.3 kg

Carton Size (Std. Unit)

7,75 in x 11,5 in x 6,75 in
(19,7 cm x 29,2 cm x 17,1 cm)

Shipping Weight (Std. Unit)

3.5 Lbs./7.5 kg



Termination Kit 4"

This proven, sturdy solution is your choice of cable joining in temporary pump applications or when re-usage if the drop cable is desired. Furthermore, the flexibility and safety it provides for under field service conditions makes it the preferred choice over conventional, not breakable splicing kits.



Double Plug Lead for Termination Kit

- 2-wire / 3-wire
- 1,5m / 2,5m Lead length
- with / without Strain relief
- Max. current 16 Apms.
- KTW approved



Corrosion Protection 4"

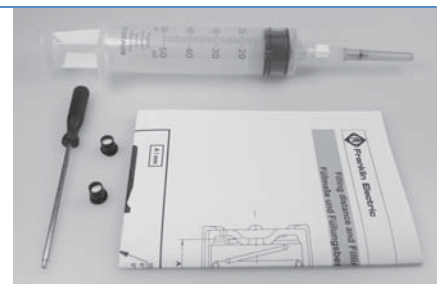
APPLICATION

The sacrificial anode attaches to the bottom end bell of Franklin Electric 4" Super Stainless submersible motors. Since cast iron is more chemically active than the metals that make up the motor and pump, it is the cast iron that reacts to the corrosive elements in the water. This results in longer motor and pump life in aggressive/corrosive water conditions.



Motor Filling Kit

This kit offers all tools for control the level of the engine filling liquid and to fill up if necessary!



6" Permanent Star Plug

APPLICATION

For some applications it may be necessary to permanently run a star-delta submersible motor in star connection. This may be achieved by using the PERMANENT-STAR-PLUG. This connector short - circuits all three pins in one of the two motor sockets and is designed to replace one lead.



ACCESSORIES

Surge Arrestor

APPLICATION

These surge arrestors or their equivalents are highly recommended for protecting submersible motors from a variety of commonly occurring high voltage spikes which can damage the motor insulation system and cause motor winding failure. These arrestors will not, as is true of any surge protection equipment, protect the motor from a direct lightning strike.



PT100 for 6" and 8" Encapsulated Motors

APPLICATION

The PT100 is a precision platinum wire resistor that is specified occasionally as a temperature input for process control equipment. A jacketed control lead must be run from the PT100 lead to the above-ground equipment. The above-ground equipment is not available from Franklin Electric and is typically part of a custom panel or data acquisition system.

PT100 sensor retrofit kits from Franklin Electric come with complete instructions and allow for easy field installation.



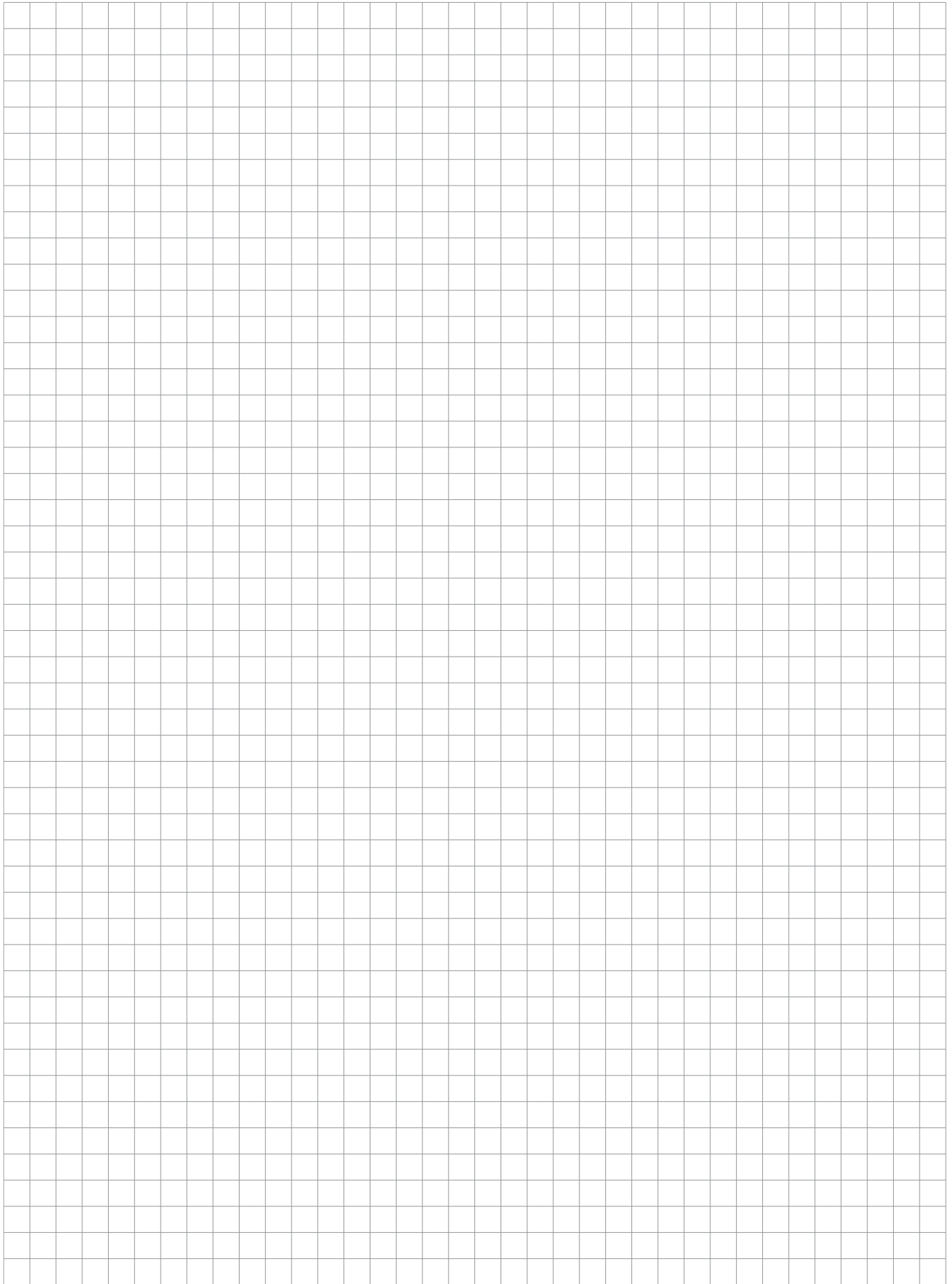
PT100 Rewindable Motors

APPLICATION

- Fitted into the upper end bell flange, all end bells 6", 8" and 10" Rewindable are prepared for installation PT 100
- Measures the temperature of the filling liquid
- Conductor with a resistance proportional to the temperature
- Allows monitoring the temperature continuously

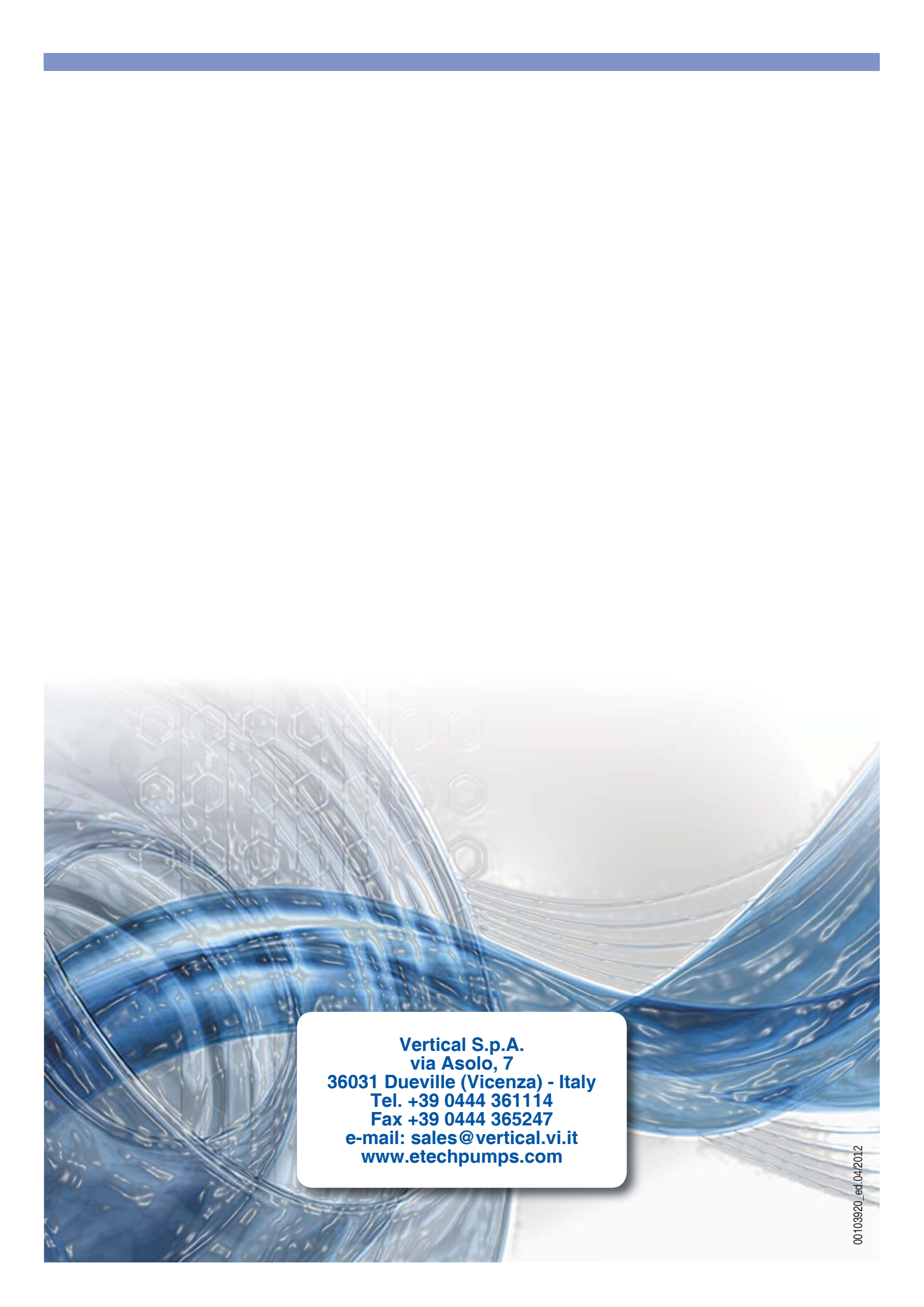
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Notes

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