

EU



E-Tech



Franklin Electric

VERTICAL MULTISTAGE PUMPS

50Hz



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EV Series

Vertical Multistage Centrifugal Pumps

APPLICATIONS

- Pressure boosting and water supply systems
- Water treatment plants
- Boiler feed
- Handling of water, free of suspended solids, in the civil, industrial and agricultural sector
- Wash down unit
- Irrigation systems
- Circulation of hot and cold water for heating, cooling and conditioning systems

FEATURES

- Full stainless steel compact and solid structure
- Liquid end made of stainless steel in order to achieve durability, superior efficiency and the highest performances
- Standard mechanical seal (EN 12756 ex DIN 24960)
- Oversize ball bearing (bearing bracket) ensure motor bearing long life and eliminates axial and other adjustments of moving parts
- Tungsten carbide intermediate bearing to control and eliminate vibration and stabilize the rotor with a large number of stages
- Standard motor without oversize bearing, size B14 up to 4kW / size B5 from 5.5kW and above, Protection degree: IP55, Max ambient temperature: 40°C, Insulation class: F.
- Easy installation IN LINE ports

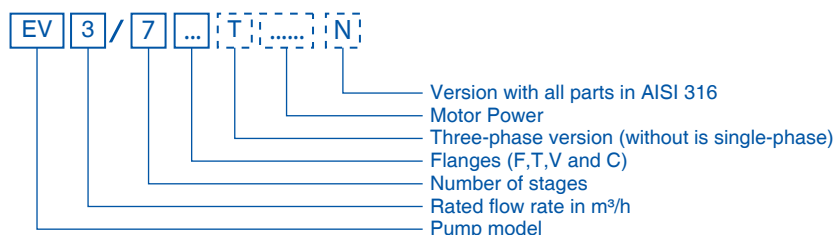
SPECIFICATIONS

- Capacities up to 26 m³/h at 50Hz / 32 m³/h
- Discharge and Suction port: Oval, Round flanges, Victaulic and Clamp connections
- Maximum working pressure: Oval flange 16 Bar
Round Flange, Victaulic and Clamp connections 25 Bar
- Liquid temperature range: from -15°C to +120°C
- Direction of rotation : clockwise looking at the pump from the top down (for EV 3-5-9)
- Direction of rotation : counter-clockwise looking at the pump from the top down (for EV 16)
- Materials: suitable for handling potable water (WRAS certified)
- Hydraulic characteristics are guaranteed, according to ISO standard 9906 annex A

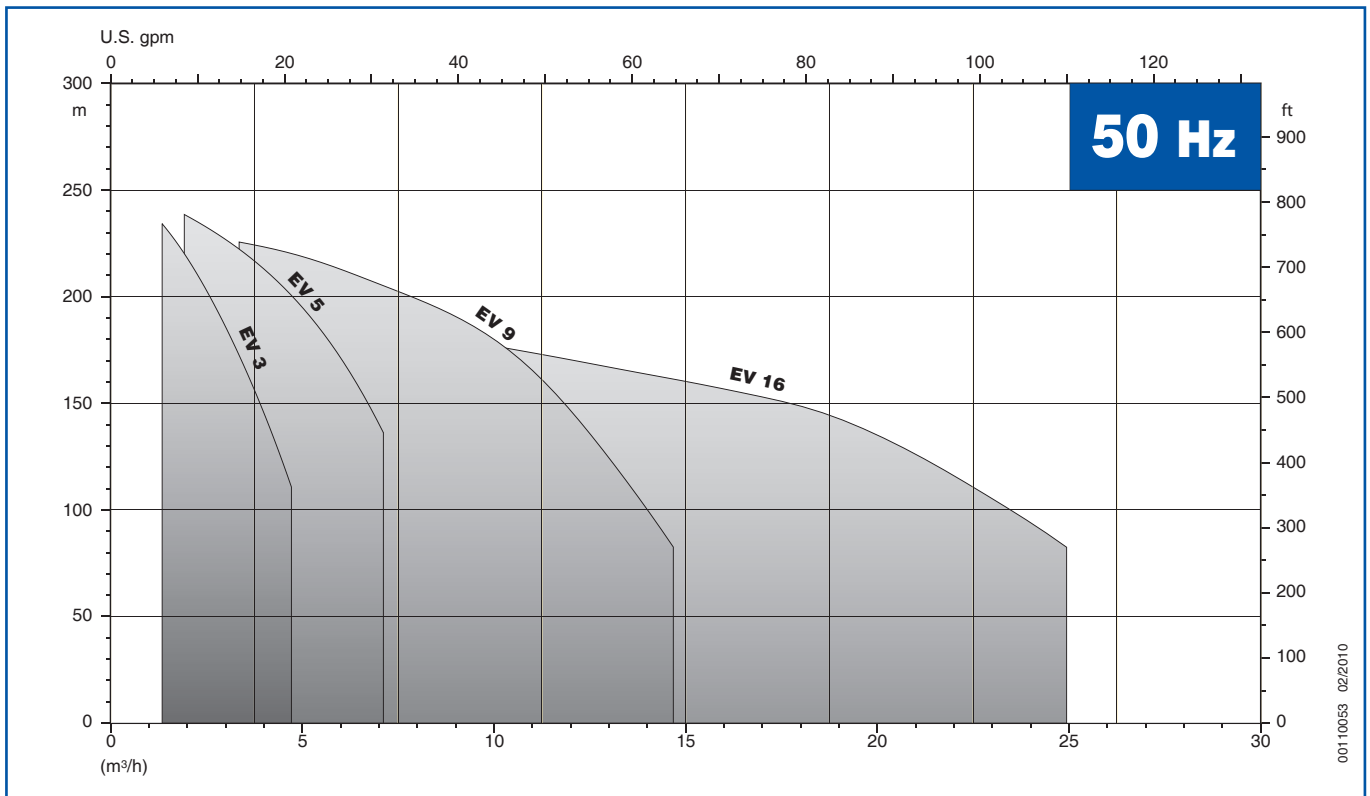
AVAILABLE ON REQUEST

- AISI 316 version
- Special materials for the mechanical seal, gaskets and elastomers
- Oval counter flanges
- Round counter flanges

PUMP IDENTIFICATION CODE



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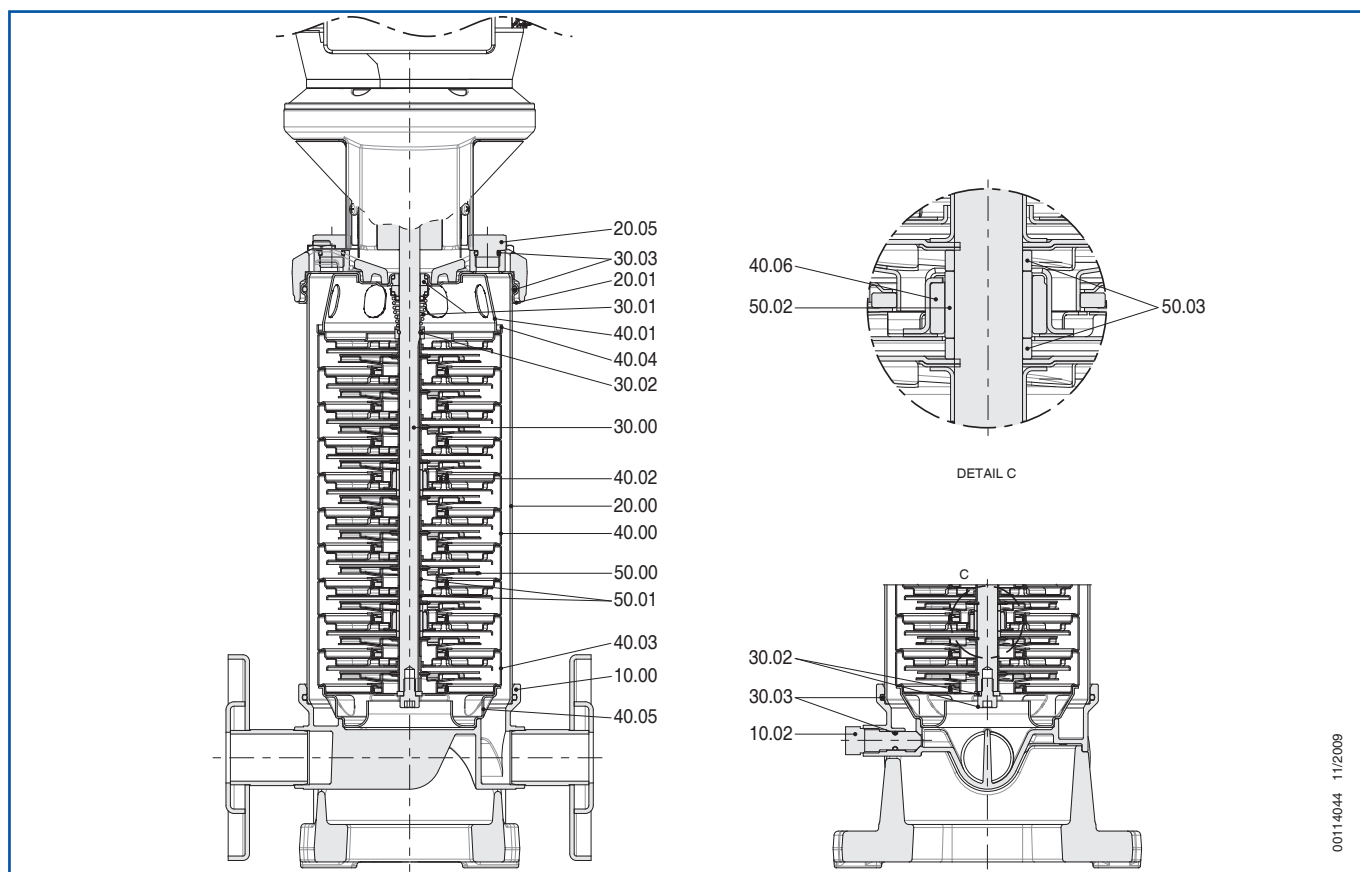


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EV3-16

TABLE OF HYDRAULIC PERFORMANCES AT 50Hz

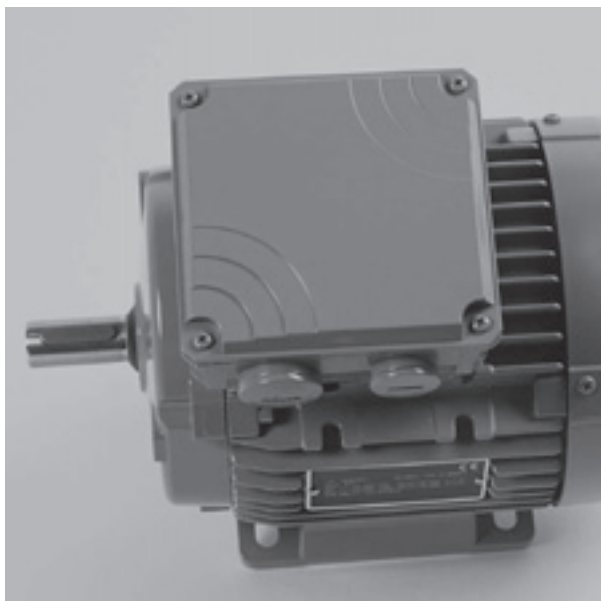
PUMP TYPE	RATED POWER		Q = DELIVERY																					
			l/min 0	25	33	42	50	58	67	75	83	90	100	117	133	150	167	183	233	300	333	367	417	
	m³/h 0	1.5	2	2.5	3	3.5	4	4.5	5	5.4	6	7	8	9	10	11	14	18	20	22	25			
	kW	HP	H = TOTAL HEAD METERS COLUMN OF WATER																					
EV 3/2	0.3	0.4	22	19,5	18,5	17	15	13,5	11,5	9,5														
EV 3/3	0.55	0.75	33,5	29	27,5	25	22,5	20	17	13,5														
EV 3/4	0.75	1	45,5	41	38,5	35,5	32,5	29	25	21														
EV 3/5	0.75	1	56,5	50	47	43,5	39,5	35	30,5	25														
EV 3/6	1.1	1.5	68	60,5	57	53	48	42,5	37	30,5														
EV 3/7	1.1	1.5	78,5	70	65,5	60,5	55	48,5	42	34,5														
EV 3/8	1.5	2	91	81,5	77	71,5	65	58	50	41,5														
EV 3/10	1.5	2	112,5	100,5	94,5	87	79	70	60,5	49,5														
EV 3/12	2.2	3	137	123,5	117	108,5	98,5	88,5	76,5	63,5														
EV 3/14	2.2	3	159,5	143	134,5	124,5	113,5	101	87,5	72,5														
EV 3/17	3	4	194,5	174,5	165	152,5	139	124,5	107,5	89,5														
EV 3/20	4	5.5	231,5	210,5	199,5	185,5	170	152,5	133	111,5														
EV 3/22	4	5.5	254	230,5	218,5	203	185,5	166,5	145,5	121,5														
EV 5/2	0.55	0.75	22		21	20	19,5	18,5	18	17	16	15,5	14	11										
EV 5/3	0.75	1	34		32	31	30	29,5	28	27	26	24,5	22,5	18										
EV 5/4	1.1	1.5	45,5		42,5	41,5	40	39	37,5	36	34	32,5	30	24										
EV 5/5	1.1	1.5	56,5		52	50,5	49	47,5	46	44	41,5	39,5	36	29										
EV 5/6	1.5	2	68,5		63,5	62	60,5	58,5	56,5	54	51,5	49	45	36,5										
EV 5/7	1.5	2	79,5		73,5	71,5	69,5	67,5	64,5	62	59	56	51	41										
EV 5/8	2.2	3	92		86	84	82	79,5	77	74	70,5	67	62	50,5										
EV 5/10	2.2	3	114		106,5	103,5	101	98	94	90,5	86	82	75	61										
EV 5/12	3	4	137,5		128,5	125,5	122	118,5	114,5	109,5	104,5	99,5	91,5	74,5										
EV 5/14	3	4	159,5		148,5	144,5	140,5	136,5	131,5	126	120	114	104,5	84,5										
EV 5/17	4	5.5	196,5		184,5	180,5	176	171	165	159	151,5	145	133,5	109,5										
EV 5/19	5.5	7.5	220		206,5	202	197	192	185,5	178,5	170	162,5	150	123,5										
EV 5/22	5.5	7.5	254		237,5	232,5	226,5	220	212,5	204,5	195	186	171,5	140,5										
EV 9/2	0.75	1	23,5						22	21,5	21,5	21	20,5	20	19	18,5	17	15,5	9					
EV 9/3	1.1	1.5	35,5						32,5	32	31,5	31	30,5	29,5	28,5	27	25,5	23	13					
EV 9/4	1.5	2	47,5						43,5	43	42,5	42	41,5	40	38,5	36,5	34,5	31,5	18,5					
EV 9/5	2.2	3	60						55,5	55	54,5	54	53	51	49,5	47,5	44,5	41	25					
EV 9/6	2.2	3	71,5						66	65,5	64,5	64	62,5	60,5	58,5	56	52,5	48	28,5					
EV 9/7	3	4	84						77,5	77	76	75,5	74	71,5	69	66	62,5	57	34,5					
EV 9/8	3	4	95,5						88	87,5	86,5	85,5	83,5	80,5	77,5	74,5	70	64	38					
EV 9/10	4	5.5	120,5						112,5	111,5	110,5	109,5	107,5	104	100,5	96,5	91	84	51,5					
EV 9/11	4	5.5	132						123	122	121	119,5	117,5	113,5	109,5	105,5	99,5	91,5	56					
EV 9/12	5.5	7.5	144,5						135	134	132,5	131	129	124,5	120,5	116	109,5	100,5	62					
EV 9/14	5.5	7.5	168						156	155	153,5	151,5	149	144	139	133,5	126	115,5	70					
EV 9/17	7.5	10	205						191	190	188	186	182,5	177	170,5	164,5	155,5	143	88					
EV 9/19	7.5	10	228,5						212,5	211	209	206,5	203	196,5	189,5	182	172	158	96,5					
EV 9/20	7.5	10	240,5						223,5	221,5	219	217	213	206	198,5	191	180	165,5	100,5					
EV 16/2	1.5	2	24													22	21,5	21	20,5	19,5	17,5	15,5	13	9
EV 16/3	2.2	3	36													33	32,5	32	31,5	29,5	26,5	23,5	20	13,5
EV 16/4	3	4	48													44,5	43,5	42,5	41,5	39	35	31,5	26,5	18
EV 16/5	4	5.5	61													56,5	55,5	54,5	53,5	50,5	45,5	41	35	24,5
EV 16/6	5.5	7.5	73													68	66,5	65,5	64	60,5	54,5	49,5	42	29,5
EV 16/7	5.5	7.5	85													78,5	77	75,5	74	69,5	63	56,5	48,5	33,5
EV 16/8	5.5	7.5	96,5													89	87,5	86	84	79	71	64	54	37
EV 16/9	7.5	10	109,5													101,5	99,5	98	96	90,5	81,5	74	63	44
EV 16/10	7.5	10	121,5													112,5	110	108	106	99,5	90	81	69	48
EV 16/11	7.5	10	133													123	120,5	118,5	116	109	98	88,5	75	51,5
EV 16/12	11	15	145,5													134,5	132	130	127,5	119,5	108	97,5	83	57
EV 16/13	11	15	157,5													145,5	142,5	140	137	128,5	116	104,5	89	61
EV 16/14	11	15	171,5													161	158	155,5	152,5	144	131	119	102,5	72,5
EV 16/15	11	15	183,5													172	169	166	163	153,5	140	127	109	77
EV 16/16	11	15	195,5													183	180	177	173,5	163,5	148,5	135	116	81,5



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MATERIAL IN CONTACT WITH THE LIQUID						
Pos.	PARTS DESCRIPTIONS	Type	MATERIAL			
			Standard version		N version	
			AISI	DIN / EN	AISI	DIN / EN
10.00	Pump Casing	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
10.02	Draining and priming cap	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
20.00	Outer case	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
20.01	Mechanical seal housing	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
20.05	Filling plug	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
30.00	Pump shaft	Stainless steel	AISI 304	1.4301	AISI 329	1.4460
30.01	Mechanical seal	Silicon Carbide (SiC) / Carbon / EPDM / Stainless steel				
30.02	Screws, nuts and washers	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
30.03	O-ring (4 pcs)	EPDM				
40.00	Stage housing and diffuser	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
40.01	Stage centering outlet	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
40.02	Floating neck ring assembly	Stainless steel + PTFE	AISI 304	1.4301	AISI 316	1.4401
40.03	Initial stage housing	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
40.04	Last stage with diffuser	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
40.05	Stage centering inlet	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
40.06	Stage housing and diffuser with bearing	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
50.00	Impeller	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
50.01	Impeller spacers (2 pcs)	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
50.02	Intermediary sleeve	Tungsten Carbide				
50.03	Intermediary sleeve spacers (2 pcs)	Stainless steel	AISI 304	1.4301	AISI 316	1.4401

Motors – AEG



FEATURES

- Protection degree: IP55
- Max ambient temperature: 40°C
- Insulation class: F
- Size B14 up to 4kW, size B5 from 5.5kW and above

SINGLE-PHASE MOTORS

- The range available is especially designed for superior performance and low vibration and noise. The AMM range is ideal for low-inertia applications and the application industry.
- Standard Voltage 230V
- Capacitor inside terminal box

THREE-PHASE MOTORS – ENERGY EFFICIENT

High Efficiency Three-phase Motors IE2 code

The standard design includes the following basic features to give a high level of flexibility:

- Multi Mount Construction for an easy change of terminal box position
- Terminal box rotates by 90° to allow cable entry from any direction
- Easy-to-change flanges with over-sized and smaller-sized dimensions
- Provision for oil seal at Drive End
- Motors conforming to the higher efficiency standards for Europe, North America and Australia
- Standard Voltage up to 3kW 230/400V, 400/690V from 4kW and above

Single-phase motors designed for range of rated voltage 230V 50Hz

Power kW	Power HP	IEC Size	Construction Design	I _N [A] 230V	min ⁻¹	M _N Nm	η %	cos φ	I _A /I _N	M _A /M _N	Weight Kg
0.37	0.5	71	B14	3.1	2780	1.3	57.6	0.89	3.1	0.8	7.1
0.55	0.75	71	B14	3.9	2740	1.9	69.0	0.89	3.5	0.7	8.5
0.75	1	80	B14	5.3	2800	2.6	65.0	0.95	4.1	0.6	11.4
1.1	1.5	80	B14	6.5	2730	3.8	74.0	0.97	3.6	0.5	11.8
1.5	2	90	B14	9.3	2835	5.1	73.0	0.90	3.9	0.5	17.3
2.2	3	90	B14	14.6	2770	7.6	73.0	0.90	4.3	0.2	19.3

Three-phase motors designed for range of rated voltage 400V 50Hz

Power kW	Power HP	IEC Size	Construction Design	I _N [A] Δ 230V	I _N [A] Y 400V	I _N [A] Δ 400V	I _N [A] Y 690V	min ⁻¹	M _N Nm	η %	cos φ	I _A /I _N	M _A /M _N	Weight Kg
0.37	0.5	71	B14	1.7	1.0	-	-	2820	1.3	70.0	0.78	4.7	3.6	5.8
0.55	0.75	71	B14	2.6	1.5	-	-	2830	1.9	71.0	0.77	4.8	3.2	6.2
0.75	1	80	B14	2.9	1.7	-	-	2900	2.5	80.5	0.78	7.0	3.6	9.5
1.1	1.5	80	B14	4.3	2.5	-	-	2880	3.6	81.5	0.78	6.8	3.6	11.1
1.5	2	90	B14	5.5	3.2	-	-	2880	5.0	82.8	0.80	8.1	3.6	14.0
2.2	3	90	B14	7.6	4.4	-	-	2860	7.3	84.0	0.85	8.5	3.5	16.0
3	4	100	B14	10.2	5.9	-	-	2920	9.8	85.5	0.84	8.0	3.5	22.8
4	5.5	112	B14	-	-	7.6	4.4	2940	13.0	86.8	0.88	8.0	2.9	27.4
5.5	7.5	132	B5	-	-	10.2	5.9	2900	18.1	87.9	0.89	7.3	2.7	46.0
7.5	10	132	B5	-	-	13.8	8.0	2900	24.7	88.4	0.89	7.5	2.8	53.0
11	15	132	B5	-	-	19.8	11.4	2920	36.0	89.7	0.90	7.5	2.8	58.0

New International Efficiency classes of motors – IE code

The new IEC 60034-30:2008 defines worldwide the efficiency classes of motors.

IE1 = Standard Efficiency (comparable to EFF2)

IE2 = High Efficiency (comparable to EFF1)

IE3 = Premium Efficiency

The efficiency levels according to IEC 60034-30 are measured based on the test methods defined in IEC 60034-2-1:2007.

The IEC 60034-30 only defines requirements of efficiency classes and aims to create provisions for International consistency. It does not define which motors must be supplied with which efficiency level. This is left to respective regional legislation.

Output kW	IE1 code Standard Efficiency			IE2 code Standard Efficiency			IE3 code Standard Efficiency		
	2 poles	4 poles	6 poles	2 poles	4 poles	6 poles	2 poles	4 poles	6 poles
0.75	72.1	72.1	70.0	77.4	79.6	75.9	80.7	82.5	78..9
1.1	75.0	75.0	72.9	79.6	81.4	78.1	82.7	84.1	81.0
1.5	77.2	77.2	75.2	81.3	82.8	79.8	84.2	85.3	82.5
2.2	79.7	79.7	77.7	83.2	84.3	81.8	85.9	86.7	84.3
3	81.5	81.5	79.7	84.6	85.5	83.3	87.1	87.7	85.6
4	83.1	83.1	81.4	85.8	86.6	84.6	88.1	88.6	86.8
5.5	84.7	84.7	83.1	87.0	87.7	86.0	89.2	89.6	88.0
7.5	86.0	86.0	84.7	88.1	88.7	87.2	90.1	90.4	89.1
11	87.6	87.6	86.4	89.4	89.8	88.7	91.2	91.4	90.3
15	88.7	88.7	87.7	90.3	90.6	89.7	91.9	92.1	91.2

Efficiency values according to IEC 60034-30:2008.

Efficiency standard calculation: IEC 60034-2-1:2007

Noise

The noise level of an electrical machine is determined by measuring the sound pressure level in accordance with curve A of the sound level meter to EN 60651 and is indicated in dB (A). The permitted noise levels of electrical machines are fixed in EN 60034-9 (IEC 34-9). The noise level of our motors is well below these limit values.

Air-borne sound measurements are carried out in an anechoic testing chamber to EN 21680-ISO 1680.

Speed corresponding to a mains frequency of 50 Hz and the number of poles.

Noise levels

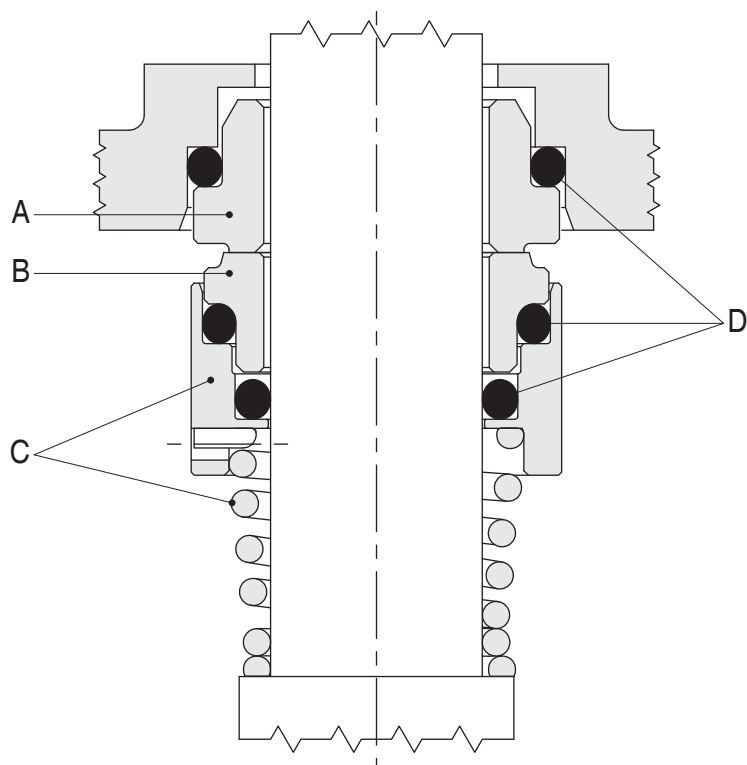
The noise values listed below refer to 50 Hz at rated voltage with a tolerance of up to + 3 dB(A). Values for pole-changing motors on request. For 60 Hz supply values are 3-5 dB(A) higher.

Sound pressure level L_{pA} and sound power level L_{WA} for three-phase single-speed motors with dimensions and output ratings to IEC 60072

Frame size	2 pole		4 pole	
	L _{WA}	L _{pA}	L _{WA}	L _{pA}
56	57	48	47	38
63	58	49	47	38
71	61	52	51	42
80	72	60	60	48
90	74	62	61	49
100	78	66	62	50
112	80	68	65	53
132	81	72	71	59
160	87	74	75	62

Mechanical seal specifications

(in accordance with EN 12756)



00114085 09/2012

Standard version

Model	Type					Position				Temperature
						A Stationary part	B Rotating part	C Other components	D Elastomers	
1	B	Q1	G	E		Carbon	Silicon Carbide	AISI 316	EPDM	-30°C +120°C

Available on request

Model	Type					Position				Temperature (°C)
						A Stationary part	B Rotating part	C Other components	D Elastomers	
2	Q1	Q1	G	E		Silicon Carbide	Silicon Carbide	AISI 316	EPDM	-10°C +120°C
3	Q1	Q1	G	V		Silicon Carbide	Silicon Carbide	AISI 316	FKM	-10°C +120°C
4	B	Q1	G	V		Carbon	Silicon Carbide	AISI 316	FKM	-10°C +120°C

Type	Material
B	Carbon
E	EPDM
G	AISI 316
Q1	Silicon Carbide
V	FKM

Compatibility fluid / seal materials

Liquid	Concentration (%)	Temperature Min/Max (°C)	EV models 3-5-9-16	
			STD	N
Acetic acid	80	-10 +70	1	1
Alkaline degreaser	-	-	3	3
Aluminium sulfate	30	-5 +50		2
Ammonia in water	25	-20 +50	1	1
Ammonium sulfate	10	-10 +60		2
Benzoic acid	70	0 +70	4	4
Butyl alcohol	100	-5 +80	4	4
Caustic soda	25	0 +70	2	2
Chloroform	100	-10 +30	4	4
Citric acid	5	-10 +70	1	1
Cleaning products	10	-5 +100	3	3
Copper sulfate	20	0 +30		3
Cutting fluid	100	-5 +110	4	4
Deionised, demineralised water	100	-25 +110	1	1
Denatured alcohol	100	-5 +70	1	1
Diathermic oil	100	-5 +110	4	4
Emulsion oil and water	any	-5 +90	4	4
Ethyl alcohol	100	-5 +40	1	1
Ethylene glycol	30	-30 +120	1	1
Formic acid	5	-15 +25	1	1
Glycerine	100	+20 +90	1	1
Hydraulic oil	100	-5 +110	4	4
Hydrochloric acid	2	-5 +25		3
Hydroxide sodium	25	0 +70	2	2
Iron sulfate	10	-5 +30		1
Methyl alcohol	100	-5 +40	1	1
Mineral oil	100	-5 +110	4	4
Nitric acid	50	-5 +30	3	3
Perchloroethylene	100	-10 +30	4	4
Phosphates-polyphosphates	10	-5 +90		3
Phosphoric acid	10	-5 +30		1
Propyl alcohol (Propanol)	100	-5 +80	1	1
Propylene glycol	30	-30 +120	1	1
Sodium bicarbonate (Baking soda)	10	+60		1
Sodium hypochlorite	1	-10 +25		3
Sodium nitrate	10	+60	1	1
Sodium sulfate	15	-10 +40	2	2
Sulphuric acid	2	-10 +25		4
Tannic acid	20	0 +50		1
Tartaric acid	50	-10 +25	3	3
Trichloroethylene	100	-10 +40	4	4
Uric acid	80	-10 +80	1	1
Vegetable oil	100	-5 +110	1	1
Water	100	-5 +120	1	1
Water condensate	100	-5 +100	1	1
Water detergents, mineral oils mixture	10	-5 +80	3	3

EV Series

Performance Curves and Technical Data

EV 3 - 5 - 9 - 16 50Hz

According to COMMISSION REGULATION (EU) No 547/2012

MEI - Minimum Efficiency Index

In order to achieve a comparable efficiency threshold-value across all legally covered water pumps, an index of pump size, specific speed and rotational speed has been created: the MEI (Minimum Efficiency Index).

MEI covers best point (BEP), part load (PL) and overload (OL) efficiencies as water pumps may be chosen with safety margins and hence do not run at best efficiency point.

This ensures high and flat efficiency curves and consequently an efficient operation in real life.

MEI means the dimensionless scale unit for hydraulic pump efficiency at BEP, PL and OL.

MEI is a measure for the quality of a pump size in respect to the efficiency.

The higher the value of the MEI is, the better is the pump size in respect to efficiency and the lower is the yearly energy consumption if pumps of this size are installed.

The upper limit of values of the MEI is principally open and depends only on physical and technological constraints. MEI is based on the full impeller diameter.

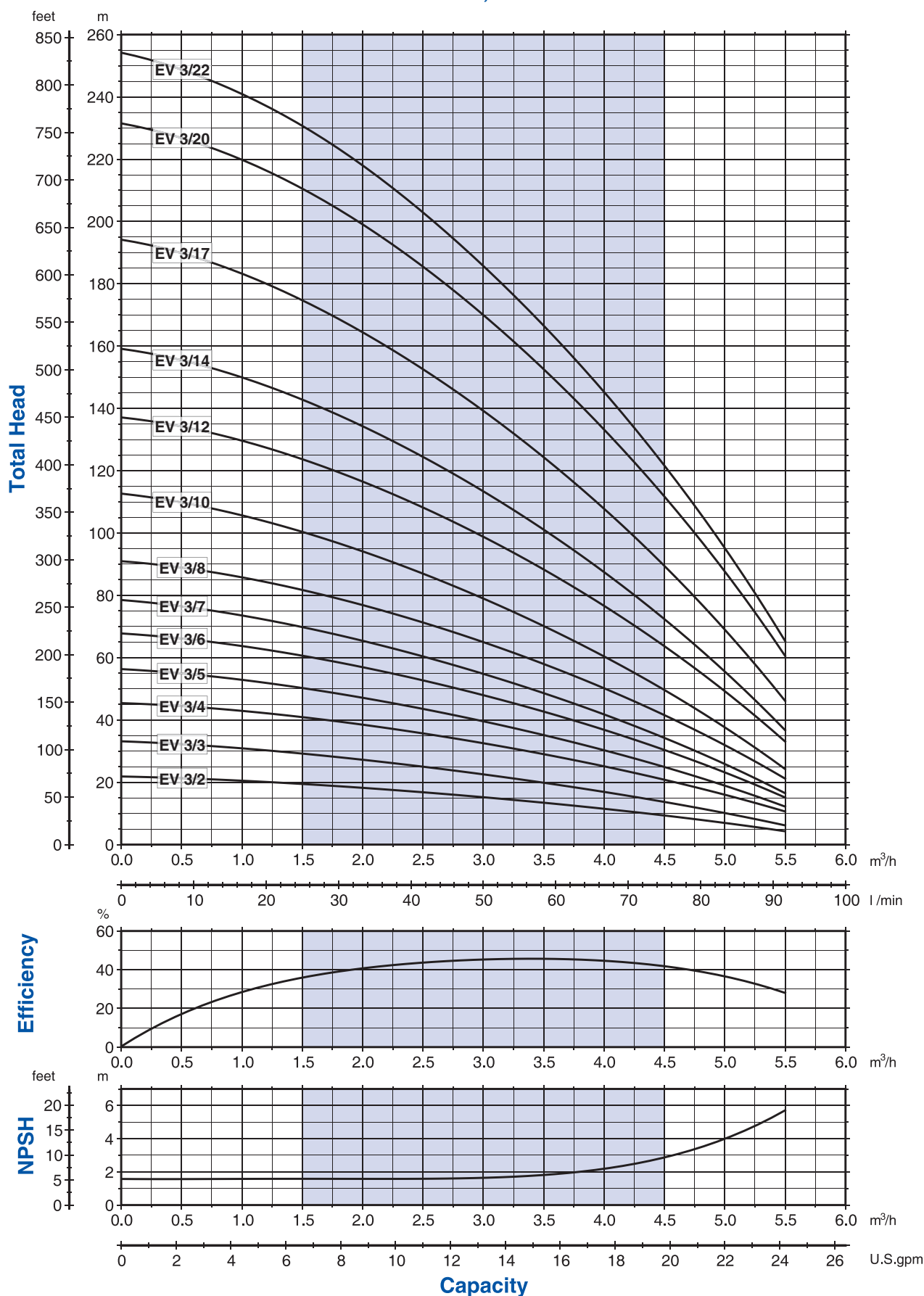
The operation of this water pump with variable duty points may be more efficient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system Benchmark $MEI \geq 0,70$.

For benchmark efficiency graphs, go to www.europump.org/efficiencycharts.

Information on benchmark efficiency is available at www.etechpumps.com.

Performance curves 50Hz

MEI ≥ 0,10



00110039 07/2008

The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.

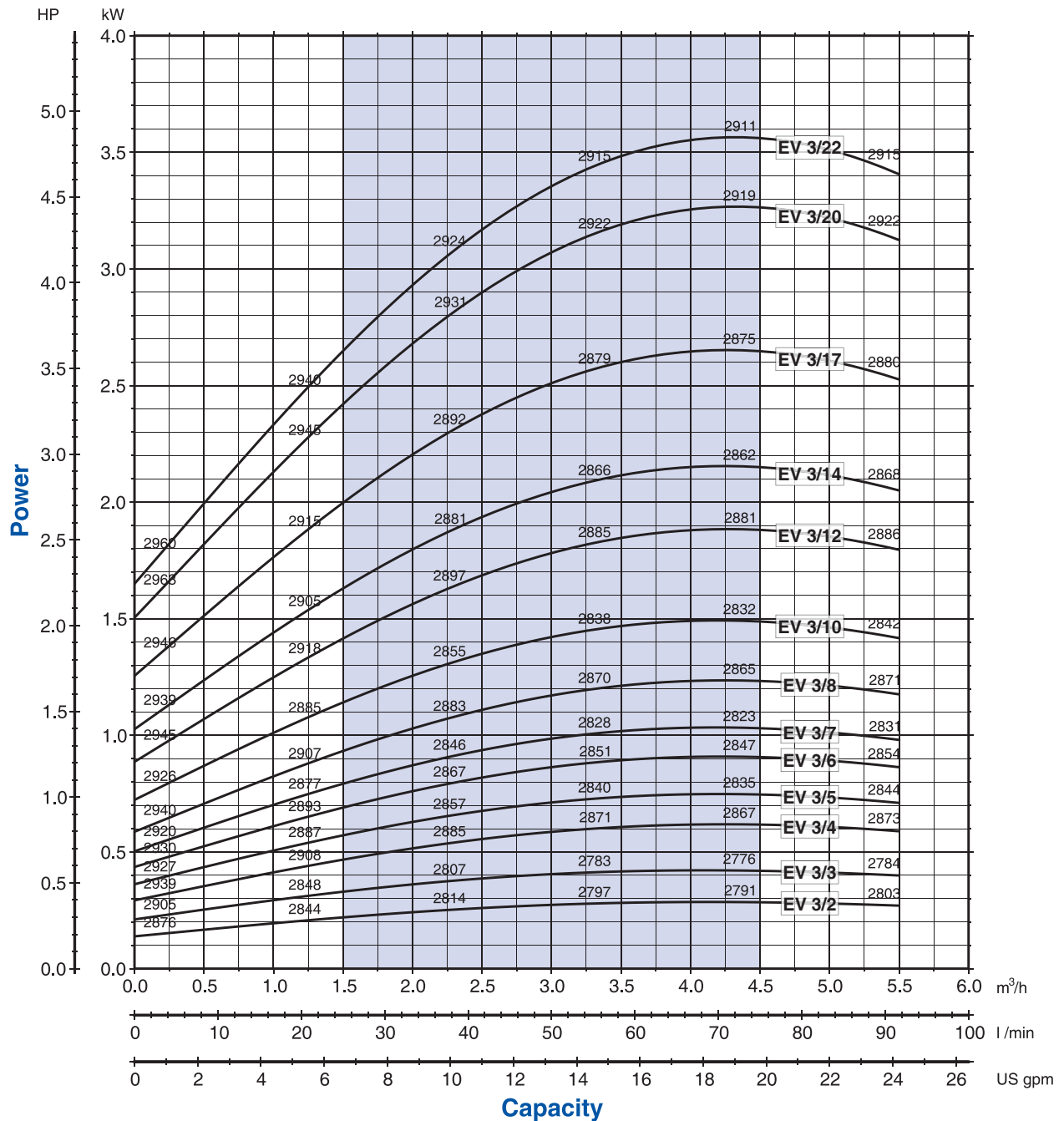
It is our policy to continuously develop and improve our products, therefore, we reserve the right to amend specifications without prior notice.

E-Tech

by Franklin Electric

Performance curves 50Hz

MEI ≥ 0,10



Performance curves of Q, H and P depend on the rpm number according to the following formulae:

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1} \right), \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1} \right)^2, \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1} \right)^3, \quad \eta \approx 1$$

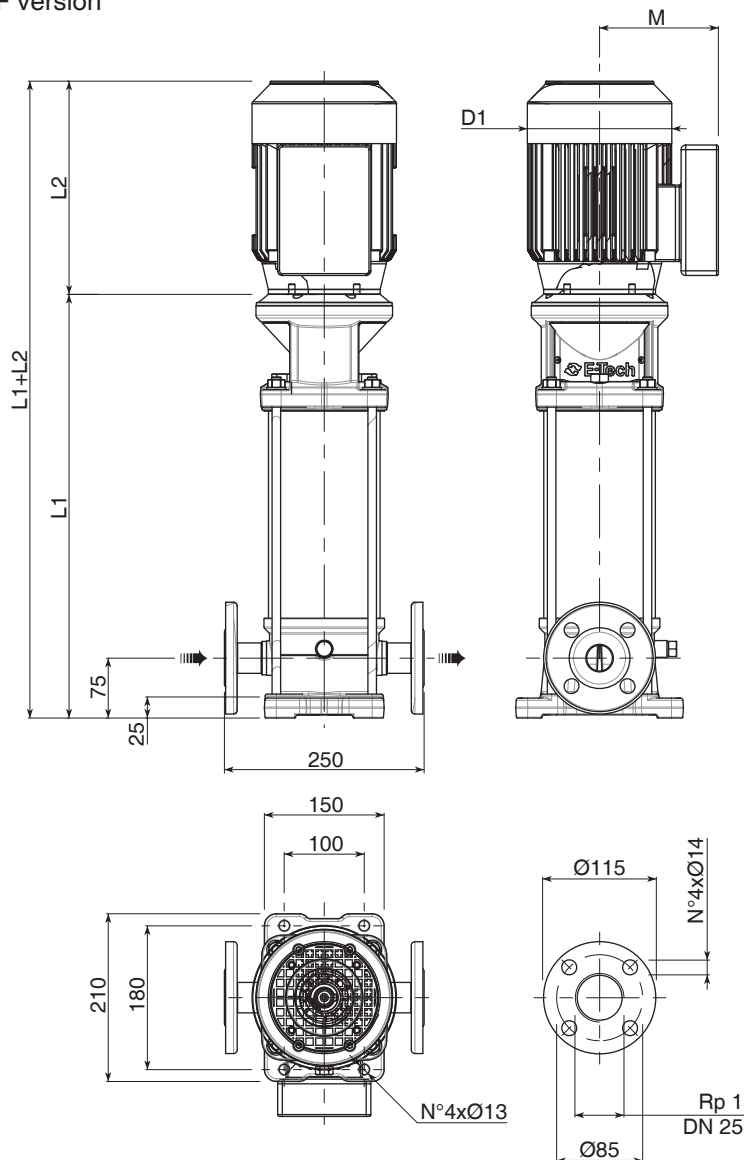
The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.

Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.

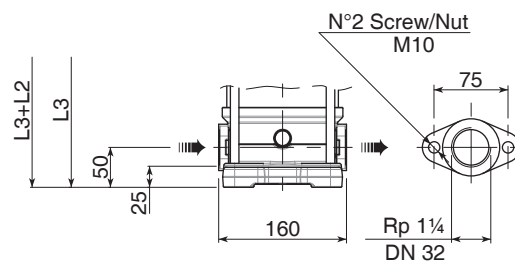
Q=Capacity, H=Head, P=Pressure, η =Efficiency

Technical data 50Hz

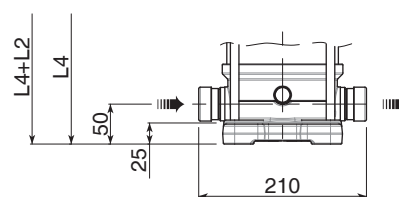
F version



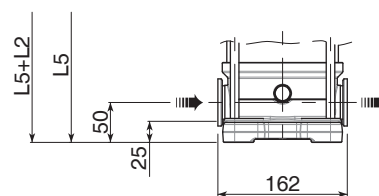
T version



V version



C version



F version Round flanges on body type PN25: the pump is supplied with joints and bolts without counterflanges (Optional accessories).

T version Oval flanges on body type PN16: the pump is supplied without oval counter flanges for pipe to be screwed, joints and bolts (Optional accessories).

V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

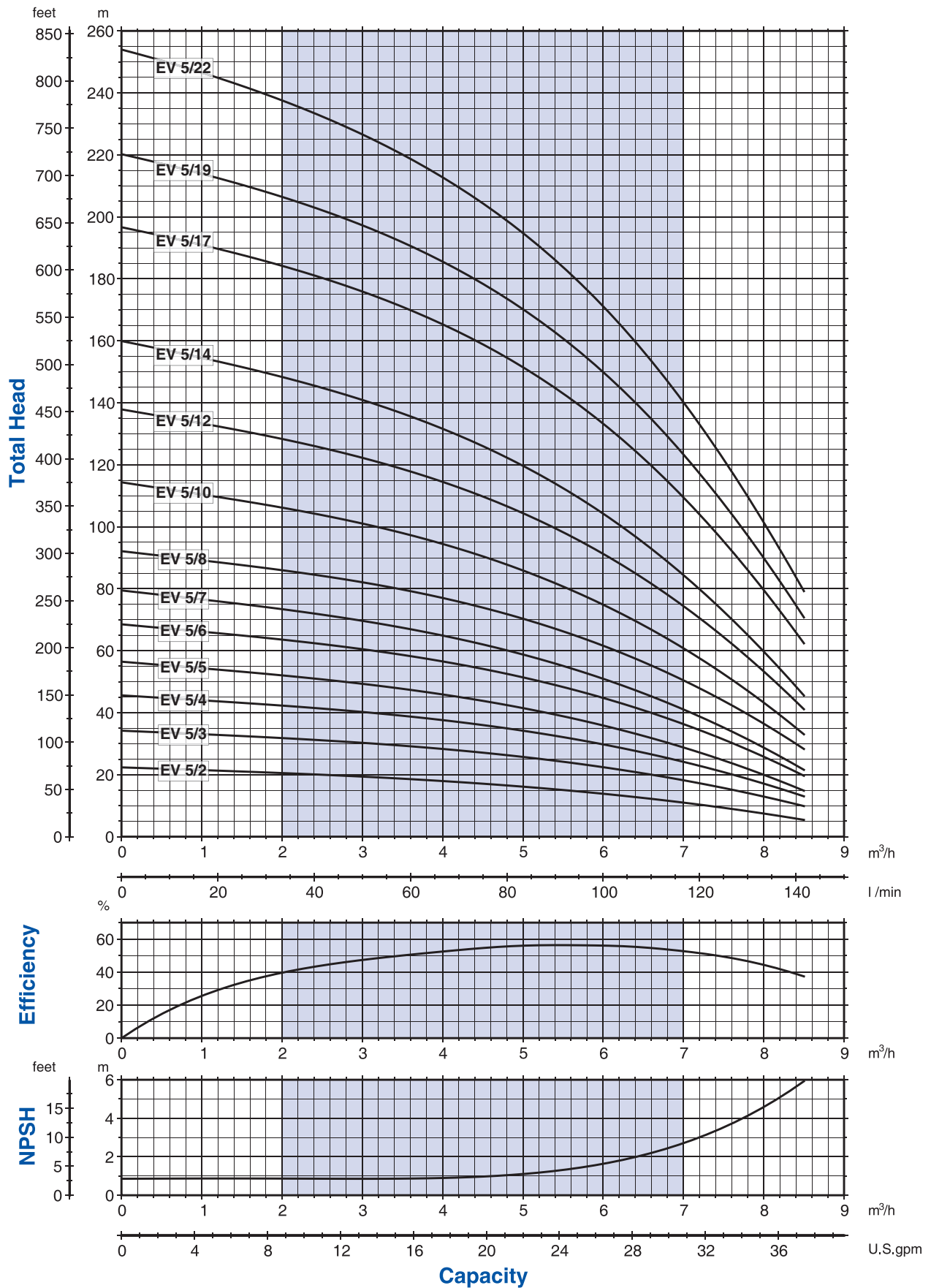
C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

Pump Model	Motor		Dimensions (mm)										Weight	
	kW	Size	L1 F	L2		L3 T	L4 V	L5 C	M		D1		Pump	Electric Pump
				1-PHASE	3-PHASE				1-PHASE	3-PHASE	1-PHASE	3-PHASE		
EV 3/2	0.37	71	328.5	215	215	303.5	303.5	303.5	129	112	142	142	15	21
EV 3/3	0.55	71	352.5	215	215	327.5	327.5	327.5	129	112	142	142	15.5	21.5
EV 3/4	0.75	80	376.5	232	232	351.5	351.5	351.5	150	129	160	160	16	25.5
EV 3/5	0.75	80	400.5	232	232	375.5	375.5	375.5	150	129	160	160	17	26.5
EV 3/6	1.1	80	425	232	232	400	400	400	150	129	160	160	17.5	29
EV 3/7	1.1	80	449	232	232	424	424	424	150	129	160	160	18	29.5
EV 3/8	1.5	90	483	267	267	458	458	458	160	138	180	180	19	33
EV 3/10	1.5	90	531	267	267	506	506	506	160	138	180	180	20.5	34.5
EV 3/12	2.2	90	579	267	267	554	554	554	160	138	180	180	21.5	37.5
EV 3/14	2.2	90	627	267	267	602	602	602	160	138	180	180	23	39
EV 3/17	3	100	709	-	306	-	684	684	-	145	-	196	25	48
EV 3/20	4	112	781	-	328	-	756	756	-	161	-	225	27	60.5
EV 3/22	4	112	829	-	328	-	804	804	-	161	-	225	28.5	62

• Standard efficiency motors IE1

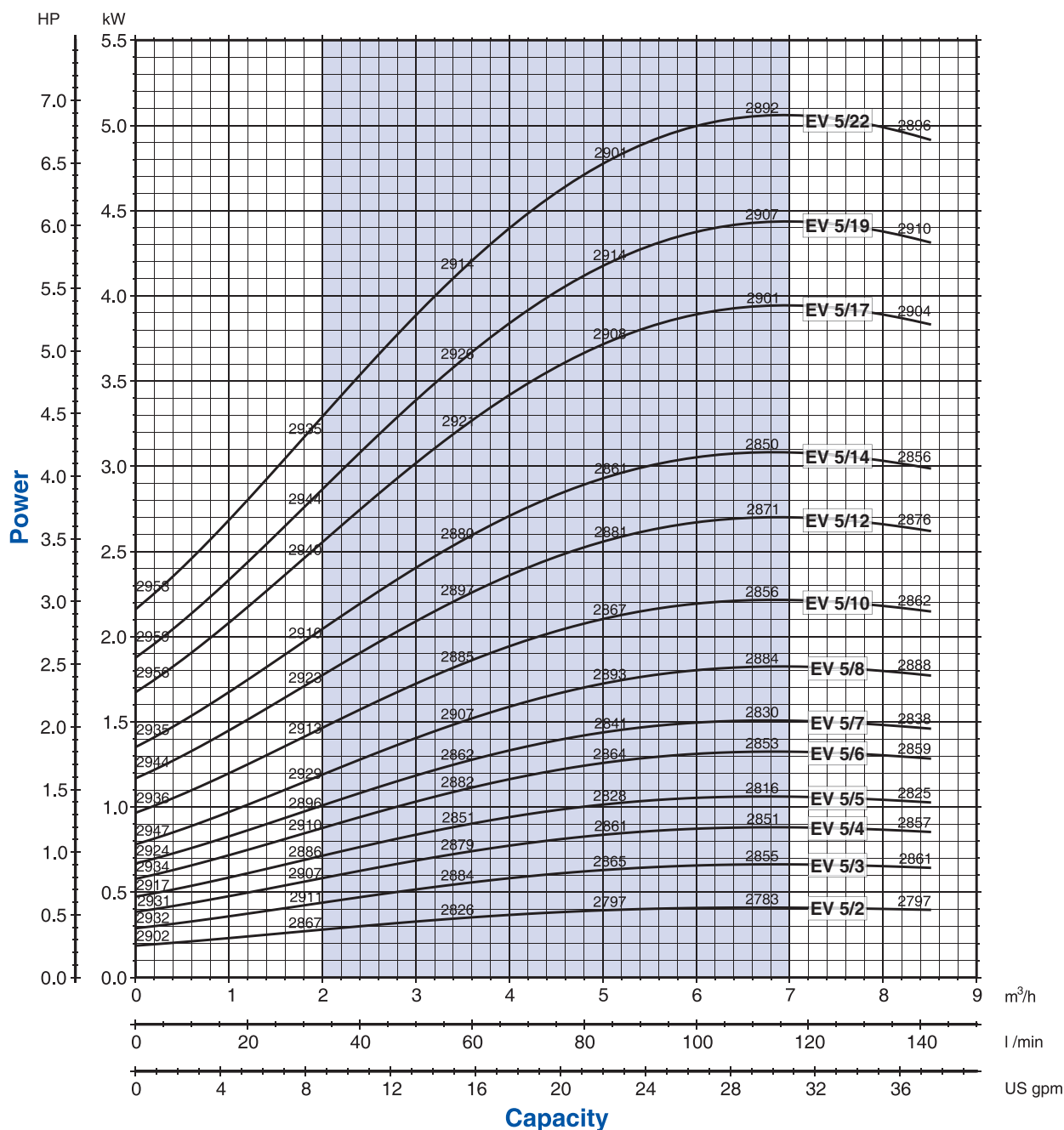
Performance curves 50Hz

MEI ≥ 0,40



Performance curves 50Hz

MEI ≥ 0,40



Performance curves of Q, H and P depend on the rpm number according to the following formulae:

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1} \right), \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1} \right)^2, \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1} \right)^3, \quad \eta \approx 1$$

The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.

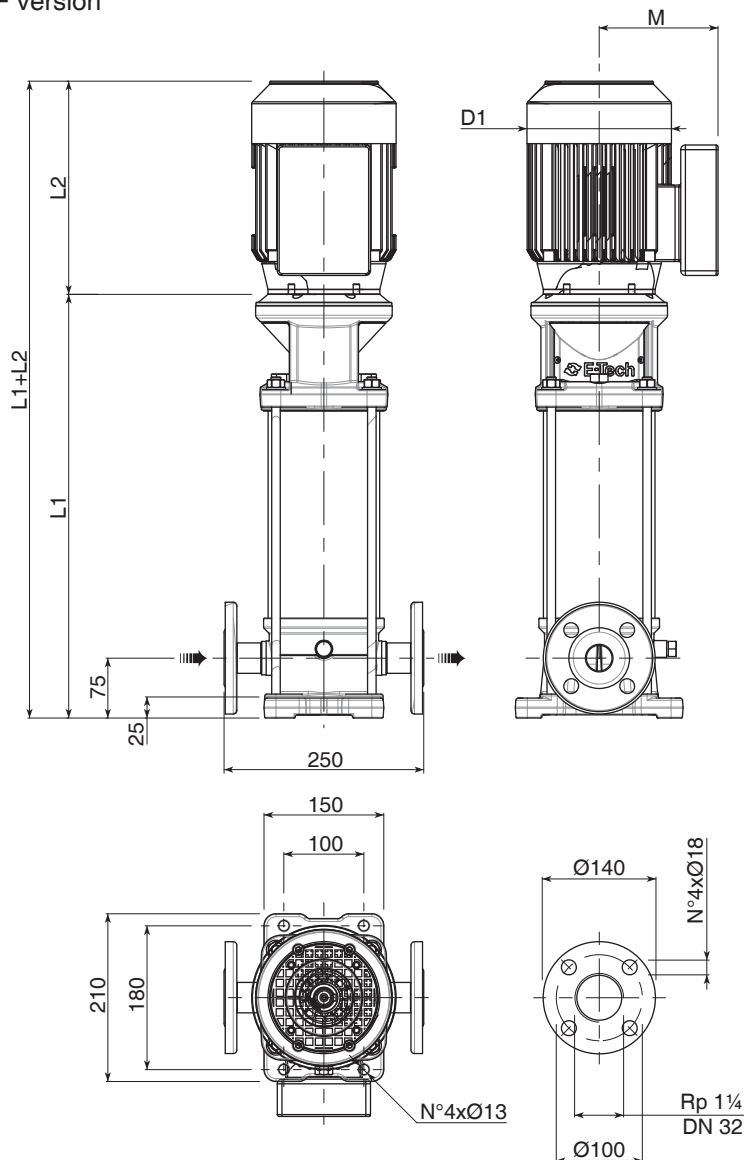
Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.

Q=Capacity, H=Head, P=Pressure, η =Efficiency

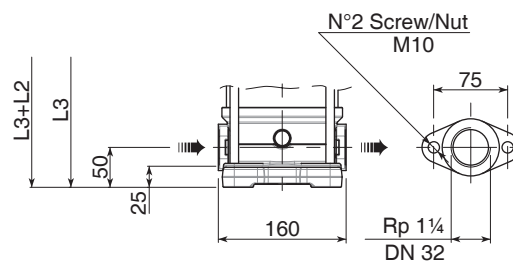
The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.

Technical data 50Hz

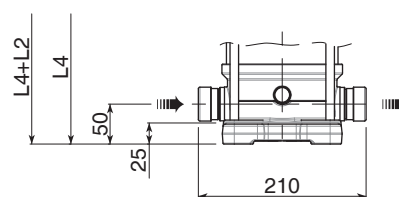
F version



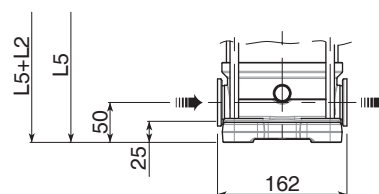
T version



V version



C version



00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied with joints and bolts without counterflanges (Optional accessories).

T version Oval flanges on body type PN16: the pump is supplied without oval counter flanges for pipe to be screwed, joints and bolts (Optional accessories).

V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

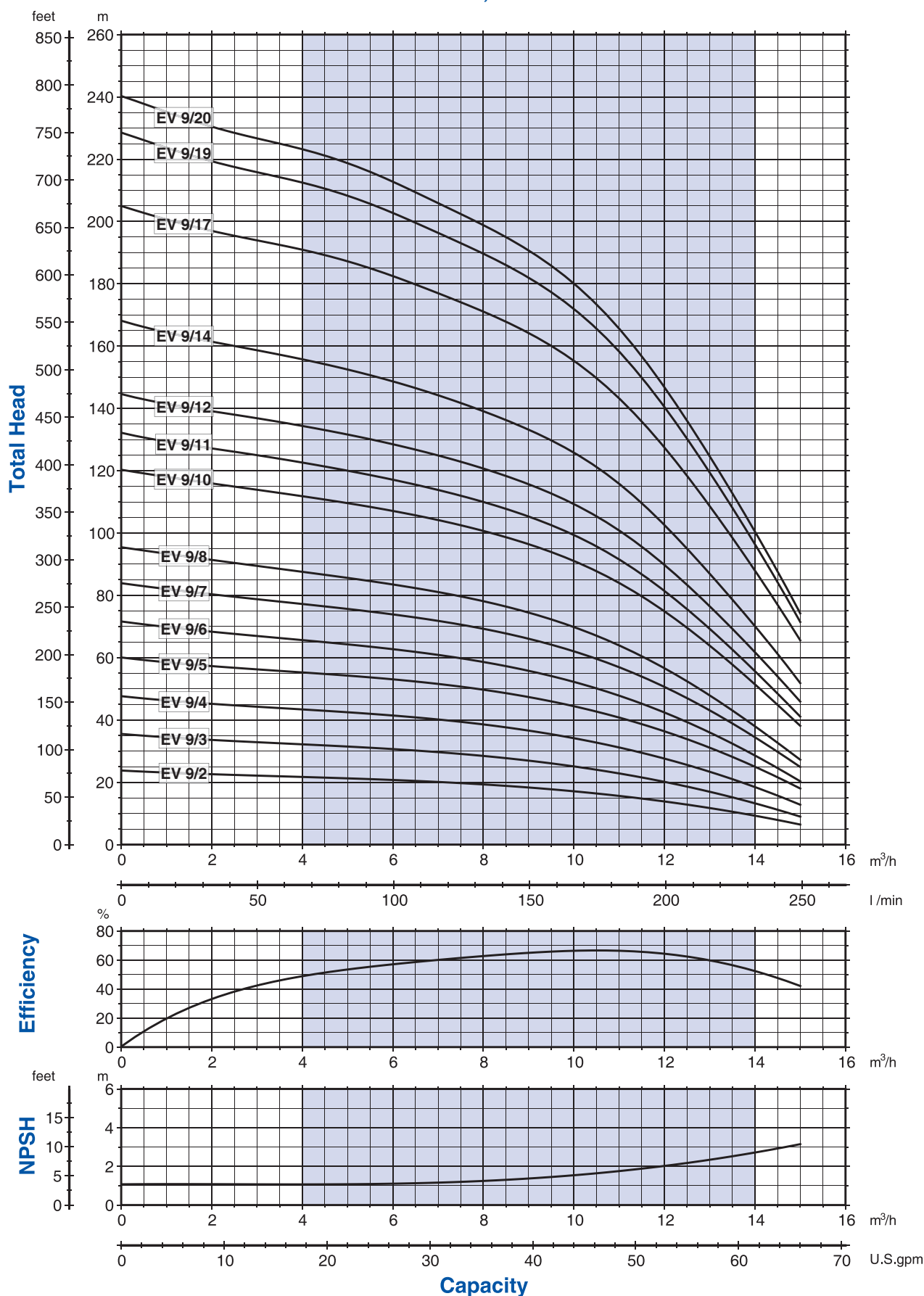
C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

Pump Model	Motor		Dimensions (mm)										Weight	
	kW	Size	L1 F	L2		L3 T	L4 V	L5 C	M		D1		Pump	Electric Pump
				1-PHASE	3-PHASE				1-PHASE	3-PHASE	1-PHASE	3-PHASE		
EV 5/2	0.55	71	328.5	215	215	303.5	303.5	303.5	129	112	142	142	15.5	21.5
EV 5/3	0.75	80	352.5	232	232	327.5	327.5	327.5	150	129	160	160	16	25.5
EV 5/4	1.1	80	376.5	232	232	351.5	351.5	351.5	150	129	160	160	16.5	28
EV 5/5	1.1	80	400.5	232	232	375.5	375.5	375.5	150	129	160	160	17	28.5
EV 5/6	1.5	90	435	267	267	410	410	410	160	138	180	180	18	32
EV 5/7	1.5	90	459	267	267	434	434	434	160	138	180	180	19	33
EV 5/8	2.2	90	483	267	267	458	458	458	160	138	180	180	19.5	35.5
EV 5/10	2.2	90	531	267	267	506	506	506	160	138	180	180	20.5	36.5
EV 5/12	3	100	589	-	306	564	564	564	-	145	-	196	22.5	45.5
EV 5/14	3	100	637	-	306	612	612	612	-	145	-	196	24	47
EV 5/17	4	112	709	-	328	-	684	684	-	161	-	225	25.5	59
EV 5/19	5.5	132	779.5	-	362	-	754.5	754.5	-	195	-	248	32	78
EV 5/22	5.5	132	851.5	-	362	-	826.5	826.5	-	195	-	248	33.5	79.5

• Standard efficiency motors IE1

Performance curves 50Hz

MEI ≥ 0,40

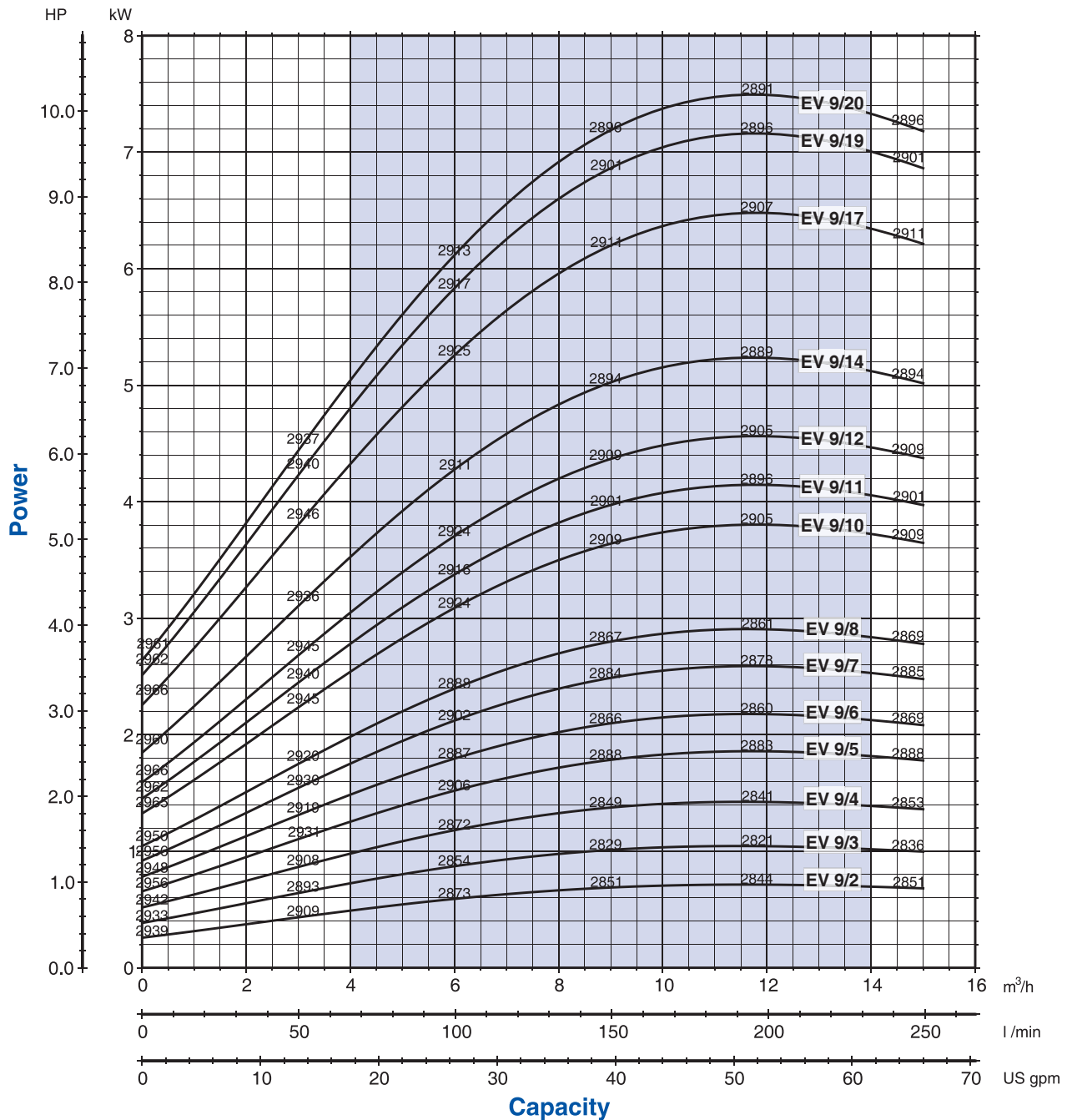


The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.

It is our policy to continuously develop and improve our products, therefore, we reserve the right to amend specifications without prior notice.

Performance curves 50Hz

MEI ≥ 0,40



Performance curves of Q, H and P depend on the rpm number according to the following formulae:

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1} \right), \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1} \right)^2, \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1} \right)^3, \quad \eta \approx 1$$

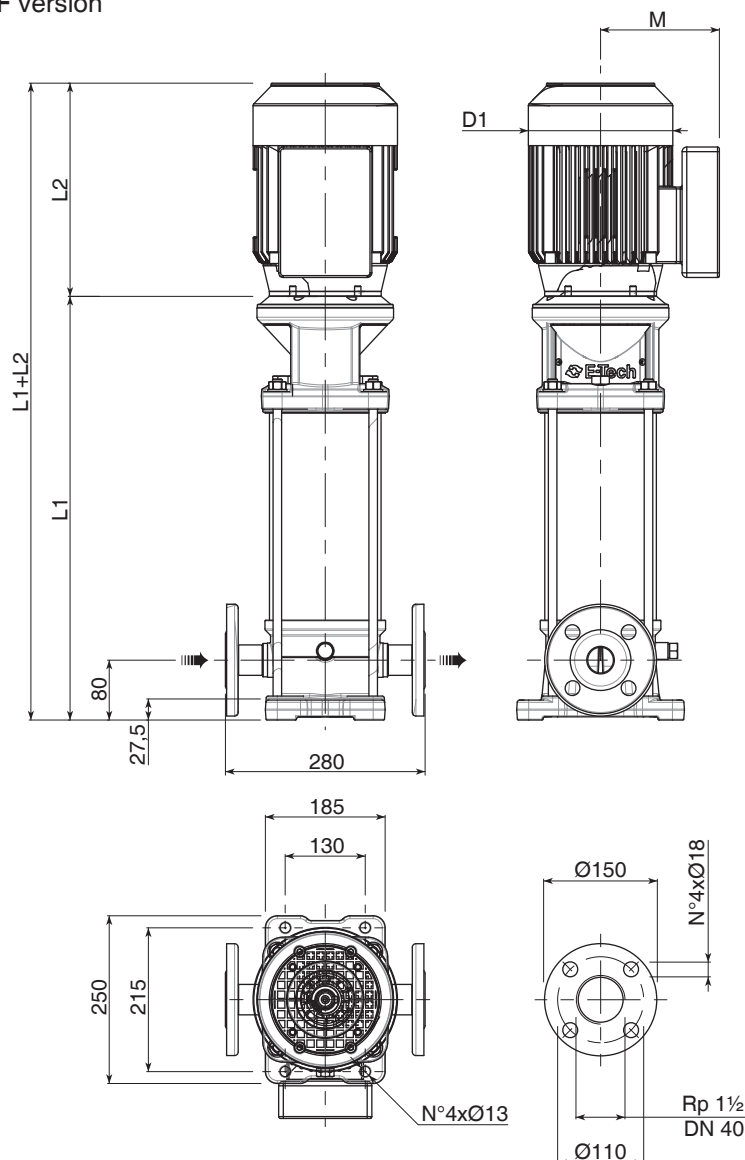
The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.

Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.

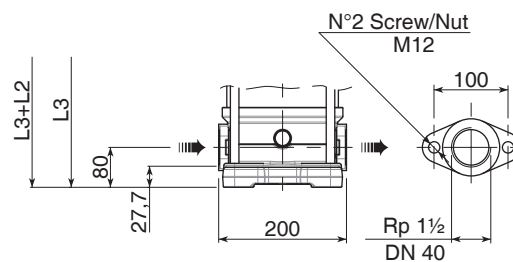
Q=Capacity, H=Head, P=Pressure, η =Efficiency

Technical data 50Hz

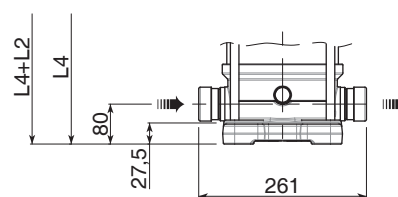
F version



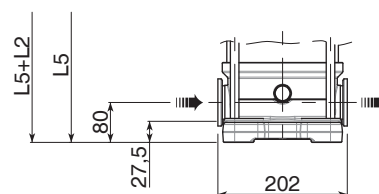
T version



V version



C version



00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied with joints and bolts without counterflanges (Optional accessories).

T version Oval flanges on body type PN16: the pump is supplied without oval counter flanges for pipe to be screwed, joints and bolts (Optional accessories).

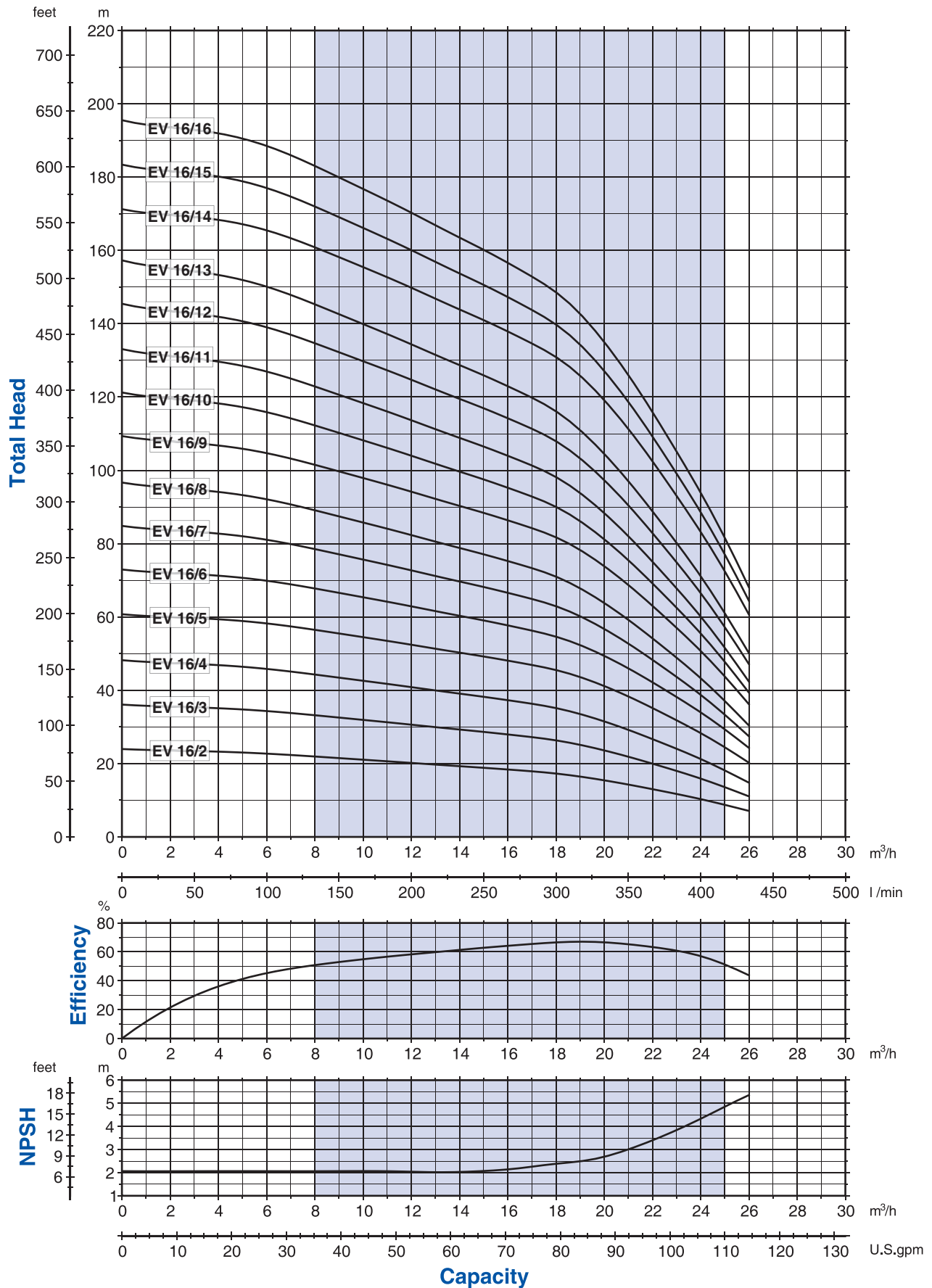
V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

Pump Model	Motor		Dimensions (mm)										Weight	
	kW	Size	L1 F	L2		L3 T	L4 V	L5 C	M		D1		Pump	Electric Pump
EV 9/2	0.75	80	347.5	1-PHASE	3-PHASE	347.5	347.5	347.5	1-PHASE	3-PHASE	1-PHASE	3-PHASE	17.5	27
EV 9/3	1.1	80	377.5	232	232	377.5	377.5	377.5	150	129	160	160	18	29.5
EV 9/4	1.5	90	417.5	267	267	417.5	417.5	417.5	160	138	180	180	19	33
EV 9/5	2.2	90	448	267	267	448	448	448	160	138	180	180	20	36
EV 9/6	2.2	90	478	267	267	478	478	478	160	138	180	180	21	37
EV 9/7	3	100	518	-	306	518	518	518	-	145	-	196	22	45
EV 9/8	3	100	548	-	306	548	548	548	-	145	-	196	23	34
EV 9/10	4	112	608	-	328	608	608	608	-	161	-	225	24.5	58
EV 9/11	4	112	638	-	328	638	638	638	-	161	-	225	25	58.5
EV 9/12	5.5	132	690.5	-	362	690.5	690.5	690.5	-	195	-	248	30.5	76.5
EV 9/14	5.5	132	750.5	-	362	-	750.5	750.5	-	195	-	248	32	78
EV 9/17	7.5	132	840.5	-	362	-	840.5	840.5	-	195	-	248	34.5	87.5
EV 9/19	7.5	132	900.5	-	362	-	900.5	900.5	-	195	-	248	36	89
EV 9/20	7.5	132	930.5	-	362	-	930.5	930.5	-	195	-	248	36.5	89.5

Performance curves 50Hz

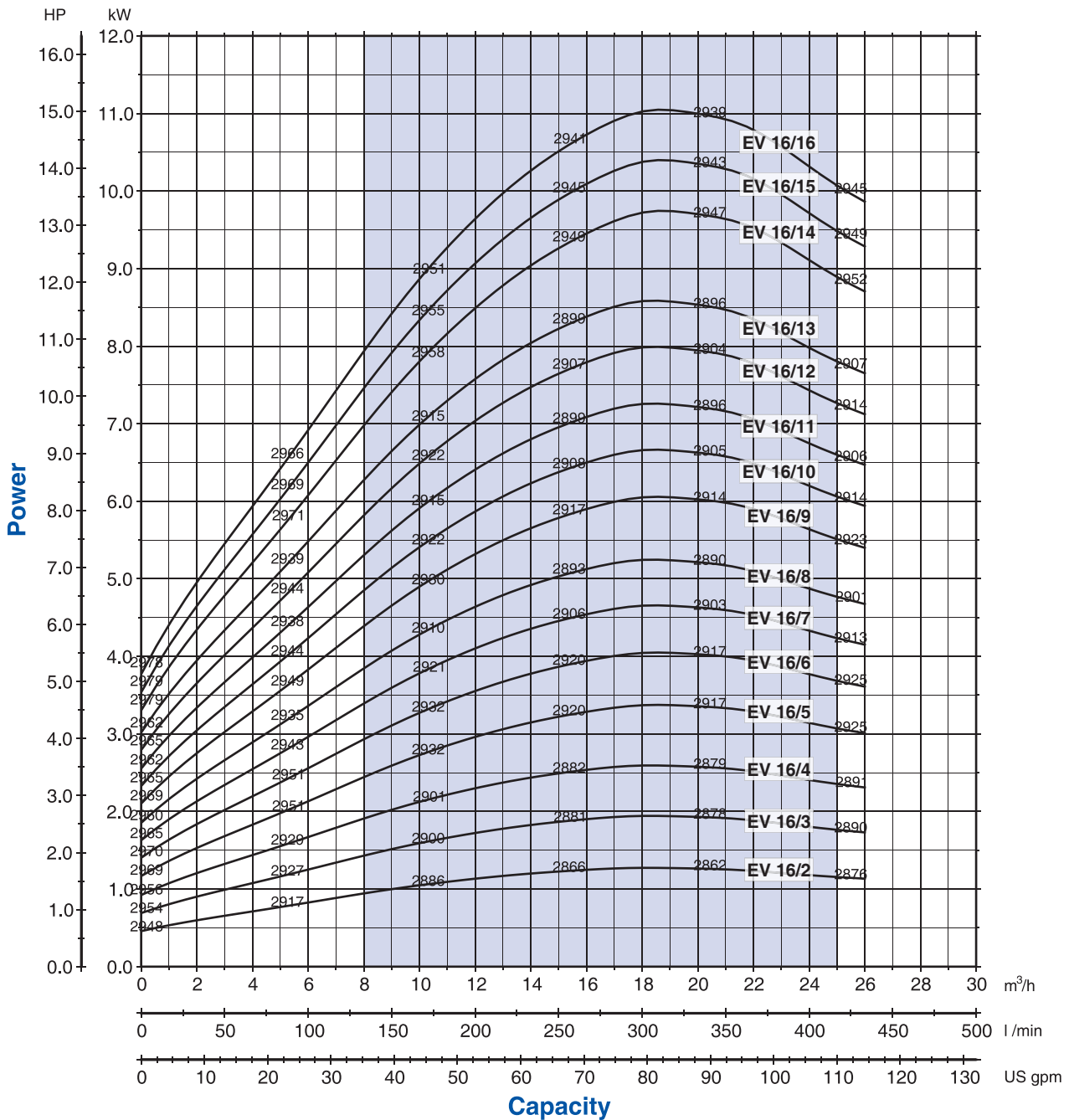
MEI ≥ 0,10



00110046 05/2009

Performance curves 50Hz

MEI ≥ 0,10



Performance curves of Q, H and P depend on the rpm number according to the following formulae:

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1} \right), \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1} \right)^2, \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1} \right)^3, \quad \eta \approx 1$$

The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.

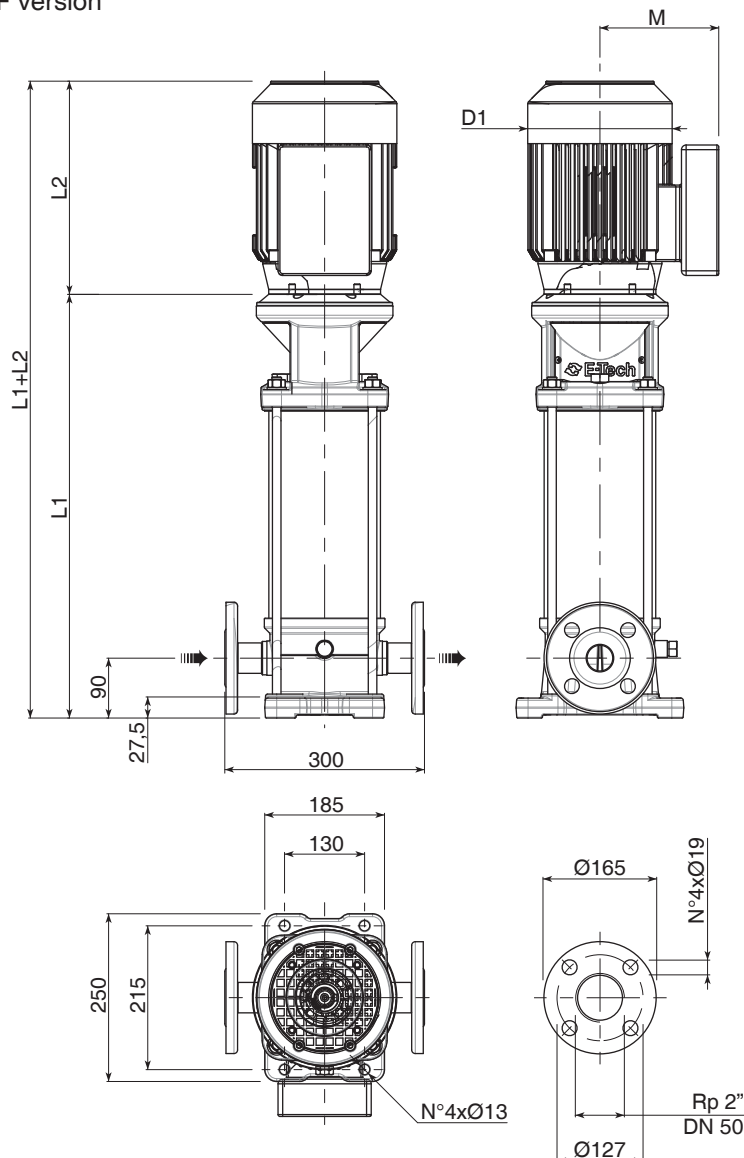
Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.

Q=Capacity, H=Head, P=Pressure, η =Efficiency

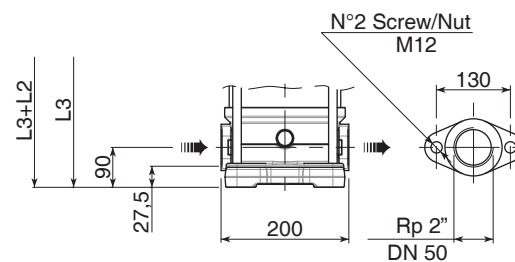
The hydraulic characteristics are guaranteed, according to ISO standard 9906, grade 3.

Technical data 50Hz

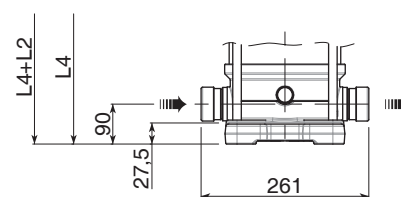
F version



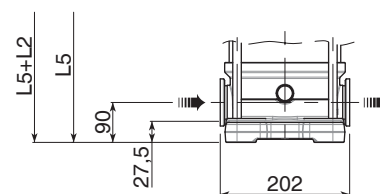
T version



V version



C version



00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied with joints and bolts without counterflanges (Optional accessories).

T version Oval flanges on body type PN16: the pump is supplied without oval counter flanges for pipe to be screwed, joints and bolts (Optional accessories).

V version Connections with rapid fittings type "Victaulic": the pump is supplied without the collars (Optional accessories).

C version Connections with round fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

Pump Model	Motor		Dimensions (mm)							Weight				
	kW	Size	L1 F	L2		L3 T	L4 V	L5 C	M		D1		Pump	Electric Pump
EV 16/2	1.5	90	382.5	-	267	382.5	382.5	382.5	-	138	-	180	19	33
EV 16/3	2.2	90	420	-	267	420	420	420	-	138	-	180	20	36
EV 16/4	3	100	467.5	-	306	467.5	467.5	467.5	-	145	-	196	21.5	44.5
EV 16/5	4	112	505	-	328	505	505	505	-	161	-	225	22.5	56
EV 16/6	5.5	132	565	-	362	565	565	565	-	195	-	248	28.5	74.5
EV 16/7	5.5	132	602.5	-	362	602.5	602.5	602.5	-	195	-	248	29.5	75.5
EV 16/8	5.5	132	640	-	362	640	640	640	-	195	-	248	30.5	76.5
EV 16/9	7.5	132	677.5	-	362	677.5	677.5	677.5	-	195	-	248	31.5	84.5
EV 16/10	7.5	132	715.5	-	362	715.5	715.5	715.5	-	195	-	248	32.5	85.5
EV 16/11	7.5	132	753	-	362	753	753	753	-	195	-	248	33.5	86.5
• EV 16/12	11	132	790.5	-	420	790.5	790.5	790.5	-	195	-	248	34.5	87.5
• EV 16/13	11	132	828	-	420	828	828	828	-	195	-	248	35	88
• EV 16/14	11	132	865.5	-	420	-	865.5	865.5	-	195	-	248	36	89
• EV 16/15	11	132	903	-	420	-	903	903	-	195	-	248	37	90
• EV 16/16	11	132	940.5	-	420	-	940.5	940.5	-	195	-	248	38	91

• Motor flange size 132 rated 11kW not included in IEC 72-1 standards

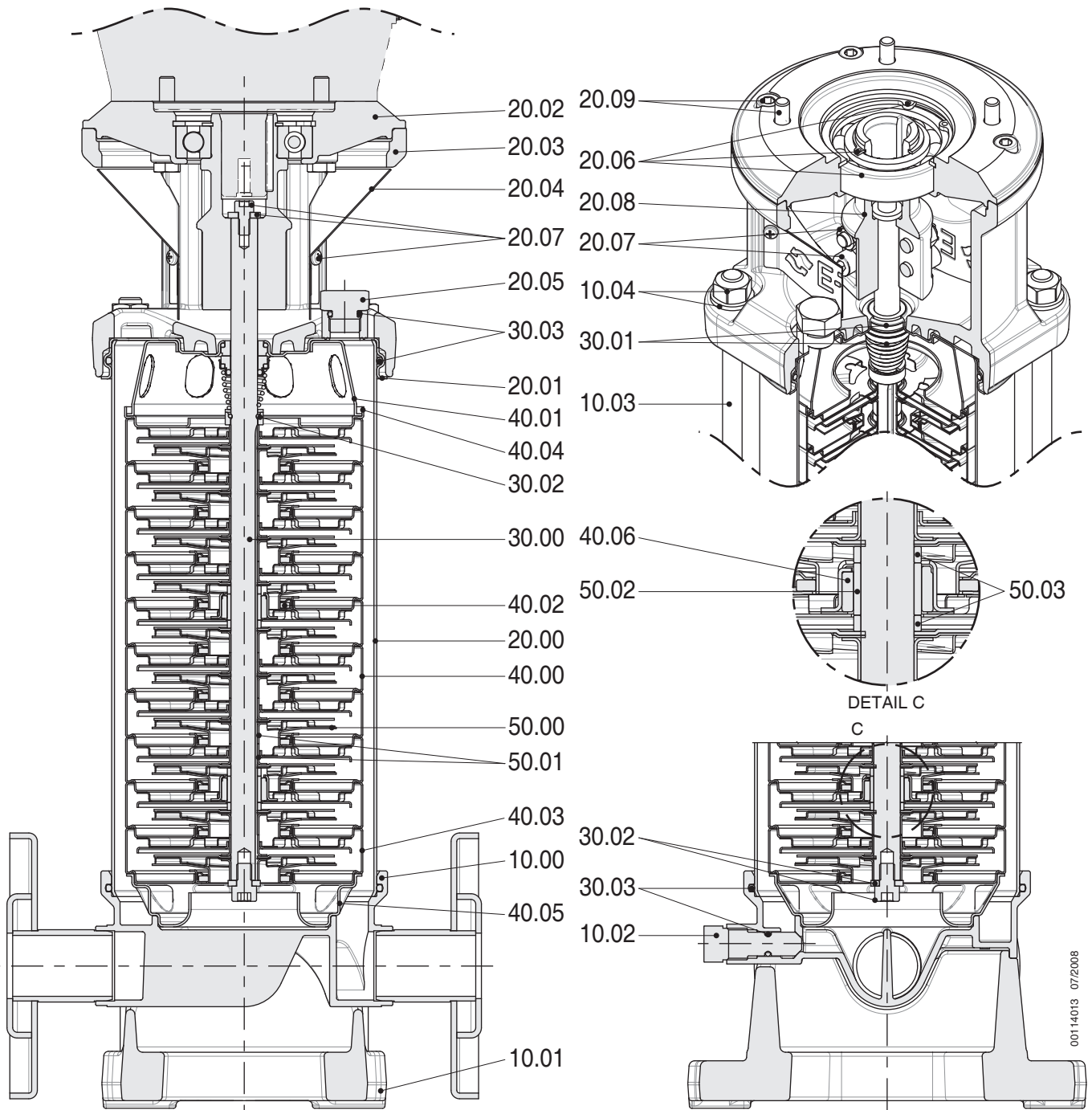
EV Series Pump Section and List of Main Components

EV 3

EV 5

EV 9

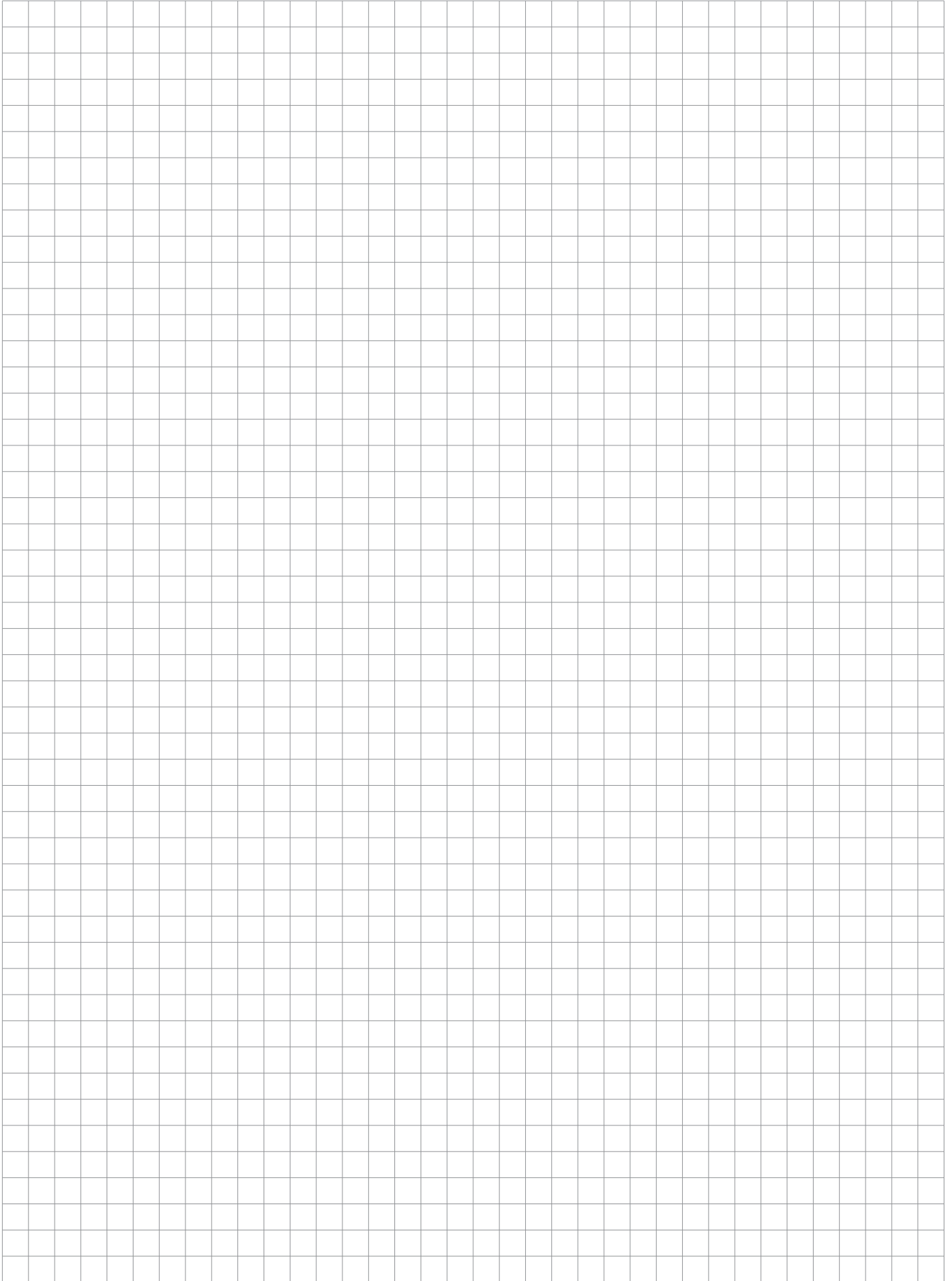
EV 16



Ref. N.	Description
1000	Pump Casing
1001	Pump fixing plate
1002	Draining and priming cap
1003	Tie bolt
1004	Kit nuts and washers
2000	Outer case
2001	Mechanical seal housing
2002	Motor flange
2003	Motor bracket
2004	Coupling guard
2005	Filling plug
2006	Kit circlip and bearing
2007	Kit coupling washers and screws
2008	Coupling
2009	Kit motor screws

Ref. N.	Description
3000	Pump shaft
3001	Kit mechanical seal
3002	Kit screws, nuts and washers
3003	Kit o-ring (4 pcs)
4000	Stage housing and diffuser
4001	Stage centering outlet
4002	Floating neck ring assembly
4003	Initial stage housing
4004	Last stage with diffuser
4005	Stage centering inlet
4006	Stage housing and diffuser with bearing
5000	Impeller
5001	Impeller spacers (2 pcs)
5002	Intermediary sleeve
5003	Intermediary sleeve spacers (2 pcs)

This image shows a full page of blank graph paper. The background is white, and it is covered by a uniform grid of thin, light gray lines. These lines intersect at regular intervals to form a series of small, identical squares across the entire surface. There are no margins, text, or other markings present on the page.



This image shows a full page of blank graph paper. The background is white, and it is covered by a uniform grid of thin, light gray horizontal and vertical lines. These lines intersect to form a series of small, identical squares across the entire surface, typical of standard graph paper used for mathematics or engineering. There are no margins, text, or other markings present.



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