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Performance Curves and Technical Data 50Hz

EV 3 MEI ≥ 0,60 14
EV 5 MEI ≥ 0,70 18
EV 9 MEI ≥ 0,70 22
EV 16 MEI ≥ 0,40 26
EV 30 MEI ≥ 0,70 32
EV 45 MEI ≥ 0,70 36

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EV Series 3 - 5 - 9 - 16 - 30 - 45
Vertical Multistage Centrifugal Pumps

APPLICATIONS

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

FEATURES

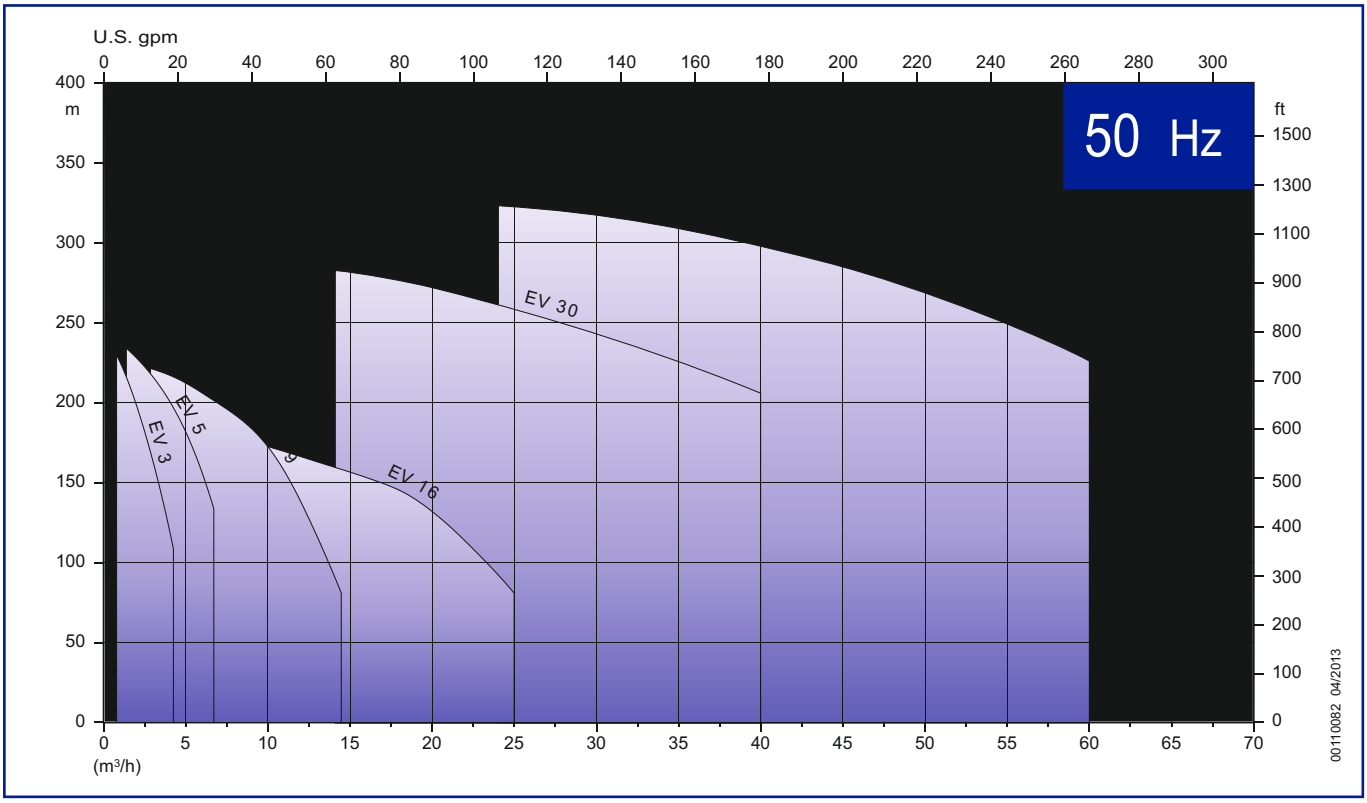
- Full stainless steel in contact with water (inox version), compact and solid structure
- Diffuser bushing made of carbon for durability against dry running (EV 30-45)
- Easy disassembly without any tool
- Easy installation IN LINE ports
- Fabricated stainless steel impeller and diffuser for corrosion resistance and superior eff ciency
- Liquid end made of stainless steel in order to achieve durability, superior eff ciency and the highest performances
- New hydraulic design for the highest eff ciency
- Oversize ball bearing (bearing bracket) ensure motor bearing long life and eliminates axial and other adjustments of moving parts
- PTFE WRAS certif ed replacement f oating neck ring for cost effective maintenance and long-lasting performance
- Fabricated stainless steel impeller and diffuser for corrosion resistance and superior eff ciency
- Removal of the mechanical seal without dismounting the motor (EV 30-45 50Hz models higher than 4 KW, motor weight higher than 30 Kg)
- Replaceable stainless steel wear ring in the neck of the impeller (EV30-45)
- Shaft bearing and journal sleeve made of tungsten carbide (EV30-45)
- Shaft bearing made of tungsten carbide and journal sleeve made of ceramic (EV 3-5-9-16)
- Standard balanced mechanical seal (EN 12756 ex DIN 24960) WRAS certif ed
- Standard motor without oversize bearing, size B14 up to 4kW / size B5 from 5.5kW and above, IE2
- Tungsten carbide intermediate bearing to control and eliminate vibration and stabilize the rotor with a large number of stages
- WRAS certif ed O-rings

SPECIFICATIONS

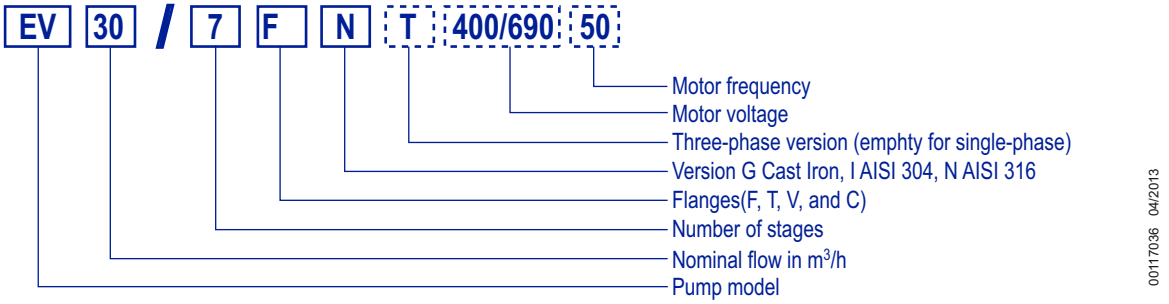
- Capacities up to 60 m^3/h at 50Hz
- Head up to 30 Bar at 50Hz
- Direction of rotation : clockwise looking at the pump from the top down (for EV 3-5-9-30-45)
- Direction of rotation : counter-clockwise looking at the pump from the top down (for EV 16)
- Discharge and Suction port: Oval, Round f anges, Victaulic and Clamp connections
- Hydraulic characteristics are guaranteed, according to ISO standard 9906 grade 3
- Liquid temperature range: from -15°C to +120°C
- Materials: suitable for handling potable water (materials WRAS certif ed)
- Maximum working pressure: Oval f ange 16 Bar; Round Flange, Victaulic and Clamp connections 25 Bar
- Motor powers from 2.2 to 45 kW at 50Hz

AVAILABLE ON REQUEST

- AISI 304 version (EVI) for models 30 and 45
- Special materials for the mechanical seal, gaskets and elastomers
- Oval counter f anges (EV 3-5-9-16)
- Round counter f anges



PUMP IDENTIFICATION CODE



Models	Maximun working pressure					
	EV 3	EV 5	EV 9	EV 16	EV 30	EV 45
	bar	bar	bar	bar	bar	bar
T version	16	16	16	16		
F,T and C version	26	26	26	26		
F version (PN16)					16	16
F version (PN25/40)					32	32

The Inlet pressure of the pump plus the pressure of the water inside the pump cannot exceed the maximun working pressure

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
			mi/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

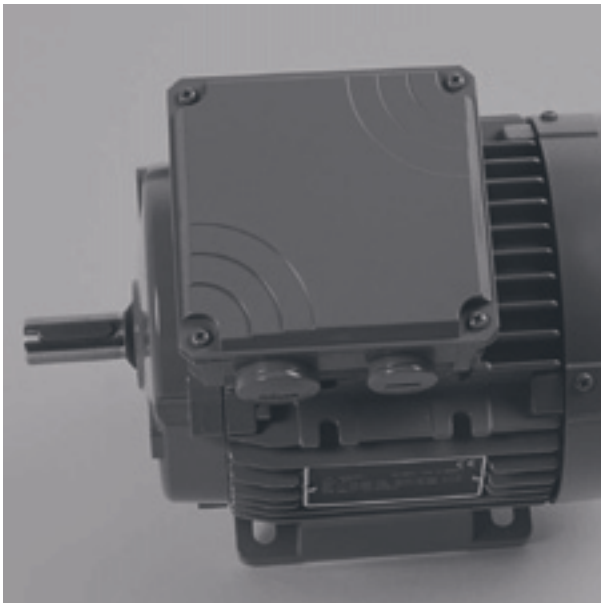
MATERIAL IN CONTACT WITH THE LIQUID						
Pos.	PARTS DESCRIPTIONS		MATERIAL			
			Standard version		N version	
		Type	AISI	DIN / EN	AISI	DIN / EN
10.00	**Pump Casing**	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
10.02	**Draining and priming cap**	Stainless steel	AISI 304	1.4301	AISI 316	1.4401
20.00	**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

EV30-45
TABLE OF HYDRAULIC PERFORMANCES AT 50Hz

PUMP TYPE	RATED POWER		Q = DELIVERY											
			l/min 0	250	300	367	417	500	583	667	750	900	1000	1083
			mi/h 0	15	18	22	25	30	35	40	45	54	60	65
	kW	HP	H = TOTAL HEAD METERS COLUMN OF WATER											
EV 30/1	2,2	3	24	21	20,5	19,5	19	17,5	16	13,5	11			
EV 30/2-2a	4	5,5	36	33,5	32,5	30,5	29,5	26,5	22,5	18	12,5			
EV 30/2-1a	4	5,5	42	38,5	37	35,5	34	31,5	27,5	23	18			
EV 30/2	5,5	7,5	48,5	43,5	42,5	41	39,5	36,5	33,5	29	23,5			
EV 30/3-2a	5,5	7,5	60	54,5	53	50,5	48	44	38	31,5	23,5			
EV 30/3-1a	7,5	10	66,5	60	58,5	56	54	50	45	38	30			
EV 30/3	7,5	10	73	65	63,5	61	59	55	50	43,5	35,5			
EV 30/4-2a	7,5	10	84,5	76,5	74	70,5	68	62	55	46	35			
EV 30/4-1a	11	15	91,5	83	81	78	75,5	70	63	54,5	43,5			
EV 30/4	11	15	98	88	86	83	80,5	75	69	60	49,5			
EV 30/5-2a	11	15	109,5	99,5	97	93	89,5	83	74	63	49,5			
EV 30/5-1a	11	15	115,5	104,5	102	98	94,5	88	79,5	68,5	55			
EV 30/5	15	20	122,5	109,5	107	103,5	100	93,5	85,5	75	61,5			
EV 30/6-2a	15	20	134	121,5	118,5	113,5	109,5	101,5	91	78	61,5			
EV 30/6-1a	15	20	140	126	123	118,5	114,5	106,5	96,5	83,5	67			
EV 30/6	15	20	146,5	131	128	123,5	119,5	111,5	102	89	73			
EV 30/7-2a	15	20	158	142,5	139	133,5	128,5	119	107	91,5	72,5			
EV 30/7-1a	15	20	164	147,5	144	138,5	133,5	124	112,5	97	78			
EV 30/7	18,5	25	171	152,5	149	144	139,5	130	119	103,5	85			
EV 30/8-2a	18,5	25	182,5	164,5	160	154	148,5	137,5	124	106	84,5			
EV 30/8-1a	18,5	25	188,5	169	165	159	153,5	142,5	129,5	111,5	90			
EV 30/8	18,5	25	194,5	174	169,5	164	158,5	147,5	134,5	117	95,5			
EV 30/9-2a	22	30	208,5	188,5	184	177	171	159	144	124,5	100,5			
EV 30/9-1a	22	30	214,5	193,5	189	182,5	176,5	164,5	150	130	106			
EV 30/9	22	30	221	198	194	187,5	181,5	169,5	155,5	136	112			
EV 30/10-2a	22	30	233	210	205	197,5	191	177,5	161	139	112			
EV 30/10-1a	22	30	239	215	210	202,5	196	182,5	166,5	144,5	117,5			
EV 30/10	30	40	246,5	221,5	217	210	203,5	190,5	175	153,5	126,5			
EV 30/11-2a	30	40	258	233,5	228,5	220,5	213	198,5	180,5	156,5	127			
EV 30/11-1a	30	40	264,5	238,5	233,5	225,5	218	204	186	162	133			
EV 30/11	30	40	271	243,5	238	230,5	223,5	209	192	168	138,5			
EV 30/12-2a	30	40	282,5	255,5	249,5	241	233	217	197,5	171	139			
EV 30/12-1a	30	40	289	260,5	254,5	246	238	222,5	203	177	145			
EV 30/12	30	40	295	265,5	259,5	251	243	227,5	208,5	182,5	150,5			
EV 30/13-2a	30	40	307	277,5	271	261,5	252,5	235,5	214	185,5	151			
EV 30/13-1a	30	40	313	282	276	266,5	258	240,5	220	191,5	156,5			
EV 30/13	30	40	319,5	287	280,5	271,5	263	246	225,5	197	162,5			
EV 45/1-1a	3	4	19	18,5	18,5	18	18	17,5	16,5	15,5	14,5	11,5	9,5	7,5
EV 45/1	4	5,5	24,5	24	23,5	23	22,5	22	21,5	21	19,5	17	15,5	13,5
EV 45/2-2a	5,5	7,5	38,5	37,5	37	36,5	35,5	34,5	33	31	28,5	23	18,5	14,5
EV 45/2	7,5	10	48,5	47,5	47	46	45,5	44	43	41,5	39	34	30,5	26,5
EV 45/3-2a	11	15	63	62	61,5	60,5	59,5	58	56	53,5	50	42	36	30
EV 45/3	11	15	73,5	72	71	70	69	67	65,5	63	60	52,5	47	41
EV 45/4-2a	15	20	87,5	86	85	83,5	82	80	77,5	74	69,5	59,5	51	43
EV 45/4	15	20	97,5	96	94,5	93	91,5	89	86,5	84	79,5	69,5	62	54,5
EV 45/5-2a	18,5	25	112	109,5	108,5	106,5	105	102	99	94,5	89	76,5	66	56
EV 45/5	18,5	25	122	119,5	118	115,5	114	111	108	104,5	99	86,5	77	67,5
EV 45/6-2a	22	30	137,5	135	133,5	131	129	126	122	117,5	110,5	95,5	83,5	72
EV 45/6	22	30	147,5	145	143,5	140,5	138,5	135	131,5	127	121	106	95	83,5
EV 45/7-2a	30	40	162,5	160	158	155,5	153	149,5	145	139,5	132	115	101	87,5
EV 45/7	30	40	172,5	170	168	165	162,5	158,5	154,5	149,5	142,5	125,5	112	99
EV 45/8-2a	30	40	187	184	182	178,5	176	171,5	167	160,5	152	132	116,5	101
EV 45/8	30	40	197	194	191,5	188	185,5	181	176,5	170,5	162,5	142,5	127,5	112,5
EV 45/9-2a	37	50	211,5	208	205,5	202	199	194	188,5	181,5	172	149,5	132	114,5
EV 45/9	37	50	221,5	218	215,5	211,5	208	203	198	191,5	182	160	143	126
EV 45/10-2a	37	50	235,5	231,5	229	225	221,5	216	210	202	191,5	166,5	147	127,5
EV 45/10	37	50	246	242	239	234	230,5	225	219	212	201,5	177	158	139
EV 45/11-2a	45	60	261	256,5	254	249	245,5	239,5	233	224,5	213	186	164,5	143,5
EV 45/11	45	60	271	267	263,5	258,5	255	249	242,5	234,5	223,5	196,5	175,5	155
EV 45/12-2a	45	60	285,5	280,5	277,5	272,5	268,5	261,5	254,5	245,5	232,5	203	179,5	156,5
EV 45/12	45	60	295,5	290,5	287,5	282	277,5	271	264	255,5	243	213,5	191	168,5
EV 45/13-2a	45	60	309,5	304,5	301	295,5	291	284	276	266	252,5	220,5	195	170

MATERIAL IN CONTACT WITH THE LIQUID						
Pos.	PARTS DESCRIPTIONS		MATERIAL			
			G Version		N version	
		Type	ASTM/AISI	DIN / EN	AISI	DIN / EN
10.00	**Pump casing**	Cast Iron / Stainless Steel	A48 Class 35	GJL-250	AISI 316	1.4401
10.02	**Draining and priming cap**	Stainless Steel	AISI 304	1.4301	AISI 316	1.4401
10.06	**Upper Flange**	Cast Iron / Stainless Steel	A48 Class 35	GJL-250	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 316	1.4401	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 431	1.4057	AISI 329	1.4460
30.01	**Mechanical seal**	Silicon Carbide SiC, Carbon graphite, EPDM, Stainless steel	-	-	- -	
30.02	**Fixing seal kit**	Stainless Steel	AISI 316	1.4401	AISI 316	1.4401
30.03	**O-ring**	EPDM	-	-	- -	
40.00	**Stage housing and diffuser**	Stainless Steel	AISI 304	1.4301	AISI 316L	1.4435
40.01	**Spring ring**	Stainless Steel	AISI 316	1.4401	AISI 316	1.4401
40.02	**Floating neck ring**	PTFE	-	-	- -	
40.03	**Flange clamping neck ring**	Stainless Steel	AISI 304	1.4301	AISI 316L	1.4435
40.04	**Bearing Bush**	Tungsten Carbide SiW	-	-	- -	
40.05	**Stage centering inlet**	Stainless Steel	AISI 316	1.4401	AISI 316	1.4401
40.06	**Stage housing and diffuser with bearing**	Stainless Steel	AISI 304	1.4301	AISI 316L	1.4435
40.07	**Secondary bearing bush**	Graphite AG21PT	-	-	- -	
50.00	**Impeller**	Stainless Steel	AISI 304	1.4301	AISI 316L	1.4435
50.01	**Split cone**	Stainless Steel	AISI 304	1.4301	AISI 316	1.4401
50.02	**Intermediary sleeve**	Stainless Steel, Tungsten Carbide SiW	AISI 316	1.4401	AISI 316	1.4401
50.03	**Journal sleeve kit**	Stainless Steel, Tungsten Carbide SiW	AISI 316	1.4401	AISI 316	1.4401
50.04	**Split cone nut**	Stainless Steel	AISI 304	1.4301	AISI 316	1.4401
50.05	**Wear ring**	Stainless Steel	AISI 316	1.4401	AISI 316	1.4401
50.06	**Intermediate impeller with screw**	Stainless Steel	AISI 304	1.4301	AISI 316L	1.4435

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

HighEf f ciency Three-phase Motors IE2 code
The standard design includes the following basic features to give a high level of f exibility:

- 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 f anges with over-sized and smaller-sized dimensions
- Provision for oil seal at Drive End
- Motors conforming to the higher ef f ciency 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	3,3	1,9	-	-	2825	2,5	77,4	0,74	7,5	4,3	8,4
1,1	1,5	80	B14	4,3	2,5	-	-	2820	3,7	79,6	0,78	7,6	4,3	12,0
1,5	2	90	B14	5,9	3,4	-	-	2850	5,0	81,3	0,80	6,8	3	12,7
2,2	3	90	B14	8,1	4,7	-	-	2870	7,3	83,6	0,81	6,8	3	16,0
3	4	100	B14	11,4	6,6	-	-	2870	10,0	84,6	0,79	6,8	3,4	18,7
4	5,5	112	B14	-	-	8,0	4,6	2910	13,2	86,6	0,83	9,8	4,3	22,8
5,5	7,5	132	B5	-	-	10,4	6,0	2920	18,0	87,3	0,88	8,7	3,1	34,0
7,5	10	132	B5	-	-	13,2	7,6	2900	24,7	88,3	0,92	9,6	3,4	36,0
11	15	132	B5	-	-	19,8	11,5	2920	36,0	89,7	0,90	9,6	3	58,0
11	15	160	B5	-	-	19,8	11,5	2920	36,0	89,7	0,90	9,6	3	58,0
15	20	160	B5	-	-	27,0	15,6	2920	49,1	90,3	0,89	9,6	3,8	64,0
18,5	25	160	B5	-	-	36,3	21,0	2930	60,3	90,9	0,81	8,7	3,3	88,9
22	30	180	B5	-	-	38,6	22,3	2935	71,6	91,5	0,90	9,0	4,4	108,7
30	40	200	B5	-	-	53,3	30,8	2930	97,8	92,4	0,88	6,7	2,4	228
37	50	200	B5	-	-	64,0	37,0	2930	120,6	92,8	0,90	6,3	2,3	242
45	60	225	B5	-	-	78,3	45,2	2940	146,2	93,2	0,89	6,9	2,3	308

New International Effi ciency classes of motors – IE code

The new IEC 60034-30:2008 def nes worldwide the eff ciency classes of motors.
IE1 = Standard Eff ciency (comparable to EFF2)
IE2 = High Eff ciency (comparable to EFF1)
IE3 = Premium Eff ciency
The eff ciency levels according to IEC 60034-30 are measured based on the test methods def ned in IEC 60034-2-1:2007. The IEC 60034-30 only def nes requirements of eff ciency classes and aims to create provisions for International consistency. It does not def ne which motors must be supplied with which eff ciency level. This is left to respective regional legislation.

Output	IE1 code Standard Eff ciency			IE2 code Standard Eff ciency			IE3 code Standard Eff ciency		
kW	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
18.5	89.3	89.3	88.6	90.9	91.2	90.4	92.4	92.6	91.7
22	89.9	89.9	89.2	91.3	91.6	90.9	92.7	93.0	92.2
30	90.7	90.7	90.2	92.0	92.3	91.7	93.3	93.6	92.9
37	91.2	91.2	90.8	92.5	92.7	92.2	93.7	93.9	93.3
45	91.7	91.7	91.4	92.9	93.1	92.7	94.0	94.2	93.7

Eff ciency values according to IEC 60034-30;2008.
Eff ciency standard calculation: IEC 60034-2-1;2007

Noise

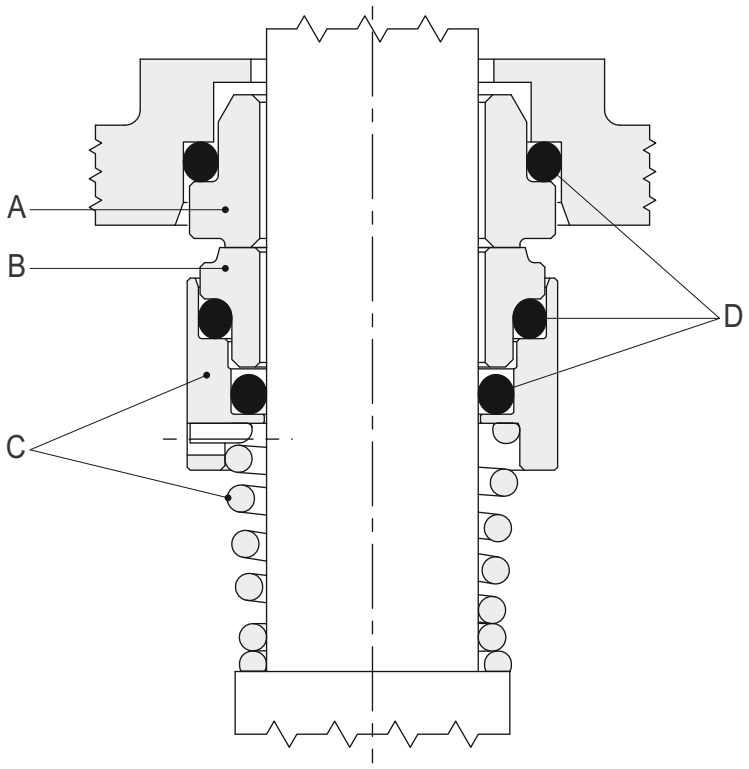
The noise level of an electrical machine is determined by measuring the sound pressure level in accordance with curve A of the sound level meter to EN 60651 and is indicated in dB (A). The permitted noise levels of electrical machines are f xed in EN 60034-9 (IEC 34-9). The noise level of our motors 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 50Hz and the number of poles.

Noisel evels

The noise values listed below refer to 50Hz at rated voltage with a tolerance of up to + 3 dB(A). Values for pole-changing motors on request. For 60Hz supply values are 3-5 dB(A) higher. Sound pressure level LpA and sound power level LWA for three-phase single-speed motors with dimensions and output ratings to IEC 60072

Frame	2 pole		4 pole	
size	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
180	90	77	78	66
200	91	78	80	68
225	92	80	88	76

Mechanical seal specifi cations
(in accordance with EN 12756)



Standard version

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

Available on request

Model	Type				Position A Stationary part	Position B Rotating part	Position C Other components	Position D Elastomers	Temperature (°C)
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 fl uid / seal materials

Liquid	Concentration (%)	Temperature Min/Max (°C)	EV models 3-5-9-16 STD	3-5-9-16 N	30-45 G	30-45 N
Acetic acid	80	-10 +70	1	1		1
Alkaline degreaser	-	-	3	3	3	3
Aluminium sulfate	30	-5 +50		2		2
Ammonia in water	25	-20 +50	1	1		1
Ammonium sulfate	10	-10 +60		2		2
Benzoic acid	70	0 +70	4	4		4
Caustic soda	25	0 +70	2	2		2
Chloroform	100	-10 +30	4	4		4
Citric acid	5	-10 +70	1	1		1
Cleaning products	10	-5 +100	3	3		3
Copper sulfate	20	0 +30		3		3
Cutting f uid	100	-5 +110	4	4		4
Deionised, demineralised water	100	-25 +110	1	1		1
Diathermic oil	100	-5 +110	4	4	4	4
Emulsion oil and water	any	-5 +90	4	4	4	4
Ethylene glycol	30	-30 +120	1	1		1
Formic acid	5	-15 +25	1	1		1
Glycerine	100	+20 +90	1	1	1	1
Hydrochloric acid	2	-5 +25		3		3
Hydroxide sodium	25	0 +70	2	2		2
Iron sulfate	10	-5 +30		1		1
Mineral oil	100	-5 +110	4	4	4	4
Nitric acid	50	-5 +30	3	3		3
Perchloroethylene	100	-10 +30	4	4	4	4
Phosphates-polyphosphates	10	-5 +90		3		3
Phosphoric acid	10	-5 +30		1		1
Propylene glycol	30	-30 +120	1	1	1	1
Sodium bicarbonate (Baking soda)	10	+60		1		1
Sodium hypochlorite	1	-10 +25		3		3
Sodium nitrate	10	+60	1	1	1	1
Sodium sulfate	15	-10 +40	2	2	2	2
Sulphuric acid	2	-10 +25		4		4
Tannic acid	20	0 +50		1		1
Tartaric acid	50	-10 +25	3	3		3
Trichloroethylene	100	-10 +40	4	4	4	4
Uric acid	80	-10 +80	1	1		1
Vegetable oil	100	-5 +110	1	1	1	1
Water	100	-5 +120	1	1	1	1
Water condensate	100	-5 +100	1	1		1
Water detergents, mineral oils mixture	10	-5 +80	3	3	3	3

The table is to be considered as a general guide. It is important to consider the specif c working conditions; in particular to consider the concentration of the pumped liquid, the specif c weight of the liquid and/or the viscosity, the liquid temperature and pressure. All these conditions are relevant for the mo tor and pump performance. When pumping dangerous liquids, it is recommended to take safety precautions. For further details, please contact us.

EV Series
Performance Curves and Technical Data

EV 3 - 5 - 9 - 16 50Hz

According to COMMISSION REGULATION (EU) No 547/2012

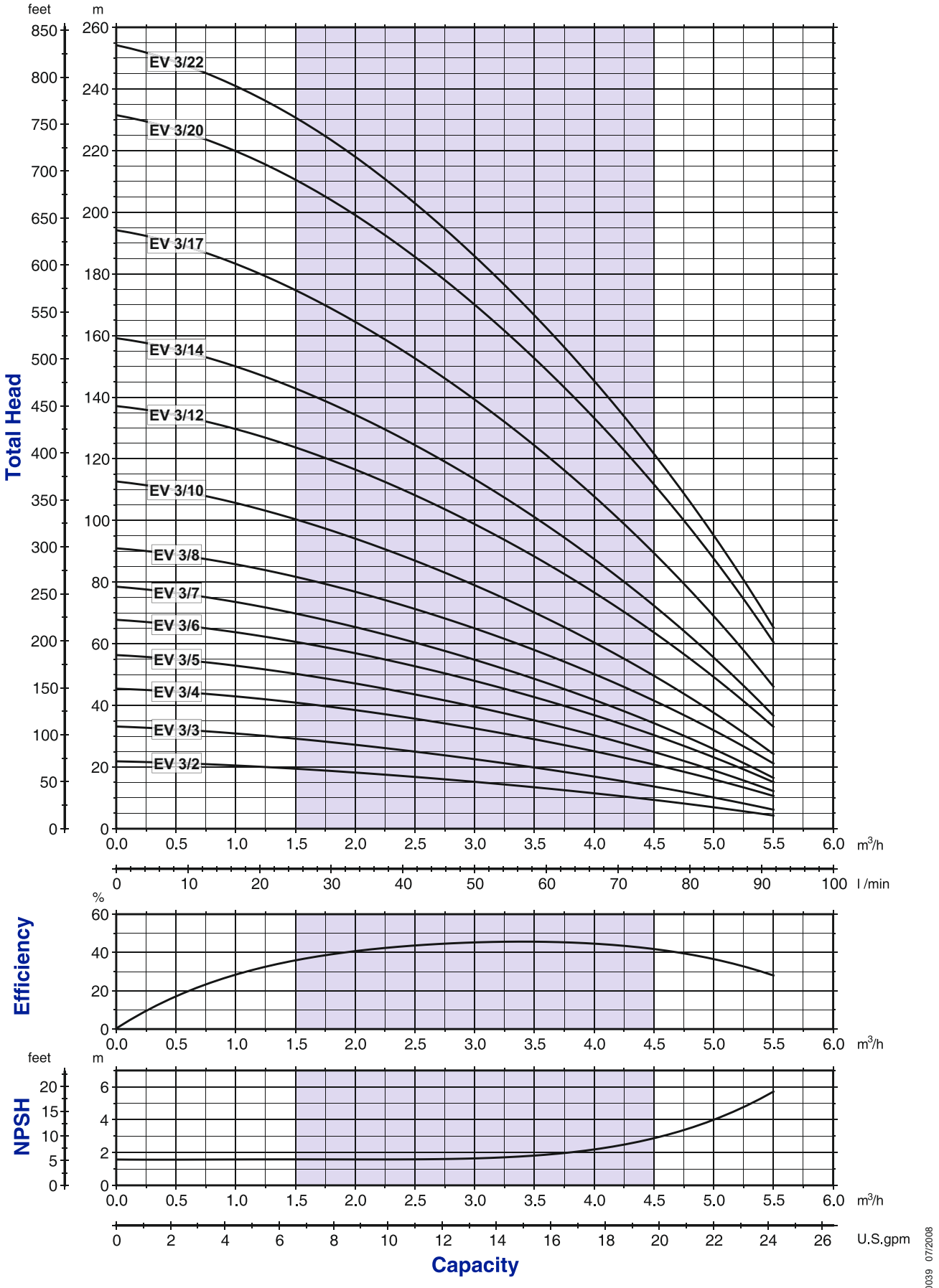
MEI - Minimum Eff ciency Index

In order to achieve a comparable eff ciency threshold-value across all legally covered water pumps, an index of pump size, specif c speed and rotational speed has been created: the MEI (Minimum Eff ciency Index).
MEI covers best point (BEP), part load (PL) and overload (OL) eff ciencies as water pumps may be chosen with safety margins and hence do not run at best eff ciency point.
This ensures high and f at eff ciency curves and consequently an eff cient operation in real life.
MEI means the dimensionless scale unit for hydraulic pump eff ciency at BEP, PL and OL.
MEI is a measure for the quality of a pump size in respect to the eff ciency.
The higher the value of the MEI is, the better is the pump size in respect to eff ciency 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 ef f cient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
For benchmark eff ciency graphs, go to www.europump.org/ef f ciencycharts.
Information on benchmark eff ciency is available at **www.etechpumps.com.**
Benchmark MEI ≥ 0,70.

EV 3

Performance curves 50Hz

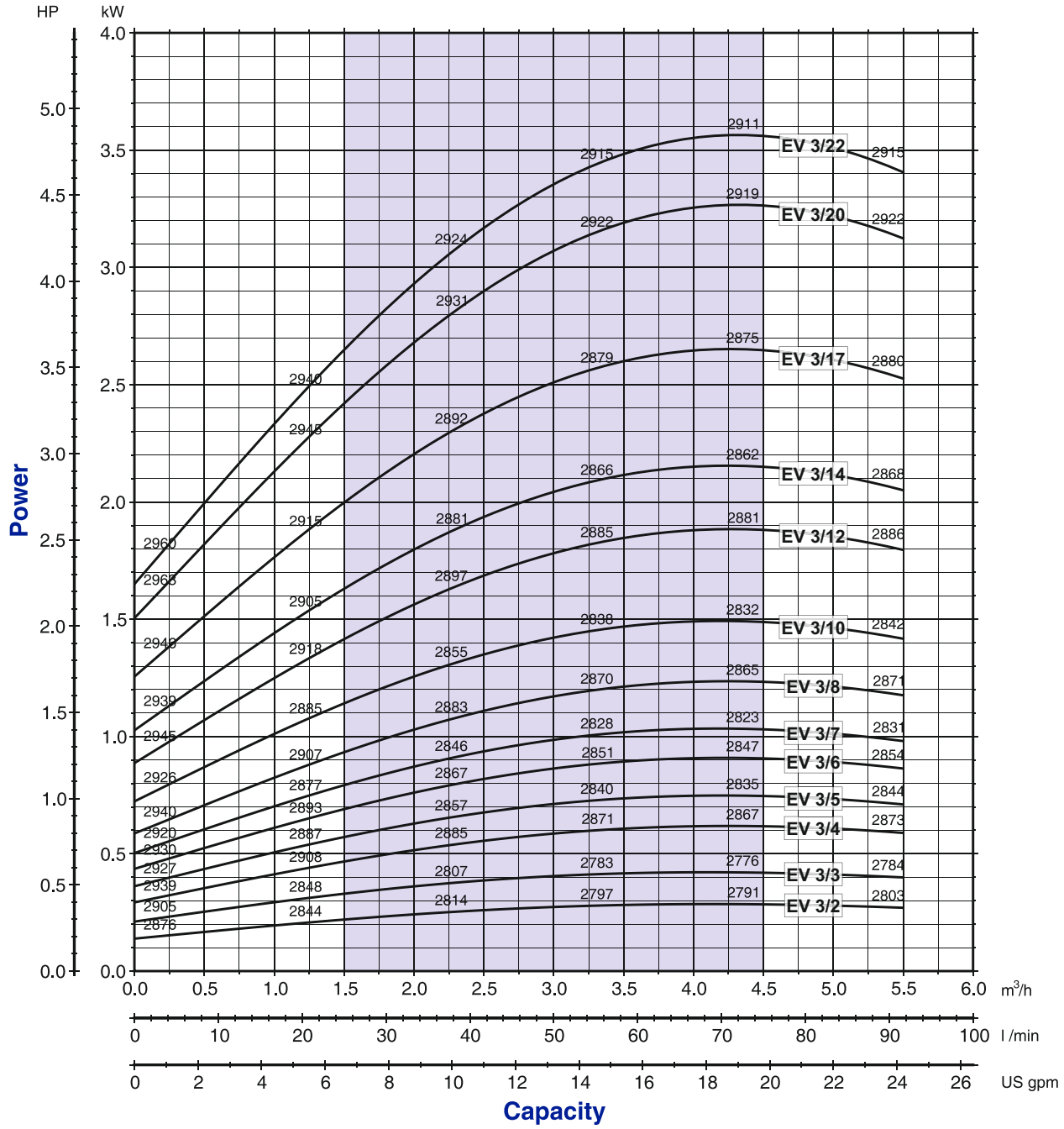
MEI ≥ 0,60



00110039 07/2008

Performance curves 50Hz

MEI ≥ 0,60



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

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ } \textit{remains approximately the same.}$$

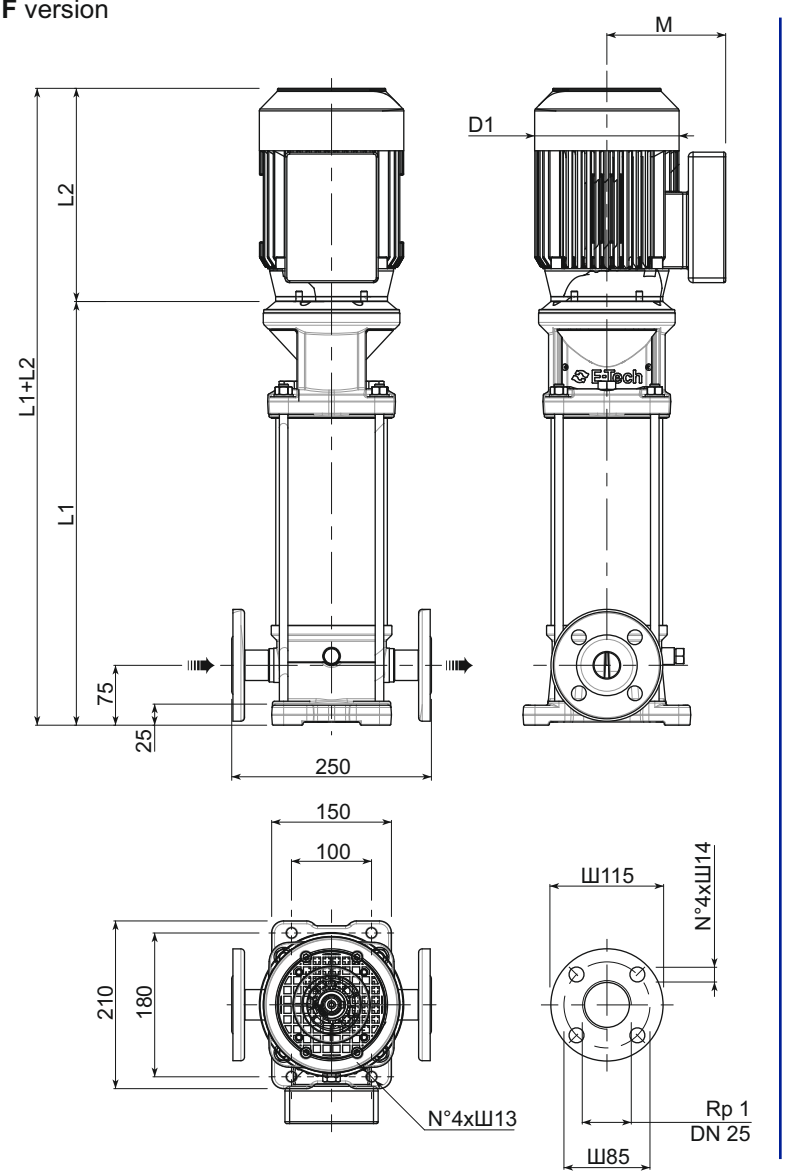
The rpm number related to the performance curves (Q-H-P) is indicated in the power chart.
Performance curves (Q-H-P) will change in case a motor with rpm number different from indicated values is used.

Q=Capacity, H=Head, P=Power, h=Eff ciency

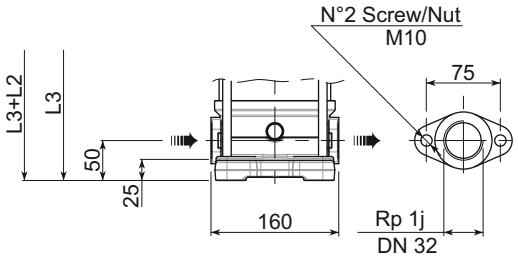
00110039 07/2008

Technical data 50Hz

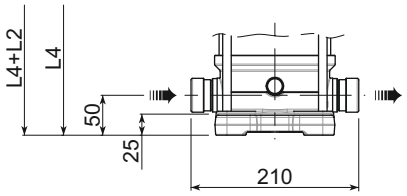
F version



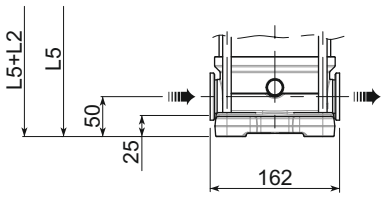
T version



V version



C version



00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied with flanges (Optional accessories, including bolts and joints).

T version Oval flanges on body type PN16: the pump is supplied without threaded oval flanges (Optional accessories, including bolts and joints).

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

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

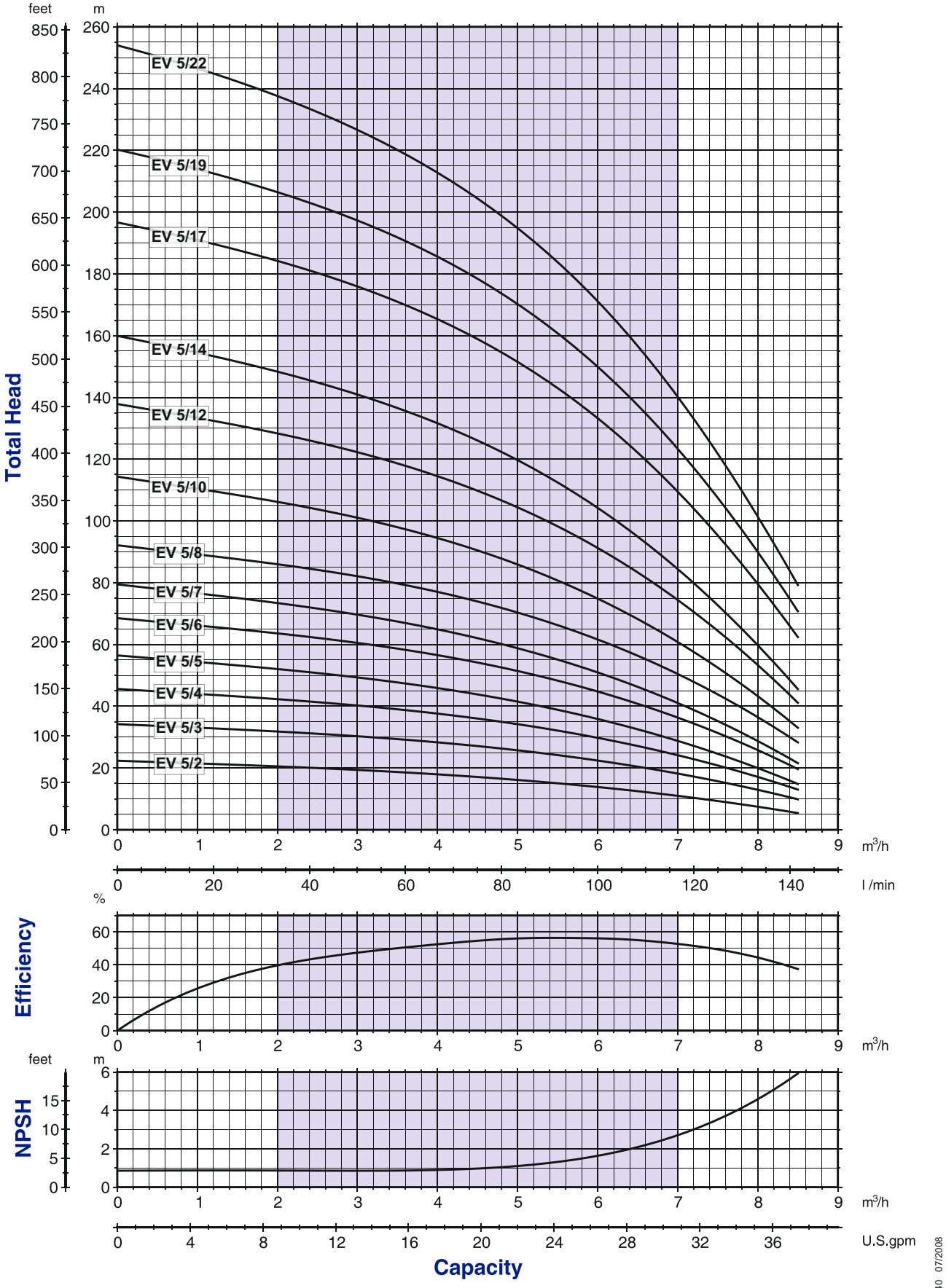
Pump Model	Motor		Dimensions (mm)										Weight	
			L1	L2		L3	L4	L5	M		D1		Pump	Electric Pump
	kW	Size	F	1-PHASE	3-PHASE	T	V	C	1-PHASE	3-PHASE	1-PHASE	3-PHASE		
EV 3/2	0.37	71	328.5	215	215	303.5	303.5	303.5	129	112	142	142	15	21
EV 3/3	0.55	71	352.5	215	215	327.5	327.5	327.5	129	112	142	142	15.5	21.5
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	-	267	-	684	684	-	138	-	180	25	44
EV 3/20	4	112	781	-	306	-	756	756	-	145	-	196	27	50
EV 3/22	4	112	829	-	306	-	804	804	-	145	-	196	28.5	51,5

• Standard efficiency motors IE1

EV 5

Performance curves 50Hz

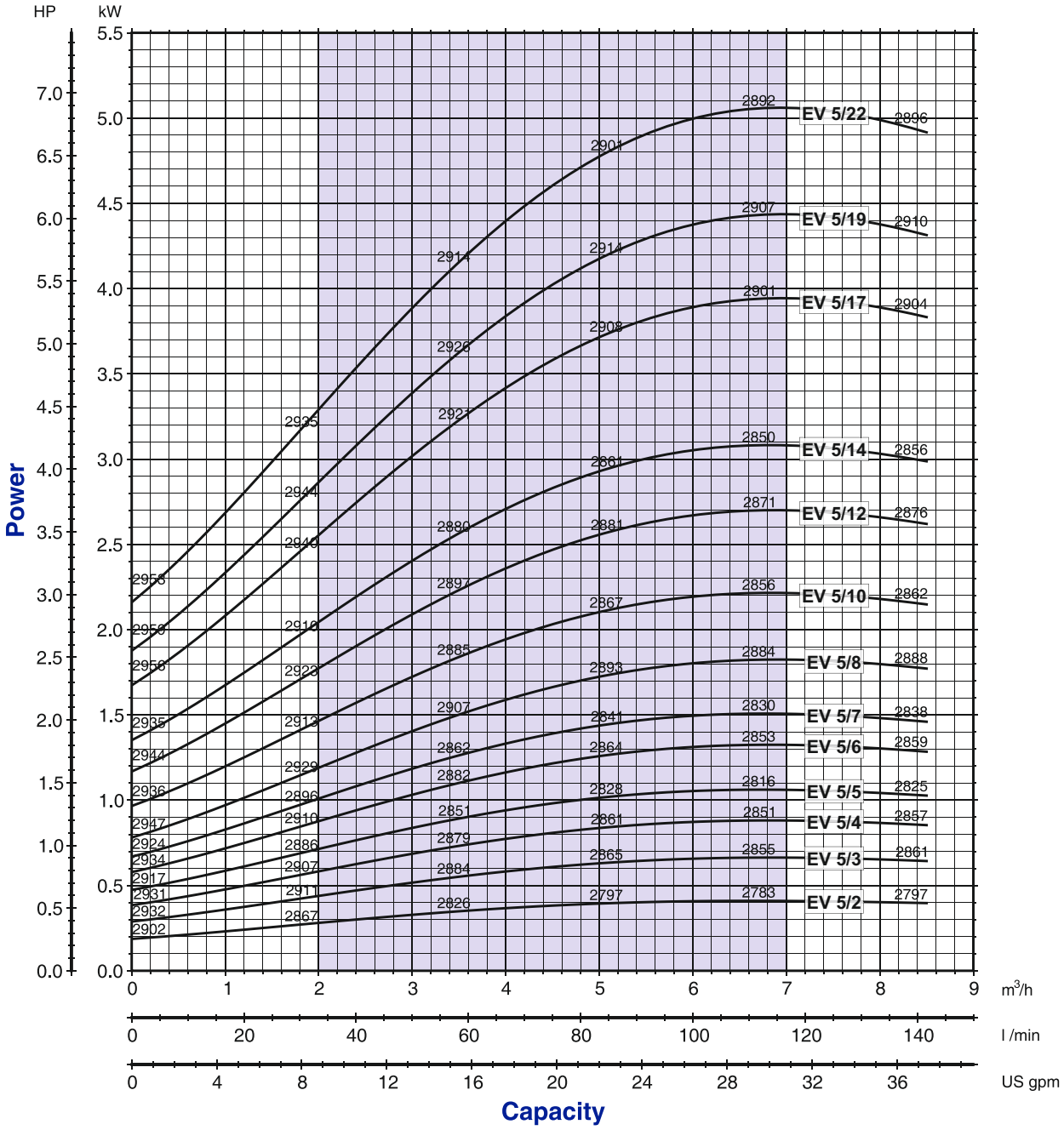
MEI ≥ 0,70



00110040 07/2008

Performance curves 50Hz

MEI ≥ 0,70



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

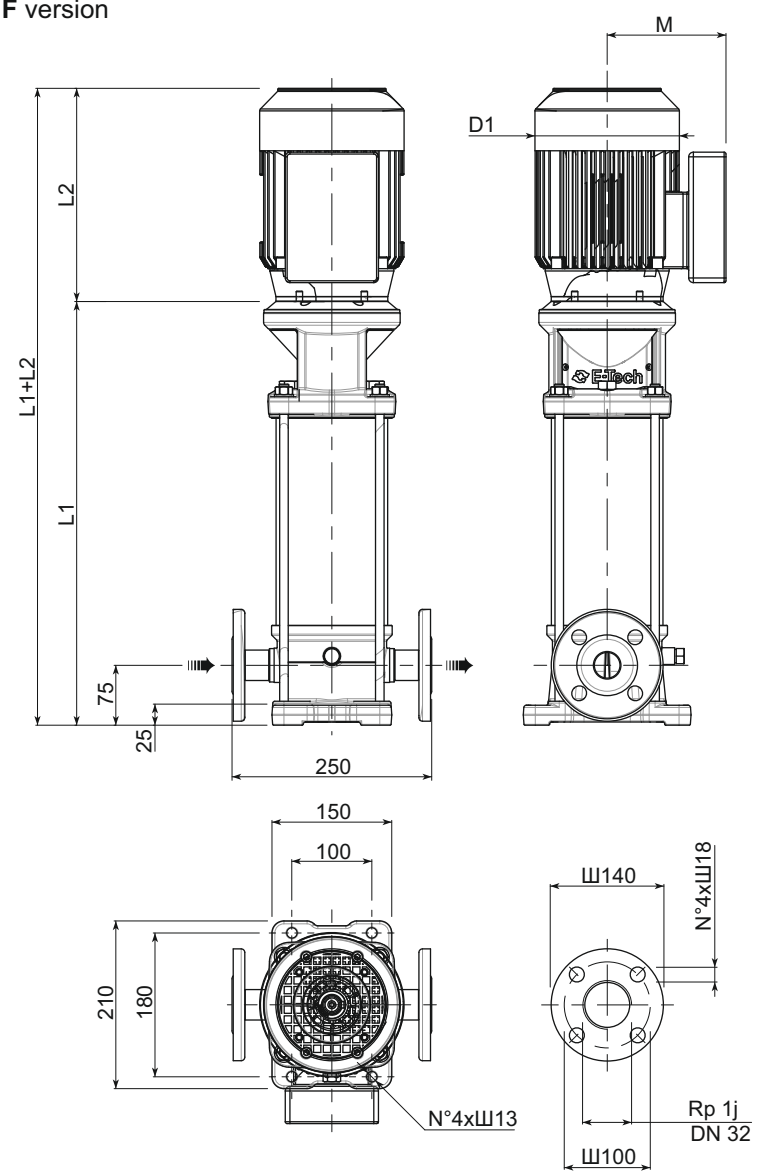
$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ } \textit{remains approximately the same.}$$

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=Power, h=Eff ciency

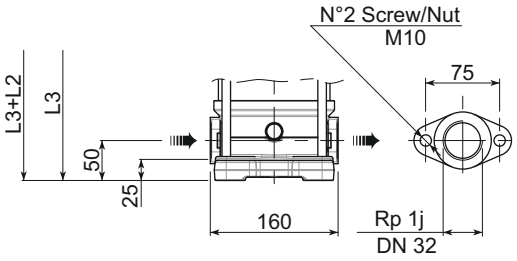
00110040 07/2008

Technical data 50Hz

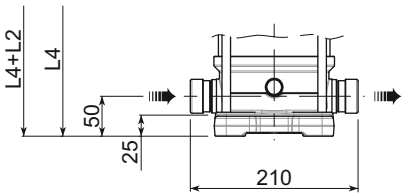
F version



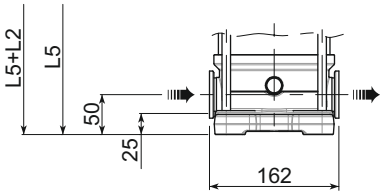
T version



V version



C version



00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied with joints and bolts (Optional accessories).

T version Oval flanges on body type PN16: the pump is supplied without counter flanges (Optional accessories).

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

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

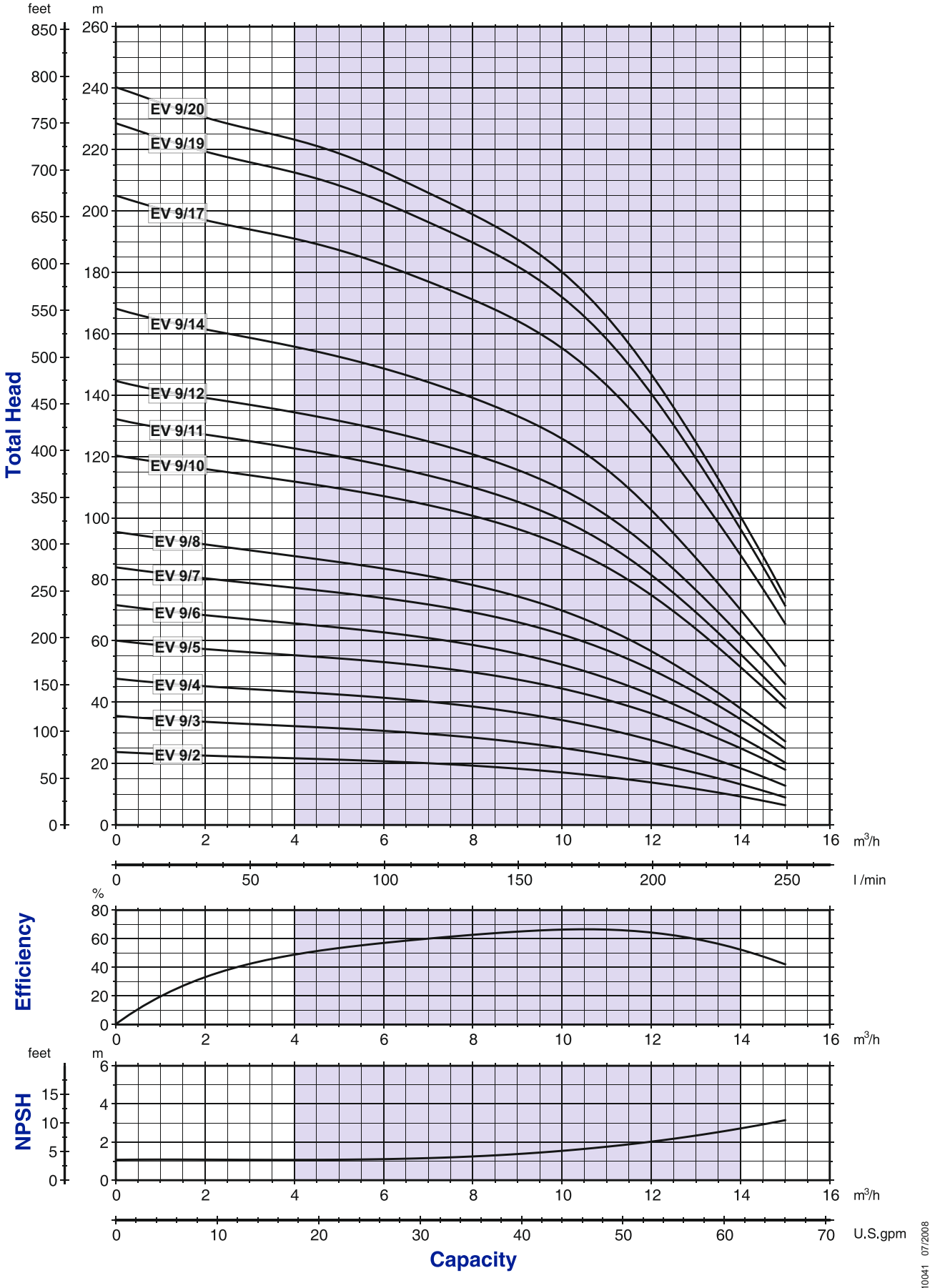
Pump Model	Motor		Dimensions (mm)										Weight	
			L1	L2		L3	L4	L5	M		D1		Pump	Electric Pump
	kW	Size	F	1-PHASE	3-PHASE	T	V	C	1-PHASE	3-PHASE	1-PHASE	3-PHASE		
EV 5/2	0.55	71	328.5	215	215	303.5	303.5	303.5	129	112	142	142	15.5	21.5
EV 5/3	0.75	80	352.5	232	232	327.5	327.5	327.5	150	129	160	160	16	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	-	267	564	564	564	-	138	-	180	22.5	41
EV 5/14	3	100	637	-	267	612	612	612	-	138	-	180	24	43
EV 5/17	4	112	709	-	306	-	684	684	-	145	-	196	25.5	48.5
EV 5/19	5.5	132	779.5	-	328	-	754.5	754.5	-	161	-	225	32	66
EV 5/22	5.5	132	851.5	-	328	-	826.5	826.5	-	161	-	225	33.5	67.5

• Standard efficiency motors IE1

EV 9

Performance curves 50Hz

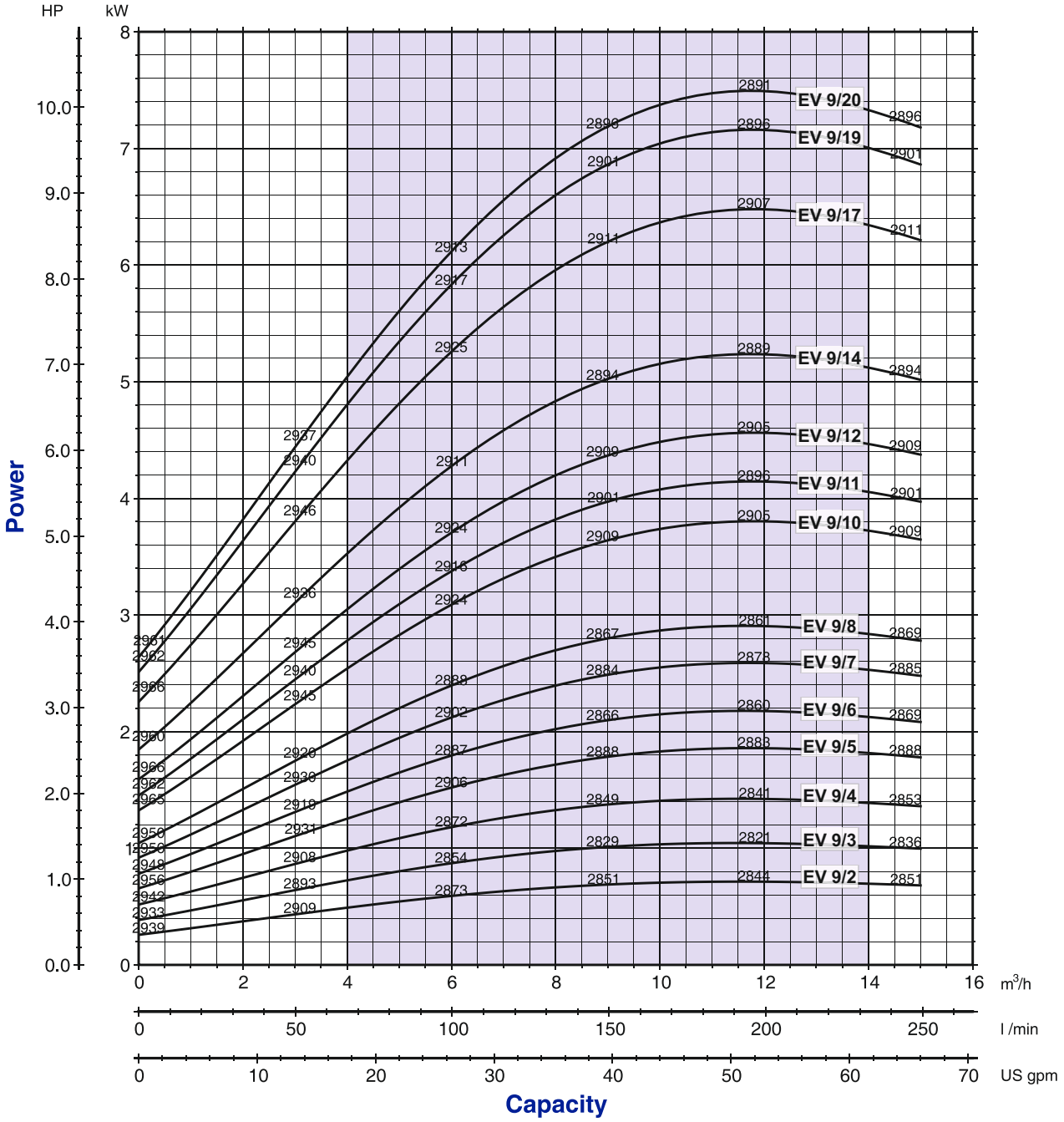
MEI ≥ 0,70



00110041 07/2008

Performance curves 50Hz

MEI ≥ 0,70



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

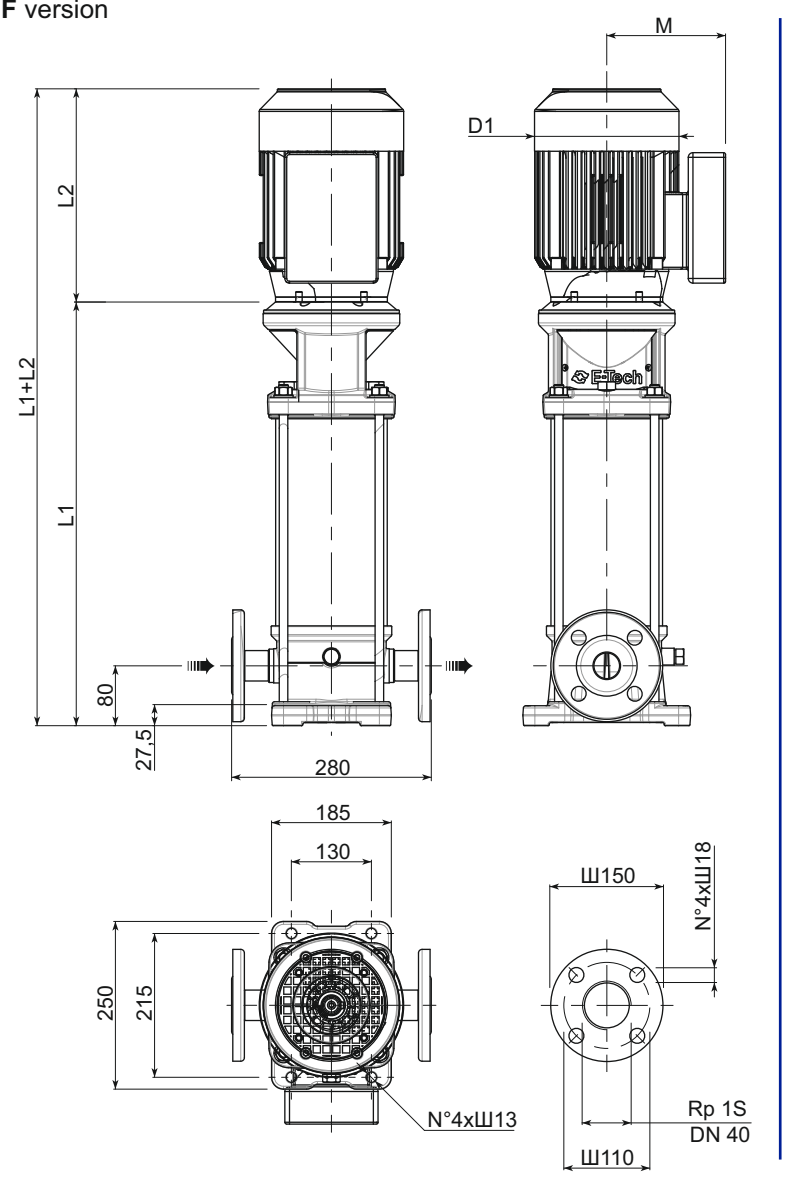
$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ } \textit{remains approximately the same.}$$

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=Power, h=Eff ciency

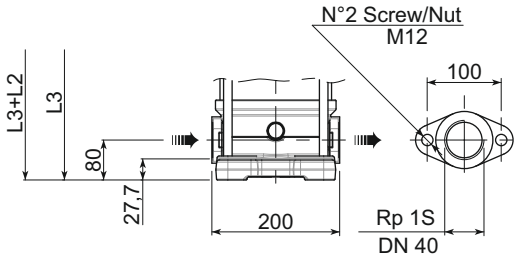
00110041 07/2008

Technical data 50Hz

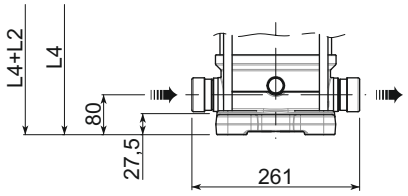
F version



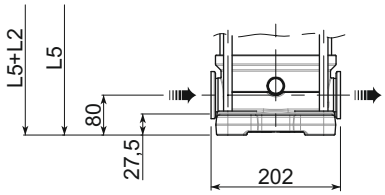
T version



V version



C version



00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied with flanges (Optional accessories, including bolts and joints).

T version Oval flanges on body type PN16: the pump is supplied without threaded oval flanges (Optional accessories, including bolts and joints).

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

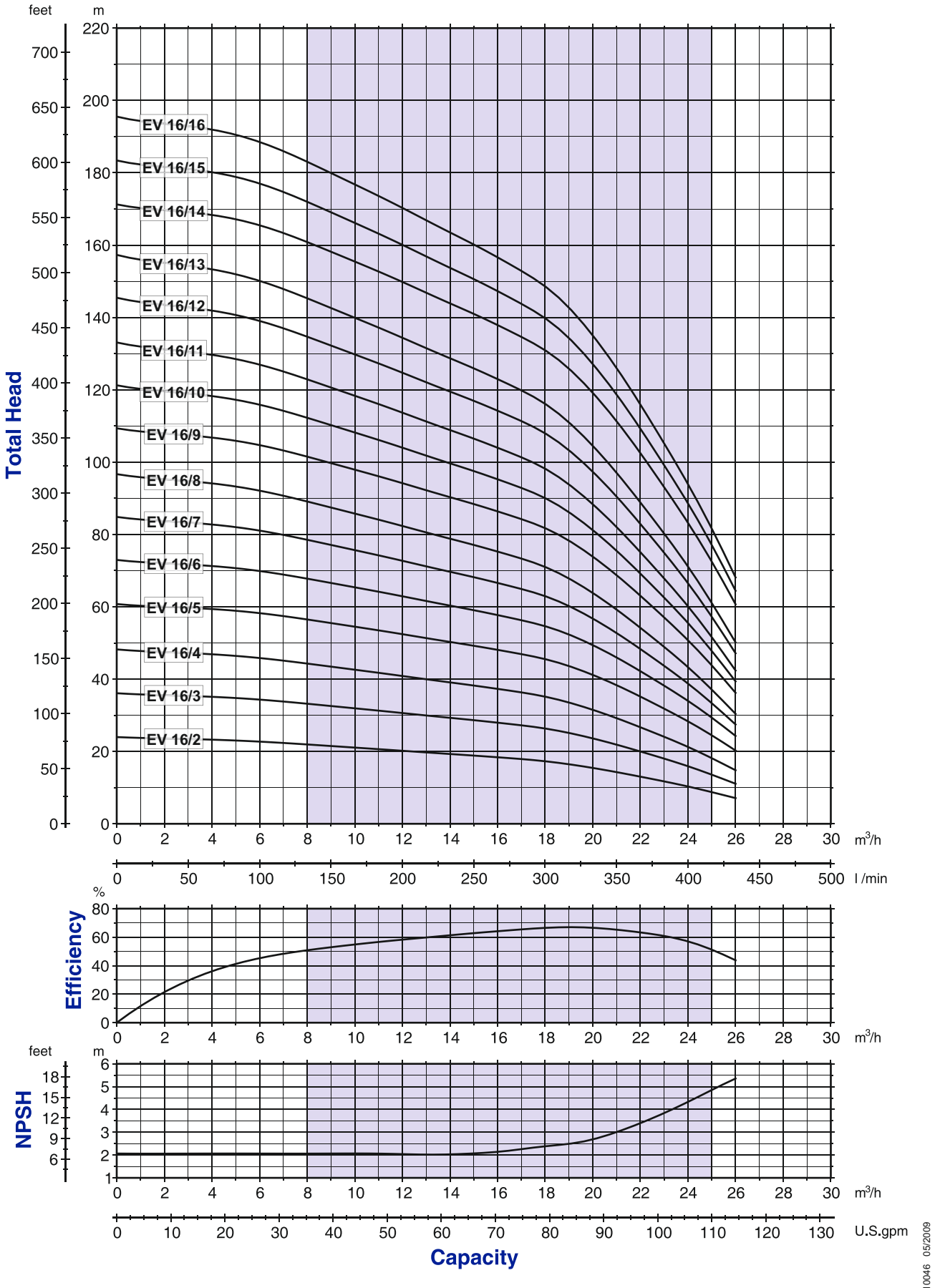
C version Connections with fittings type Clamp-FlexiClamp: the pump is supplied without collars (Optional accessories).

Pump Model	Motor		Dimensions (mm)											Weight	
			L1	L2		L3	L4	L5	M		D1			Pump	Electric Pump
	kW	Size	F	1-PHASE	3-PHASE	T	V	C	1-PHASE	3-PHASE	1-PHASE	3-PHASE			
EV 9/2	0.75	80	347.5	232	232	347.5	347.5	347.5	150	129	160	160		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	-	267	518	518	518	-	138	-	180		22	41
EV 9/8	3	100	548	-	267	548	548	548	-	138	-	180		23	42
EV 9/10	4	112	608	-	306	608	608	608	-	145	-	196		24.5	47.5
EV 9/11	4	112	638	-	306	638	638	638	-	145	-	196		25	48
EV 9/12	5.5	132	690.5	-	328	690.5	690.5	690.5	-	161	-	225		30.5	64.5
EV 9/14	5.5	132	750.5	-	328	-	750.5	750.5	-	161	-	225		32	66
EV 9/17	7.5	132	840.5	-	350	-	840.5	840.5	-	161	-	225		34.5	70.5
EV 9/19	7.5	132	900.5	-	350	-	900.5	900.5	-	161	-	225		36	72
EV 9/20	7.5	132	930.5	-	350	-	930.5	930.5	-	161	-	225		36.5	72.5

EV 16

Performance curves 50Hz

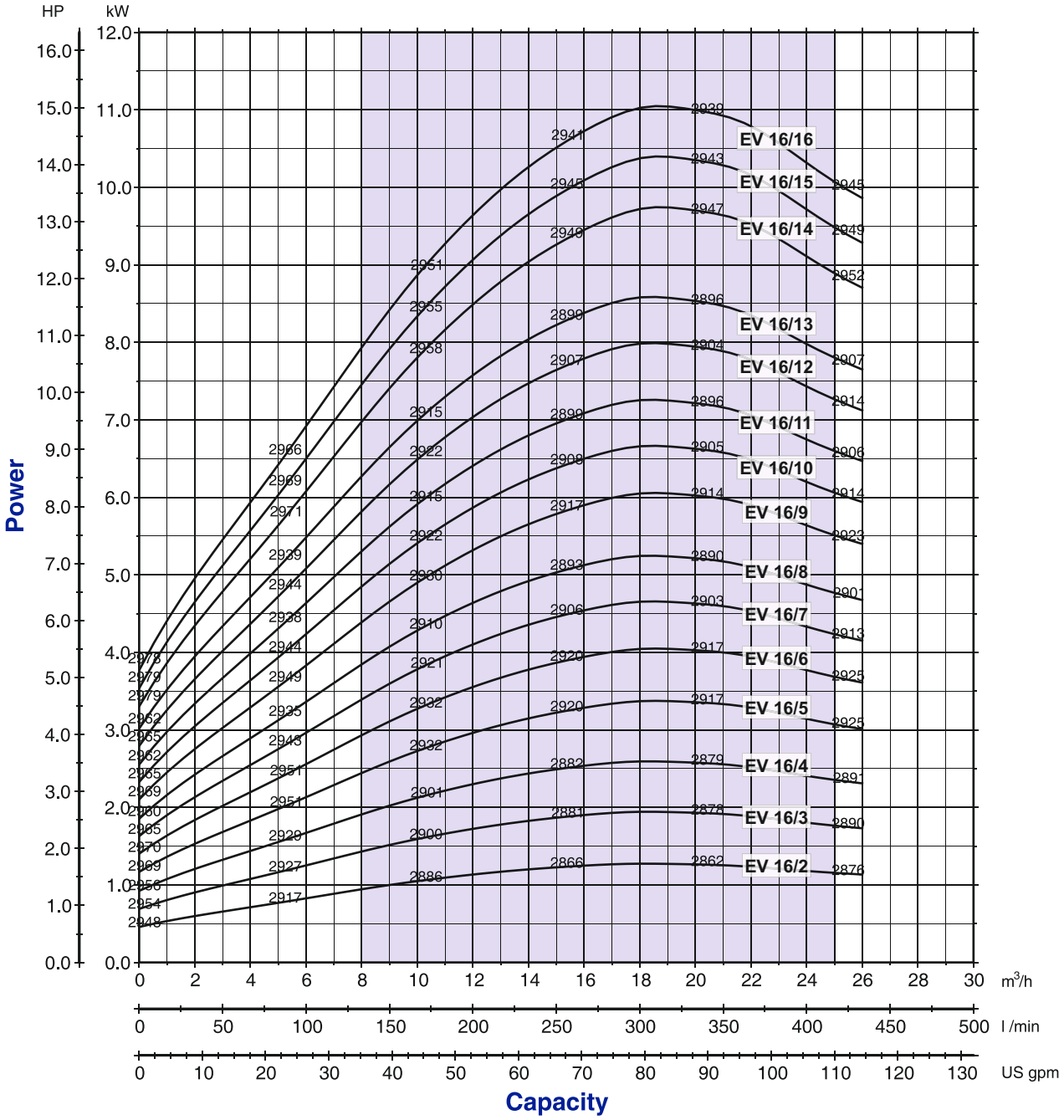
MEI ≥ 0,40



00110046 05/2009

Performance curves 50Hz

≥ **0,40**



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

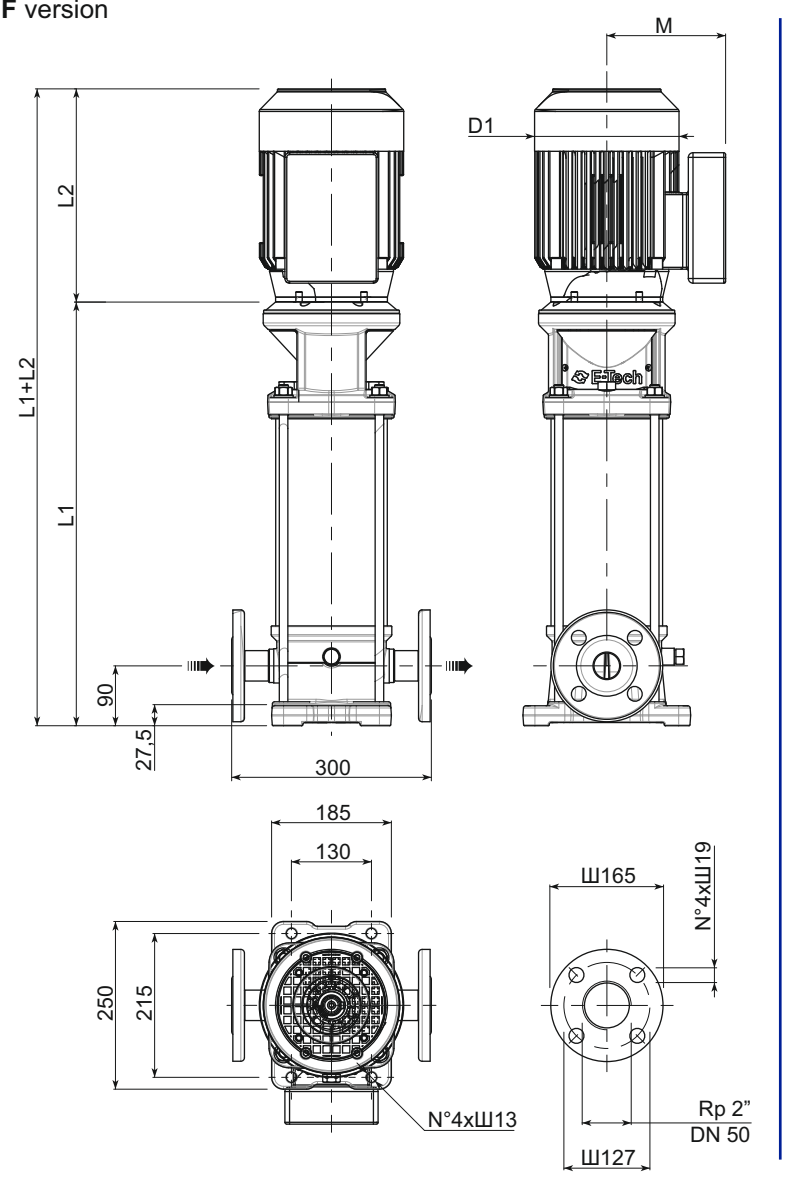
$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ } \textit{remains approximately the same.}$$

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=Power, h=Eff ciency

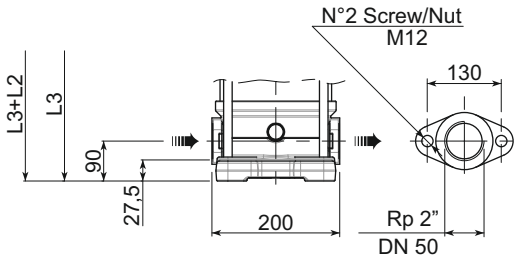
00110046 05/2009

Technical data 50Hz

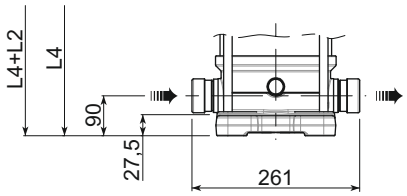
F version



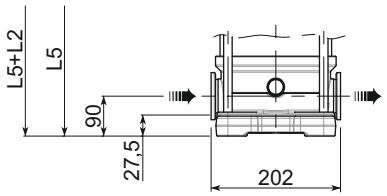
T version



V version



C version



00114014 01/2012

F version Round flanges on body type PN25: the pump is supplied with flanges (Optional accessories, including bolts and joints).

T version Oval flanges on body type PN16: the pump is supplied without threaded oval flanges (Optional accessories, including bolts and joints).

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

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

Pump Model	Motor		Dimensions (mm)										Weight	
			L1	L2		L3	L4	L5	M		D1		Pump	Electric Pump
	kW	Size	F	1-PHASE	3-PHASE	T	V	C	1-PHASE	3-PHASE	1-PHASE	3-PHASE		
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	-	267	467.5	467.5	467.5	-	138	-	180	21.5	40
EV 16/5	4	112	505	-	306	505	505	505	-	145	-	196	22.5	45.5
EV 16/6	5.5	132	565	-	328	565	565	565	-	161	-	225	28.5	62.5
EV 16/7	5.5	132	602.5	-	328	602.5	602.5	602.5	-	161	-	225	29.5	63.5
EV 16/8	5.5	132	640	-	328	640	640	640	-	161	-	225	30.5	64.5
EV 16/9	7.5	132	677.5	-	350	677.5	677.5	677.5	-	161	-	225	31.5	67.5
EV 16/10	7.5	132	715.5	-	350	715.5	715.5	715.5	-	161	-	225	32.5	68.5
EV 16/11	7.5	132	753	-	350	753	753	753	-	161	-	225	33.5	69.5
EV 16/12	11	132	790.5	-	425	790.5	790.5	790.5	-	198	-	248	34.5	92.5
EV 16/13	11	132	828	-	425	828	828	828	-	198	-	248	35	93
EV 16/14	11	132	865.5	-	425	-	865.5	865.5	-	198	-	248	36	94
EV 16/15	11	132	903	-	425	-	903	903	-	198	-	248	37	95
EV 16/16	11	132	940.5	-	425	-	940.5	940.5	-	198	-	248	38	96

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

EV Series
Performance Curves
and Technical Data

EV 30 - 45 50Hz

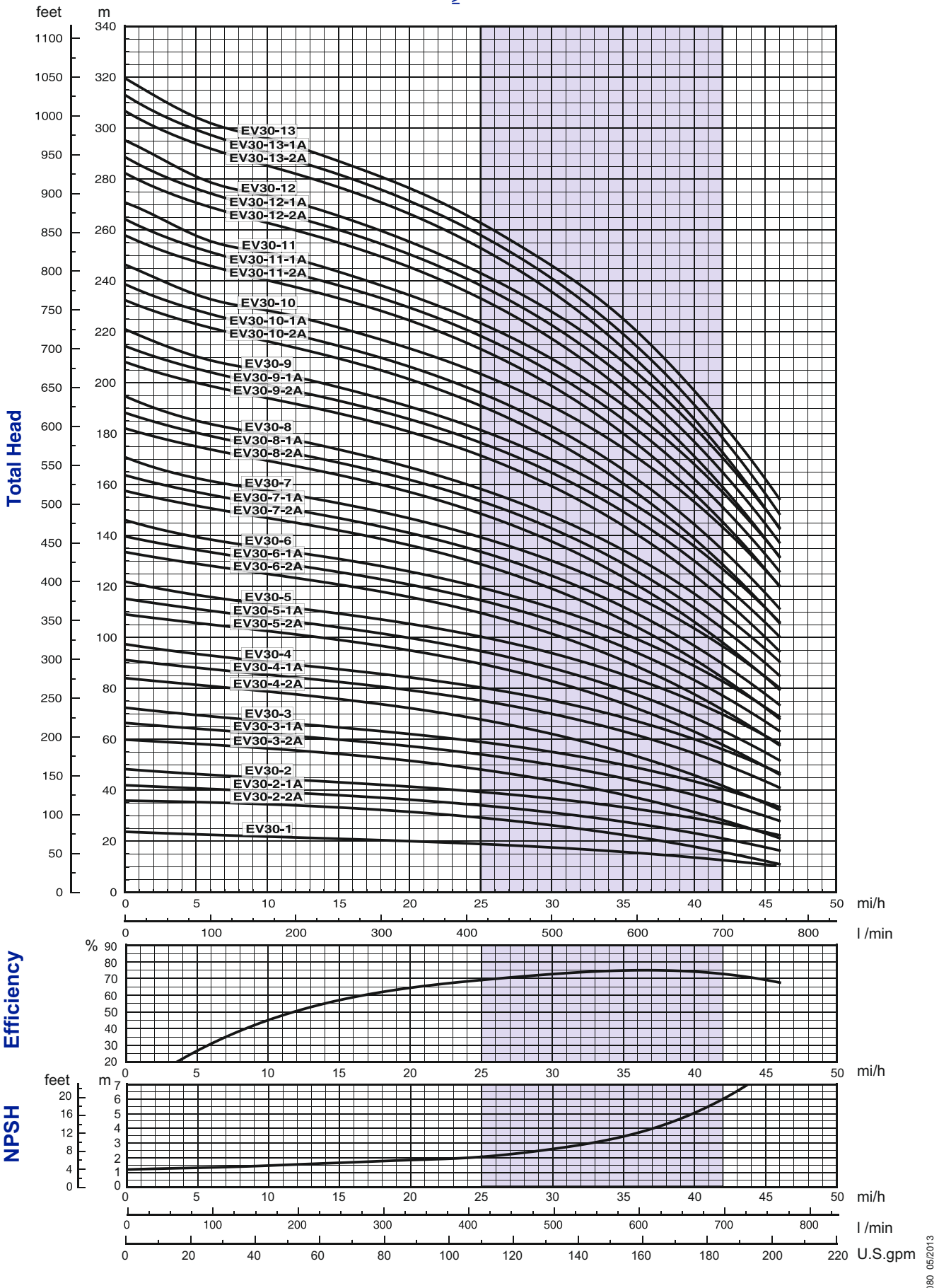
According to COMMISSION REGULATION (EU) No 547/2012

MEI - Minimum Eff ciency Index

In order to achieve a comparable eff ciency threshold-value across all legally covered water pumps, an index of pump size, specif c speed and rotational speed has been created:
the MEI (Minimum Eff ciency Index).
MEI covers best point (BEP), part load (PL) and overload (OL) eff ciencies as water pumps may be chosen with safety margins and hence do not run at best eff ciency point.
This ensures high and f at eff ciency curves and consequently an eff cient operation in real life.
MEI means the dimensionless scale unit for hydraulic pump eff ciency at BEP, PL and OL.
MEI is a measure for the quality of a pump size in respect to the eff ciency.
The higher the value of the MEI is, the better is the pump size in respect to eff ciency 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 ef f cient and economic when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.
The eff ciency of a pump with a trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a f xed duty point, leading to reduced energy consumption. The minimum eff ciency index (MEI) is based on the full impeller diameter.
For benchmark eff ciency graphs, go to www.europump.org/ef f ciencycharts.
Information on benchmark eff ciency is available at **www.etechpumps.com.**
Benchmark MEI ≥ 0,70.

EV 30

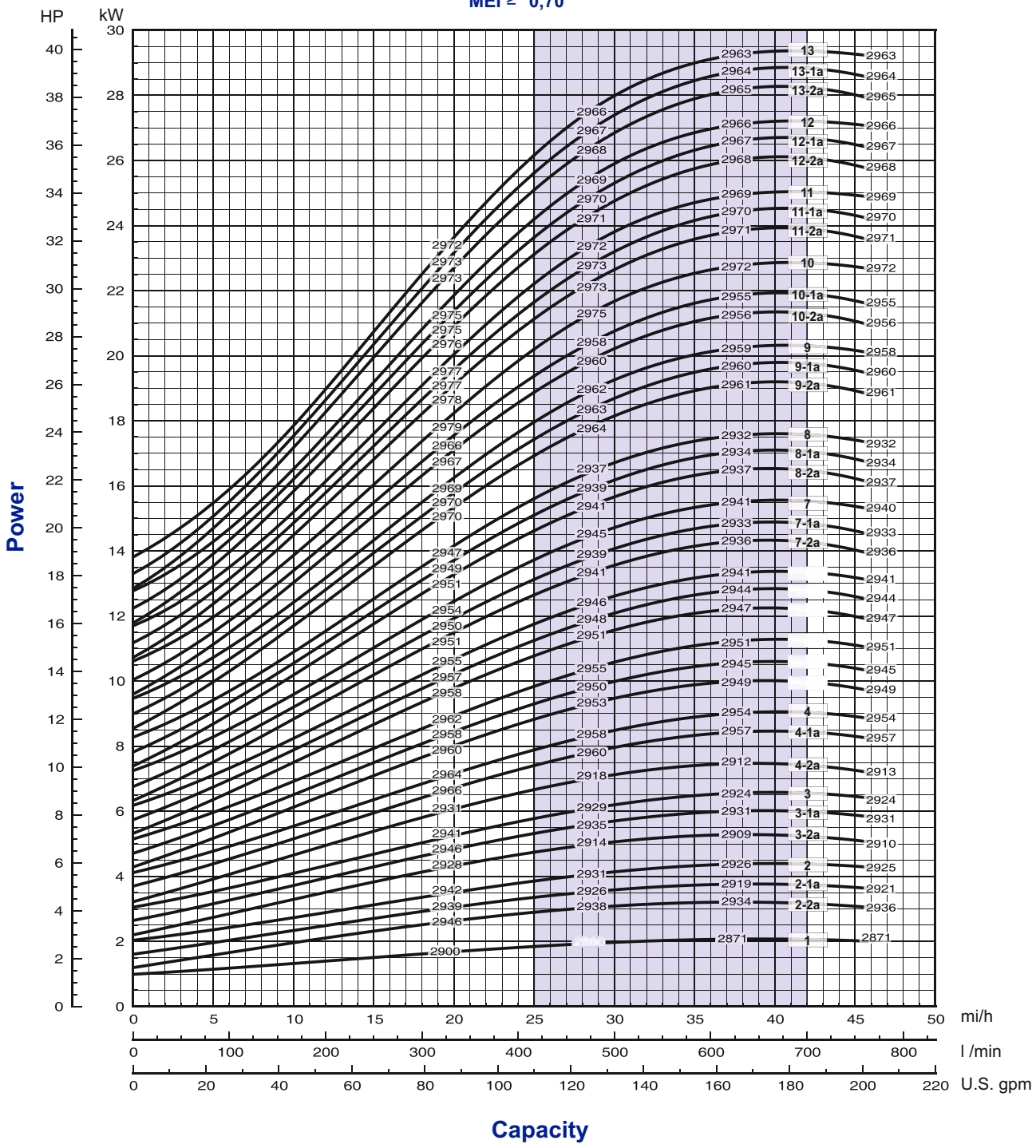
Performance curves 50Hz



00110080 05/2013

Performance curves 50Hz

MEI ≥ 0,70



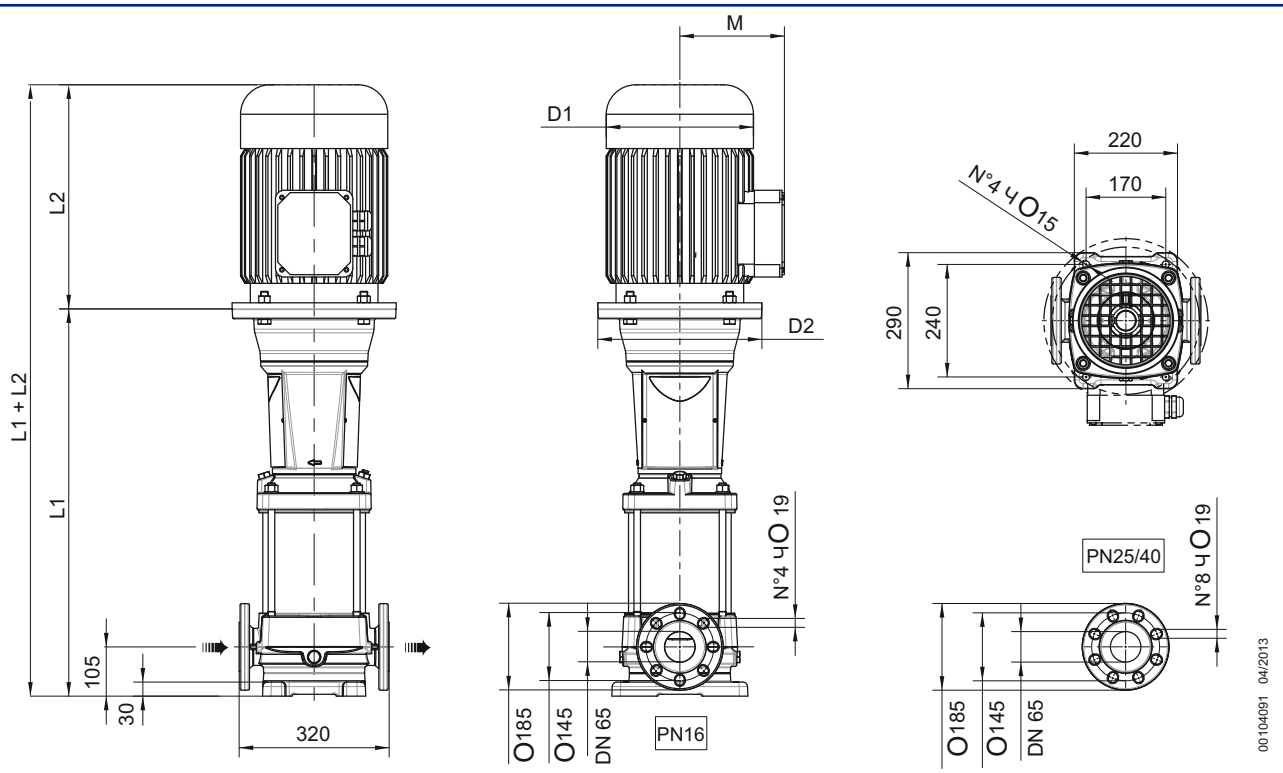
Performance curves of Q, H and P depend on the rpm number according to the following formulae:

$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ } \textit{remains approximately the same.}$$

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=Power, h=Eff ciency

00110080 05/2013

Technical data 50Hz



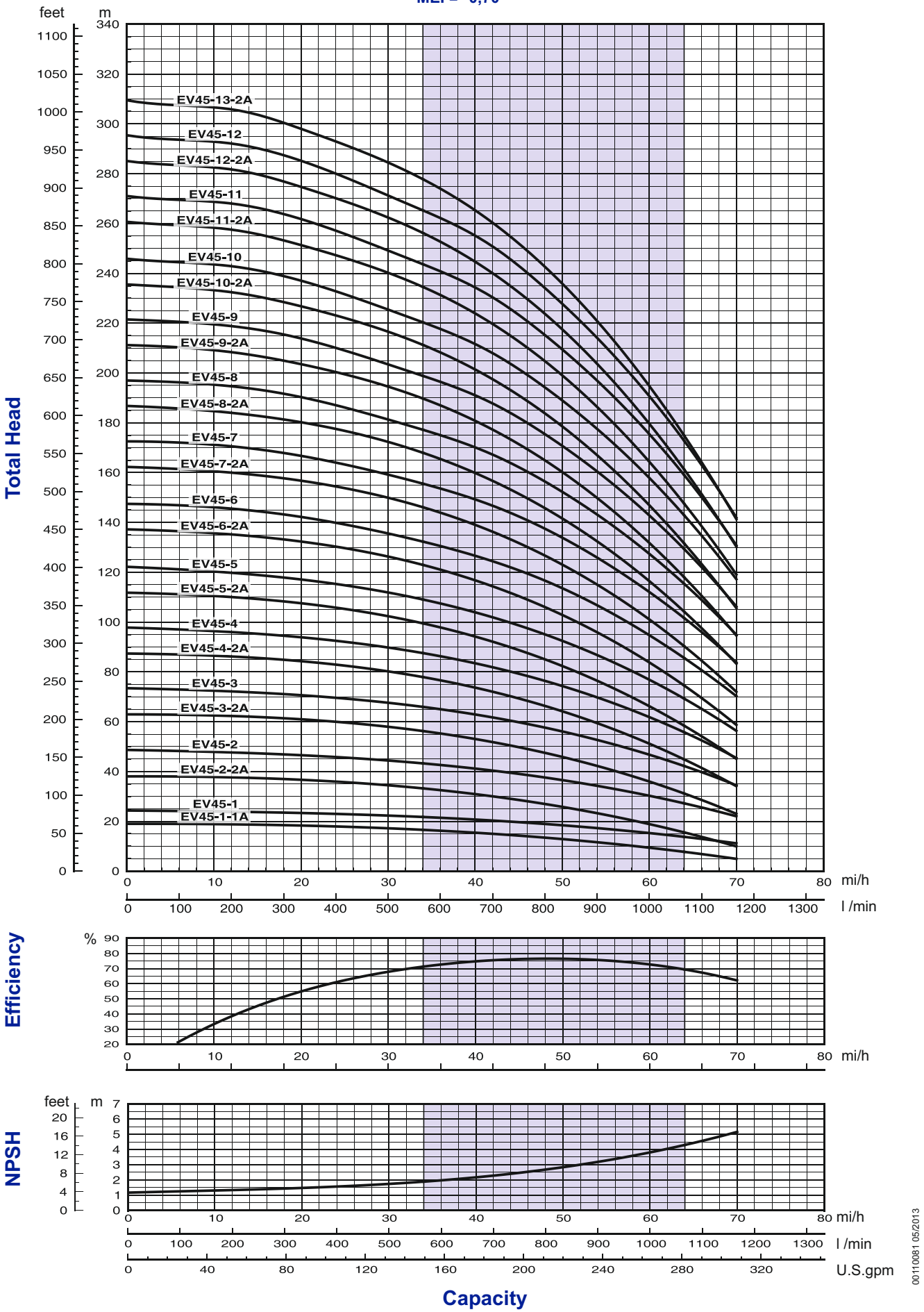
F version The pump is supplied without accessories (Optional accessories, including bolts and joints).

Pump Model	Motor		Dimensions (mm)						Weight		
	kW	Size	L1	L2	M	D1	D2	L1 + L2	PUMP	MOTOR	ELECTRIC
EV 30/1	2,2	90	445	267	138	180	170	712	53	16	69
EV 30/2-2a	4	112	537	306	145	196	170	843	57	22,8	80
EV 30/2-1a	4	211	724	306	145	196	170	1030	74,5	22,8	97,5
EV 30/2	5,5	132	724	328	161	225	300	1052	74,5	34	108.5
EV 30/3-2a	5,5	132	806	328	161	225	300	1134	78,5	34	112,5
EV 30/3-1a	7,5	132	806	350	161	225	300	1156	78,5	36	114,5
EV 30/3	7,5	132	806	350	161	225	300	1238	78,5	36	114,5
EV 30/4-2a	7,5	132	888	350	161	225	300	1333	85,5	36	121,5
EV 30/4-1a	11	160	908	425	198	248	350	1333	85,5	58	143,5
EV 30/4	11	160	908	425	198	248	350	1415	85,5	58	143,5
EV 30/5-2a	11	160	990	425	198	248	350	1415	89,5	58	147,5
EV 30/5-1a	11	160	990	425	198	248	350	1415	89,5	58	147,5
EV 30/5	15	160	990	476	198	248	350	1548	89,5	64	153,5
EV 30/6-2a	15	160	1072	476	198	248	350	1548	93,5	64	157,5
EV 30/6-1a	15	160	1072	476	198	248	350	1548	93,5	64	157,5
EV 30/6	15	160	1072	476	198	248	350	1630	93,5	64	157,5
EV 30/7-2a	15	160	1154	476	198	248	350	1652	97,5	64	161,5
EV 30/7-1a	15	160	1154	476	198	248	350	1630	97,5	64	161,5
EV 30/7	18,5	160	1154	542	238	317	350	1696	97,5	89	186,5
EV 30/8-2a	18,5	160	1236	542	238	317	350	1778	101,5	89	190,5
EV 30/8-1a	18,5	160	1236	542	238	317	350	1778	101,5	89	190,5
EV 30/8	18,5	160	1236	542	238	317	350	1778	101,5	89	190,5
EV 30/9-2a	22	180	1318	542	238	360	350	1860	105,5	108.7	214
EV 30/9-1a	22	180	1318	542	238	360	350	1860	105,5	108.7	214
EV 30/9	22	180	1318	542	238	360	350	1860	105,5	108.7	214
EV 30/10-2a	22	180	1400	542	238	360	350	1942	112,5	108.7	221
EV 30/10-1a	22	180	1400	542	238	360	350	1942	112,5	108.7	221
EV 30/10	30	200	1405	658	297	399	400	2063	112,5	228	340,5
EV 30/11-2a	30	200	1487	658	297	399	400	2145	116,5	228	344,5
EV 30/11-1a	30	200	1487	658	297	399	400	2145	116,5	228	344,5
EV 30/11	30	200	1487	658	297	399	400	2145	116,5	228	344,5
EV 30/12-2a	30	200	1569	658	297	399	400	2227	120,5	228	348,5
EV 30/12-1a	30	200	1569	658	297	399	400	2227	120,5	228	348,5
EV 30/12	30	200	1569	658	297	399	400	2227	120,5	228	348,5
EV 30/13-2a	30	200	1651	658	297	399	400	2309	124,5	228	352,5
EV 30/13-1a	30	200	1651	658	297	399	400	2309	124,5	228	352,5
EV 30/13	30	200	1651	658	297	399	400	2309	124,5	228	352,5

EV 45

Performance curves 50Hz

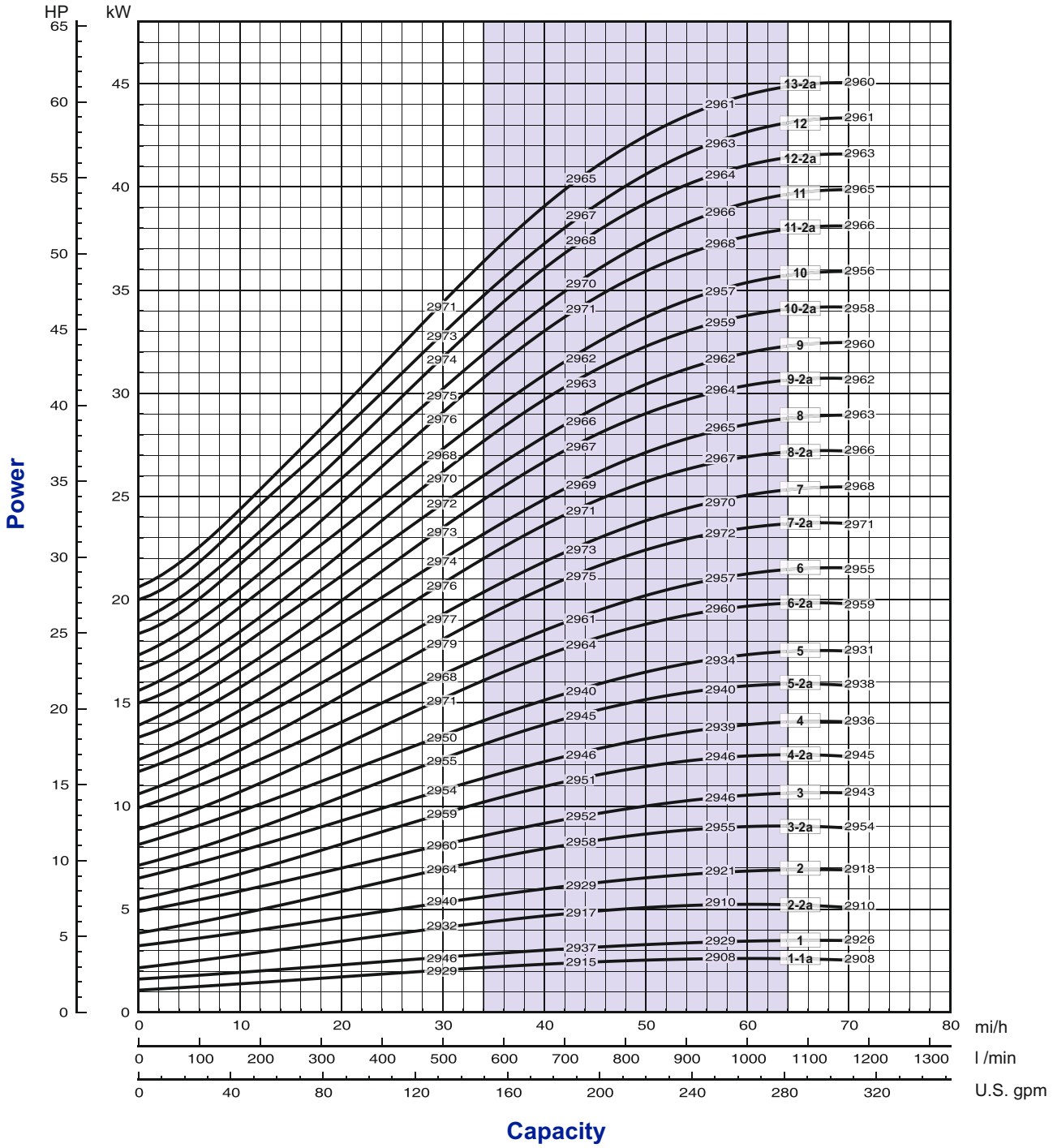
MEI ≥ 0,70



00110081 05/2013

Performance curves 50Hz

MEI ≥ 0,70



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

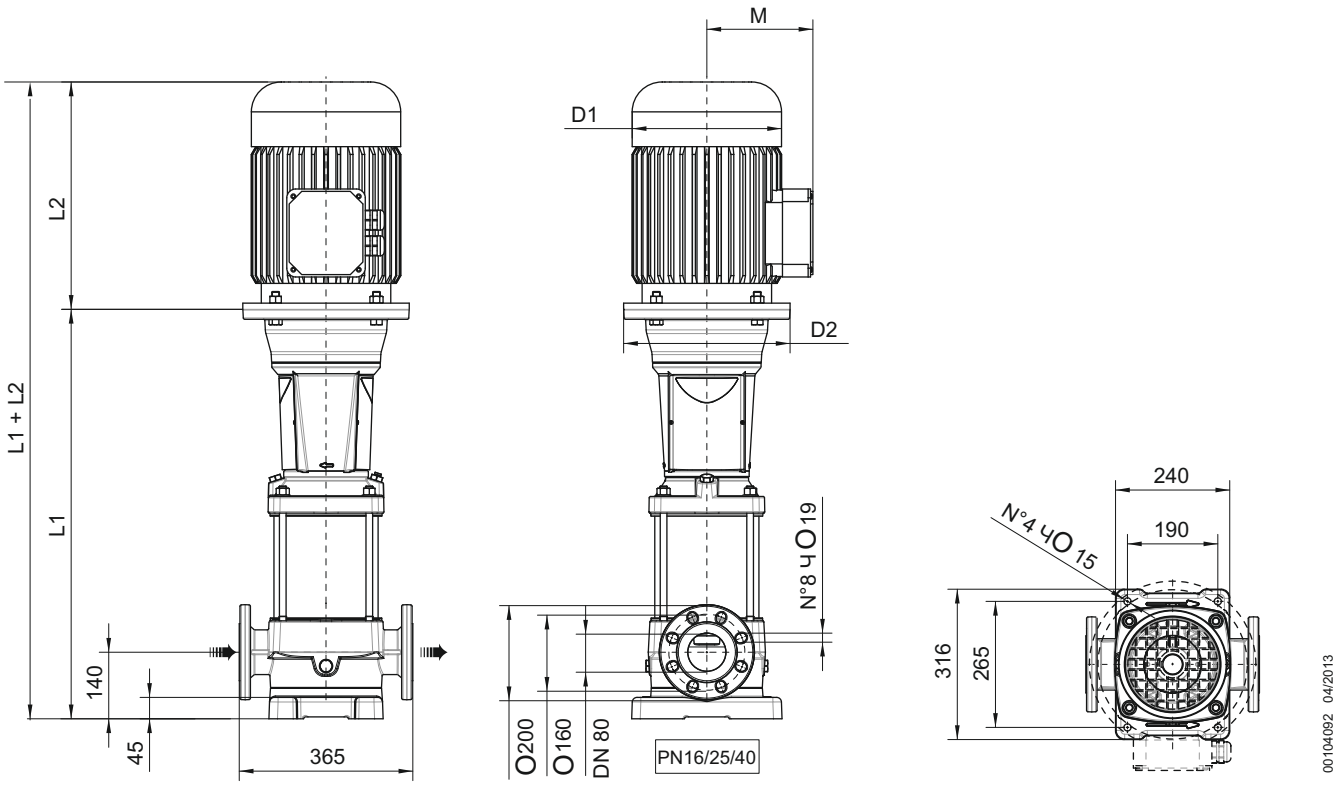
$$Q_2 = Q_1 \cdot \left(\frac{n_2}{n_1}\right) \quad , \quad H_2 = H_1 \cdot \left(\frac{n_2}{n_1}\right)^2 \quad , \quad P_2 = P_1 \cdot \left(\frac{n_2}{n_1}\right)^3 \quad , \quad \eta \text{ } \textit{remains approximately the same.}$$

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=Power, h=Eff ciency

00110081 05/2013

Technical data 50Hz



F version The pump is supplied without accessories (Optional accessories, including bolts and joints).

Pump Model	Motor		Dimensions (mm)						Weight (kg)		
	kW	Size	L1	L2	M	D1	D2	L1 + L2	PUMP	MOTOR	ELECTRIC
EV 45/1-1a	3	100	490	267	138	180	170	757	59	18,7	78
EV 45/1	4	112	490	306	145	196	170	796	59	22,8	82
EV 45/2-2a	5,5	132	759	328	161	225	300	1087	80,5	34	114,5
EV 45/2	7,5	132	759	350	161	225	300	1109	80,5	36	116,5
EV 45/3-2a	11	160	861	425	198	248	350	1286	87,5	58	145,5
EV 45/3	11	160	861	425	198	248	350	1286	87,5	58	145,5
EV 45/4-2a	15	160	943	476	198	248	350	1419	91,5	64	155,5
EV 45/4	15	160	943	476	198	248	350	1419	91,5	64	155,5
EV 45/5-2a	18,5	160	1025	542	238	317	350	1567	95,5	89	184,5
EV 45/5	18,5	160	1025	542	238	317	350	1567	95,5	89	184,5
EV 45/6-2a	22	180	1107	542	238	317	350	1649	99	108,5	208
EV 45/6	22	180	1107	542	238	317	350	1649	99	108,5	208
EV 45/7-2a	30	200	1194	658	297	399	400	1852	106	228	334
EV 45/7	30	200	1194	658	297	399	400	1852	106	228	334
EV 45/8-2a	30	200	1276	658	297	399	400	1934	110	228	338
EV 45/8	30	200	1276	658	297	399	400	1934	110	228	338
EV 45/9-2a	37	200	1358	658	297	399	400	2016	114	242	356
EV 45/9	37	200	1358	658	297	399	400	2016	114	242	356
EV 45/10-2a	37	200	1440	658	297	399	400	2098	118	242	360
EV 45/10	37	200	1440	658	297	399	400	2098	118	242	360
EV 45/11-2a	45	225	1522	699	333	465	450	2221	125	308	433
EV 45/11	45	225	1522	699	333	465	450	2221	125	308	433
EV 45/12-2a	45	225	1604	699	333	465	450	2303	129	308	437
EV 45/12	45	225	1604	699	333	465	450	2303	129	308	437
EV 45/13-2a	45	225	1686	699	333	465	450	2385	133	308	441

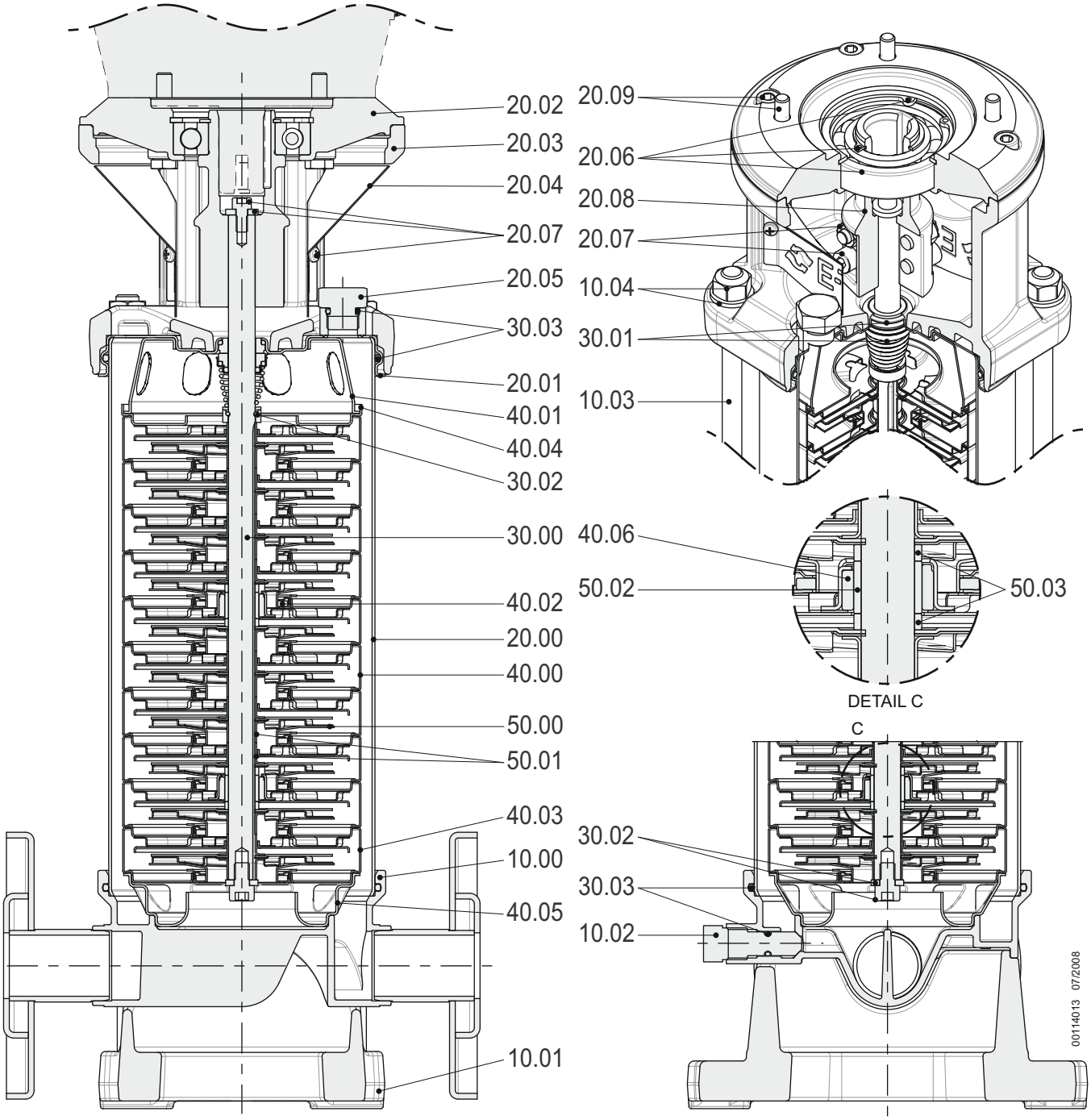
EV Series
Pump Section and
List of Main Components

EV 3

EV 5

EV 9

EV 16



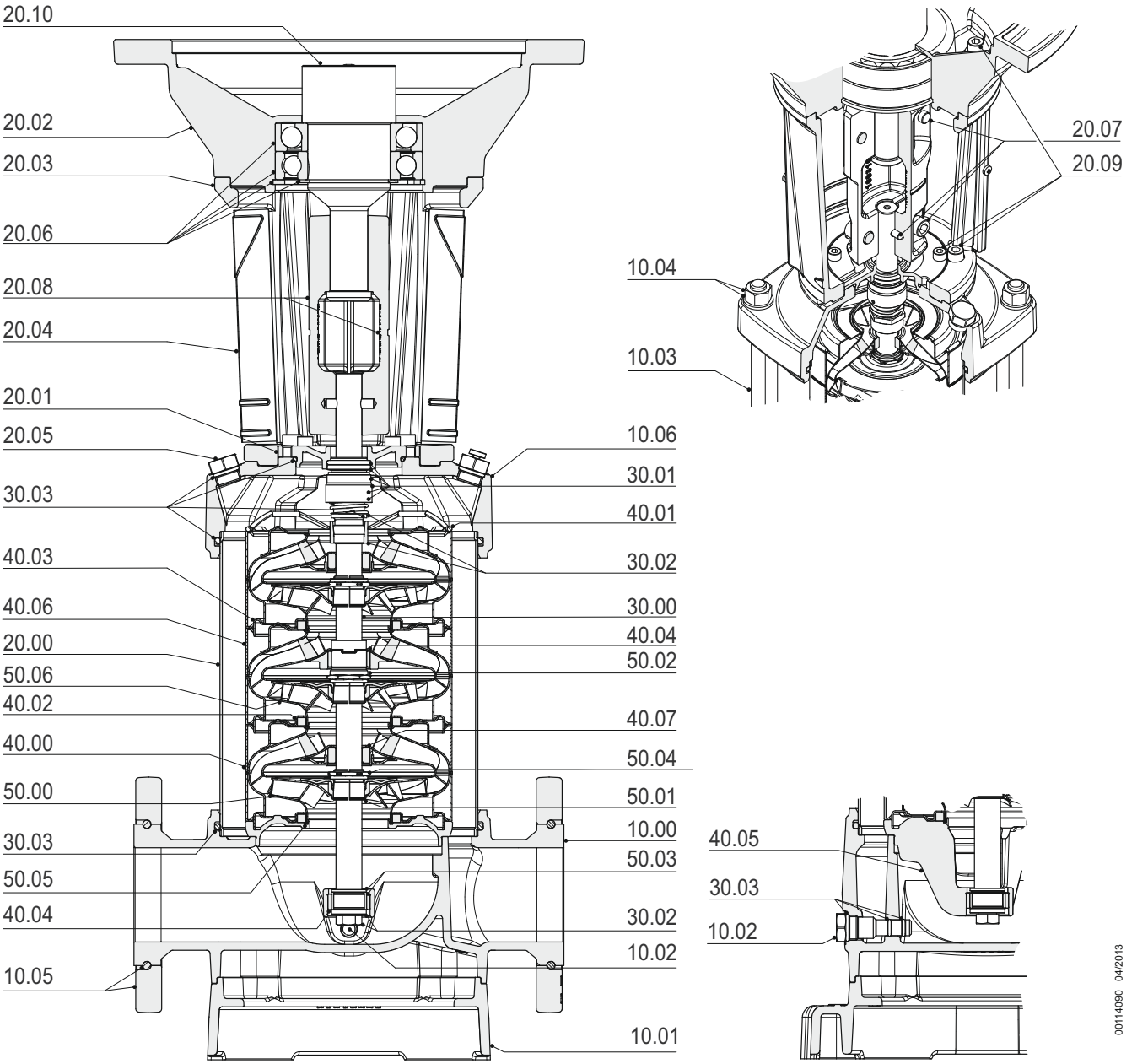
Ref. N.	Description
10 00	Pump Casing
10 01	f Pump xing plate
10 02	Draining and priming cap
10 03	Tie bolt
10 04	Kit nuts and washers
20 00	Outer case
20 01	Mechanical seal housing
20 02	f Motor ange
20 03	Motor bracket
20 04	Coupling guard
20 05	Filling plug
20 06	Kit circlip and bearing
20 07	Kit coupling washers and screws
20 08	Coupling
20 09	Kit motor screws

Ref. N.	Description
30 00	Pump shaft
30 01	Kit mechanical seal
30 02	Kit screws, nuts and washers
30 03	Kit o-ring (4 pcs)
40 00	Stage housing and diffuser
40 01	Stage centering outlet
40 02	Floating neck ring assembly
40 03	Initial stage housing
40 04	Last stage with diffuser
40 05	Stage centering inlet
40 06	Stage housing and diffuser with bearing
50 00	Impeller
50 01	Impeller spacers (2 pcs)
50 02	Intermediary sleeve
50 03	Intermediary sleeve spacers (2 pcs)

EV Series
Pump Section and
List of Main Components

EV 30

EV 45



Ref. N.	Description
10 00	Pump casing
10 01	f xing plate + Screws
10 02	Draining and priming cap
10 03	Tie bolt
10 04	Kit nuts and washers
10 05 f	Kit anges ring
10 06	Upper Flange
20 00	Outer Case
20 01	Mechanical seal housing
20 02 f	Motor ange
20 03	Motor bracket
20 04	Coupling guard
20 05	Kit Filling plugs
20 06	Kit circlips and bearings
20 07	Kit coupling pin, washers and screws
20 08	Kit Coupling
20 09	Kit motor screws
20 10	Motor shaft adapter

Ref. N.	Description
30 00	Pump shaft
30 01	Kit Mechanical seal - (n° 7 pz.)
30 02	Kit screw, washer and f xing seal kit
30 03	Kit O-rings
40 00	Stage housing and diffuser
40 01	Spring ring
40 02	Floating neck ring
40 03	Flange clamping neck ring
40 04	Bearing Bush
40 05	Stage centering inlet
40 06	Stage housing and diffuser with bearing
40 07	Secondary bearing bush
50 00	Impeller
50 01	Split cone
50 02	Intermediary sleeve
50 03	Journal sleeve kit
50 04	Split cone nut
50 05	Wear ring
50 06	Intermediate impeller with screw