

# ES4 Series

4" Submersible pumps

Technical Guide

50 Hz





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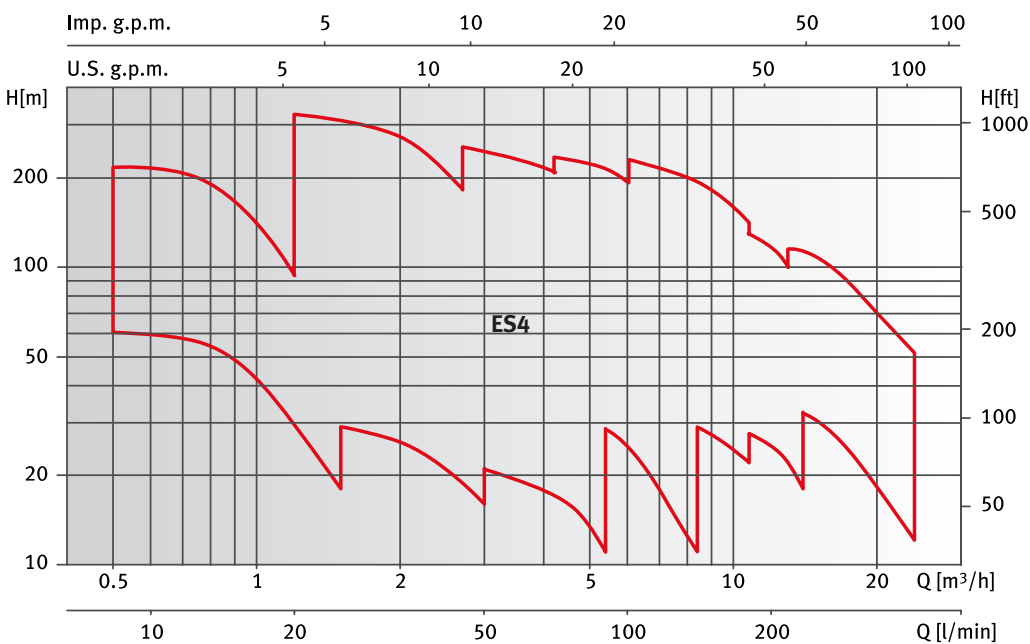
## ES4 Series 4" Multistage Submersible pumps and motors

# The **ES4** is a 4" multistage submersible pump with floating impellers.

Application sectors: civil, agricultural and industrial.

- >> Water supply.
- >> Spray irrigation systems.
- >> Pressurisation.
- >> Fire protection.

### Application field → ES4



## Description

→ The **ES4** pump is a multistage submersible pump with floating impellers.

## Technical data

- Flow: up to 24 m<sup>3</sup>/h at 2,850 min<sup>-1</sup>.
- Height: up to 302 m at 2,850 min<sup>-1</sup>.
- Total maximum diameter of electropump (including the cable guard): 98 mm.
- Maximum immersion depth: 150 m (with O4I motors).  
70 m (with A4I motors).
- Maximum quantity of sand tolerated: 150 g/m<sup>3</sup>.
- Grid for allowing solids to pass: 4.5 mm.
- ES4 01 - ES4 02 - ES4 03 - ES4 04 - ES4 06 versions with discharge body RP/NPT 1 1/4".
- ES4 08 - ES4 12 - ES4 16 versions with discharge duct RP/NPT 2".
- Motor power: from 0.37 to 7.5 kW.
- O4I single phase version: from 0.37 to 2.2 kW. 220-240 V, 50 Hz.  
O4I three phase version: from 0.37 to 7.5 kW. 220-240 V, 50 Hz and from 0.37 to 7.5 kW. 380-415 V, 50 Hz.
- A4I single phase version: from 0.37 to 4 kW. 220-240 V, 50 Hz.  
A4I three phase version: from 0.37 to 5.5 kW. 220-240 V, 50 Hz and from 0.37 to 7.5 kW. 380-415 V, 50 Hz.
- Overload protection must be provided for in the user's control panel (see section on distribution panels).
- Maximum deviation with regard to nominal voltage: ± -10% (O4I), ± 6 % (A4I).
- Maximum number of start-ups per hour, distributed equitatively: 30 (O4I), 40 (A4I).
- Operational temperature range for liquids: 5-35°C.
- Maximum temperature of water in contact with motor: 35°C (O4I), 35°C (A4I).

## Construction features of pump

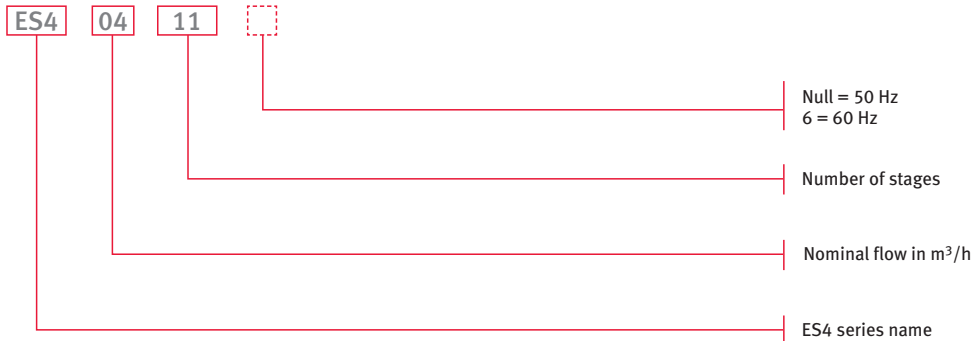
- Abrasion-resistant construction. The frontal plane, along with the floating impellers, guarantee a configuration that is highly resistant to abrasion.
- Upper and lower brackets manufactured in micro-cast stainless steel to guarantee resistance to corrosion, robustness and a solid coupling with the motor.
- The hexagonal pump shaft ensures the efficient traction of the impeller.
- Stainless steel check valve built into the head, to avoid the water hammer, protecting the impellers and diffusers.
- The pumps in the ES4 series can be assembled with either of the O4I or A4I motors.
- To consult motor features, see the 'O4I and A4I motor section.
- Different voltages and frequencies (on request).



## Table of materials

DESCRIPTION	MATERIALS	REF. STANDARDS EUROPE	REF. STANDARDS USA
Lower bracket	Stainless steel	EN 10213-4-GX5CrNi19-10 (1.4308)	CF-8 ASTM A743
Discharge body	Stainless steel	EN 10213-4-GX5CrNi19-10 (1.4308)	CF-8 ASTM A743
Valve plate	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Valve bracket	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
O-ring	Nitrile rubber (NBR)		
Valve locking ring	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Pump bracket	Polycarbonate		
Bearing	Polyurethane		
Elastic ring	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Diffuser	Polycarbonate		
Diffuser (ES4 16)	Noryl®		
Impeller	Noryl®		
Plane housing	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Thickness	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Pump base	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Shaft	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Casing	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Jacket	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Spacer	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Filter	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
Cable guard	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304

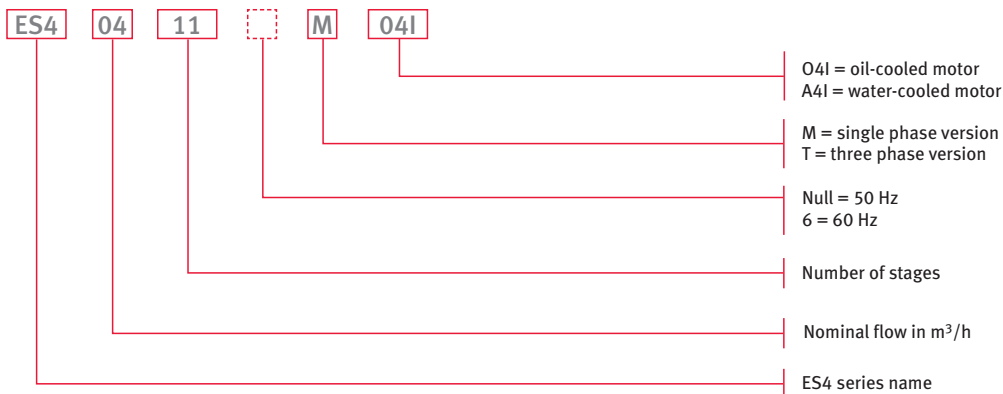
## Pump identification codes



EXAMPLE: ES4 04 11

ES4 series pump, nominal flow at 4 m<sup>3</sup>/h, 11 stages, 50 Hz version.

## Electropump identification codes



EXAMPLE: ES4 04 11M - 04I

ES4 series electropump, nominal flow 4 m<sup>3</sup>/h, 11 stages, 50 Hz, single phase, assembled to a 4" 04I motor.

## Nominal data

### Pump

### Key

- 1. Description of the pump
- 2. Code
- 3. Serial number
- 4. Flow range
- 5. Height range
- 6. Motor features
- 7. Speed
- 8. Maximum temperature
- 9. Minimum height
- 10. Maximum height
- 11. Rated power
- 12. Maximum operating depth
- 13. Year of manufacture

### Electropump

### Key

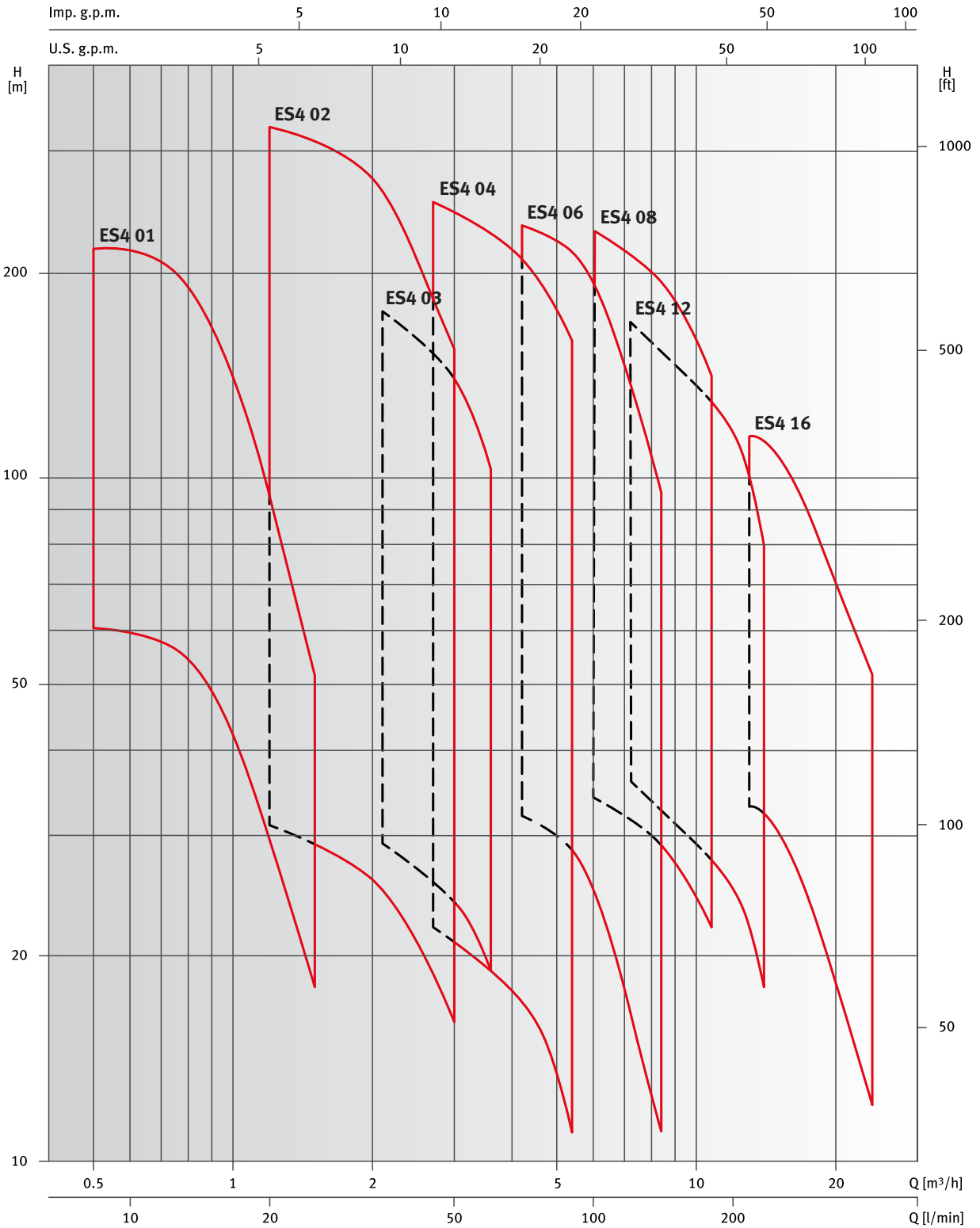
- 1. Description of the electropump
- 2. Code
- 3. Serial number
- 4. Electrical data
- 5. Capacitor features
- 6. Motor features
- 7. Speed
- 8. Maximum temperature
- 9. Minimum flow
- 10. Operating factors
- 11. Weight of electropump
- 12. Maximum operating depth
- 13. Year of manufacture
- 14. Direction of motor rotation

# ES4 Series

ES4 Series → Range of Hydraulic Performance at 50 Hz



## ES4 Series

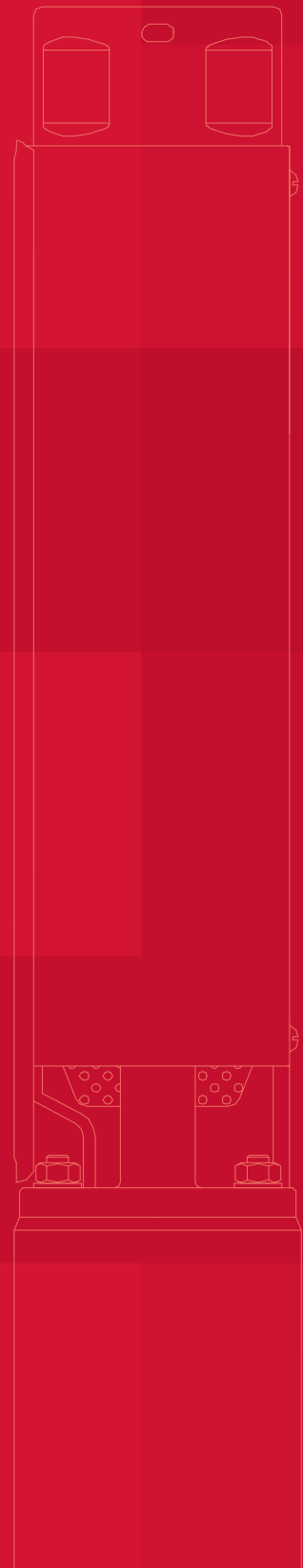




# ES4 Series

Performance Features,  
Dimensions and Weights

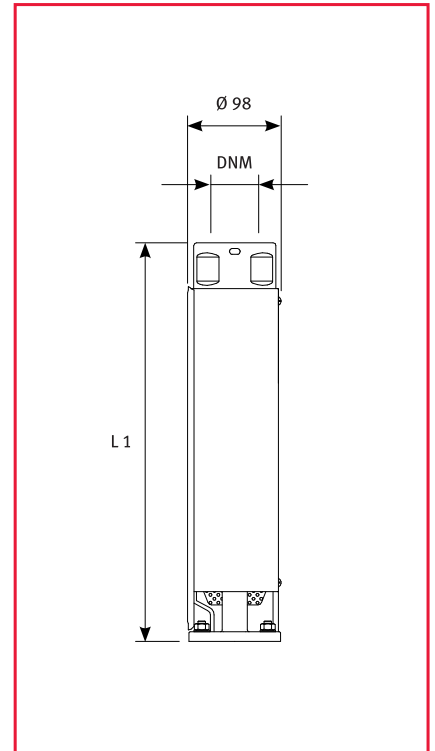
50 Hz



## ES4 01 Series

### Performance features at 50 Hz

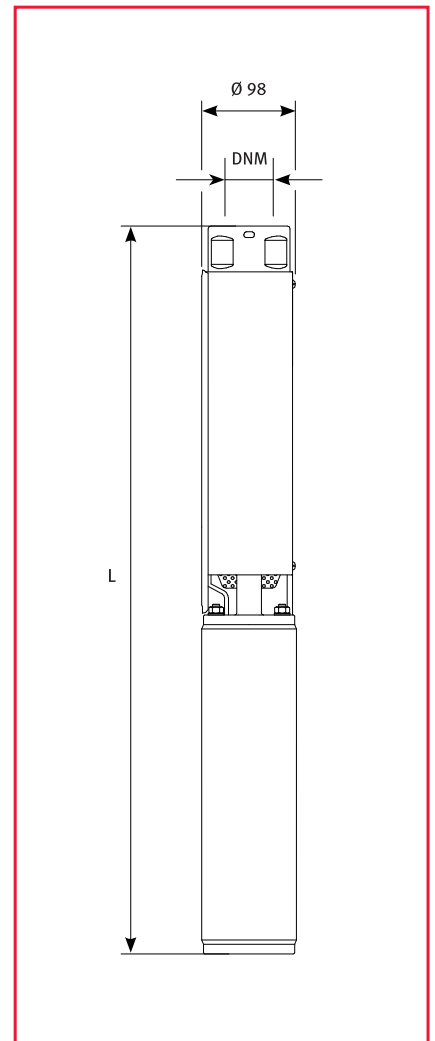
PUMP MODEL	STAGES	P2		l/min m <sup>3</sup> /h	0	5	10	15	20	25
		kW	HP		0	0,3	0,6	0,9	1,2	1,5
ES4 01 10	10	0,37	0,5	mwc	67	63	55	46	33	18
ES4 01 13	13	0,37	0,5		86	78	70	56	42	23
ES4 01 19	19	0,55	0,75		126	118	105	86	60	30
ES4 01 26	26	0,75	1		173	160	141	117	81	39
ES4 01 38	38	1,1	1,5		253	234	208	169	117	52



## ES4 01..04I Series

### Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 01 10 M 04I	10	RP/NPT 1 1/4"	324	679	3,3	10,6
ES4 01 13 M 04I	13	RP/NPT 1 1/4"	377	732	3,7	11,0
ES4 01 19 M 04I	19	RP/NPT 1 1/4"	481	861	4,7	12,6
ES4 01 26 M 04I	26	RP/NPT 1 1/4"	642	1057	5,8	14,8
ES4 01 38 M 04I	38	RP/NPT 1 1/4"	864	314	8,2	19,1
ES4 01 10 T 04I	10	RP/NPT 1 1/4"	324	658	3,3	10,1
ES4 01 13 T 04I	13	RP/NPT 1 1/4"	377	732	3,7	10,5
ES4 01 19 T 04I	19	RP/NPT 1 1/4"	481	836	4,7	11,0
ES4 01 26 T 04I	26	RP/NPT 1 1/4"	642	1022	5,8	13,7
ES4 01 38 T 04I	38	RP/NPT 1 1/4"	864	1279	8,2	17,2

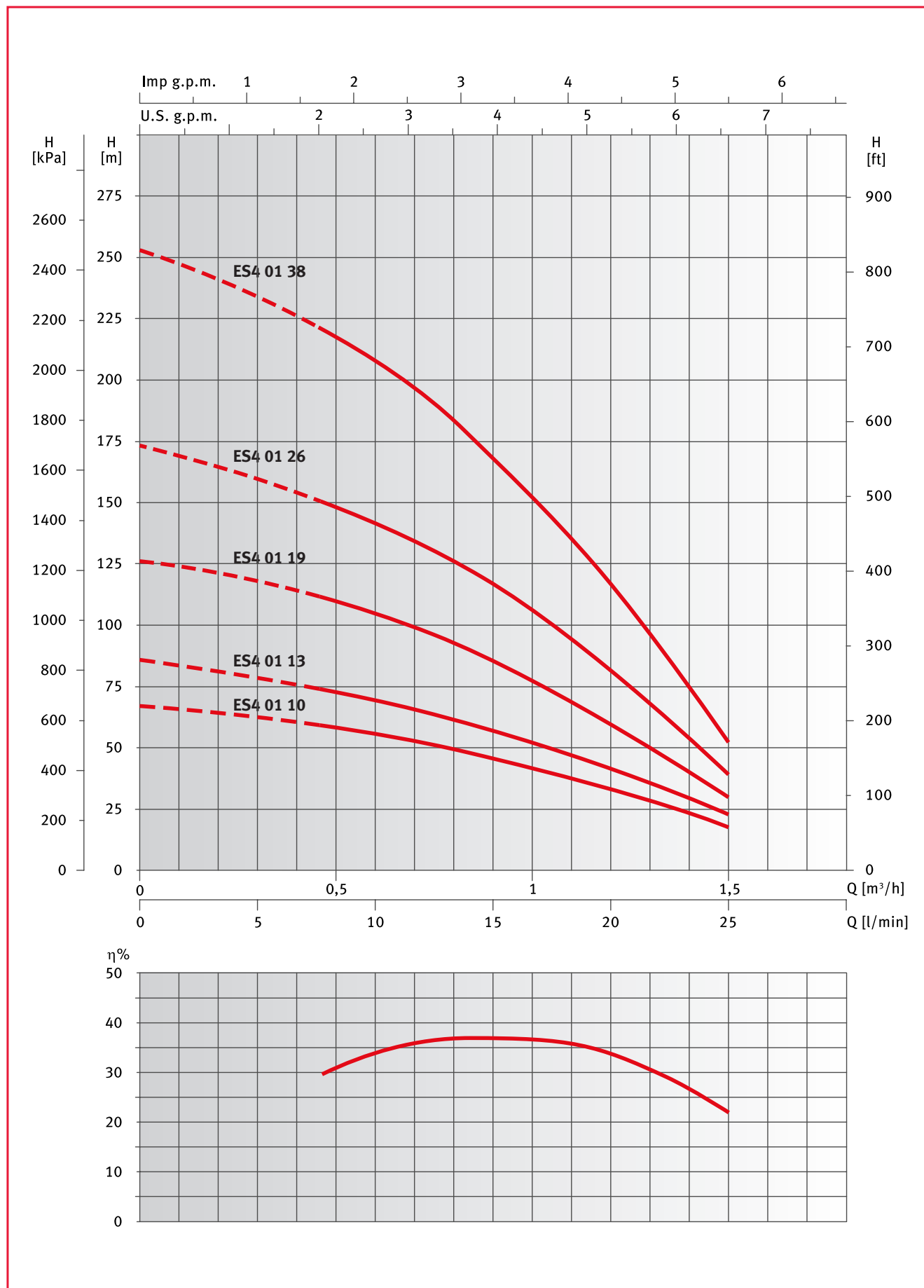


## ES4 01..A4I Series

### Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 01 10 M A4I	10	RP/NPT 1 1/4"	324	560	3,3	10,3
ES4 01 13 M A4I	13	RP/NPT 1 1/4"	377	643	3,7	10,7
ES4 01 19 M A4I	19	RP/NPT 1 1/4"	481	767	4,7	12,3
ES4 01 26 M A4I	26	RP/NPT 1 1/4"	642	973	5,8	14,0
ES4 01 38 M A4I	38	RP/NPT 1 1/4"	864	1257	8,2	18,9
ES4 01 10 T A4I	10	RP/NPT 1 1/4"	324	540	3,3	10,1
ES4 01 13 T A4I	13	RP/NPT 1 1/4"	377	613	3,7	10,5
ES4 01 19 T A4I	19	RP/NPT 1 1/4"	481	747	4,7	11,7
ES4 01 26 T A4I	26	RP/NPT 1 1/4"	642	928	5,8	13,4
ES4 01 38 T A4I	38	RP/NPT 1 1/4"	864	1212	8,2	16,4

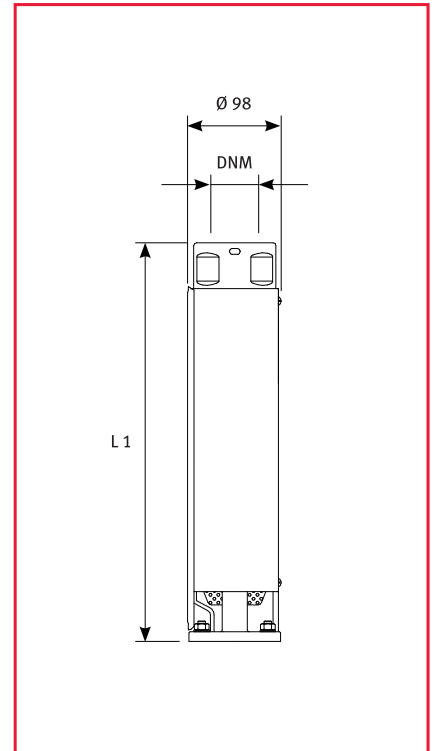
ES4 01 Series



The performance figures are valid for liquids with a density of  $\rho = 1.0 \text{ kg/dm}^3$  and a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$ .

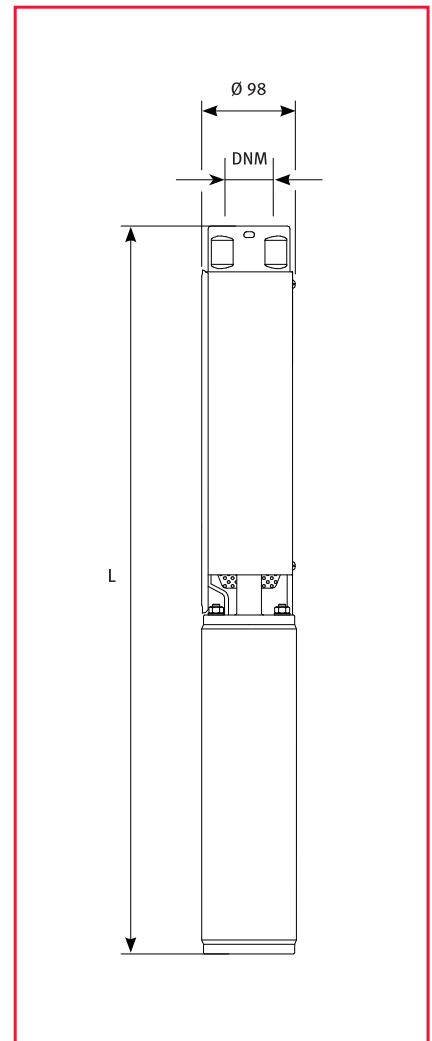
**ES4 02 Series**  
Performance features at 50 Hz

PUMP MODEL	STAGES	P2		l/min m <sup>3</sup> /h	0	20	25	30	40	50
		kW	HP		0	1,2	1,5	1,8	2,4	3,0
ES4 02 05	5	0,37	0,5	mwc	34	31	29	27	23	16
ES4 02 07	7	0,37	0,5		46	42	39	36	29	22
ES4 02 10	10	0,55	0,75		69	63	60	55	44	29
ES4 02 14	14	0,75	1		92	83	79	74	60	42
ES4 02 20	20	1,1	1,5		139	127	120	111	90	60
ES4 02 28	28	1,5	2		193	176	167	155	125	83
ES4 02 40	40	2,2	3		276	252	239	222	179	118
ES4 02 52	52	3	4		360	328	312	289	233	154



**ES4 02..04I Series**  
Dimensions and weights

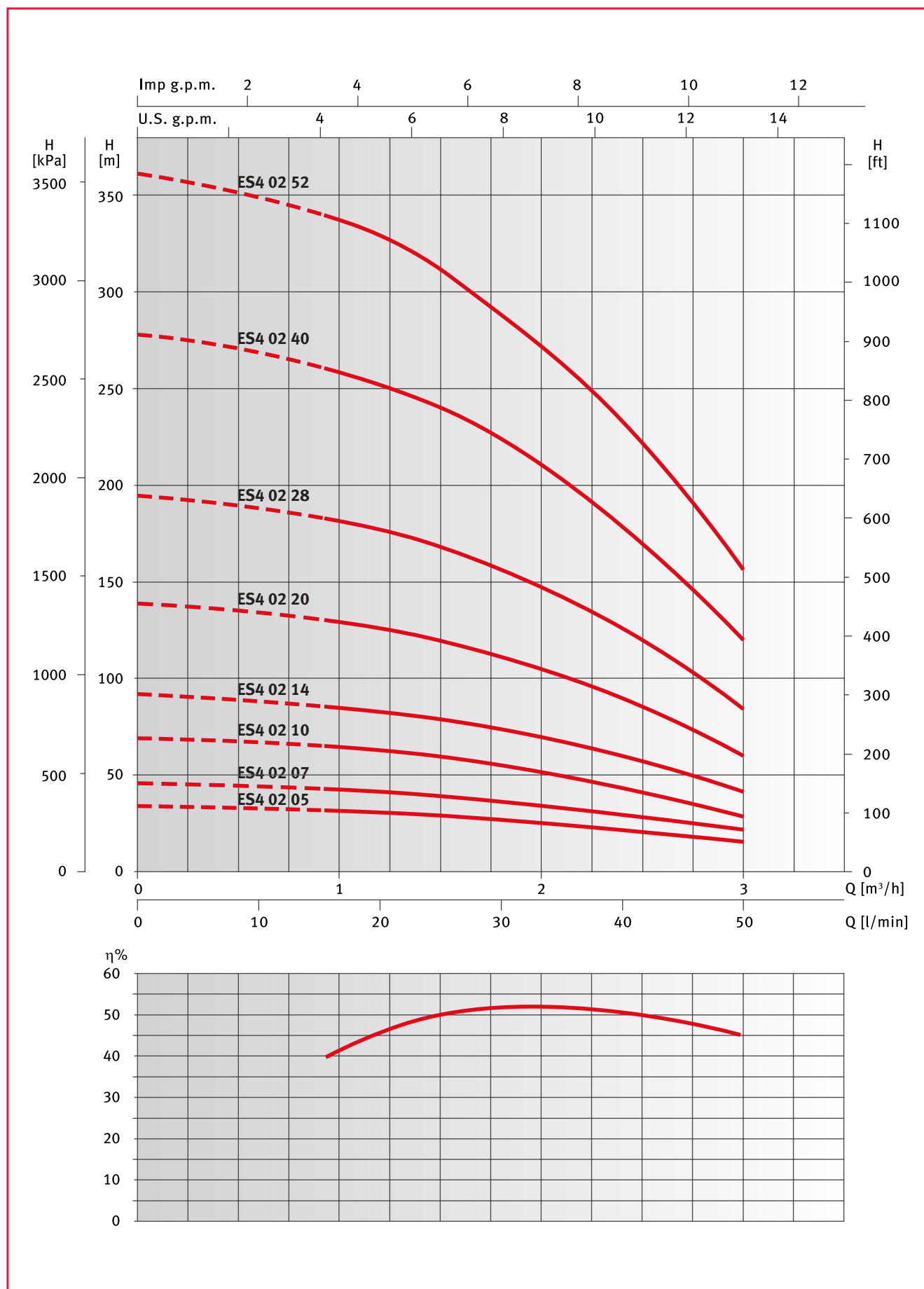
ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 02 05 M A4I	5	RP/NPT 1 1/4"	236	591	2,5	9,8
ES4 02 07 M O4I	7	RP/NPT 1 1/4"	271	626	2,8	10,1
ES4 02 10 M O4I	10	RP/NPT 1 1/4"	324	679	3,3	11,2
ES4 02 14 M O4I	14	RP/NPT 1 1/4"	394	774	3,9	12,9
ES4 02 20 M O4I	20	RP/NPT 1 1/4"	499	914	4,9	15,8
ES4 02 28 M O4I	28	RP/NPT 1 1/4"	640	1090	6,2	18,7
ES4 02 40 M O4I	40	RP/NPT 1 1/4"	851	1351	8,1	22,9
ES4 02 05 T O4I	5	RP/NPT 1 1/4"	236	570	2,5	9,3
ES4 02 07 T O4I	7	RP/NPT 1 1/4"	271	605	2,8	9,6
ES4 02 10 T O4I	10	RP/NPT 1 1/4"	324	679	3,3	10,6
ES4 02 14 T O4I	14	RP/NPT 1 1/4"	394	749	3,9	11,8
ES4 02 20 T O4I	20	RP/NPT 1 1/4"	499	879	4,9	13,9
ES4 02 28 T O4I	28	RP/NPT 1 1/4"	640	1055	6,2	17,3
ES4 02 40 T O4I	40	RP/NPT 1 1/4"	851	1301	8,1	20,7
ES4 02 52 T O4I	52	RP/NPT 1 1/4"	1062	1512	10,0	23,3



**ES4 02..A4I Series**  
Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 02 05 M A4I	5	RP/NPT 1 1/4"	236	472	2,5	9,5
ES4 02 07 M A4I	7	RP/NPT 1 1/4"	271	507	2,8	9,8
ES4 02 10 M A4I	10	RP/NPT 1 1/4"	324	590	3,3	10,9
ES4 02 14 M A4I	14	RP/NPT 1 1/4"	394	680	3,9	12,1
ES4 02 20 M A4I	20	RP/NPT 1 1/4"	499	830	4,9	15,6
ES4 02 28 M A4I	28	RP/NPT 1 1/4"	640	1033	6,2	18,7
ES4 02 40 M A4I	40	RP/NPT 1 1/4"	851	1264	8,1	22,1
ES4 02 05 T A4I	5	RP/NPT 1 1/4"	236	452	2,5	9,3
ES4 02 07 T A4I	7	RP/NPT 1 1/4"	271	487	2,8	9,6
ES4 02 10 T A4I	10	RP/NPT 1 1/4"	324	560	3,3	10,3
ES4 02 14 T A4I	14	RP/NPT 1 1/4"	394	660	3,9	11,5
ES4 02 20 T A4I	20	RP/NPT 1 1/4"	499	785	4,9	13,1
ES4 02 28 T A4I	28	RP/NPT 1 1/4"	640	988	6,2	18,0
ES4 02 40 T A4I	40	RP/NPT 1 1/4"	851	1244	8,1	20,7
ES4 02 52 T A4I	52	RP/NPT 1 1/4"	1062	1606	10,0	30,4

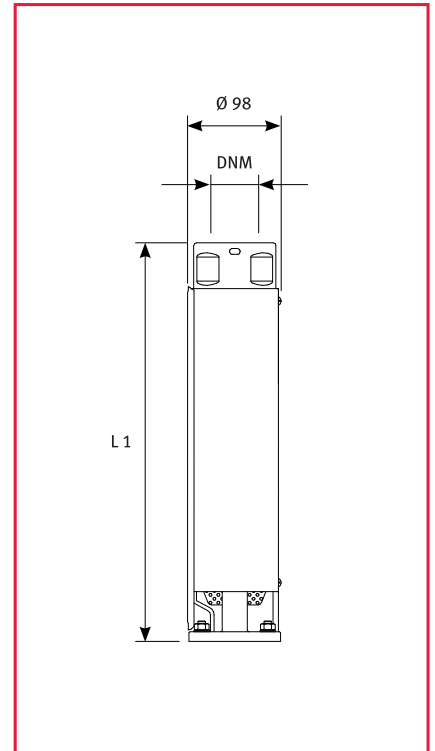
ES4 02 Series



The performance figures are valid for liquids with a density of  $\rho = 1,0 \text{ kg/dm}^3$  and a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$ .

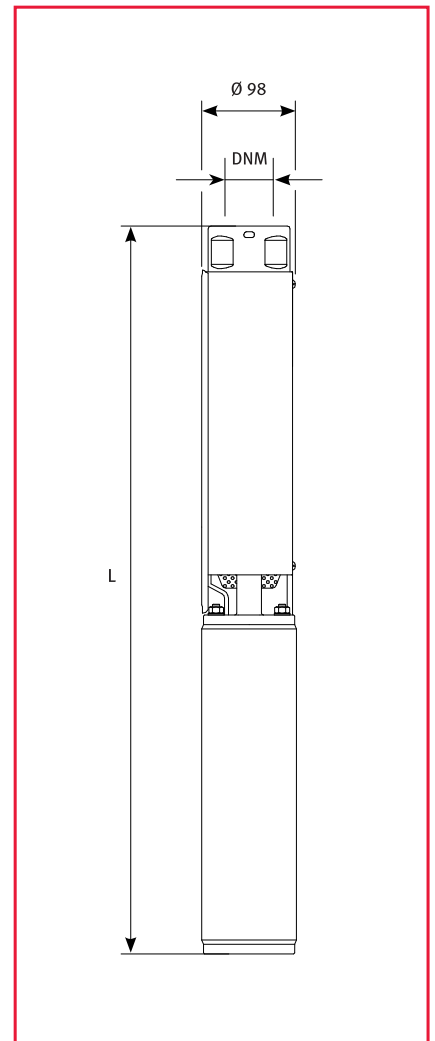
## ES4 03 Series Performance features at 50 Hz

PUMP MODEL	STAGES	P2		l/min m <sup>3</sup> /h	0	20	30	40	50	70
		kW	HP		0	1,2	1,8	2,4	3,0	4,2
ES4 03 05	5	0,37	0,5	mwc	34	32	30	28	24	13
ES4 03 08	8	0,55	0,75		54	51	49	43	38	19
ES4 03 11	11	0,75	1		72	68	64	58	49	26
ES4 03 16	16	1,1	1,5		106	101	95	83	70	33
ES4 03 21	21	1,5	2		142	135	127	115	100	49
ES4 03 32	32	2,2	3		208	200	187	165	138	62



## ES4 03..04I Series Dimensions and weights

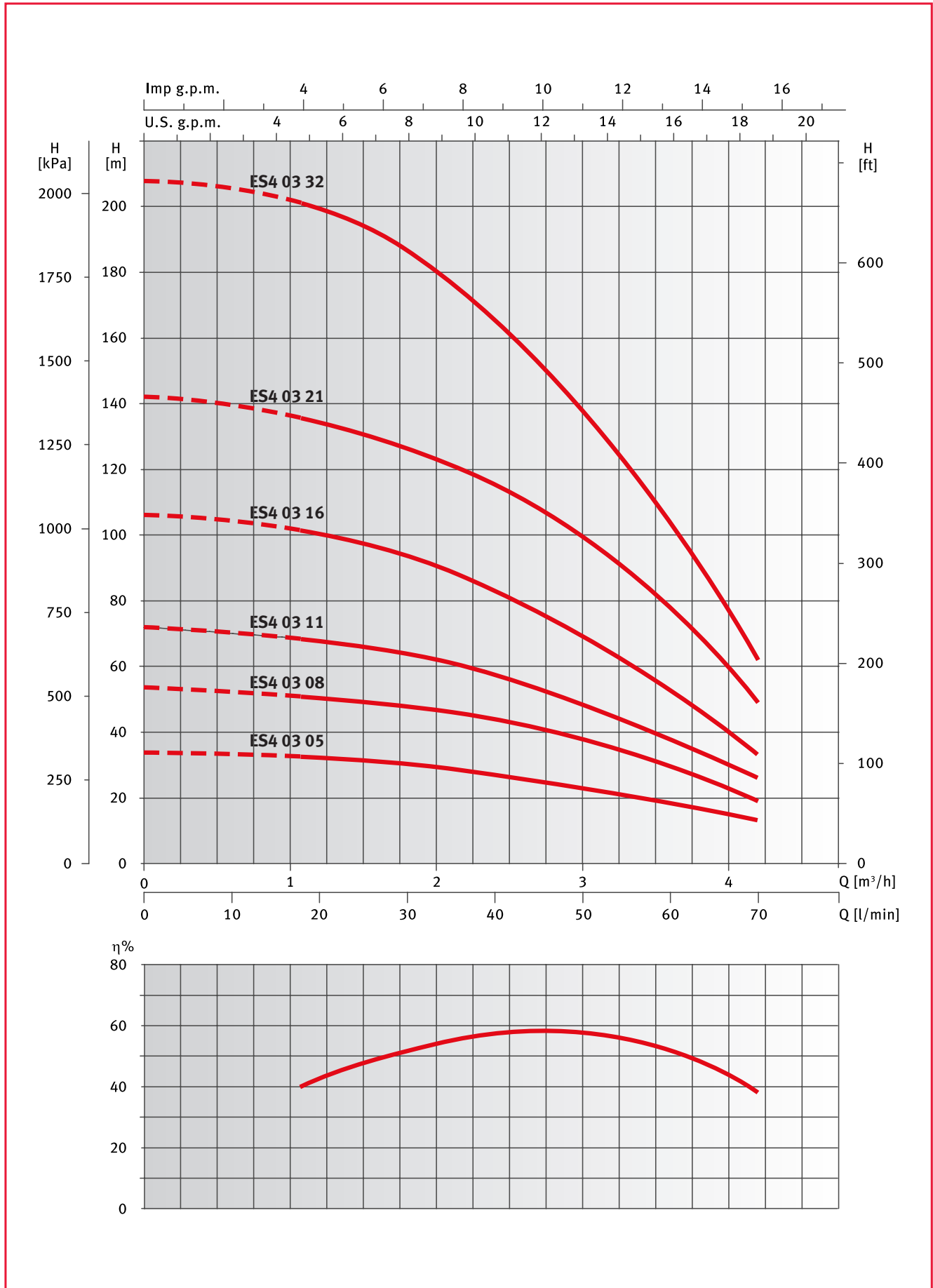
ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 03 05 M O4I	5	RP/NPT 1 1/4"	236	591	2,5	9,8
ES4 03 08 M O4I	8	RP/NPT 1 1/4"	289	644	2,9	10,8
ES4 03 11 M O4I	11	RP/NPT 1 1/4"	342	722	3,4	12,4
ES4 03 16 M O4I	16	RP/NPT 1 1/4"	430	845	4,2	15,1
ES4 03 21 M O4I	21	RP/NPT 1 1/4"	519	969	5,0	17,5
ES4 03 32 M O4I	32	RP/NPT 1 1/4"	749	1249	7,1	21,9
ES4 03 05 T O4I	5	RP/NPT 1 1/4"	236	570	2,5	9,3
ES4 03 08 T O4I	8	RP/NPT 1 1/4"	289	644	2,9	10,2
ES4 03 11 T O4I	11	RP/NPT 1 1/4"	342	697	3,4	11,3
ES4 03 16 T O4I	16	RP/NPT 1 1/4"	430	810	4,2	13,2
ES4 03 21 T O4I	21	RP/NPT 1 1/4"	519	934	5,0	16,1
ES4 03 32 T O4I	32	RP/NPT 1 1/4"	749	1199	7,1	19,7



## ES4 03..A4I Series Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 02 05 M A4I	5	RP/NPT 1 1/4"	236	472	2,5	9,5
ES4 03 08 M A4I	8	RP/NPT 1 1/4"	289	555	2,9	10,5
ES4 03 11 M A4I	11	RP/NPT 1 1/4"	342	628	3,4	11,6
ES4 03 16 M A4I	16	RP/NPT 1 1/4"	430	761	4,2	14,9
ES4 03 21 M A4I	21	RP/NPT 1 1/4"	519	912	5,0	17,5
ES4 03 32 M A4I	32	RP/NPT 1 1/4"	749	1162	7,1	21,1
ES4 03 05 T A4I	5	RP/NPT 1 1/4"	236	452	2,5	9,3
ES4 03 08 T A4I	8	RP/NPT 1 1/4"	289	525	2,9	9,9
ES4 03 11 T A4I	11	RP/NPT 1 1/4"	342	608	3,4	11,0
ES4 03 16 T A4I	16	RP/NPT 1 1/4"	430	716	4,2	12,4
ES4 03 21 T A4I	21	RP/NPT 1 1/4"	519	867	5,0	16,8
ES4 03 32 T A4I	32	RP/NPT 1 1/4"	749	1142	7,1	19,7

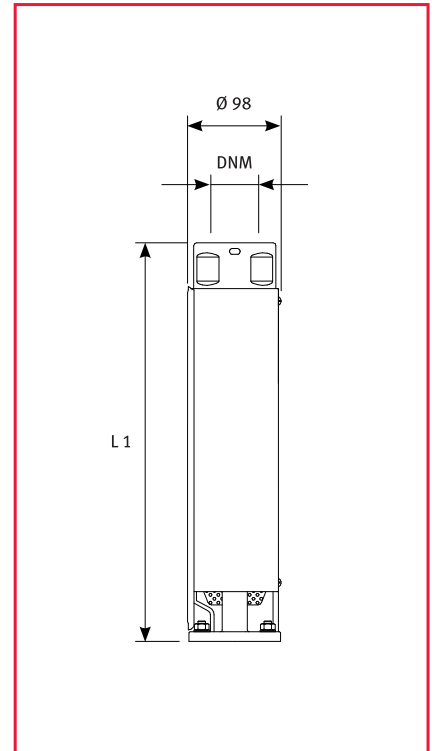
ES4 03 Series



The performance figures are valid for liquids with a density of  $\rho = 1,0 \text{ kg/dm}^3$  and a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$ .

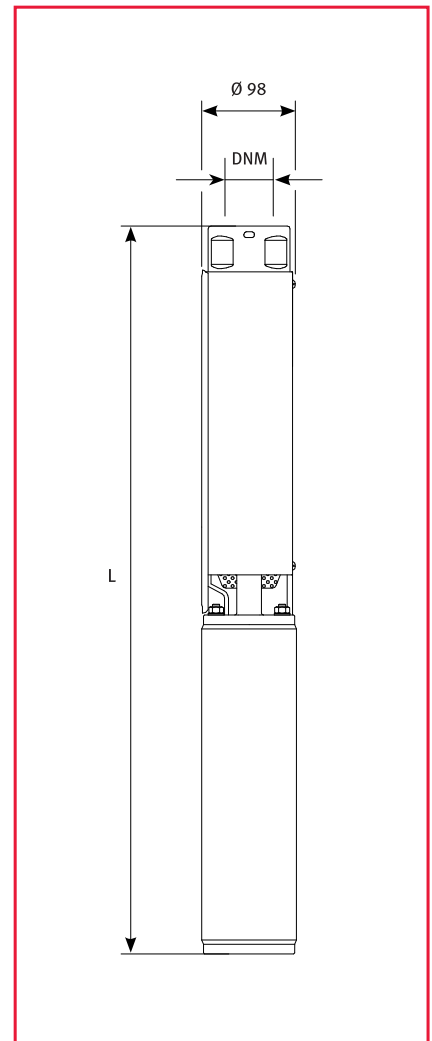
## ES4 04 Series Performance features at 50 Hz

PUMP MODEL	STAGES	P2		l/min m <sup>3</sup> /h	0	40	50	70	90	100
		kW	HP		0	2,4	3,0	4,2	5,4	6,0
ES4 04 04	4	0,37	0,5	mwc	26	22	21	17	11	7
ES4 04 06	6	0,55	0,75		38	35	32	26	18	12
ES4 04 08	8	0,75	1		51	46	43	35	24	18
ES4 04 12	12	1,1	1,5		77	71	68	57	41	31
ES4 04 16	16	1,5	2		102	96	92	77	57	46
ES4 04 24	24	2,2	3		151	139	132	111	80	62
ES4 04 32	32	3	4		203	185	175	146	105	80
ES4 04 40	40	3,7	5		253	227	216	182	131	102
ES4 04 44	44	4	5,5		278	260	247	210	159	127



## ES4 04..04I Series Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 04 04 M 04I	4	RP/NPT 1 1/4"	247	602	2,4	9,7
ES4 04 06 M 04I	6	RP/NPT 1 1/4"	296	651	2,9	10,8
ES4 04 08 M 04I	8	RP/NPT 1 1/4"	345	725	3,3	12,3
ES4 04 12 M 04I	12	RP/NPT 1 1/4"	433	848	4,1	15,0
ES4 04 16 M 04I	16	RP/NPT 1 1/4"	542	992	5,0	17,5
ES4 04 24 M 04I	24	RP/NPT 1 1/4"	777	1277	6,6	21,4
ES4 04 04 T 04I	4	RP/NPT 1 1/4"	247	581	2,4	9,2
ES4 04 06 T 04I	6	RP/NPT 1 1/4"	296	651	2,9	10,2
ES4 04 08 T 04I	8	RP/NPT 1 1/4"	345	700	3,3	11,2
ES4 04 12 T 04I	12	RP/NPT 1 1/4"	433	813	4,1	13,1
ES4 04 16 T 04I	16	RP/NPT 1 1/4"	542	957	5,0	16,1
ES4 04 24 T 04I	24	RP/NPT 1 1/4"	777	1227	6,6	19,2
ES4 04 32 T 04I	32	RP/NPT 1 1/4"	965	1415	8,7	22,3
ES4 04 40 T 04I	40	RP/NPT 1 1/4"	1160	1730	10,4	27,9
ES4 04 44 T 04I	44	RP/NPT 1 1/4"	1296	1866	11,2	28,7

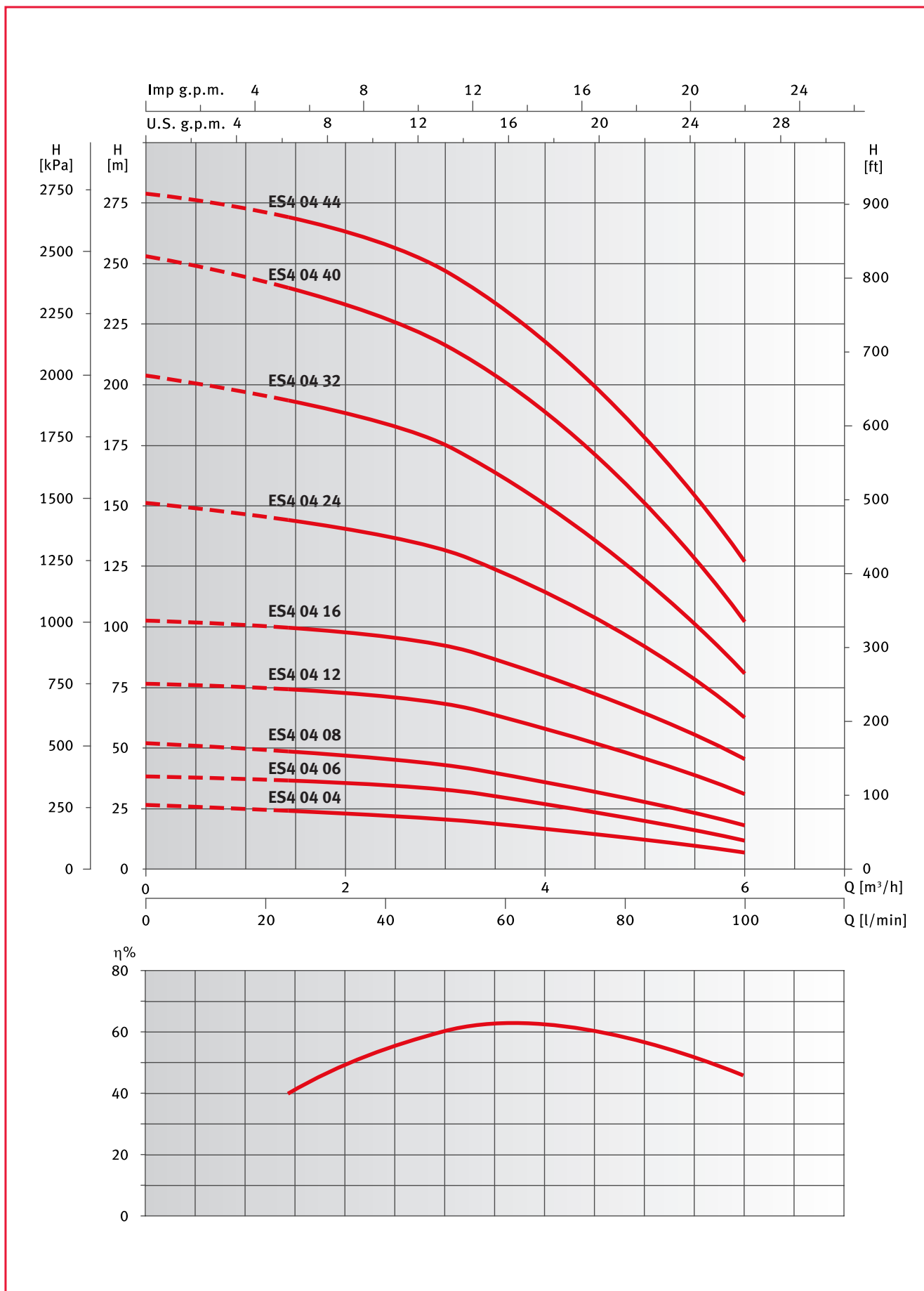


## ES4 04..A4I Series Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 04 04 M 04I	4	RP/NPT 1 1/4"	247	483	2,4	9,4
ES4 04 06 M A4I	6	RP/NPT 1 1/4"	296	562	2,9	10,5
ES4 04 08 M A4I	8	RP/NPT 1 1/4"	345	631	3,3	11,5
ES4 04 12 M A4I	12	RP/NPT 1 1/4"	433	764	4,1	14,8
ES4 04 16 M A4I	16	RP/NPT 1 1/4"	542	935	5,0	17,5
ES4 04 24 M A4I	24	RP/NPT 1 1/4"	777	1190	6,6	20,6
ES4 04 04 T A4I	4	RP/NPT 1 1/4"	247	463	2,4	9,2
ES4 04 06 T A4I	6	RP/NPT 1 1/4"	296	532	2,9	9,9
ES4 04 08 T A4I	8	RP/NPT 1 1/4"	345	611	3,3	10,9
ES4 04 12 T A4I	12	RP/NPT 1 1/4"	433	719	4,1	12,3
ES4 04 16 T A4I	16	RP/NPT 1 1/4"	542	890	5,0	16,8
ES4 04 24 T A4I	24	RP/NPT 1 1/4"	777	1170	6,6	19,2
ES4 04 32 T A4I	32	RP/NPT 1 1/4"	965	1509	8,7	29,1
ES4 04 40 T A4I	40	RP/NPT 1 1/4"	1160	1774	10,4	33,9
ES4 04 44 T A4I	44	RP/NPT 1 1/4"	1296	1910	11,2	34,7



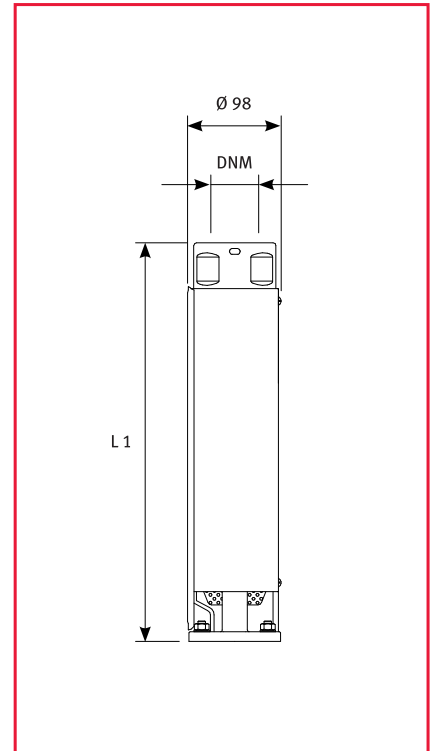
## ES4 04 Series



The performance figures are valid for liquids with a density of  $\rho = 1,0 \text{ kg/dm}^3$  and a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$ .

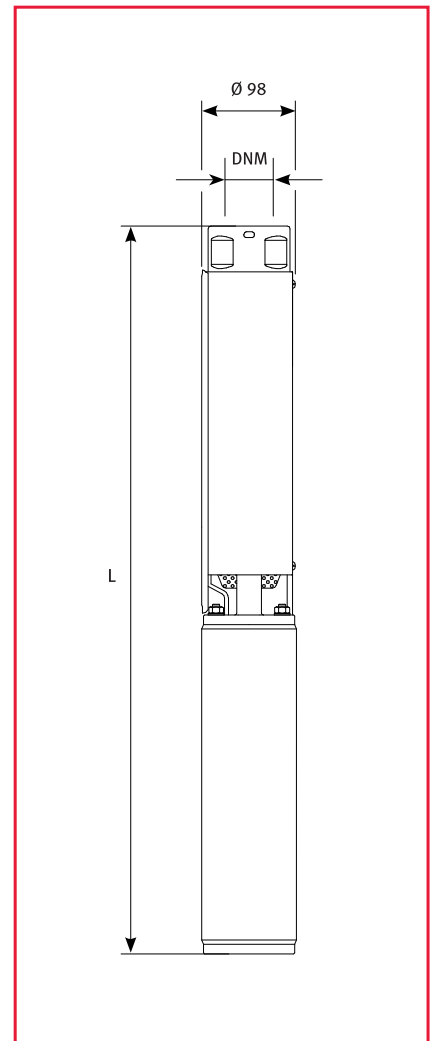
**ES4 06 Series**  
Performance features at 50 Hz

PUMP MODEL	STAGES	P2		l/min m <sup>3</sup> /h	0	50	70	90	120	140
		kW	HP		0	3,0	4,2	5,4	7,2	8,4
ES4 06 07	7	0,75	1	mwc	42	36	32	28	19	11
ES4 06 10	10	1,1	1,5		62	53	48	41	29	18
ES4 06 14	14	1,5	2		90	77	71	63	46	28
ES4 06 20	20	2,2	3		125	107	97	86	62	40
ES4 06 27	27	3,0	4		169	145	131	115	84	55
ES4 06 34	34	3,7	5		208	178	162	143	103	66
ES4 06 36	36	4	5,5		221	190	173	154	112	72
ES4 06 49	49	5,5	7,5		302	257	234	209	151	96



**ES4 06..04I Series**  
Dimensions and weights

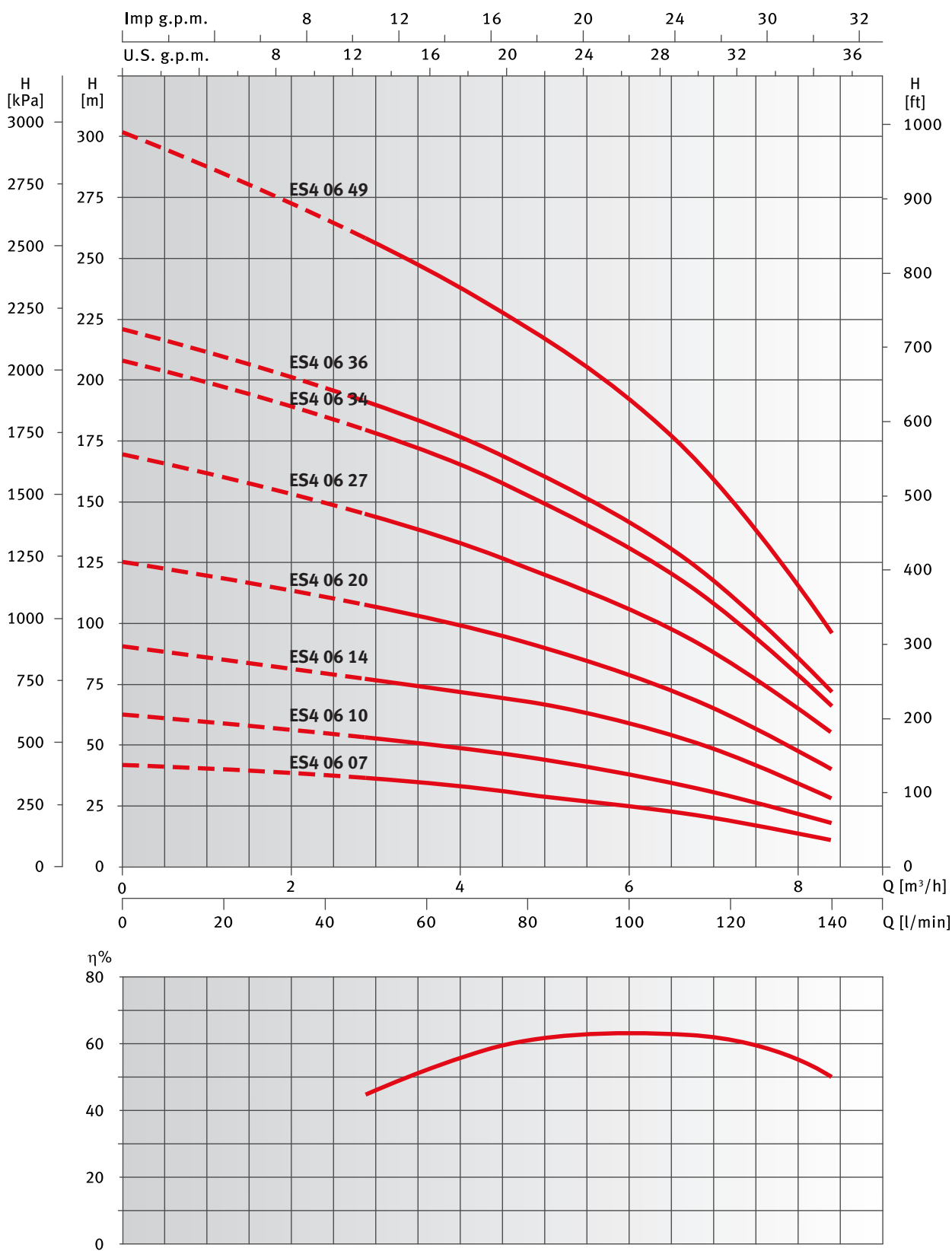
ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 06 07 M O4I	7	RP/NPT 1 1/4"	390	770	3,7	12,7
ES4 06 10 M O4I	10	RP/NPT 1 1/4"	483	898	4,6	15,5
ES4 06 14 M O4I	14	RP/NPT 1 1/4"	607	1057	5,7	18,2
ES4 06 20 M O4I	20	RP/NPT 1 1/4"	831	1331	7,5	22,3
ES4 06 07 T O4I	7	RP/NPT 1 1/4"	390	745	3,7	11,6
ES4 06 10 T O4I	10	RP/NPT 1 1/4"	483	863	4,6	13,6
ES4 06 14 T O4I	14	RP/NPT 1 1/4"	607	1022	5,7	16,8
ES4 06 20 T O4I	20	RP/NPT 1 1/4"	831	1271	7,5	20,1
ES4 06 27 T O4I	27	RP/NPT 1 1/4"	1048	1498	9,6	23,2
ES4 06 34 T O4I	34	RP/NPT 1 1/4"	1257	1827	11,6	29,1
ES4 06 36 T O4I	36	RP/NPT 1 1/4"	1318	1888	12,2	29,7
ES4 06 49 T O4I	49	RP/NPT 1 1/4"	1802	2432	15,9	36,9



**ES4 06..A4I Series**  
Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 06 07 M A4I	7	RP/NPT 1 1/4"	390	676	3,7	11,9
ES4 06 10 M A4I	10	RP/NPT 1 1/4"	483	814	4,6	15,3
ES4 06 14 M A4I	14	RP/NPT 1 1/4"	607	1000	5,7	18,2
ES4 06 20 M A4I	20	RP/NPT 1 1/4"	831	1244	7,5	21,5
ES4 06 07 T A4I	7	RP/NPT 1 1/4"	390	656	3,7	11,3
ES4 06 10 T A4I	10	RP/NPT 1 1/4"	483	769	4,6	12,8
ES4 06 14 T A4I	14	RP/NPT 1 1/4"	607	955	5,7	17,5
ES4 06 20 T A4I	20	RP/NPT 1 1/4"	831	1224	7,5	20,1
ES4 06 27 T A4I	27	RP/NPT 1 1/4"	1048	1592	9,6	30,0
ES4 06 34 T A4I	34	RP/NPT 1 1/4"	1257	1871	11,6	35,1
ES4 06 36 T A4I	36	RP/NPT 1 1/4"	1318	1935	12,2	35,7
ES4 06 49 T A4I	49	RP/NPT 1 1/4"	1802	2486	15,9	42,7

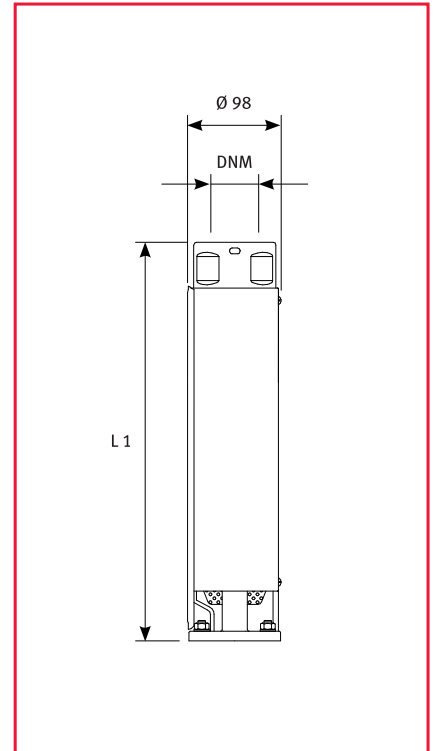
ES4 06 Series



The performance figures are valid for liquids with a density of  $\rho = 1,0 \text{ kg/dm}^3$  and a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$ .

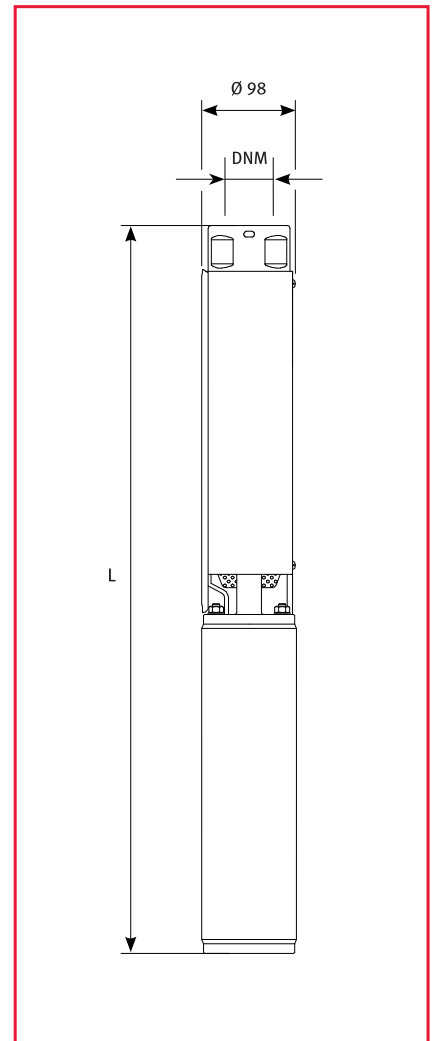
**ES4 08 Series**  
Performance features at 50 Hz

PUMP MODEL	STAGES	P2		l/min m <sup>3</sup> /h	0	80	100	140	180	200
		kW	HP		0	4,8	6,0	8,4	10,8	12
ES4 08 04	4	0,75	1,0	mwc	26	24	22	19	15	12
ES4 08 06	6	1,1	1,5		39	36	34	29	22	17
ES4 08 08	8	1,5	2		52	48	46	39	29	24
ES4 08 13	13	2,2	3		82	75	71	59	40	30
ES4 08 17	17	3	4		108	98	94	79	58	46
ES4 08 21	21	3,7	5		132	117	111	93	68	52
ES4 08 23	23	4	5,5		148	134	127	108	79	60
ES4 08 32	32	5,5	7,5		202	182	172	143	105	80
ES4 08 43	43	7,5	10		272	244	230	193	141	107



**ES4 08..04I Series**  
Dimensions and weights

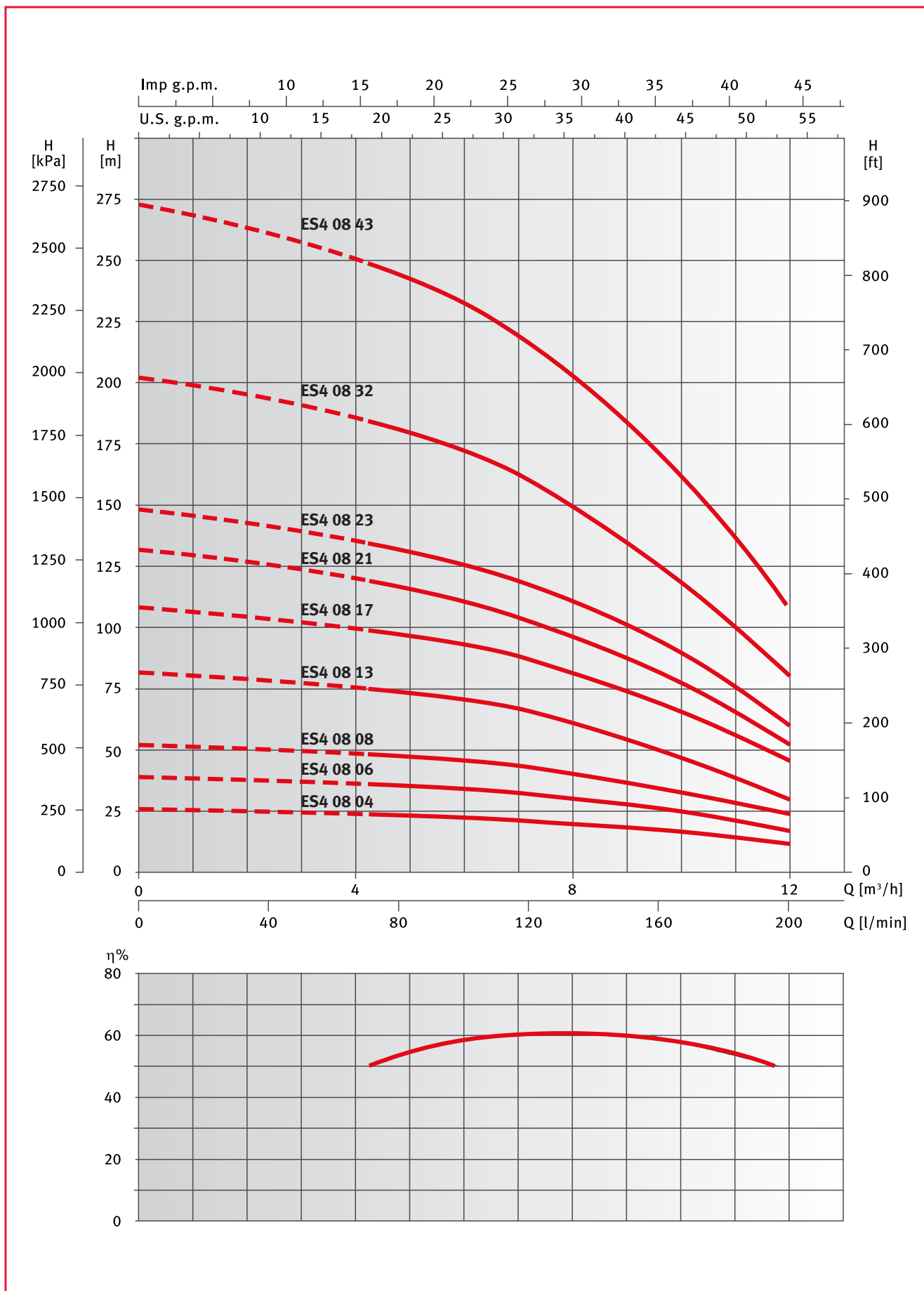
ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 08 04 M 04I	4	RP/NPT 2"	294	674	2,8	11,8
ES4 08 06 M 04I	6	RP/NPT 2"	356	771	3,4	14,3
ES4 08 08 M 04I	8	RP/NPT 2"	418	868	4,0	16,5
ES4 08 13 M 04I	13	RP/NPT 2"	573	1073	5,5	20,3
ES4 08 04 T 04I	4	RP/NPT 2"	294	649	2,8	10,7
ES4 08 06 T 04I	6	RP/NPT 2"	356	736	3,4	12,4
ES4 08 08 T 04I	8	RP/NPT 2"	418	833	4,0	15,1
ES4 08 13 T 04I	13	RP/NPT 2"	573	1023	5,5	18,1
ES4 08 17 T 04I	17	RP/NPT 2"	697	1147	6,6	20,2
ES4 08 21 T 04I	21	RP/NPT 2"	859	1429	7,8	25,3
ES4 08 23 T 04I	23	RP/NPT 2"	921	1491	8,4	25,9
ES4 08 32 T 04I	32	RP/NPT 2"	1238	1868	11,0	32,0
ES4 08 43 T 04I	43	RP/NPT 2"	1603	2439	14,2	42,7



**ES4 08..A4I Series**  
Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 04 08 M A4I	4	RP/NPT 2"	294	580	2,8	11,0
ES4 08 06 M A4I	6	RP/NPT 2"	356	687	3,4	14,1
ES4 08 08 M A4I	8	RP/NPT 2"	418	811	4,0	16,5
ES4 08 13 M A4I	13	RP/NPT 2"	573	986	5,5	19,5
ES4 08 04 T A4I	4	RP/NPT 2"	294	560	2,8	10,4
ES4 08 06 T A4I	6	RP/NPT 2"	356	642	3,4	11,6
ES4 08 08 T A4I	8	RP/NPT 2"	418	766	4,0	15,8
ES4 08 13 T A4I	13	RP/NPT 2"	573	966	5,5	18,1
ES4 08 17 T A4I	17	RP/NPT 2"	697	1241	6,6	27,0
ES4 08 21 T A4I	21	RP/NPT 2"	859	1473	7,8	31,3
ES4 08 23 T A4I	23	RP/NPT 2"	921	1535	8,4	31,9
ES4 08 32 T A4I	32	RP/NPT 2"	1238	1922	11,0	37,8
ES4 08 43 T A4I	43	RP/NPT 2"	1603	2367	14,2	43,2

## ES4 08 Series

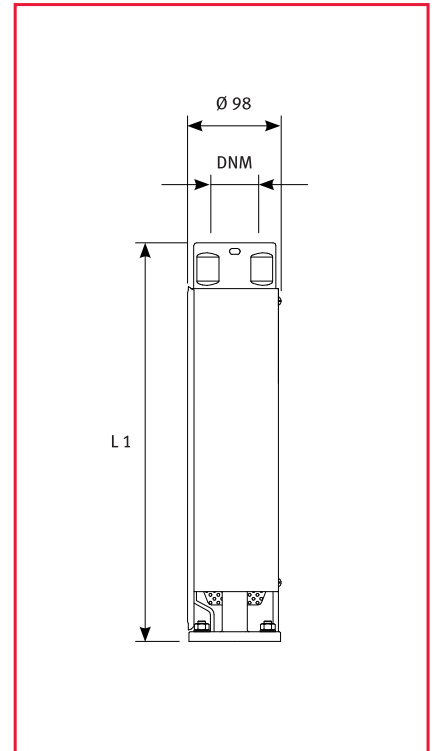


The performance figures are valid for liquids with a density of  $\rho = 1,0 \text{ kg/dm}^3$  and a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$ .

## ES4 12 Series

### Performance features at 50 Hz

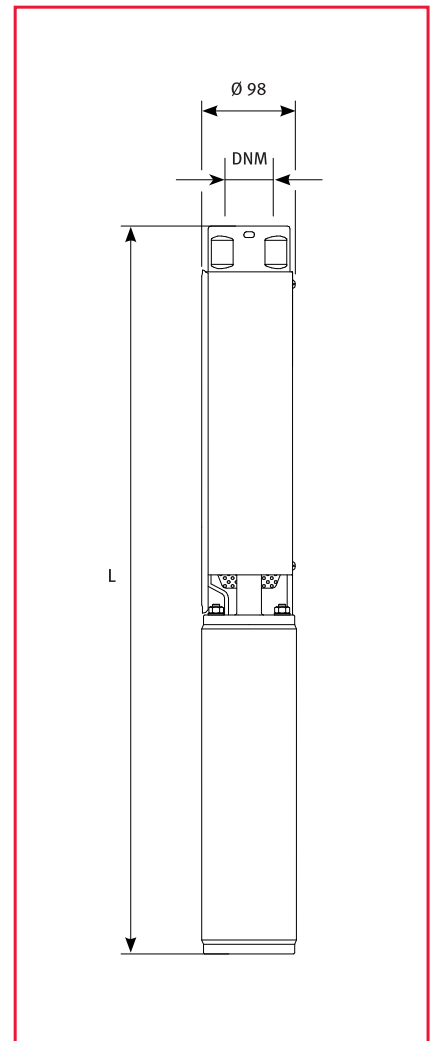
PUMP MODEL	STAGES	P2		l/min m <sup>3</sup> /h	0	100	140	180	220	260
		kW	HP		0	6,0	8,4	10,8	13,2	15,6
ES4 12 07	7	1,5	2	mwc	45	37	33	28	22	14
ES4 12 10	10	2,2	3		64	54	48	41	32	20
ES4 12 14	14	3	4		89	76	67	56	43	28
ES4 12 17	17	3,7	5		107	90	80	67	51	32
ES4 12 19	19	4	5,5		120	102	91	76	58	37
ES4 12 26	26	5,5	7,5		163	136	120	100	75	48
ES4 12 34	34	7,5	10		213	179	158	131	98	63



## ES4 12..04I Series

### Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 12 07 M O4I	7	RP/NPT 2"	534	984	5,3	17,8
ES4 12 10 M O4I	10	RP/NPT 2"	690	1190	6,7	21,5
ES4 12 07 T O4I	7	RP/NPT 2"	534	949	5,3	16,4
ES4 12 10 T O4I	10	RP/NPT 2"	690	1140	6,7	19,3
ES4 12 14 T O4I	14	RP/NPT 2"	989	1439	8,6	22,2
ES4 12 17 T O4I	17	RP/NPT 2"	1092	1662	10,1	27,6
ES4 12 19 T O4I	19	RP/NPT 2"	1195	1765	11,0	28,5
ES4 12 26 T O4I	26	RP/NPT 2"	1559	2189	14,3	35,3
ES4 12 34 T O4I	34	RP/NPT 2"	2007	2843	18,1	46,6

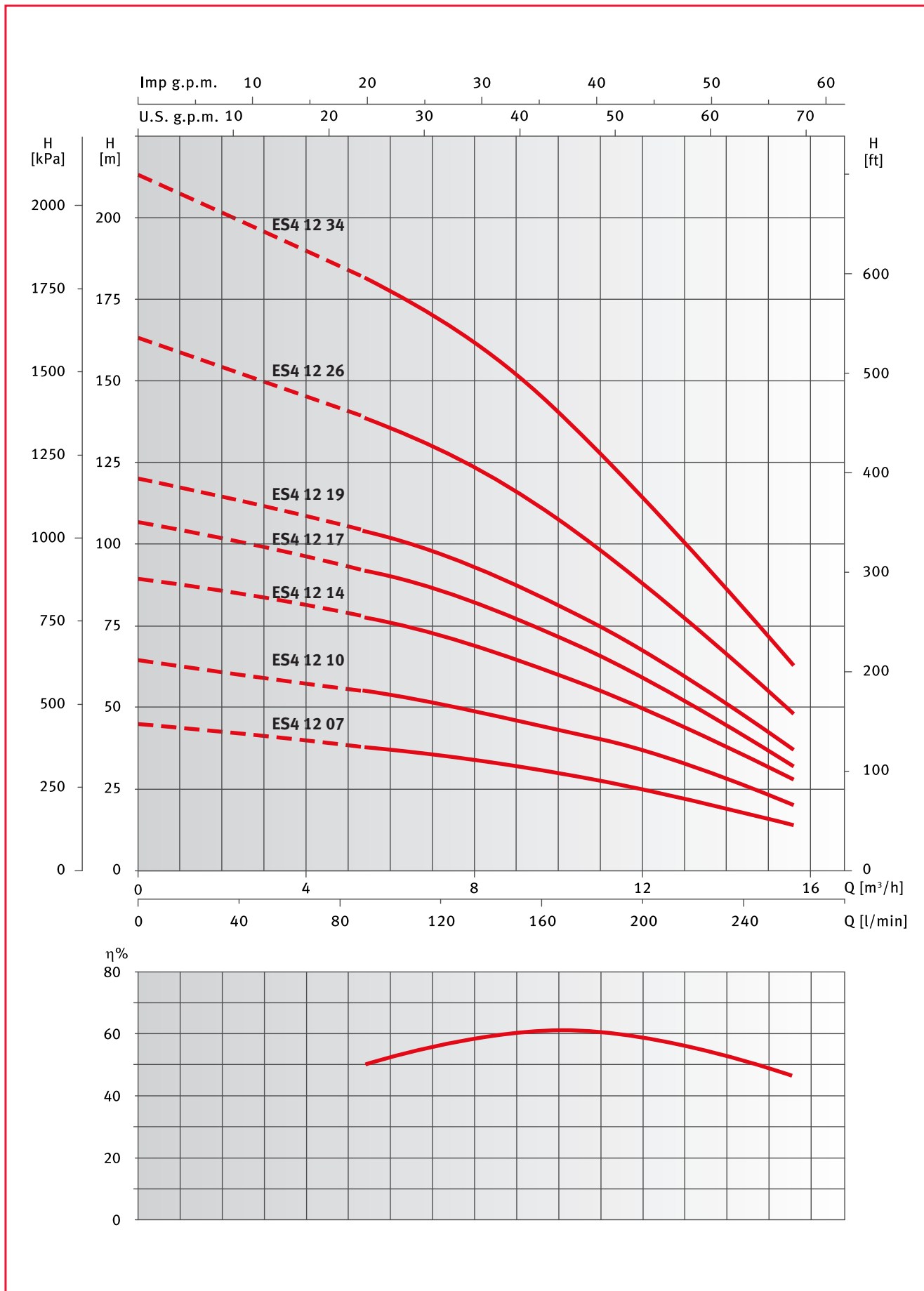


## ES4 02..A4I Series

### Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 12 07 M A4I	7	RP/NPT 2"	534	927	5,3	17,8
ES4 12 10 M A4I	10	RP/NPT 2"	690	1103	6,7	20,7
ES4 12 07 T A4I	7	RP/NPT 2"	534	882	5,3	17,1
ES4 12 10 T A4I	10	RP/NPT 2"	690	1083	6,7	19,3
ES4 12 14 T A4I	14	RP/NPT 2"	989	1533	8,6	29,0
ES4 12 17 T A4I	17	RP/NPT 2"	1092	1706	10,1	33,6
ES4 12 19 T A4I	19	RP/NPT 2"	1195	1809	11,0	34,5
ES4 12 26 T A4I	26	RP/NPT 2"	1559	2243	14,3	41,1
ES4 12 34 T A4I	34	RP/NPT 2"	2007	2771	18,1	47,1

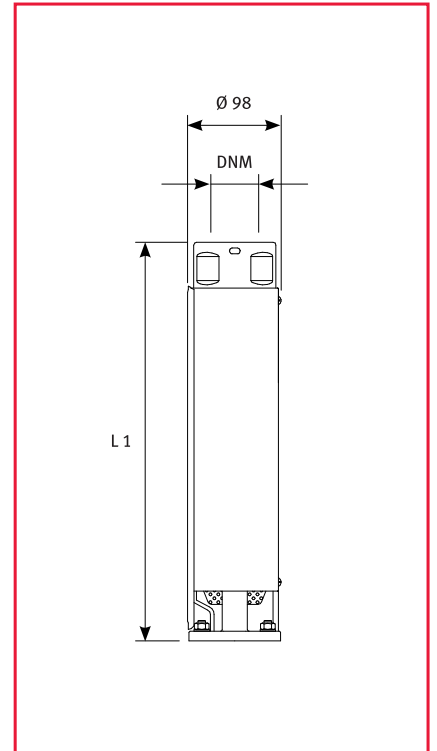
## ES4 12 Series



The performance figures are valid for liquids with a density of  $\rho = 1,0 \text{ kg/dm}^3$  and a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$ .

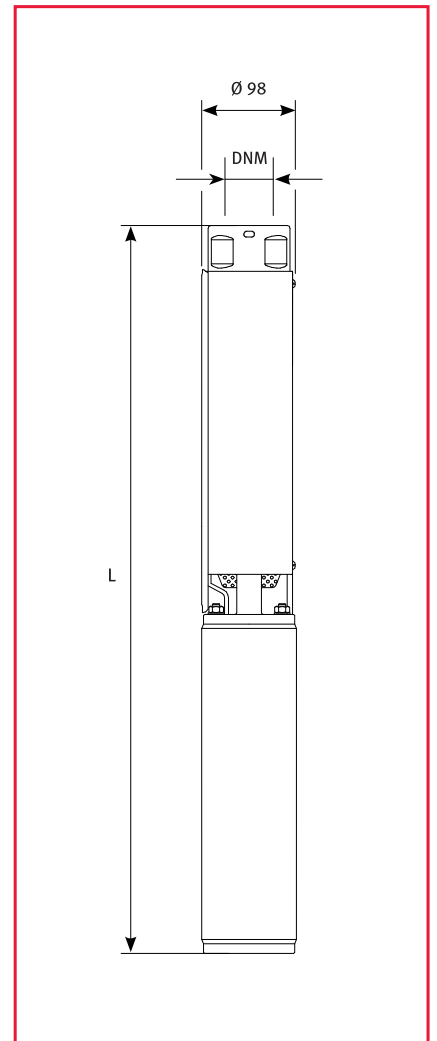
**ES4 16 Series**  
Performance features at 50 Hz

PUMP MODEL	STAGES	P2		l/min m <sup>3</sup> /h	0	140	200	260	320	400
		kW	HP		0	8,4	12	15,6	19,2	24
ES4 16 08	8	2,2	3	mwc	51	41	35	29	22	12
ES4 16 11	11	3	4		70	57	49	41	31	18
ES4 16 13	13	3,7	5		81	67	58	48	38	22
ES4 16 15	15	4	5,5		97	79	69	58	46	27
ES4 16 20	20	5,5	7,5		125	102	89	74	60	37
ES4 16 27	27	7,5	10		169	139	122	101	83	52



**ES4 16..04I Series**  
Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 08 16 M 04I	8	RP/NPT 2"	676	1176	6,3	21,1
ES4 16 08 T 04I	8	RP/NPT 2"	676	1126	6,3	18,9
ES4 16 11 T 04I	11	RP/NPT 2"	880	1330	8,1	21,7
ES4 16 13 T 04I	13	RP/NPT 2"	1013	1583	9,3	26,8
ES4 16 15 T 04I	15	RP/NPT 2"	1149	1719	10,5	28,0
ES4 16 20 T 04I	20	RP/NPT 2"	1489	2119	13,5	34,5
ES4 16 27 T 04I	27	RP/NPT 2"	1962	2798	17,7	46,2

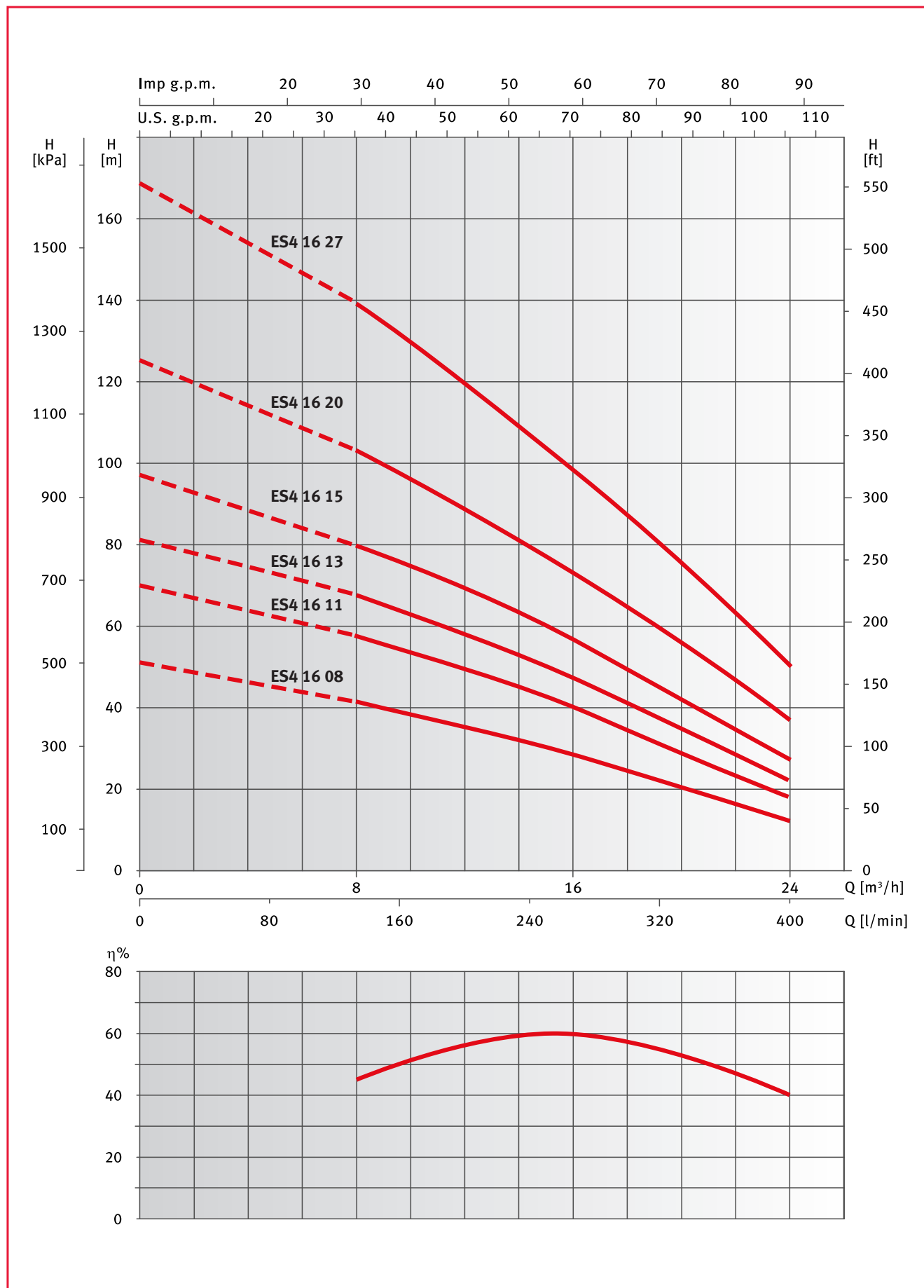


**ES4 16..A4I Series**  
Dimensions and weights

ELECTROPUMP MODEL	STAGES	DNM	DIMENSIONS (mm)		PUMP WEIGHT	ELECTROPUMP WEIGHT
			L1	L	kg	kg
ES4 16 07 M A4I	8	RP/NPT 2"	676	1089	6,3	20,3
ES4 16 07 T A4I	8	RP/NPT 2"	676	1069	6,3	18,9
ES4 16 10 T A4I	11	RP/NPT 2"	880	1424	8,1	28,5
ES4 16 14 T A4I	13	RP/NPT 2"	1013	1627	9,3	32,8
ES4 16 17 T A4I	15	RP/NPT 2"	1149	1763	10,5	34,0
ES4 16 26 T A4I	20	RP/NPT 2"	1489	2173	13,5	40,3
ES4 16 27 T A4I	27	RP/NPT 2"	1962	2726	17,7	46,7



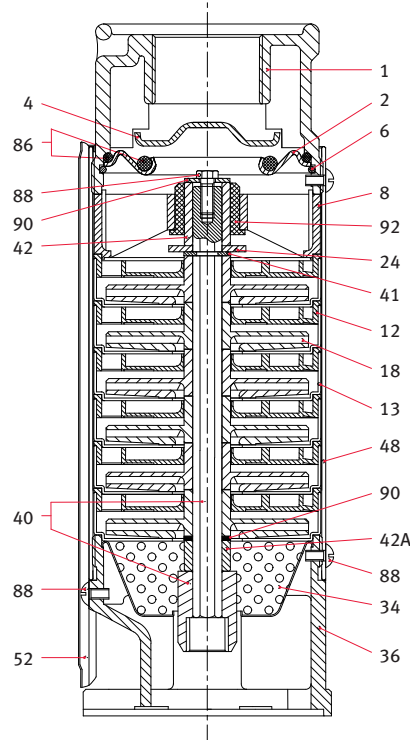
ES4 16 Series



The performance figures are valid for liquids with a density of  $\rho = 1,0 \text{ kg/dm}^3$  and a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$ .

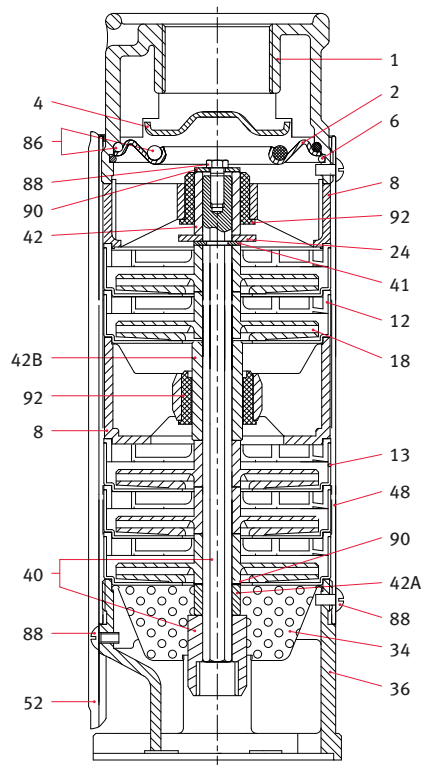
**ES4 01 – ES4 02 – ES4 03 – ES4 04**

Models
ES4 01 10
ES4 01 13
ES4 01 19
ES4 02 05
ES4 02 07
ES4 02 10
ES4 02 14
ES4 02 20
ES4 03 05
ES4 03 08
ES4 03 11
ES4 03 16
ES4 03 21
ES4 04 04
ES4 04 06
ES4 04 08
ES4 04 12
ES4 04 16



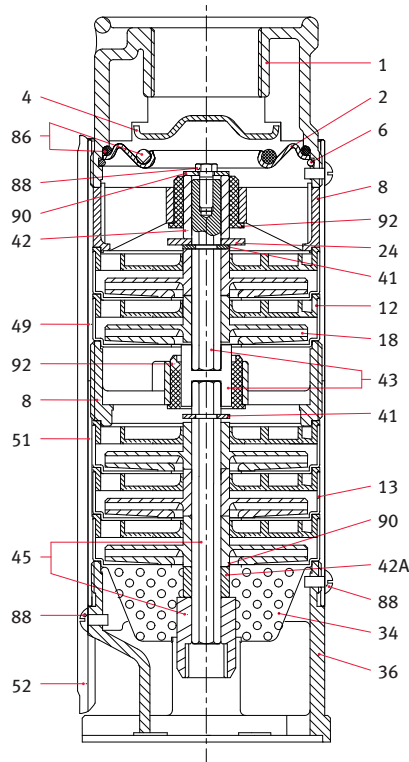
REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
8	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
40	Shaft
41	Elastic ring
42	Shaft sleeve
42A	Shaft sleeve
48	Casing
52	Cable guard
86	O-ring
88	Thread
90	Washer
92	Bearing

Models
ES4 01 26
ES4 02 28
ES4 04 24



REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
8	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
40	Shaft
41	Elastic ring
42	Shaft sleeve
42A	Shaft sleeve
42B	Shaft sleeve
48	Casing
52	Cable guard
86	O-ring
88	Thread
90	Washer
92	Bearing

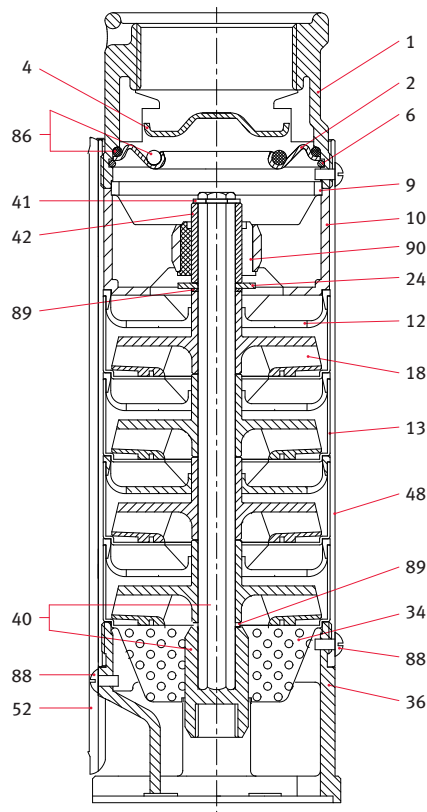
Models
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ES4 02 40
ES4 02 52
ES4 03 32
ES4 04 32
ES4 04 40
ES4 04 44



REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
8	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
41	Elastic ring
42	Shaft sleeve
42A	Shaft sleeve
43	Upper shaft
45	Lower shaft
49	Upper casing
51	Lower casing
52	Cable guard
86	O-ring
88	Thread
90	Washer
92	Bearing

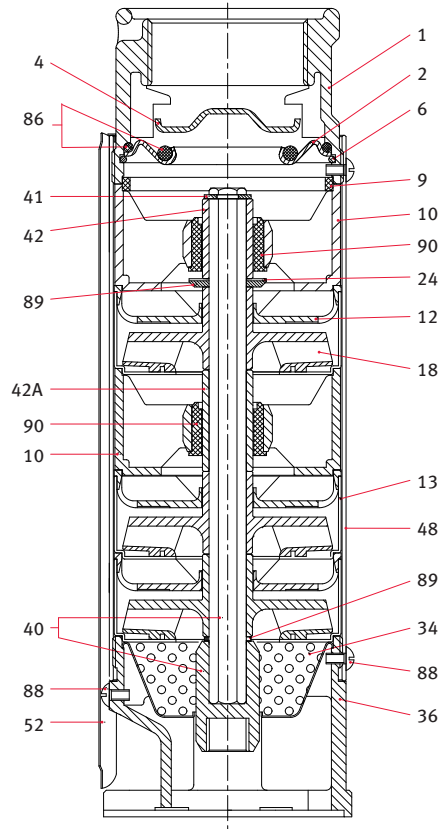
## ES4 06 – ES4 08

Models
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ES4 06 10
ES4 06 14
ES4 08 06
ES4 08 08
ES4 08 13
ES4 08 17



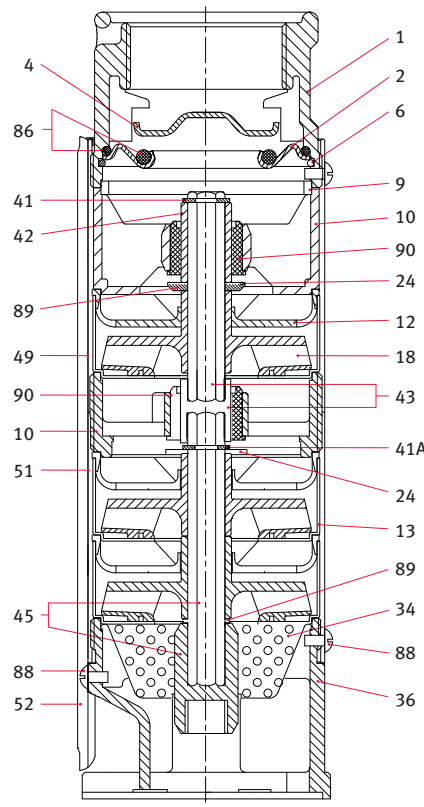
REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
9	Upper elastic ring
10	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
40	Shaft
41	Elastic ring
42	Shaft sleeve
48	Casing
52	Cable guard
86	O-ring
88	Thread
89	Washer
90	Bearing

Models
ES4 06 20
ES4 06 27
ES4 08 21
ES4 08 23



REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
9	Upper elastic ring
10	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
40	Shaft
41	Elastic ring
42	Shaft sleeve
42A	Shaft sleeve
48	Casing
52	Cable guard
86	O-ring
88	Thread
89	Washer
90	Bearing

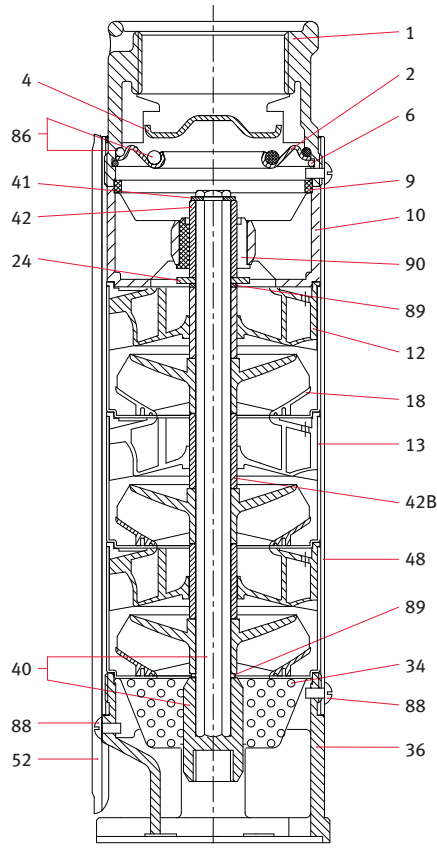
Models
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ES4 06 36
ES4 06 49
ES4 08 32
ES4 08 43



REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
9	Upper elastic ring
10	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
41	Elastic ring
41A	Lower elastic ring
42	Shaft sleeve
43	Upper shaft
45	Lower shaft
49	Upper casing
51	Lower casing
52	Cable guard
86	O-ring
88	Thread
89	Washer
90	Bearing

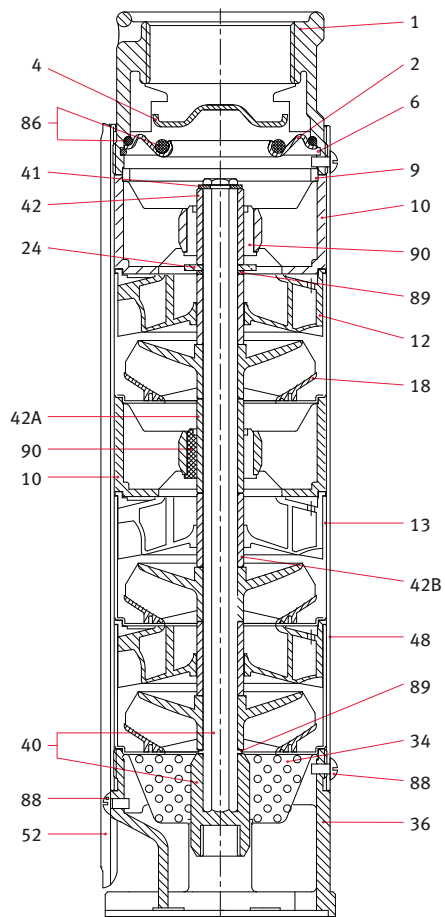
### ES4 12

Models
ES4 12 07
ES4 12 10
ES4 12 14



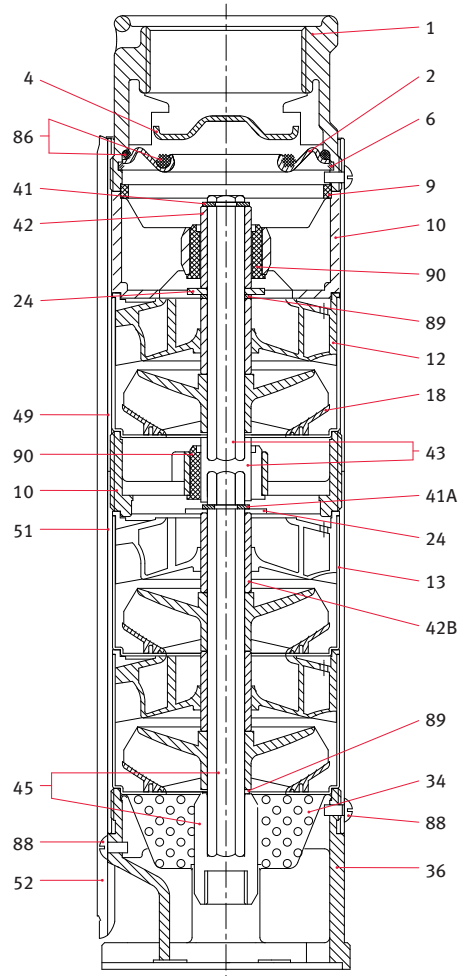
REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
9	Upper elastic ring
10	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
40	Shaft
41	Elastic ring
42	Shaft sleeve
42B	Shaft sleeve
48	Casing
52	Cable guard
86	O-ring
88	Thread
89	Washer
90	Bearing

Models
ES4 12 17
ES4 12 19



REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
9	Upper elastic ring
10	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
40	Shaft
41	Elastic ring
42	Shaft sleeve
42A	Shaft sleeve
42B	Shaft sleeve
48	Casing
52	Cable guard
86	O-ring
88	Thread
89	Washer
90	Bearing

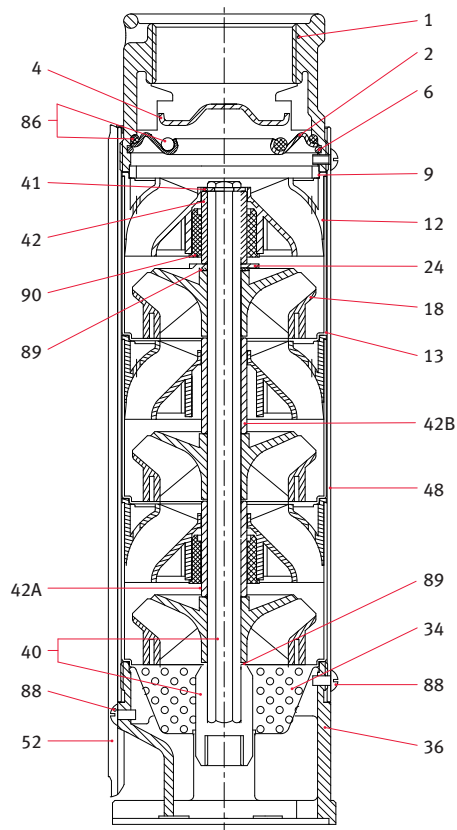
Models
ES4 12 26
ES4 12 34



REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
9	Upper elastic ring
10	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
41	Elastic ring
41A	Lower elastic ring
42	Shaft sleeve
42B	Shaft sleeve
43	Upper shaft
45	Lower shaft
49	Upper casing
51	Lower casing
52	Cable guard
86	O-ring
88	Thread
89	Washer
90	Bearing

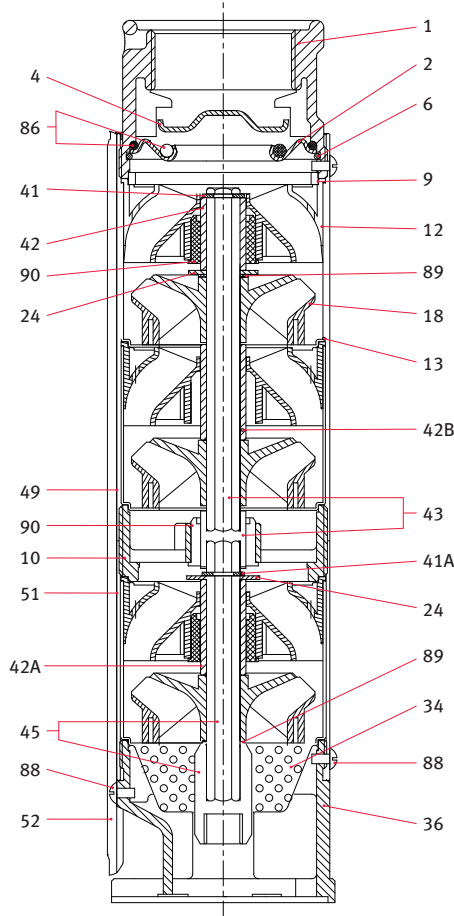
## ES4 16

Models
ES4 16 08
ES4 16 11
ES4 16 13
ES4 16 15



REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
9	Upper elastic ring
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
40	Shaft
41	Elastic ring
42	Shaft sleeve
42A	Shaft sleeve
42B	Shaft sleeve
48	Casing
52	Cable guard
86	O-ring
88	Thread
89	Washer
90	Bearing

Models
ES4 16 15
ES4 16 20
ES4 16 27

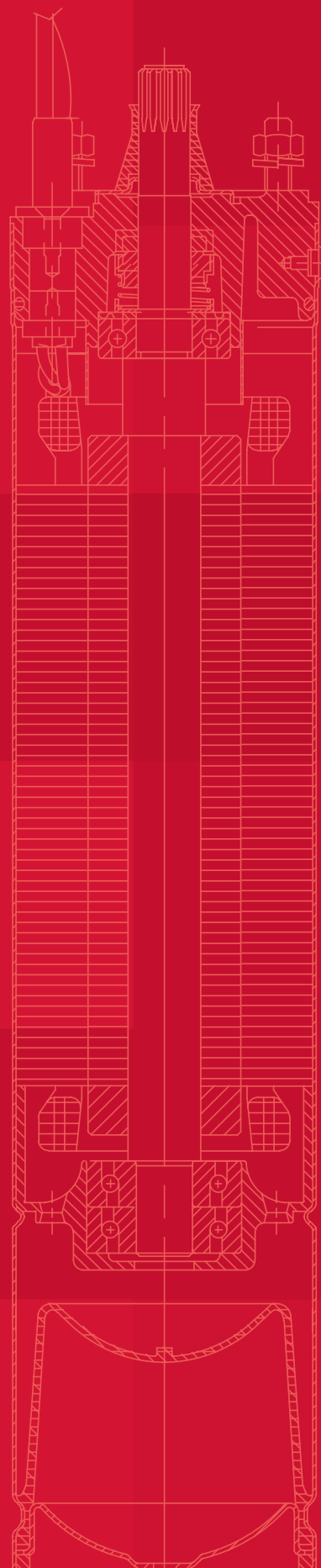


REF No.	DESCRIPTION
1	Discharge body
2	Valve bracket
4	Valve plate
6	Valve locking ring
9	Upper elastic ring
10	Pump bracket
12	Diffuser
13	Plane housing
18	Impeller
24	Thrust bracket
34	Filter
36	Lower bracket
41	Elastic ring
41A	Lower elastic ring
42	Shaft sleeve
42A	Shaft sleeve
42B	Shaft sleeve
43	Upper shaft
45	Lower shaft
49	Upper casing
51	Lower casing
52	Cable guard
86	O-ring
88	Thread
89	Washer
90	Bearing

# ES4 Series

04I and A4I Motors

50 Hz





## Description

- ❖ Submersible motors in a cooling liquid bath.  
The construction materials selected guarantee optimal performance, superior quality, excellent reliability and easy installation.

## Technical data

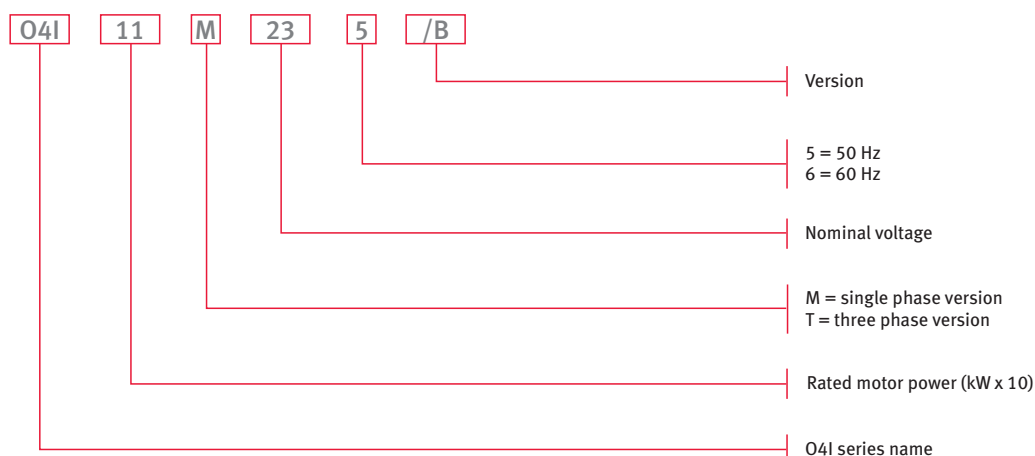
- ❖ Stainless steel external casing.
- ❖ Shaft end and coupling sizes compliant with NEMA standards.
- ❖ Rewindable stator.
- ❖ Motor with Class F insulation.
- ❖ Level of protection: IP68.
- ❖ Internal liquid compliant with the standards for oils in contact with foodstuffs (FDA - Food and Drug Administration).
- ❖ Compensating membrane for the dilatation of the internal liquid.
- ❖ Axial load supported by the slanted ball bearings.
- ❖ Mechanical seal with anti-sand protection.
- ❖ Maximum immersion depth: 150 m.
- ❖ Maximum number of start-ups per hour, distributed equitatively: 30 for direct start-ups ; 20 for start-ups with soft start unit.
- ❖ Maximum deviation allowed over line voltage with regard to nominal voltage: 230V ±10%, 400V ±10%.
- ❖ Maximum water temperature: 35°C.  
Maximum temperature is understood as being for motor operating in an installation, capable of guaranteeing a water flow of at least 0.08 m/s around the motor casing.
- ❖ pH of water: 4 ÷ 8.
- ❖ Axial thrust: 3000 N from 0.37 to 2.2 kW; 6500 N from 3 to 7.5 kW.
- ❖ Removable power cable fitted with waterproof connector.
- ❖ Versions: single phase: from 0.37 to 2.2 kW, 220-240 V, 50 Hz.  
Three-phase: from 0.37 to 7.5 kW. 220-240 V, 50 Hz and from 0.37 to 7.5 kW, 380-415 V, 50 Hz.
- ❖ Horizontal operation up to 2.2 kW.
- ❖ Applications with inverter.



## Running on demand

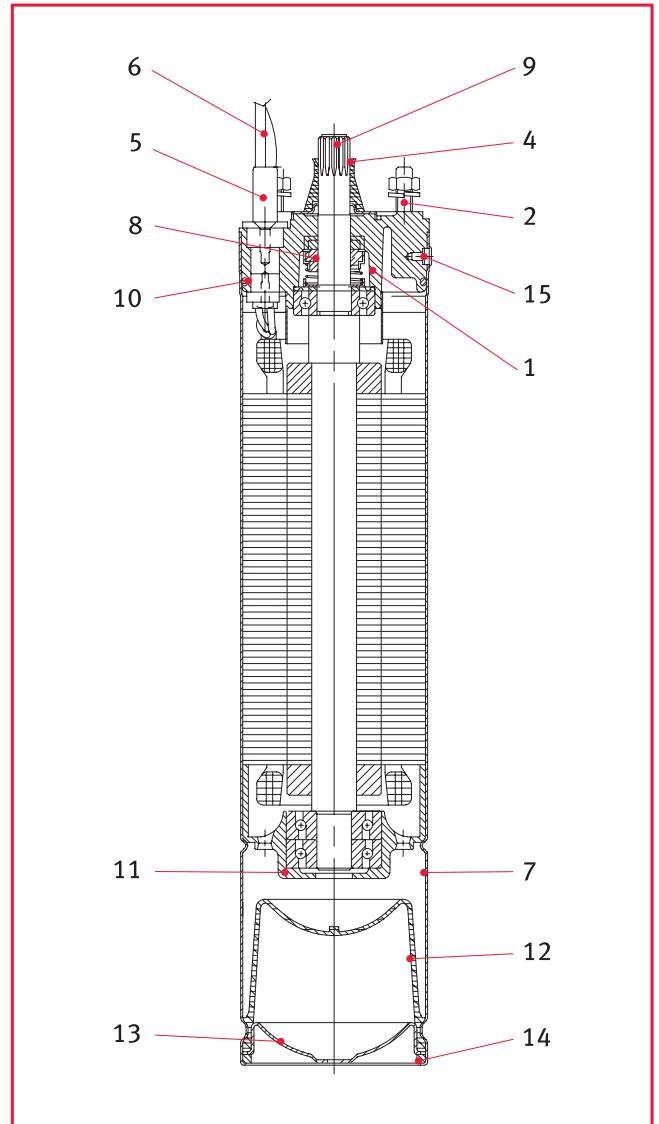
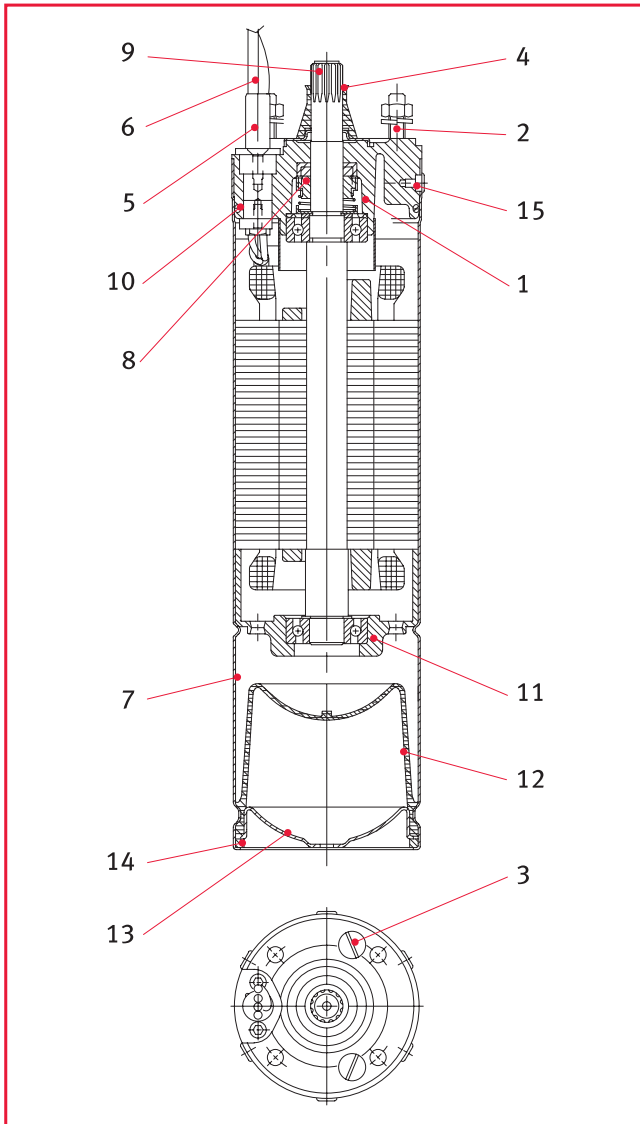
- ❖ Special voltages.

## Identification codes



Example: O4I 11M 235/B  
O4I Motor: rated power 1.1 kW ; single phase; rated voltage 230 V; 50 Hz; version /B.

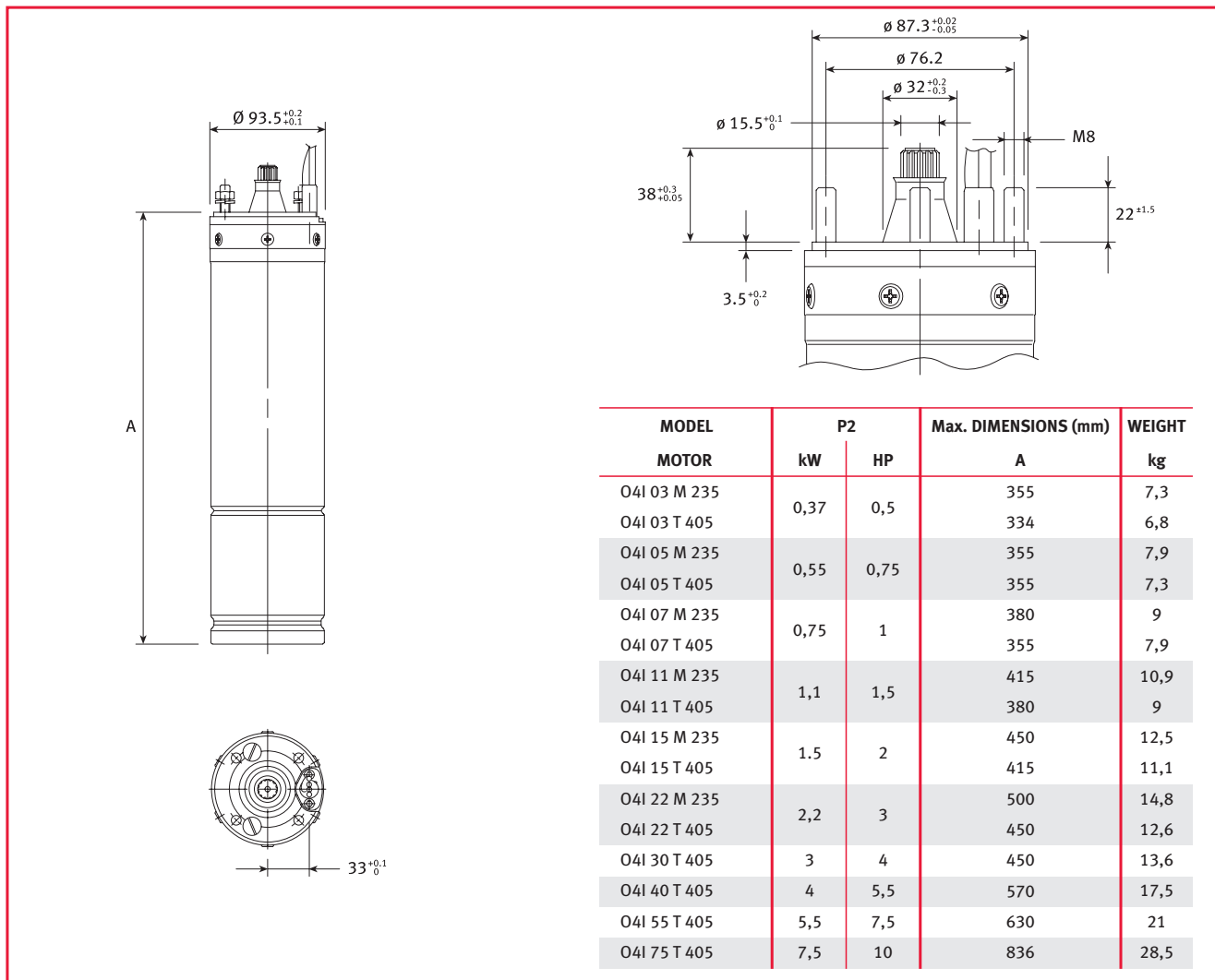
## Motor section



## Table of materials

REF No.	DESCRIPTION	MATERIALS	REF. STANDARS EUROPE	REF. STANDARDS USA
1	Head	Brass	EN12165-CuZn40Pb2 (CW617N)	
2	Studs	Stainless steel	EN 10088-3 - X5CrNi18-10 (1.4301)	AISI 304
3	Filler caps	Brass	EN12165-CuZn40Pb2 (CW617N)	
4	Anti-sand protection	NBR		
5	Connector	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
6	Cable	EPDM		
7	External casing	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
8	Mechanical seal	Carbon / ceramics		
9	Shaft end for $P \leq 2.2$ kW	Stainless steel	EN 10088-3 - X8CrNiS18-9 (1.4305)	AISI 303
9	Shaft end for $3 \leq P \leq 7.5$ kW	Stainless steel	EN 10088-1 - X2CrNiMoN22-5-3 (1.4462)	UNS S 31803
10	Elastomers	NBR		
11	Lower bracket	Cast	EN1561-GJL-200 (JL1030)	ASTM Class 25
12	Compensating membrane	NBR		
13	Lower guard	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
14	Elastic ring	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI 304
15	Screws	Stainless steel	EN 10088-3 - X5CrNi18-10 (1.4301)	AISI 304
	Cooling liquid	Non-toxic oil		

## Sizes and weights at 50 Hz



## Single phase performance features at 50 Hz

MODEL MOTOR	P2		NOMINAL VOLTAGE V	CAPACITOR $\mu\text{F}/450\text{V}$	PERFORMANCE FEATURES AT RATED POWER				DOL START-UP		MAXIMUM WATER TEMPERATURE $^{\circ}\text{C}$	TYPE OF CABLE	
	kW	HP			A	rpm	$\eta\%$	$\cos\phi$	Ts/Tn	Is/In		Nc x sez	L
O4I 03 M 235	0,37	0,5	220	16	3,0	2835	56,8	0,98	0,56	3,08	35	4 X 1.5	1,75
			230		3,1	2845	54,7	0,96	0,62	3,17			
			240		3,2	2860	52,5	0,93	0,68	3,20			
O4I 05 M 235	0,55	0,75	220	20	4,1	2815	62,4	0,98	0,60	2,93	35	4 X 1.5	1,75
			230		4,1	2830	60,4	0,96	0,66	3,02			
			240		4,3	2845	58,4	0,92	0,72	3,06			
O4I 07 M 235	0,75	1	220	30	5,4	2825	63,3	0,99	0,57	3,07	35	4 X 1.5	1,75
			230		5,5	2840	61,6	0,97	0,63	3,20			
			240		5,6	2855	59,9	0,94	0,69	3,27			
O4I 11 M 235	1,1	1,5	220	40	7,5	2820	67,6	0,99	0,62	2,97	35	4 X 1.5	1,75
			230		7,4	2840	66,3	0,98	0,68	3,14			
			240		7,6	2850	63,9	0,95	0,74	3,20			
O4I 15 M 235	1,5	2	220	50	10,0	2830	69,3	0,98	0,48	3,10	35	4 X 1.5	1,75
			230		10,1	2845	67,6	0,96	0,53	3,22			
			240		10,5	2855	64,9	0,92	0,58	3,22			
O4I 22 M 235	2,2	3	220	70	14,3	2805	71,1	0,99	0,46	2,71	35	4 X 1.5	2,5
			230		14,1	2820	69,6	0,97	0,50	2,86			
			240		14,4	2840	67,7	0,94	0,55	2,93			

### Three phase performance features at 50 Hz

MODEL MOTOR THREE PHASE	P2		NOMINAL VOLTAGE V	PERFORMANCE FEATURES AT RATED POWER				DOL START-UP		MAXIMUM WATER TEMPERATURE °C	TYPE OF CABLE	
	kW	HP		NOMINAL CURRENT A	rpm	η %	cosφ	Ts/Tn	Is/In		Nc x sez	L
04I 03 T 235	0,37	0,5	220	2,0	2835	62	0,78	3,4	5,1	35	4 X 1.5	1,75
			230	2,1	2855	62	0,72	3,8	5,3			
			240	2,2	2865	61	0,68	4,1	5,3			
04I 05 T 235	0,55	0,75	220	2,8	2795	65	0,80	2,8	4,6	35	4 X 1.5	1,75
			230	2,9	2820	64	0,75	3,1	4,7			
			240	3,0	2835	63	0,71	3,4	4,7			
04I 07 T 235	0,75	1	220	3,8	2790	68	0,78	3,3	4,6	35	4 X 1.5	1,75
			230	4,0	2815	67	0,71	3,6	4,7			
			240	4,2	2825	65	0,67	3,9	4,6			
04I 11 T 235	1,1	1,5	220	5,1	2780	72	0,80	2,7	4,2	35	4 X 1.5	1,75
			230	5,2	2810	71	0,74	3,0	4,4			
			240	5,4	2820	70	0,70	3,2	4,3			
04I 15 T 235	1,5	2	220	7,0	2790	73	0,78	3,0	4,7	35	4 X 1.5	1,75
			230	7,2	2815	72	0,72	3,4	4,8			
			240	7,6	2825	70	0,68	3,7	4,7			
04I 22 T 235	2,2	3	220	9,7	2785	74	0,80	2,3	4,7	35	4 X 1.5	2,5
			230	10,0	2810	74	0,74	2,6	4,8			
			240	10,5	2825	73	0,69	2,7	4,7			
04I 30 T 235	3	4	220	12,1	2810	77	0,85	1,8	4,2	35	4 X 1.5	2,5
			230	12,0	2830	77	0,81	2,0	4,5			
			240	12,3	2845	77	0,77	2,2	4,6			
04I 40 T 235	4	5,5	220	16,4	2810	75	0,85	2,2	4,8	35	4 X 1.5	2,5
			230	16,5	2840	76	0,80	2,4	5,0			
			240	17,0	2850	75	0,76	2,6	5,0			
04I 55 T 235	5,5	7,5	220	22,9	2795	76	0,83	1,8	4,6	35	4 X 1.5	2,5
			230	23,0	2820	77	0,78	2,0	4,8			
			240	23,7	2840	77	0,73	2,2	4,9			
04I 75 T 235	7,5	10	220	31,0	2820	78	0,82	1,9	4,9	35	4 X 1.5	4
			230	31,4	2850	79	0,76	2,1	5,1			
			240	32,4	2860	78	0,71	2,3	5,1			

Three phase performance features at 50 Hz

MODEL MOTOR THREE PHASE	P2		NOMINAL VOLTAGE V	PERFORMANCE FEATURES AT RATED POWER				DOL START-UP		MAXIMUM WATER TEMPERATURE °C	TYPE OF CABLE	
	kW	HP		NOMINAL CURRENT A	rpm	η %	cosφ	Ts/Tn	Is/In		Nc x sez	L
O4I 03 T 405	0,37	0,5	380	1,2	2835	62	0,78	3,4	5,1	35	4 X 1.5	1,75
			400	1,2	2855	62	0,72	3,8	5,3			
			415	1,2	2865	61	0,68	4,1	5,3			
O4I 05 T 405 405	0,55	0,75	380	1,6	2795	65	0,80	2,8	4,6	35	4 X 1.5	1,75
			400	1,7	2820	64	0,75	3,1	4,7			
			415	1,7	2835	63	0,71	3,4	4,7			
O4I 07 T 405	0,75	1	380	2,2	2790	68	0,78	3,3	4,6	35	4 X 1.5	1,75
			400	2,3	2815	67	0,71	3,6	4,7			
			415	2,4	2825	65	0,67	3,9	4,6			
O4I 11 T 405	1,1	1,5	380	2,9	2780	72	0,80	2,7	4,2	35	4 X 1.5	1,75
			400	3,0	2810	71	0,74	3,0	4,4			
			415	3,1	2820	70	0,70	3,2	4,3			
O4I 15 T 405	1,5	2	380	4,0	2790	73	0,78	3,0	4,7	35	4 X 1.5	1,75
			400	4,2	2815	72	0,72	3,4	4,8			
			415	4,4	2825	70	0,68	3,7	4,7			
O4I 22 T 405	2,2	3	380	5,6	2785	74	0,80	2,3	4,7	35	4 X 1.5	2,5
			400	5,8	2810	74	0,74	2,6	4,8			
			415	6,1	2825	73	0,69	2,7	4,7			
O4I 30 T 405	3	4	380	7,0	2810	77	0,85	1,8	4,2	35	4 X 1.5	2,5
			400	7,0	2830	77	0,81	2,0	4,5			
			415	7,1	2845	77	0,77	2,2	4,6			
O4I 40 T 405	4	5,5	380	9,5	2810	75	0,85	2,2	4,8	35	4 X 1.5	2,5
			400	9,5	2840	76	0,80	2,4	5,0			
			415	9,8	2850	75	0,76	2,6	5,0			
O4I 55 T 405	5,5	7,5	380	13,2	2795	76	0,83	1,8	4,6	35	4 X 1.5	2,5
			400	13,3	2820	77	0,78	2,0	4,8			
			415	13,7	2840	77	0,73	2,2	4,9			
O4I 75 T 405	7,5	10	380	17,9	2820	78	0,82	1,9	4,9	35	4 X 1.5	4
			400	18,1	2850	79	0,76	2,1	5,1			
			415	18,7	2860	78	0,71	2,3	5,1			

## Description

- Submersible motor submerged with a sealed stator.  
The construction materials selected guarantee optimal performance, superior quality, excellent reliability and easy installation.

## Technical data

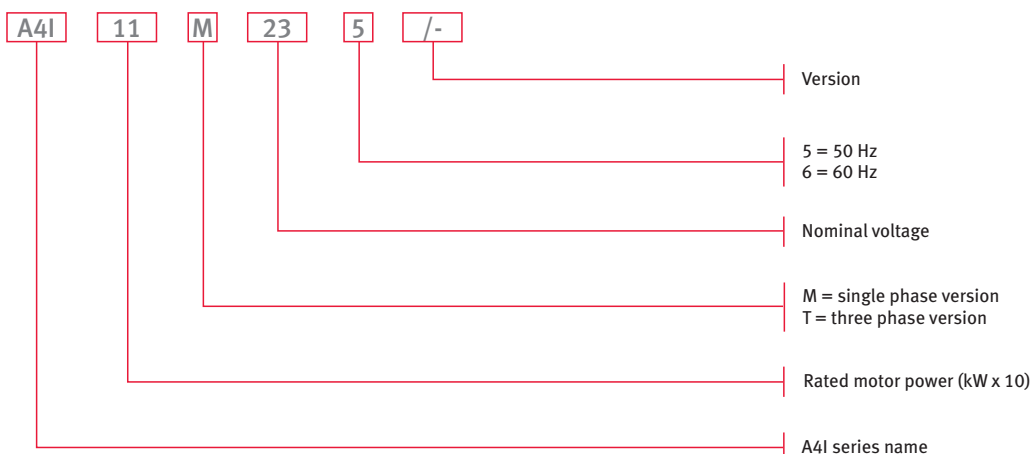
- Stainless steel external casing.
  - Shaft end and coupling sizes compliant with NEMA standards.
  - Motor with Class F insulation.
  - Level of protection: IP68.
  - Compensating membrane for the dilatation of the internal liquid.
  - Axial load supported by a multi-segmented Kingsbury bearing.
  - Shaft upper with anti-sand protection.
  - Maximum immersion depth: 300 m.
  - Maximum number of start-ups per hour, distributed equitatively:  
40 for direct start-ups ; 20 for start-ups with soft start unit.
  - Voltage tolerance: ±6%
  - Maximum water temperature: 35°C.  
Maximum temperature is understood as being for motors operating in an installation, capable of guaranteeing a water flow of at least 0.3 m/s around the motor casing.
  - Axial thrust: 2000 N from 0.37 to 1.1 kW; 3000 N from 1.5 to 2.2 kW; 6000 N from 3 to 7.5 kW.
  - Removable power cable fitted with waterproof connector.
- Versions: single phase: from 0.37 to 3.7 kW, 220-240 V, 50 Hz (from 0.37 to 1.1 kW with overload protection with built-in automatic reset).  
Three phase: from 0.37 to 5.5 kW, 220-240 V, 50 Hz and from 0.37 to 7.5 kW, 380-415 V, 50 Hz.
- Horizontal operation for all versions, provided that the attached pump is capable of exerting a minimum axial thrust of 100 N over the entire operational field.



## On demand

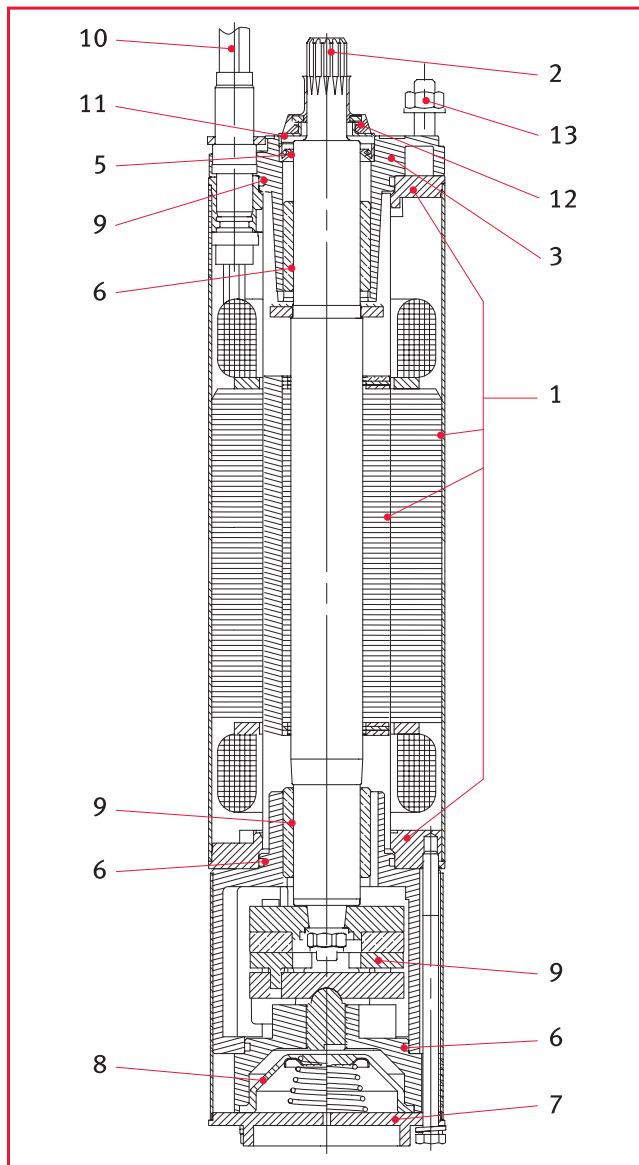
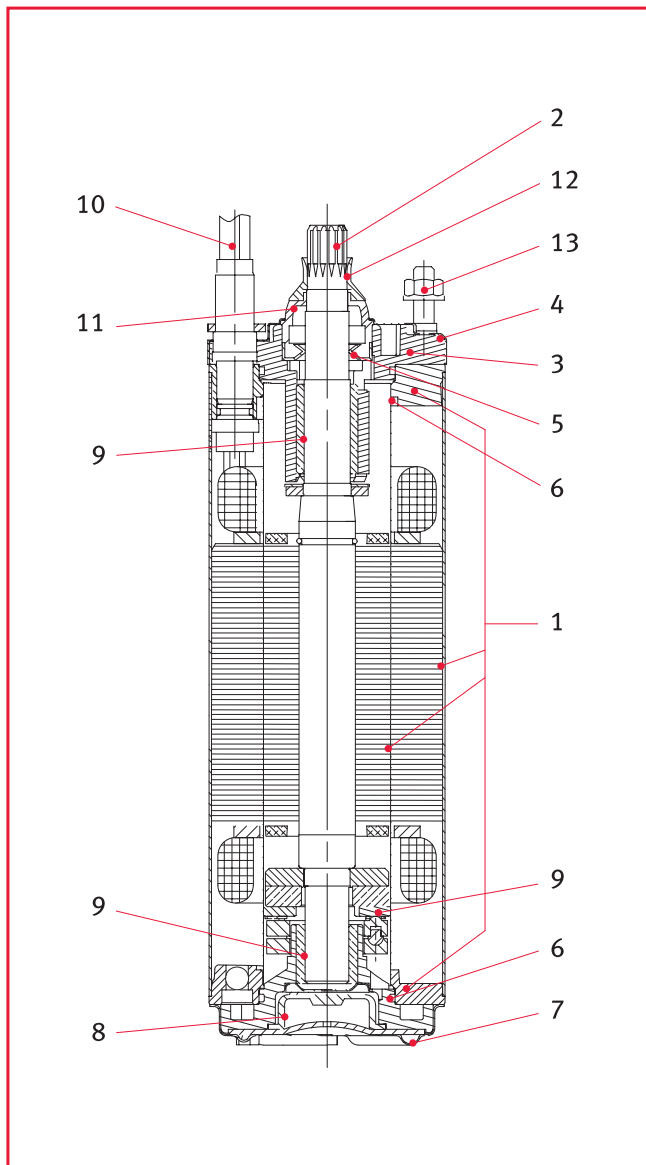
- Special voltages.
- Applications with inverter.

## Identification codes



Example: A4I 11M 235  
A4I motor: rated power 1.1 kW; single phase; rated voltage 230 V; 50 Hz.

## Motor section



## Table of materials

REF No.	DESCRIPTION	MATERIALS	REF. STANDARDS EUROPE	REF. REF. STANDARDS USA
1	External, internal casing	Stainless steel	EN 10088-1-X2CrNi18-9 (1.4307)	AISI304L
	Flanges	High-carbon steel	EN 10025 - S355JR (Fe 510-B)	ASTM A105
2	Shaft end (up to 2.2 kW)	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI304
	Shaft end (3 kW)	Stainless steel	EN 10088-1 - X2CrNi23-4 (1.4362)	ASTM 32304
3	Upper bracket	Cast	EN-GJL-200	Class 25 B
4	Upper cover	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI304
5	Shaft obturator	NBR		
6	Elastomers	NBR		
7	Lower cover	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI304
8	Compensating membrane	EPDM		
9	Bearings	Carbon-graphite		
10	Cable	EPDM		
11	Fixed anti-sand protection	Nylon		
12	Sliding anti-sand protection	NBR		
13	Screws	Stainless steel	EN 10088-1 - X5CrNi18-10 (1.4301)	AISI304
	Cooling liquid	Demineralised water + antifreeze		

## Sizes and weights at 50 Hz

MODEL MOTOR	P2		Max. DIMENSIONS (mm)		WEIGHT kg
	kW	HP	A		
A4I 03 M 235	0,37	0,5	236	7	
A4I 03 T 235-405			216	6,8	
A4I 05 M 235	0,55	0,75	266	7,6	
A4I 05 T 235-405			236	7	
A4I 07 M 235	0,75	1	286	8,2	
A4I 07 T 235-405			266	7,6	
A4I 11 M 235	1,1	1,5	331	10,7	
A4I 11 T 235-405			286	8,2	
A4I 15 M 235	1,5	2	393	12,5	
A4I 15 T 235-405			348	11,8	
A4I 22 M 235	2,2	3	413	14	
A4I 22 T 235-405			393	12,6	
A4I 30 T 235-405	3	4	544	20,4	
A4I 40 M 235	4	5,5	684	27,5	
A4I 40 T 235-405			614	23,5	
A4I 55 T 235-405	5,5	7,5	684	26,8	
A4I 75 T 235-405	7,5	10	764	29	

## Single phase performance features at 50 Hz

MODEL MOTOR	P2		NOMINAL VOLTAGE	CAPACITOR	PERFORMANCE FEATURES				DOL		MAXIMUM WATER TEMPERATURE	TYPE OF CABLE	
					NOMINAL CURRENT	AT RATED POWER			START-UP			Nc x sez	L
						A	rpm	η %	cosφ	Ts/Tn			
A4I 03 M 235	0,37	0,5	220	16	3,2	2810	53	0,96	0,63	2,68	35	4 X 1.5	1,7
			230		3,3	2820	54	0,97	0,69	2,72			
			240		3,4	2830	50	0,91	0,75	2,76			
A4I 05 M 235	0,55	0,75	220	20	4,3	2810	61	0,95	0,62	3,30	35	4 X 1.5	1,7
			230		4,6	2820	56	0,94	0,68	3,20			
			240		4,8	2830	54	0,90	0,74	3,26			
A4I 07 M 235	0,75	1	220	30	6,0	2810	60	0,93	0,63	3,18	35	4 X 1.5	1,7
			230		6,2	2820	58	0,92	0,66	3,20			
			240		6,5	2830	56	0,85	0,75	3,20			
A4I 11 M 235	1,1	1,5	220	40	8,1	2800	67	0,95	0,60	3,48	35	4 X 1.5	1,7
			230		8,1	2835	65	0,92	0,60	3,54			
			240		8,3	2850	63	0,87	0,62	3,62			
A4I 15 M 235	1,5	2	220	50	10,4	2800	6+7	0,96	0,74	3,30	35	4 X 1.5	1,7
			230		10,4	2820	66	0,93	0,74	3,38			
			240		10,7	2835	64	0,90	0,76	3,46			
A4I 22 M 235	2,2	3	220	70	15,4	2740	68	0,96	0,54	3,10	35	4 X 1.5	1,7
			230		15,0	2770	68	0,94	0,54	3,20			
			240		15,3	2790	66	0,91	0,54	3,30			
A4I 40 M 235	4	5,5	220	90	24,5	2840	70	0,94	0,46	3,50	35	4 X 2	2,7
			230		25,0	2850	68	0,95	0,51	3,60			
			240		27,4	2860	65	0,84	0,60	3,40			



### Three phase performance features at 50 Hz

MODEL MOTOR  THREE PHASE	P2		NOMINAL VOLTAGE  V	PERFORMANCE FEATURES AT RATED POWER				DOL START-UP		MAXIMUM WATER TEMPERATURE °C	TYPE OF CABLE	
	kW	HP		NOMINAL CURRENT A	rpm	$\eta$ %	cos $\phi$	Ts/Tn	Is/In		Nc x sez	L
A4I 03 T 235	0,37	0,5	220	2,6	2810	51	0,69	2,7	3,7	35	4 X 1.5	1,7
			230	2,7	2820	53	0,70	3,0	3,7			
			240	3,1	2830	48	0,67	3,2	3,4			
A4I 05 T 235	0,55	0,75	220	3,1	2820	61	0,77	2,8	4,3	35	4 X 1.5	1,7
			230	3,3	2830	60	0,71	3,1	4,2			
			240	3,5	2840	60	0,66	3,3	4,2			
A4I 07 T 235	0,75	1	220	4	2820	65	0,77	2,9	5,0	35	4 X 1.5	1,7
			230	4,1	2830	63	0,73	3,2	5,1			
			240	4,5	2840	63	0,66	3,5	4,8			
A4I 11 T 235	1,1	1,5	220	5,6	2820	62	0,80	3,0	4,0	35	4 X 1.5	1,7
			230	5,7	2830	64	0,76	3,3	4,2			
			240	6,2	2840	63	0,73	3,6	4,0			
A4I 15 T 235	1,5	2	220	7,4	2820	68	0,77	3,1	4,2	35	4 X 1.5	1,7
			230	7,6	2830	68	0,72	3,4	4,3			
			240	8	2840	67	0,68	3,7	4,3			
A4I 22 T 235	2,2	3	220	10	2810	72	0,80	3,0	4,3	35	4 X 1.5	1,7
			230	10,2	2820	71	0,78	3,2	4,4			
			240	10,7	2830	70	0,70	3,5	4,4			
A4I 30 T 235	3	4	220	13,7	2830	75	0,77	3,0	4,6	35	4 X 1.5	2,7
			230	14,3	2840	74	0,71	3,3	4,6			
			240	15,2	2850	70	0,68	3,5	4,5			
A4I 40 T 235	4	5,5	220	16,4	2840	76	0,81	3,1	5,6	35	4 X 2	2,7
			230	17,3	2850	75	0,79	3,4	5,6			
			240	18,2	2860	72	0,74	3,7	5,5			
A4I 55 T 235	5,5	7,5	220	23,4	2840	78	0,79	3,0	5,4	35	4 X 2	2,7
			230	24,2	2850	77	0,74	3,4	5,5			
			240	25	2860	76	0,70	3,6	5,5			

## Three phase performance features at 50 Hz

MODEL MOTOR THREE PHASE	P2		NOMINAL VOLTAGE V	PERFORMANCE FEATURES AT RATED POWER				DOL START-UP		MAXIMUM WATER TEMPERATURE °C	TYPE OF CABLE	
	kW	HP		NOMINAL CURRENT A	rpm	η %	cosφ	Ts/Tn	Is/In		Nc x sez	L
A4I 03 T 405	0,37	0,5	380	1,5	2810	51	0,69	2,7	3,8	35	4 X 1.5	1,7
			400	1,6	2820	53	0,70	3,0	3,8			
			415	1,8	2830	48	0,67	3,2	3,4			
A4I 05 T 405	0,55	0,75	380	1,8	2820	61	0,77	2,8	4,2	35	4 X 1.5	1,7
			400	1,9	2830	60	0,71	3,1	4,2			
			415	2,0	2840	60	0,66	3,3	4,1			
A4I 07 T 405	0,75	1	380	2,3	2820	65	0,77	2,9	5,0	35	4 X 1.5	1,7
			400	2,4	2830	63	0,73	3,2	5,0			
			415	2,6	2840	63	0,66	3,5	4,8			
A4I 11 T 405	1,1	1,5	380	3,3	2820	62	0,80	3,0	4,0	35	4 X 1.5	1,7
			400	3,4	2830	64	0,76	3,3	4,1			
			415	3,6	2840	63	0,73	3,6	4,0			
A4I 15 T 405	1,5	2	380	4,3	2820	68	0,77	3,1	4,2	35	4 X 1.5	1,7
			400	4,4	2830	68	0,72	3,4	4,3			
			415	4,6	2840	67	0,68	3,7	4,3			
A4I 22 T 405	2,2	3	380	5,8	2810	72	0,80	3,0	4,1	35	4 X 1.5	1,7
			400	5,9	2820	71	0,78	3,2	4,4			
			415	6,2	2830	70	0,70	3,5	4,3			
A4I 30 T 405	3	4	380	7,9	2830	75	0,77	3,0	4,5	35	4 X 1.5	2,7
			400	8,3	2840	74	0,71	3,3	4,6			
			415	8,8	2850	70	0,68	3,5	4,5			
A4I 40 T 405	4	5,5	380	9,5	2840	76	0,81	3,1	5,6	35	4 X 1.5	2,7
			400	10,0	2850	75	0,79	3,4	5,6			
			415	10,5	2860	72	0,74	3,7	5,5			
A4I 55 T 405	5,5	7,5	380	13,5	2840	78	0,79	3,0	5,4	35	4 X 1.5	2,7
			400	14,0	2850	77	0,74	3,4	5,5			
			415	14,5	2860	76	0,70	3,6	5,5			
A4I 75 T 405	7,5	10	380	17,0	2840	80	0,84	2,6	4,7	35	4 X 2	3,5
			400	17,4	2850	79	0,79	2,9	4,8			
			415	18,1	2860	76	0,75	3,1	4,8			

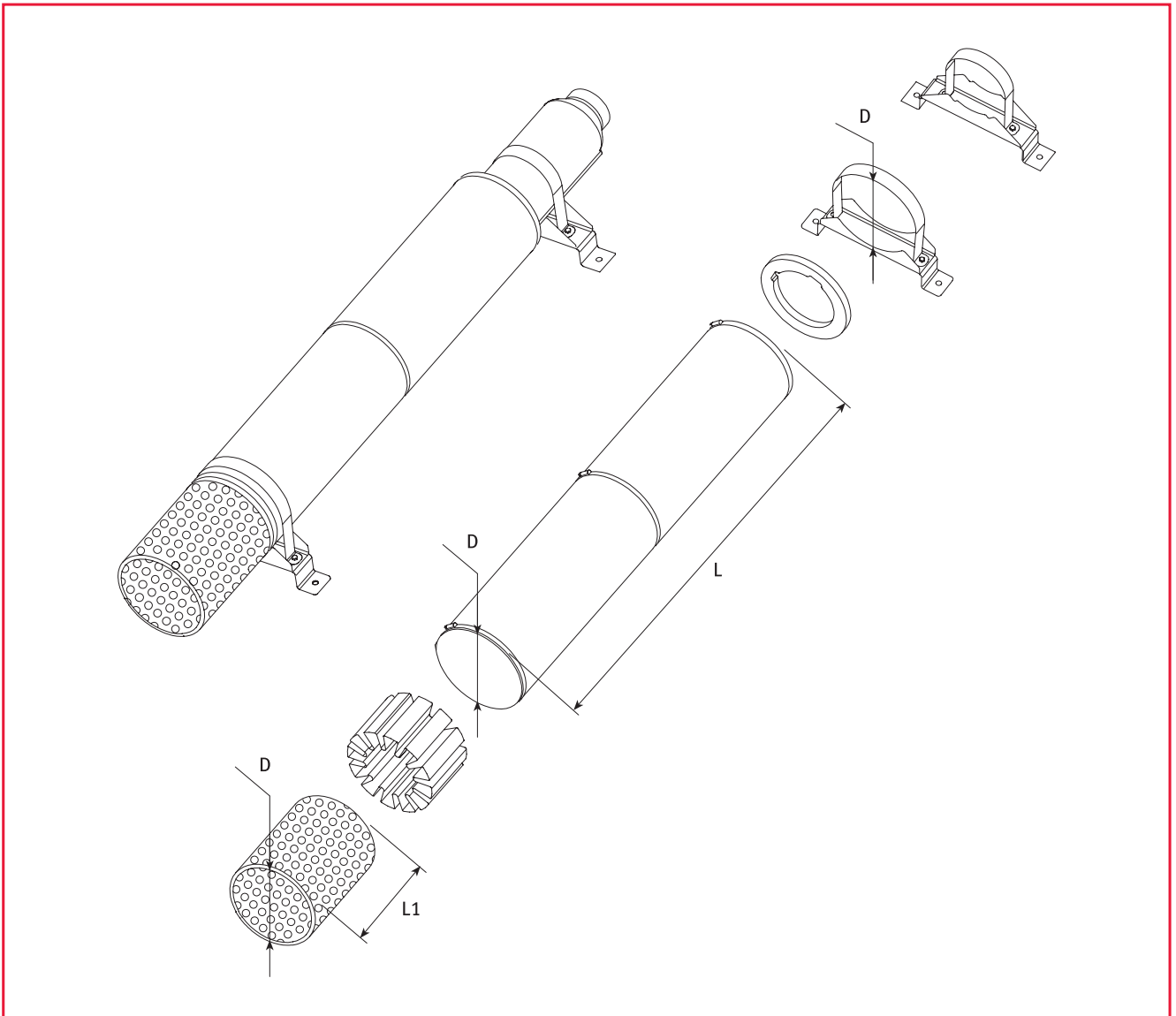
# ES4 Series

## Accessories

50 Hz



## Cooling jacket



PUMP SERIES	MOTOR POWER		COOLING JACKET KIT (D x L)	COOLING FILTER KIT (D x L1)	COOLING BRACKET KIT (D)
	O4I/B	A4I			
ES4 01 ES4 02 ES4 06 ES4 08 ES4 12	0,37	0,37	115X500	115X117	115/2X2
	0,55	0,55			
	0,75	0,75			
	1,1	1,1	115X800	115X117	115X2
	1,5	1,5			
	2,2	2,2			
	3	3			
4	4	115X1000	115X117	115X2	
5,5	5,5				
7,5	7,5				
ES4 16	2,2	2,2	145X800	145X158	145X2
	3	3			
	4	4	145X1000	145X158	145X2
	5,5	5,5			
	7,5	7,5			







COLLECTING  
MAKING POTABLE  
PRESSURISING  
RECIRCULATING  
REUSING  
EVACUATING  
CLEANING

ESPA GROUP, supporting you  
with all the technology,  
products and service you need.