

The logo features the word "SELF" in a bold, blue, sans-serif font. The letter "e" is replaced by a green leaf icon. To the right of "SELF" is the word "power" in a smaller, italicized, blue, sans-serif font. Below the main text, the words "Synchronous Eco Line-start Friendly" are written in a smaller, blue, sans-serif font, with "Eco" highlighted in green.

SELF
Synchronous **Eco** Line-start Friendly *power*

SELF-STARTING SYNCHRONOUS MOTOR

**A NEW DIMENSION OF EFFICIENCY
SMALLER OVERALL DIMENSIONS AND SAME POWER**



MOTOVARIO®

HEART OF MOTION

a **TECO** Group company



The SELF Power motor is an ecological hybrid electric motor halfway between an asynchronous motor and a reluctance motor. After an asynchronous start-up, the motor synchronizes with the working frequency and runs synchronously at constant speed (without encoder) regardless of the load.



The rotor has an advanced magnet-less geometry that optimizes performance and increases power density compared to a standard asynchronous motor.

The innovative design of the rotor, the squirrel cage and the absence of magnets make this motor a unique product on the market.

BENEFITS

- High energy efficiency
- Accurate speed without encoder
- Simple synchronization: multiple Self-Power motors powered by a single inverter
- Interchangeable with asynchronous motors
- Lower temperature on bearings
- Less maintenance
- NO magnets

+ more operating hours



- fewer raw materials



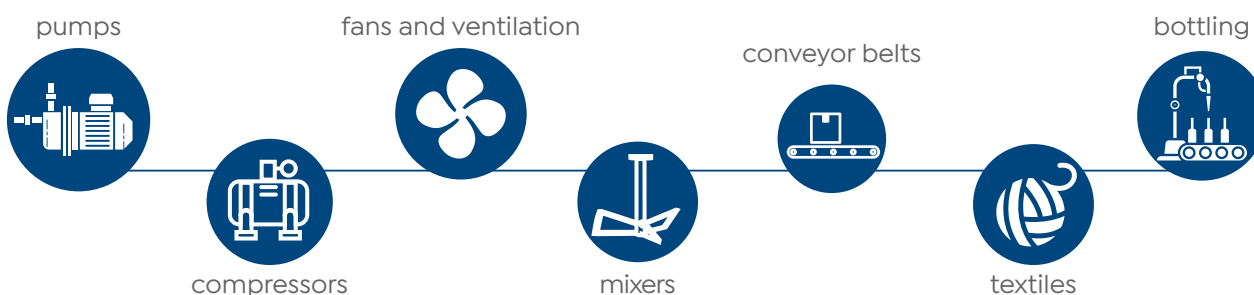
- smaller overall dimensions



example

Asynchronous Motor - TP Series TP 100LA4-2.2 kW-4 poles	Size 100
New SELF POWER Motor - TP-SL Series TP-SL90LM4-2.2 kW-4 poles	Size 90L

THE BEST PERFORMANCE FOR YOUR APPLICATIONS



Smaller overall dimensions

A lighter motor is easier to handle and install on the machine.

Better speed control

Some applications require a rigorously constant speed.

A V/f scalar inverter can be used to accurately select the speed by simply setting the power supply frequency. The motor does not require an encoder. With the asynchronous motor, the same result can only be achieved with a vector inverter backdriven by the encoder, with a considerable increase in cost.

Easy to use

A single inverter can easily control multiple SELF POWER motors.

Less material

Lower environmental impact.

In future, EU regulations and standards, which are already being developed, will reward this aspect.

Greater reliability

Lower temperatures for the bearings and windings ensure greater reliability and durability. The design allows for a quieter motor, leading to a better operating environment.



IE4

TECHNICAL DATA

PERFORMANCE

400V 50HZ

TSP-SL/TBSP-SL 4 Poles																			
P _n [kW]	Gran.	n _n [min ⁻¹]	I _n [A]	M _n [Nm]	Eff	η% (4/4) limit	η% (4/4)	η% (3/4)	η% (2/4)	cosΦ _n	M _s M _n	I _s I _n	M _{max} M _n	M _{po} M _n	$\frac{J_{Lmax}}{J_T} \frac{J_{Lmax}}{J_{TB}}$ a M _n	J _T J _{TB} [10 ⁻⁴ ×kgm ²]	W _T W _{TB} [Kg]	Z ₀ [10 ³ ×l/h]	M _B [Nm]
0,55	80A4	1500	1,39	3,5	IE4	83,9	83,9	82,5	79,9	0,68	2,4	5,6	2,6	1,8	4,3 4,1	24 25,5	9 12,5	8	10
0,75	80B4	1500	1,83	4,8	IE4	85,7	85,7	84,6	82,9	0,69	3	5,6	2,7	1,9	4,5 4,3	30,7 32,3	11,3 14,8	7,1	15
1,1	90S4	1500	2,6	7	IE4	87,2	87,2	86,4	83,9	0,7	2,6	5,9	3	2	5 4,5	32,3 35,8	14,4 17,9	5	13
1,5	90L4	1500	3,6	9,5	IE4	88,2	88,2	87,5	85,9	0,69	2,9	5,8	3,2	2,1	6 5,5	39 42,5	16,4 22	4	26
2,2	90LM4	1500	5,2	14	IE3	86,7	86,7	86,2	83,7	0,7	3	6,1	2,9	2	5 4,6	47 50,5	19,3 24,9	3,2	40
2,2	100LA4	1500	5,2	14	IE4	89,5	89,5	89,4	88,1	0,69	3,4	6,3	3,2	2	5 4,6	55,5 59	23 30	3,2	40
3	100LB4	1500	6,92	19,1	IE3	88,7	87,7	88,1	86,2	0,71	2,4	6,2	2,8	1,8	5 4,6	58,65 62,45	23,5 30,5	3,2	40
3	112MS4	1500	7,04	19,1	IE4	90,4	90,4	89,1	87,1	0,68	2,9	6,4	2,9	2	5,5 5	89,26 98,26	28 38	2,5	40
4	112M4	1500	8,8	25,4	IE4	91,1	91,1	90,7	89,3	0,72	3	6	2,7	1,8	5 4,5	101,6 110,6	31 41	2,5	60
5,5	132S4	1500	11,7	35	IE4	91,9	91,9	91,2	90,7	0,74	2,3	6,3	2,6	2	5 4,5	231 254	47 61	1,8	100
7,5	132M4	1500	15,6	47,75	IE4	92,6	92,6	92,1	91,9	0,75	2,5	5,5	2,5	1,8	5 4,5	314 337	59 73	1,1	150

460V 60HZ

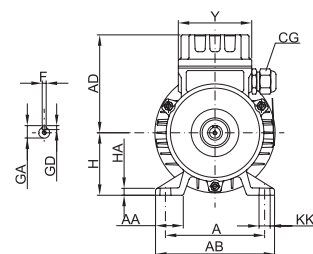
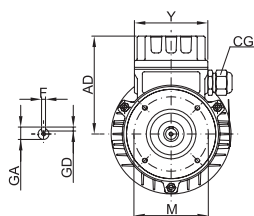
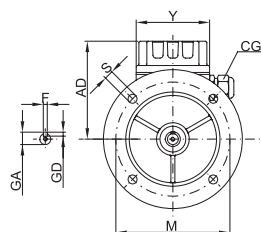
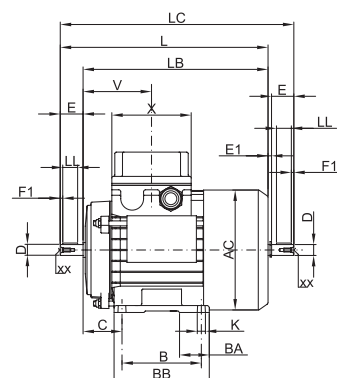
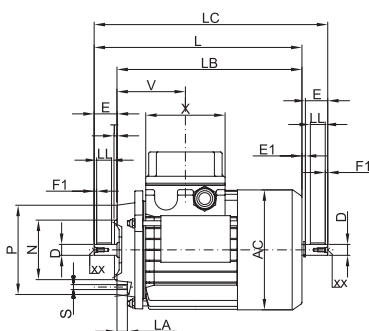
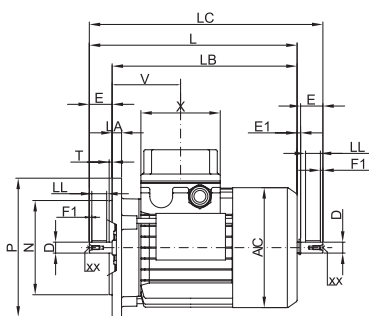
TSP-SL/TBP-SL 4 Poles																			
P _n [kW]	Gran.	n _n [min ⁻¹]	I _n [A]	M _n [Nm]	Eff	η% (4/4) limit	η% (4/4)	η% (3/4)	η% (2/4)	cosΦ _n	M _s M _n	I _s I _n	M _{max} M _n	M _{po} M _n	$\frac{J_{Lmax}}{J_T} \frac{J_{Lmax}}{J_{TB}}$ a M _n	J _T J _{TB} [10 ⁻⁴ ×kgm ²]	W _T W _{TB} [kg]	Z ₀ [10 ³ ×l/h]	M _B [Nm]
0,55	80A4	1800	1,25	2,9	IE4	84	84	82,8	78,6	0,66	2,6	6,6	3	2	4,3 4,1	24 25,5	9 12,5	8	10
0,75	80B4	1800	1,64	4	IE4	85,5	85,5	84,5	81	0,67	3,6	6,9	3,5	2,1	4,5 4,3	30,7 32,3	11,3 14,8	7,1	15
1,1	90S4	1800	2,32	5,8	IE4	87,5	87,5	86,4	83,5	0,68	3	7,2	3,6	2,3	5 4,5	32,3 35,8	14,4 17,9	5	13
1,5	90L4	1800	3,2	8	IE4	88,5	88,5	87,5	85,4	0,67	3,2	7	3,6	2,2	6 5,5	39 42,5	16,4 22	4	26
2,2	90LM4	1800	4,5	11,7	IE3	89,5	89,5	87,5	85,3	0,68	3,4	7,5	3,7	2,3	5 4,6	47 50,5	19,3 24,9	3,2	40
2,2	100LA4	1800	4,6	11,7	IE4	91	91	90	88,1	0,67	4,1	7,6	3,8	2,2	5 4,6	55,5 59	23 30	3,2	40
3	100LB4	1800	6,1	15,91	IE3	89,5	89,5	88,8	87,6	0,69	2,9	6,4	3,3	2	5 4,6	58,9 62,4	23,5 30,5	3,2	40
3	112MS4	1800	6,1	15,91	IE4	91	91	89,5	87,5	0,67	3,4	7,5	3,3	2,2	5 4,5	89,2 98,2	28 38	2,5	40
4	112M4	1800	7,8	21,2	IE4	91,2	91,2	90,8	89,1	0,71	3,3	7,6	3,3	2	5 4,5	101,6 110,6	31 41	2,5	60
5,5	132S4	1800	10,1	29,18	IE4	92,4	92,4	91,9	90,7	0,74	2,7	7,3	2,9	2,4	5 4,5	231 254	47 61	1,8	100
7,5	132M4	1800	13,58	39,79	IE4	92,4	92,4	92,2	91,9	0,75	2,9	6,9	3,2	2,1	5 4,5	314 337	59 73	1,1	150

Symbols, units of measurement and description

P _n [W]	Rated output [kW]
n _n [rpm]	Rated speed [rpm]
I _n [A]	Rated current [A]
M _n [Nm]	Rated torque [Nm]
η%	Rated efficiency % (limit: minimum value required by the standard; 4/4, 3/4, 2/4: rated output fraction)
cosΦ _n	Rated power factor
M _s / M _n	Starting torque / rated torque ratio
M _{max} / M _n	Maximum torque / rated torque ratio
I _s / I _n	Starting current / rated current ratio

M _{po} / M _n	Pull-out torque / rated torque ratio
J _{Lmax} / J _T	Maximum load inertia / motor inertia ratio (maximum start-up inertia at rated torque)
J _t [kg×m ²]	Moment of inertia of motor [10 ⁻⁴ kg×m ²] 1) without brake 2) with brake (MS - FM)
W _t [kg]	Motor weight (B5 version) [kg] 1) without brake 2) with brake (MS - FM)
Z ₀ [l/h]	Maximum starting frequency per hour with no load [l/h]
M _B [Nm]	Braking moment [Nm]

DIMENSIONS



										Shaft end						Key			Cable gland		
	Pn [kW]	AC	AD	L	LB	X	Y	V	LC	D	E	E1	xx	F1	GA	F	GD	LL	CG	cable ø	
																				min	max
80	0,55 0,75	158	121,5	272,5	232,5	80	74	78	314	19 j6	40	1,5	M6x16	5	21,5	6	6	30	M20x1,5	6	12
90S	1,1	173	148	298	248	98	98	87	349,5	24j6	50	1,5	M8x19	5	27	8	7	35	M25x1,5	13	18
90L	1,5 2,2 (IE3)	173	148	323	273	98	98	87	374,5	24j6	50	1,5	M8x19	5	27	8	7	35	M25x1,5	13	18
100	2,2 3 (IE3)	191	156	368	308	98	98	97,5	431,5	28j6	60	3,5	M10x22	7,5	31	8	7	45	M25x1,5	13	18
112	3 4	210,5	171	383,5	322,5	98	98	100	447	28j6	60	3,5	M10x22	7,5	31	8	7	45	M25x1,5	13	18
132S	5,5	248,5	195	453	372	118	118	115,5	536,5	38k6	80	4	M12x28	10	41	10	8	60	M32x1,5	18	25
132M	7,5	248,5	195	490	410	118	118	115,5	574,5	38k6	80	4	M12x28	10	41	10	8	60	M32x1,5	18	25

B5	M	N	P	LA	S	T
80	165	130	200	12	11	3,5
90	165	130	200	12	11	3,5
100	215	180	250	15	14	4
112	215	180	250	14,5	14	4
132	265	230	300	20	14	3,5

B14	M	N	P	LA	S	T
80	100	80	120	10,5	M6	3
90	115	95	140	11,5	M8	3
100	130	110	160	15	M8	3,5
112	130	110	160	11,5	M8	3,5
132	165	130	200	20,5	M10	3,5

B3	A	AA	AB	KK	B	BB	BA	K	C	H	HA
80	125	56,5	156	19,5	100	122	26	9,5	49	80	11
90S	140	56	172	12	100	136	33	8,5	54	90	11
90L	140	57	172	12	125	155	33	8,5	54	90	13
100	160	64	192	20	140	170	37	8,5	62	100	14
112	190	76	221	21	140	175	40	8,5	69	112	14
132S	216	84	260	22	140	175	40	10,5	87	132	16
132M	216	85	260	22	180	210	40	10,5	87	132	16

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MOTOVARIO®

HEART OF MOTION

a **TECO Group** company

Motovario S.p.A.

Via Quattro Passi 1/3 - 41043 Formigine (MO) - Italy

Tel. +39 059 579700

marketing@motovario.it - www.motovario.com