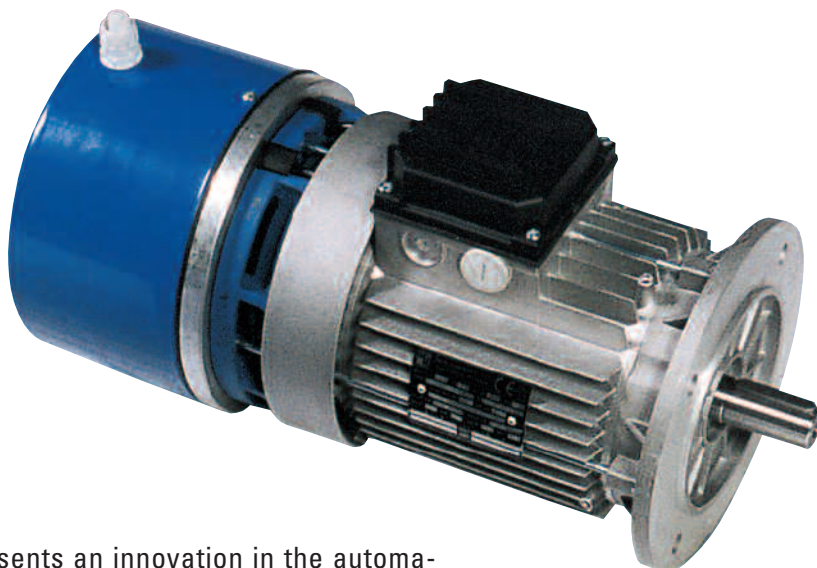


SMI SERIES

Motors with Integrated Inverter.

SMI series consists of three-phase asynchronous electric motors with integrated frequency inverter. Power range is between 0,37 kW and 15,0 kW while the motor frame is from 71 up to 160. The unit is made up of a high-efficiency 3-phase asynchronous electric motor and a compact frequency inverter placed at the non-drive motor end. The basic construction is closed, fan cooled and IP 55 enclosure duty. SMI motor is able to properly run also under heavy overload conditions thanks to high thermal reserve; the insulating materials are class F. The frame is made of aluminium alloy up to 132 frame size and of cast iron for above sizes. Shields and flanges are made of aluminium up to 90 frame size and of cast iron up to 160 frame size. The inverter housing is isolated from the motor in order to avoid heat transmission (patented system); the inverter dissipator is self-ventilated. The frequency converter provided is one of the most advanced in design concept as well as used components; control can be chosen between V/F type (frequency voltage control) or SLV type (sensor less vector control). SMI motors are easy to be programmed using only three buttons. Some functions, which automatically set parameters (acceleration/deceleration times, V/f ratio etc.), make the programming easier. On request, motor can be arranged for main Bus fields (Profibus, Interbus-S, Device-Net, etc.). SMI motors are designed to be real built-in frequency converter motors and not just as a simple assembly of a standard motor with an inverter. The wiring connection is definitely simple to be made. All the above features make the SMI motor series high performance with strong structure.



Application

SMI series represents an innovation in the automation field and it gives manufacturers, automation designer and machinery users new opportunities and great economical advantages. The ease of installation, the simple structure and the cost-effectiveness of the system are pointed out as follows:

- Overall dimensions are extremely reduced; the couplings are the same as those of a standard motor (special flanges and shafts can be supplied on request);
- Enclosure is IP 55 as standard;
- Electrical connections are extremely simplified; power and control parts are totally separated and placed on different terminal boards;
- On request, motor can be equipped with built-in EMI filter (class A or B) in the way to avoid an external filter application; the motor connection can be carried out through normal power supply cables, as shielded cables are no longer necessary in order to comply with EMC regulations;
- SMI series motor can immediately replace a mechanical speed variator, offering more advantages;
- The system performance is very high in every operating condition;
- Unit switchboard on which SMI motor is installed can be removed or reduced as the inverter has no longer to be housed.

SMI motor represents the solution to the actual needs related to automation systems where actuating and surveying devices can find more places on unit board so to reduce the panel overall dimensions and the wiring costs.



In the table below, types of available motors are given. Letter "M" or "T" behind the motor type indicates power supply (single-phase or three-phase). Letter "X" means "V/F type inverter", letter "V" means "flux vector control type inverter". To require servofan, insert into the selected motor type the letters "SV" (for example SMISV 90 LA4 TV).

Type	Power supply	Motor In (A)	Rated power (kW)	Rated torque (Nm)	Inverter In (A)
SMI71 B4 MX	1X230V 50/60 Hz	1.9	0.37	2.35	2.6
SMI71 B4 MV	1X230V 50/60 Hz	1.9	0.37	2.35	2.6
SMI71 B4TX*	3X400V 50/60Hz	1.1	0.37	2.35	1.5
SMI71B4TV*	3X400V 50/60Hz	1.1	0.37	2.35	1.5
SMI80 B4 MX	1X230V 50/60 Hz	3.8	0.75	4.78	4.0
SMI80 B4 MV	1X230V 50/60 Hz	3.8	0.75	4.78	4.0
SMI80 B4 TX	3X400V 50/60 Hz	2.2	0.75	4.78	2.5
SMI80 B4 TV	3X400V 50/60 Hz	2.2	0.75	4.78	2.5
SMI90 SA4 TX	3X400V 50/60 Hz	2.7	1.1	7	3.8
SMI90 SA4 TV	3X400V 50/60 Hz	2.7	1.1	7	3.8
SMI90 LA4 TX	3X400V 50/60 Hz	3.6	1.5	9.55	3.8
SMI90 LA4 TV	3X400V 50/60 Hz	3.6	1.5	9.55	3.8
SMI 100LA4 TX	3X400V 50/60 Hz	5.0	2.2	14	5.5
SMI 100LA4 TV	3X400V 50/60 Hz	5.0	2.2	14	5.5
SMI 100LB4 TX	3X400V 50/60 Hz	6.4	3	19.1	7.8
SMI 100LB4 TV	3X400V 50/60 Hz	6.4	3	19.1	7.8
SMI 112MB4 TX	3X400V 50/60 Hz	8.1	4	25.5	8.6
SMI 112MB4 TV	3X400V 50/60 Hz	8.1	4	25.5	8.6
SMISV 132SB4 TX*	3X400V 50/60 Hz	11.5	5.5	35.0	16.0
SMISV 132SB4 TV*	3X400V 50/60 Hz	11.5	5.5	35.0	16.0
SMISV 132MA4 TX*	3X400V 50/60 Hz	14.8	7.5	47.5	16.0
SMISV 132MA4 TV*	3X400V 50/60 Hz	14.8	7.5	47.5	16.0
SMISV 160MB4 TX*	3X400V 50/60 Hz	21.2	11.0	72.0	22.0
SMISV 160MB4 TV*	3X400V 50/60 Hz	21.2	11.0	72.0	23.0
SMISV 160LA4 TX*	3X400V 50/60 Hz	28.5	15.0	98.2	29.0

* Power values shown refer to 4 pole motors; different polarities can be carried out on request.

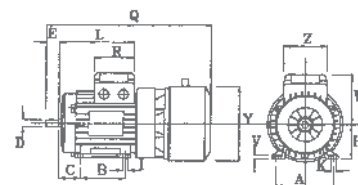
** Motors without integrated EMI filter.

Type	SMI 71	SMI 80	SMI 90S	SMI 90L	SMI 100	SMI 112	SMI 132S	SMI 132M	SMI 160M	SMI 160L
A	112	125	140	140	160	190	216	216	254	254
B	90	100	100	125	140	140	140	178	210	254
C	45	50	56	56	63	70	89	89	108	108
ØD	14	19	24	24	28	28	38	38	42	42
d	M5	M6	M8	M8	M10	M10	M12	M12	M16	M16
E	30	40	50	50	60	60	80	80	110	110
Fa	9,5	11,5	11,5	11,5	14,0	14,0	14,0	14,0	18,0	18,0
Fb	M6	M6	M8	M8	M8	M8	M10	M10		
f	5	6	8	8	8	8	10	10	12	12
g	11	15,5	20	20	24	24	33	33	37	37
H	71	80	90	90	100	112	132	132	160	160
h	5	6	7	7	7	7	8	8	8	8
I	7,0	10,0	10	10	12,0	12,0	12,0	12,0	14,5	14,5
K	10,5	14	14	14	16	16	22	22	24	24
L	148	162	171	196	217	229	255	300		
L1	184	194	207	232	254	262	294	339	373	395
ØMa	130	165	165	165	215	215	265	265	300	300
ØMb	85	100	115	115	130	130	165	165		
ØNa	110	130	130	130	180	180	230	230	250	250
ØNb	70	80	95	95	110	110	130	130		
Oa	3,5	3,5	3,5	3,5	4,0	4,0	4,0	4,0	5,0	5,0
Ob	2,5	3,0	3	3	3,5	3,5	3,5	3,5		
ØPa	160	200	200	200	250	250	300	300	350	350
ØPb	105	120	140	140	160	160	200	200		
Q	370	421	443	467	509	528	632	670	800	844
R	81,0	81,0	98,5	98,5	98,5	98,5	108,0	108,0		
R1	135	135	170	170	170	170	199	199	268	268
S	10	12	12	12	14	14	15	15	15	15
V	8,0	9,5	10,5	10,5	12,5	13,5	16,0	16,0	21,0	21,0
W	102	113	127	127	138	158	198	198	165	165
W1	120	131	148	148	162	176	210	210	246	246
Y	159	178	199	199	221	221	314	314	352	352
Z	75,0	75,0	98,5	98,5	98,5	98,5	108,0	108,0		
Z1	86	86	112	112	112	112	151	151	167	167

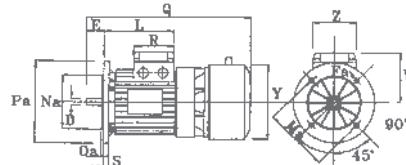
NOTES

- 1) Cable gland on power side M20 (71-80), M25 (90-112), M32 (132), PG29 (160), on control side PG 11;
- 2) In IMB3 execution it is necessary to provide proper motor mountings owing to "Y" overall dimension;
- 3) Cable gland belonging to control side can be rotated to 90°.

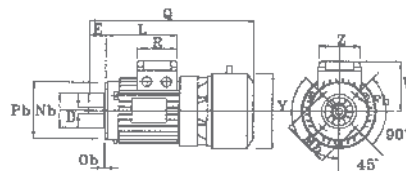
B3



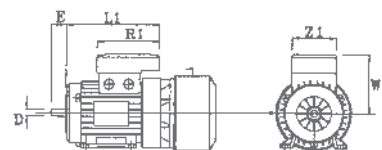
B5



B14



Double terminal board box



D-side shaft end

