

Single phase induction motors Selection tables

Version "P"

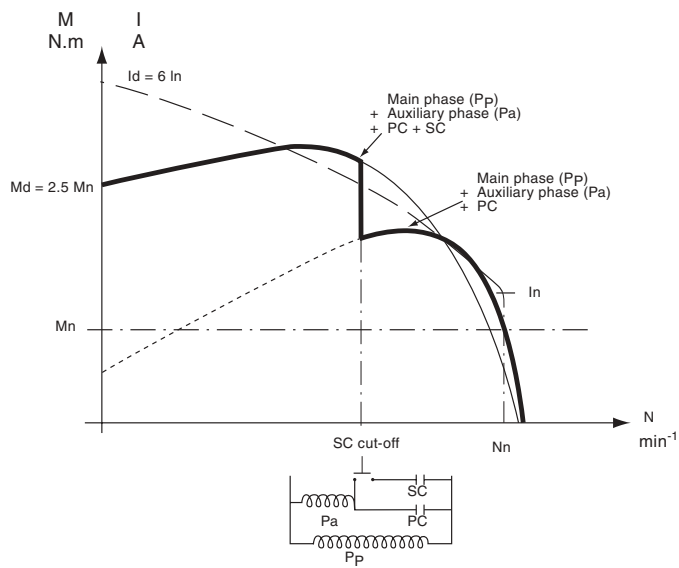
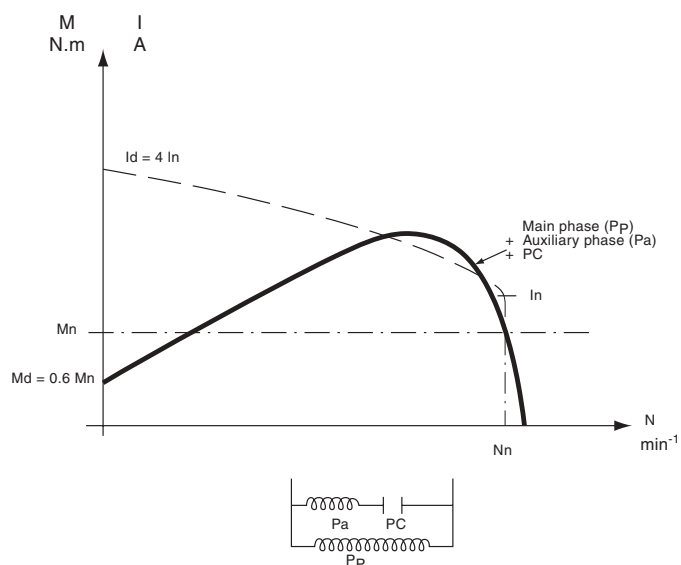
Version "PR"

**SINGLE PHASE INDUCTION MOTORS
WITH SHORT-CIRCUIT ROTOR**

**SINGLE PHASE INDUCTION MOTORS
WITH SHORT-CIRCUIT ROTOR**

STARTING WITH PERMANENT CAPACITOR (PC)

**STARTING WITH PERMANENT CAPACITOR (PC)
AND STARTING CAPACITOR (SC)**



Single phase induction motors

Selection tables

E1 - Selection data : SINGLE SPEED

2
Poles
3000 min⁻¹

IP 55 - S1
Cl. F
MULTIVOLTAGE

MAINS SUPPLY 230 V

50 Hz

Type	Rated power at 50 Hz	Rated speed	Rated torque	Rated current	Power factor	Efficiency *	Starting current / Rated current**	Starting torque / Rated torque**	Max. torque / Rated torque	PC 400 V	SC 250 V	Weight
	P_N kW	N_N min ⁻¹	C_N Nm	I_N A	\cos	η %	I_D/I_N	M_D/M_N	M_M/M_N	MF	MF	IM B3 kg
LS 56 P	0.09	2790	0.31	0.90	0.85	50	3.2	0.8	2.4	4	-	3.5
LS 56 P	0.12	2810	0.42	1.15	0.85	54	3.5	0.7	2.4	5	-	4
LS 63 P	0.12	2820	0.42	1.00	0.90	57	4	1	2.5	6	-	4
LS 63 P	0.18	2820	0.61	1.40	0.90	62	4.5	0.9	2.3	8	-	4.5
LS 63 P	0.25	2830	0.84	2.00	0.90	62	4.5	0.9	2.5	10	-	5
LS 71 P	0.25	2780	0.86	1.95	0.90	61	3.5	0.6	2	8	-	5.5
LS 71 P	0.37	2850	1.24	2.70	0.85	70	4.7	0.5	2.3	10	-	7
LS 71 P	0.55	2770	1.90	3.50	0.95	72	4.5	0.6	2.2	16	-	7.5
LS 80 P	0.55	2730	1.93	3.80	0.98	64	4	0.5	2	16	-	8.5
LS 80 P	0.75	2780	2.60	4.85	0.95	70	4.2	0.6	2.2	25	-	9
LS 80 P	1.10	2760	3.80	6.60	0.98	73	4.1	0.5	2	32	-	11
LS 90 P	1.10	2700	3.90	7.50	0.90	73	4.6	0.5	2.2	25	-	14
LS 90 P	1.50	2780	5.15	9.10	0.95	76	4.8	0.7	2.8	50	-	16.5
LS 63 PR	0.18	2900	0.60	1.40	0.85	66	6.3	3.2	2.8	6	30	5
LS 63 PR	0.25	2890	0.83	1.80	0.95	66	6	3	2.6	10	30	5.5
LS 71 PR	0.25	2900	0.83	2.00	0.85	65	5.5	2.4	3	8	30	6
LS 71 PR	0.37	2920	1.20	2.80	0.85	68	6.6	2.3	3.2	12	40	7.5
LS 71 PR	0.55	2900	1.80	3.70	0.85	74	6.6	2.5	2.9	16	60	8
LS 80 PR	0.55	2860	1.83	3.80	0.98	67	5.4	2	2.5	16	60	9
LS 80 PR	0.75	2880	2.50	4.90	0.90	74	6	2.7	2.8	20	100	9.5
LS 80 PR	1.10	2860	3.70	6.60	0.90	77	5.8	1.8	2.6	25	100	11
LS 90 PR	1.50	2860	5.00	8.60	0.98	76	6	2.2	2.4	32	160	14.5
LS 90 PR	1.80	2870	6.00	10.50	0.98	76	6.3	1.9	2.4	40	160	17
LS 100 LPR	2.20	2900	7.50	14.20	0.92	74	6.4	2	2.1	30/450V	200/290V	-
LS 112 MPR	3.00	2870	10.00	16.80	0.98	77	6	1.6	1.8	40/450V	200/290V	-
LS 112 MGPR	4.00	2940	13.20	22.00	0.98	80	6.1	1.4	2.1	60/450V	400/290V	-
LS 132 MPR	5.50	2900	18.70	33.00	0.93	78	5.5	1.9	1.8	60/450V	600/290V	-

Single phase induction motors

Selection tables

4
Poles
1500 min⁻¹

IP 55 - S1
Cl. F
MULTIVOLTAGE

MAINS SUPPLY 230 V

50 Hz

Type	Rated power at 50 Hz	Rated speed	Rated torque	Rated current	Power factor	Efficiency *	Starting current / Rated current**	Starting torque / Rated torque**	Max. torque / Rated torque	PC 400 V	SC 250 V	Weight
	P_N kW	N_N min ⁻¹	C_N Nm	I_N A	\cos	η %	I_D/I_N	M_D/M_N	M_M/M_N	MF	MF	IM B3 kg
LS 56 P	0.06	1420	0.40	0.72	0.90	39	2.7	1.3	2.3	6	-	3.5
LS 63 P	0.09	1380	0.62	0.75	0.95	55	2.4	0.7	1.4	6	-	4
LS 63 P	0.12	1400	0.82	1.00	0.95	55	2.9	0.9	1.8	8	-	4.5
LS 63 P	0.18	1370	1.25	1.30	0.95	61	2.7	0.7	1.5	10	-	5
LS 71 P	0.18	1430	1.20	1.80	0.75	57	3.9	0.6	2.6	8	-	6
LS 71 P	0.25	1430	1.66	2.10	0.80	63	4.3	0.6	2.3	10	-	6.5
LS 71 P	0.37	1410	2.50	2.80	0.85	66	4	0.5	1.9	12	-	7.5
LS 80 P	0.37	1340	2.66	2.90	0.85	63	3.1	0.4	1.5	10	-	8
LS 80 P	0.55	1370	3.90	4.20	0.85	67	3.6	0.4	1.6	16	-	8.5
LS 80 P	0.75	1370	5.20	5.40	0.85	69	3.9	0.4	1.7	20	-	10.5
LS 90 P	0.75	1370	5.20	4.80	0.90	72	3.9	0.4	1.7	20	-	14.5
LS 90 P	1.10	1420	7.45	7.00	0.95	71	5	0.6	2.4	40	-	16
LS 63 PR	0.12	1430	0.82	1.05	0.90	57	4.2	2.2	1.9	5	16	5
LS 63 PR	0.18	1410	1.22	1.50	0.85	60	3.7	1.7	1.7	5	16	5.5
LS 71 PR	0.18	1460	1.20	1.70	0.75	59	5	2.7	2.8	8	30	6
LS 71 PR	0.25	1460	1.65	2.20	0.75	66	4.9	2.3	2.5	8	30	7
LS 71 PR	0.37	1440	2.45	2.80	0.85	68	4.7	2.1	2.2	12	40	8
LS 80 PR	0.37	1420	2.45	2.80	0.85	65	4.2	2	1.8	10	40	8.5
LS 80 PR	0.55	1420	3.70	4.20	0.90	65	4.5	1.9	1.9	16	60	9
LS 80 PR	0.75	1430	5.00	5.20	0.85	73	5	2.7	1.9	20	80	10.5
LS 90 PR	0.75	1440	5.00	4.70	0.90	73	5.3	2	2.3	20	80	13
LS 90 PR	1.10	1420	7.36	6.90	0.95	71	4.9	1.9	1.9	25	120	14
LS 90 PR	1.50	1430	10.00	8.60	0.98	76	5.5	1.8	2	40	160	17
LS 100 LPR	2.20	1445	15.00	14.00	0.93	74	5	1.4	1.7	50/450V	200/290V	-
LS 112 MPR	3.00	1430	20.00	19.30	0.90	74	4	1.3	1.6	50/450V	200/290V	-
LS 132 SMPR	4.00	1455	27.00	22.00	0.97	81	7	1.8	2.1	120/450V	600/290V	-
LS 132 MPR	5.50	1455	37.00	33.20	0.90	80	7	1.8	1.8	120/450V	800/290V	-

6
Poles
1000 min⁻¹

IP 55 - S1
Cl. F
MULTIVOLTAGE

MAINS SUPPLY 230 V

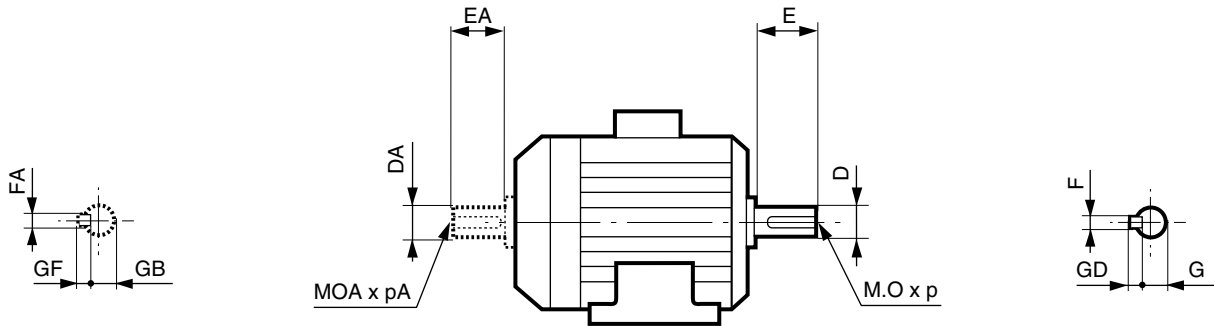
50 Hz

Type	Rated power at 50 Hz	Rated speed	Rated torque	Rated current	Power factor	Efficiency *	Starting current / Rated current**	Starting torque / Rated torque**	Max. torque / Rated torque**	PC 400 V	SC 250 V	Weight
	P_N kW	N_N min ⁻¹	C_N Nm	I_N A	\cos	η %	I_D/I_N	M_D/M_N	M_M/M_N	MF	MF	IM B3 kg
LS 71 P	0.12	900	1.26	1.00	0.95	52	2.5	0.8	1.4	8	-	7
LS 80 P	0.37	920	3.81	3.00	0.98	53	2.8	0.9	1.9	25	-	10

Single phase induction motors Dimensions

F1 - Dimensions of shaft extensions

Dimensions in millimetres



Type	Main shaft extensions						
	2, 4 and 6 poles						
	F	GD	D	E	G	O	p
LS 56	3	3	9j6	20	7	4	10
LS 63	4	4	11j6	23	8.5	4	10
LS 71	5	5	14j6	30	11	5	15
LS 80	6	6	19j6	40	15.5	6	16
LS 90	8	7	24j6	50	20	8	19
LS 100 L PR	8	7	28j6	60	24	10	22
LS 112 M/MG PR	8	7	28j6	60	24	10	22
LS 132 S/M PR	10	8	38k6	80	33	12	28

Type	Secondary shaft extensions						
	2, 4 and 6 poles						
	FA	GF	DA	GB	EA	OA	pA
LS 56	3	3	9j6	7	20	4	10
LS 63	4	4	11j6	8.5	23	4	10
LS 71	5	5	14j6	11	30	5	15
LS 80	5	5	14j6	11	30	5	15
LS 90	6	6	19j6	15.5	40	6	16
LS 100 L PR	8	7	24j6	20	50	8	19
LS 112 M/MG PR	8	7	24j6	20	50	8	19
LS 132 S/M PR	8	7	28j6	24	60	10	22

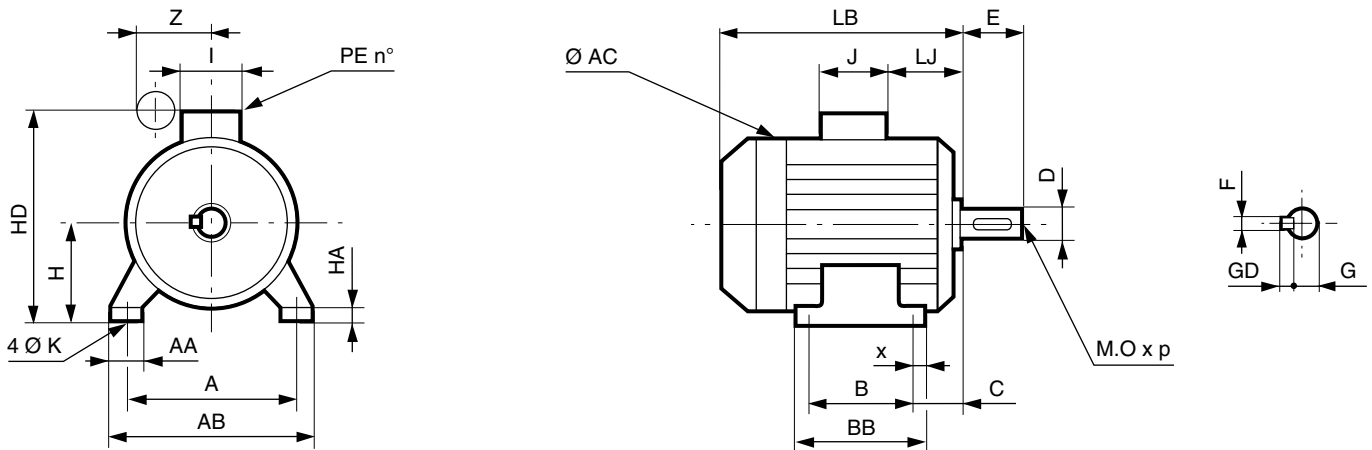
Single phase induction motors Dimensions

F2 - Foot mounted IM B3 (IM 1001)

Dimensions of LS single phase TEFV induction motors - IP 55 Cage rotor

- foot mounted

Dimensions in millimetres



The permanent capacitor is mounted on the outside of the terminal box.
The starting capacitor is located inside the terminal box.

Type	Motors															Shaft extension								
	A	AB	B	BB	C	AA	S	HD	Z max.	H	LJ	HA	x	LB	AC	J	I	F	GD	D	E	G	O	p
LS 56 P	90	104	71	87	36	24	6	148	90	56	8	7	8	156	110	86	88	3	3	9 j6	20	7.2	4	10
LS 63 P ¹	100	115	80	97	40	24.5	7	160	90	63	18	8	8.5	172	126	86	88	4	4	11 j6	23	8.5	4	10
LS 63 PR ¹	100	115	80	97	40	24.5	7	182	100	63	21.5	8	8.5	172	126	138	105	4	4	11 j6	23	8.5	4	10
LS 71 P ²	112	126	90	106	45	23	7	178	90	71	18	9	8	185	140	86	88	5	5	14 j6	30	11	5	12.5
LS 71 PR ²	112	126	90	106	45	23	7	200	100	71	21.5	9	8	185	140	138	105	5	5	14 j6	30	11	5	12.5
LS 80 P	125	157	100	120	50	37	9	201	100	80	24.5	10	10	215	162	86	88	6	6	19 j6	40	15.5	6	15
LS 80 PR	125	157	100	120	50	37	9	223	115	80	24.5	10	10	215	162	138	105	6	6	19 j6	40	15.5	6	15
LS 90 P	140	172	125	162	56	30	9	221	108	90	24.5	11	27.5	245	182	86	88	8	7	24 j6	50	20	8	20
LS 90 PR	140	172	125	162	56	30	9	243	115	90	24.5	11	27.5	245	182	138	105	8	7	24 j6	50	20	8	20
LS 100 LPR	160	196	140	165	63	40	12	259	100	100	26	13	12	290	200	138	104	8	7	28 j6	60	24	10	22
LS 112 MPR	190	220	140	165	70	45	12	271	100	112	26	14	12	290	200	138	104	8	7	28 j6	60	24	10	22
LS 112 MGPR	190	220	140	165	70	52	12	280	140	112	36	14	12	315	235	138	104	8	7	28 j6	60	24	10	22
LS 132 SM/MPR ³	216	250	178	208	89	59	12	307	-	132	25	18	16	387	280	110	130	10	8	38 k6	80	33	12	28

1. LS 63 motors are also fitted with a shaft extension Ø14 x 30 (non-standard).

Motors LS 63 P, 2 P, 0.25 kW and LS 63 P, 4 P, 0.18 kW : change to dimension LB = 187

Motors LS 63 PR, 2 P, 0.25 kW and LS 63 PR, 4 P, 0.18 kW : change to dimension LB = 187

2. Motors LS 71 P, 2 P, 0.55 kW and LS 71 P, 4 P, 0.37 kW : change to dimension LB = 193.

3. Motors supplied with separate electrical cabinet.

- symbol on housing : not identified for frame sizes 56 to 90 mm.

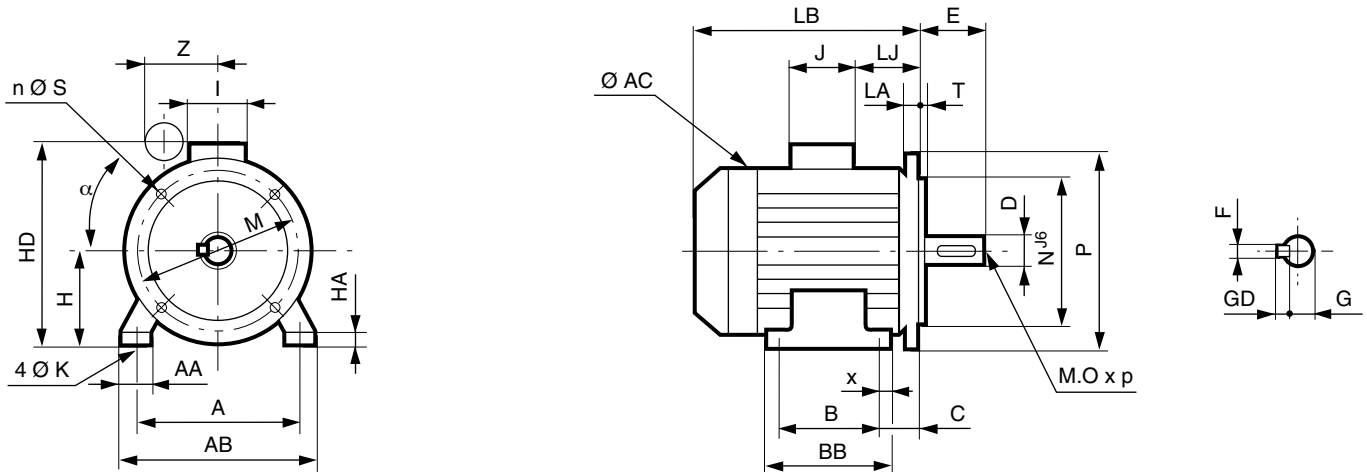
Single phase induction motors Dimensions

F3 - Foot and flange mounted IM B35 (IM 2001)

Dimensions of LS single phase TEFV induction motors - IP 55 Cage rotor

- foot and flange mounted (FF)

Dimensions in millimetres



The permanent capacitor is mounted on the outside of the terminal box.
The starting capacitor is located inside the terminal box.

Type	Motors																	
	A	AA	AB	C	B	BB	H	HA	x	HD	K	HJ	Z max	LJ	LB	AC	J	I
LS 56 P	90	24	104	36	71	87	56	7	8	148	6	92	90	8	156	110	86	88
LS 63 P ¹	100	24.5	115	40	80	97	63	8	8.5	160	7	97	90	18	172	126	86	88
LS 63 PR ¹	100	24.5	115	40	80	97	63	8	8.5	182	7	119	100	21.5	172	126	138	105
LS 71 P ²	112	23	126	45	90	106	71	9	8	178	7	107	90	18	185	140	86	88
LS 71 PR ²	112	23	126	45	90	106	71	9	8	200	7	129	100	21.5	185	140	138	105
LS 80 P	125	37	157	50	100	120	80	10	10	201	9	121	100	24.5	215	162	86	88
LS 80 PR	125	37	157	50	100	120	80	10	10	223	9	143	115	24.5	215	162	138	105
LS 90 P	140	30	172	56	125	162	90	11	27.5	221	9	131	108	24.5	265	182	86	88
LS 90 PR	140	30	172	56	125	162	90	11	27.5	243	9	153	115	24.5	265	182	138	105
LS 100 LPR	160	40	196	63	140	165	100	13	12	259	12	159	100	26	290	200	138	104
LS 112 MPR	190	45	220	70	140	165	112	14	12	271	12	159	100	26	290	200	138	104
LS 112 MGPR	190	52	220	70	140	165	112	14	12	280	12	168	140	36	315	235	138	104
LS 132 SM/MPR ²	216	59	250	89	178	208	132	18	16	307	12	175	-	25	387	280	110	130

1. LS 63 motors are also fitted with a shaft extension Ø14 x 30 (non-standard).

Motors LS 63 P, 2 P, 0.25 kW and LS 63 P, 4 P, 0.18 kW : change to dimension LB = 187

Motors LS 63 PR, 2 P, 0.25 kW and LS 63 PR, 4 P, 0.18 kW : change to dimension LB = 187

2. Motors LS 71 P, 2 P, 0.55 kW and LS 71 P, 4 P, 0.37 kW : change to dimension LB = 193.

3. Motors supplied with separate electrical cabinet.

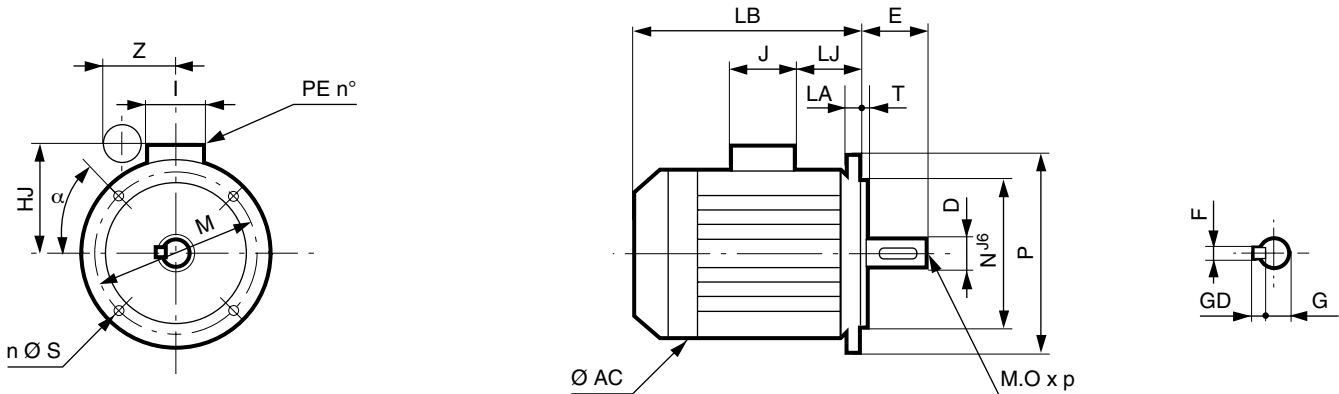
Single phase induction motors Dimensions

F4 - Flange mounted IM B5 (IM 3001)

Dimensions of LS single phase TEFV induction motors - IP 55 Cage rotor

- flange mounted (FF)

Dimensions in millimetres



The permanent capacitor is mounted on the outside of the terminal box.
The starting capacitor is located inside the terminal box.

Type	Symb.	Flanges							Shaft extension						
		M	N	P	LA	α	T	S	F	GD	D	E	G	O	p
LS 56 P	FF 100	100	80	120	8	45°	3	7	3	3	9 j6	20	7.2	4	10
LS 63 P ¹	FF 115	115	95	140	10	45°	3	9	4	4	11 j6	23	8.5	4	10
LS 63 PR ¹	FF 115	115	95	140	10	45°	3	9	4	4	11 j6	23	8.5	4	10
LS 71 P ²	FF 130	130	110	160	8	45°	3.5	9	5	5	14 j6	30	11	5	12.5
LS 71 PR ²	FF 130	130	110	160	8	45°	3.5	9	5	5	14 j6	30	11	5	12.5
LS 80 P	FF 165	165	130	200	10	45°	3.5	11	6	6	19 j6	40	15.5	6	15
LS 80 PR	FF 165	165	130	200	10	45°	3.5	11	6	6	19 j6	40	15.5	6	15
LS 90 P	FF 165	165	130	200	10	45°	3.5	11	8	7	24 j6	50	20	8	20
LS 90 PR	FF 165	165	130	200	10	45°	3.5	11	8	7	24 j6	50	20	8	20
LS 100 LPR	FF 215	215	180	250	12	45°	4	14.5	8	7	28 j6	60	24	10	22
LS 112 MPR	FF 215	215	180	250	12	45°	4	14.5	8	7	28 j6	60	24	10	22
LS 112 MGPR	FF 215	215	180	250	12	45°	4	14.5	8	7	28 j6	60	24	10	22
LS 132 SM/MPR ³	FF 265	265	230	300	14	45°	4	14.5	10	8	38 k6	80	33	12	28

1. LS 63 motors are also fitted with a shaft extension Ø14 x 30 (non-standard).

Motors LS 63 P, 2 P, 0.25 kW and LS 63 P, 4 P, 0.18 kW : change to dimension LB = 187

Motors LS 63 PR, 2 P, 0.25 kW and LS 63 PR, 4 P, 0.18 kW : change to dimension LB = 187

2. Motors LS 71 P, 2 P, 0.55 kW and LS 71 P, 4 P, 0.37 kW : change to dimension LB = 193.

3. Motors supplied with separate electrical cabinet.

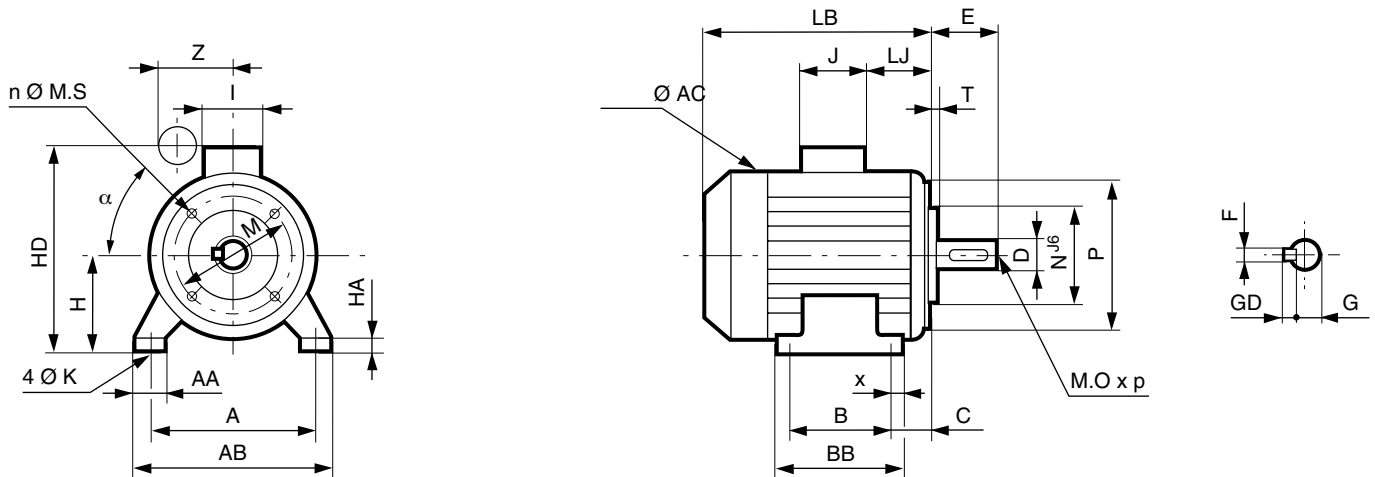
Single phase induction motors Dimensions

F5 - Foot and face mounted IM B34 (IM 2101)

Dimensions of LS single phase TEFV induction motors - IP 55 Cage rotor

- foot and face mounted (FT)

Dimensions in millimetres



The permanent capacitor is mounted on the outside of the terminal box.
The starting capacitor is located inside the terminal box.

Type	Motors																
	A	AA	AB	B	BB	H	HA	x	HD	K	HJ	Z max	LJ	LB	AC	J	I
LS 56 P	90	24	104	71	87	56	7	8	148	6	92	90	8	156	110	86	88
LS 63 P ¹	100	24.5	115	80	97	63	8	8.5	160	7	97	90	18	172	126	86	88
LS 63 PR ¹	100	24.5	115	80	97	63	8	8.5	182	7	119	100	21.5	172	126	138	105
LS 71 P ²	112	23	126	90	106	71	9	8	178	7	107	90	18	185	140	86	88
LS 71 PR ²	112	23	126	90	106	71	9	8	200	7	128	100	21.5	185	140	138	105
LS 80 P	125	37	157	100	120	80	10	10	201	9	121	100	24.5	215	162	86	88
LS 80 PR	125	37	157	100	120	80	10	10	223	9	143	115	24.5	215	162	138	105
LS 90 P	140	30	172	125	162	90	11	27.5	221	9	131	108	24.5	245	182	86	88
LS 90 PR	140	30	172	125	162	90	11	27.5	243	9	153	115	24.5	245	182	138	105
LS 100 LPR	160	40	196	140	165	100	13	12	259	12	159	100	26	290	200	138	104
LS 112 MPR	190	45	220	140	165	112	14	12	271	12	159	100	26	290	200	138	104
LS 112 MGPR	190	52	220	140	165	112	14	12	280	12	168	140	36	315	235	138	104
LS 132 SM/MPR ³	216	59	250	178	208	132	18	16	307	12	175	-	25	387	280	110	130

1. LS 63 motors are also fitted with a shaft extension Ø14 x 30 (non-standard).

Motors LS 63 P, 2 P, 0.25 kW and LS 63 P, 4 P, 0.18 kW : change to dimension LB = 187

Motors LS 63 PR, 2 P, 0.25 kW and LS 63 PR, 4 P, 0.18 kW : change to dimension LB = 187

2. Motors LS 71 P, 2 P, 0.55 kW and LS 71 P, 4 P, 0.37 kW : change to dimension LB = 193.

3. Motors supplied with separate electrical cabinet.

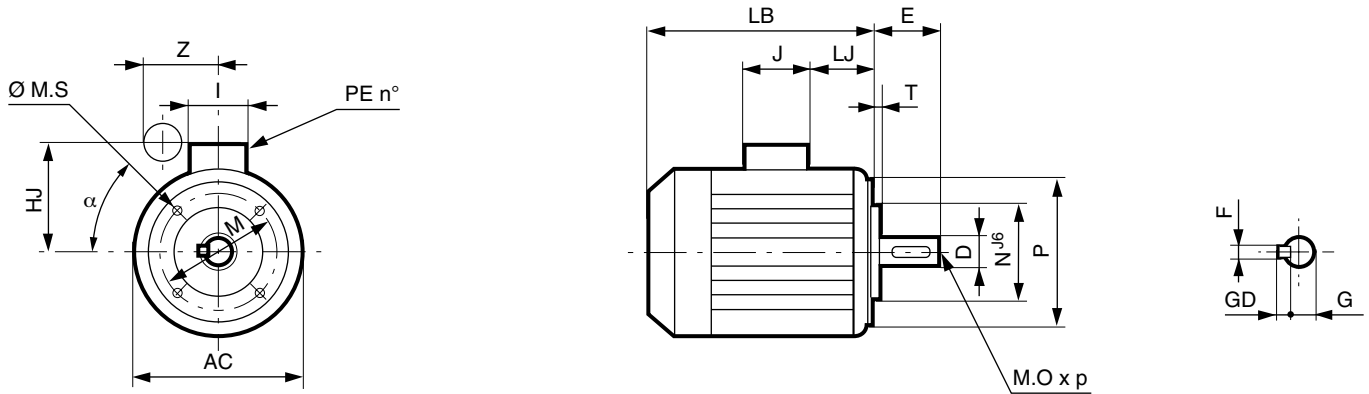
Single phase induction motors Dimensions

F6 - Face mounted IM B14 (IM 3601)

Dimensions of LS single phase TEFV induction motors - IP 55 Cage rotor

- face mounted (FT)

Dimensions in millimetres



The permanent capacitor is mounted on the outside of the terminal box.
The starting capacitor is located inside the terminal box.

Type	Symb.	Flanges						Shaft extension						
		M	N	P	α	T	M-S	F	GD	D	E	G	O	p
LS 56 P	FT 65	65	50	80	45°	2.5	5	3	3	9 j6	20	7.2	4	10
LS 63 P ¹	FT 75	75	60	90	45°	2.5	5	4	4	11 j6	23	8.5	4	10
LS 63 PR ¹	FT 75	75	60	90	45°	2.5	5	4	4	11 j6	23	8.5	4	10
LS 71 P ²	FT 85	85	70	105	45°	2.5	6	5	5	14 j6	30	11	5	12.5
LS 71 PR ²	FT 85	85	70	105	45°	2.5	6	5	5	14 j6	30	11	5	12.5
LS 80 P	FT 100	100	80	120	45°	3	6	6	6	19 j6	40	15.5	6	15
LS 80 PR	FT 100	100	80	120	45°	3	6	6	6	19 j6	40	15.5	6	15
LS 90 P	FT 115	115	95	140	45°	3	8	8	7	24 j6	50	20	8	20
LS 90 PR	FT 115	115	95	140	45°	3	8	8	7	24 j6	50	20	8	20
LS 100 LPR	FT 130	130	110	160	45°	3.5	8	8	7	28 j6	6	24	10	22
LS 112 MPR	FT 130	130	110	160	45°	3.5	8	8	7	28 j6	6	24	10	22
LS 112 MGPR	FT 130	130	110	160	45°	3.5	8	8	7	28 j6	60	24	10	22
LS 132 SM/MPR ³	FT 215	215	180	250	45°	4	10	10	8	38 k6	80	33	12	28

1. LS 63 motors are also fitted with a shaft extension $\varnothing 14 \times 30$ (non-standard).

Motors LS 63 P, 2 P, 0.25 kW and LS 63 P, 4 P, 0.18 kW : change to dimension LB = 187

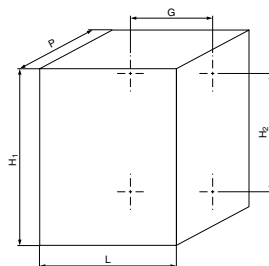
Motors LS 63 PR, 2 P, 0.25 kW and LS 63 PR, 4 P, 0.18 kW : change to dimension LB = 187

2. Motors LS 71 P, 2 P, 0.55 kW and LS 71 P, 4 P, 0.37 kW : change to dimension LB = 193.

3. Motors supplied with separate electrical cabinet.

F7 - Electrical cabinet for LS 132

Dimensions in millimetres



L	P	H1	H2	G	Max. weight in kg
250	150	400	325	175	12

Single phase induction motors

Optional features

G1 - Non-standard flanges

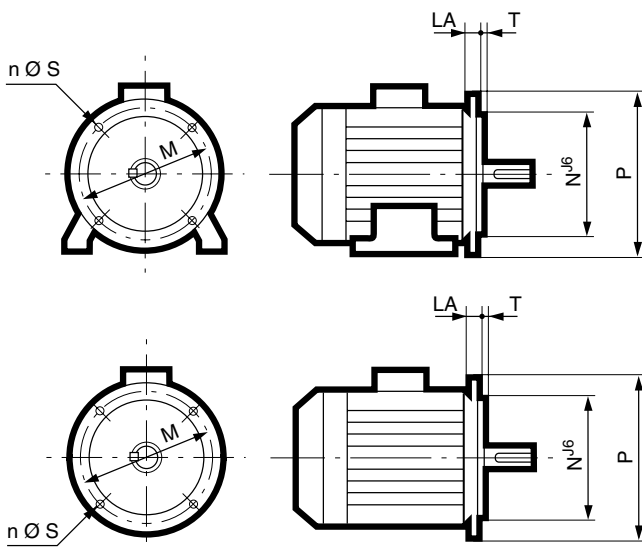
Optionally, LEROY-SOMER motors can be fitted with flanges and faceplates that are larger or smaller than standard. This means that motors can be adapted to all types of situation without the need for costly and time-consuming modifications.

The tables below give flange and faceplate dimensions and flange/motor compatibility. The bearing and shaft extension for each frame size remain standard.

MAIN FLANGE DIMENSIONS

Flange mounted (FF)

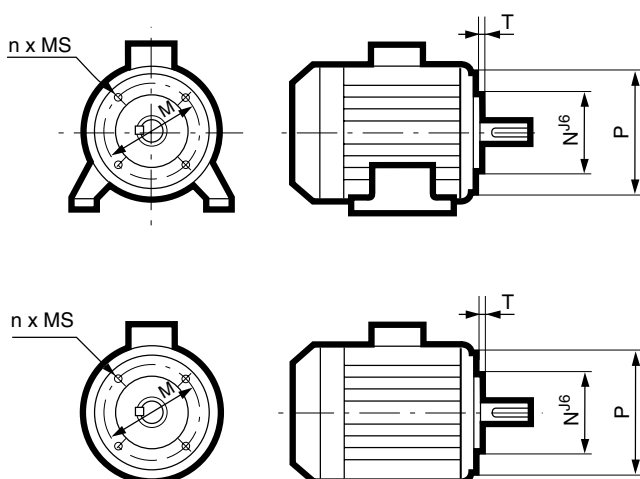
Dimensions in millimetres



IEC symbol	Flange dimensions						
	M	N	P	T	n	S	LA
FF 100	100	80	120	3	4	7	5
FF 115	115	95	140	3	4	10	10
FF 130	130	110	160	3.5	4	10	10
FF 165	165	130	200	3.5	4	12	10
FF 215	215	180	250	4	4	14.5	12
FF 265	265	230	300	4	4	14.5	14
FF 300	300	250	350	5	4	18.5	14

Face mounted (FT)

Dimensions in millimetres



IEC symbol	Flange dimensions					
	M	N	P	T	n	M.S
FT 65	65	50	80	2.5	4	M5
FT 75	75	60	90	2.5	4	M5
FT 85	85	70	105	2.5	4	M6
FT 100	100	80	120	3	4	M6
FT 115	115	95	140	3	4	M8
FT 130	130	110	160	3.5	4	M8
FT 165	165	130	200	3.5	4	M10
FT 215	215	180	250	4	4	M12
FT 265	265	230	300	4	4	M12