FLSES
totally enclosed three-phase asynchronous motors

General information

Efficiency class IE2

Totally enclosed three-phase power saving asynchronous motors, cast iron casing FLSES series, according to IEC EN 60034, 60038, 60072; power 0.75 to 355 kW, frame size 80 to 355 mm.
Single speed: 2, 4 and 6 poles: 230/400 V or 400 V Δ, 50 Hz.

Protection
IP 55 standard version providing a good sealing against projected liquid and dust in an industrial environment.

The selections tables for motors in this catalogue allows for:
• Direct on line starting on the mains supplies 230 V or 400 V operating in:
- delta connection (Δ) at 230 V,
- star connection (Y) at 400 V.
• Star/delta starting (Y/Δ) on mains supply 400 V with:
- star connection (Y) during initial start,
- delta connection (Δ) in 400 V duty.

Finish
Assembled with screws protected against corrosion.
RAL 6000 finishing paint (green).
Protection of the shaft end and of the flange against the atmospheric corrosion.

Mains supply
• Standard according to IEC 60038:
- 230/400 V +10% -10% at 50 Hz.
Voltages for the powers equal or greater than 3 kW:
- 400 V Δ +10% -10% at 50 Hz,
- 415 V Δ +5% -5% at 50 Hz.
Construction suitable for Y/Δ start.

Description of the FLSES cast iron three-phase motors

Component	Materials	Remarks
Finned housing	Cast iron	- lifting rings for frame size ≥ 90 - earth terminal with an optional jumper screw - stainless steel nameplate with indelible marking for Corrobloc finish - stainless steel fixing screws for Corrobloc finish
Stator	Insulated low carbon magnetic steel laminations Electrolytic copper	- the low carbon content guarantees the stability of the characteristics - assembled lamination pack - semi-enclosed slots - insulation system class F - dielectric and anti-corrosion protection of the stator (coil end turns) for Corrobloc finish
Rotor	Insulated low carbon magnetic steel laminations Aluminium	- inclined slots - squirrel cage pressure die cast in aluminium (or alloy for special applications) or mixed in copper, or keyed for mixed rotors - mounted on the shaft by heat shrinking, or keyed for mixed rotors - dynamically balanced rotor class A - 1/2 key - dielectric and anti-corrosion protection of the stator for Corrobloc finish
Shaft	Steel	- for frame size ≤ 132 : closed keyway - for frame size > 132 and ≤ 160 : tapped hole - for frame size ≥ 160 : open keyway
End shields	Cast iron	- stainless steel fixing screws for Corrobloc finish
Bearings and lubrication		- ball bearings “greased for life” from frame size 80 to 225 - ball bearings regreasable from frame size 250 to 355 - preloaded rear bearings up to 315 S, preloaded front bearings from 315 M upwards
Labyrinth seals Lipseals	Technopolymer or steel Synthetic rubber	- front labyrinth seals for foot mounted motors with frame size ≤ 132 - front lipseal for flange and foot or flange mounted motors with frame sizes ≤ 132 - front and rear lipseal for frame sizes from 160 to 250 inclusive - decompression grooves for 280 M to 355 - labyrinth seal at drive end and non drive end for frame sizes 355 LK
Fan	Composite material up to 280 included Metal starting from the frame size 315 ST	- 2 directions of rotation: straight blades
Fan cover	Steel sheet	- on request, fitted with a drip cover for operation in vertical position, shaft facing down - stainless steel fixing screws for Corrobloc finish
Terminal box	Cast iron body and cover for all the frame sizes	- IP 55 - fitted with a terminal block with 6 terminals up to 355, 6 or 12 terminals thereafter 355 LK - terminal box fitted with threaded plugs up to 132 - sizes 160 to 355, cable gland baseplate without drilled hole (optional horn and cable gland) - 1 earth terminal in each terminal box - stainless steel fixing screws for Corrobloc finish

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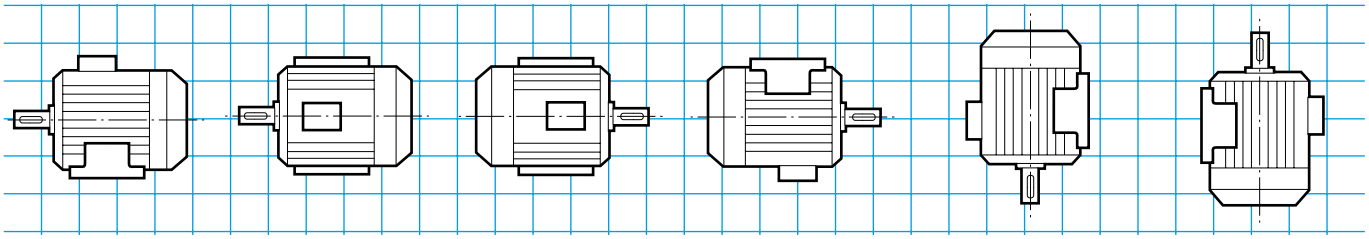
Mounting positions

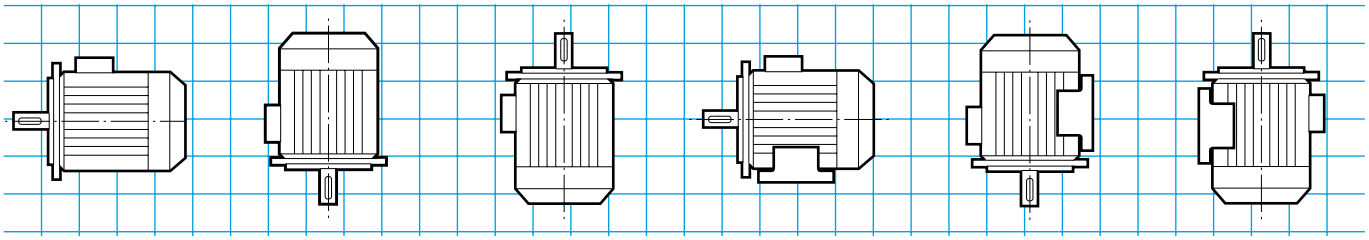
Foot mounted motors



IM 1001 (IM B3) **IM 1051** (IM B6) **IM 1061** (IM B7) **IM 1071** (IM B8) **IM 1011** (IM V5) **IM 1031** (IM V6)

(FF) plain hole flange mounted motors

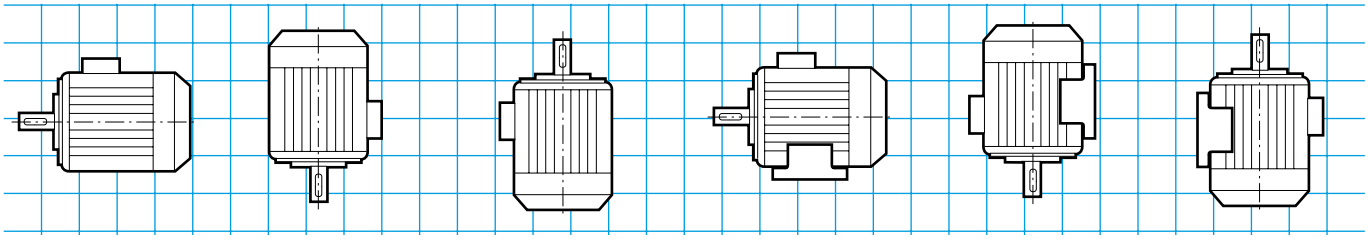
• Possible position IM 3001 (IM B5) up to 225 frame size inclusive



IM 3001 (IM B5) **IM 3011** (IM V1) **IM 3031** (IM V3) **IM 2001** (IM B35) **IM 2011** (IM V15) **IM 2031** (IM V36)

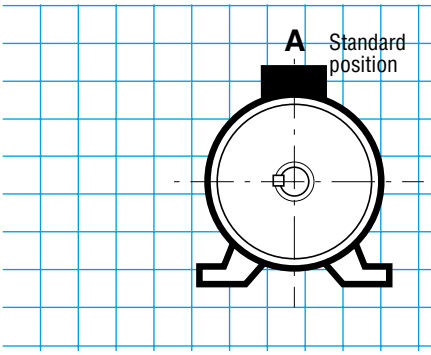
(FT) tapped hole flange mounted motors

• Possible positions up to 132 frame size inclusive



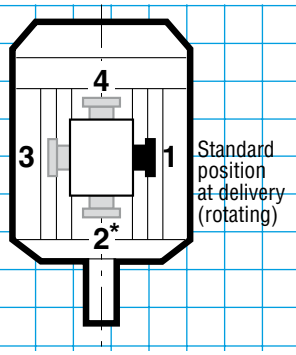
IM 3601 (IM B14) **IM 3611** (IM V18) **IM 3631** (IM V19) **IM 2101** (IM B34) **IM 2111** (IM V58) **IM 2131** (IM V69)

Terminal box position in relation to the motor shaft end



A : standard

Cable gland position in relation to the motor shaft end



1 : standard

* Position 2 not recommended and not feasible on standard flange mounted motor with plain holes (FF)

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Adaptation possibilities

Leroy-Somer offers, for use with the FLSES totally enclosed three-phase asynchronous motors, many options which meet the needs of highly diverse applications. They are described below and in the chapters relating to gearboxes and to speed variation.
For other variants or any specific adaptation, consult the technical specialists Leroy-Somer.

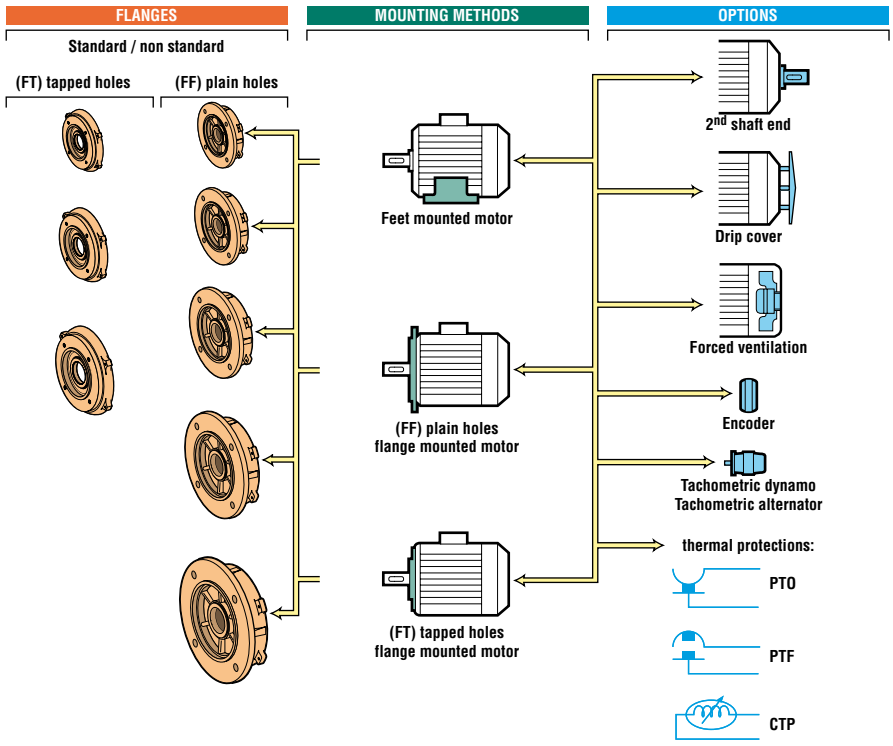
The FLSES three-phase motors may be associated to:

- gearboxes
- electronic variable speed drive (1)

The options:

- drip cover
- anti-blocking cover
- forced ventilation
- thermal protection
- brass cable glands
- cable glands of different dimensions
- switch
- cables output
- second shaft end
- non standard flanges
- anti-condensation heater
- aluminium fan

(1) Conforming to regulations for use indicated by the norm IEC 34-17.



Designation / Codification

4P 1500 min^{-1}	FLSES	280	M	90 kW	IM 1001 (IM B3)	400 V Δ	50 Hz	IP 55
Speed polarity	Motor type	IEC 60072-1 frame size	Housing designation and builder index	Rated power	IEC 60034-7 mounting position	Power supply voltage	Power supply frequency	IEC 60034-5 protection

Codification example:
FLSES three-phase asynchronous motor,
1500 min^{-1}, 90 kW IM 1001 (IM B3), 400 V Δ

Designation	Code
4P FLSES 280 M 90 kW IM 1001 (IM B3) 400 V Δ	4740805

The table above is an example.
It enables the creation of the designation for the required product.
This designation corresponds to a product code.
The product codes that are present in the selection grids can be used directly.
They simplify the ordering process.
The codification table is incorporated in the price list with the designations list.

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Selection

IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y and 400 V Δ - S1 - Class IE2

2 poles 3000 min-1

IE2

Type	Rated power	Rated speed	Rated torque	Rated current	Power factor			Efficiency IEC 60034-2-1 2007			Starting current/ Rated current	Starting torque/ Rated torque	Maximum torque/ Rated torque	Moment of inertia	Weight	Noise
	P_N	N_N	M_N	$I_{N\,(400V)}$	Cos φ			η			*Id / In*	*Md/Mn*	M_M/Mn	J	IM B3	LP
	kW	min-1	N.m	A	4/4	3/4	2/4	4/4	3/4	2/4				kg.m²	kg	db(A)
FLSES 80 L	0.75	2860	2.5	1.7	0.83	0.77	0.65	77.6	77.3	75.4	6.5	2.4	3.0	0.00084	17.5	61
FLSES 80 L	1.1	2855	3.6	2.3	0.87	0.81	0.69	80.1	80.9	79.6	6.1	1.8	2.3	0.00106	17.9	61
FLSES 90 S	1.5	2855	5.0	3.0	0.88	0.82	0.72	81.4	81.6	79.7	8.0	3.7	3.1	0.00169	23.2	64
FLSES 90 LU	2.2	2835	7.6	4.2	0.91	0.88	0.80	83.5	85.0	84.5	8.0	3.4	2.9	0.00251	29	64
FLSES 100 L	3	2850	9.8	5.6	0.91	0.87	0.78	84.8	85.9	85.4	8.1	3.8	4.3	0.00291	34.8	66
FLSES 112 M	4	2915	13.2	7.3	0.91	0.88	0.80	86.7	87.8	87.6	7.8	3.3	3.7	0.00748	42	69
FLSES 132 S	5.5	2915	18.3	10.0	0.90	0.88	0.82	88.1	89.0	88.6	7.6	2.6	3.3	0.0154	68	72
FLSES 132 S	7.5	2920	24.5	13.4	0.91	0.88	0.79	88.1	88.9	88.1	7.7	2.9	3.2	0.0203	77	72
FLSES 132 MU	9	2920	29.3	16.1	0.91	0.89	0.84	88.9	89.9	90.0	7.9	1.8	2.2	0.0219	79	72
FLSES 160 M	11	2940	35.7	19.7	0.90	0.87	0.79	89.5	89.6	88.1	6.9	3.1	3.0	0.0373	115	74
FLSES 160 M	15	2946	48.7	26.8	0.89	0.86	0.79	90.6	90.6	89.4	8.0	3.4	3.5	0.0530	134	74
FLSES 160 LU	18.5	2945	60.6	32.9	0.89	0.86	0.79	91.3	91.8	91.2	8.0	3.7	3.6	0.0592	141	74
FLSES 180 M	22	2941	71.2	37.8	0.92	0.91	0.87	91.4	92.0	91.7	7.7	2.4	2.9	0.0851	168	75
FLSES 200 LU	30	2950	97.1	52.6	0.89	0.87	0.80	92.3	92.5	91.8	7.3	2.9	3.1	0.113	236	75
FLSES 200 LU	37	2953	120	64.1	0.90	0.87	0.81	92.5	93.1	92.9	7.9	2.9	3.3	0.137	258	75
FLSES 225 MR	45	2954	145	77.4	0.90	0.87	0.81	93.2	92.9	91.7	8.1	3.1	3.5	0.159	276	76
FLSES 250 M	55	2960	177	94.1	0.90	0.86	0.84	93.7	93.9	93.2	7.5	2.3	2.9	0.332	390	77
FLSES 280 S	75	2954	242	127	0.90	0.89	0.84	94.6	94.9	94.6	6.8	2.4	2.7	0.43	505	78
FLSES 280 M	90	2954	291	150	0.91	0.89	0.85	94.9	95.3	95.2	7.3	2.4	2.3	0.51	548	79
FLSES 315 S	110	2970	354	186	0.90	0.89	0.84	95.1	95.1	94.4	6.3	1.8	2.5	1.30	980	82
FLSES 315 M	132	2967	425	224	0.90	0.89	0.85	94.7	95.0	94.5	6.3	1.9	2.2	1.36	1020	82
FLSES 315 LA	160	2964	516	270	0.90	0.90	0.87	95.2	95.5	95.2	6.0	1.8	2.6	1.48	1060	82
FLSES 315 LB	200	2972	643	336	0.90	0.88	0.83	95.7	95.9	95.5	7.3	2.4	3.0	1.92	1190	82
FLSES 355 LA	250	2978	802	439	0.86	0.83	0.76	95.7	95.7	95.0	7.1	2.1	3.1	3.26	1540	84
FLSES 355 LB	315	2981	1009	540	0.88	0.86	0.81	95.7	95.7	95.1	7.6	2.6	3.3	3.68	1713	84
FLSES 355 LC	355	2981	1137	623	0.87	0.84	0.78	95.7	95.4	94.5	7.1	2.2	2.8	3.71	1731	83
FLS 355 LD* [1]	*400*	*2977*	*1284*	*623*	*0.89*	*0.87*	*0.82*	*95.3*	*95.5*	*95.4*	*7.8*	*2.0*	*2.7*	*4.03*	*1915*	*84*

** Motors nonconcerned by IE2*
1. Temperature rise class F

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totally enclosed three-phase asynchronous motors

Selection

4 poles 1500 min^{-1}

IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y and 400 V Δ - S1 - Class IE2

IE2

Type	Rated power	Rated speed	Rated torque	Rated current	Power factor			Efficiency IEC 60034-2-1 2007			Starting current/ Rated current	Starting torque/ Rated torque	Maximum torque/ Rated torque	Moment of inertia	Weight	Noise
	P_N	N_N	M_N	$I_{N(400V)}$	Cos φ			η			*Id / In*	*Md/Mn*	M_M/Mn	J	IM B3	LP
	kW	min^{-1}	N.m	A	4/4	3/4	2/4	4/4	3/4	2/4				kg.m^2	kg	db(A)
FLS 80 L*	*0.55*	*1410*	*3.7*	*1.6*	*0.74*	*0.69*	*0.56*	*67.2*	*67.4*	*63.0*	*4.4*	*2.1*	*2.3*	*0.0013*	*15*	*44*
FLSES 80 LG	0.75	1450	4.9	1.6	0.81	0.73	0.60	81.7	82.8	81.9	6.0	2.0	2.9	0.00279	19.9	44
FLSES 90 S	1.1	1445	7.3	2.4	0.82	0.74	0.59	81.8	82.2	79.6	6.7	2.4	2.7	0.00312	21.9	50
FLSES 90 L	1.5	1445	9.9	3.2	0.81	0.74	0.60	82.9	84.2	83.3	6.8	2.4	3.1	0.00404	24.4	50
FLSES 100 L	2.2	1450	14.2	4.7	0.81	0.72	0.58	84.4	84.8	83.3	7.8	3.2	3.6	0.00531	34	52
FLSES 100 LK	3	1450	19.5	6.1	0.83	0.79	0.65	85.6	87.2	87.3	6.5	2.0	2.8	0.0108	42	52
FLSES 112 MU	4	1455	26.1	8.2	0.81	0.74	0.61	87.0	87.9	87.4	7.8	2.4	3.2	0.0129	47	52
FLSES 132 S	5.5	1460	35.8	10.9	0.83	0.78	0.67	88.1	88.8	88.3	7.8	2.6	3.4	0.0226	70	59
FLSES 132 MU	7.5	1455	48.8	14.1	0.86	0.81	0.71	88.7	89.9	89.8	7.9	2.7	3.4	0.0294	84	59
FLSES 132 MR	9	1465	58	18.2	0.80	0.73	0.61	89.3	89.3	88.1	8.1	3.4	3.3	0.0328	88	59
FLSES 160 M	11	1455	71.3	21.5	0.85	0.78	0.60	91.0	89.8	89.6	8.1	2.9	3.3	0.0731	125	65
FLSES 160 LU	15	1455	98	26.8	0.89	0.86	0.78	90.6	91.4	91.4	7.9	2.8	3.2	0.0861	136	65
FLSES 180 MR	18.5	1459	120	34.4	0.85	0.81	0.71	91.2	92.0	92.1	7.5	3.0	3.5	0.0957	144	64
FLSES 180 LUR	22	1469	142	42	0.82	0.75	0.64	92.2	92.6	92.0	7.4	3.3	3.3	0.139	180	64
FLSES 200 LU	30	1470	193	55.6	0.84	0.80	0.70	92.7	93.4	93.5	6.4	2.6	2.2	0.204	246	66
FLSES 225 SR	37	1470	239	69.5	0.83	0.79	0.69	92.9	93.7	93.8	6.6	2.7	2.7	0.247	275	66
FLSES 225 M	45	1479	291	81.4	0.85	0.82	0.73	93.7	94.1	93.9	6.8	2.6	2.4	0.576	366	68
FLSES 250 M	55	1480	353	101	0.83	0.79	0.68	94.1	94.5	94.2	6.6	2.3	2.5	0.625	400	68
FLSES 280 S	75	1481	484	140	0.82	0.77	0.66	94.1	94.1	93.5	7.2	2.9	2.8	0.80	503	74
FLSES 280 M	90	1480	581	166	0.83	0.79	0.69	94.4	94.7	94.3	7.5	2.9	2.7	0.94	553	74
FLSES 315 S	110	1484	708	199	0.84	0.81	0.73	94.8	95.1	94.6	6.5	2.5	2.4	2.24	1022	75
FLSES 315 M	132	1481	851	236	0.85	0.82	0.75	95.1	95.4	95.2	6.7	2.6	2.3	2.64	1092	74
FLSES 315 LA	160	1482	1031	278	0.87	0.84	0.76	95.5	95.9	95.8	7.0	3.1	2.8	2.26	1051	74
FLSES 315 LB	200	1473	1297	350	0.86	0.83	0.73	95.9	96.1	95.8	7.2	3.2	3.0	2.75	1163	74
FLSES 355 LA	250	1489	1603	445	0.85	0.80	0.69	95.5	95.4	94.6	7.5	2.5	3.2	5.16	1486	80
FLSES 355 LB	315	1489	2020	546	0.87	0.84	0.75	95.9	96.1	95.7	8.0	1.8	2.7	5.90	1605	77
FLSES 355 LC	355	1487	2280	621	0.86	0.82	0.73	95.9	96.0	95.7	7.4	1.8	2.9	6.60	1695	80
FLS 355 LD* [1]	*400*	*1489*	*2564*	*696*	*0.87*	*0.84*	*0.77*	*95.9*	*95.9*	*94.9*	*7.4*	*2.1*	*2.1*	*7.40*	*1930*	*80*
FLS 400 LB*	*400*	*1491*	*2559*	*694*	*0.87*	*0.85*	*0.78*	*95.6*	*96.2*	*95.1*	*8.0*	*2.0*	*2.6*	*11.7*	*2350*	*82*
FLS 355 LKB*	*450*	*1490*	*2880*	*774*	*0.88*	*0.86*	*0.79*	*95.4*	*95.5*	*94.8*	*7.6*	*1.8*	*2.3*	*11.7*	*2320*	*82*
FLS 400 LB*	*450*	*1490*	*2880*	*774*	*0.88*	*0.86*	*0.79*	*95.4*	*95.5*	*94.8*	*7.6*	*1.8*	*2.3*	*11.7*	*2350*	*87*
FLS 355 LKB*	*500*	*1490*	*3200*	*862*	*0.88*	*0.86*	*0.79*	*95.1*	*95.1*	*94.2*	*6.5*	*1.7*	*2.2*	*11.7*	*2320*	*82*
FLS 400 LVB*	*500*	*1490*	*3200*	*862*	*0.88*	*0.86*	*0.79*	*95.1*	*95.1*	*94.2*	*6.5*	*1.7*	*2.2*	*11.7*	*2350*	*87*
FLS 450 LA*	*500*	*1492*	*3200*	*866*	*0.87*	*0.84*	*0.77*	*95.8*	*95.2*	*95.3*	*8.0*	*1.6*	*2.2*	*21*	*3100*	*82*
FLS 450 LVA*	*550*	*1491*	*3525*	*942*	*0.88*	*0.85*	*0.78*	*95.8*	*95.8*	*95.2*	*7.9*	*1.5*	*2.1*	*21*	*3100*	*85*
FLS 450 LB*	*630*	*1493*	*4030*	*1090*	*0.87*	*0.84*	*0.77*	*95.9*	*95.9*	*95.2*	*8.2*	*1.5*	*2.1*	*24*	*3450*	*82*
FLS 450 LVB*	*675*	*1491*	*4326*	*1168*	*0.87*	*0.84*	*0.68*	*95.9*	*95.9*	*95.6*	*8.0*	*1.4*	*1.9*	*24*	*3450*	*85*

** Motors nonconcerned by IE2*
1. Temperature rise class F

Powers higher than 675 kW, consult us.

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Selection

IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y and 400 V Δ - S1 - Class IE2

6 poles 1000 min^{-1}

IE2

Type	Rated power	Rated speed	Rated torque	Rated current	Power factor			Efficiency IEC 60034-2-1 2007			Starting current/ Rated current	Starting torque/ Rated torque	Maximum torque/ Rated torque	Moment of inertia	Weight	Noise
	P_N	N_N	M_N	$I_{N\,(400V)}$	Cos φ			η			*Id / In*	*Md/Mn*	M_M/Mn	J	IM B3	LP
	kW	min^{-1}	N.m	A	4/4	3/4	2/4	4/4	3/4	2/4				kg.m^2	kg	db(A)
FLS 80 L*	*0.25*	*950*	*2.5*	*0.8*	*0.74*	*0.68*	*0.55*	*60.3*	*58.2*	*54.0*	*3.6*	*2.0*	*1.9*	*0.0022*	*14*	*40*
FLS 80 L*	*0.37*	*940*	*3.8*	*1.2*	*0.74*	*0.68*	*0.55*	*61.0*	*59.9*	*55.2*	*3.8*	*1.9*	*2.1*	*0.0028*	*16*	*40*
FLS 80 L*	*0.55*	*955*	*5.5*	*1.8*	*0.67*	*0.59*	*0.46*	*65.1*	*64.0*	*59.0*	*4.4*	*2.5*	*2.6*	*0.0036*	*17.5*	*40*
FLSES 90 S	0.75	940	7.6	1.94	0.73	0.64	0.50	76.3	76.9	74.1	4.2	2.0	2.2	0.00320	21.4	45
FLSES 90 LU	1.1	945	11.1	2.7	0.75	0.66	0.53	78.5	79.5	77.8	4.6	2.1	2.4	0.00482	26.5	45
FLSES 100 LK	1.5	955	15.0	3.43	0.79	0.73	0.60	79.9	81.9	81.6	5.3	1.8	2.0	0.0111	35.1	48
FLSES 112 M	2.2	960	22.1	5.2	0.74	0.65	0.52	82.1	82.7	82.1	5.5	2.1	2.4	0.0111	43	48
FLSES 132 S	3	965	29.6	6.8	0.76	0.68	0.55	84.1	84.9	83.7	6.0	2.4	2.5	0.0219	63	55
FLSES 132 M	4	965	39.5	8.9	0.77	0.71	0.59	85.3	86.5	85.9	6.1	2.4	2.7	0.0285	71	55
FLSES 132 MR	5.5	970	54.1	13.1	0.70	0.64	0.52	86.2	87.3	86.5	6.0	2.4	2.9	0.0403	89	55
FLSES 160 M	7.5	974	72.7	16.3	0.75	0.68	0.56	88.3	88.5	87.3	5.7	1.8	2.7	0.0912	110	56
FLSES 160 L	9	973	87.4	19.2	0.77	0.70	0.59	88.0	88.3	87.3	5.9	1.9	2.7	0.108	119	72
FLSES 160 LU	11	970	107.9	23.5	0.76	0.68	0.55	88.7	89.0	87.7	5.8	1.9	2.7	0.127	130	56
FLSES 180 L	15	973	147.2	30.1	0.80	0.74	0.63	90.1	91.0	90.9	6.9	2.5	3.1	0.205	172	63
FLSES 200 LU	18.5	978	180.9	37.1	0.79	0.74	0.69	90.9	91.6	91.2	6.8	2.4	3.0	0.259	230	65
FLSES 200 LU	22	975	213.9	44.2	0.79	0.75	0.65	90.9	91.6	90.3	6.7	2.3	2.9	0.307	250	65
FLSES 225 M	30	985	291	57	0.83	0.80	0.70	93.0	93.5	93.3	6.6	2.5	2.8	0.646	339	66
FLSES 250 M	37	984	356.6	68.5	0.84	0.80	0.70	93.1	93.6	93.4	6.3	2.2	2.6	0.78	369	66
FLSES 280 S	45	985	436	81	0.86	0.83	0.74	93.6	94.1	94.0	6.6	2.3	2.4	1.03	505	65
FLSES 280 M	55	982	535	99	0.86	0.83	0.76	93.5	94.2	94.4	6.3	2.4	2.3	1.2	546	65
FLSES 315 S	75	987	726	140	0.82	0.78	0.69	94.2	94.5	93.9	5.8	2.6	1.9	2.6	974	72
FLSES 315 M	90	985	873	168	0.82	0.79	0.71	94.3	94.6	94.2	5.7	2.1	1.9	3.0	1033	72
FLSES 315 LA	110	988	1063	205	0.82	0.78	0.68	94.6	94.9	94.4	6.7	2.6	2.1	3.45	1105	72
FLSES 315 LB	132	985	1280	240	0.84	0.81	0.73	94.7	95.1	94.9	6.1	2.4	2.4	3.95	1182	72
FLSES 355 LA	160	991	1542	293	0.83	0.79	0.69	95.0	95.0	94.3	7.2	1.9	3.0	6.8	1420	76
FLSES 355 LB	200	991	1927	370	0.82	0.77	0.67	95.2	95.3	94.6	6.9	1.9	3.0	7.7	1517	76
FLSES 355 LC	250	989	2414	448	0.84	0.81	0.72	95.5	95.7	95.4	6.6	1.8	2.7	9.3	1688	76
FLSES 355 LKA	315	993	3029	579	0.82	0.78	0.68	95.7	95.8	95.2	7.8	2.1	3.2	13.45	2330	79
FLSES 355 LKB	355	991	3420	668	0.80	0.75	0.65	95.7	95.9	95.5	6.9	1.9	2.8	20.7	2725	79
FLS 400 LA*	*400*	*996*	*3851*	*778*	*0.78*	*0.72*	*0.61*	*95.1*	*94.8*	*93.6*	*8.0*	*2.0*	*2.2*	*33*	*3230*	*80*
FLS 400 LKB*	*500*	*996*	*4809*	*958*	*0.79*	*0.73*	*0.62*	*95.4*	*95.2*	*94.2*	*8.0*	*2.0*	*2.2*	*35*	*3350*	*80*
FLS 450 LB*	*500*	*996*	*4809*	*958*	*0.79*	*0.73*	*0.62*	*95.4*	*95.2*	*94.2*	*8.0*	*2.0*	*2.2*	*35*	*3400*	*80*
FLS 450 LB*	*550*	*996*	*5273*	*1038*	*0.80*	*0.74*	*0.63*	*95.6*	*95.7*	*95.0*	*7.5*	*1.8*	*1.9*	*35*	*3400*	*80*

** Motors nonconcerned by IE2*

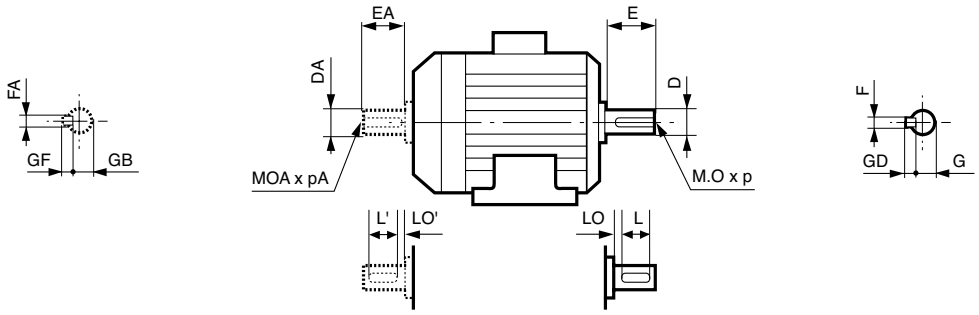
FLSES
totally enclosed three-phase asynchronous motors

Dimensions

Dimensions of the FLSES totally enclosed three-phase asynchronous motors - IP 55
Cage rotor

Dimensions in millimetres

- shaft end



Type	main shaft end								
	4 and 6 poles								
	F	GD	D	G	E	O	p	L	LO
FLSES 80 L/LG	6	6	19j6	15.5	40	6	16	30	6
FLSES 90 S/L/LU	8	7	24j6	20	50	8	19	40	6
FLSES 100 L/LK	8	7	28j6	24	60	10	22	50	6
FLSES 112 M/MU	8	7	28j6	24	60	10	22	50	6
FLSES 132 S/M/MR/MU	10	8	38k6	33	80	12	28	63	10
FLSES 160 M/L/LU	12	8	42k6	37	110	16	36	100	6
FLSES 180 M/MR/L/LUR	14	9	48k6	42.5	110	16	36	98	12
FLSES 200 LU	16	10	55m6	49	110	20	42	90	20
FLSES 225 SR/M/MR	18	11	60m6	53	140	20	42	125	15
FLSES 250 M	18	11	65m6	58	140	20	42	125	15
FLSES 280 S/M	20	12	75m6	67.5	140	20	42	125	15
FLSES 315 S/M	22	14	80m6	71	170	20	42	140	30
FLSES 315 L	25	14	90m6	81	170	24	50	140	30
FLSES 355 L/LK	28	16	100m6	90	210	24	50	180	30
FLS 400 L/LK/LV	*28*	*16*	*110m6*	*100*	*210*	*24*	*50*	*180*	*30*
FLS 450 L/LV	*32*	*18*	*120m6*	*109*	*210*	*24*	*50*	*180*	*30*

Type	2 poles								
	F	GD	D	G	E	O	p	L	LO
FLSES 80 L/LG	6	6	19j6	15.5	40	6	16	30	6
FLSES 90 S/L/LU	8	7	24j6	20	50	8	19	40	6
FLSES 100 L/LK	8	7	28j6	24	60	10	22	50	6
FLSES 112 M/MU	8	7	28j6	24	60	10	22	50	6
FLSES 132 S/M/MR/MU	10	8	38k6	33	80	12	28	63	10
FLSES 160 M/L/LU	12	8	42k6	37	110	16	36	100	6
FLSES 180 M/MR/L/LUR	14	9	48k6	42.5	110	16	36	98	12
FLSES 200 LU	16	10	55m6	49	110	20	42	90	20
FLSES 225 SR/M/MR	16	10	55m6	49	110	20	42	90	20
FLSES 250 M	18	11	60m6	53	140	20	42	125	15
FLSES 280 S/M	18	11	65m6	58	140	20	42	125	15
FLSES 315 S/M	18	11	65m6	58	140	20	42	125	15
FLSES 315 L	20	12	70m6	62.5	140	20	42	125	15
FLSES 355 L/LK	22	14	80m6	71	170	20	42	140	30
FLS 400 L/LK/LV	-	-	-	-	-	-	-	-	-
FLS 450 L/LV	-	-	-	-	-	-	-	-	-

Type	Secondary shaft end								
	4 and 6 poles								
	FA	GF	DA	GB	EA	OA	pA	L'	LO'
FLSES 80 L/LG	5	5	14j6	11	30	5	15	25	3.5
FLSES 90 S/L/LU	6	6	19j6	15.5	40	6	16	30	6
FLSES 100 L/LK	8	7	24j6	20	50	8	19	40	6
FLSES 112 M/MU	8	7	24j6	20	50	8	19	40	6
FLSES 132 S/M/MR/MU	8	7	28k6	24	60	10	22	50	6
FLSES 160 M/L/LU	12	8	42k6	37	110	16	36	100	6
FLSES 180 M/MR/L/LUR	14	9	48k6	42.5	110	16	36	98	12
FLSES 200 LU	16	10	55m6	49	110	20	42	90	20
FLSES 225 SR/M/MR	18	11	60m6	53	140	20	42	125	15
FLSES 250 M	18	11	60m6	53	140	20	42	125	15
FLSES 280 S/M	20	12	60m6	53	140	20	42	125	15
FLSES 315 S/M	20	12	70m6	62.5	140	20	42	125	15
FLSES 315 L	20	12	70m6	62.5	140	20	42	125	15
FLSES 355 L	20	12	70m6	62.5	140	20	42	125	15
FLSES 355 LK	28	16	100m6	90	210	24	50	180	30
FLS 400 L/LK/LV	*28*	*16*	*110m6*	*100*	*210*	*24*	*50*	*180*	*30*
FLS 450 L/LV	*32*	*18*	*120m6*	*109*	*210*	*24*	*50*	*180*	*30*

Type	2 poles								
	FA	GF	DA	GB	EA	OA	pA	L'	LO'
FLSES 80 L/LG	5	5	14j6	11	30	5	15	25	3.5
FLSES 90 S/L/LU	6	6	19j6	15.5	40	6	16	30	6
FLSES 100 L/LK	8	7	24j6	20	50	8	19	40	6
FLSES 112 M/MU	8	7	24j6	20	50	8	19	40	6
FLSES 132 S/M/MR/MU	8	7	28k6	24	60	10	22	50	6
FLSES 160 M/L/LU	12	8	42k6	37	110	16	36	100	6
FLSES 180 M/MR/L/LUR	14	9	48k6	42.5	110	16	36	98	12
FLSES 200 LU	16	10	55m6	49	110	20	42	90	20
FLSES 225 SR/M/MR	16	10	55m6	49	110	20	42	90	20
FLSES 250 M	18	11	60m6	53	140	20	42	125	15
FLSES 280 S/M	18	11	60m6	53	140	20	42	125	15
FLSES 315 S/M	18	11	65m6	58	140	20	42	125	15
FLSES 315 L	20	12	70m6	62.5	140	20	42	125	15
FLSES 355 L	20	12	70m6	62.5	140	20	42	125	15
FLSES 355 LK	22	14	80m6	71	170	20	42	140	30
FLS 400 L/LK/LV	-	-	-	-	-	-	-	-	-
FLS 450 L/LV	-	-	-	-	-	-	-	-	-

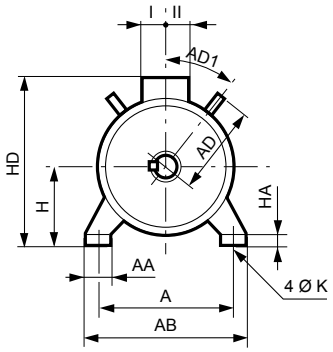
FLSES
totally enclosed three-phase asynchronous motors

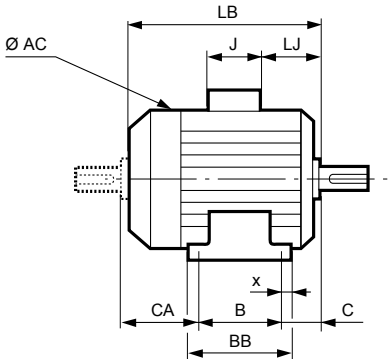
Dimensions

Dimensions of the FLSES totally enclosed three-phase asynchronous motors - IP 55
Cage rotor

Dimensions in millimetres

- foot mounted





Type	Main dimensions																		
	A	AB	B	BB	C	X	AA	K	HA	H	AC*	HD	LB	LJ	J	I	II	AD	AD1
FLSES 80 L	125	157	100	130	50	18	32	10	10	80	170	228	212	7	136	68	68	-	-
FLSES 80 LG	125	157	100	130	52	18	32	10	10	80	185	238	245	9	136	68	68	-	-
FLSES 90 L	140	170	125	162	56	27.5	26	10	10	90	185	248	239	8.5	136	68	68	135	40
FLSES 90 LU	140	170	125	162	56	27.5	26	10	10	90	185	248	266	8.5	136	68	68	135	40
FLSES 90 S	140	170	100	162	56	27.5	26	10	10	90	185	248	239	8.5	136	68	68	135	40
FLSES 100 L	160	196	140	185	63	29	40	12	13	100	204	258	300	8	136	68	68	270	40
FLSES 100 LK	160	200	140	174	63	22	42	12	12	100	226	276.5	319	52	120	60	60	-	-
FLSES 112 M	190	230	140	174	70	32	48	12	12	112	233	294	309	18.5	136	68	68	148	40
FLSES 112 MU	190	230	140	174	70	32	48	12	12	112	233	294	305	18.5	136	68	68	148	40
FLSES 132 M	216	255	178	240	89	48	63	12	16	132	262	347	385	23	136	68	68	165	37.5
FLSES 132 MR	216	255	178	240	89	48	63	12	16	132	262	347	447	23	136	68	68	165	37.5
FLSES 132 MU	216	255	178	240	89	48	63	12	16	132	262	347	447	23	136	68	68	165	37.5
FLSES 132 S	216	255	140	240	89	48	63	12	16	132	262	347	385	23	136	68	68	165	37.5
FLSES 160 L	254	294	254	294	108	20	65	14.5	20	160	312	440	495	30	246	126	147	-	-
FLSES 160 LU	254	294	254	294	108	20	65	14.5	20	160	312	440	510	30	246	126	147	-	-
FLSES 160 M	254	294	210	294	108	20	65	14.5	20	160	312	440	495	30	246	126	147	-	-
FLSES 180 L	279	330	279	335	121	28	70	14.5	28	180	350	481	552	42	246	126	147	-	-
FLSES 180 LUR	279	330	279	335	121	28	70	14.5	28	180	350	481	552	42	246	126	147	-	-
FLSES 180 M	279	330	279	335	121	28	70	14.5	28	180	350	481	552	42	246	126	147	-	-
FLSES 180 MR	279	324	241	295	121	25	80	14.5	25	180	312	460	510	30	246	126	147	-	-
FLSES 200 LU	318	374	305	361	131	28	80	18.5	44	200	410	530	672	49	246	126	147	230	45
FLSES 225 M	356	426	311	375	149	32	80	18.5	26	225	540	664	779	69.5	352	173	210	-	-
FLSES 225 MR	356	426	311	375	153.5	32	80	18.5	26	225	410	555	678.5	55.5	246	126	147	230	45
FLSES 225 SR	356	426	286	375	153.5	32	80	18.5	26	225	410	555	678.5	55.5	246	126	147	230	45
FLSES 250 M	406	476	349	413	168	32	80	24	26	250	540	689	779	69.5	352	173	210	-	-
FLSES 280 M	457	527	419	483	190	32	80	24	26	280	540	719	959	69.5	352	173	210	-	-
FLSES 280 S	457	527	368	432	190	32	80	24	26	280	540	719	959	69.5	352	173	210	-	-
FLSES 315 LA	508	600	508	610	216	58	100	28	35	315	600	840	1177	101	452	219	269	343	45
FLSES 315 LB	508	600	508	610	216	58	100	28	35	315	600	840	1177	101	452	219	269	343	45
FLSES 315 M	508	600	457	610	216	58	100	28	35	315	600	840	1177	101	452	219	269	343	45
FLSES 315 S	508	600	406	610	216	58	100	28	35	315	600	840	1177	101	452	219	269	343	45
FLSES 355 LA	610	710	630	756	254	76	100	28	35	355	822	922	1303	121	452	219	269	-	-
FLSES 355 LB	610	710	630	756	254	76	100	28	35	355	822	922	1303	121	452	219	269	-	-
FLSES 355 LC	610	710	630	756	254	76	100	28	35	355	822	922	1303	121	452	219	269	-	-
FLSES 355 LK	610	750	630	815	254	40	128	28	45	355	787	1117	1702	52	700	224	396	-	-
FLS 400 I/LV	*686*	*800*	*710*	*815*	*280*	*65*	*128*	*35*	*45*	*400*	*787*	*1162*	*1702*	*52*	*700*	*224*	*396*	-	-
FLS 400 LK	*686*	*824*	*800*	*950*	*280*	*59*	*140*	*35*	*45*	*400*	*877*	*1210*	*1740*	*68*	*700*	*224*	*396*	-	-
FLS 450 L/LV	*750*	*890*	*800*	*950*	*315*	*94*	*140*	*35*	*45*	*450*	*877*	*1260*	*1740*	*68*	*700*	*224*	*396*	-	-

* AC: housing diameter without ring of lifting

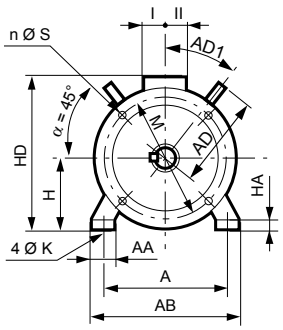
FLSES
totally enclosed three-phase asynchronous motors

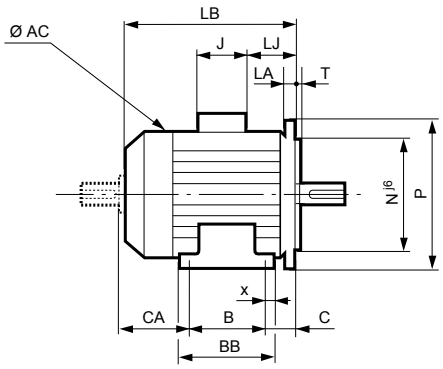
Dimensions

Dimensions of the FLSES totally enclosed three-phase asynchronous motors - IP 55
Cage rotor

Dimensions in millimetres

- (FF) foot and plain hole flange mounted





Type	Main dimensions																			
	A	AB	B	BB	C	X	AA	K	HA	H	AC*	HD	LB	LJ	J	I	II	AD	AD1	Symb
FLSES 80 L	125	157	100	130	50	18	32	10	10	80	170	228	212	7	136	68	68	-	-	FF 165
FLSES 80 LG	125	157	100	130	52	18	32	10	10	80	185	238	265	9	136	68	68	-	-	FF 165
FLSES 90 L	140	170	125	162	56	27.5	26	10	10	90	185	248	261	8.5	136	68	68	135	40	FF 165
FLSES 90 LU	140	170	125	162	76	27.5	26	10	10	90	185	248	288	46	136	68	68	135	40	FF 165
FLSES 90 S	140	170	100	162	76	27.5	26	10	10	90	185	248	261	46	136	68	68	135	40	FF 165
FLSES 100 L	160	196	140	185	76	29	40	12	13	100	204	258	300	46	136	68	68	270	40	FF 215
FLSES 100 LK	160	200	140	174	63	22	42	12	12	100	226	276.5	319	52	120	60	60	-	-	FF 215
FLSES 112 M	190	230	140	174	70	32	48	12	12	112	233	294	309	18.5	136	68	68	148	40	FF 215
FLSES 112 MU	190	230	140	174	70	32	48	12	12	112	233	294	305	18.5	136	68	68	148	40	FF 215
FLSES 132 M	216	255	178	240	89	48	63	12	16	132	262	347	385	23	136	68	68	165	37.5	FF 265
FLSES 132 MR	216	255	178	240	89	48	63	12	16	132	262	347	447	23	136	68	68	165	37.5	FF 265
FLSES 132 MU	216	255	178	240	89	48	63	12	16	132	262	347	447	23	136	68	68	165	37.5	FF 265
FLSES 132 S	216	255	140	240	89	48	63	12	16	132	262	347	385	23	136	68	68	165	37.5	FF 265
FLSES 160 L	254	294	254	294	108	20	65	14.5	20	160	312	440	495	30	246	126	147	-	-	FF 300
FLSES 160 LU	254	294	254	294	108	20	65	14.5	20	160	312	440	510	30	246	126	147	-	-	FF 300
FLSES 160 M	254	294	210	294	108	20	65	14.5	20	160	312	440	495	30	246	126	147	-	-	FF 300
FLSES 180 L	279	330	279	335	121	28	70	14.5	28	180	350	481	552	42	246	126	147	-	-	FF 300
FLSES 180 LUR	279	330	279	335	121	28	70	14.5	28	180	350	481	552	42	246	126	147	-	-	FF 300
FLSES 180 M	279	330	279	335	121	28	70	14.5	28	180	350	481	552	42	246	126	147	-	-	FF 300
FLSES 180 MR	279	324	241	295	121	25	80	14.5	25	180	312	460	510	30	246	126	147	-	-	FF 300
FLSES 200 LU	318	374	305	361	131	28	80	18.5	44	200	410	530	672	49	246	126	147	230	45	FF 350
FLSES 225 M	356	426	311	375	149	32	80	18.5	26	225	540	664	779	69.5	352	173	210	-	-	FF 400
FLSES 225 MR	356	426	311	375	153.5	32	80	18.5	26	225	410	555	678.5	55.5	246	126	147	230	45	FF 400
FLSES 225 SR	356	426	286	375	153.5	32	80	18.5	26	225	410	555	678.5	55.5	246	126	147	230	45	FF 400
FLSES 250 M	406	476	349	413	168	32	80	24	26	250	540	689	779	69.5	352	173	210	-	-	FF 500
FLSES 280 M	457	527	419	483	190	32	80	24	26	280	540	719	959	69.5	352	173	210	-	-	FF 500
FLSES 280 S	457	527	368	432	190	32	80	24	26	280	540	719	959	69.5	352	173	210	-	-	FF 500
FLSES 315 LA	508	600	508	610	216	58	100	28	35	315	600	840	1177	101	452	219	269	343	45	FF 600
FLSES 315 LB	508	600	508	610	216	58	100	28	35	315	600	840	1177	101	452	219	269	343	45	FF 600
FLSES 315 M	508	600	457	610	216	58	100	28	35	315	600	840	1177	101	452	219	269	343	45	FF 600
FLSES 315 S	508	600	406	610	216	58	100	28	35	315	600	840	1177	101	452	219	269	343	45	FF 600
FLSES 355 LA	610	710	630	756	254	76	100	28	35	355	822	922	1303	121	452	219	269	-	-	FF 740
FLSES 355 LB	610	710	630	756	254	76	100	28	35	355	822	922	1303	121	452	219	269	-	-	FF 740
FLSES 355 LC	610	710	630	756	254	76	100	28	35	355	822	922	1303	121	452	219	269	-	-	FF 740
FLSES 355 LK	610	750	630	815	254	40	128	28	45	355	787	1117	1702	52	700	224	396	-	-	FF 740
FLS 400 L/LV	*686*	*800*	*710*	*815*	*280*	*65*	*128*	*35*	*45*	*400*	*787*	*1162*	*1702*	*52*	*700*	*224*	*396*	-	-	*FF 940*
FLS 400 LK	*686*	*824*	*800*	*950*	*280*	*59*	*140*	*35*	*45*	*400*	*877*	*1210*	*1740*	*68*	*700*	*224*	*396*	-	-	*FF 940*
FLS 450 L/LV	*750*	*890*	*800*	*950*	*315*	*94*	*140*	*35*	*45*	*450*	*877*	*1260*	*1740*	*68*	*700*	*224*	*396*	-	-	*FF 1080*

* AC: housing diameter without ring of lifting

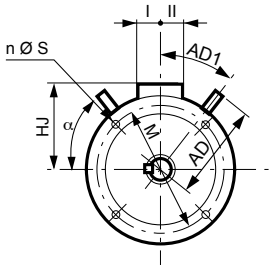
FLSES
totally enclosed three-phase asynchronous motors

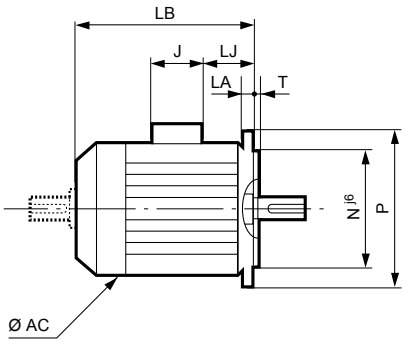
Dimensions

Dimensions of the FLSES totally enclosed three-phase asynchronous motors - IP 55
Cage rotor

Dimensions in millimetres

- (FF) plain hole flange mounted





IEC symbol	Flange dimensions							
	M	N	P	T	n	α°	S	LA
FF 165	165	130	200	3.5	4	45	12	10
FF 165	165	130	200	3.5	4	45	12	10
FF 165	165	130	200	3.5	4	45	12	10
FF 165	165	130	200	3.5	4	45	12	10
FF 165	165	130	200	3.5	4	45	12	10
FF 215	215	180	250	4	4	45	14.5	12
FF 215	215	180	250	4	4	45	14.5	12
FF 215	215	180	250	4	4	45	14.5	12
FF 215	215	180	250	4	4	45	14.5	11
FF 265	265	230	300	4	4	45	14.5	12
FF 265	265	230	300	4	4	45	14.5	12
FF 265	265	230	300	4	4	45	14.5	12
FF 265	265	230	300	4	4	45	14.5	12
FF 300	300	250	350	5	4	45	18.5	14
FF 300	300	250	350	5	4	45	18.5	14
FF 300	300	250	350	5	4	45	18.5	14
FF 300	300	250	350	5	4	45	18.5	14
FF 300	300	250	350	5	4	45	18.5	14
FF 300	300	250	350	5	4	45	18.5	14
FF 350	350	300	400	5	4	45	18.5	15
FF 400	400	350	450	5	8	22.5	18.5	16
FF 400	400	350	450	5	8	22.5	18.5	16
FF 400	400	350	450	5	8	22.5	18.5	16
FF 500	500	450	550	5	8	22.5	18.5	18
FF 500	500	450	550	5	8	22.5	18.5	18
FF 500	500	450	550	5	8	22.5	18.5	18
FF 600	600	550	660	6	8	22.5	24	25
FF 600	600	550	660	6	8	22.5	24	25
FF 600	600	550	660	6	8	22.5	24	25
FF 600	600	550	660	6	8	22.5	24	25
FF 740	740	680	800	6	8	22.5	24	25
FF 740	740	680	800	6	8	22.5	24	25
FF 740	740	680	800	6	8	22.5	24	25
FF 740	740	680	800	6	8	22.5	24	25
FF 940	*940*	*880*	*1000*	*6*	*8*	*22.5*	*28*	*28*
FF 940	*940*	*880*	*1000*	*6*	*8*	*22.5*	*28*	*28*
FF 1080	*1080*	*1000*	*1150*	*6*	*8*	*22.5*	*28*	*30*

Type	Main dimensions								
	AC*	LB	HJ	LJ	J	I	II	AD	AD1
FLSES 80 L	170	212	148	7	136	68	68	-	-
FLSES 80 LG	185	265	158	9	136	68	68	-	-
FLSES 90 L	185	261	158	8.5	136	68	68	135	40
FLSES 90 LU	185	288	158	46	136	68	68	135	40
FLSES 90 S	185	261	158	46	136	68	68	135	40
FLSES 100 L	204	300	158	46	136	68	68	270	40
FLSES 100 LK	226	319	176.5	52	120	60	60	-	-
FLSES 112 M	233	309	182	18.5	136	68	68	148	40
FLSES 112 MU	233	305	182	18.5	136	68	68	148	40
FLSES 132 M	262	385	215	23	136	68	68	165	37.5
FLSES 132 MR	262	447	215	23	136	68	68	165	37.5
FLSES 132 MU	262	447	215	23	136	68	68	165	37.5
FLSES 132 S	262	385	215	23	136	68	68	165	37.5
FLSES 160 L	312	495	280	30	246	126	147	-	-
FLSES 160 LU	312	510	280	30	246	126	147	-	-
FLSES 160 M	312	495	280	30	246	126	147	-	-
FLSES 180 L	350	552	301	42	246	126	147	-	-
FLSES 180 LUR	350	552	301	42	246	126	147	-	-
FLSES 180 M	350	552	301	42	246	126	147	-	-
FLSES 180 MR	312	510	280	30	246	126	147	-	-
FLSES 200 LU	410	672	330	49	246	126	147	230	45
FLSES 225 M	540	779	439	69.5	352	173	210	-	-
FLSES 225 MR	410	678.5	330	55.5	246	126	147	230	45
FLSES 225 SR	410	678.5	330	55.5	246	126	147	230	45
FLSES 250 M	540	779	439	69.5	352	173	210	-	-
FLSES 280 M	540	959	439	69.5	352	173	210	-	-
FLSES 280 S	540	959	439	69.5	352	173	210	-	-
FLSES 315 LA	600	1177	525	101	452	219	269	343	45
FLSES 315 LB	600	1177	525	101	452	219	269	343	45
FLSES 315 M	600	1177	525	101	452	219	269	343	45
FLSES 315 S	600	1177	525	101	452	219	269	343	45
FLSES 355 LA	688	1303	567	121	452	219	269	-	-
FLSES 355 LB	688	1303	567	121	452	219	269	-	-
FLSES 355 LC	688	1303	567	121	452	219	269	-	-
FLSES 355 LK	787	1702	762	52	700	224	396	-	-
FLS 400 L/LV	*787*	*1702*	*762*	*52*	*700*	*224*	*396*	-	-
FLS 400 LK	*877*	*1740*	*810*	*68*	*700*	*224*	*396*	-	-
FLS 450 L/LV	*877*	*1740*	*810*	*68*	*700*	*224*	*396*	-	-

* AC: housing diameter without ring of lifting

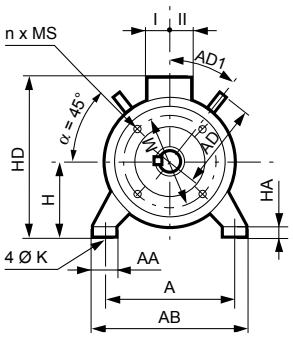
FLSES
totally enclosed three-phase asynchronous motors

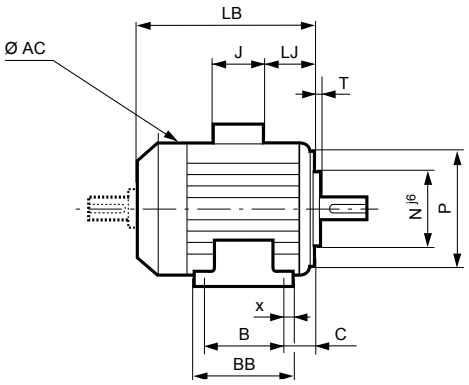
Dimensions

Dimensions of the FLSES totally enclosed three-phase asynchronous motors - IP 55
Cage rotor

Dimensions in millimetres

– (FT) foot and tapped hole flange mounted





Type	Main dimensions																			
	A	AB	B	BB	C	X	AA	K	HA	H	AC*	HD	LB	LJ	J	I	II	AD	AD1	Symb
FLSES 80 L	125	157	100	130	50	18	32	10	10	80	170	228	212	7	136	68	68	-	-	FT 100
FLSES 80 LG	125	157	100	130	52	18	32	10	10	80	185	238	245	9	136	68	68	-	-	FT 100
FLSES 90 L	140	170	125	162	56	27.5	26	10	10	90	185	248	239	8.5	136	68	68	135	40	FT 115
FLSES 90 LU	140	170	125	162	56	27.5	26	10	10	90	185	248	266	8.5	136	68	68	135	40	FT 115
FLSES 90 S	140	170	100	162	56	27.5	26	10	10	90	185	248	239	8.5	136	68	68	135	40	FT 115
FLSES 100 L	160	196	140	185	63	29	40	12	13	100	204	258	300	8	136	68	68	270	40	FT 130
FLSES 100 LK	160	200	140	174	63	22	42	12	12	100	226	276.5	319	52	120	60	60	-	-	FT 130
FLSES 112 M	190	230	140	174	70	32	48	12	12	112	233	294	309	18.5	136	68	68	148	40	FT 130
FLSES 112 MU	190	230	140	174	70	32	48	12	12	112	233	294	305	18.5	136	68	68	148	40	FT 130
FLSES 132 M	216	255	178	240	89	48	63	12	16	132	262	347	385	23	136	68	68	165	37.5	FT 215
FLSES 132 MR	216	255	178	240	89	48	63	12	16	132	262	347	447	23	136	68	68	165	37.5	FT 215
FLSES 132 MU	216	255	178	240	89	48	63	12	16	132	262	347	447	23	136	68	68	165	37.5	FT 215
FLSES 132 S	216	255	140	240	89	48	63	12	16	132	262	347	385	23	136	68	68	165	37.5	FT 215

* AC: housing diameter without ring of lifting

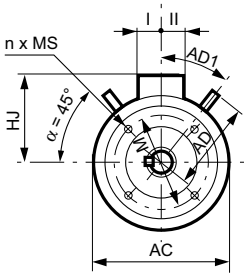
FLSES
totally enclosed three-phase asynchronous motors

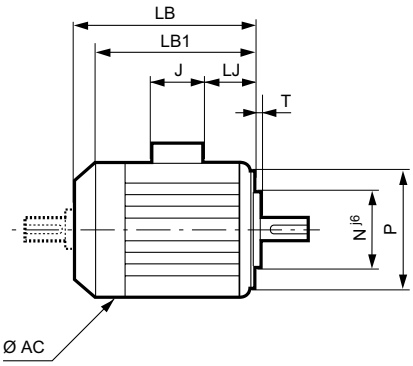
Dimensions

Dimensions of the FLSES totally enclosed three-phase asynchronous motors - IP 55
Cage rotor

Dimensions in millimetres

– (FT) tapped hole flange mounted





IEC symbol	Flange dimensions					
	M	N	P	T	n	MS
FT 100	100	80	120	3	4	M6
FT 100	100	80	120	3	4	M6
FT 115	115	95	140	3	4	M8
FT 115	115	95	140	3	4	M8
FT 115	115	95	140	3	4	M8
FT 130	130	110	160	3.5	4	M8
FT 130	130	110	160	3.5	4	M8
FT 130	130	110	160	3.5	4	M8
FT 130	130	110	160	3.5	4	M8
FT 215	215	180	250	4	4	M12
FT 215	215	180	250	4	4	M12
FT 215	215	180	250	4	4	M12
FT 215	215	180	250	4	4	M12

Type	Main dimensions								
	AC*	LB	LB1**	LJ	J	I	II	AD	AD1
FLSES 80 L	170	212	7	136	68	68	-	-	-
FLSES 80 LG	185	245	9	136	68	68	-	-	-
FLSES 90 L	185	239	8.5	136	68	68	135	40	40
FLSES 90 LU	185	266	8.5	136	68	68	135	40	40
FLSES 90 S	185	239	8.5	136	68	68	135	40	40
FLSES 100 L	204	300	8	136	68	68	270	40	40
FLSES 100 LK	226	319	52	120	60	60	-	-	-
FLSES 112 M	233	309	18.5	136	68	68	148	40	40
FLSES 112 MU	233	305	18.5	136	68	68	148	40	40
FLSES 132 M	262	385	23	136	68	68	165	37.5	37.5
FLSES 132 MR	262	447	23	136	68	68	165	37.5	37.5
FLSES 132 MU	262	447	23	136	68	68	165	37.5	37.5
FLSES 132 S	262	385	23	136	68	68	165	37.5	37.5

* AC: housing diameter without ring of lifting
** LB1: motor not ventilated