

FLSPX

Atmospheres containing explosive dust



totally enclosed three-phase asynchronous motors

**CATEGORY 2
ZONE 21**

General information



Motors in accordance with the European Directive 94/9/CE.

Totally enclosed three-phase asynchronous motors, cast iron casing FLSPX series, according to IEC 60037, 60072, EN 50281 power 0.18 to 400 kW, frame size from 80 to 355 mm.

- Single speed 2, 4, 6 and 8 poles : 230/400 V or 400 V Δ , 50 Hz.
- Two speed : (on request) centrifugal or general use 2/4, 4/6, 4/8 and 6/8 poles 400 V Y or Δ .

IP 65 protection
adapted to the most severe environments.

- Motors for variable speed operation :**
- fitted with thermal probes in winding (obligatory) and bearing probes for frame size ≥ 160 mm ;
 - on consultation (for selection).

For a non direct on line starting of the two speed motors : consult us.

Finish : cast iron casing
Assembled with protected screws.
Finishing paint **RAL 1007 (yellow)**.
Protection of the flange and shaft end against atmospheric corrosion.
Individual anti-shock packaging.

Mains supply

- Standard construction according to IEC 60038 :
- 230/400 V +10% -10% at 50 Hz ;
- 400 V Δ +10% -10% at 50 Hz.



Description of the FLSPX cast iron three-phase motors - zone 21



II 2D T 125 °C

Component	Materials	Remarks
Finned housing	Cast iron	- with bolt-on or cast foot, or without foot <ul style="list-style-type: none"> • 4, 6 or 8 mounting holes for the foot casings • lifting rings for frame size ≥ 160 - earth terminal on foot or fin
Stator	Insulated low carbon magnetic steel laminations Enameled electrolytic copper	- the low carbon content guarantees long term stability of the characteristics - assembled lamination pack - semi-enclosed slots - insulation system class F
Rotor	Insulated low carbon magnetic steel laminations Aluminium or copper	- inclined slots - squirrel cage pressure die cast in aluminium (or alloy for special applications) or soldered in copper - mounted on the shaft by heat shrinking, or keyed for soldered rotors - dynamically balanced rotor class N - 1/2 key
Shaft	Steel	- for frame size ≤ 132 : <ul style="list-style-type: none"> • shaft end fitted with screw and washer • closed keyway - for frame size ≥ 160 : <ul style="list-style-type: none"> • tapped centre hole • open key
End shields	Cast iron	
Bearings and lubrication		- ball bearings set C3 - ZZ types lubricated for life up to 225 inclusive - open bearings from frame size ≥ 200 upwards, regreasable - rear preloaded bearings up to 315 S, front preloaded bearings from 315 M
Lipseals	Synthetic rubber	- front and rear lipseals for IP 65 sealing at the level of the shaft
Fan	Composite material or aluminium alloy	- 2 directions of rotation : straight blades
Fan cover	Sheet steel	- on request, fitted with a drip cover for operation in vertical position, shaft facing down
Terminal box	Cast iron	- IP 65 - rotatable, opposite to the foot position for frame size ≥ 160 , in accordance with the standards EN 50014 and EN 50019 (increased safety «e») - fitted with a terminal board with 6 steel studs and lock nuts - fitted with CMDEL type cable glands - 1 earth terminal in all terminal boxes
Paint		- system II colour RAL 1007 - resistance to saline mist : 250 h (according to NFX 41002)

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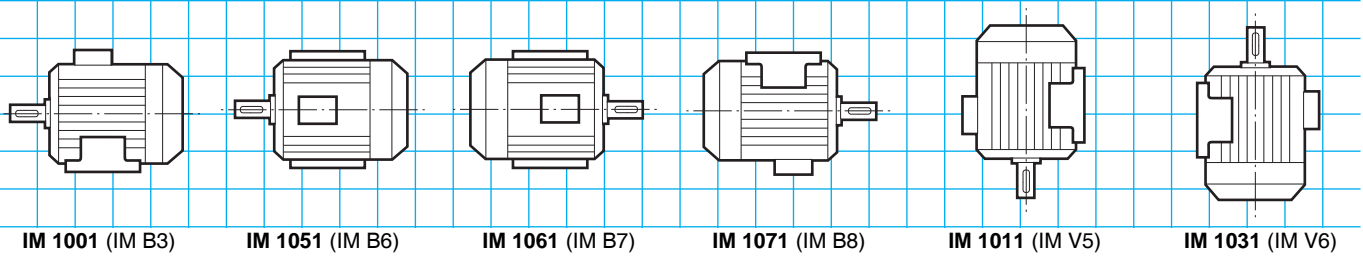


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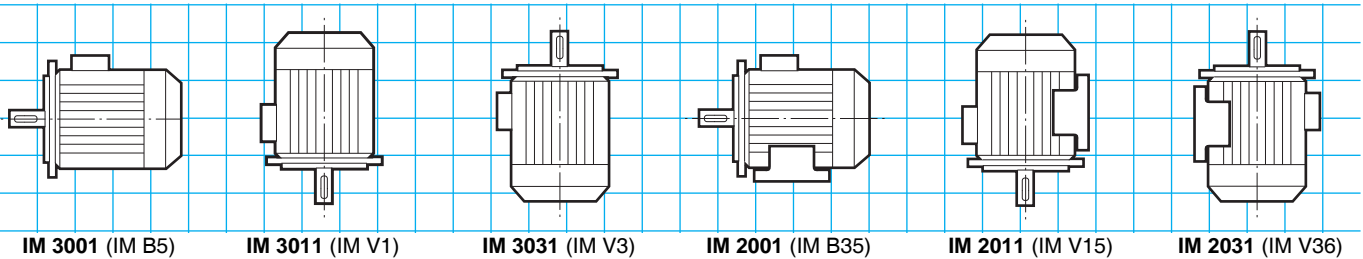
Mounting positions

Foot mounted motors



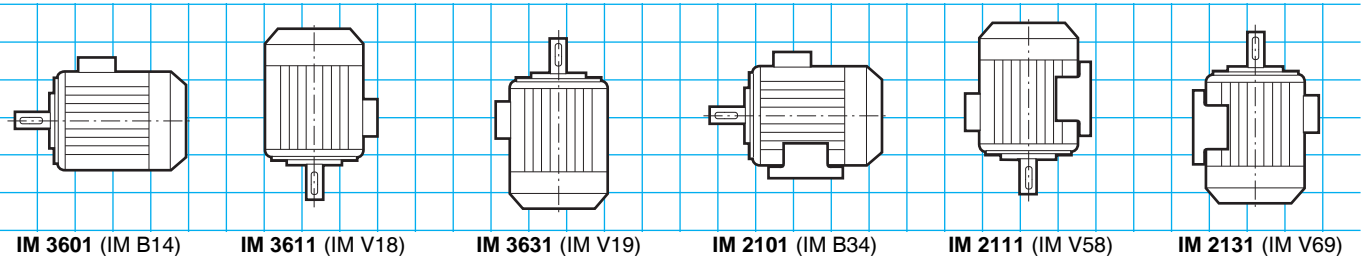
(FF) plain hole flange mounted motors

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

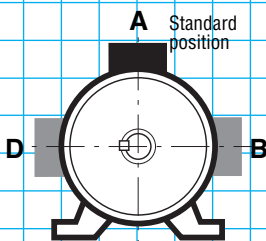


(FT) tapped hole flange mounted motors

- Possible positions up to 132 frame size inclusive

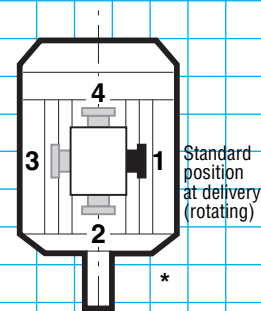


Position of the terminal box in relation to the motor shaft end



A : standard

Position of the cable gland in relation to the motor shaft end



1 : standard

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

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Adaptation possibilities

Leroy-Somer offers, for use with the FLSPX 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 special adaptation, consult the technical specialists at Leroy-Somer.



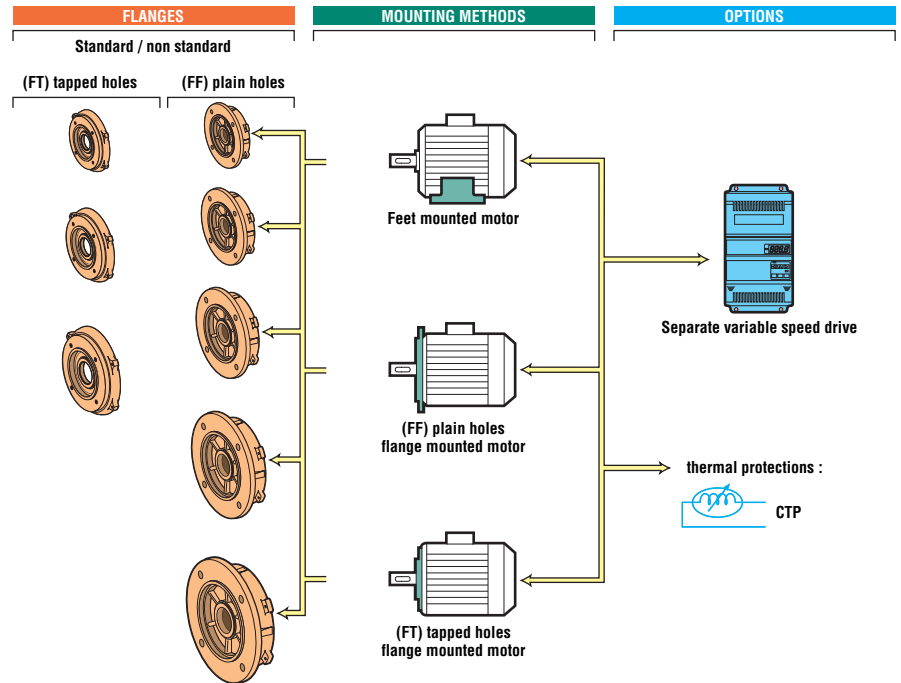
The FLSPX three-phase motors may be associated to :

- gearboxes
- electronic variable speed drives (1)

The options (2) :

- thermal protections
- non standard flanges

(1) Conforming to the regulations of use indicated by the standard IEC 34-17.
(2) Other options : consult us.



Designation / Codification

ATEX II 2D T 125°C	4P 1500 min ⁻¹	FLSPX	180	MR	18.5 kW	IM 1001 (IM B3)	400 VΔ	50 Hz	IP 55
Specific application	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 :

FLSPX three-phase asynchronous motor, 1500 min⁻¹, 18.5 kW IM 1001 (IM B3), 400 V

Designation	Code
4P FLSPX 180 MR 18.5 kW IM 1001 (IM B3) 400 V	-

The table above is an example. It allows 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

CATEGORY 2
ZONE 21

IP 65 - 50 Hz - Class F - Δ T 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1



II - 2D - T_{MAX} 125 °C

2
poles
3000 min⁻¹

A

Type	Rated power at 50 Hz	Rated speed	Rated moment	Rated current	Power factor	Efficiency	Starting torque / Rated torque	Weight
	P_N kW	N_N min ⁻¹	M_N N.m	$I_N (400V)$ A	$\cos \varphi$ 100 %	η 100 %	I_D / I_N	IM B3 kg
FLSPX 80 L	0.75	2840	2.5	1.6	0.86	76	5.9	15
FLSPX 80 L	1.1	2837	3.7	2.4	0.84	79.5	5.6	18
FLSPX 90 S	1.5	2870	5	3.3	0.81	82	7.3	21
FLSPX 90 L	2.2	2862	7.5	4.3	0.88	84.5	8.1	26
FLSPX 100 LK	3	2925	10	5.5	0.91	86	8.4	42
FLSPX 112 M	4	2940	13.6	7.5	0.89	86.5	8.7	48
FLSPX 132 S	5.5	2940	18.7	10.6	0.86	87	7.6	67
FLSPX 132 S	7.5	2950	25	14.1	0.87	88	8.9	70
FLSPX 160 MA	11	2935	35.8	20	0.88	88.4	8.6	97
FLSPX 160 MB	15	2935	48.8	27	0.88	89.7	8.6	108
FLSPX 160 L	18.5	2940	60	33	0.90	90.8	8.4	126
FLSPX 180 MR	22	2940	71	39	0.89	91	8.5	135
FLSPX 200 LA	30	2950	97	52	0.91	92.4	7.7	245
FLSPX 200 LB	37	2959	120	63	0.90	93.5	8.3	265
FLSPX 225 MT	45	2958	145	78	0.89	93.8	8.3	290
FLSPX 250 M	55	2966	177	94	0.89	94.6	7.9	405
FLSPX 280 S	75	2965	241	127	0.90	94.6	8	505
FLSPX 280 M	90	2962	290	149	0.91	95.5	7.7	560
FLSPX 315 ST	110	2975	356	178	0.93	95.8	8.2	850
FLSPX 315 M	132	2962	427	221	0.90	96	7.5	1000
FLSPX 315 LA	160	2969	517	272	0.89	95.5	7.5	1050
FLSPX 315 LB	200	2967	647	342	0.88	96	7.7	1150
FLSPX 355 LA	250	2978	808	424	0.89	95.6	7.2	1400
FLSPX 355 LB	275	2980	881	464	0.89	96.2	8.4	1500
FLSPX 355 LB	315	2976	1016	525	0.90	96.2	7.2	1500
FLSPX 355 LC	330	2980	1057	560	0.88	96.6	7.9	1915
FLSPX 355 LC	355	2979	1137	588	0.90	96.8	8.2	1915
FLSPX 355 LD	400	2977	1284	673	0.89	96.4	7.8	1915

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Selection

**CATEGORY 2
ZONE 21**

IP 65 - 50 Hz - Class F - Δ T 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1



II - 2D - T_{MAX} 125 °C

**2
poles
3000 min⁻¹**



Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3)		IM 3001 (IM B5)	
		Code	Qty	Code	Qty
FLSPX 80 L	0.75		-		-
FLSPX 80 L	1.1		-		-
FLSPX 90 S	1.5		-		-
FLSPX 90 L	2.2		-		-
FLSPX 100 LK	3		-		-
FLSPX 112 M	4		-		-
FLSPX 132 S	5.5		-		-
FLSPX 132 S	7.5		-		-
FLSPX 160 MA	11		-		-
FLSPX 160 MB	15		-		-
FLSPX 160 L	18.5		-		-
FLSPX 180 MR	22		-		-
FLSPX 200 LA	30		-		-
FLSPX 200 LB	37		-		-
FLSPX 225 MT	45		-		-
FLSPX 250 M	55		-		-
FLSPX 280 S	75		-		-
FLSPX 280 M	90		-		-
FLSPX 315 ST	110		-		-
FLSPX 315 M	132		-		-
FLSPX 315 LA	160		-		-
FLSPX 315 LB	200		-		-
FLSPX 355 LA	250		-		-
FLSPX 355 LB	275		-		-
FLSPX 355 LB	315		-		-
FLSPX 355 LC	330		-		-
FLSPX 355 LC	355		-		-
FLSPX 355 LD	400		-		-

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Selection

CATEGORY 2
ZONE 21

IP 65 - 50 Hz - Class F - Δ T 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1



II - 2D - T_{MAX} 125 °C

4
poles
1500 min⁻¹

A

Type	Rated power at 50 Hz	Rated speed	Rated moment	Rated current	Power factor	Efficiency	Starting torque / Rated torque	Weight
	P_N kW	N_N min ⁻¹	M_N N.m	$I_N^{(400V)}$ A	$\cos \varphi$ 100 %	η 100 %	I_D / I_N	IM B3 kg
FLSPX 80 L	0.55	1410	3.7	1.6	0.74	69.2	4.4	15
FLSPX 80 L	0.75	1425	5	2	0.75	72.5	5.7	17
FLSPX 90 S	1.1	1429	7.5	2.5	0.83	78	4.9	19
FLSPX 90 L	1.5	1428	10	3.3	0.82	79.5	5.3	21
FLSPX 90 L	1.8	1438	12.3	4	0.82	80.1	5.9	23
FLSPX 100 LK	2.2	1457	15	4.6	0.83	83.8	6.3	41
FLSPX 100 LK	3	1454	20	6.2	0.82	84.7	6.5	44
FLSPX 112 M	4	1462	27.5	8.4	0.81	85.1	7.4	48
FLSPX 132 S	5.5	1467	37	10.9	0.84	87	8	65
FLSPX 132 M	7.5	1450	50	14.3	0.87	87	7.3	70
FLSPX 132 M	9	1449	61	16.8	0.88	87.7	7.6	75
FLSPX 160 M	11	1455	72.2	20.9	0.86	88.5	7.8	103
FLSPX 160 L	15	1455	98.5	27.9	0.86	89.5	7.8	120
FLSPX 180 MR	18.5	1465	120	35	0.86	90	7.8	135
FLSPX 180 L	22	1465	143	40.8	0.86	91.4	7.4	184
FLSPX 200 L	30	1471	195	55.7	0.85	91.9	6.5	260
FLSPX 225 ST	37	1476	240	69.6	0.82	93.6	7	290
FLSPX 225 M	45	1483	290	78.6	0.87	94.5	7	388
FLSPX 250 M	55	1479	355	101	0.84	94.5	6.5	395
FLSPX 280 S	75	1483	484	137	0.84	94.9	7.7	475
FLSPX 280 M	90	1478	581	162	0.85	95	7.6	565
FLSPX 315 ST	110	1482	710	203	0.83	94.8	7.3	850
FLSPX 315 M	132	1489	850	249	0.81	95	8	1000
FLSPX 315 LA	160	1486	1032	285	0.85	95.8	7.5	1050
FLSPX 315 LB	200	1487	1291	369	0.82	96	8	1150
FLSPX 355 LA	250	1487	1611	427	0.88	96.5	7.4	1510
FLSPX 355 LB	300	1489	1930	520	0.87	96.3	6.5	1550
FLSPX 355 LC	355	1489	2279	619	0.86	96.8	6.6	1800
FLSPX 355 LD	400	1489	2564	689	0.87	96.8	7.4	1930

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Selection

CATEGORY 2
ZONE 21

IP 65 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1



II - 2D - T_{MAX} 125 °C

4
poles
1500 min⁻¹

A

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3)		IM 3001 (IM B5)	
		Code	Qty	Code	Qty
FLSPX 80 L	0.55		-		-
FLSPX 80 L	0.75		-		-
FLSPX 90 S	1.1		-		-
FLSPX 90 L	1.5		-		-
FLSPX 90 L	1.8		-		-
FLSPX 100 LK	2.2		-		-
FLSPX 100 LK	3		-		-
FLSPX 112 M	4		-		-
FLSPX 132 S	5.5		-		-
FLSPX 132 M	7.5		-		-
FLSPX 132 M	9		-		-
FLSPX 160 M	11		-		-
FLSPX 160 L	15		-		-
FLSPX 180 MR	18.5		-		-
FLSPX 180 L	22		-		-
FLSPX 200 L	30		-		-
FLSPX 225 ST	37		-		-
FLSPX 225 M	45		-		-
FLSPX 250 M	55		-		-
FLSPX 280 S	75		-		-
FLSPX 280 M	90		-		-
FLSPX 315 ST	110		-		-
FLSPX 315 M	132		-		-
FLSPX 315 LA	160		-		-
FLSPX 315 LB	200		-		-
FLSPX 355 LA	250		-		-
FLSPX 355 LB	300		-		-
FLSPX 355 LC	355		-		-
FLSPX 355 LD	400		-		-

FLSPX

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CATEGORY 2
ZONE 21

Selection

IP 65 - 50 Hz - Class F - Δ T 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1



II - 2D - T_{MAX} 125 °C

6
poles
1000 min⁻¹

A

Type	Rated power at 50 Hz	Rated speed	Rated moment	Rated current	Power factor	Efficiency	Starting torque / Rated torque	Weight
	P_N kW	N_N min ⁻¹	M_N N.m	$I_N(400V)$ A	$\cos \varphi$ 100 %	η 100 %	I_D / I_N	IM B3 kg
FLSPX 80 L	0.25	950	2.5	0.8	0.74	60.3	3.6	14
FLSPX 80 L	0.37	940	3.7	1.2	0.74	61	3.8	15
FLSPX 80 L	0.55	955	5.5	1.8	0.67	65	4.4	16
FLSPX 90 S	0.75	940	7.5	2.1	0.80	65.2	3.5	21
FLSPX 90 L	1.1	940	11	2.7	0.81	73.5	4.8	23
FLSPX 100 LK	1.5	955	15	3.5	0.78	78.3	6.3	41
FLSPX 112 M	2.2	960	22	5.2	0.77	80	5.5	45
FLSPX 132 S	3	953	30	6.9	0.76	81.9	5.3	71
FLSPX 132 M	4	970	40	9	0.78	82.1	6.7	76
FLSPX 132 M	5.5	970	54	12.2	0.79	82.1	7.1	88
FLSPX 160 M	7.5	968	74	16	0.80	86	5	100
FLSPX 160 L	11	966	109	23	0.81	87	5	128
FLSPX 180 L	15	974	147	30	0.82	89.5	7.1	170
FLSPX 200 LA	18.5	975	181	36	0.83	90.7	7	240
FLSPX 200 LB	22	973	216	43	0.81	91.5	7	260
FLSPX 225 M	30	978	293	59	0.80	92	6	392
FLSPX 250 M	37	977	362	73	0.80	92.5	6.2	394
FLSPX 280 S	45	971	440	84	0.84	93	6	455
FLSPX 280 M	55	977	538	109	0.79	93	6.9	532
FLSPX 315 ST	75	987	731	133	0.86	94.8	6.5	850
FLSPX 315 M	90	987	875	161	0.85	95.6	6.7	1000
FLSPX 315 LA	110	983	1067	199	0.85	94.5	6	1050
FLSPX 315 LB	132	988	1280	241	0.83	95.9	7.4	1125
FLSPX 315 LB	150	986	1454	277	0.82	95.8	6.6	1125
FLSPX 355 LA	185	987	1783	346	0.81	95.8	7.5	1415
FLSPX 355 LB	220	988	2129	412	0.81	95.6	7.4	1535
FLSPX 355 LD	250	993	2406	459	0.82	95.8	7.8	1935
FLSPX 355 LD	300	992	2885	558	0.82	95.2	6.8	1935

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totally enclosed three-phase asynchronous motors

Selection

**CATEGORY 2
ZONE 21**

IP 65 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1
II - 2D - T_{MAX} 125 °C

**6
poles
1000 min⁻¹**



Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3)		IM 3001 (IM B5)	
		Code	Qty	Code	Qty
FLSPX 80 L	0.25		-		-
FLSPX 80 L	0.37		-		-
FLSPX 80 L	0.55		-		-
FLSPX 90 S	0.75		-		-
FLSPX 90 L	1.1		-		-
FLSPX 100 LK	1.5		-		-
FLSPX 112 M	2.2		-		-
FLSPX 132 S	3		-		-
FLSPX 132 M	4		-		-
FLSPX 132 M	5.5		-		-
FLSPX 160 M	7.5		-		-
FLSPX 160 L	11		-		-
FLSPX 180 L	15		-		-
FLSPX 200 LA	18.5		-		-
FLSPX 200 LB	22		-		-
FLSPX 225 M	30		-		-
FLSPX 250 M	37		-		-
FLSPX 280 S	45		-		-
FLSPX 280 M	55		-		-
FLSPX 315 ST	75		-		-
FLSPX 315 M	90		-		-
FLSPX 315 LA	110		-		-
FLSPX 315 LB	132		-		-
FLSPX 315 LB	150		-		-
FLSPX 355 LA	185		-		-
FLSPX 355 LB	220		-		-
FLSPX 355 LD	250		-		-
FLSPX 355 LD	300		-		-

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Selection

CATEGORY 2
ZONE 21

IP 65 - 50 Hz - Class F - Δ T 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1



II - 2D - T_{MAX} 125 °C

8
poles
750 min⁻¹

Type	Rated power at 50 Hz	Rated speed	Rated moment	Rated current	Power factor	Efficiency	Starting torque / Rated torque	Weight
	P_N kW	N_N min ⁻¹	M_N N.m	$I_N(400V)$ A	cos φ 100 %	η 100 %	I_D / I_N	IM B3 kg
FLSPX 80 L	0.18	710	2.5	0.8	0.64	52.3	3	14
FLSPX 80 L	0.25	720	3.4	1.1	0.60	54.5	3.2	16
FLSPX 90 S	0.37	685	5	1.2	0.71	64	3.5	21
FLSPX 90 L	0.55	695	7.5	1.7	0.72	63	3.3	23
FLSPX 100 LK	0.75	720	10	2.3	0.68	70.9	4.1	41
FLSPX 100 LK	1.1	720	15	3.8	0.62	68	4.1	43
FLSPX 112 M	1.5	725	20	4.8	0.63	72.5	4	45
FLSPX 132 S	2.2	715	30	7.2	0.60	74	3.2	71
FLSPX 132 M	3	705	40	9.1	0.63	76	3.1	81
FLSPX 160 MA	4	710	54	11.3	0.63	81.5	3.8	105
FLSPX 160 MB	5.5	710	74	15	0.65	82	3.8	111
FLSPX 160 L	7.5	715	100	20	0.65	83	3.8	128
FLSPX 180 L	11	724	147	27	0.70	85.1	3.9	175
FLSPX 200 L	15	729	196	34	0.72	88.1	5	265
FLSPX 225 ST	18.5	727	242	41	0.73	89	5	285
FLSPX 225 M	22	732	288	48	0.72	92.1	5.9	388
FLSPX 250 M	30	729	393	61	0.78	91.2	6.2	393
FLSPX 280 S	37	723	487	75	0.78	92	4.5	472
FLSPX 280 M	45	730	592	102	0.70	91.7	6	563
FLSPX 315 ST	55	738	715	102	0.83	94.2	7.4	850
FLSPX 315 M	75	743	972	147	0.78	94.8	7.4	1000
FLSPX 315 LA	90	742	1169	177	0.78	94.7	6.7	1030
FLSPX 315 LB	110	742	1420	222	0.76	94.8	7.2	1125
FLSPX 355 LA	132	741	1704	258	0.78	95.3	6.7	1415
FLSPX 355 LB	160	741	2065	312	0.78	95.3	6.9	1535
FLSPX 355 LD	200	741	2581	364	0.84	95	6.7	1935

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Selection

**CATEGORY 2
ZONE 21**

IP 65 - 50 Hz - Class F - Δ T 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1



II - 2D - T_{MAX} 125 °C

**8
poles
750 min⁻¹**

A

Type	Rated power at 50 Hz P_N kW	IM 1001 (IM B3)		IM 3001 (IM B5)	
		Code	Qty	Code	Qty
FLSPX 80 L	0.18		-		-
FLSPX 80 L	0.25		-		-
FLSPX 90 S	0.37		-		-
FLSPX 90 L	0.55		-		-
FLSPX 100 LK	0.75		-		-
FLSPX 100 LK	1.1		-		-
FLSPX 112 M	1.5		-		-
FLSPX 132 S	2.2		-		-
FLSPX 132 M	3		-		-
FLSPX 160 MA	4		-		-
FLSPX 160 MB	5.5		-		-
FLSPX 160 L	7.5		-		-
FLSPX 180 L	11		-		-
FLSPX 200 L	15		-		-
FLSPX 225 ST	18.5		-		-
FLSPX 225 M	22		-		-
FLSPX 250 M	30		-		-
FLSPX 280 S	37		-		-
FLSPX 280 M	45		-		-
FLSPX 315 ST	55		-		-
FLSPX 315 M	75		-		-
FLSPX 315 LA	90		-		-
FLSPX 315 LB	110		-		-
FLSPX 355 LA	132		-		-
FLSPX 355 LB	160		-		-
FLSPX 355 LD	200		-		-

FLSPX

Atmospheres containing explosive dust



totally enclosed three-phase asynchronous motors

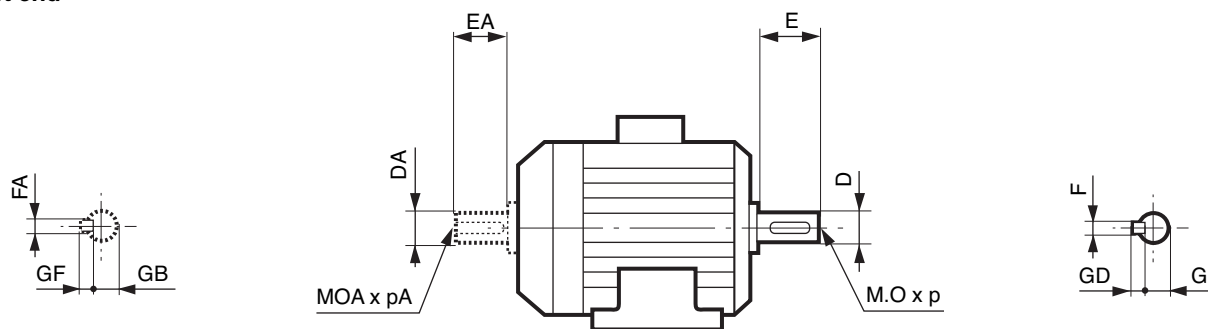
**CATEGORY 2
ZONE 21**

Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65
Cage rotor

Dimensions in millimetres

– shaft end



Main shaft end

Type	4, 6 and 8 poles							2 poles						
	F	GD	D	G	E	O	p	F	GD	D	G	E	O	p
FLSPX 80 L	6	6	19j6	15.5	40	6	16	6	6	19j6	15.5	40	6	16
FLSPX 90 S/L	8	7	24j6	20	50	8	19	8	7	24j6	20	50	8	19
FLSPX 100 LK	8	7	28j6	24	60	10	22	8	7	28j6	24	60	10	22
FLSPX 112 M	8	7	28j6	24	60	10	22	8	7	28j6	24	60	10	22
FLSPX 132 S/M/MR	10	8	38k6	33	80	12	28	10	8	38k6	33	80	12	28
FLSPX 160 M/L	12	8	42k6	37	110	16	36	12	8	42k6	37	110	16	36
FLSPX 180 MR/L	14	9	48k6	42.5	110	16	36	14	9	48k6	42.5	110	16	36
FLSPX 200 L	16	10	55m6	49	110	20	42	16	10	55m6	49	110	20	42
FLSPX 225 ST/MT/M	18	11	60m6	53	140	20	42	16	10	55m6	49	110	20	42
FLSPX 250 M	18	11	65m6	58	140	20	42	18	11	60m6	53	140	20	42
FLSPX 280 S/M	20	12	75m6	67.5	140	20	42	18	11	65m6	58	140	20	42
FLSPX 315 ST	22	14	80m6	71	170	20	42	18	11	65m6	58	140	20	42
FLSPX 315 M	22	14	80m6	71	170	20	42	18	11	65m6	58	140	20	42
FLSPX 315 L	25	14	90m6	81	170	24	50	20	12	70m6	62.5	140	20	42
FLSPX 355 L	28	16	100m6	90	210	24	50	22	14	80m6	71	170	20	42

Secondary shaft end

Type	4, 6 and 8 poles							2 poles						
	FA	GF	DA	GB	EA	OA	pA	FA	GF	DA	GB	EA	OA	pA
FLSPX 80 L	5	5	14j6	11	30	5	15	5	5	14j6	11	30	5	15
FLSPX 90 S/L	6	6	19j6	15.5	40	6	16	6	6	19j6	15.5	40	6	16
FLSPX 100 LK	8	7	24j6	20	50	8	19	8	7	24j6	20	50	8	19
FLSPX 112 M	8	7	24j6	20	50	8	19	8	7	24j6	20	50	8	19
FLSPX 132 S/M/MR	8	7	28j6	24	60	10	22	8	7	28j6	24	60	10	22
FLSPX 160 M/L	12	8	42k6	37	110	16	36	12	8	42k6	37	110	16	36
FLSPX 180 MR/L	14	9	48k6	42.5	110	16	36	14	9	48k6	42.5	110	16	36
FLSPX 200 L	16	10	55m6	49	110	20	42	16	10	55m6	49	110	20	42
FLSPX 225 ST/MT/M	18	11	60m6	53	140	20	42	16	10	55m6	49	110	20	42
FLSPX 250 M	18	11	60m6	53	140	20	42	18	11	60m6	53	140	20	42
FLSPX 280 S/M	20	12	60m6	53	140	20	42	18	11	65m6	58	140	20	42
FLSPX 315 ST	22	14	80m6	71	170	20	42	18	11	65m6	58	140	20	42
FLSPX 315 M	22	14	80m6	71	170	20	42	18	11	65m6	58	140	20	42
FLSPX 315 L	25	14	90m6	81	170	24	50	20	12	70m6	62.5	140	20	42
FLSPX 355 L/LK	28	16	100m6	90	210	24	50	22	14	80m6	71	170	20	42

FLSPX

Atmospheres containing explosive dust



totally enclosed three-phase asynchronous motors

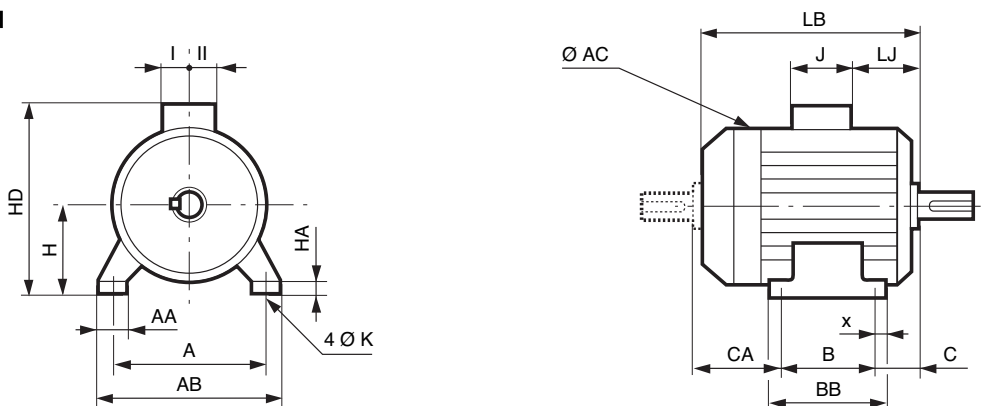
**CATEGORY 2
ZONE 21**

Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65 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	CA
FLSPX 80 L	125	157	100	130	50	20	32	9	10	80	160	222	214	11	187	63.5	63.5	68
FLSPX 90 S	140	172	100	160	56	22	34	10	11	90	185	247	243	15.5	187	63.5	63.5	93
FLSPX 90 L	140	172	125	160	56	22	34	10	11	90	185	247	243	15.5	187	63.5	63.5	68
FLSPX 100 LK	160	200	140	174	63	22	42	12	12	100	226	276	323	38	187	63.5	63.5	125
FLSPX 112 M	190	230	140	174	70	22	45	12	12	112	226	288	323	38	187	63.5	63.5	119
FLSPX 132 S	216	255	140	223	89	31	58	12	15	132	264	323	387	46	114	57	57	164
FLSPX 132 M	216	255	178	223	89	31	58	12	15	132	264	323	387	46	114	57	57	126
FLSPX 132 MR	216	255	178	223	89	31	58	12	15	132	264	323	387	46	114	57	57	126
FLSPX 160 MA	254	294	254	294	108	20	65	14	24	160	310	385	495	55	160	80	80	138
FLSPX 160 MB	254	294	254	294	108	20	65	14	24	160	310	385	495	50	160	80	80	138
FLSPX 160 L	254	294	254	294	108	20	65	14	24	160	310	385	495	50	160	80	80	138
FLSPX 160 M	254	294	210	294	108	20	65	14	24	160	310	385	495	55	160	80	80	182
FLSPX 180 MR	279	324	241	295	121	25	80	14	28	180	310	405	515	50	160	80	80	158
FLSPX 180 L	279	330	279	335	121	28	70	14	28	180	350	468	555	55	220	128	128	160
FLSPX 200 LA	318	374	305	361	133	28	80	18	50	200	394	515	681	65	220	128	128	248
FLSPX 200 LB	318	374	305	361	133	28	80	18	50	200	394	515	681	65	220	128	128	248
FLSPX 200 L	318	374	305	361	133	28	80	18	50	200	394	515	681	65	220	128	128	248
FLSPX 225 MT	356	420	311	367	149	28	100	18	35	225	394	540	681	65	220	128	128	226
FLSPX 225 ST	356	420	286	367	149	28	100	18	35	225	394	540	681	65	220	128	128	251
FLSPX 225 M	356	426	311	375	149	32	80	18	27	225	540	656	780	70	352	173	210	326
FLSPX 250 M	406	476	349	413	168	32	80	22	27	250	540	681	780	70	352	173	210	269
FLSPX 280 S	457	527	368	432	190	32	80	22	27	280	540	711	860	70	352	173	210	308
FLSPX 280 M	457	527	419	483	190	32	80	22	27	280	540	711	960	70	352	173	210	357
FLSPX 315 ST	508	598	406	547	216	45	90	27	45	315	556	761	1068	68	352	173	210	452
FLSPX 315 M	508	600	457	598	216	45	100	27	45	315	624	835	1203	70	452	217	269	536
FLSPX 315 LA	508	600	508	598	216	45	100	27	45	315	624	835	1203	70	452	217	269	485
FLSPX 315 LB	508	600	508	598	216	45	100	27	45	315	624	835	1203	70	452	217	269	485
FLSPX 355 LA	610	710	630	710	254	40	110	27	35	355	700	910	1305	61	452	217	269	427
FLSPX 355 LB	610	710	630	710	254	40	110	27	35	355	700	910	1305	61	452	217	269	427
FLSPX 355 LC	610	710	630	710	254	40	110	27	35	355	700	910	1430	61	452	217	269	552
FLSPX 355 LD	610	710	630	710	254	40	110	27	35	355	700	910	1430	61	452	217	269	552

FLSPX

Atmospheres containing explosive dust



totally enclosed three-phase asynchronous motors

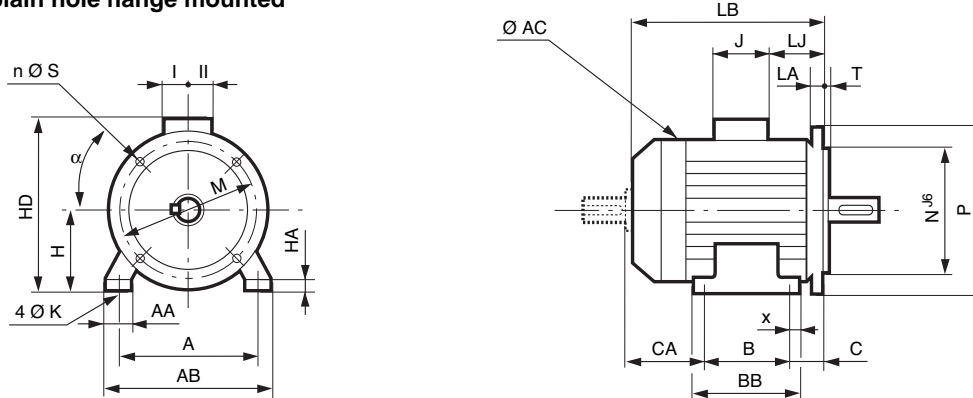
**CATEGORY 2
ZONE 21**

Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65 Cage rotor

Dimensions in millimetres

– (FF) foot and plain hole flange mounted



Main dimensions

Type	A	AB	B	BB	C	x	AA	K	HA	H	AC	HD	LB	LJ	J	I	II	Sym.
FLSPX 80 L	125	157	100	130	50	20	32	9	10	80	160	222	214	11	187	63.5	68	FF165
FLSPX 90 S	140	172	100	160	56	22	34	10	11	90	185	247	263	35.5	187	63.5	93	FF165
FLSPX 90 L	140	172	125	160	56	22	34	10	11	90	185	247	263	35.5	187	63.5	68	FF165
FLSPX 100 LK	160	200	140	174	63	22	42	12	12	100	226	276	323	38	187	63.5	125	FF215
FLSPX 112 M	190	230	140	174	70	22	45	12	12	112	226	288	323	38	187	63.5	119	FF215
FLSPX 132 S	216	255	140	223	89	31	58	12	15	132	264	323	387	46	114	57	164	FF265
FLSPX 132 M	216	255	178	223	89	31	58	12	15	132	264	323	387	46	114	57	126	FF265
FLSPX 132 MR	216	255	178	223	89	31	58	12	15	132	264	323	387	46	114	57	126	FF265
FLSPX 160 MA	254	294	254	294	108	20	65	14	24	160	310	385	495	55	160	80	138	FF300
FLSPX 160 MB	254	294	254	294	108	20	65	14	24	160	310	385	495	50	160	80	138	FF300
FLSPX 160 L	254	294	254	294	108	20	65	14	24	160	310	385	495	50	160	80	138	FF300
FLSPX 160 M	254	294	210	294	108	20	65	14	24	160	310	385	495	55	160	80	182	FF300
FLSPX 180 MR	279	324	241	295	121	25	80	14	28	180	310	405	515	50	160	80	158	FF300
FLSPX 180 L	279	330	279	335	121	28	70	14	28	180	350	468	555	55	220	128	160	FF300
FLSPX 200 LA	318	374	305	361	133	28	80	18	50	200	394	515	681	65	220	128	248	FF350
FLSPX 200 LB	318	374	305	361	133	28	80	18	50	200	394	515	681	65	220	128	248	FF350
FLSPX 200 L	318	374	305	361	133	28	80	18	50	200	394	515	681	65	220	128	248	FF350
FLSPX 225 MT	356	420	311	367	149	28	100	18	35	225	394	540	681	65	220	128	226	FF400
FLSPX 225 ST	356	420	286	367	149	28	100	18	35	225	394	540	681	65	220	128	251	FF400
FLSPX 225 M	356	426	311	375	149	32	80	18	27	225	540	656	780	70	352	173	326	FF400
FLSPX 250 M	406	476	349	413	168	32	80	22	27	250	540	681	780	70	352	173	269	FF500
FLSPX 280 S	457	527	368	432	190	32	80	22	27	280	540	711	860	70	352	173	308	FF500
FLSPX 280 M	457	527	419	483	190	32	80	22	27	280	540	711	960	70	352	173	357	FF500
FLSPX 315 ST	508	598	406	547	216	45	90	27	45	315	556	761	1068	68	352	173	452	FF600
FLSPX 315 M	508	600	457	598	216	45	100	27	45	315	624	835	1203	70	452	217	536	FF600
FLSPX 315 LA	508	600	508	598	216	45	100	27	45	315	624	835	1203	70	452	217	485	FF600
FLSPX 315 LB	508	600	508	598	216	45	100	27	45	315	624	835	1203	70	452	217	485	FF600
FLSPX 355 LA	610	710	630	710	254	40	110	27	35	355	700	910	1305	61	452	217	427	FF740
FLSPX 355 LB	610	710	630	710	254	40	110	27	35	355	700	910	1305	61	452	217	427	FF740
FLSPX 355 LC	610	710	630	710	254	40	110	27	35	355	700	910	1430	61	452	217	552	FF740
FLSPX 355 LD	610	710	630	710	254	40	110	27	35	355	700	910	1430	61	452	217	552	FF740

CA dimension and shaft end dimensions identical to those of foot mounted motors.

FLSPX

Atmospheres containing explosive dust



totally enclosed three-phase asynchronous motors

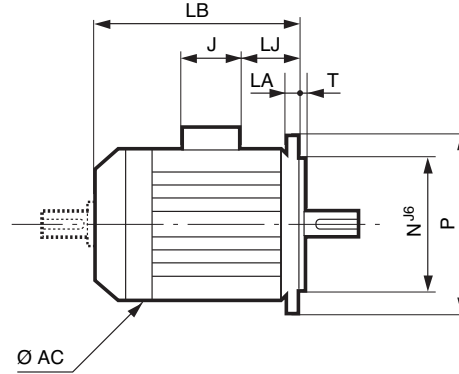
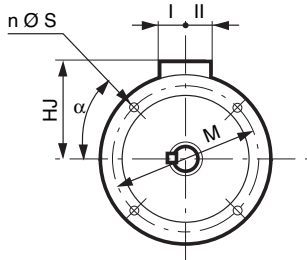
**CATEGORY 2
ZONE 21**

Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65 Cage rotor

Dimensions in millimetres

– (FF) plain hole flange mounted



IEC symbol	Flange dimensions						
	M	N	P	T	n	S	LA
FF 165	165	130	200	3.5	4	12	10
FF 165	165	130	200	3.5	4	12	10
FF 165	165	130	200	3.5	4	12	10
FF 215	215	180	250	4	4	15	12
FF 215	215	180	250	4	4	15	12
FF 265	265	230	300	4	4	15	14
FF 265	265	230	300	4	4	15	14
FF 265	265	230	300	4	4	15	14
FF 300	300	250	350	5	4	18	15
FF 300	300	250	350	5	4	18	15
FF 300	300	250	350	5	4	18	15
FF 300	300	250	350	5	4	18	15
FF 300	300	250	350	5	4	18	15
FF 300	300	250	350	5	4	18	15
FF 350	350	300	400	5	4	18	15
FF 350	350	300	400	5	4	18	15
FF 350	350	300	400	5	4	18	15
FF 400	400	350	450	5	8	18	16
FF 400	400	350	450	5	8	18	16
FF 400	400	350	450	5	8	18	16
FF 500	500	450	550	5	8	18	18
FF 500	500	450	550	5	8	18	18
FF 500	500	450	550	5	8	18	18
FF 600	600	550	660	6	8	22	25
FF 600	600	550	660	6	8	22	25
FF 600	600	550	660	6	8	22	25
FF 600	600	550	660	6	8	22	25
FF 740	740	680	800	6	8	22	25
FF 740	740	680	800	6	8	22	25
FF 740	740	680	800	6	8	22	25
FF 740	740	680	800	6	8	22	25

Type	Main dimensions						
	AC	LB	HJ	LJ	J	I	II
FLSPX 80 L	160	214	159.5	11	187	63.5	63.5
FLSPX 90 L	185	263	171	35.5	187	63.5	63.5
FLSPX 90 S	185	263	171	35.5	187	63.5	63.5
FLSPX 100 LK	226	323	194.5	38	187	63.5	63.5
FLSPX 112 M	226	323	194.5	38	187	63.5	63.5
FLSPX 132 M	264	387	191	46	114	57	57
FLSPX 132 MR	264	387	191	46	114	57	57
FLSPX 132 S	264	387	191	46	114	57	57
FLSPX 160 L	310	495	225	50	160	80	80
FLSPX 160 M	310	495	225	55	160	80	80
FLSPX 160 MA	310	495	225	55	160	80	80
FLSPX 160 MB	310	495	225	50	160	80	80
FLSPX 180 L	350	555	280	55	220	128	128
FLSPX 180 MR	310	515	225	50	160	80	80
FLSPX 200 L	394	681	315	65	220	128	128
FLSPX 200 LA	394	681	315	65	220	128	128
FLSPX 200 LB	394	681	315	65	220	128	128
FLSPX 225 M	540	780	431	70	352	173	210
FLSPX 225 MT	394	681	315	65	220	128	128
FLSPX 225 ST	394	681	315	65	220	128	128
FLSPX 250 M	540	780	431	70	352	173	210
FLSPX 280 M	540	960	431	70	352	173	210
FLSPX 280 S	540	860	431	70	352	173	210
FLSPX 315 LA	624	1203	520	70	452	217	269
FLSPX 315 LB	624	1203	520	70	452	217	269
FLSPX 315 M	624	1203	520	70	452	217	269
FLSPX 315 ST	556	1068	446	68	352	173	210
FLSPX 355 LA	700	1305	555	61	452	217	269
FLSPX 355 LB	700	1305	555	61	452	217	269
FLSPX 355 LC	700	1430	555	61	452	217	269
FLSPX 355 LD	700	1430	555	61	452	217	269

Shaft end dimensions identical to those of the foot mounted motors.

FLSPX

Atmospheres containing explosive dust



totally enclosed three-phase asynchronous motors

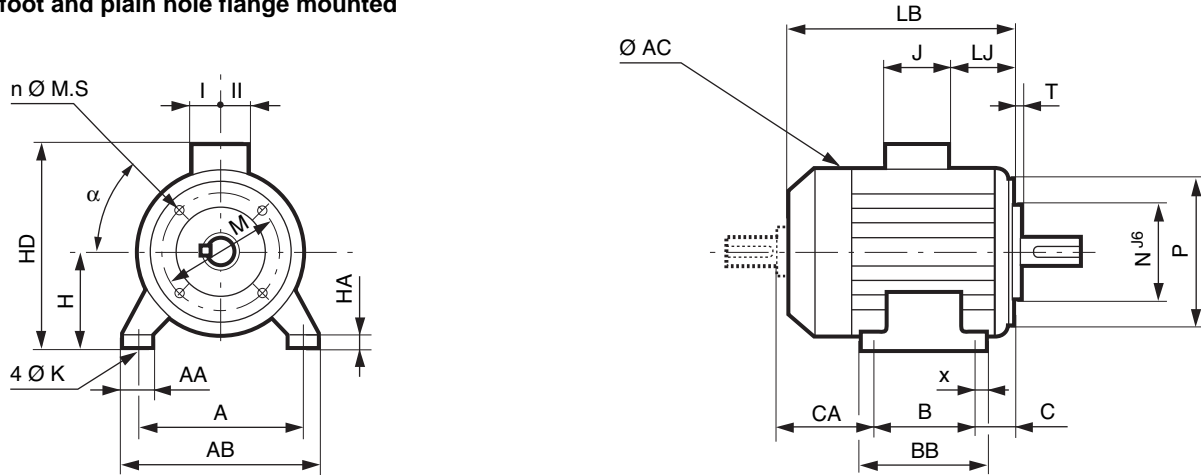
**CATEGORY 2
ZONE 21**

Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65
Cage rotor

Dimensions in millimetres

– (FT) foot and plain hole flange mounted



Main dimensions

Type	A	AB	B	BB	C	x	AA	K	HA	H	AC	HD	LB	LJ	J	I	II	Sym.
FLSPX 80 L	125	157	100	130	50	20	32	9	10	80	160	222	214	11	187	63.5	63.5	FT100
FLSPX 90 S	140	172	100	160	56	22	34	10	11	90	185	247	243	15.5	187	63.5	63.5	FT115
FLSPX 90 L	140	172	125	160	56	22	34	10	11	90	185	247	243	15.5	187	63.5	63.5	FT115
FLSPX 100 LK	160	200	140	174	63	22	42	12	12	100	226	276	323	38	187	63.5	63.5	FT130
FLSPX 112 M	190	230	140	174	70	22	45	12	12	112	226	288	323	38	187	63.5	63.5	FT130
FLSPX 132 S	216	255	140	223	89	31	58	12	15	132	264	323	387	46	114	57	57	FT215
FLSPX 132 M	216	255	178	223	89	31	58	12	15	132	264	323	387	46	114	57	57	FT215
FLSPX 132 MR	216	255	178	223	89	31	58	12	15	132	264	323	387	46	114	57	57	FT215

CA dimension and shaft end dimensions identical to those of foot mounted motors.

FLSPX

Atmospheres containing explosive dust



totally enclosed three-phase asynchronous motors

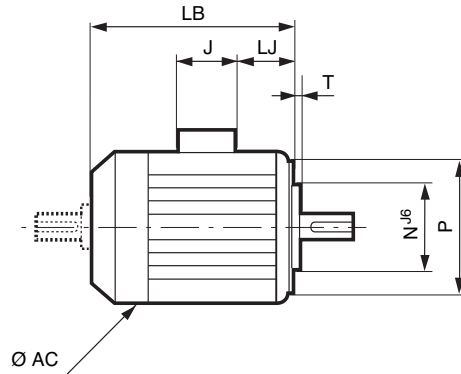
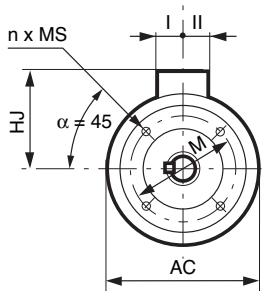
**CATEGORY 2
ZONE 21**

Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65
Cage rotor

Dimensions in millimetres

– (FT) plain hole flange mounted



IEC symbol	Flange dimensions					
	M	N	P	T	n	MS
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 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

Type	Main dimensions						
	AC	LB	HJ	LJ	J	I	II
FLSPX 80 L	160	214	142	11	187	63.5	63.5
FLSPX 90 L	185	243	157	15.5	187	63.5	63.5
FLSPX 90 S	185	243	157	15.5	187	63.5	63.5
FLSPX 100 LK	226	323	176	38	187	63.5	63.5
FLSPX 112 M	226	323	176	38	187	63.5	63.5
FLSPX 132 M	264	387	191	46	114	57	57
FLSPX 132 MR	264	387	191	46	114	57	57
FLSPX 132 S	264	387	191	46	114	57	57

Shaft end dimensions identical to those of foot mounted motors.

