

# LSN

## Atmospheres containing explosive GAS



### totally enclosed three-phase asynchronous motors

**CATEGORY 3  
ZONE 2**

## General information



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

**Non-sparking totally enclosed three-phase asynchronous motors**, LSN series, according to IEC 60034, 60072, EN 50019 and 50021.

- Single speed : power 0.75 to 75 kW<sup>1</sup>, frame size 80 to 250 mm, 2, 4, 6, 8 poles; 230/400 V or 400 V Δ, 50 Hz.
- Two speed : on request.

**IP 55 protection**  
(or IP 65 for GD application)

**Motors for variable speed operation :**

- fitted with thermal probes in winding (obligatory) and bearing probes for frame sizes ≥ 160 mm ;
- on consultation (for selection).

**Finish : aluminium casing**

Assembled with protected screws.  
Finishing paint **RAL 2004 (orange)**.  
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.

1. Other powers : consult us.



## Description of the LSN aluminium three-phase motors



**II 3G EEx nA II T3 (T125)**

Component	Materials	Remarks
Finned housing	Aluminium alloy	- with bolt-on or cast foot, or without foot <ul style="list-style-type: none"> <li>• 4 or 6 mounting holes for the foot housings</li> <li>• lifting rings</li> </ul> - earth terminal
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	- inclined slots - squirrel cage pressure die cast in aluminium (or alloy for special applications) - keyed or mounted on shaft by heat shrinking - dynamically balanced rotor class N - 1/2 key
Shaft	Steel	- for frame size < 132 : <ul style="list-style-type: none"> <li>• shaft end fitted with screw and washer</li> <li>• closed keyway</li> </ul> - for frame size ≥ 132 : <ul style="list-style-type: none"> <li>• tapped centre hole</li> <li>• open key</li> </ul>
End shields	Aluminium alloy Cast iron	- frame size 80 - 90 rear - frame size 80 - 90 front (optional for 80 and 90 rear) - frame size ≥ 100
Bearings		- ball bearings - rear preloaded bearings
Labyrinth seals Lipseals	Technopolymer or steel Synthetic rubber	- lipseals sealing - front or rear jet deflector or labyrinth seals
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	Aluminium alloy	- IP 55 or IP 65 for «GD» application - rotatable, opposite position to the foot - fitted with <b>6 stud safety certified terminal board EEx e</b> - supplied fitted with <b>EEx e safety certified fitted cable glands (type CMDEL)</b> - 1 earth terminal in all terminal boxes (2 from LSN 160)

# LSN

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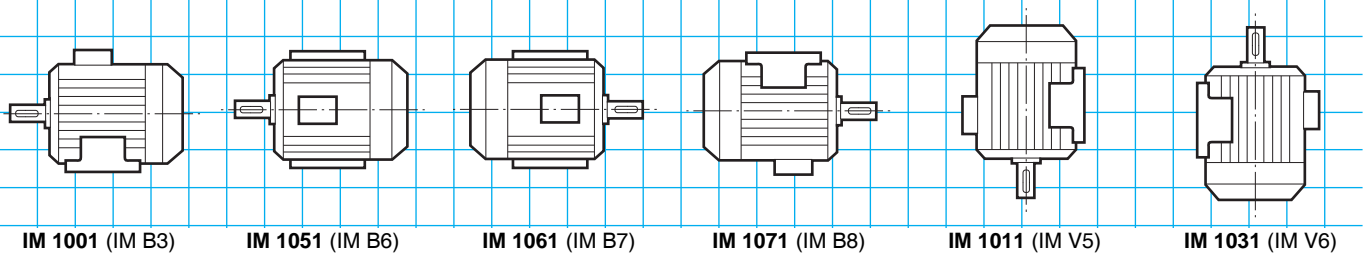


## totally enclosed three-phase asynchronous motors

**CATEGORY 3  
ZONE 2**

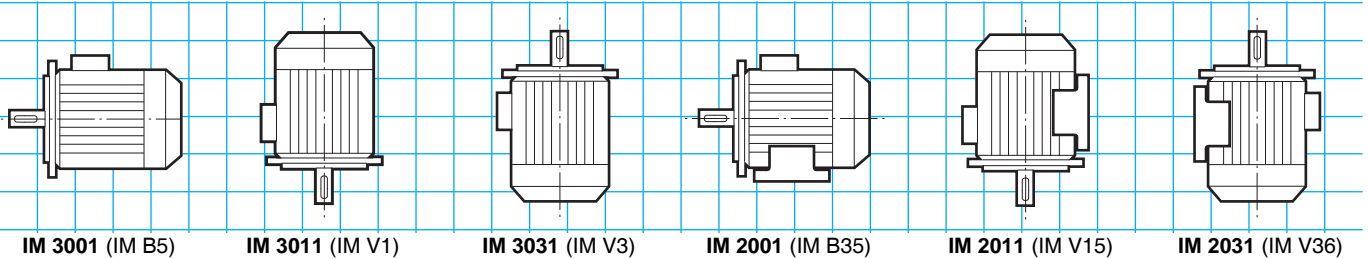
### Mounting positions

#### Foot mounted motors



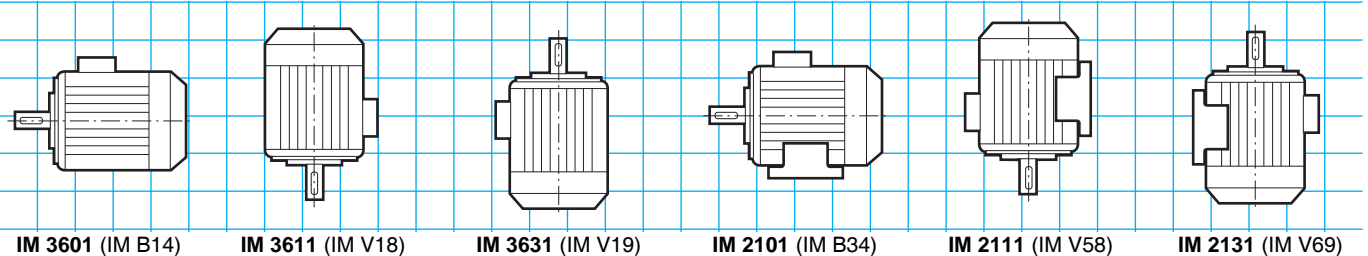
#### (FF) plain hole flange mounted motors

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

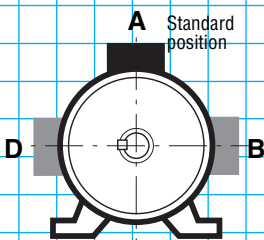


#### (FT) tapped hole flange mounted motors

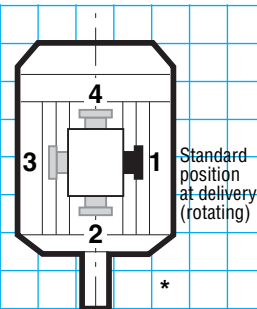
- Possible positions up to 132 frame size inclusive



#### Terminal box position in relation to the motor shaft end



#### Cable gland position in relation to the motor shaft end



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

# LSN

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## Adaptation possibilities

Leroy-Somer offers, for use with the LSN 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 LSN three-phase motors may be associated to :

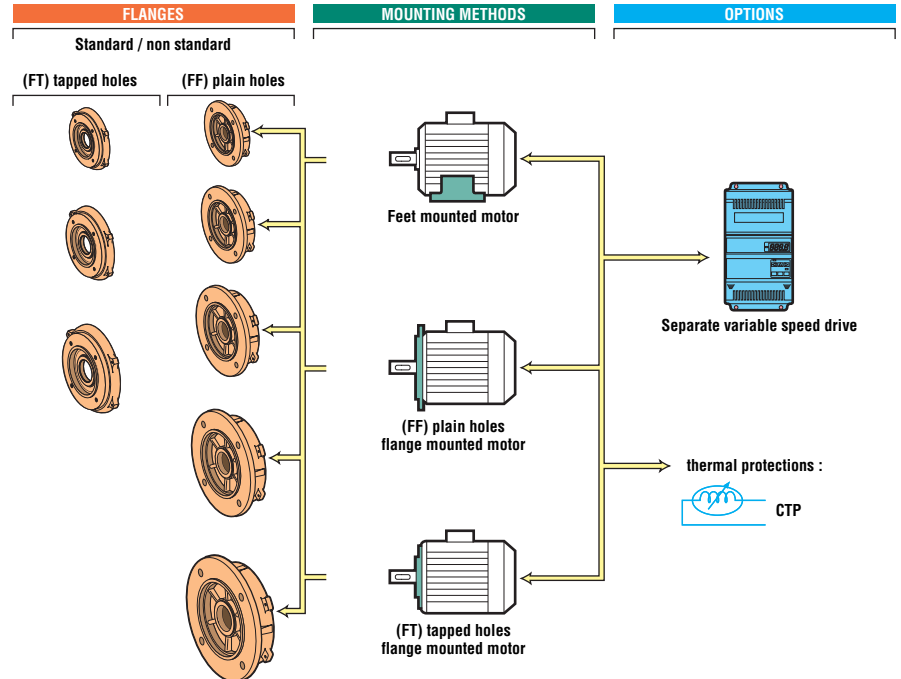
- gearboxes
- electronic variable speed drives (1)

The options (2) :

- thermal protection
- non standard flanges

(1) Conforming to the regulations of use as indicated by the standard IEC 34-17.

(2) Other options : consult us.



## Designation / Codification

ATEX II 3G T1... T3	4P 1500 min <sup>-1</sup>	LSN	180	MT	18.5 kW	IM 1001 (IM B3)	400 V Δ	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 :

LSN three-phase motor, 1500 min<sup>-1</sup>, 18.5 kW  
IM 1001 (IM B3), 400 V

Designation

4P LS 180 MT 18.5 kW  
IM 1001 (IM B3) 400 V

Code

-

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.

# LSN

## Atmospheres containing explosive GAS



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## Selection

**CATEGORY 3  
ZONE 2**

IP 55 - 50 Hz - Class F -  $\Delta$ T 80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$ - S1  
 II - 3G - EEx nA II T3

**2  
poles  
3000 min<sup>-1</sup>**

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 <sup>-1</sup>	$M_N$ N.m	$I_N(400V)$ A	$\cos \varphi$ 100 %	$\eta$ 100 %	$I_D / I_N$	IM B3 kg
LSN 80 L	0.75	2840	2.5	1.64	0.87	76	5.9	8.2
LSN 80 L	1.1	2837	3.7	2.4	0.84	78	5.8	9.7
LSN 80 L	1.5	2859	5	3.2	0.83	80.3	7	11.3
LSN 90 S	1.5	2870	5	3.4	0.81	79.6	8	12
LSN 90 L	1.8	2865	6	3.6	0.86	83.1	8	14
LSN 90 L	2.2	2862	7.4	4.3	0.88	83.6	7.7	16
LSN 100 L	3	2868	10	6.3	0.81	83.9	7.5	20
LSN 112 M	4	2877	13.5	7.9	0.85	86	7.8	24.4
LSN 112 MG	5.5	2916	18.1	10.5	0.88	86.6	9	33
LSN 132 S	5.5	2916	18.1	10.5	0.88	86.6	9	34.4
LSN 132 S	7.5	2905	24.5	14.7	0.85	86.5	8.7	39
LSN 132 M	9	2910	29.6	17.3	0.85	88.1	8.6	49
LSN 132 M	11	2944	36	20.7	0.86	89.4	7.5	54
LSN 160 MP	11	2944	36	20.7	0.86	89.4	7.5	62
LSN 160 MP	15	2935	48.8	28.4	0.85	90	8.1	72
LSN 160 L	18.5	2934	60.2	33.7	0.87	91	8	88
LSN 180 MT	22	2938	71.5	39.9	0.87	91.5	8.1	99
LSN 200 LT	30	2946	97.2	52.1	0.9	92.4	8.6	154
LSN 200 L	37	2950	120	64.6	0.89	92.9	7.4	180

IP 55 - 50 Hz - Class F -  $\Delta$ T 80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$ - S1  
 II - 3G - EEx nA II T3

**4  
poles  
1500 min<sup>-1</sup>**

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 <sup>-1</sup>	$M_N$ N.m	$I_N(400V)$ A	$\cos \varphi$ 100 %	$\eta$ 100 %	$I_D / I_N$	IM B3 kg
LSN 80 L	0.55	1410	3.8	1.42	0.76	73.4	4.5	8.2
LSN 80 L	0.75	1400	5.1	2.01	0.77	70	4.5	9.3
LSN 80 L	0.9	1425	6	2.44	0.73	73	5.8	10.9
LSN 90 S	1.1	1429	7.4	2.5	0.84	76.8	4.8	11.5
LSN 90 L	1.5	1428	10	3.4	0.82	78.5	5.3	13.5
LSN 90 L	1.8	1438	12	4	0.82	80.1	6	15.2
LSN 100 L	2.2	1436	14.7	4.8	0.81	81	5.9	20
LSN 100 L	3	1437	20.1	6.5	0.81	82.6	6	22.5
LSN 112 M	4	1438	26.8	8.3	0.83	84.2	7.1	24.9
LSN 132 S	5.5	1447	36.7	11.1	0.83	85.7	6.3	36.5
LSN 132 M	7.5	1451	49.4	15.2	0.82	87	7	54.7
LSN 132 M	9	1455	59.3	18.1	0.82	87.7	6.9	59.9
LSN 160 MP	11	1454	72.2	21	0.86	88.4	7.7	70
LSN 160 LR	15	1453	98	28.8	0.84	89.4	7.5	86
LSN 180 MT	18.5	1456	121	35.2	0.84	90.3	7.6	100
LSN 180 LR	22	1456	144	41.7	0.84	90.7	7.9	112
LSN 200 LT	30	1460	196	56.3	0.84	91.5	6.6	165
LSN 225 ST	37	1468	241	68.7	0.84	92.5	6.3	205

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IP 55 - 50 Hz - Class F -  $\Delta$ T 80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
 II - 3G - EEx nA II T3

**2  
poles  
3000 min<sup>-1</sup>**

**A**

Type	Rated power at 50 Hz $P_N$ kW	IM 1001 (IM B3)		IM 3001 (IM B5)		IM 2001 (IM B35)		IM 3601 (IM B14)		IM 2101 (IM B34)	
		Code	Qty	Code	Qty	Code	Qty	Code	Qty	Code	Qty
LSN 80 L	0.75		-		-		-		-		-
LSN 80 L	1.1		-		-		-		-		-
LSN 80 L	1.5		-		-		-		-		-
LSN 90 S	1.5		-		-		-		-		-
LSN 90 L	1.8		-		-		-		-		-
LSN 90 L	2.2		-		-		-		-		-
LSN 100 L	3		-		-		-		-		-
LSN 112 M	4		-		-		-		-		-
LSN 112 MG	5.5		-		-		-		-		-
LSN 132 S	5.5		-		-		-		-		-
LSN 132 S	7.5		-		-		-		-		-
LSN 132 M	9		-		-		-		-		-
LSN 132 M	11		-		-		-		-		-
LSN 160 MP	11		-		-		-		-		-
LSN 160 MP	15		-		-		-		-		-
LSN 160 L	18.5		-		-		-		-		-
LSN 180 MT	22		-		-		-		-		-
LSN 200 LT	30		-		-		-		-		-
LSN 200 L	37		-		-		-		-		-

IP 55 - 50 Hz - Class F -  $\Delta$ T 80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
 II - 3G - EEx nA II T3

**4  
poles  
1500 min<sup>-1</sup>**

Type	Rated power at 50 Hz $P_N$ kW	IM 1001 (IM B3)		IM 3001 (IM B5)		IM 2001 (IM B35)		IM 3601 (IM B14)		IM 2101 (IM B34)	
		Code	Qty	Code	Qty	Code	Qty	Code	Qty	Code	Qty
LSN 80 L	0.55		-		-		-		-		-
LSN 80 L	0.75		-		-		-		-		-
LSN 80 L	0.9		-		-		-		-		-
LSN 90 S	1.1		-		-		-		-		-
LSN 90 L	1.5		-		-		-		-		-
LSN 90 L	1.8		-		-		-		-		-
LSN 100 L	2.2		-		-		-		-		-
LSN 100 L	3		-		-		-		-		-
LSN 112 M	4		-		-		-		-		-
LSN 132 S	5.5		-		-		-		-		-
LSN 132 M	7.5		-		-		-		-		-
LSN 132 M	9		-		-		-		-		-
LSN 160 MP	11		-		-		-		-		-
LSN 160 LR	15		-		-		-		-		-
LSN 180 MT	18.5		-		-		-		-		-
LSN 180 LR	22		-		-		-		-		-
LSN 200 LT	30		-		-		-		-		-
LSN 225 ST	37		-		-		-		-		-

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**CATEGORY 3  
ZONE 2**

## Selection

IP 55 - 50 Hz - Class F -  $\Delta T 80 K$  - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
 II - 3G - EEx nA II T3

**6  
poles  
1000 min<sup>-1</sup>**

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 <sup>-1</sup>	$M_N$ N.m	$I_N(400V)$ A	$\cos \varphi$ 100 %	$\eta$ 100 %	$I_D / I_N$	IM B3 kg
LSN 80 L	0.25	955	2.5	0.85	0.67	63.1	3.9	8.4
LSN 80 L	0.37	950	3.7	1.1	0.72	66	4.3	9.7
LSN 80 L	0.55	950	5.5	1.8	0.64	68	4.9	11
LSN 90 S	0.75	930	7.7	2.1	0.77	68.5	4.2	13.5
LSN 90 L	1.1	915	11.5	3	0.76	70	4.7	15.2
LSN 100 L	1.5	905	15.8	4.2	0.74	69	4.5	20
LSN 112 M	2.2	905	23.2	5.8	0.76	72	5.6	24.2
LSN 132 S	3	957	30.3	6.8	0.78	81.1	6	38.3
LSN 132 M	4	961	39.6	9.3	0.75	83.6	5.9	53.3
LSN 132 M	5.5	960	54.2	13.3	0.71	84.1	5.5	59.4
LSN 160 M	7.5	967	74.1	16.1	0.79	85.2	4.7	81
LSN 160 L	11	967	109	23.3	0.79	86.3	4.6	105
LSN 180 L	15	972	147	30.1	0.81	88.7	6.8	135
LSN 200 LT	18.5	970	182	37	0.81	89	6.4	160
LSN 200 L	22	972	216	43.6	0.81	89.9	6	190
LSN 225 MR	30	968	296	59.5	0.81	89.9	6	235

IP 55 - 50 Hz - Class F -  $\Delta T 80 K$  - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1



II - 3G - EEx nA II T3

**8  
poles  
750 min<sup>-1</sup>**

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 <sup>-1</sup>	$M_N$ N.m	$I_N(400V)$ A	$\cos \varphi$ 100 %	$\eta$ 100 %	$I_D / I_N$	IM B3 kg
LSN 80 L	0.18	705	2.4	0.79	0.63	52	2.9	9.7
LSN 80 L	0.25	700	3.4	0.98	0.68	54	2.8	11.3
LSN 90 S	0.37	685	5.2	1.2	0.72	62	3.8	13.5
LSN 90 L	0.55	670	7.8	1.7	0.72	63.5	3.5	15.2
LSN 100 L	0.75	670	10.7	2.4	0.71	63.5	3.5	18
LSN 100 L	1.1	670	15.7	3.7	0.68	63	3.7	21.8
LSN 112 MG	1.5	710	20.2	4.7	0.64	72	3.8	24
LSN 132 SM	2.2	713	30.2	6.1	0.68	77.1	4	45.6
LSN 132 M	3	712	40.7	8	0.65	79.8	4.3	53.9
LSN 160 M	4	718	53.2	11	0.63	83.3	3.9	84
LSN 160 M	5.5	716	73.4	15.1	0.63	83.3	3.9	89
LSN 160 L	7.5	714	100	20.6	0.63	83.4	3.9	101
LSN 180 L	11	720	146	25.6	0.72	86	3.8	140
LSN 200 L	15	725	198	32.9	0.75	87.7	4.4	185
LSN 225 ST	18.5	725	244	42.4	0.72	87.5	4.2	210
LSN 225 MR	22	725	290	51.9	0.7	87.4	4.4	240

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## Selection

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ZONE 2**

IP 55 - 50 Hz - Class F -  $\Delta T 80 K$  - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
 II - 3G - EEx nA II T3

**6  
poles  
1000 min<sup>-1</sup>**

**A**

Type	Rated power at 50 Hz $P_N$ kW	IM 1001 (IM B3)		IM 3001 (IM B5)		IM 2001 (IM B35)		IM 3601 (IM B14)		IM 2101 (IM B34)	
		Code	Qty	Code	Qty	Code	Qty	Code	Qty	Code	Qty
LSN 80 L	0.25		-		-		-		-		-
LSN 80 L	0.37		-		-		-		-		-
LSN 80 L	0.55		-		-		-		-		-
LSN 90 S	0.75		-		-		-		-		-
LSN 90 L	1.1		-		-		-		-		-
LSN 100 L	1.5		-		-		-		-		-
LSN 112 M	2.2		-		-		-		-		-
LSN 132 S	3		-		-		-		-		-
LSN 132 M	4		-		-		-		-		-
LSN 132 M	5.5		-		-		-		-		-
LSN 160 M	7.5		-		-		-		-		-
LSN 160 L	11		-		-		-		-		-
LSN 180 L	15		-		-		-		-		-
LSN 200 LT	18.5		-		-		-		-		-
LSN 200 L	22		-		-		-		-		-
LSN 225 MR	30		-		-		-		-		-

IP 55 - 50 Hz - Class F -  $\Delta T 80 K$  - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
 II - 3G - EEx nA II T3

**8  
poles  
750 min<sup>-1</sup>**

Type	Rated power at 50 Hz $P_N$ kW	IM 1001 (IM B3)		IM 3001 (IM B5)		IM 2001 (IM B35)		IM 3601 (IM B14)		IM 2101 (IM B34)	
		Code	Qty	Code	Qty	Code	Qty	Code	Qty	Code	Qty
LSN 80 L	0.18		-		-		-		-		-
LSN 80 L	0.25		-		-		-		-		-
LSN 90 S	0.37		-		-		-		-		-
LSN 90 L	0.55		-		-		-		-		-
LSN 100 L	0.75		-		-		-		-		-
LSN 100 L	1.1		-		-		-		-		-
LSN 112 MG	1.5		-		-		-		-		-
LSN 132 SM	2.2		-		-		-		-		-
LSN 132 M	3		-		-		-		-		-
LSN 160 M	4		-		-		-		-		-
LSN 160 M	5.5		-		-		-		-		-
LSN 160 L	7.5		-		-		-		-		-
LSN 180 L	11		-		-		-		-		-
LSN 200 L	15		-		-		-		-		-
LSN 225 ST	18.5		-		-		-		-		-
LSN 225 MR	22		-		-		-		-		-

# LSN

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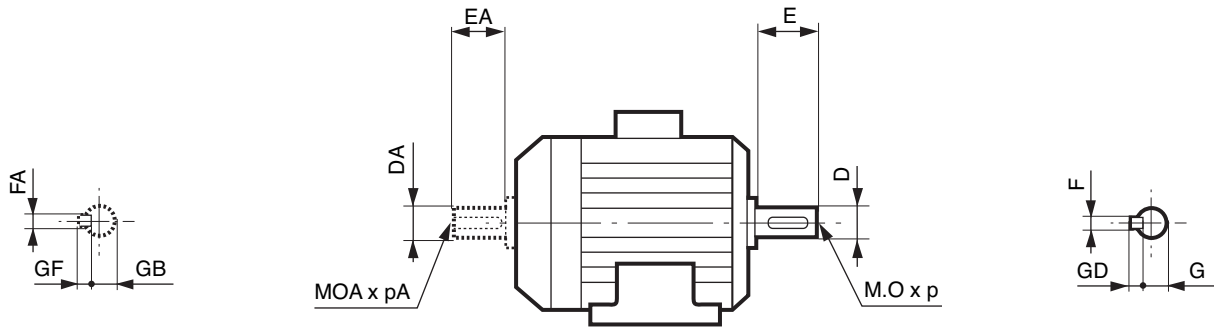
**CATEGORY 3  
ZONE 2**

### Dimensions

Dimensions of the LSN totally enclosed three-phase asynchronous motors - IP 55  
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
LSN 80 L	6	6	19j6	15.5	40	6	16	6	6	19j6	15.5	40	6	16
LSN 90 S/L	8	7	24j6	20	50	8	19	8	7	24j6	20	50	8	19
LSN 100 L	8	7	28j6	24	60	10	22	8	7	28j6	24	60	10	22
LSN 112 M/MG	8	7	28j6	24	60	10	22	8	7	28j6	24	60	10	22
LSN 132 S/M	10	8	38k6	33	80	12	28	10	8	38k6	33	80	12	28
LSN 160 M/L/MP/LR	12	8	42k6	37	110	16	36	12	8	42k6	37	110	16	36
LSN 180 MT/LR/L	14	9	48k6	42.5	110	16	36	14	9	48k6	42.5	110	16	36
LSN 200 LT/L	16	10	55m6	49	110	20	42	16	10	55m6	49	110	20	42
LSN 225 ST/MR	18	11	60m6	53	140	20	42	16	10	55m6	49	110	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
LSN 80 L	5	5	14j6	11	30	5	15	5	5	14j6	11	30	5	15
LSN 90 S/L	6	6	19j6	15.5	40	6	16	6	6	19j6	15.5	40	6	16
LSN 100 L	8	7	24j6	20	50	8	19	8	7	24j6	20	50	8	19
LSN 112 M/MG	8	7	24j6	20	50	8	19	8	7	24j6	20	50	8	19
LSN 132 S/M	8	7	28j6	24	60	10	22	8	7	28j6	24	60	10	22
LSN 160 MP/LR	10	8	38k6	33	80	12	28	10	8	38k6	33	80	12	28
LSN 160 M/L	12	8	42k6	37	110	16	36	12	8	42k6	37	110	16	36
LSN 180 MT/LR/L	14	9	48k6	42.5	110	16	36	14	9	48k6	42.5	110	16	36
LSN 200 LT/L	16	10	55m6	49	110	20	42	16	10	55m6	49	110	20	42
LSN 225 ST/MR	18	11	60m6	53	140	20	42	16	10	55m6	49	110	20	42

# LSN

## Atmospheres containing explosive GAS



## totally enclosed three-phase asynchronous motors

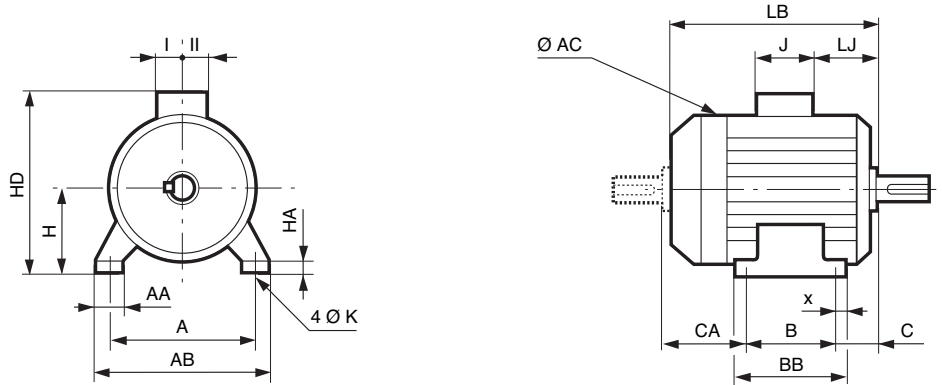
**CATEGORY 3  
ZONE 2**

### Dimensions

Dimensions of the LSN 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	CA
LSN 80 L	125	157	100	120	50	10	29	9	10	80	170	226	215	13.5	160	55	55	68
LSN 90 S	140	172	100	120	56	10	37	10	11	90	190	246	218	13.5	160	55	55	66
LSN 90 L	140	172	125	162	56	28	37	10	11	90	190	246	245	13.5	160	55	55	68
LSN 100 L	160	196	140	165	63	12	40	12	13	100	200	261	290	14	160	55	55	93
LSN 112 M	190	220	140	165	70	12	45	12	14	112	200	276	290	14.5	160	55	55	86
LSN 112 MG	190	220	140	165	70	12	52	12	14	112	235	276	315	24	160	55	55	110
LSN 132 S	216	250	140	170	89	16	50	12	15	132	235	112	350	41	160	55	55	128
LSN 132 M	216	250	178	208	89	16	59	12	18	132	280	307	387	25	160	55	55	126
LSN 132 SM	216	250	178	208	89	16	59	12	18	132	280	307	387	25	160	55	55	126
LSN 160 MP	254	294	210	294	108	20	64	14.5	25	160	280	368	468	55.5	160	55	55	154
LSN 160 LR	254	294	254	294	108	20	64	14.5	25	160	280	368	495	55.5	160	55	55	138
LSN 160 L	254	294	254	294	108	20	60	14.5	25	160	310	395	495	44	134	92	63	138
LSN 160 M	254	294	210	294	108	20	60	14.5	25	160	310	395	495	44	134	92	63	182
LSN 180 MT	279	324	241	316	121	20	79	14.5	28	180	316	428	495	45	205	100	95	138
LSN 180 L	279	339	279	329	121	25	86	14.5	25	180	350	435	552	54	205	100	95	159
LSN 180 LR	279	324	279	316	121	20	79	14.5	28	180	316	428	520	45	205	100	95	125
LSN 200 LT	318	378	305	365	133	30	108	18.5	32	200	350	455	599	60	205	100	95	167
LSN 200 L	318	388	305	375	133	35	103	18.5	36	200	390	475	621	68	205	100	95	194
LSN 225 ST	356	431	286	386	149	50	127	18.5	36	225	390	500	627	74	205	100	95	203
LSN 225 MR	356	431	311	386	149	50	127	18.5	36	225	390	500	676	74	205	100	95	228

# LSN

## Atmospheres containing explosive GAS



## totally enclosed three-phase asynchronous motors

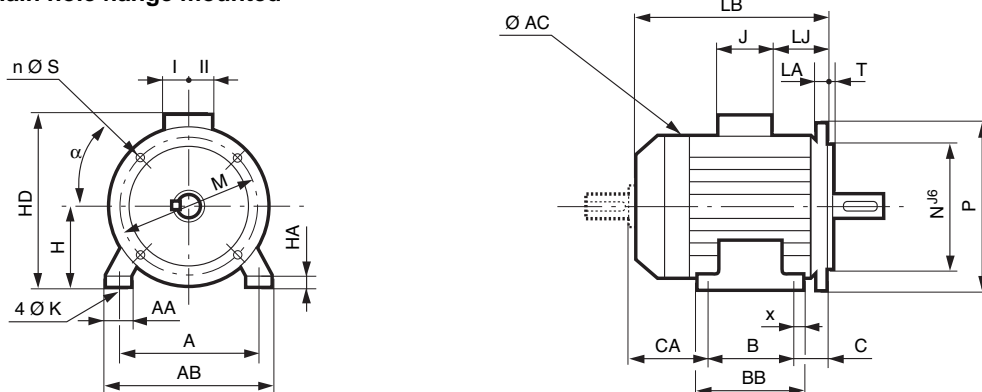
**CATEGORY 3  
ZONE 2**

### Dimensions

**Dimensions of the LSN 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	Sym.
LSN 80 L	125	157	100	120	50	10	29	9	10	80	170	226	215	13.5	160	55	55	FF165
LSN 90 S	140	172	100	120	56	10	37	10	11	90	190	246	218	13.5	160	55	55	FF165
LSN 90 L	140	172	125	162	56	28	37	10	11	90	190	246	245	13.5	160	55	55	FF165
LSN 100 L	160	196	140	165	63	12	40	12	13	100	200	261	290	14	160	55	55	FF215
LSN 112 M	190	220	140	165	70	12	45	12	14	112	200	276	290	14.5	160	55	55	FF215
LSN 112 MG	190	220	140	165	70	12	52	12	14	112	235	276	315	24	160	55	55	FF215
LSN 132 S	216	250	140	170	89	16	50	12	15	132	235	112	350	41	160	55	55	FF265
LSN 132 M	216	250	178	208	89	16	59	12	18	132	280	307	387	25	160	55	55	FF265
LSN 132 SM	216	250	178	208	89	16	59	12	18	132	280	307	387	25	160	55	55	FF265
LSN 160 MP	254	294	210	294	108	20	64	14.5	25	160	280	368	468	55.5	160	55	55	FF300
LSN 160 LR	254	294	254	294	108	20	64	14.5	25	160	280	368	495	55.5	160	55	55	FF300
LSN 160 L	254	294	254	294	108	20	60	14.5	25	160	310	395	495	44	134	92	63	FF300
LSN 160 M	254	294	210	294	108	20	60	14.5	25	160	310	395	495	44	134	92	63	FF300
LSN 180 MT	279	324	241	316	121	20	79	14.5	28	180	316	428	495	45	205	100	95	FF300
LSN 180 L	279	339	279	329	121	25	86	14.5	25	180	350	435	552	54	205	100	95	FF300
LSN 180 LR	279	324	279	316	121	20	79	14.5	28	180	316	428	520	45	205	100	95	FF300
LSN 200 LT	318	378	305	365	133	30	108	18.5	32	200	350	455	599	60	205	100	95	FF350
LSN 200 L	318	388	305	375	133	35	103	18.5	36	200	390	475	621	68	205	100	95	FF350
LSN 225 ST	356	431	286	386	149	50	127	18.5	36	225	390	500	627	74	205	100	95	FF400
LSN 225 MR	356	431	311	386	149	50	127	18.5	36	225	390	500	676	74	205	100	95	FF400

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

# LSN

## Atmospheres containing explosive GAS



## totally enclosed three-phase asynchronous motors

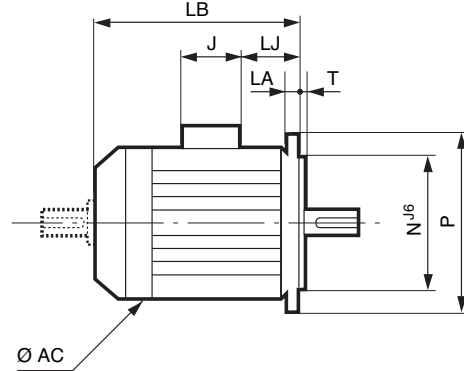
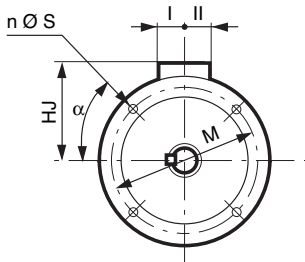
**CATEGORY 3  
ZONE 2**

### Dimensions

Dimensions of the LSN 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	$\alpha$	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 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 265	265	230	300	4	4	45	14.5	14
FF 265	265	230	300	4	4	45	14.5	14
FF 265	265	230	300	4	4	45	14.5	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 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

Type	Main dimensions						
	AC	LB	HJ	LJ	J	I	II
LSN 80 L	170	215	140	13.5	160	55	55
LSN 90 L	190	265	133	33.5	160	55	55
LSN 90 S	190	238	133	33.5	160	55	55
LSN 100 L	200	290	161	14	160	55	55
LSN 112 M	200	290	164	14.5	160	55	55
LSN 112 MG	235	315	164	24	160	55	55
LSN 132 M	280	387	175	25	160	55	55
LSN 132 S	235	350	164	41	160	55	55
LSN 132 SM	280	387	175	25	160	55	55
LSN 160 L	310	495	235	44	134	92	63
LSN 160 LR	280	495	208	55.5	160	55	55
LSN 160 M	310	495	235	44	134	92	63
LSN 160 MP	280	468	208	55.5	160	55	55
LSN 180 L	350	552	255	54	205	100	95
LSN 180 LR	316	520	248	45	205	100	95
LSN 180 MT	316	495	248	45	205	100	95
LSN 200 L	390	621	275	68	205	100	95
LSN 200 LT	350	599	255	60	205	100	95
LSN 225 MR	390	676	275	74	205	100	95
LSN 225 ST	390	627	275	74	205	100	95

Shaft end dimensions identical to those of foot mounted motors.

# LSN

## Atmospheres containing explosive GAS



## totally enclosed three-phase asynchronous motors

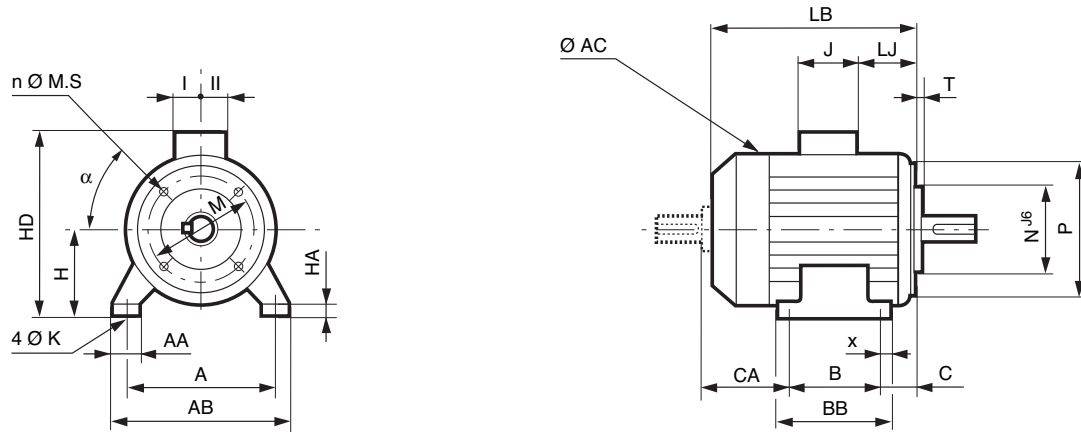
**CATEGORY 3  
ZONE 2**

### Dimensions

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

Dimensions in millimetres

– (FT) foot and tapped hole flange mounted



Main dimensions

Type	A	AB	B	BB	C	x	AA	K	HA	H	AC	HD	LB	LJ	J	I	II	Sym.
LSN 80 L	125	157	100	120	50	10	29	9	10	80	170	226	215	13.5	160	55	55	FT100
LSN 90 S	140	172	100	120	56	10	37	10	11	90	190	246	218	13.5	160	55	55	FT115
LSN 90 L	140	172	125	162	56	28	37	10	11	90	190	246	245	13.5	160	55	55	FT115
LSN 100 L	160	196	140	165	63	12	40	12	13	100	200	261	290	14	160	55	55	FT130
LSN 112 M	190	220	140	165	70	12	45	12	14	112	200	276	290	14.5	160	55	55	FT130
LSN 112 MG	190	220	140	165	70	12	52	12	14	112	235	276	315	24	160	55	55	FT130
LSN 132 S	216	250	140	170	89	16	50	12	15	132	235	112	350	41	160	55	55	FT215
LSN 132 M	216	250	178	208	89	16	59	12	18	132	280	307	387	25	160	55	55	FT215
LSN 132 SM	216	250	178	208	89	16	59	12	18	132	280	307	387	25	160	55	55	FT215
LSN 160 MP	254	294	210	294	108	20	64	15	25	160	280	368	468	55.5	160	55	55	FT265
LSN 160 LR	254	294	254	294	108	20	64	15	25	160	280	368	495	55.5	160	55	55	FT265

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

# LSN

## Atmospheres containing explosive GAS



## totally enclosed three-phase asynchronous motors

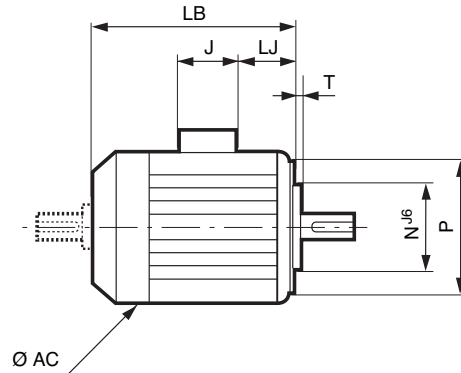
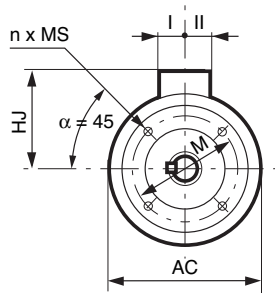
**CATEGORY 3  
ZONE 2**

### Dimensions

Dimensions of the LSN 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 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 215	215	180	250	4	4	M12
FT 215	215	180	250	4	4	M12
FT 215	215	180	250	4	4	M12
FT 265	265	230	300	4	4	M12
FT 265	265	230	300	4	4	M12

Type	Main dimensions						
	AC	LB	HJ	LJ	J	I	II
LSN 80L	170	215	146	13.5	160	55	55
LSN 90 L	190	245	156	13.5	160	55	55
LSN 90 S	190	218	156	13.5	160	55	55
LSN 100 L	200	290	161	14	160	55	55
LSN 112 M	200	290	164	14.5	160	55	55
LSN 112 MG	235	315	164	24	160	55	55
LSN 132 M	280	387	175	25	160	55	55
LSN 132 S	235	350	-20	41	160	55	55
LSN 132 SM	280	387	175	25	160	55	55
LSN 160 LR	280	495	208	55.5	160	55	55
LSN 160 MP	280	468	208	55.5	160	55	55

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

