

LSHT - FLSHT

Fans for heat and smoke extraction

closed three-phase asynchronous motors

General information



Attestation

All these motors are certified in accordance with the european standard 12101-3 by the CTICM (Industrial Technical Centre for Metal Construction). The certificate number is indicated on the nameplate.

Totally enclosed three-phase asynchronous motors, for continuous operation in ambient temperature, and in emergency, at high temperature during a given period of time (dual use).

They are adapted to the European safety standards for heat and smoke extraction fans in case of fire (smoke extract).

Ranges LSHT and FLSHT¹

These motors are designed to operate in an ambient temperature of 200 or 400°C for 60 or 120 minutes. The rated powers correspond to the rated powers in S1 duty at an ambient temperature between -16°C and +40°C.

- Single speed: three-phase asynchronous motors according to IEC 60034, 60072. From 0.55 to 500 kW, frame size 80 to 450 mm: 230/400 V or 400 V Δ, 50 Hz.
- Two speed: three-phase asynchronous motors according to IEC 60034, 60072. Frame size 80 to 315 mm: 2/4 - 4/6 - 4/8 - 6/12 poles, Dahlander connection, centrifugal applications, 400 V.

For other two speed motors, consult us.

Protection

IP 55 standard version providing an excellent sealing against projected liquids and dust.

Mains supply

All LSHT and FLSHT motors are approved according to the standards EN 12101-3 and IEC 60034, rated voltage 400 V. They are plated 230/400 V or 400 V - 50 Hz².

They may be used on mains supply 400 V ±10 % (Europe...) according to the standard IEC 60038 and on power supply 415 V +6 -10% (UK...).

Definition of the standard motors LSHT and FLSHT

- IC418 non ventilated
- B3/V6 (IM1001/IM1031)
- IP 55 protection
- output lead length 1m, position A1
- terminal plate without conduit nor cable glands
- stainless steel or aluminium nameplate
- special painting.

¹ LSHT = aluminium housing

FLSHT = cast iron housing

² Other voltages and frequency on request

Description of the LSHT and FLSHT three-phase motors

Component	Materials	Remarks
Finned housing	Aluminium alloy (LSHT) Cast iron (FLSHT)	- with bolt-on or cast foot, or without foot • 4, 6 or 8 mounting holes for the foot housings • earth terminal on foot or fin
Stator	Insulated low carbon magnetic steel laminations Electrolytic copper	- the low carbon content guarantees in time the stability of the characteristics - assembled laminated pack - semi-enclosed slots - insulation system class F, H or HC
Rotor	Insulated low carbon magnetic steel laminations Aluminium or copper	- inclined slots - squirrel cage pressure die cast in aluminium 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: • shaft end fitted with screw and washer • closed keyway - for frame size ≥ 160: • tapped centre hole • open key
End shields	Cast iron	- front and rear
Bearings and lubrication		- ball bearings - ZZ types greased for life up to the frame size 132 - open types from frame size 160 upwards, regreasable - rear preloaded bearings (with the exception of FLSHT 315 to 450)
Labyrinth seals Lipseals	Steel Synthetic rubber	- front lipseals or jet deflector for all flange motors - lipseals, jet deflector or labyrinth seals for foot motors
Fan (option)	Aluminium alloy	- 2 directions of rotation: straight blades
Fan cover (option)	Sheet steel	- on request, fitted with a drip cover for operation in vertical position, shaft facing down
Terminal box Terminal plate	Aluminium alloy or cast iron	- output lead length 1 m, A1 position - terminal box or terminal plate, without shaft or cable glands, rotatable in 4 directions - 1 earth terminal in all terminal boxes

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Adaptation possibilities

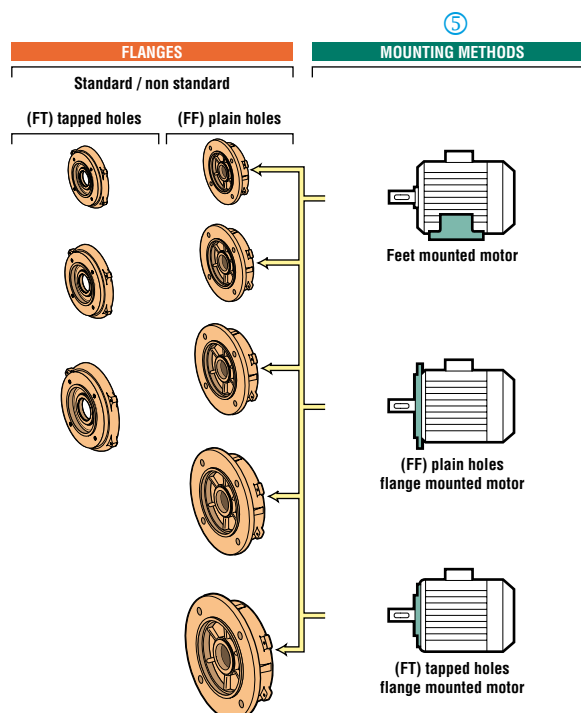
Leroy-Somer offers, for use with the LSHT and FLSHT totally enclosed three-phase asynchronous motors, many options which meet specific needs.

For other variants or any special adaptation, consult the technical specialists at Leroy-Somer.

The options¹:

- ① auto-ventilated motors - IC411
- ② terminal box with brass cable glands and specific board
- ③ protective sleeve on the leads, length 700 mm
- ④ specific cables and separated terminal box
- ⑤ mounting positions other than B3/V6

- winding and (or) bearing probes
- anticondensation heaters
-



1. All these options are certified by the CTICM testing station.

Selection

EN 12101-3	Temperature class	Motor shaft height mm		Type	Polarity	Power	Certificate number ¹
		Cast iron	Aluminium				
200°C - 120 min.	F200	-	80 to 160	LSHT	2 P and +	0.55 to 15 kW	04-E-062
		-	160 to 315		2 P and +	18.5 to 160 kW	04-E-062
250°C - 120 min.	-	-	80 to 160	LSHT	2 P and +	0.55 to 15 kW	03-H-347
		-	160 to 315		2 P and +	18.5 to 160 kW	03-H-347
300°C - 60 min.	F300	-	80 to 160	LSHT	2 P and +	0.55 to 15 kW	02-H-203
		-	160 to 315		2 P and +	18.5 to 160 kW	03-H-374
300°C - 120 min.	-	-	80 to 160	LSHT	2 P and +	0.55 to 15 kW	03-H-349
		-	160 to 280		2 P and +	18.5 to 90 kW	03-H-377
400°C - 120 min.	F400	80 to 132	-	FLSHT	2 P and +	0.55 to 7.5 kW	03-H-353
		160 to 225	-		2 P and +	11 to 45 kW	02-G-381
		225 to 450	-		4 P and +	45 to 500 kW	02-G-381
		-	-		-	-	-

1. Certificate delivered by the CTICM testing station.

Dimensions

See the dimensions of the technical catalogue ref.3918.

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Selection

Smoke extraction motors 400°C / 2 hours - Cast iron housing
FLSHT non ventilated IC418 IP55 - 50Hz - Class H - Terminal box on the top

A

2
poles
3000 min⁻¹

230V / 400V

Type	Rated power at 50 Hz	IM 1001 (IM B3)	
	P_N kW	Code	Qty
FLSHT 80 L	0.75		-
FLSHT 80 LU	1.1		-
FLSHT 90 S	1.5	4263127	1
FLSHT 90 LU	2.2	4263598	1
FLSHT 100 LK	3	4263600	1
FLSHT 112 M	4	4263135	1
FLSHT 132 S	5.5	4263791	1
FLSHT 132 SM	7.5	4263906	1

4
poles
1500 min⁻¹

230V / 400V

Type	Rated power at 50 Hz	IM 1001 (IM B3)	
	P_N kW	Code	Qty
FLSHT 80 L	0.55	4266047	5
FLSHT 80 LU	0.75	4265208	10
FLSHT 90 S	1.1	4265210	10
FLSHT 90 L	1.5	4266003	10
FLSHT 100 L	2.2	4565451	10
FLSHT 100 LR	3	4607295	5
FLSHT 112 M	4		-
FLSHT 132 S	5.5		-
FLSHT 132 M	7.5		-

400V / 690V

Type	Rated power at 50 Hz	IM 1001 (IM B3)	
	P_N kW	Code	Qty
FLSHT 80 L	0.55		-
FLSHT 80 LU	0.75		-
FLSHT 90 S	1.1		-
FLSHT 90 L	1.5		-
FLSHT 100 L	2.2		-
FLSHT 100 LR	3		-
FLSHT 112 M	4	4265965	5
FLSHT 132 S	5.5	4265966	5
FLSHT 132 M	7.5	4263883	10
FLSHT 160 M	11	4410329	5
FLSHT 160 L	15	4408805	5
FLSHT 180 MR	18.5	4408809	2
FLSHT 180 L	22	4410331	2
FLSHT 200 L	30	4435126	2
FLSHT 225 ST	37	4448464	1

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Selection

Smoke extraction motors 400°C / 2 hours - Cast iron housing
FLSHT non ventilated IC418 IP55 - 50Hz - Class H - Terminal box on the top

6
poles
1000 min⁻¹

230V / 400V				400V / 690V			
		IM 1001 (IM B3)				IM 1001 (IM B3)	
Type	Rated power P_N at 50 Hz kW	Code	Qty	Type	Rated power P_N at 50 Hz kW	Code	Qty
FLSHT 80 L	0.37		-	FLSHT 80 L	0.37		-
FLSHT 80 LU	0.55	4263890	10	FLSHT 80 LU	0.55		-
FLSHT 90 L	0.75		-	FLSHT 90 L	0.75		-
FLSHT 90 LU	1.1	4265254	5	FLSHT 90 LU	1.1		-
FLSHT 100 LR	1.5	4619158	2	FLSHT 100 LR	1.5		-
FLSHT 112 MU	2.2	4265257	2	FLSHT 112 MU	2.2		-
FLSHT 132 S	3		-	FLSHT 132 S	3	4265976	2
FLSHT 132 M	4		-	FLSHT 132 M	4	4263885	1
FLSHT 132 MR	5.5		-	FLSHT 132 MR	5.5	4265978	1

Smoke extraction motors 400°C / 2 hours - Cast iron housing
FLSHT non ventilated 4/8 poles IC418 IP55 - 50Hz - Class H - 400V Dahlander - Terminal box on the top

4-8
Poles
1500-750 min⁻¹

		IM 1001 (IM B3)	
Type		Rated power at 50 Hz P_N kW	Qty
FLSHT 80 LU	GV	0.55	4544886
	PV	0.09	
FLSHT 80 LU	GV	0.75	4417833
	PV	0.12	
FLSHT 90 S	GV	1.1	4417835
	PV	0.18	
FLSHT 90 LU	GV	1.5	4417836
	PV	0.25	
FLSHT 100 LK	GV	2.2	4417837
	PV	0.37	
FLSHT 100 LK	GV	3	4417838
	PV	0.55	
FLSHT 112 MU	GV	4	4417840
	PV	0.75	
FLSHT 132 S	GV	5.5	4417842
	PV	1.1	
FLSHT 132 M	GV	7.5	4417843
	PV	1.5	
FLSHT 160 MB	GV	10	4410146
	PV	2	
FLSHT 160 L	GV	14	4408808
	PV	3	
FLSHT 180 M	GV	16.5	4409690
	PV	3.3	
FLSHT 180 L	GV	20	4410336
	PV	4	
FLSHT 200 L	GV	27	4448746
	PV	5.4	
FLSHT 200 LB	GV	30	
	PV	6.5	

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Selection

Smoke extraction motors 200°C / 2 hours - Alpax housing
LSHT non ventilated IC418 IP55 - 50Hz - Class H - Terminal box on the top

**4-8
Poles**
1500-750 min⁻¹

		Rated power	IM 1001	
		at 50 Hz	(IM B3)	
Type		P_N kW	Code	Qty
LSHT 90 SL	GV	1.1	4378033	2
	PV	0.18		
LSHT 90 L	GV	1.5	4386057	2
	PV	0.25		
LSHT 100 L	GV	2.2	4386061	4
	PV	0.37		
LSHT 100 L	GV	3	4303963	2
	PV	0.55		
LSHT 112 MU	GV	4	4322653	2
	PV	0.75		
LSHT 132 SM	GV	5.5	4386063	2
	PV	1.1		
LSHT 132 M	GV	7.5	4305157	3
	PV	1.1		
LSHT 160 M	GV	9	4387019	2
	PV	2.2		
LSHT 160 M	GV	11	4303964	2
	PV	2.8		
LSHT 160 L	GV	11	4386067	1
	PV	2.8		
LSHT 160 L	GV	15	4386068	1
	PV	3.8		