

N° :

Date : 27 févr. 2018

### Induction motor

4P LSES 160M 11kW IFT/IE3 B5 380D/400D/415D/690Y-460D 50-60Hz -

**Utilisation :** Environment Current ; Ambiance Non corrosive ; Finition - ; Zone Non specific ; General applications ; Ambient temperature -16 +40 °C ; Maximum altitude 1000 m.

**Motor characteristics :** Aluminium alloy housing ; Cast iron DE endshield ; Cast iron NDE endshield.



### Motor definition

		Application	General applications
Protection type	-	Main voltage (V)	400
Generation code	IFT	Connection	DY
Efficiency class	IE3	Motor winding (V)	380D/400D/415D/690Y-460D
Number of network phases	3	Rated Frequency (Hz)	50-60
Number of speed		Operation position	IM3001(IMB5)
Polarity	4P	Index of protection	IP55
Motor serie	LSES	Index of cooling	IC411
Frame size (mm)	160	Insulation class	F
Lenght code	M	Finish	-
HS rated power (kW)	11.000	Moment of inertia J (kg.m <sup>2</sup> )	0.0712000
LS rated power (kW)	-	Motor weight (kg)	93.0
Rated speed (min-1)	1466		
Maximum mechanical speed (min-1)	6000		

### Common definitions

Paint shade	RAL6000
Paint system	1a (1 polyurethane coat 20/30 microns)

### Motor mechanical interface

Mounting flange	FF300	Shaft material type	Steel shaft
Drive end shaft type	IEC STANDARD shaft end	Nuance of shaft material	-
Diameter DE shaft (mm)	42k6	Second shaft extension	-
Length DE shaft (mm)	110	Diameter NDE shaft (mm)	-
DE bearing mounting	Locked	Second shaft end length (mm)	-
DE bearing type	DE ball bearing	NDE bearing type	NDE ball bearing
DE bearing	6309	NDE bearing	6210
Code Type de graissage	Vie		

### Motor electrical interface

Connection network type	Terminal box	Cable type	-
Connection network material	Aluminium alloy	Cable gland material	Cable gland not supplied, holes tapped with polyamide plugs
Connection network position	A	Main cable gland type	2xM25 + 1xM16 ; With plugs
Connection network orientation	up	Principal cable gland position	Right (1)
Connection network relative position	0		

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**Motor options**

Vibration level	A (35µm ; 2.2mm/s ; 3.5m/s <sup>2</sup> )	Cover	Metal cover
Balancing type	Half-key (H)	Drip proof cover option	-
Impregnation type	< 95% ; -16+40°C (T)	cooling type	-
Winding thermal protection	1xPTC (winding)	Forced ventilation characteristics	-
Space heater	-	Encoder type	-
Draining plugs position	6H	Encoder characteristics	-
Nameplate material	Aluminium nameplate	Screw material	Steel screw
Endshield thermal protection	-	Adaptation for vibration sensor	-
Reinforced winding insulation	-		

**Motor characteristics (on mains supply)**

Main voltage (V)	Rated Frequency (Hz)	HS rated power (kW)	Rated torque (N.m)	Rated speed (min-1)	Rated current (A)	Power factor at 4/4 of the load	Power factor at 3/4 of the load	Power factor at 2/4 of the load	Efficiency at 4/4 (IEC 60 034-2-1) of the load (%)	Efficiency at 3/4 (IEC 60 034-2-1) of the load (%)	Efficiency at 2/4 (IEC 60 034-2-1) of the load (%)
380	50	11.000	71.7	1462.00	21.10	0.86			91.40		
400	50	11.000	71.7	1466	20.5	0.85	0.81	0.72	91.60	92.59	92.79
415	50	11.000	71.7	1470.00	19.80	0.84			91.91		
460	60	-	-	1774.00	17.80	0.84			92.75		

**Motor characteristics (on mains supply) 400 V 50 Hz**

Starting torque (N.m)	161.33	Id / In	7.25
Average starting torque (N.m)		Id	148.63
Maximum torque (N.m)	218.69	Maximum current (A)	
Unload maximum starting frequency (d/h)	-	No-load current (A)	0.00
Rotor locked time (cold) (s)		Acoustic pressure level (dB(A))	59

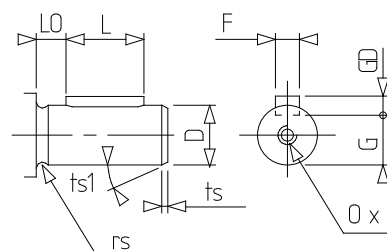
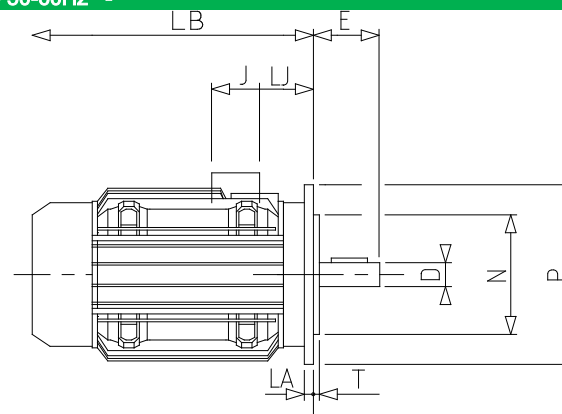
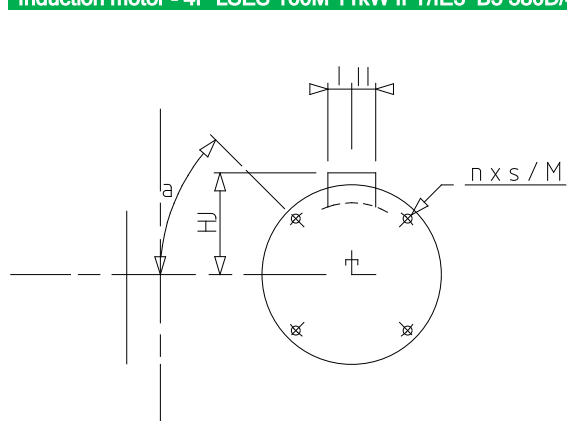
**Motor characteristics (supplied via drives)**

Main voltage (V)	Nominal frequency (Hz)	Pn (kW)	Nn (min-1)	In (A)	Cos Phi	Mn @ f/10 (N.m)	Mn @ f/5 (N.m)	Mn @ f/3 (N.m)	Mn @ f/2 (N.m)	Mn (N.m)	Mn @ fx1.7 (N.m)	Mn @ fx2 (N.m)
400 D	50	11	1466	21.6	0.85	0.00	60.95	68.12	71.70	71.700	41.21	0.00

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<b>a</b>	45
<b>AC</b>	312.00
<b>AD1</b>	45
<b>D</b>	42k6
<b>E</b>	110
<b>F</b>	12
<b>G</b>	37
<b>GD</b>	8
<b>HJ</b>	235.0
<b>I</b>	92
<b>II</b>	63
<b>J</b>	134
<b>L</b>	100
<b>LA</b>	15
<b>LB</b>	495.0
<b>LJ</b>	45.0
<b>LO</b>	6
<b>M</b>	300
<b>N</b>	250
<b>n</b>	4
<b>O</b>	M16
<b>P</b>	350
<b>p</b>	36
<b>rs</b>	0.8
<b>S</b>	18.5
<b>T</b>	5
<b>ts</b>	1
<b>ts1</b>	45