

N° :

Date : 1 mars 2018

### Induction motor

4P LSES 160MR 9kW IFT/IE3 B5 230D/380Y/400Y/415Y-460Y 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)	230D/380Y/400Y/415Y-460Y
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	MR	Finish	-
HS rated power (kW)	9.000	Moment of inertia J (kg.m <sup>2</sup> )	0.0357400
LS rated power (kW)	-	Motor weight (kg)	77.8
Rated speed (min-1)	1464		
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	6308
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/s²)	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	9.000	58,7	1458.00	17.40	0.86			90.90		
400	50	9.000	58,7	1464	16.7	0.85	0,79	0,68	91.20	91.99	91.84
415	50	9.000	58,7	1466.00	16.50	0.83			91.50		
460	60	-	-	1768.00	14.70	0.83			92.35		

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

Starting torque (N.m)	181.97	Id / In	8.85
Average starting torque (N.m)		Id	147.80
Maximum torque (N.m)	214,26	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))	62

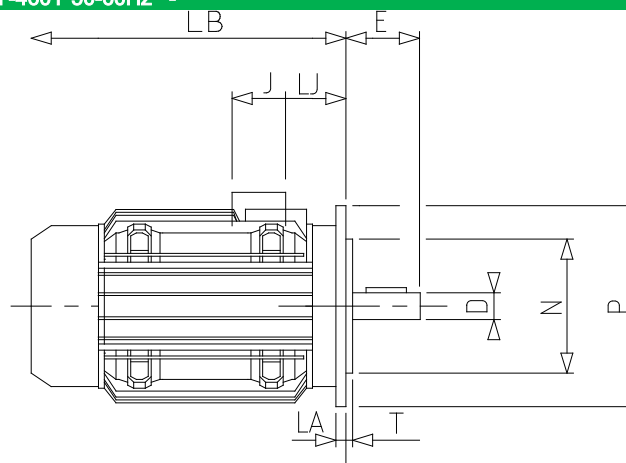
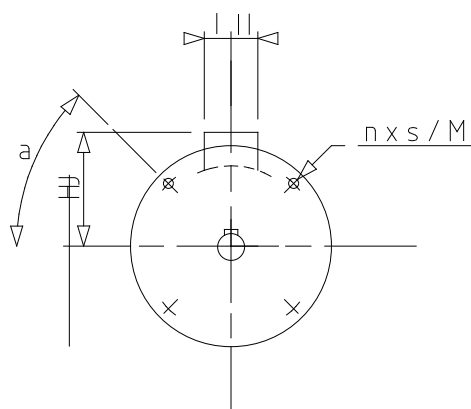
**Motor characteristics (supplied via drives)**

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 Y	50	9	1464	17.81	0.85	0.00	52.83	52.83	58.70	58.700	33.74	0.00
400 D	87	15.66	2536	30.98	0.85	0.00	52.83	52.83	58.70	58.700	0.00	0.00

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a	45
AC	272.00
AD1	45
D	42k6
E	110
F	12
G	37
GD	8
HJ	190.0
I	63
II	63
J	126
L	100
LA	14
LB	495.0
LJ	59.0
LO	6
M	300
N	250
n	4
O	M16
P	350
p	36
rs	0.8
S	18.5
T	5
ts	1
ts1	45

