

N° :

Date : 23 févr. 2018

Induction motor

4P LSES 160MR 9kW IFT/IE3 B3 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 | IM1001(IMB3) |
| Polarity | 4P | Index of protection | IP55 |
| Motor serie | LSES | Index of cooling | IC411 |
| Frame size (mm) | 160 | Insulation class | F |
| Length code | MR | Finish | - |
| HS rated power (kW) | 9.000 | Moment of inertia J (kg.m ²) | 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 | la (1 polyurethane coat 20/30 microns) |

Motor mechanical interface

| | | | |
|------------------------|------------------------|------------------------------|------------------|
| Mounting flange | - | 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 | Located | 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 |

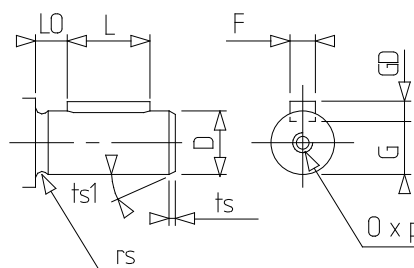
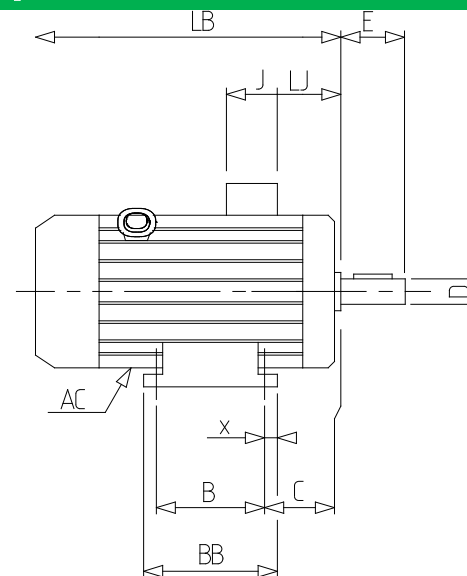
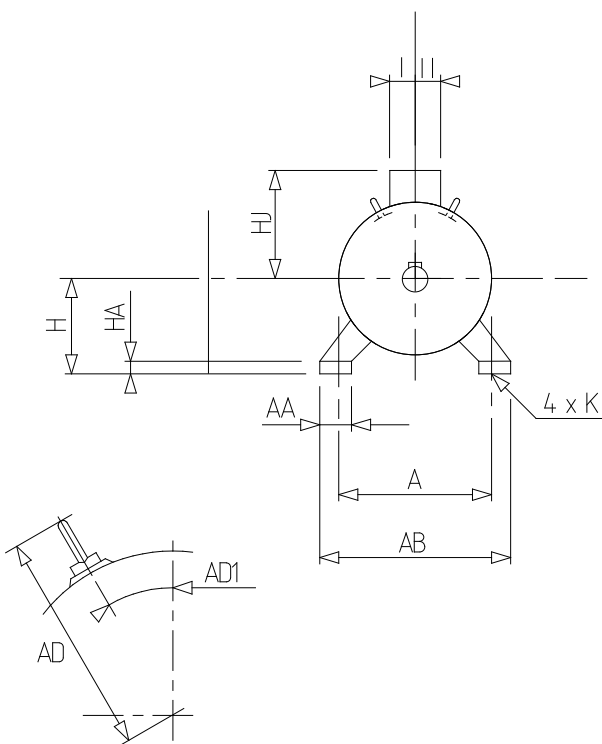
Motor characteristics (supplied via drives)

| 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 D | 50 | 9 | 1464 | 17.81 | 0.85 | 0.00 | 52.83 | 52.83 | 58.70 | 58.700 | 33.74 | 0.00 |

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| | |
|-----|--------|
| A | 254 |
| AA | 64 |
| AB | 294 |
| AC | 272.00 |
| AD1 | 45 |
| B | 210 |
| BB | 294 |
| C | 108.0 |
| D | 42k6 |
| E | 110 |
| F | 12 |
| G | 37 |
| GD | 8 |
| H | 160 |
| HA | 25 |
| HJ | 190.0 |
| I | 63 |
| II | 63 |
| J | 126 |
| K | 14 |
| L | 100 |
| LB | 495.0 |
| LJ | 59.0 |
| LO | 6 |
| O | M16 |
| p | 36 |
| rs | 0.8 |
| ts | 1 |
| ts1 | 45 |
| x | 20 |