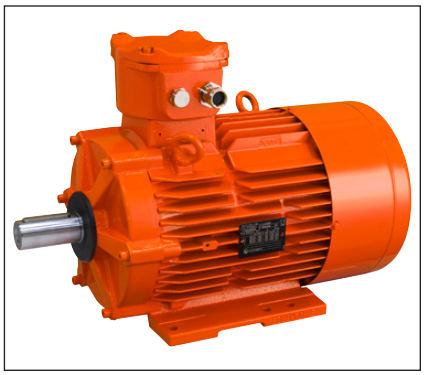
# FLSD
# Atmospheres containing explosive GAS
# totally enclosed three-phase asynchronous motors

CATEGORY 2
ZONE 1

A

## General information



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

**Flameproof totally enclosed three-phase asynchronous motors, FLSD series**, according to IEC 60034, 60038, 60072, 60079-0 and 60079-1, EN 60079-7.
FLSD series, from 0.55 to 400 kW.

**Finish**
Ex d(e) II B T4[1] protection mode.
Paint finish epoxy RAL 2004 (orange).
Protection of the flange and shaft end against atmospheric corrosion.

**Protection**
IP 55[2] standard version providing good sealing against projected liquid and dust in an industrial environment.

**Mains supply**
Standard construction suitable for the following supplies:
- 220/380 V Δ +10% -5% at 50 Hz,
- 230/400 V Δ +6% -10% at 50 Hz,
- 380 V Δ +10% -5% at 50 Hz,
- 400 V Δ +6% -10% at 50 Hz.

*1. Other protections Ex d(e) II B, Ex d II C and Ex d(e) II C : consult us.*
*2. or IP 65 if 2GD application (gas and dust)*

### Description of the FLSD cast iron three-phase motors

**II 2G Ex d II B T4[1]**

| Component | Materials | Remarks |
|---|---|---|
| Finned housing | Cast iron | - with cast foot or without foot<br>• 4, 6 or 8 mounting holes for the foot casings<br>• lifting rings for frame size ≥ 90<br>- external earth terminal |
| Stator | Insulated low carbon magnetic steel laminations<br>Enameled electrolytic copper | - the low carbon content guarantees the long term stability of the characteristics<br>- semi-enclosed slots<br>- insulation system class F |
| Rotor | Insulated low carbon magnetic steel laminations<br>Aluminium (A5L) or copper | - squirrel cage with inclined bars<br>- squirrel cage pressure die cast in aluminium (or alloy for special applications) or soldered in copper<br>- key or mounted on the shaft by heat shrinking<br>- dynamically balanced rotor class A - 1/2 key |
| Shaft | Steel | - for frame size ≤ 132 :<br>• tapped shaft end<br>• closed keyway<br>- for frame size ≥ 160 :<br>• tapped shaft end<br>• open key |
| End shields | Cast iron | |
| Bearings and lubrication | | - rear preloaded bearings from 80 to 315 ST and front preloaded from 315 M upwards |
| Labyrinth seals<br>Lipseals | Technopolymer or steel<br>Synthetic rubber | - front lipseals or labyrinth seals and rear lipseals for frame sizes up to and including 225 and 280<br>- decompression grooves for frame sizes 250 - 315 and 355 |
| Fan | Composite material up to 225 inclusive, metal for larger models | - 2 directions of rotation: straight blades |
| Fan cover | Sheet steel | - fitted with a drip cover for operation in vertical position, shaft facing down |
| Terminal box | Cast iron<br>Steel for frame size 280 | - type «d» in standard version and type «e» in option<br>- fitted with flameproof cable gland<br>(the cable Ø should be specified when ordering)<br>- can be rotated: 4 positions<br>- internal earth terminal<br>- terminal block |

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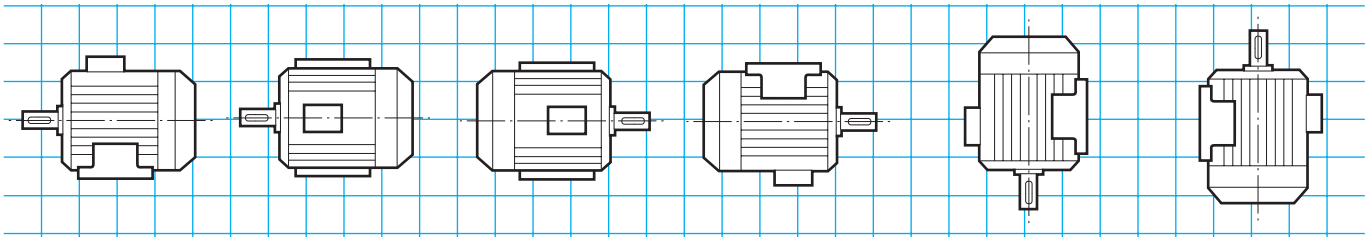
## Mounting positions

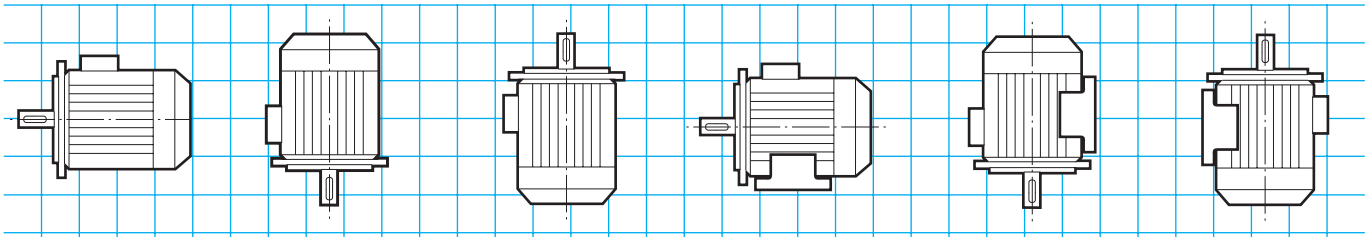
### Foot mounted motors



**IM 1001** (IM B3) **IM 1051** (IM B6) **IM 1061** (IM B7) **IM 1071** (IM B8) **IM 1011** (IM V5) **IM 1031** (IM V6)

### (FF) flange mounted motors with plain holes

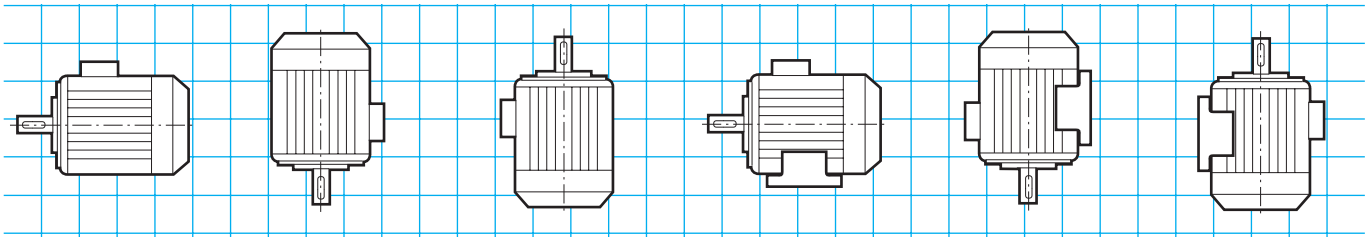
• Possible position IM 3001 (IM B5) up to 225 frame size inclusive



**IM 3001** (IM B5) **IM 3011** (IM V1) **IM 3031** (IM V3) **IM 2001** (IM B35) **IM 2011** (IM V15) **IM 2031** (IM V36)

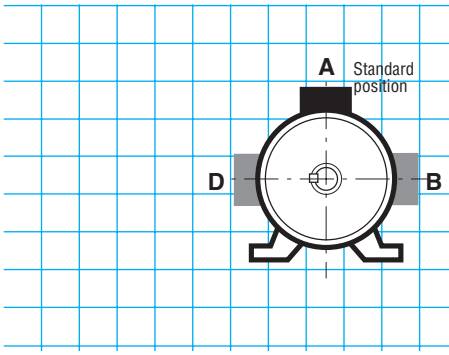
### (FT) flange mounted motors with tapped holes

• Possible position up to 132 frame size inclusive



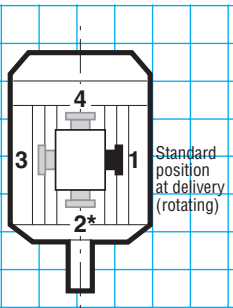
**IM 3601** (IM B14) **IM 3611** (IM V18) **IM 3631** (IM V19) **IM 2101** (IM B34) **IM 2111** (IM V58) **IM 2131** (IM V69)

### Positions of the terminal box in relation to the motor shaft end




**A:** standard

### Positions of the cable gland in relation to the motor shaft end




**1:** standard

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

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Adaptation possibilities

Leroy-Somer offers, for use with the FLSD flameproof 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.

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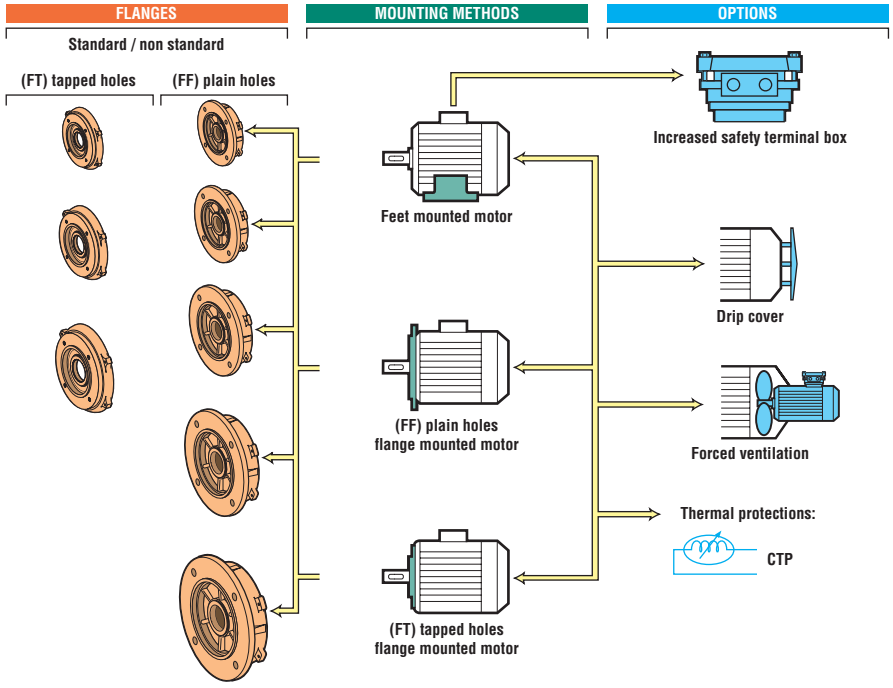
***The FLSD motors may be associated to:***

- gearboxes with universal mounting
- electronic variable speed drives: in this application, thermal protection must be included in the winding (and in the bearings from frame size 160 upwards).

***The options:***

- drip cover
- forced ventilation for frame sizes ≥ 160
- thermal protection
- «e» increased safety terminals box
- direct output by cable
- output by cables
- Encoder
- Cable glands with different dimensions
- Second shaft end
- Roller bearings
- Anti-condensation heaters
- Corrosive atmosphere finish




## Designation / Codification

| 4P 1500 min$^{-1}$ | FLSD | 100 | L | 3 kW | IM1001 (IM B3) | 230 / 400 V | 50 Hz | IP 55 | ADE 1F ISO M20x1.5 | ø 8.5 to 16 min |
|---|---|---|---|---|---|---|---|---|---|---|
| Speed polarity | Motor type | IEC 60072-1 frame size | Housing designation | Rated power | IEC 60034-7 mounting position | Power supply voltage | Power supply frequency | IEC 60034-5 protection | Number and type of cable glands | Diameter of permitted cable |

| Ex | Ex d | II | B[1] | T4[2] |
|---|---|---|---|---|
| | | Explosion group | Gas subdivision | Temperature class |

*1. C on request*
*2. T5 and T6 on request*

***Codification example:***

FLSD flameproof motor 1500 min$^{-1}$, 3kW
IM 1001, 230/400 V Ex d II B T4

| Designation | Code |
|---|---|
| 4P FLSD 100 L 3 kW<br>IM B3 230/400 V<br>50 Hz IP 55 ADE 1F<br>Ø 8.5 to 16, Ex d II B T4 | XD4 30 201 |

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.

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## Selection

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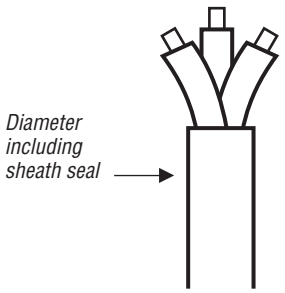
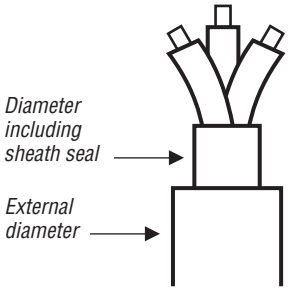
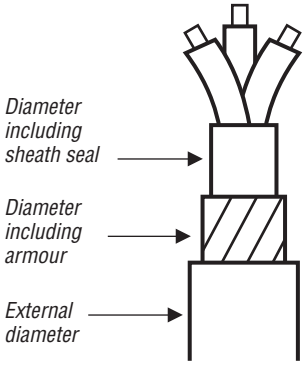
### Main supply cables

**Non-armoured cables**
**(associated with ADE 1F type cable glands)**




**Armoured cables**
**(associated with ADE 4F type cable glands)**




The sealed sheath diameter of the power supply cable is compressed by the certified cable gland ring, thus creating the flameproof seal. Anchoring generally affects the cable external diameter.

The sealed sheath diameter must absolutely correspond to a permissible diameter for the cable glands.
THIS CONDITION IS ESSENTIAL IN ORDER TO MAINTAIN THE FLAMEPROOF CHARACTER OF THE MOTOR.

### Number and size of the standard cable glands for "d"

The following table indicates, for standard boxes:
- the cable glands normally provided
- maximum size cable glands may be provided for connection of only one cable
- maximum size cable glands may be provided for connection of two cables

| Terminal box for frame size | Standard cable glands | | Maximum size for 1 cable gland | | Maximum size for 2 cable glands | |
|---|---|---|---|---|---|---|
| | Type | Ø admissible cable (mm) | Type | Ø admissible cable (mm) | Type | Ø admissible cable (mm) |
| **80 - 132** | ISO M25 x 1.5 | 8.5 to 16 | ISO M25 x 1.5 | 12 to 20.5 | ISO M25 x 1.5 | 12 to 20.5 |
| **160 - 180** | ISO M32 x 1.5 | 16 to 27.5 | ISO M50 x 1.5 | 27 to 41 | ISO M50 x 1.5 | 27 to 41 |
| **200 - 225** | ISO M40 x 1.5 | 21 to 34 | ISO M50 x 1.5 | 27 to 41 | ISO M50 x 1.5 | 27 to 41 |
| **250** | ISO M40 x 1.5 | 21 to 34 | ISO M75 x 1.5 | 47 to 65 | ISO M75 x 1.5 | 47 to 65 |
| **280** | ISO M50 x 1.5 | 27 to 41 | ISO M75 x 1.5 | 47 to 65 | ISO M75 x 1.5 | 47 to 65 |
| **315 S/M** | ISO M63 x 1.5 | 33 to 48 | ISO M75 x 1.5 | 47 to 65 | ISO M75 x 1.5 | 47 to 65 |
| **315 L** | ISO M75 x 1.5 | 47 to 65 | ISO M75 x 1.5 | 47 to 65 | ISO M75 x 1.5 | 47 to 65 |
| **355**[1] | 2 x M63 x 1.5 | 33 to 48 | ISO M75 x 1.5 | 47 to 65 | ISO M75 x 1.5 | 47 to 65 |

Cable gland (ISO M20) for accessories (CTP, ...) sealed by flameproof metal plug
The cable glands are provide in brass and Ex e safety certified fitted cable glands.

### Size of the standard cable glands for "e"

| Terminal box for frame size | Standard cable glands | |
|---|---|---|
| | Type | Ø admissible cable (mm) |
| **80 - 90** | ISO M20 x 1.5 | 7.5 to 13 |
| **100 - 160** | ISO M25 x 1.5 | 12.5 to 18 |
| **180 - 200** | ISO M32 x 1.5 | 17.5 to 25 |
| **225** | ISO M40 x 1.5 | 24.5 to 33.5 |
| **250** | ISO M40 x 1.5 | 21 to 34 |
| **250 - 315** | ISO M50 x 1.5 | 33 to 43 |
| **355** | CMA 3" GC | 40 to 62 |

The cable glands are provide in brass and Ex e safety certified fitted cable glands.

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**IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y - S1**
**II - 2G - Ex d IIB T4 / Ex d IIC T4**

2 poles 3000 min-1

| Type | Rated power $P_N$ kW | Rated speed $N_N$ min-1 | Rated moment $M_N$ N.m | Rated current $I_{N\,(400V)}$ A | Power factor Cos φ 4/4 | 3/4 | 2/4 | Efficiency IEC 60034-2; 1996 η 4/4 | 3/4 | 2/4 | Starting current/ Rated current Id / In | Starting torque/ Rated torque Md/Mn | Maximum torque/ Rated torque $M_M$/Mn | Moment of inertia J kg.m2 | Weight IM B3 kg | Noise LP db(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FLSD 80 L** | 0.75 | 2860 | 2.51 | 1.6 | 0.89 | 0.84 | 0.75 | 78.4 | 78.5 | 75.4 | 5.4 | 2.9 | 2.6 | 0.00087 | 23 | 61 |
| **FLSD 80 L** | 1.1 | 2850 | 3.67 | 2.4 | 0.84 | 0.77 | 0.64 | 77.8 | 77.9 | 75.5 | 6.1 | 3.4 | 3.1 | 0.00087 | 23 | 61 |
| **FLSD 90 S** | 1.5 | 2867 | 4.99 | 3 | 0.88 | 0.84 | 0.74 | 80.9 | 81.1 | 77.3 | 7.4 | 3.5 | 3.3 | 0.00171 | 31 | 64 |
| **FLSD 90 L** | 2.2 | 2849 | 7.37 | 4.4 | 0.88 | 0.84 | 0.74 | 81.4 | 81.6 | 79.2 | 7.8 | 3.9 | 2.9 | 0.00199 | 32 | 64 |
| **FLSD 100 L** | 3 | 2865 | 10 | 6.2 | 0.85 | 0.81 | 0.67 | 81.26 | 80.5 | 77.8 | 7.6 | 4.3 | 4.8 | 0.00227 | 38 | 66 |
| **FLSD 112 M** | 4 | 2891 | 13.2 | 8 | 0.86 | 0.8 | 0.7 | 82.9 | 82.6 | 79.7 | 7.0 | 2.3 | 3.9 | 0.00652 | 47 | 69 |
| **FLSD 132 S** | 5.5 | 2898 | 18.1 | 10.9 | 0.87 | 0.86 | 0.83 | 86.1 | 86.2 | 84 | 8.1 | 2.3 | 3.4 | 0.01191 | 76 | 72 |
| **FLSD 132 S** | 7.5 | 2920 | 24.5 | 14.8 | 0.84 | 0.81 | 0.73 | 86.3 | 86.6 | 85.03 | 7.5 | 2.1 | 3.5 | 0.01443 | 81 | 72 |
| **FLSD 132 M** | 9 | 2938 | 29.3 | 16.8 | 0.89 | 0.82 | 0.73 | 87.2 | 86.8 | 84.1 | 8.3 | 2.9 | 3.5 | 0.01847 | 88 | 72 |
| **FLSD 160 M** | 11 | 2935 | 35.7 | 21 | 0.87 | 0.85 | 0.81 | 86 | 86 | 84.1 | 7.6 | 3.3 | 3.2 | 0.044 | 125 | 84 |
| **FLSD 160 M** | 15 | 2930 | 49 | 28 | 0.88 | 0.86 | 0.82 | 88 | 88 | 85.4 | 7.9 | 3.4 | 3.3 | 0.0515 | 137 | 84 |
| **FLSD 160 L** | 18.5 | 2930 | 60 | 34 | 0.88 | 0.86 | 0.82 | 88.5 | 88.2 | 85.3 | 8.3 | 3.4 | 3.4 | 0.059 | 170 | 84 |
| **FLSD 180 M** | 22 | 2935 | 72 | 40 | 0.88 | 0.85 | 0.82 | 89 | 89.1 | 87 | 9.1 | 4.1 | 3.8 | 0.075 | 180 | 85 |
| **FLSD 200 L** | 30 | 2960 | 97 | 53 | 0.9 | 0.87 | 0.82 | 91 | 89.8 | 87.2 | 9.1 | 3.0 | 3.5 | 0.142 | 305 | 85 |
| **FLSD 200 L** | 37 | 2960 | 119 | 65 | 0.9 | 0.88 | 0.81 | 91.5 | 91.5 | 88 | 8.7 | 2.9 | 3.3 | 0.163 | 325 | 85 |
| **FLSD 225 M** | 45 | 2949 | 145 | 77 | 0.91 | 0.88 | 0.82 | 92.5 | 92.4 | 91 | 8.8 | 2.9 | 3.4 | 0.204 | 365 | 83 |
| **FLSD 250 M** | 55 | 2951 | 177 | 99 | 0.85 | 0.83 | 0.77 | 94.6 | 94.5 | 93.9 | 7.7 | 2.6 | 2.7 | 0.223 | 490 | 82 |
| **FLSD 280 S** | 75 | 2970 | 241 | 127 | 0.9 | 0.85 | 0.81 | 94.5 | 93.1 | 94.5 | 6.8 | 2.2 | 2.4 | 0.75 | 760 | 76 |
| **FLSD 280 M** | 90 | 2975 | 289 | 152 | 0.9 | 0.86 | 0.8 | 95 | 94.9 | 94 | 7.4 | 2.3 | 2.5 | 0.85 | 800 | 76 |
| **FLSD 315 S** | 110 | 2970 | 353 | 188 | 0.89 | 0.86 | 0.8 | 95.2 | 94.9 | 94 | 8.0 | 2.1 | 2.6 | 1.5 | 1070 | 84 |
| **FLSD 315 M** | 132 | 2955 | 427 | 229 | 0.87 | 0.84 | 0.79 | 95.5 | 94.9 | 94.1 | 8.7 | 2.4 | 2.7 | 1.5 | 1070 | 84 |
| **FLSD 315 LA** | 160 | 2955 | 517 | 279 | 0.87 | 0.85 | 0.81 | 95.4 | 94.8 | 93.5 | 7.0 | 1.9 | 2.6 | 1.8 | 1120 | 84 |
| **FLSD 315 LB** | 200 | 2960 | 645 | 345 | 0.88 | 0.85 | 0.79 | 95.3 | 94.6 | 93.4 | 8.0 | 2.3 | 2.6 | 2.1 | 1220 | 84 |
| **FLSD 355 LA** | 250 | 2957 | 807 | 421 | 0.9 | 0.86 | 0.81 | 95.2 | 94.5 | 93.3 | 7.8 | 1.7 | 2.5 | 3.3 | 1470 | 84 |
| **FLSD 355 LB** | 315 | 2960 | 1016 | 530 | 0.9 | 0.86 | 0.8 | 95.5 | 94.9 | 94.2 | 7.2 | 1.6 | 2.5 | 3.85 | 1570 | 84 |
| **FLSD 355 LC** | 355 | 2982 | 1137 | 605 | 0.88 | 0.86 | 0.8 | 96.3 | 96 | 95 | 7.9 | 1.9 | 2.6 | 4.2 | 1985 | 84 |
| **FLSD 355 LD** | 400 | 2980 | 1282 | 676 | 0.89 | 0.85 | 0.8 | 96.3 | 95.9 | 94.8 | 7.8 | 2.0 | 2.7 | 4.2 | 1995 | 84 |

The values given are also used for the finish Ex d IIC T4.
For T5 and T6 applications, consult us.

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection



### IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y - S1
### II - 2G - Ex d II B T4

2 poles 3000 min⁻¹

| | Rated power at 50 Hz | IM 1001 (IM B3) | | IM 3001 (IM B5) | | IM 2001 (IM B35) | |
|---|---|---|---|---|---|---|---|
| Type | $P_N$ kW | Code | Qty | Code | Qty | Code | Qty |
| **FLSD 80 L** | 0.75 | XD2 75 101 | 2 | XD2 75 103 | 1 | XD2 75 1A3 | 2 |
| **FLSD 80 L** | 1.1 | XD2 11 201 | 2 | XD2 11 203 | 1 | XD2 11 2A3 | 2 |
| **FLSD 90 S** | 1.5 | XD2 15 201 | 2 | XD2 15 203 | 1 | XD2 15 2A3 | 2 |
| **FLSD 90 L** | 2.2 | XD2 22 201 | 2 | XD2 22 203 | 1 | XD2 22 2A3 | 2 |
| **FLSD 100 L** | 3 | XD2 30 201 | 2 | XD2 30 203 | 1 | XD2 30 2A3 | 2 |
| **FLSD 112 M** | 4 | XD2 40 201 | 2 | XD2 40 203 | 1 | XD2 40 2A3 | 2 |
| **FLSD 132 S** | 5.5 | XD2 55 201 | 2 | XD2 55 203 | 1 | XD2 55 2A3 | 1 |
| **FLSD 132 S** | 7.5 | XD2 75 201 | 2 | | - | XD2 75 2A3 | 1 |
| **FLSD 132 M** | 9 | | - | | - | | - |
| **FLSD 160 M** | 11 | XD2 11 301 | 2 | | - | XD2 11 3A3 | 2 |
| **FLSD 160 M** | 15 | XD2 15 301 | 2 | | - | XD2 15 3A3 | 2 |
| **FLSD 160 L** | 18.5 | XD2 18 301 | 2 | | - | XD2 18 3A3 | 2 |
| **FLSD 180 M** | 22 | XD2 22 301 | 1 | | - | XD2 22 3A3 | 1 |
| **FLSD 200 L** | 30 | | - | | - | | - |
| **FLSD 200 L** | 37 | | - | | - | | - |
| **FLSD 225 M** | 45 | | - | | - | | - |
| **FLSD 250 M** | 55 | | - | | - | | - |
| **FLSD 280 S** | 75 | | - | | - | | - |
| **FLSD 280 M** | 90 | | - | | - | | - |
| **FLSD 315 S** | 110 | | - | | - | | - |
| **FLSD 315 M** | 132 | | - | | - | | - |

### IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y - S1
### II - 2G - Ex d II C T4

2 poles 3000 min⁻¹

| | Rated power at 50 Hz | IM 1001 (IM B3) | | IM 3001 (IM B5) | | IM 2001 (IM B35) | |
|---|---|---|---|---|---|---|---|
| Type | $P_N$ kW | Code | Qty | Code | Qty | Code | Qty |
| **FLSD 80 L** | 0.75 | XD2 75 110 | 2 | XD2 75 113 | 1 | XD2 75 1B3 | 2 |
| **FLSD 80 L** | 1.1 | XD2 11 211 | 2 | XD2 11 213 | 1 | XD2 11 2B3 | 2 |
| **FLSD 90 S** | 1.5 | XD2 15 211 | 2 | XD2 15 213 | 1 | XD2 15 2B3 | 2 |
| **FLSD 90 L** | 2.2 | XD2 22 211 | 2 | XD2 22 213 | 1 | XD2 22 2B3 | 2 |
| **FLSD 100 L** | 3 | XD2 30 211 | 2 | XD2 30 213 | 1 | XD2 30 2B3 | 2 |
| **FLSD 112 M** | 4 | XD2 40 211 | 2 | XD2 40 213 | 1 | XD2 40 2B3 | 2 |
| **FLSD 132 S** | 5.5 | XD2 55 211 | 2 | XD2 55 213 | 1 | XD2 55 2B3 | 1 |
| **FLSD 132 S** | 7.5 | XD2 75 211 | 2 | | - | XD2 75 2B3 | 1 |
| **FLSD 160 M** | 11 | | - | | - | | - |
| **FLSD 160 M** | 15 | | - | | - | | - |
| **FLSD 160 L** | 18.5 | | - | | - | | - |
| **FLSD 180 M** | 22 | | - | | - | | - |
| **FLSD 200 L** | 30 | | - | | - | | - |
| **FLSD 200 L** | 37 | | - | | - | | - |
| **FLSD 225 M** | 45 | | - | | - | | - |
| **FLSD 250 M** | 55 | | - | | - | | - |

**Selection example:**

| | |
|---|---|
| Speed: | 3000 min⁻¹ - 2 poles |
| Power: | 11 kW |
| Mounting and position: | IM 1001 (IM B3) |
| Mains supply voltage: | 230/400 V |
| Specific finish: | Ex d II B T4 |

**Designation:**
**2P FLSD 160 M 11 kW IM 1001 (IM B3) 230/400 V**

**Code : XD2 11 301**

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# totally enclosed three-phase asynchronous motors

## Selection

A

**IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y - S1**
**II - 2G - Ex d IIB T4 / Ex d IIC T4**

4 poles 1500 min-1

| Type | Rated power $P_N$ kW | Rated speed $N_N$ min-1 | Rated moment $M_N$ N.m | Rated current $I_{N\,(400V)}$ A | Power factor Cos φ 4/4 | Power factor Cos φ 3/4 | Power factor Cos φ 2/4 | Efficiency IEC 60034-2; 1996 η 4/4 | Efficiency IEC 60034-2; 1996 η 3/4 | Efficiency IEC 60034-2; 1996 η 2/4 | Starting current/ Rated current Id / In | Starting torque/ Rated torque Md/Mn | Maximum torque/ Rated torque $M_M$/Mn | Moment of inertia J kg.m2 | Weight IM B3 kg | Noise LP db(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FLSD 80 L** | 0.55 | 1430 | 3.67 | 1.45 | 0.7 | 0.61 | 0.5 | 74 | 72.8 | 68.3 | 5.0 | 2.9 | 3.3 | 0.00167 | 22 | 44 |
| **FLSD 80 L** | 0.75 | 1420 | 5 | 2 | 0.74 | 0.66 | 0.54 | 75.1 | 74.1 | 69.7 | 5.4 | 3.1 | 3.6 | 0.00212 | 24 | 44 |
| **FLSD 90 S** | 1.1 | 1427 | 7.4 | 2.4 | 0.86 | 0.79 | 0.67 | 76.1 | 76.4 | 73.4 | 5.0 | 1.8 | 2.3 | 0.00264 | 28 | 50 |
| **FLSD 90 L** | 1.5 | 1432 | 10 | 3.23 | 0.86 | 0.79 | 0.65 | 77.8 | 77.9 | 75 | 5.4 | 2.0 | 2.7 | 0.00321 | 30 | 50 |
| **FLSD 100 L** | 2.2 | 1435 | 14.6 | 4.6 | 0.85 | 0.78 | 0.65 | 80.5 | 80.4 | 77.6 | 6.1 | 2.5 | 3.1 | 0.00432 | 38 | 52 |
| **FLSD 100 L** | 3 | 1439 | 20 | 6.8 | 0.806 | 0.74 | 0.61 | 81.2 | 81.2 | 78.7 | 6.6 | 2.7 | 3.1 | 0.00557 | 41 | 52 |
| **FLSD 112 M** | 4 | 1458 | 26.2 | 8.5 | 0.81 | 0.76 | 0.67 | 84.6 | 84.3 | 82 | 7.5 | 2.3 | 3.2 | 0.01226 | 51 | 52 |
| **FLSD 132 S** | 5.5 | 1450 | 36.2 | 10 | 0.89 | 0.87 | 0.81 | 86.8 | 87.3 | 86.2 | 7.0 | 2.3 | 2.4 | 0.02507 | 89 | 59 |
| **FLSD 132 M** | 7.5 | 1460 | 49.1 | 14.7 | 0.85 | 0.84 | 0.8 | 87.8 | 88.2 | 87.2 | 7.7 | 2.3 | 3.1 | 0.02776 | 93 | 59 |
| **FLSD 160 M** | 11 | 1450 | 73 | 21 | 0.85 | 0.79 | 0.71 | 87.5 | 87.7 | 86.5 | 6.2 | 2.4 | 2.5 | 0.0666 | 130 | 66 |
| **FLSD 160 L** | 15 | 1450 | 99 | 29 | 0.85 | 0.82 | 0.72 | 88.5 | 88.6 | 87.7 | 6.9 | 2.3 | 2.4 | 0.0913 | 155 | 66 |
| **FLSD 180 M** | 18.5 | 1450 | 122 | 35 | 0.85 | 0.83 | 0.74 | 89.5 | 89.5 | 88.7 | 7.2 | 3.0 | 3.1 | 0.1053 | 175 | 68 |
| **FLSD 180 L** | 22 | 1455 | 145 | 42 | 0.85 | 0.81 | 0.71 | 89.5 | 89.5 | 88.9 | 7.6 | 3.0 | 3.1 | 0.1205 | 195 | 68 |
| **FLSD 200 L** | 30 | 1470 | 195 | 56 | 0.84 | 0.79 | 0.67 | 91.5 | 91.6 | 90.2 | 7.5 | 2.8 | 2.9 | 0.2147 | 305 | 74 |
| **FLSD 225 S** | 37 | 1470 | 241 | 69 | 0.84 | 0.78 | 0.69 | 92 | 91.4 | 89.7 | 7.7 | 2.9 | 2.8 | 0.2613 | 330 | 73 |
| **FLSD 225 M** | 45 | 1470 | 293 | 84 | 0.84 | 0.8 | 0.7 | 92.5 | 92.5 | 91.2 | 7.8 | 3.0 | 2.8 | 0.3136 | 365 | 73 |
| **FLSD 250 M** | 55 | 1480 | 355 | 101 | 0.85 | 0.79 | 0.69 | 92.5 | 92.6 | 91.6 | 7.8 | 2.5 | 2.6 | 0.399 | 540 | 80 |
| **FLSD 280 S** | 75 | 1487 | 484 | 141 | 0.81 | 0.75 | 0.65 | 95.5 | 94.8 | 93.5 | 8.2 | 3.3 | 2.6 | 1.45 | 780 | 70 |
| **FLSD 280 M** | 90 | 1488 | 581 | 169 | 0.81 | 0.75 | 0.65 | 95 | 94.5 | 93 | 10.0 | 3.3 | 2.6 | 1.75 | 830 | 70 |
| **FLSD 315 S** | 110 | 1482 | 710 | 199 | 0.84 | 0.81 | 0.73 | 95 | 94.5 | 93 | 7.7 | 2.7 | 2.6 | 2.7 | 1070 | 73 |
| **FLSD 315 M** | 132 | 1483 | 850 | 238 | 0.84 | 0.8 | 0.72 | 95.4 | 94.8 | 93.7 | 7.4 | 2.8 | 2.6 | 2.7 | 1070 | 73 |
| **FLSD 315 LA** | 160 | 1483 | 1032 | 286 | 0.85 | 0.82 | 0.72 | 95 | 94.4 | 93 | 7.0 | 2.0 | 2.4 | 3.2 | 1120 | 73 |
| **FLSD 315 LB** | 200 | 1485 | 1291 | 357 | 0.85 | 0.8 | 0.69 | 95.2 | 94.8 | 93.6 | 9.0 | 2.8 | 3.0 | 4.1 | 1220 | 73 |
| **FLSD 355 LA** | 250 | 1483 | 1611 | 420 | 0.9 | 0.86 | 0.78 | 95.5 | 95.2 | 94 | 7.8 | 2.0 | 2.4 | 6.9 | 1580 | 80 |
| **FLSD 355 LB** | 300 | 1489 | 1930 | 520 | 0.87 | 0.84 | 0.77 | 95.7 | 95.4 | 94.2 | 6.7 | 1.6 | 2.4 | 8 | 1630 | 80 |
| **FLSD 355 LC** | 355 | 1489 | 2279 | 610 | 0.87 | 0.84 | 0.78 | 96.5 | 96.3 | 95.1 | 6.8 | 1.8 | 2.4 | 8.4 | 1870 | 80 |
| **FLSD 355 LD** | 400 | 1489 | 2564 | 688 | 0.87 | 0.83 | 0.77 | 96.5 | 96.3 | 95 | 7.4 | 2.1 | 2.4 | 8.7 | 1990 | 80 |

The values given are also used for the finish Ex d IIC T4.
For T5 and T6 applications, consult us.

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection



### IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y - S1
### II - 2G - Ex d II B T4

4 poles 1500 min⁻¹

| | Rated power at 50 Hz | IM 1001 (IM B3) | | IM 3001 (IM B5) | | IM 2001 (IM B35) | |
|---|---|---|---|---|---|---|---|
| | $P_N$ | | | | | | |
| Type | kW | Code | Qty | Code | Qty | Code | Qty |
| **FLSD 80 L** | 0.55 | XD4 55 101 | 2 | XD4 55 103 | 2 | XD4 55 1A3 | 2 |
| **FLSD 80 L** | 0.75 | XD4 75 101 | 2 | XD4 75 103 | 2 | XD4 75 1A3 | 2 |
| **FLSD 90 S** | 1.1 | XD4 11 201 | 2 | XD4 11 203 | 1 | XD4 11 2A3 | 2 |
| **FLSD 90 L** | 1.5 | XD4 15 201 | 2 | XD4 15 203 | 1 | XD4 15 2A3 | 2 |
| **FLSD 100 L** | 2.2 | XD4 22 201 | 2 | XD4 22 203 | 1 | XD4 22 2A3 | 2 |
| **FLSD 100 L** | 3 | XD4 30 201 | 2 | XD4 30 203 | 1 | XD4 30 2A3 | 2 |
| **FLSD 112 M** | 4 | XD4 40 201 | 2 | XD4 40 203 | 1 | XD4 40 2A3 | 2 |
| **FLSD 132 S** | 5.5 | XD4 55 201 | 2 | XD4 55 203 | 1 | XD4 55 2A3 | 2 |
| **FLSD 132 M** | 7.5 | XD4 75 201 | 2 | XD4 75 203 | 1 | XD4 75 2A3 | 2 |
| **FLSD 160 M** | 11 | XD4 11 301 | 2 | | - | XD4 11 3A3 | 2 |
| **FLSD 160 L** | 15 | XD4 15 301 | 2 | | - | XD4 15 3A3 | 2 |
| **FLSD 180 M** | 18.5 | XD4 18 301 | 2 | | - | XD4 18 3A3 | 2 |
| **FLSD 180 L** | 22 | XD4 22 301 | 2 | | - | XD4 22 3A3 | 2 |
| **FLSD 200 L** | 30 | | - | | - | | - |
| **FLSD 225 S** | 37 | | - | | - | | - |
| **FLSD 225 M** | 45 | | - | | - | | - |
| **FLSD 250 M** | 55 | | - | | - | | - |
| **FLSD 280 S** | 75 | | - | | - | | - |
| **FLSD 280 M** | 90 | | - | | - | | - |
| **FLSD 315 S** | 110 | | - | | - | | - |
| **FLSD 315 M** | 132 | | - | | - | | - |

### IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y - S1
### II - 2G - Ex d II C T4

4 poles 1500 min⁻¹

| | Rated power at 50 Hz | IM 1001 (IM B3) | | IM 3001 (IM B5) | | IM 2001 (IM B35) | |
|---|---|---|---|---|---|---|---|
| | $P_N$ | | | | | | |
| Type | kW | Code | Qty | Code | Qty | Code | Qty |
| **FLSD 80 L** | 0.55 | XD4 55 111 | 2 | XD4 55 113 | 2 | XD4 55 1B3 | 2 |
| **FLSD 80 L** | 0.75 | XD4 75 111 | 2 | XD4 75 113 | 2 | XD4 75 1B3 | 2 |
| **FLSD 90 S** | 1.1 | XD4 11 211 | 2 | XD4 11 213 | 1 | XD4 11 2B3 | 2 |
| **FLSD 90 L** | 1.5 | XD4 15 211 | 2 | XD4 15 213 | 1 | XD4 15 2B3 | 2 |
| **FLSD 100 L** | 2.2 | XD4 22 211 | 2 | XD4 22 213 | 1 | XD4 22 2B3 | 2 |
| **FLSD 100 L** | 3 | XD4 30 211 | 2 | XD4 30 213 | 1 | XD4 30 2B3 | 2 |
| **FLSD 112 M** | 4 | XD4 40 211 | 2 | XD4 40 213 | 1 | XD4 40 2B3 | 2 |
| **FLSD 132 S** | 5.5 | XD4 55 211 | 2 | XD4 55 213 | 1 | XD4 55 2B3 | 2 |
| **FLSD 132 M** | 7.5 | XD4 75 211 | 2 | XD4 75 213 | 1 | XD4 75 2B3 | 2 |
| **FLSD 160 M** | 11 | | - | | - | | - |
| **FLSD 160 L** | 15 | | - | | - | | - |
| **FLSD 180 M** | 18.5 | | - | | - | | - |
| **FLSD 180 L** | 22 | | - | | - | | - |
| **FLSD 200 L** | 30 | | - | | - | | - |
| **FLSD 225 S** | 37 | | - | | - | | - |
| **FLSD 225 M** | 45 | | - | | - | | - |
| **FLSD 250 M** | 55 | | - | | - | | - |

**Selection example:**

| | |
|---|---|
| Speed: | 1500 min⁻¹ - 4 poles |
| Power: | 11 kW |
| Mounting and position: | IM 3001 (IM B5) |
| Mains supply voltage: | 230/400 V |
| Specific finish: | Ex d II B T4 |

**Designation:**
**4P FLSD 160 M 11 kW IM 3001 (IM B5) 230/400 V**

**Code : XD4 11 303**

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection

A

**IP 55 - 50 Hz - Class F - ΔT 80 K - 400 V Δ - S1**
**II - 2G - Ex d IIB T4 / Ex d IIC T4**

2 poles 3000 min-1

| Type | Rated power $P_N$ kW | Rated speed $N_N$ min-1 | Rated moment $M_N$ N.m | Rated current $I_{N\ (400V)}$ A | Power factor Cos φ 4/4 | 3/4 | 2/4 | Efficiency IEC 60034-2; 1996 η 4/4 | 3/4 | 2/4 | Starting current/ Rated current Id / In | Starting torque/ Rated torque Md/Mn | Maximum torque/ Rated torque $M_M$/Mn | Moment of inertia J kg.m2 | Weight IM B3 kg | Noise LP db(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FLSD 80 L** | 0.75 | 2860 | 2.51 | 1.6 | 0.89 | 0.84 | 0.75 | 78.4 | 78.5 | 75.4 | 5.4 | 2.9 | 2.6 | 0.00087 | 23 | 61 |
| **FLSD 80 L** | 1.1 | 2850 | 3.67 | 2.4 | 0.84 | 0.77 | 0.64 | 77.8 | 77.9 | 75.5 | 6.1 | 3.4 | 3.1 | 0.00087 | 23 | 61 |
| **FLSD 90 S** | 1.5 | 2867 | 4.99 | 3 | 0.88 | 0.84 | 0.74 | 80.9 | 81.1 | 77.3 | 7.4 | 3.5 | 3.3 | 0.00171 | 31 | 64 |
| **FLSD 90 L** | 2.2 | 2849 | 7.37 | 4.4 | 0.88 | 0.84 | 0.74 | 81.4 | 81.6 | 79.2 | 7.8 | 3.9 | 2.9 | 0.00199 | 32 | 64 |
| **FLSD 100 L** | 3 | 2865 | 10 | 6.2 | 0.85 | 0.81 | 0.67 | 81.26 | 80.5 | 77.8 | 7.6 | 4.3 | 4.8 | 0.00227 | 38 | 66 |
| **FLSD 112 M** | 4 | 2891 | 13.2 | 8 | 0.86 | 0.8 | 0.7 | 82.9 | 82.6 | 79.7 | 7.0 | 2.3 | 3.9 | 0.00652 | 47 | 69 |
| **FLSD 132 S** | 5.5 | 2898 | 18.1 | 10.9 | 0.87 | 0.86 | 0.83 | 86.1 | 86.2 | 84 | 8.1 | 2.3 | 3.4 | 0.01191 | 76 | 72 |
| **FLSD 132 S** | 7.5 | 2920 | 24.5 | 14.8 | 0.84 | 0.81 | 0.73 | 86.3 | 86.6 | 85.03 | 7.5 | 2.1 | 3.5 | 0.01443 | 81 | 72 |
| **FLSD 132 M** | 9 | 2938 | 29.3 | 16.8 | 0.89 | 0.82 | 0.73 | 87.2 | 86.8 | 84.1 | 8.3 | 2.9 | 3.5 | 0.01847 | 88 | 72 |
| **FLSD 160 M** | 11 | 2935 | 35.7 | 21 | 0.87 | 0.85 | 0.81 | 86 | 86 | 84.1 | 7.6 | 3.3 | 3.2 | 0.044 | 125 | 84 |
| **FLSD 160 M** | 15 | 2930 | 49 | 28 | 0.88 | 0.86 | 0.82 | 88 | 88 | 85.4 | 7.9 | 3.4 | 3.3 | 0.0515 | 137 | 84 |
| **FLSD 160 L** | 18.5 | 2930 | 60 | 34 | 0.88 | 0.86 | 0.82 | 88.5 | 88.2 | 85.3 | 8.3 | 3.4 | 3.4 | 0.059 | 170 | 84 |
| **FLSD 180 M** | 22 | 2935 | 72 | 40 | 0.88 | 0.85 | 0.82 | 89 | 89.1 | 87 | 9.1 | 4.1 | 3.8 | 0.075 | 180 | 85 |
| **FLSD 200 L** | 30 | 2960 | 97 | 53 | 0.9 | 0.87 | 0.82 | 91 | 89.8 | 87.2 | 9.1 | 3.0 | 3.5 | 0.142 | 305 | 85 |
| **FLSD 200 L** | 37 | 2960 | 119 | 65 | 0.9 | 0.88 | 0.81 | 91.5 | 91.5 | 88 | 8.7 | 2.9 | 3.3 | 0.163 | 325 | 85 |
| **FLSD 225 M** | 45 | 2949 | 145 | 77 | 0.91 | 0.88 | 0.82 | 92.5 | 92.4 | 91 | 8.8 | 2.9 | 3.4 | 0.204 | 365 | 83 |
| **FLSD 250 M** | 55 | 2951 | 177 | 99 | 0.85 | 0.83 | 0.77 | 94.6 | 94.5 | 93.9 | 7.7 | 2.6 | 2.7 | 0.223 | 490 | 82 |
| **FLSD 280 S** | 75 | 2970 | 241 | 127 | 0.9 | 0.85 | 0.81 | 94.5 | 93.1 | 94.5 | 6.8 | 2.2 | 2.4 | 0.75 | 760 | 76 |
| **FLSD 280 M** | 90 | 2975 | 289 | 152 | 0.9 | 0.86 | 0.8 | 95 | 94.9 | 94 | 7.4 | 2.3 | 2.5 | 0.85 | 800 | 76 |
| **FLSD 315 S** | 110 | 2970 | 353 | 188 | 0.89 | 0.86 | 0.8 | 95.2 | 94.9 | 94 | 8.0 | 2.1 | 2.6 | 1.5 | 1070 | 84 |
| **FLSD 315 M** | 132 | 2955 | 427 | 229 | 0.87 | 0.84 | 0.79 | 95.5 | 94.9 | 94.1 | 8.7 | 2.4 | 2.7 | 1.5 | 1070 | 84 |
| **FLSD 315 LA** | 160 | 2955 | 517 | 279 | 0.87 | 0.85 | 0.81 | 95.4 | 94.8 | 93.5 | 7.0 | 1.9 | 2.6 | 1.8 | 1120 | 84 |
| **FLSD 315 LB** | 200 | 2960 | 645 | 345 | 0.88 | 0.85 | 0.79 | 95.3 | 94.6 | 93.4 | 8.0 | 2.3 | 2.6 | 2.1 | 1220 | 84 |
| **FLSD 355 LA** | 250 | 2957 | 807 | 421 | 0.9 | 0.86 | 0.81 | 95.2 | 94.5 | 93.3 | 7.8 | 1.7 | 2.5 | 3.3 | 1470 | 84 |
| **FLSD 355 LB** | 315 | 2960 | 1016 | 530 | 0.9 | 0.86 | 0.8 | 95.5 | 94.9 | 94.2 | 7.2 | 1.6 | 2.5 | 3.85 | 1570 | 84 |
| **FLSD 355 LC** | 355 | 2982 | 1137 | 605 | 0.88 | 0.86 | 0.8 | 96.3 | 96 | 95 | 7.9 | 1.9 | 2.6 | 4.2 | 1985 | 84 |
| **FLSD 355 LD** | 400 | 2980 | 1282 | 676 | 0.89 | 0.85 | 0.8 | 96.3 | 95.9 | 94.8 | 7.8 | 2.0 | 2.7 | 4.2 | 1995 | 84 |

The values given are also used for the finish Ex d IIC T4.
For T5 and T6 applications, consult us.

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection



### IP 55 - 50 Hz - Class F - ΔT 80 K - 400 V Δ - S1
### II - 2G - Ex d II B T4

2 poles 3000 min⁻¹

| Type | Rated power at 50 Hz $P_N$ kW | IM 1001 (IM B3) Code | Qty | IM 3001 (IM B5) Code | Qty | IM 2001 (IM B35) Code | Qty |
|---|---|---|---|---|---|---|---|
| **FLSD 112 M** | 4 | XD2 40 202 | 1 | XD2 40 204 | 2 | XD2 40 2A4 | 2 |
| **FLSD 132 S** | 5.5 | XD2 55 202 | 2 | XD2 55 204 | 2 | XD2 55 2A4 | 2 |
| **FLSD 132 S** | 7.5 | XD2 75 202 | 2 | XD2 75 204 | 2 | XD2 75 2A4 | 2 |
| **FLSD 132 M** | 9 | | - | | | | |
| **FLSD 160 M** | 11 | XD2 11 302 | 2 | XD2 11 304 | 2 | XD2 11 3A4 | 2 |
| **FLSD 160 M** | 15 | XD2 15 302 | 2 | XD2 15 304 | 2 | XD2 15 3A4 | 2 |
| **FLSD 160 L** | 18.5 | XD2 18 302 | 2 | XD2 18 304 | 2 | XD2 18 3A4 | 2 |
| **FLSD 180 M** | 22 | XD2 22 302 | 1 | XD2 22 304 | 1 | XD2 22 3A4 | 1 |
| **FLSD 200 L** | 30 | | 1 | | 1 | | 1 |

### IP 55 - 50 Hz - Class F - ΔT 80 K - 400 V Δ - S1
### II - 2G - Ex d II C T4

2 poles 3000 min⁻¹

| Type | Rated power at 50 Hz $P_N$ kW | IM 1001 (IM B3) Code | Qty | IM 3001 (IM B5) Code | Qty | IM 2001 (IM B35) Code | Qty |
|---|---|---|---|---|---|---|---|
| **FLSD 112 M** | 4 | XD2 40 212 | 1 | XD2 40 214 | 2 | XD2 40 2B4 | 2 |
| **FLSD 132 S** | 5.5 | XD2 55 212 | 2 | XD2 55 214 | 2 | XD2 55 2B4 | 2 |
| **FLSD 132 S** | 7.5 | XD2 75 212 | 2 | XD2 75 214 | 2 | XD2 75 2B4 | 2 |
| **FLSD 160 M** | 11 | | - | | - | | - |
| **FLSD 160 M** | 15 | | - | | - | | - |
| **FLSD 160 L** | 18.5 | | - | | - | | - |
| **FLSD 180 M** | 22 | | - | | - | | - |

**Selection example:**

| | |
|---|---|
| Speed: | 3000 min⁻¹ - 2 poles |
| Power: | 11 kW |
| Mounting and position: | IM 3001 (IM B5) |
| Mains supply voltage: | 400 V |
| Specific finish: | Ex d II B T4 |

**Designation:**
**2P FLSD 160 M 11 kW IM 3001 (IM B5) 400 V**

**Code : XD2 11 304**

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection

A

**IP 55 - 50 Hz - Class F - ΔT 80 K - 400 V Δ - S1**
**- 2G - Ex d IIB T4 / Ex d IIC T4**

4 poles 1500 min-1

| Type | Rated power $P_N$ kW | Rated speed $N_N$ min-1 | Rated moment $M_N$ N.m | Rated current $I_{N\,(400V)}$ A | Power factor Cos φ 4/4 | 3/4 | 2/4 | Efficiency IEC 60034-2; 1996 η 4/4 | 3/4 | 2/4 | Starting current/ Rated current Id / In | Starting torque/ Rated torque Md/Mn | Maximum torque/ Rated torque $M_M$/Mn | Moment of inertia J kg.m2 | Weight IM B3 kg | Noise LP db(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FLSD 80 L** | 0.55 | 1430 | 3.67 | 1.45 | 0.7 | 0.61 | 0.5 | 74 | 72.8 | 68.3 | 5.0 | 2.9 | 3.3 | 0.00167 | 22 | 44 |
| **FLSD 80 L** | 0.75 | 1420 | 5 | 2 | 0.74 | 0.66 | 0.54 | 75.1 | 74.1 | 69.7 | 5.4 | 3.1 | 3.6 | 0.00212 | 24 | 44 |
| **FLSD 90 S** | 1.1 | 1427 | 7.4 | 2.4 | 0.86 | 0.79 | 0.67 | 76.1 | 76.4 | 73.4 | 5.0 | 1.8 | 2.3 | 0.00264 | 28 | 50 |
| **FLSD 90 L** | 1.5 | 1432 | 10 | 3.23 | 0.86 | 0.79 | 0.65 | 77.8 | 77.9 | 75 | 5.4 | 2.0 | 2.7 | 0.00321 | 30 | 50 |
| **FLSD 100 L** | 2.2 | 1435 | 14.6 | 4.6 | 0.85 | 0.78 | 0.65 | 80.5 | 80.4 | 77.6 | 6.1 | 2.5 | 3.1 | 0.00432 | 38 | 52 |
| **FLSD 100 L** | 3 | 1439 | 20 | 6.8 | 0.806 | 0.74 | 0.61 | 81.2 | 81.2 | 78.7 | 6.6 | 2.7 | 3.1 | 0.00557 | 41 | 52 |
| **FLSD 112 M** | 4 | 1458 | 26.2 | 8.5 | 0.81 | 0.76 | 0.67 | 84.6 | 84.3 | 82 | 7.5 | 2.3 | 3.2 | 0.01226 | 51 | 52 |
| **FLSD 132 S** | 5.5 | 1450 | 36.2 | 10 | 0.89 | 0.87 | 0.81 | 86.8 | 87.3 | 86.2 | 7.0 | 2.3 | 2.4 | 0.02507 | 89 | 59 |
| **FLSD 132 M** | 7.5 | 1460 | 49.1 | 14.7 | 0.85 | 0.84 | 0.8 | 87.8 | 88.2 | 87.2 | 7.7 | 2.3 | 3.1 | 0.02776 | 93 | 59 |
| **FLSD 160 M** | 11 | 1450 | 73 | 21 | 0.85 | 0.79 | 0.71 | 87.5 | 87.7 | 86.5 | 6.2 | 2.4 | 2.5 | 0.0666 | 130 | 66 |
| **FLSD 160 L** | 15 | 1450 | 99 | 29 | 0.85 | 0.82 | 0.72 | 88.5 | 88.6 | 87.7 | 6.9 | 2.3 | 2.4 | 0.0913 | 155 | 66 |
| **FLSD 180 M** | 18.5 | 1450 | 122 | 35 | 0.85 | 0.83 | 0.74 | 89.5 | 89.5 | 88.7 | 7.2 | 3.0 | 3.1 | 0.1053 | 175 | 68 |
| **FLSD 180 L** | 22 | 1455 | 145 | 42 | 0.85 | 0.81 | 0.71 | 89.5 | 89.5 | 88.9 | 7.6 | 3.0 | 3.1 | 0.1205 | 195 | 68 |
| **FLSD 200 L** | 30 | 1470 | 195 | 56 | 0.84 | 0.79 | 0.67 | 91.5 | 91.6 | 90.2 | 7.5 | 2.8 | 2.9 | 0.2147 | 305 | 74 |
| **FLSD 225 S** | 37 | 1470 | 241 | 69 | 0.84 | 0.78 | 0.69 | 92 | 91.4 | 89.7 | 7.7 | 2.9 | 2.8 | 0.2613 | 330 | 73 |
| **FLSD 225 M** | 45 | 1470 | 293 | 84 | 0.84 | 0.8 | 0.7 | 92.5 | 92.5 | 91.2 | 7.8 | 3.0 | 2.8 | 0.3136 | 365 | 73 |
| **FLSD 250 M** | 55 | 1480 | 355 | 101 | 0.85 | 0.79 | 0.69 | 92.5 | 92.6 | 91.6 | 7.8 | 2.5 | 2.6 | 0.399 | 540 | 80 |
| **FLSD 280 S** | 75 | 1487 | 484 | 141 | 0.81 | 0.75 | 0.65 | 95.5 | 94.8 | 93.5 | 8.2 | 3.3 | 2.6 | 1.45 | 780 | 70 |
| **FLSD 280 M** | 90 | 1488 | 581 | 169 | 0.81 | 0.75 | 0.65 | 95 | 94.5 | 93 | 10.0 | 3.3 | 2.6 | 1.75 | 830 | 70 |
| **FLSD 315 S** | 110 | 1482 | 710 | 199 | 0.84 | 0.81 | 0.73 | 95 | 94.5 | 93 | 7.7 | 2.7 | 2.6 | 2.7 | 1070 | 73 |
| **FLSD 315 M** | 132 | 1483 | 850 | 238 | 0.84 | 0.8 | 0.72 | 95.4 | 94.8 | 93.7 | 7.4 | 2.8 | 2.6 | 2.7 | 1070 | 73 |
| **FLSD 315 LA** | 160 | 1483 | 1032 | 286 | 0.85 | 0.82 | 0.72 | 95 | 94.4 | 93 | 7.0 | 2.0 | 2.4 | 3.2 | 1120 | 73 |
| **FLSD 315 LB** | 200 | 1485 | 1291 | 357 | 0.85 | 0.8 | 0.69 | 95.2 | 94.8 | 93.6 | 9.0 | 2.8 | 3.0 | 4.1 | 1220 | 73 |
| **FLSD 355 LA** | 250 | 1483 | 1611 | 420 | 0.9 | 0.86 | 0.78 | 95.5 | 95.2 | 94 | 7.8 | 2.0 | 2.4 | 6.9 | 1580 | 80 |
| **FLSD 355 LB** | 300 | 1489 | 1930 | 520 | 0.87 | 0.84 | 0.77 | 95.7 | 95.4 | 94.2 | 6.7 | 1.6 | 2.4 | 8 | 1630 | 80 |
| **FLSD 355 LC** | 355 | 1489 | 2279 | 610 | 0.87 | 0.84 | 0.78 | 96.5 | 96.3 | 95.1 | 6.8 | 1.8 | 2.4 | 8.4 | 1870 | 80 |
| **FLSD 355 LD** | 400 | 1489 | 2564 | 688 | 0.87 | 0.83 | 0.77 | 96.5 | 96.3 | 95 | 7.4 | 2.1 | 2.4 | 8.7 | 1990 | 80 |

The values given are also used for the finish Ex d IIC T4.
For T5 and T6 applications, consult us.

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection



### IP 55 - 50 Hz - Class F - ΔT 80 K - 400 V Δ - S1
### II - 2G - Ex d II B T4

4 poles 1500 min⁻¹

| | Rated power | IM 1001 | | IM 3001 | | IM 2001 | |
|---|---|---|---|---|---|---|---|
| | at 50 Hz | (IM B3) | | (IM B5) | | (IM B35) | |
| | $P_N$ | | | | | | |
| Type | kW | Code | Qty | Code | Qty | Code | Qty |
| **FLSD 112 M** | 4 | XD4 40 202 | 2 | XD4 40 204 | 2 | XD4 40 2A4 | 2 |
| **FLSD 132 S** | 5.5 | XD4 55 202 | 2 | XD4 55 204 | 2 | XD4 55 2A4 | 2 |
| **FLSD 132 M** | 7.5 | XD4 75 202 | 2 | XD4 75 204 | 2 | XD4 75 2A4 | 2 |
| **FLSD 160 M** | 11 | XD4 11 302 | 2 | XD4 11 304 | 2 | XD4 11 3A4 | 2 |
| **FLSD 160 L** | 15 | XD4 15 302 | 2 | XD4 15 304 | 2 | XD4 15 3A4 | 2 |
| **FLSD 180 M** | 18.5 | XD4 18 302 | 1 | XD4 18 304 | 1 | XD4 18 3A4 | 1 |
| **FLSD 180 L** | 22 | XD4 22 302 | 1 | XD4 22 304 | 1 | XD4 22 3A4 | 1 |
| **FLSD 200 L** | 30 | XD4 30 302 | 1 | | - | | - |
| **FLSD 225 S** | 37 | XD4 37 302 | 1 | | - | | - |
| **FLSD 225 M** | 45 | XD4 45 302 | 1 | | - | | - |
| **FLSD 250 M** | 55 | | 1 | | - | | - |
| **FLSD 280 S** | 75 | | 1 | | - | | - |
| **FLSD 280 M** | 90 | | - | | - | | - |
| **FLSD 315 S** | 110 | | - | | - | | - |

### IP 55 - 50 Hz - Class F - ΔT 80 K - 400 V Δ - S1
### II - 2G - Ex d II C T4

4 poles 1500 min⁻¹

| | Rated power | IM 1001 | | IM 3001 | | IM 2001 | |
|---|---|---|---|---|---|---|---|
| | at 50 Hz | (IM B3) | | (IM B5) | | (IM B35) | |
| | $P_N$ | | | | | | |
| Type | kW | Code | Qty | Code | Qty | Code | Qty |
| **FLSD 112 M** | 4 | XD4 40 212 | 2 | XD4 40 214 | 2 | XD4 40 2B4 | 2 |
| **FLSD 132 S** | 5.5 | XD4 55 212 | 2 | XD4 55 214 | 2 | XD4 55 2B4 | 2 |
| **FLSD 132 M** | 7.5 | XD4 75 212 | 2 | XD4 75 214 | 2 | XD4 75 2B4 | 2 |
| **FLSD 160 M** | 11 | | - | | - | | - |
| **FLSD 160 L** | 15 | | - | | - | | - |
| **FLSD 180 M** | 18.5 | | - | | - | | - |
| **FLSD 180 L** | 22 | | - | | - | | - |
| **FLSD 200 L** | 30 | | - | | - | | - |
| **FLSD 225 S** | 37 | | - | | - | | - |
| **FLSD 225 M** | 45 | | - | | - | | - |
| **FLSD 250 M** | 55 | | - | | - | | - |

**Selection example:**

| | |
|---|---|
| Speed: | 1500 min⁻¹ - 4 poles |
| Power: | 11 kW |
| Mounting and position: | IM 1001 (IM B3) |
| Mains supply voltage: | 400 V |
| Specific finish: | Ex d II B T4 |

**Designation:**
**4P FLSD 160 M 11 kW IM 1001 (IM B3) 400 V**

**Code : XD4 11 302**

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection

A

**IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1**
**II - 2G - Ex d II B T4**

6 poles 1000 min-1

| Type | Rated power $P_N$ kW | Rated speed $N_N$ min-1 | Rated moment $M_N$ N.m | Rated current $I_{N\,(400V)}$ A | Power factor Cos φ 4/4 | 3/4 | 2/4 | Efficiency IEC 60034-2; 1996 η 4/4 | 3/4 | 2/4 | Starting current/ Rated current Id / In | Starting torque/ Rated torque Md/Mn | Maximum torque/ Rated torque $M_M$/Mn | Moment of inertia J kg.m2 | Weight IM B3 kg | Noise LP db(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FLSD 80 L** | 0.25 | 950 | 2.51 | 0.8 | 0.74 | 0.68 | 0.55 | 60.3 | 58.2 | 54.0 | 3.6 | 2.0 | 1.9 | 0.0022 | 22 | 40 |
| **FLSD 80 L** | 0.37 | 940 | 3.76 | 1.2 | 0.74 | 0.68 | 0.55 | 61.0 | 59.9 | 55.2 | 3.8 | 1.9 | 2.1 | 0.0028 | 24 | 40 |
| **FLSD 80 L** | 0.55 | 955 | 5.5 | 1.8 | 0.67 | 0.59 | 0.46 | 65.1 | 64.0 | 59.0 | 4.4 | 2.5 | 2.6 | 0.0036 | 24 | 40 |
| **FLSD 90 S** | 0.75 | 940 | 7.62 | 2.1 | 0.8 | 0.75 | 0.65 | 70.5 | 69.3 | 63.5 | 3.5 | 2.0 | 2.2 | 0.0031 | 28 | 45 |
| **FLSD 90 L** | 1.1 | 940 | 11.2 | 2.7 | 0.81 | 0.76 | 0.66 | 70.7 | 71.0 | 66.7 | 4.8 | 1.8 | 2.2 | 0.0037 | 30 | 45 |
| **FLSD 100 L** | 1.5 | 955 | 15 | 3.5 | 0.78 | 0.72 | 0.61 | 75.7 | 76.4 | 75.2 | 6.3 | 2.2 | 2.8 | 0.0056 | 38 | 48 |
| **FLSD 112 M** | 2.2 | 960 | 21.9 | 5.2 | 0.77 | 0.71 | 0.59 | 77.7 | 78.2 | 76.3 | 5.5 | 2.3 | 2.4 | 0.012 | 51 | 48 |
| **FLSD 132 S** | 3 | 953 | 30.1 | 6.9 | 0.76 | 0.74 | 0.63 | 79.7 | 81.0 | 79.7 | 5.3 | 2.2 | 2.4 | 0.0199 | 89 | 55 |
| **FLSD 132 M** | 4 | 970 | 39.4 | 9 | 0.78 | 0.72 | 0.61 | 82.4 | 83.3 | 81.9 | 6.7 | 2.8 | 2.7 | 0.0275 | 93 | 55 |
| **FLSD 132 M** | 5.5 | 970 | 54.1 | 12.2 | 0.79 | 0.74 | 0.63 | 83.1 | 84.0 | 82.7 | 7.1 | 3.2 | 2.7 | 0.0343 | 93 | 55 |
| **FLSD 160 M** | 7.5 | 965 | 75 | 17 | 0.76 | 0.70 | 0.58 | 86.0 | 85.7 | 83.6 | 5.5 | 2.0 | 2.6 | 0.085 | 125 | 58 |
| **FLSD 160 L** | 11 | 970 | 109 | 24 | 0.77 | 0.72 | 0.59 | 87.0 | 86.7 | 84.5 | 6.1 | 2.1 | 2.8 | 0.118 | 145 | 58 |
| **FLSD 180 L** | 15 | 970 | 148 | 34 | 0.74 | 0.67 | 0.53 | 87.0 | 86.1 | 84.0 | 6.8 | 2.2 | 2.4 | 0.158 | 180 | 60 |
| **FLSD 200 L** | 18.5 | 975 | 182 | 37 | 0.8 | 0.75 | 0.5 | 90.0 | 90.1 | 85.6 | 7.5 | 1.9 | 2.7 | 0.305 | 305 | 66 |
| **FLSD 200 L** | 22 | 970 | 217 | 45 | 0.79 | 0.73 | 0.62 | 90.0 | 90.2 | 89.9 | 7.5 | 2.2 | 3.2 | 0.305 | 305 | 66 |
| **FLSD 225 M** | 30 | 970 | 295 | 60 | 0.8 | 0.73 | 0.6 | 90.0 | 89.5 | 87.3 | 7.7 | 2.3 | 3.1 | 0.394 | 350 | 65 |
| **FLSD 250 M** | 37 | 982 | 360 | 74.5 | 0.78 | 0.73 | 0.6 | 92.0 | 91.9 | 90.4 | 7.2 | 2.4 | 2.2 | 0.56 | 530 | 71 |
| **FLSD 280 S** | 45 | 987 | 440 | 83 | 0.87 | 0.84 | 0.76 | 93.9 | 94.0 | 93.0 | 6.1 | 1.9 | 2.3 | 1.1 | 780 | 72 |
| **FLSD 280 M** | 55 | 987 | 536 | 100 | 0.84 | 0.8 | 0.71 | 95.0 | 94.9 | 94.0 | 6.4 | 2.1 | 2.4 | 1.25 | 830 | 72 |
| **FLSD 315 S** | 75 | 987 | 731 | 130 | 0.87 | 0.83 | 0.77 | 95.0 | 95.0 | 94.1 | 7.2 | 1.7 | 2.3 | 3.1 | 1080 | 76 |
| **FLSD 315 M** | 90 | 983 | 875 | 161 | 0.86 | 0.83 | 0.75 | 94.0 | 93.9 | 92.5 | 7.1 | 1.5 | 2.5 | 3.1 | 1080 | 76 |
| **FLSD 315 LA** | 110 | 985 | 1067 | 197 | 0.86 | 0.82 | 0.74 | 94.3 | 93.0 | 86.0 | 6.8 | 1.6 | 2.5 | 4 | 1130 | 76 |
| **FLSD 315 LB** | 132 | 986 | 1280 | 234 | 0.86 | 0.83 | 0.74 | 94.9 | 94.7 | 93.3 | 7.5 | 1.7 | 2.5 | 4.4 | 1195 | 76 |
| **FLSD 315 LB** | 150 | 985 | 1454 | 265 | 0.86 | 0.82 | 0.72 | 94.7 | 94.4 | 93.0 | 6.8 | 1.5 | 2.4 | 4.4 | 1215 | 76 |
| **FLSD 355 LA** | 185 | 991 | 1783 | 329 | 0.86 | 0.83 | 0.74 | 94.2 | 94.2 | 93.1 | 7.5 | 1.7 | 2.7 | 5 | 1485 | 78 |
| **FLSD 355 LB** | 220 | 987 | 2129 | 384 | 0.87 | 0.84 | 0.75 | 95.0 | 95.0 | 93.7 | 7.5 | 1.8 | 2.7 | 6 | 1610 | 78 |
| **FLSD 355 LD** | 300 | 993 | 2885 | 553 | 0.82 | 0.79 | 0.71 | 95.5 | 95.3 | 94.0 | 7.6 | 1.6 | 2.6 | 8 | 1995 | 78 |

The values given are also used for the finish Ex d II C T4.
For T5 and T6 applications, consult us.

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection

**IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1**
**II - 2G - Ex d IIB T4**

A

6 poles 1000 min$^{-1}$

| Type | Rated power at 50 Hz $P_N$ kW | IM 1001 (IM B3) Code | Qty | IM 3001 (IM B5) Code | Qty | IM 2001 (IM B35) Code | Qty |
|---|---|---|---|---|---|---|---|
| **FLSD 80 L** | 0.25 | | - | | - | | - |
| **FLSD 80 L** | 0.37 | | - | | - | | - |
| **FLSD 80 L** | 0.55 | | - | | - | | - |
| **FLSD 90 S** | 0.75 | | - | | - | | - |
| **FLSD 90 L** | 1.1 | | - | | - | | - |
| **FLSD 100 L** | 1.5 | | - | | - | | - |
| **FLSD 112 M** | 2.2 | | - | | - | | - |
| **FLSD 132 S** | 3 | | - | | - | | - |
| **FLSD 132 M** | 4 | | - | | - | | - |
| **FLSD 132 M** | 5.5 | | - | | - | | - |
| **FLSD 160 M** | 7.5 | | - | | - | | - |
| **FLSD 160 L** | 11 | | - | | - | | - |
| **FLSD 180 L** | 15 | | - | | - | | - |
| **FLSD 200 L** | 18.5 | | - | | - | | - |
| **FLSD 200 L** | 22 | | - | | - | | - |
| **FLSD 225 M** | 30 | | - | | - | | - |
| **FLSD 250 M** | 37 | | - | | - | | - |
| **FLSD 280 S** | 45 | | - | | - | | - |
| **FLSD 280 M** | 55 | | - | | - | | - |
| **FLSD 315 S** | 75 | | - | | - | | - |
| **FLSD 315 M** | 90 | | - | | - | | - |

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection

A

**IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1**
**II - 2G - Ex d II B T4**

**8 poles 750 min-1**

| Type | Rated power $P_N$ kW | Rated speed $N_N$ min-1 | Rated moment $M_N$ N.m | Rated current $I_{N\ (400V)}$ A | Power factor Cos φ 4/4 | 3/4 | 2/4 | Efficiency IEC 60034-2; 1996 η 4/4 | 3/4 | 2/4 | Starting current/ Rated current Id / In | Starting torque/ Rated torque Md/Mn | Maximum torque/ Rated torque $M_M$/Mn | Moment of inertia J kg.m2 | Weight IM B3 kg | Noise LP db(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **FLSD 80 L** | 0.18 | 710 | 2.42 | 0.8 | 0.64 | 0.58 | 0.46 | 52.3 | 51 | 45 | 3.0 | 1.7 | 1.7 | 0.0028 | 22 | 40 |
| **FLSD 80 L** | 0.25 | 720 | 3.32 | 1.1 | 0.6 | 0.55 | 0.44 | 54.5 | 54 | 46 | 3.18 | 2.0 | 2.4 | 0.0036 | 24 | 40 |
| **FLSD 90 S** | 0.37 | 685 | 5.16 | 1.2 | 0.71 | 0.57 | 0.45 | 64 | 63 | 59 | 3.5 | 1.6 | 1.6 | 0.0031 | 28 | 48 |
| **FLSD 90 L** | 0.55 | 695 | 7.56 | 1.7 | 0.72 | 0.59 | 0.46 | 63 | 58 | 54 | 3.29 | 1.9 | 1.8 | 0.0037 | 30 | 48 |
| **FLSD 100 L** | 0.75 | 720 | 9.95 | 2.3 | 0.68 | 0.6 | 0.47 | 70.9 | 70 | 66 | 4.09 | 1.9 | 1.9 | 0.0085 | 38 | 46 |
| **FLSD 100 L** | 1.1 | 720 | 14.6 | 3.8 | 0.62 | 0.56 | 0.44 | 68 | 66 | 60 | 4.11 | 1.8 | 2.4 | 0.0117 | 41 | 46 |
| **FLSD 112 M** | 1.5 | 725 | 19.8 | 4.8 | 0.63 | 0.57 | 0.45 | 72.5 | 72 | 68 | 4.0 | 2.1 | 2.2 | 0.0150 | 51 | 49 |
| **FLSD 132 S** | 2.2 | 715 | 29.4 | 7.2 | 0.6 | 0.55 | 0.44 | 74 | 74 | 72 | 3.19 | 1.4 | 1.8 | 0.0253 | 89 | 56 |
| **FLSD 132 M** | 3 | 705 | 40.6 | 9.1 | 0.63 | 0.57 | 0.46 | 76 | 76 | 73 | 3.1 | 1.3 | 1.9 | 0.0334 | 93 | 56 |
| **FLSD 160 M** | 4 | 724 | 54 | 11 | 0.65 | 0.58 | 0.46 | 82 | 81.7 | 80.2 | 3.7 | 2.1 | 2.0 | 0.0761 | 140 | 58 |
| **FLSD 160 M** | 5.5 | 710 | 75 | 15 | 0.65 | 0.58 | 0.47 | 82 | 82.1 | 80.6 | 3.6 | 2.0 | 1.9 | 0.0761 | 140 | 58 |
| **FLSD 160 L** | 7.5 | 710 | 102 | 21 | 0.63 | 0.56 | 0.45 | 82 | 82.4 | 81 | 3.8 | 2.2 | 2.0 | 0.0913 | 155 | 58 |
| **FLSD 180 L** | 11 | 710 | 148 | 31 | 0.63 | 0.54 | 0.43 | 82 | 82.5 | 81 | 3.9 | 1.9 | 2.0 | 0.1205 | 195 | 60 |
| **FLSD 200 L** | 15 | 725 | 198 | 34 | 0.72 | 0.65 | 0.52 | 89 | 88.3 | 86.5 | 5.4 | 1.9 | 2.4 | 0.39 | 305 | 66 |
| **FLSD 225 S** | 18.5 | 725 | 244 | 43 | 0.7 | 0.64 | 0.53 | 88.5 | 88.5 | 86.9 | 5.5 | 2.0 | 2.5 | 0.393 | 320 | 65 |
| **FLSD 225 M** | 22 | 725 | 290 | 50 | 0.71 | 0.67 | 0.57 | 88.5 | 88.7 | 87.2 | 5.3 | 1.9 | 2.4 | 0.466 | 350 | 65 |
| **FLSD 250 M** | 30 | 733 | 391 | 61 | 0.78 | 0.74 | 0.64 | 91.3 | 91.4 | 90.5 | 5.5 | 1.6 | 2.0 | 0.57 | 530 | 71 |
| **FLSD 280 S** | 37 | 740 | 480 | 72 | 0.8 | 0.73 | 0.63 | 93.9 | 94.2 | 93.7 | 7.0 | 1.8 | 2.3 | 1.6 | 780 | 72 |
| **FLSD 280 M** | 45 | 741 | 585 | 90 | 0.77 | 0.72 | 0.63 | 94 | 93.2 | 91.4 | 7.5 | 2.0 | 2.3 | 1.75 | 810 | 72 |
| **FLSD 315 S** | 55 | 743 | 715 | 108 | 0.78 | 0.72 | 0.63 | 94.8 | 94.8 | 94.1 | 7.3 | 2.0 | 2.5 | 3.1 | 1070 | 78 |
| **FLSD 315 M** | 75 | 737 | 972 | 140 | 0.83 | 0.74 | 0.65 | 93.5 | 93.8 | 93.2 | 7.4 | 2.0 | 2.6 | 3.1 | 1070 | 78 |
| **FLSD 315 LA** | 90 | 735 | 1169 | 167 | 0.83 | 0.74 | 0.64 | 94 | 94.2 | 93.5 | 7.3 | 2.0 | 2.5 | 4.2 | 1100 | 78 |
| **FLSD 315 LB** | 110 | 740 | 1420 | 204 | 0.82 | 0.74 | 0.63 | 94.2 | 94.1 | 93.3 | 7.2 | 1.6 | 2.2 | 5.1 | 1195 | 78 |
| **FLSD 355 LA** | 132 | 740 | 1703 | 244 | 0.83 | 0.75 | 0.64 | 94.2 | 94.3 | 93.4 | 6.7 | 1.7 | 2.7 | 5.5 | 1485 | 78 |
| **FLSD 355 LB** | 160 | 740 | 2065 | 296 | 0.82 | 0.74 | 0.63 | 95.2 | 95 | 93.5 | 6.9 | 1.8 | 2.7 | 6 | 1605 | 78 |
| **FLSD 355 LB** | 200 | 740 | 2581 | 360 | 0.84 | 0.75 | 0.65 | 95.4 | 95.2 | 93.6 | 6.7 | 1.6 | 2.6 | 6.5 | 1995 | 78 |

The values given are also used for the finish Ex d II C T4.
For T5 and T6 applications, consult us.

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Selection

**IP 55 - 50 Hz - Class F - ΔT 80 K - 230 V Δ / 400 V Y or 400 V Δ - S1**
**II - 2G - Ex d IIB T4**

**8 poles 750 min$^{-1}$**

| Type | Rated power at 50 Hz $P_N$ kW | IM 1001 (IM B3) Code | Qty | IM 3001 (IM B5) Code | Qty | IM 2001 (IM B35) Code | Qty |
|---|---|---|---|---|---|---|---|
| **FLSD 80 L** | 0.18 | | - | | - | | - |
| **FLSD 80 L** | 0.25 | | - | | - | | - |
| **FLSD 90 S** | 0.37 | | - | | - | | - |
| **FLSD 90 L** | 0.55 | | - | | - | | - |
| **FLSD 100 L** | 0.75 | | - | | - | | - |
| **FLSD 100 L** | 1.1 | | - | | - | | - |
| **FLSD 112 M** | 1.5 | | - | | - | | - |
| **FLSD 132 S** | 2.2 | | - | | - | | - |
| **FLSD 132 M** | 3 | | - | | - | | - |
| **FLSD 160 M** | 4 | | - | | - | | - |
| **FLSD 160 M** | 5.5 | | - | | - | | - |
| **FLSD 160 L** | 7.5 | | - | | - | | - |
| **FLSD 180 L** | 11 | | - | | - | | - |
| **FLSD 200 L** | 15 | | - | | - | | - |
| **FLSD 225 S** | 18.5 | | - | | - | | - |
| **FLSD 225 M** | 22 | | - | | - | | - |
| **FLSD 250 M** | 30 | | - | | - | | - |
| **FLSD 280 S** | 37 | | - | | - | | - |
| **FLSD 280 M** | 45 | | - | | - | | - |
| **FLSD 315 S** | 55 | | - | | - | | - |
| **FLSD 315 M** | 75 | | - | | - | | - |

# FLSD
# explosion proof multispeed
# totally enclosed three-phase asynchronous motors

## Selection

A

**General table for multispeed motors**
**Use: centrifugal machines**
**Ex d II B T4**
**IP 55 - 50 Hz - Class F - ΔT 80 K - 400 V - S1**

| Type | | 2/4 poles Dahlander<br>Rated power at 50 Hz<br>kW | 4/8 poles Dahlander<br>Rated power at 50 Hz<br>kW | 4/6 poles 2 windings<br>Rated power at 50 Hz<br>kW |
|---|---|---|---|---|
| **FLSD 80 L** | GV[1] / PV[2] | 1.1 / 0.28 | 1.1 / 0.18 | 0.75 / 0.25 |
| **FLSD 90 S** | GV / PV | 1.5 / 0.37 | 1.1 / 0.18 | 1.1 / 0.37 |
| **FLSD 90 L** | GV / PV | 2.2 / 0.55 | 1.5 / 0.25 | 1.4 / 0.45 |
| **FLSD 100 L** | GV / PV | 2.8 / 0.7 | 1.8 / 0.3 | 2 / 0.6 |
| **FLSD 100 L** | GV / PV | - | 2.2 / 0.37 | - |
| **FLSD 112 M** | GV / PV | 4 / 1 | 3.3 / 0.6 | 3 / 1 |
| **FLSD 132 S** | GV / PV | 6.4 / 1.6 | 5 / 1.1 | 4 / 1.3 |
| **FLSD 132 M** | GV / PV | 7.5 / 1.85 | 6 / 1.3 | 5.3 / 1.7 |
| **FLSD 160 M** | GV / PV | 13.5 / 3.3 | 10 / 2.2 | 7.3 / 2.4 |
| **FLSD 160 L** | GV / PV | 19 / 4.5 | 15 / 3.2 | 12.5 / 4 |
| **FLSD 180 M** | GV / PV | 22 / 5.5 | 17 / 3.6 | 14.4 / 4.6 |
| **FLSD 180 L** | GV / PV | 24 / 6 | 19 / 4 | 16 / 5.1 |
| **FLSD 200 L** | GV / PV | 28 / 7 | 24 / 6 | 20 / 6.5 |
| **FLSD 225 S** | GV / PV | 34 / 8.5 | 30 / 8 | 25 / 8.2 |
| **FLSD 225 M** | GV / PV | 42 / 10.5 | 36 / 9 | 30 / 10 |

*1. GV : High speed*
*2. PV : Low speed*

*For larger frame sizes and higher power ratings: consult us.*
*The electrical characteristics specific for these motors available on request.*

The values given in this catalogue are also used for the specific finishes: Ex d II C T4 for frame sizes ≤ 250.

# FLSD
# explosion proof multispeed
# totally enclosed three-phase asynchronous motors

## Selection

A

**General table for multispeed motors**
**General use**
**Ex d II B T4**
**IP 55 - 50 Hz - Class F - ΔT 80 K - 400 V - S1**

| Type | | 2/4 poles Dahlander<br>Rated power at 50 Hz<br>kW | 4/8 poles Dahlander<br>Rated power at 50 Hz<br>kW | 4/6 poles 2 windings<br>Rated power at 50 Hz<br>kW |
|---|---|---|---|---|
| **FLSD 80 L** | GV[1] / PV[2] | 0.75 / 0.55 | 0.75 / 0.37 | 0.75 / 0.37 |
| **FLSD 90 S** | GV / PV | 1.3 / 0.9 | 1 / 0.5 | 0.9 / 0.6 |
| **FLSD 90 L** | GV / PV | 1.85 / 1.2 | 1.2 / 0.6 | 1.1 / 0.75 |
| **FLSD 100 L** | GV / PV | 2.5 / 1.6 | 1.7 / 0.9 | 1.6 / 1.1 |
| **FLSD 112 M** | GV / PV | 4 / 3 | 2.4 / 1.3 | 2.3 / 1.5 |
| **FLSD 132 S** | GV / PV | 6.2 / 4.5 | 5 / 2.8 | 3.6 / 2.4 |
| **FLSD 132 M** | GV / PV | 7.5 / 5.5 | 6 / 3.4 | 4.8 / 3.2 |
| **FLSD 160 M** | GV / PV | 13.5 / 10.3 | 8.1 / 4.5 | 6 / 4 |
| **FLSD 160 L** | GV / PV | 18.5 / 14 | 11 / 6 | 9.5 / 6.3 |
| **FLSD 180 M** | GV / PV | 21 / 16 | 12.7 / 7 | 11 / 7.3 |
| **FLSD 180 L** | GV / PV | 23 / 17.5 | 14 / 7.6 | 12 / 8 |
| **FLSD 200 L** | GV / PV | 28 / 21 | 18.5 / 10 | 17 / 11.3 |
| **FLSD 225 S** | GV / PV | 33 / 25 | 23 / 12.5 | 21 / 14 |
| **FLSD 225 M** | GV / PV | 38 / 28 | 28 / 16 | 26 / 17 |

*1. GV : High speed*
*2. PV : Low speed*

*For larger frame sizes and higher power ratings: consult us.*

The values given in this catalogue are also used for the specific finishes: Ex d II C T4 for frame sizes ≤ 250.

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Options

A

**Selection table of options for FLSD flameproof totally enclosed three-phase asynchronous motors - IP 55**

2 poles 3000 min$^{-1}$ 4 poles 1500 min$^{-1}$

| | «e» terminal box | Corrosive atmosphere finish | Drip cover [1] |
|---|---|---|---|
| Type | Code | Code | Code |
| **FLSD 80** | XD BA 104 | MDA CO 080 | MATP 1014 |
| **FLSD 90** | XD BA 105 | MDA CO 090 | MATP 1015 |
| **FLSD 100** | XD BA 106 | MDA CO 100 | MATP 1016 |
| **FLSD 112** | XD BA 107 | MDA CO 112 | MATP 1017 |
| **FLSD 132** | XD BA 108 | MDA CO 132 | MATP 1018 |
| **FLSD 160** | XD BA 109 | MDA CO 160 | MATP 1019 |
| **FLSD 180** | XD BA 110 | MDA CO 180 | MATP 1020 |
| **FLSD 200** | | | |
| **FLSD 225** | | | |
| **FLSD 250** | | | |
| **FLSD 280** | | | |
| **FLSD 315** | | | |

*1. Compulsory for all vertical positions, shaft facing down, frame sizes.*

| Type | CTP* Thermal probes Code | CTP* + 2nd nameplate Variable speed Code |
|---|---|---|
| **FLSD 80** | 4160216 | |
| **FLSD 90** | 4160216 | |
| **FLSD 100** | 4160216 | |
| **FLSD 112** | 4160216 | |
| **FLSD 132** | 4160216 | |
| **FLSD 160** | 4160216 | |
| **FLSD 180** | 4160216 | |

* CTP Winding for frame size motor < 160mm

* CTP Winding and stage for frame size motor ≥ 60mm

***Use guide:***

• STEP 1: Select the required basic motor according to the selection grids of the previous pages.

• STEP 2: Select the required additional option or options and add them to the basic designation.

***Codification example:***

Cast iron motor Corrobloc finish tri 22 kW 3000 min-1 foot B3, 230/400 V with CTP.

| Designation | Code |
|---|---|
| 2P FLSD180MR 22kW B3 230/400V | XD2 22 301 |
| + | + |
| CTP | 4160216 |

# Notes

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

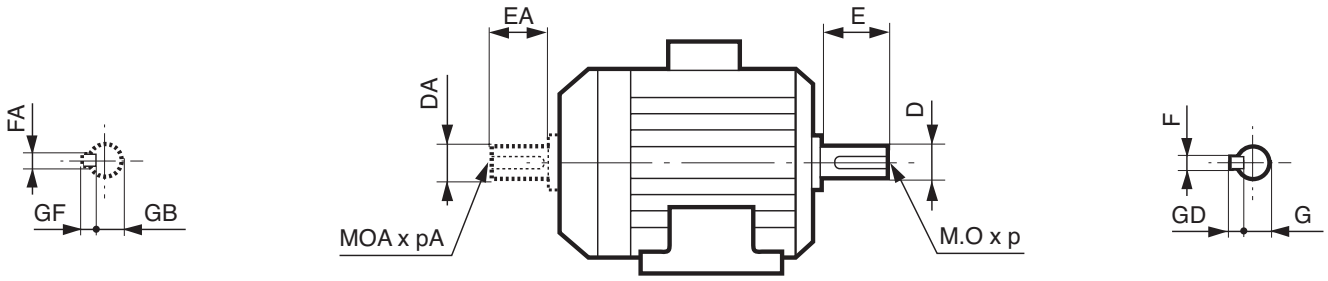
## Dimensions

A

**Dimensions of the FLSD flameproof totally enclosed three-phase asynchronous motors - IP 55**
**Cage rotor**

*Dimensions in millimetres*

**– shaft end**




| | Main shaft end | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4, 6 and 8 poles | | | | | | | 2 poles | | | | | | |
| Type | F | GD | D | G | E | O | p | F | GD | D | G | E | O | p |
| **FLSD 80 L** | 6 | 6 | 19 j6 | 15.5 | 40 | 6 | 16 | 6 | 6 | 19 j6 | 15.5 | 40 | 6 | 16 |
| **FLSD 90 S/L** | 8 | 7 | 24 j6 | 20 | 50 | 8 | 19 | 8 | 7 | 24 j6 | 20 | 50 | 8 | 19 |
| **FLSD 100 L** | 8 | 7 | 28 j6 | 24 | 60 | 10 | 22 | 8 | 7 | 28 j6 | 24 | 60 | 10 | 22 |
| **FLSD 112 M** | 8 | 7 | 28 j6 | 24 | 60 | 10 | 22 | 8 | 7 | 28 j6 | 24 | 60 | 10 | 22 |
| **FLSD 132 S/M** | 10 | 8 | 38 k6 | 33 | 80 | 12 | 28 | 10 | 8 | 38 k6 | 33 | 80 | 12 | 28 |
| **FLSD 160 M/L** | 12 | 8 | 42 k6 | 37 | 110 | 16 | 36 | 12 | 8 | 42 k6 | 37 | 110 | 16 | 36 |
| **FLSD 180 M/L** | 14 | 9 | 48 k6 | 42.5 | 110 | 16 | 36 | 14 | 9 | 48 k6 | 42.5 | 110 | 16 | 36 |
| **FLSD 200 L** | 16 | 10 | 55 m6 | 49 | 110 | 20 | 42 | 16 | 10 | 55 m6 | 49 | 110 | 20 | 42 |
| **FLSD 225 S/M** | 18 | 11 | 60 m6 | 53 | 140 | 20 | 42 | 16 | 10 | 55 m6 | 49 | 110 | 20 | 42 |
| **FLSD 250 M** | 18 | 11 | 65 m6 | 58 | 140 | 20 | 42 | 18 | 11 | 60 m6 | 53 | 140 | 20 | 42 |
| **FLSD 280 S/M** | 20 | 12 | 75 m6 | 67.5 | 140 | 20 | 53 | 18 | 11 | 65 m6 | 58 | 140 | 20 | 53 |
| **FLSD 315 S/M** | 22 | 14 | 80 m6 | 71 | 170 | 20 | 53 | 18 | 11 | 65 m6 | 58 | 140 | 20 | 53 |
| **FLSD 315 L** | 25 | 14 | 90 m6 | 81 | 170 | 24 | 53 | 20 | 12 | 70 m6 | 62.5 | 140 | 20 | 53 |
| **FLSD 355 L** | 28 | 16 | 100 m6 | 90 | 210 | 24 | 53 | 22 | 14 | 80 m6 | 71 | 170 | 20 | 53 |

| | Secondary shaft end | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4, 6 and 8 poles | | | | | | | 2 poles | | | | | | |
| Type | FA | GF | DA | GB | EA | OA | pA | FA | GF | DA | GB | EA | OA | pA |
| **FLSD 80 L** | 5 | 5 | 16 j6 | 13 | 40 | 5 | 12 | 5 | 5 | 16 j6 | 13 | 40 | 5 | 12 |
| **FLSD 90 S/L** | 8 | 7 | 24 j6 | 20 | 50 | 8 | 19 | 8 | 7 | 24 j6 | 20 | 50 | 8 | 19 |
| **FLSD 100 L** | 8 | 7 | 24 j6 | 20 | 50 | 8 | 19 | 8 | 7 | 24 j6 | 20 | 50 | 8 | 19 |
| **FLSD 112 M** | 8 | 7 | 28 j6 | 24 | 60 | 10 | 22 | 8 | 7 | 28 j6 | 24 | 60 | 10 | 22 |
| **FLSD 132 S/M** | 10 | 8 | 38 k6 | 33 | 80 | 12 | 28 | 10 | 8 | 38 k6 | 33 | 80 | 12 | 28 |
| **FLSD 160 M/L** | 12 | 8 | 42 k6 | 37 | 110 | 16 | 36 | 12 | 8 | 42 k6 | 37 | 110 | 16 | 36 |
| **FLSD 180 M/L** | 14 | 9 | 48 k6 | 42.5 | 110 | 16 | 36 | 14 | 9 | 48 k6 | 42.5 | 110 | 16 | 36 |
| **FLSD 200 L** | 16 | 10 | 55 m6 | 49 | 110 | 20 | 42 | 16 | 10 | 55 m6 | 49 | 110 | 20 | 42 |
| **FLSD 225 S/M** | 16 | 10 | 55 m6 | 49 | 110 | 20 | 42 | 16 | 10 | 55 m6 | 49 | 110 | 20 | 42 |
| **FLSD 250 M** | 18 | 11 | 60 m6 | 58 | 140 | 20 | 42 | 18 | 11 | 60 m6 | 53 | 140 | 20 | 42 |
| **FLSD 280 S/M** | 20 | 12 | 60 m6 | 67.5 | 140 | 20 | 53 | 18 | 11 | 65 m6 | 58 | 140 | 20 | 53 |
| **FLSD 315 S/M** | 22 | 14 | 80 m6 | 71 | 170 | 20 | 53 | 18 | 11 | 65 m6 | 58 | 140 | 20 | 53 |
| **FLSD 315 L** | 25 | 14 | 90 m6 | 81 | 170 | 24 | 53 | 20 | 12 | 70 m6 | 62.5 | 140 | 20 | 53 |
| **FLSD 355 L** | 28 | 16 | 100 m6 | 90 | 210 | 24 | 53 | 22 | 14 | 80 m6 | 71 | 170 | 20 | 53 |

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

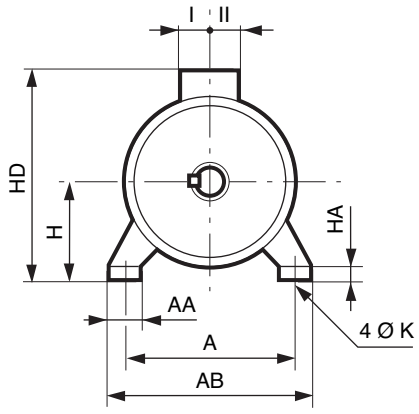
## Dimensions

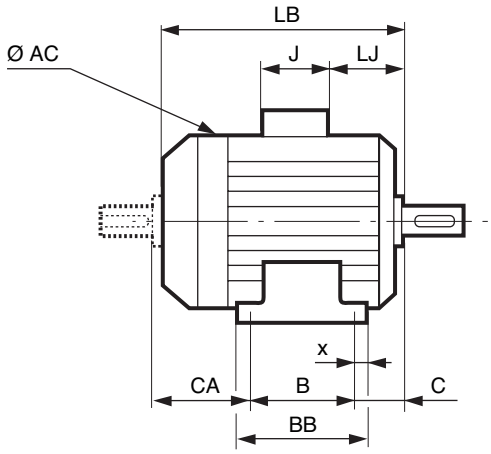
**Dimensions of the FLSD flameproof totally enclosed three-phase asynchronous motors - IP 55**
**Cage rotor**

A

*Dimensions in millimetres*

**– foot mounted**




| | Main dimensions | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | A | AB | B | BB | C | x | AA | K | HA | H | AC | HD | LB | LJ | J | I | II [1] |
| **FLSD 80 L** | 125 | 157 | 100 | 132 | 50 | 10 | 34 | 9 | 10 | 80 | 167 | 283 | 258 | 26 | 142 | 71 | 77 |
| **FLSD 90 S** | 140 | 170 | 100 | 155 | 56 | 11 | 33 | 12 | 10 | 90 | 184 | 306 | 297 | 32 | 142 | 71 | 77 |
| **FLSD 90 L** | 140 | 170 | 125 | 155 | 56 | 11 | 33 | 12 | 10 | 90 | 184 | 306 | 297 | 32 | 142 | 71 | 77 |
| **FLSD 100 L** | 160 | 196 | 140 | 201 | 63 | 19 | 40 | 12 | 13 | 100 | 195 | 316 | 345 | 32 | 142 | 71 | 77 |
| **FLSD 112 M** | 190 | 230 | 140 | 186 | 70 | 14 | 47 | 12 | 14 | 112 | 220 | 357 | 346 | 34 | 142 | 71 | 77 |
| **FLSD 132 S** | 216 | 255 | 140 | 243 | 89 | 14 | 63 | 12 | 16 | 132 | 264 | 371 | 462 | 56 | 142 | 71 | 77 |
| **FLSD 132 M** | 216 | 256 | 178 | 243 | 89 | 14 | 63 | 12 | 16 | 132 | 264 | 371 | 462 | 56 | 142 | 71 | 77 |
| **FLSD 160 M** | 254 | 310 | 210 | 322 | 108 | 30 | 75 | 15 | 18 | 160 | 310 | 490 | 549 | 19 | 250 | 125 | 145 |
| **FLSD 160 L** | 254 | 310 | 254 | 322 | 108 | 30 | 75 | 15 | 18 | 160 | 310 | 490 | 549 | 19 | 250 | 125 | 145 |
| **FLSD 180 M** | 279 | 340 | 241 | 364 | 121 | 30 | 80 | 15 | 20 | 180 | 310 | 510 | 617 | 19 | 250 | 125 | 145 |
| **FLSD 180 L** | 279 | 340 | 279 | 364 | 121 | 30 | 80 | 15 | 20 | 180 | 310 | 510 | 617 | 19 | 250 | 125 | 145 |
| **FLSD 200 L** | 318 | 380 | 305 | 385 | 133 | 40 | 90 | 19 | 24 | 200 | 385 | 565 | 648 | 33 | 250 | 125 | 145 |
| **FLSD 225 S** | 356 | 445 | 286 | 400 | 149 | 44 | 90 | 19 | 30 | 225 | 385 | 590 | 718 | 33 | 250 | 125 | 145 |
| **FLSD 225 M** | 356 | 445 | 311 | 400 | 149 | 44 | 90 | 19 | 30 | 225 | 385 | 590 | 718 | 33 | 250 | 125 | 145 |
| **FLSD 250 M** | 406 | 510 | 349 | 455 | 168 | 43 | 105 | 22 | 40 | 250 | 465 | 720 | 827 | 173 | 360 | 208 | 208 |
| **FLSD 280 S** | 457 | 537 | 368 | 499 | 190 | 40 | 80 | 22 | 40 | 280 | 540 | 768 | 1065 | 77 | 330 | 165 | 271 |
| **FLSD 280 M** | 457 | 537 | 419 | 499 | 190 | 40 | 80 | 22 | 40 | 280 | 540 | 768 | 1065 | 77 | 330 | 165 | 271 |
| **FLSD 315 S** | 508 | 600 | 406 | 598 | 216 | 45 | 100 | 27 | 38 | 315 | 624 | 952 | 1203 | 96 | 400 | 195 | 340 |
| **FLSD 315 M** | 508 | 600 | 457 | 598 | 216 | 45 | 100 | 27 | 38 | 315 | 624 | 952 | 1203 | 96 | 400 | 195 | 340 |
| **FLSD 315 LA/LB** | 508 | 600 | 508 | 598 | 216 | 45 | 100 | 27 | 38 | 315 | 624 | 952 | 1203 | 96 | 400 | 195 | 340 |
| **FLSD 355 LA/LB** | 610 | 710 | 630 | 710 | 254 | 40 | 110 | 27 | 38 | 355 | 700 | 1027 | 1302 | 88 | 400 | 195 | 340 |
| **FLSD 355 LC/LD** | 610 | 710 | 630 | 710 | 254 | 40 | 110 | 27 | 38 | 355 | 700 | 1027 | 1426 | 88 | 400 | 195 | 340 |

*1. Dimensions without cable glands.*

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

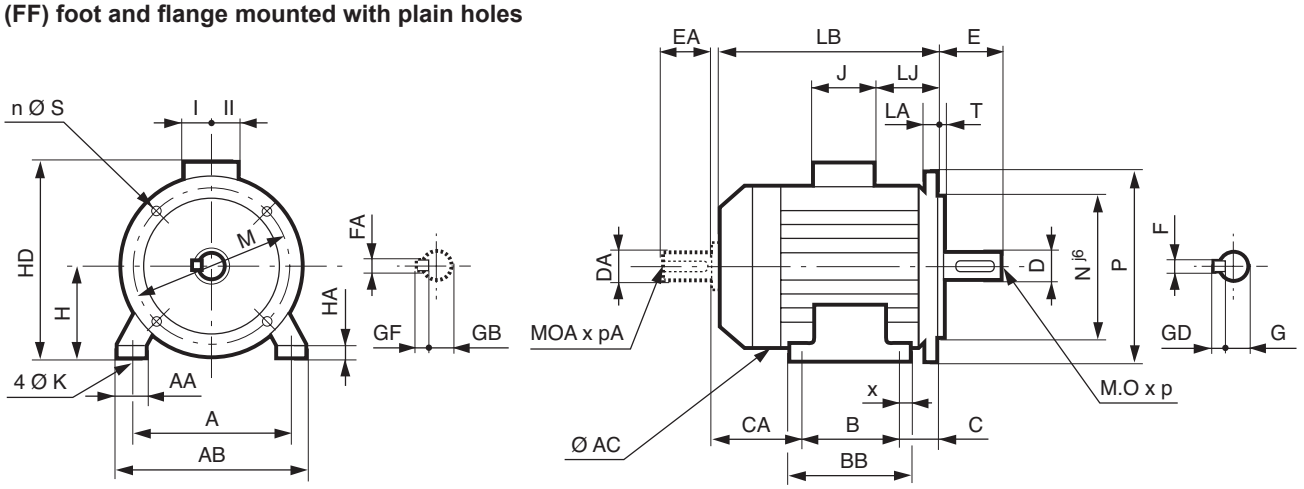
## Dimensions

A

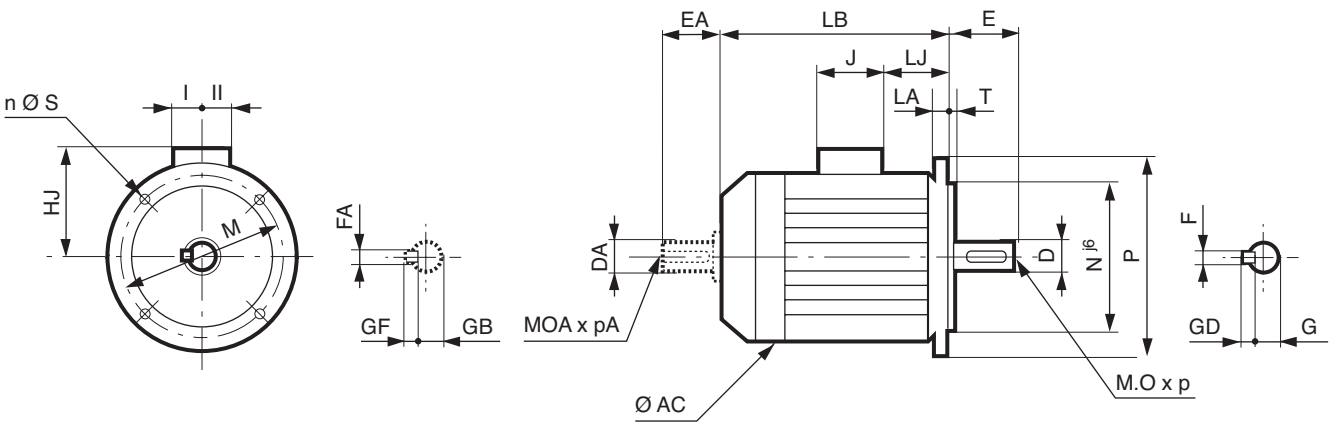
**Dimensions of the FLSD flameproof totally enclosed three-phase asynchronous motors - IP 55**
**Cage rotor**

*Dimensions in millimetres*

**– (FF) foot and flange mounted with plain holes**




**– (FF) plain hole flange mounted**




**CA dimension and shaft ends dimensions identical to those of the foot mounted motors**

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Dimensions



**Dimensions of the FLSD flameproof totally enclosed three-phase asynchronous motors - IP 55**
**Cage rotor**

*Dimensions in millimetres*

### - (FF) foot and flange mounted with plain holes - (FF) plain hole flange mounted

| Type | Main dimensions | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | AB | B | BB | C | x | AA | K | HA | H | AC | HD | LB | HJ | LJ | J | I | II′ | Symb |
| **FLSD 80 L** | 125 | 157 | 100 | 132 | 50 | 10 | 34 | 9 | 10 | 80 | 167 | 283 | 258 | 203 | 26 | 142 | 71 | 77 | FF 165 |
| **FLSD 90 S** | 140 | 170 | 100 | 155 | 56 | 11 | 33 | 12 | 10 | 90 | 184 | 306 | 297 | 216 | 32 | 142 | 71 | 77 | FF 165 |
| **FLSD 90 L** | 140 | 170 | 125 | 155 | 56 | 11 | 33 | 12 | 10 | 90 | 184 | 306 | 297 | 216 | 32 | 142 | 71 | 77 | FF 165 |
| **FLSD 100 L** | 160 | 196 | 140 | 201 | 63 | 19 | 40 | 12 | 13 | 100 | 195 | 316 | 345 | 216 | 32 | 142 | 71 | 77 | FF 215 |
| **FLSD 112 M** | 190 | 230 | 140 | 186 | 70 | 14 | 47 | 12 | 14 | 112 | 220 | 357 | 346 | 225 | 34 | 142 | 71 | 77 | FF 215 |
| **FLSD 132 S** | 216 | 255 | 140 | 243 | 89 | 14 | 63 | 12 | 16 | 132 | 264 | 371 | 462 | 239 | 56 | 142 | 71 | 77 | FF 265 |
| **FLSD 132 M** | 216 | 256 | 178 | 243 | 89 | 14 | 63 | 12 | 16 | 132 | 264 | 371 | 462 | 239 | 56 | 142 | 71 | 77 | FF 265 |
| **FLSD 160 M** | 254 | 310 | 210 | 322 | 108 | 30 | 75 | 15 | 18 | 160 | 310 | 490 | 549 | 330 | 19 | 250 | 125 | 145 | FF 300 |
| **FLSD 160 L** | 254 | 310 | 254 | 322 | 108 | 30 | 75 | 15 | 18 | 160 | 310 | 490 | 549 | 330 | 19 | 250 | 125 | 145 | FF 300 |
| **FLSD 180 M** | 279 | 340 | 241 | 364 | 121 | 30 | 80 | 15 | 20 | 180 | 310 | 510 | 617 | 330 | 19 | 250 | 125 | 145 | FF 300 |
| **FLSD 180 L** | 279 | 340 | 279 | 364 | 121 | 30 | 80 | 15 | 20 | 180 | 310 | 510 | 617 | 330 | 19 | 250 | 125 | 145 | FF 300 |
| **FLSD 200 L** | 318 | 380 | 305 | 385 | 133 | 40 | 90 | 19 | 24 | 200 | 385 | 565 | 648 | 365 | 33 | 250 | 125 | 145 | FF 350 |
| **FLSD 225 S** | 356 | 445 | 286 | 400 | 149 | 44 | 90 | 19 | 30 | 225 | 385 | 590 | 718 | 365 | 33 | 250 | 125 | 145 | FF 400 |
| **FLSD 225 M** | 356 | 445 | 311 | 400 | 149 | 44 | 90 | 19 | 30 | 225 | 385 | 590 | 718 | 365 | 33 | 250 | 125 | 145 | FF 400 |
| **FLSD 250 M** | 406 | 510 | 349 | 455 | 168 | 43 | 105 | 22 | 40 | 250 | 465 | 720 | 827 | 470 | 173 | 360 | 208 | 208 | FF 500 |
| **FLSD 280 S** | 457 | 537 | 368 | 499 | 190 | 40 | 80 | 22 | 40 | 280 | 540 | 768 | 1065 | 547 | 77 | 330 | 165 | 271 | FF 500 |
| **FLSD 280 M** | 457 | 537 | 419 | 499 | 190 | 40 | 80 | 22 | 40 | 280 | 540 | 768 | 1065 | 547 | 77 | 330 | 165 | 271 | FF 500 |
| **FLSD 315 S** | 508 | 600 | 406 | 598 | 216 | 45 | 100 | 27 | 38 | 315 | 624 | 952 | 1203 | 637 | 96 | 400 | 195 | 340 | FF 600 |
| **FLSD 315 M** | 508 | 600 | 457 | 598 | 216 | 45 | 100 | 27 | 38 | 315 | 624 | 952 | 1203 | 637 | 96 | 400 | 195 | 340 | FF 600 |
| **FLSD 315 LA/LB** | 508 | 600 | 508 | 598 | 216 | 45 | 100 | 27 | 38 | 315 | 624 | 952 | 1203 | 637 | 96 | 400 | 195 | 340 | FF 600 |
| **FLSD 355 LA/LB** | 610 | 710 | 630 | 710 | 254 | 40 | 110 | 27 | 38 | 355 | 700 | 1027 | 1302 | 672 | 88 | 400 | 195 | 340 | FF 740 |
| **FLSD 355 LC/LD** | 610 | 710 | 630 | 710 | 254 | 40 | 110 | 27 | 38 | 355 | 700 | 1027 | 1426 | 672 | 88 | 400 | 195 | 340 | FF 740 |

*1. Dimensions without cable glands. For the dimensions according to the cable gland types, refer to page A6.5.*

| IEC symbol | Flange dimensions | | | | | | |
|---|---|---|---|---|---|---|---|
| | M | N | P | T | n | S | LA |
| **FF 165** | 165 | 130 | 200 | 3.5 | 4 | 12 | 10 |
| **FF 215** | 215 | 180 | 250 | 4 | 4 | 15 | 13 |
| **FF 265** | 265 | 230 | 300 | 4 | 4 | 15 | 14 |
| **FF 300** | 300 | 250 | 350 | 5 | 4 | 18 | 13 |
| **FF 350** | 350 | 300 | 400 | 5 | 4 | 18 | 15 |
| **FF 400** | 400 | 350 | 450 | 5 | 8** | 18 | 16 |
| **FF 500** | 500 | 450 | 550 | 5 | 8** | 18 | 18* |
| **FF 600** | 600 | 550 | 660 | 6 | 8** | 22 | 25 |
| **FF 740** | 740 | 680 | 800 | 6 | 8** | 22 | 25 |

*FF flange mounted motors, in position IM 3001 (IM B5), are only available up to frame size 225. Thereafter, consult us. See page A6.2 for mounting possibilities.*
**. LA = 22 from frame size 280 upwards.*
*** = holes oriented at 22°30 in relation to the vertical.*

### - (FF) plain hole flange mounted non standard

| Motor type | Flange type | | | |
|---|---|---|---|---|
| | FF 130 | FF 165 | FF 215 | FF 265 |
| **FLSD 80** | ❍ | ● | | |
| **FLSD 90** | ✶ | ● | | |
| **FLSD 100** | | ✶ | ● | |
| **FLSD 112** | | ❍ | ● | |
| **FLSD 132** | | | | ● |

● : standard
❍ : adapted shaft
✶ : adaptable without modification of the shaft

# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

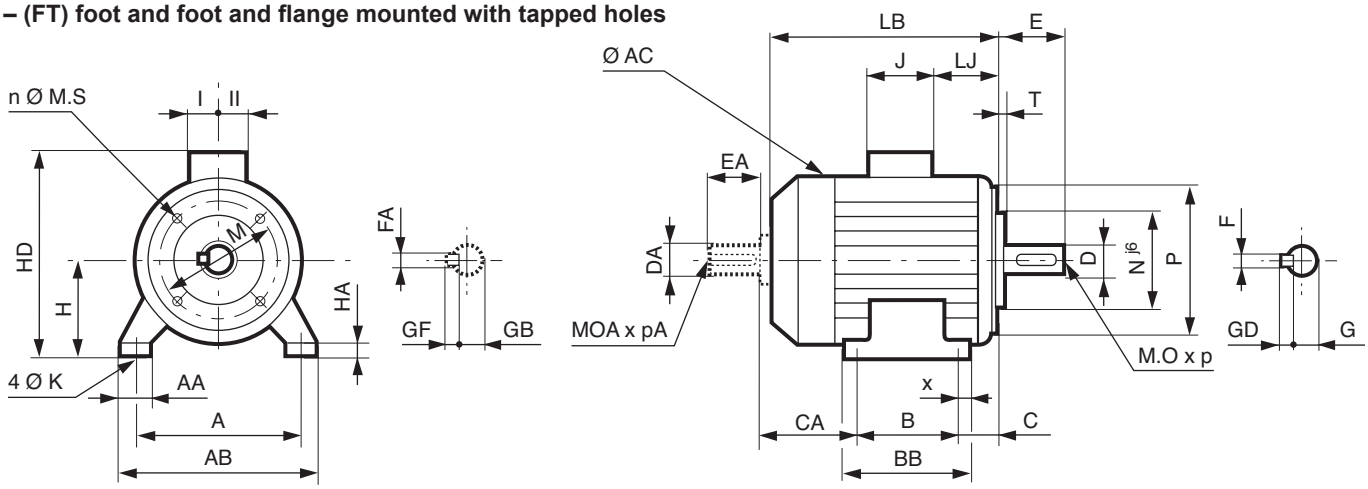
## Dimensions

A

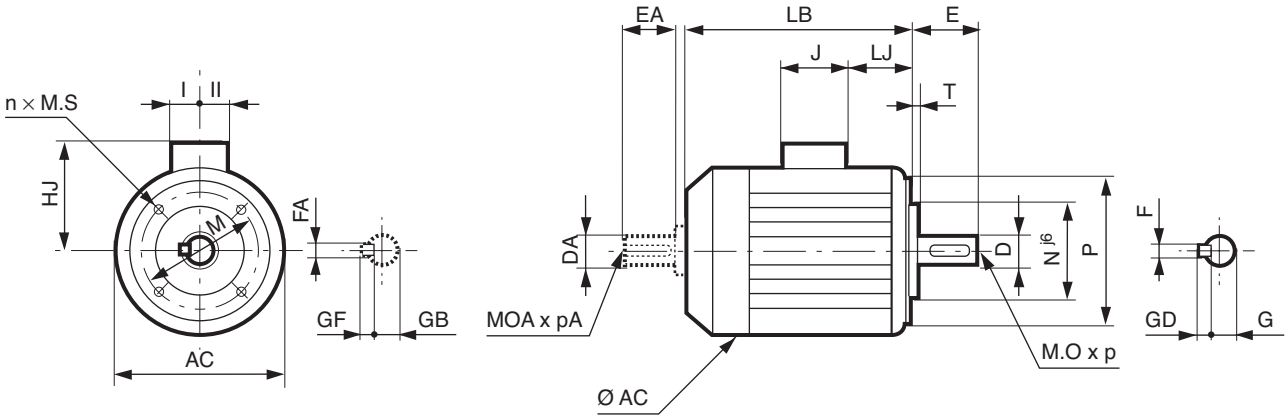
**Dimensions of the FLSD flameproof totally enclosed three-phase asynchronous motors - IP 55**
**Cage rotor**

*Dimensions in millimetres*

**– (FT) foot and foot and flange mounted with tapped holes**




**– (FT) tapped hole flange mounted**



# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

## Dimensions



**Dimensions of the FLSD flameproof totally enclosed three-phase asynchronous motors - IP 55**
**Cage rotor**

*Dimensions in millimetres*

### – (FT) foot and foot and flange mounted with tapped holes - (FT) tapped hole flange mounted

| Type | Main dimensions | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | AB | B | BB | C | x | AA | K | HA | H | AC | HD | LB | LJ | J | I | II' | Sym. |
| **FLSD 80 L** | 125 | 157 | 100 | 132 | 50 | 10 | 34 | 9 | 10 | 80 | 167 | 283 | 258 | 26 | 142 | 71 | 77 | FT 100 |
| **FLSD 90 S** | 140 | 170 | 100 | 155 | 56 | 11 | 33 | 12 | 10 | 90 | 184 | 306 | 297 | 32 | 142 | 71 | 77 | FT 115 |
| **FLSD 90 L** | 140 | 170 | 125 | 155 | 56 | 11 | 33 | 12 | 10 | 90 | 184 | 306 | 297 | 32 | 142 | 71 | 77 | FT 115 |
| **FLSD 100 L** | 160 | 196 | 140 | 201 | 63 | 19 | 40 | 12 | 13 | 100 | 195 | 316 | 345 | 32 | 142 | 71 | 77 | FT 130 |
| **FLSD 112 M** | 190 | 230 | 140 | 186 | 70 | 14 | 47 | 12 | 14 | 112 | 220 | 357 | 346 | 34 | 142 | 71 | 77 | FT 130 |
| **FLSD 132 S** | 216 | 255 | 140 | 243 | 89 | 14 | 63 | 12 | 16 | 132 | 264 | 371 | 462 | 56 | 142 | 71 | 77 | FT 215 |
| **FLSD 132 M** | 216 | 256 | 178 | 243 | 89 | 14 | 63 | 12 | 16 | 132 | 264 | 371 | 462 | 56 | 142 | 71 | 77 | FT 215 |

*1. Dimensions without cable glands. For the dimensions according to the cable gland types, refer to page A6.5.*

| IEC symbol | Flange dimensions | | | | | |
|---|---|---|---|---|---|---|
| | M | N | P | T | n | Threading x length |
| **FT 100** | 100 | 80 | 120 | 3 | 4 | M6 x 13 |
| **FT 115** | 115 | 95 | 140 | 3 | 4 | M8 x 13 |
| **FT 130** | 130 | 110 | 160 | 3.5 | 4 | M8 x 13 |
| **FT 165** | 165 | 130 | 200 | 3.5 | 4 | M10 x 20 |
| **FT 215** | 215 | 180 | 250 | 4 | 4 | M12 x 20 |

### - (FT) tapped hole flange mounted non standard

| Motor type | Flange type | | | | |
|---|---|---|---|---|---|
| | FT 100 | FT 115 | FT 130 | FT 165 | FT 215 |
| **80** | ● | | | | |
| **90** | | ● | | | |
| **100** | | | ● | | |
| **112** | | | ● | | |
| **132** | | | | ❍ | ● |

● : standard
❍ : in option

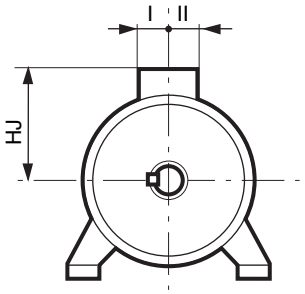
# FLSD
# flameproof
# totally enclosed three-phase asynchronous motors

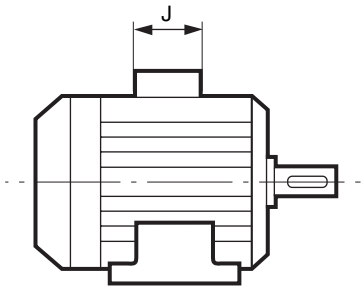
A

## Dimensions of the FLSD flameproof totally enclosed three-phase asynchronous motors
## Mechanical options

*Dimensions in millimetres*

**– optional “e” increased safety terminal box**




| Type | J | HJ | I | II |
|---|---|---|---|---|
| **FLSD 80** | 136 | - | 68 | 68 |
| **FLSD 90 and 100** | 136 | - | 68 | 68 |
| **FLSD 112** | 136 | - | 68 | 68 |
| **FLSD 132** | 136 | 230 | 68 | 68 |
| **FLSD 160 and 180** | 223 | 311 | 114 | 156 |
| **FLSD 200 and 225** | 223 | 346 | 135 | 135 |
| **FLSD 250** | 360 | 470 | 208 | 208 |
| **FLSD 280** | 340 | 577 | 190 | 333 |
| **FLSD 315 S/M/L** | 425 | 628 | 220 | 270 |
| **FLSD 355** | 425 | 663 | 220 | 270 |