

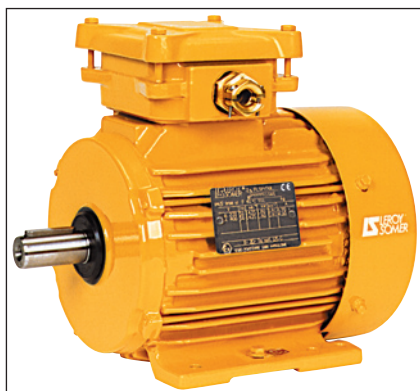
# FLSPX

## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors



**CATEGORY 2  
ZONE 21**

### General information



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

**Totally enclosed three-phase asynchronous motors**, cast iron casing FLSPX series, according to IEC 60037, 60072, EN 50281 power 0.18 to 400 kW, frame size from 80 to 355 mm.

- Single speed 2, 4, 6 and 8 poles: 230/400 V or 400 V  $\Delta$ , 50 Hz.
- Two speed: (on request) centrifugal or general use 2/4, 4/6, 4/8 and 6/8 poles 400 V Y or  $\Delta$ .

**IP 65 protection**  
adapted to the most severe environments.

- Motors for variable speed operation:**
- fitted with thermal probes in winding (obligatory) and bearing probes for frame size  $\geq 160$  mm ;
  - on consultation (for selection).

For a non direct on line starting of the two speed motors : consult us.

**Finish: cast iron casing**  
Assembled with protected screws.  
Finishing paint **RAL 1007 (yellow)**.  
Protection of the flange and shaft end against atmospheric corrosion.  
Individual anti-shock packaging.

**Mains supply**

- Standard construction according to IEC 60038:
- 230/400 V +10% -10% at 50 Hz ;
- 400 V  $\Delta$  +10% -10% at 50 Hz.

### Description of the FLSPX cast iron three-phase motors - zone 21



**II 2DT 125 °C**

| Component                | Materials   | Remarks  |
|--------------------------|---|--|
| Finned housing           | Cast iron   | - with bolt-on or cast foot, or without foot <ul style="list-style-type: none"> <li>• 4, 6 or 8 mounting holes for the foot casings</li> <li>• lifting rings for frame size <math>\geq 100</math></li> </ul> - earth terminal on foot or fin                               |
| Stator                   | Insulated low carbon magnetic steel laminations<br>Enameled electrolytic copper | - the low carbon content guarantees long term stability of the characteristics<br>- assembled lamination pack<br>- semi-enclosed slots<br>- insulation system class F  |
| Rotor                    | Insulated low carbon magnetic steel laminations<br>Aluminium (A5L) or copper    | - inclined slots<br>- squirrel cage pressure die cast in aluminium (or alloy for special applications) or soldered in copper<br>- mounted on the shaft by heat shrinking, or keyed for soldered rotors<br>- dynamically balanced rotor class A - 1/2 key                   |
| Shaft                    | Steel   | - for frame size $\leq 132$ : <ul style="list-style-type: none"> <li>• shaft end fitted with screw and washer</li> <li>• closed keyway</li> </ul> - for frame size $\geq 160$ : <ul style="list-style-type: none"> <li>• tapped centre hole</li> <li>• open key</li> </ul> |
| End shields              | Cast iron   |  |
| Bearings and lubrication |   | - ball bearings set C3<br>- ZZ types lubricated for life from frame size 80 to 132 inclusive<br>- open bearings from frame size $\geq 160$ , regreasable<br>- rear preloaded bearings up to 315 S, front preloaded bearings from 315 M                                     |
| Fan                      | Composite material or aluminium alloy   | - 2 directions of rotation: straight blades  |
| Fan cover                | Sheet steel   | - on request, fitted with a drip cover for operation in vertical position, shaft facing down   |
| Terminal box             | Cast iron   | - <b>IP 65</b><br>- rotatable, opposite to the foot position for frame size $\geq 160$<br>- fitted with <b>a terminal board with 6 steel studs and lock nuts</b><br>- fitted with <b>CMDEL type cable glands</b><br>- 1 earth terminal in all terminal boxes               |
| Paint                    |   | - system II<br>- resistance to saline mist: 250 h (according to NFX 41002)   |

# FLSPX



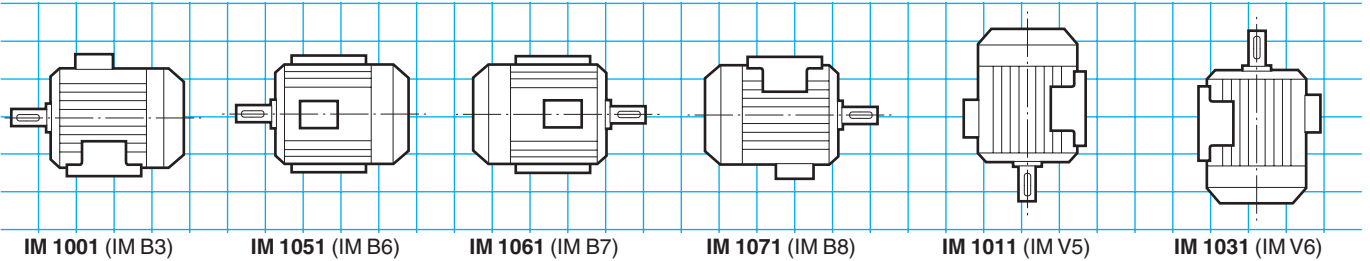
## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors

**CATEGORY 2  
ZONE 21**

### Mounting positions

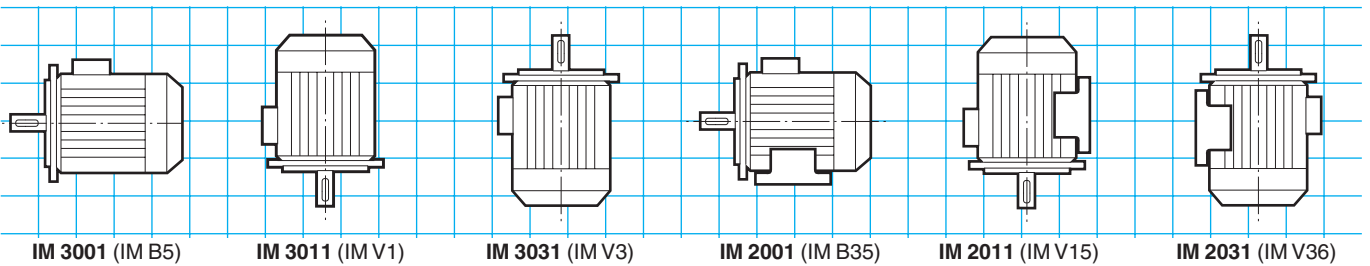
**A**

#### Foot mounted motors



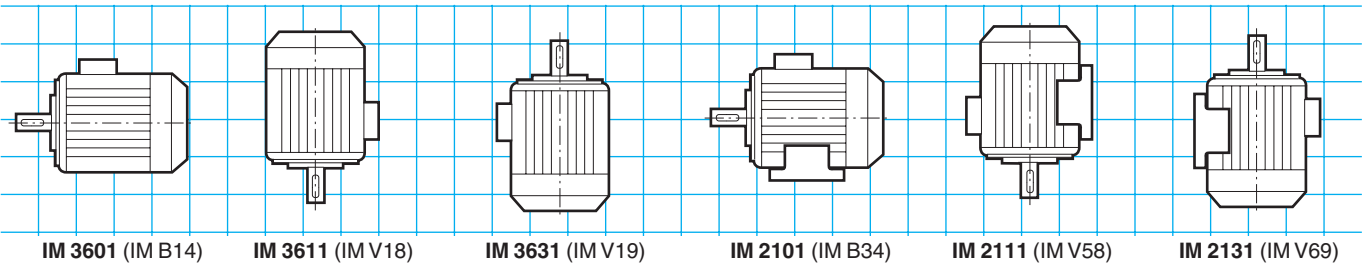
#### (FF) plain hole flange mounted motors

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

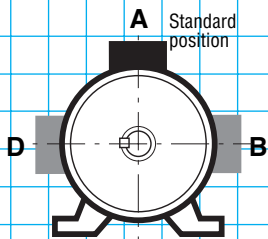


#### (FT) tapped hole flange mounted motors

• Possible positions up to 132 frame size inclusive

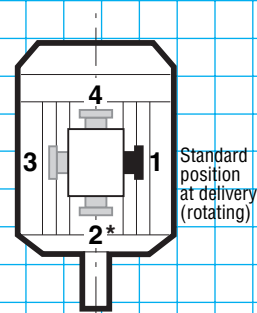


#### Position of the terminal box in relation to the motor shaft end



A: standard

#### Position 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)



# FLSPX Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors

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## Adaptation possibilities

Leroy-Somer offers, for use with the FLSPX totally enclosed three-phase asynchronous 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.

**A**

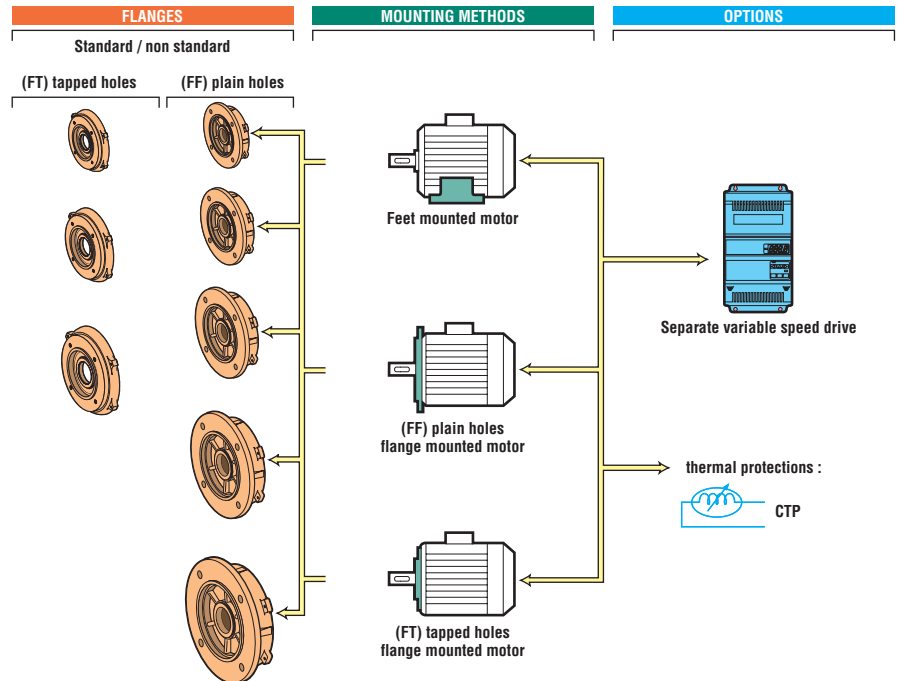
**The FLSPX three-phase motors may be associated to:**

- gearboxes
- electronic variable speed drives (1)

**The options (2):**

- thermal protections
- non standard flanges

(1) Conforming to the regulations of use indicated by the standard IEC 34-17.  
(2) Other options: consult us.



## Designation / Codification

|                               |                                     |              |                        |                                       |                |                               |                      |                        |                        |
|-------------------------------|-------------------------------------|--------------|------------------------|---------------------------------------|----------------|-------------------------------|----------------------|------------------------|------------------------|
| <b>ATEX II 2D<br/>T 125°C</b> | <b>4P<br/>1500 min<sup>-1</sup></b> | <b>FLSPX</b> | <b>180</b>             | <b>MR</b>                             | <b>18.5 kW</b> | <b>IM 1001<br/>(IM B3)</b>    | <b>400 VΔ</b>        | <b>50 Hz</b>           | <b>IP 55</b>           |
| Specific application          | Speed polarity                      | Motor type   | IEC 60072-1 frame size | Housing designation and builder index | Rated power    | IEC 60034-7 mounting position | Power supply voltage | Power supply frequency | IEC 60034-5 protection |

**Codification example:**

FLSPX three-phase asynchronous motor, 1500 min<sup>-1</sup>, 18.5 kW IM 1001 (IM B3), 400 V

|                         |             |
|-------------------------|-------------|
| <b>Designation</b>      | <b>Code</b> |
| 4P FLSPX 180 MR 18.5 kW |             |
| IM 1001 (IM B3) 400 V   | -           |

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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**CATEGORY 2  
ZONE 21**

### Selection

IP 65 - 50 Hz - Class F -  $\Delta T$  80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
II - 2D - T<sub>MAX</sub> 125 °C

**2  
poles  
3000 min<sup>-1</sup>**

| Type         | Rated power at 50 Hz | Rated speed             | Rated moment | Rated current  | Power factor | Efficiency IEC 60034-2; 1996 | Starting torque / Rated torque | Weight   |
|--------------|----------------------|-------------------------|--------------|----------------|--------------|------------------------------|--------------------------------|----------|
|              | $P_N$ kW             | $N_N$ min <sup>-1</sup> | $M_N$ Nm     | $I_N$ (400V) A | cos φ 100 %  | $\eta$ 100 %                 | $I_D / I_N$                    | IM B3 kg |
| FLSPX 80 L   | 0.75                 | 2840                    | 2.5          | 1.6            | 0.86         | 76                           | 5.9                            | 15       |
| FLSPX 80 L   | 1.1                  | 2837                    | 3.7          | 2.4            | 0.84         | 79.5                         | 5.6                            | 18       |
| FLSPX 90 S   | 1.5                  | 2870                    | 5            | 3.3            | 0.81         | 82                           | 7.3                            | 21       |
| FLSPX 90 L   | 2.2                  | 2862                    | 7.5          | 4.3            | 0.88         | 84.5                         | 8.1                            | 26       |
| FLSPX 100 LK | 3                    | 2925                    | 10           | 5.5            | 0.91         | 86                           | 8.4                            | 42       |
| FLSPX 112 M  | 4                    | 2940                    | 13.6         | 7.5            | 0.89         | 86.5                         | 8.7                            | 48       |
| FLSPX 132 S  | 5.5                  | 2940                    | 18.7         | 10.6           | 0.86         | 87                           | 7.6                            | 67       |
| FLSPX 132 S  | 7.5                  | 2950                    | 25           | 14.1           | 0.87         | 88                           | 8.9                            | 70       |
| FLSPX 160 MA | 11                   | 2935                    | 35.8         | 20             | 0.88         | 88.4                         | 8.6                            | 97       |
| FLSPX 160 MB | 15                   | 2935                    | 48.8         | 27             | 0.88         | 89.7                         | 8.6                            | 108      |
| FLSPX 160 L  | 18.5                 | 2940                    | 60           | 33             | 0.90         | 90.8                         | 8.4                            | 126      |
| FLSPX 180 MR | 22                   | 2940                    | 71           | 39             | 0.89         | 91                           | 8.5                            | 135      |
| FLSPX 200 LA | 30                   | 2950                    | 97           | 52             | 0.91         | 92.4                         | 7.7                            | 245      |
| FLSPX 200 LB | 37                   | 2959                    | 120          | 63             | 0.90         | 93.5                         | 8.3                            | 265      |
| FLSPX 225 MT | 45                   | 2958                    | 145          | 78             | 0.89         | 93.8                         | 8.3                            | 290      |
| FLSPX 250 M  | 55                   | 2966                    | 177          | 94             | 0.89         | 94.6                         | 7.9                            | 405      |
| FLSPX 280 S  | 75                   | 2965                    | 241          | 127            | 0.90         | 94.6                         | 8                              | 505      |
| FLSPX 280 M  | 90                   | 2962                    | 290          | 149            | 0.91         | 95.5                         | 7.7                            | 560      |
| FLSPX 315 ST | 110                  | 2975                    | 356          | 178            | 0.93         | 95.8                         | 8.2                            | 850      |
| FLSPX 315 M  | 132                  | 2962                    | 427          | 221            | 0.90         | 96                           | 7.5                            | 1000     |
| FLSPX 315 LA | 160                  | 2969                    | 517          | 272            | 0.89         | 95.5                         | 7.5                            | 1050     |
| FLSPX 315 LB | 200                  | 2967                    | 647          | 342            | 0.88         | 96                           | 7.7                            | 1150     |
| FLSPX 355 LA | 250                  | 2978                    | 808          | 424            | 0.89         | 95.6                         | 7.2                            | 1400     |
| FLSPX 355 LB | 275                  | 2980                    | 881          | 464            | 0.89         | 96.2                         | 8.4                            | 1500     |
| FLSPX 355 LB | 315                  | 2976                    | 1016         | 525            | 0.90         | 96.2                         | 7.2                            | 1500     |
| FLSPX 355 LC | 330                  | 2980                    | 1057         | 560            | 0.88         | 96.6                         | 7.9                            | 1915     |
| FLSPX 355 LC | 355                  | 2979                    | 1137         | 588            | 0.90         | 96.8                         | 8.2                            | 1915     |
| FLSPX 355 LD | 400                  | 2977                    | 1284         | 673            | 0.89         | 96.4                         | 7.8                            | 1915     |

# FLSPX



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### Selection

**CATEGORY 2  
ZONE 21**

IP 65 - 50 Hz - Class F -  $\Delta T$  80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
II - 2D - T<sub>MAX</sub> 125 °C

**2  
poles  
3000 min<sup>-1</sup>**

**A**

| Type         | Rated power at 50 Hz<br>$P_N$<br>kW | IM 1001 (IM B3) |     | IM 3001 (IM B5) |     |
|--------------|-------------------------------------|-----------------|-----|-----------------|-----|
|              |                                     | Code            | Qty | Code            | Qty |
| FLSPX 80 L   | 0.75                                |                 | -   |                 | -   |
| FLSPX 80 L   | 1.1                                 |                 | -   |                 | -   |
| FLSPX 90 S   | 1.5                                 |                 | -   |                 | -   |
| FLSPX 90 L   | 2.2                                 |                 | -   |                 | -   |
| FLSPX 100 LK | 3                                   |                 | -   |                 | -   |
| FLSPX 112 M  | 4                                   |                 | -   |                 | -   |
| FLSPX 132 S  | 5.5                                 |                 | -   |                 | -   |
| FLSPX 132 S  | 7.5                                 |                 | -   |                 | -   |
| FLSPX 160 MA | 11                                  |                 | -   |                 | -   |
| FLSPX 160 MB | 15                                  |                 | -   |                 | -   |
| FLSPX 160 L  | 18.5                                |                 | -   |                 | -   |
| FLSPX 180 MR | 22                                  |                 | -   |                 | -   |
| FLSPX 200 LA | 30                                  |                 | -   |                 | -   |
| FLSPX 200 LB | 37                                  |                 | -   |                 | -   |
| FLSPX 225 MT | 45                                  |                 | -   |                 | -   |
| FLSPX 250 M  | 55                                  |                 | -   |                 | -   |
| FLSPX 280 S  | 75                                  |                 | -   |                 | -   |
| FLSPX 280 M  | 90                                  |                 | -   |                 | -   |
| FLSPX 315 ST | 110                                 |                 | -   |                 | -   |
| FLSPX 315 M  | 132                                 |                 | -   |                 | -   |
| FLSPX 315 LA | 160                                 |                 | -   |                 | -   |
| FLSPX 315 LB | 200                                 |                 | -   |                 | -   |
| FLSPX 355 LA | 250                                 |                 | -   |                 | -   |
| FLSPX 355 LB | 275                                 |                 | -   |                 | -   |
| FLSPX 355 LB | 315                                 |                 | -   |                 | -   |
| FLSPX 355 LC | 330                                 |                 | -   |                 | -   |
| FLSPX 355 LC | 355                                 |                 | -   |                 | -   |
| FLSPX 355 LD | 400                                 |                 | -   |                 | -   |

# FLSPX

## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors



### Selection

**CATEGORY 2  
ZONE 21**

IP 65 - 50 Hz - Class F -  $\Delta T 80 K$  - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
II - 2D - T<sub>MAX</sub> 125 °C

**4**  
poles  
1500 min<sup>-1</sup>

**A**

| Type         | Rated power at 50 Hz | Rated speed             | Rated moment | Rated current  | Power factor | Efficiency IEC 60034-2; 1996 | Starting torque / Rated torque | Weight   |
|--------------|----------------------|-------------------------|--------------|----------------|--------------|------------------------------|--------------------------------|----------|
|              | $P_N$ kW             | $N_N$ min <sup>-1</sup> | $M_N$ Nm     | $I_N$ (400V) A | cos φ 100 %  | $\eta$ 100 %                 | $I_D / I_N$                    | IM B3 kg |
| FLSPX 80 L   | 0.55                 | 1410                    | 3.7          | 1.6            | 0.74         | 69.2                         | 4.4                            | 15       |
| FLSPX 80 L   | 0.75                 | 1425                    | 5            | 2              | 0.75         | 72.5                         | 5.7                            | 17       |
| FLSPX 90 S   | 1.1                  | 1429                    | 7.5          | 2.5            | 0.83         | 78                           | 4.9                            | 19       |
| FLSPX 90 L   | 1.5                  | 1428                    | 10           | 3.3            | 0.82         | 79.5                         | 5.3                            | 21       |
| FLSPX 90 L   | 1.8                  | 1438                    | 12.3         | 4              | 0.82         | 80.1                         | 5.9                            | 23       |
| FLSPX 100 LK | 2.2                  | 1457                    | 15           | 4.6            | 0.83         | 83.8                         | 6.3                            | 41       |
| FLSPX 100 LK | 3                    | 1454                    | 20           | 6.2            | 0.82         | 84.7                         | 6.5                            | 44       |
| FLSPX 112 M  | 4                    | 1462                    | 27.5         | 8.4            | 0.81         | 85.1                         | 7.4                            | 48       |
| FLSPX 132 S  | 5.5                  | 1467                    | 37           | 10.9           | 0.84         | 87                           | 8                              | 65       |
| FLSPX 132 M  | 7.5                  | 1450                    | 50           | 14.3           | 0.87         | 87                           | 7.3                            | 70       |
| FLSPX 132 M  | 9                    | 1449                    | 61           | 16.8           | 0.88         | 87.7                         | 7.6                            | 75       |
| FLSPX 160 M  | 11                   | 1455                    | 72.2         | 20.9           | 0.86         | 88.5                         | 7.8                            | 103      |
| FLSPX 160 L  | 15                   | 1455                    | 98.5         | 27.9           | 0.86         | 89.5                         | 7.8                            | 120      |
| FLSPX 180 MR | 18.5                 | 1465                    | 120          | 35             | 0.86         | 90                           | 7.8                            | 135      |
| FLSPX 180 L  | 22                   | 1465                    | 143          | 40.8           | 0.86         | 91.4                         | 7.4                            | 184      |
| FLSPX 200 L  | 30                   | 1471                    | 195          | 55.7           | 0.85         | 91.9                         | 6.5                            | 260      |
| FLSPX 225 ST | 37                   | 1476                    | 240          | 69.6           | 0.82         | 93.6                         | 7                              | 290      |
| FLSPX 225 M  | 45                   | 1483                    | 290          | 78.6           | 0.87         | 94.5                         | 7                              | 388      |
| FLSPX 250 M  | 55                   | 1479                    | 355          | 101            | 0.84         | 94.5                         | 6.5                            | 395      |
| FLSPX 280 S  | 75                   | 1483                    | 484          | 137            | 0.84         | 94.9                         | 7.7                            | 475      |
| FLSPX 280 M  | 90                   | 1478                    | 581          | 162            | 0.85         | 95                           | 7.6                            | 565      |
| FLSPX 315 ST | 110                  | 1482                    | 710          | 203            | 0.83         | 94.8                         | 7.3                            | 850      |
| FLSPX 315 M  | 132                  | 1489                    | 850          | 249            | 0.81         | 95                           | 8                              | 1000     |
| FLSPX 315 LA | 160                  | 1486                    | 1032         | 285            | 0.85         | 95.8                         | 7.5                            | 1050     |
| FLSPX 315 LB | 200                  | 1487                    | 1291         | 369            | 0.82         | 96                           | 8                              | 1150     |
| FLSPX 355 LA | 250                  | 1487                    | 1611         | 427            | 0.88         | 96.5                         | 7.4                            | 1510     |
| FLSPX 355 LB | 300                  | 1489                    | 1930         | 520            | 0.87         | 96.3                         | 6.5                            | 1550     |
| FLSPX 355 LC | 355                  | 1489                    | 2279         | 619            | 0.86         | 96.8                         | 6.6                            | 1800     |
| FLSPX 355 LD | 400                  | 1489                    | 2564         | 689            | 0.87         | 96.8                         | 7.4                            | 1930     |

# FLSPX



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### Selection

**CATEGORY 2  
ZONE 21**

IP 65 - 50 Hz - Class F -  $\Delta T$  80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
 II - 2D - T<sub>MAX</sub> 125 °C

**4  
poles  
1500 min<sup>-1</sup>**

**A**

| Type         | Rated power at 50 Hz<br>$P_N$<br>kW | IM 1001 (IM B3) |     | IM 3001 (IM B5) |     |
|--------------|-------------------------------------|-----------------|-----|-----------------|-----|
|              |                                     | Code            | Qty | Code            | Qty |
| FLSPX 80 L   | 0.55                                |                 | -   |                 | -   |
| FLSPX 80 L   | 0.75                                |                 | -   |                 | -   |
| FLSPX 90 S   | 1.1                                 |                 | -   |                 | -   |
| FLSPX 90 L   | 1.5                                 |                 | -   |                 | -   |
| FLSPX 90 L   | 1.8                                 |                 | -   |                 | -   |
| FLSPX 100 LK | 2.2                                 |                 | -   |                 | -   |
| FLSPX 100 LK | 3                                   |                 | -   |                 | -   |
| FLSPX 112 M  | 4                                   |                 | -   |                 | -   |
| FLSPX 132 S  | 5.5                                 |                 | -   |                 | -   |
| FLSPX 132 M  | 7.5                                 |                 | -   |                 | -   |
| FLSPX 132 M  | 9                                   |                 | -   |                 | -   |
| FLSPX 160 M  | 11                                  |                 | -   |                 | -   |
| FLSPX 160 L  | 15                                  |                 | -   |                 | -   |
| FLSPX 180 MR | 18.5                                |                 | -   |                 | -   |
| FLSPX 180 L  | 22                                  |                 | -   |                 | -   |
| FLSPX 200 L  | 30                                  |                 | -   |                 | -   |
| FLSPX 225 ST | 37                                  |                 | -   |                 | -   |
| FLSPX 225 M  | 45                                  |                 | -   |                 | -   |
| FLSPX 250 M  | 55                                  |                 | -   |                 | -   |
| FLSPX 280 S  | 75                                  |                 | -   |                 | -   |
| FLSPX 280 M  | 90                                  |                 | -   |                 | -   |
| FLSPX 315 ST | 110                                 |                 | -   |                 | -   |
| FLSPX 315 M  | 132                                 |                 | -   |                 | -   |
| FLSPX 315 LA | 160                                 |                 | -   |                 | -   |
| FLSPX 315 LB | 200                                 |                 | -   |                 | -   |
| FLSPX 355 LA | 250                                 |                 | -   |                 | -   |
| FLSPX 355 LB | 300                                 |                 | -   |                 | -   |
| FLSPX 355 LC | 355                                 |                 | -   |                 | -   |
| FLSPX 355 LD | 400                                 |                 | -   |                 | -   |

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**CATEGORY 2  
ZONE 21**

### Selection

IP 65 - 50 Hz - Class F -  $\Delta T 80 K$  - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
II - 2D - T<sub>MAX</sub> 125 °C

**6**  
poles  
1000 min<sup>-1</sup>

**A**

| Type         | Rated power at 50 Hz | Rated speed             | Rated moment | Rated current   | Power factor | Efficiency IEC 60034-2; 1996 | Starting torque / Rated torque | Weight   |
|--------------|----------------------|-------------------------|--------------|-----------------|--------------|------------------------------|--------------------------------|----------|
|              | $P_N$ kW             | $N_N$ min <sup>-1</sup> | $M_N$ Nm     | $I_{N(400V)}$ A | cos φ 100 %  | η 100 %                      | $I_D / I_N$                    | IM B3 kg |
| FLSPX 80 L   | 0.25                 | 950                     | 2.5          | 0.8             | 0.74         | 60.3                         | 3.6                            | 14       |
| FLSPX 80 L   | 0.37                 | 940                     | 3.7          | 1.2             | 0.74         | 61                           | 3.8                            | 15       |
| FLSPX 80 L   | 0.55                 | 955                     | 5.5          | 1.8             | 0.67         | 65                           | 4.4                            | 16       |
| FLSPX 90 S   | 0.75                 | 940                     | 7.5          | 2.1             | 0.80         | 65.2                         | 3.5                            | 21       |
| FLSPX 90 L   | 1.1                  | 940                     | 11           | 2.7             | 0.81         | 73.5                         | 4.8                            | 23       |
| FLSPX 100 LK | 1.5                  | 955                     | 15           | 3.5             | 0.78         | 78.3                         | 6.3                            | 41       |
| FLSPX 112 M  | 2.2                  | 960                     | 22           | 5.2             | 0.77         | 80                           | 5.5                            | 45       |
| FLSPX 132 S  | 3                    | 953                     | 30           | 6.9             | 0.76         | 81.9                         | 5.3                            | 71       |
| FLSPX 132 M  | 4                    | 970                     | 40           | 9               | 0.78         | 82.1                         | 6.7                            | 76       |
| FLSPX 132 M  | 5.5                  | 970                     | 54           | 12.2            | 0.79         | 82.1                         | 7.1                            | 88       |
| FLSPX 160 M  | 7.5                  | 968                     | 74           | 16              | 0.80         | 86                           | 5                              | 100      |
| FLSPX 160 L  | 11                   | 966                     | 109          | 23              | 0.81         | 87                           | 5                              | 128      |
| FLSPX 180 L  | 15                   | 974                     | 147          | 30              | 0.82         | 89.5                         | 7.1                            | 170      |
| FLSPX 200 LA | 18.5                 | 975                     | 181          | 36              | 0.83         | 90.7                         | 7                              | 240      |
| FLSPX 200 LB | 22                   | 973                     | 216          | 43              | 0.81         | 91.5                         | 7                              | 260      |
| FLSPX 225 M  | 30                   | 978                     | 293          | 59              | 0.80         | 92                           | 6                              | 392      |
| FLSPX 250 M  | 37                   | 977                     | 362          | 73              | 0.80         | 92.5                         | 6.2                            | 394      |
| FLSPX 280 S  | 45                   | 971                     | 440          | 84              | 0.84         | 93                           | 6                              | 455      |
| FLSPX 280 M  | 55                   | 977                     | 538          | 109             | 0.79         | 93                           | 6.9                            | 532      |
| FLSPX 315 ST | 75                   | 987                     | 731          | 133             | 0.86         | 94.8                         | 6.5                            | 850      |
| FLSPX 315 M  | 90                   | 987                     | 875          | 161             | 0.85         | 95.6                         | 6.7                            | 1000     |
| FLSPX 315 LA | 110                  | 983                     | 1067         | 199             | 0.85         | 94.5                         | 6                              | 1050     |
| FLSPX 315 LB | 132                  | 988                     | 1280         | 241             | 0.83         | 95.9                         | 7.4                            | 1125     |
| FLSPX 315 LB | 150                  | 986                     | 1454         | 277             | 0.82         | 95.8                         | 6.6                            | 1125     |
| FLSPX 355 LA | 185                  | 987                     | 1783         | 346             | 0.81         | 95.8                         | 7.5                            | 1415     |
| FLSPX 355 LB | 220                  | 988                     | 2129         | 412             | 0.81         | 95.6                         | 7.4                            | 1535     |
| FLSPX 355 LD | 250                  | 993                     | 2406         | 459             | 0.82         | 95.8                         | 7.8                            | 1935     |
| FLSPX 355 LD | 300                  | 992                     | 2885         | 558             | 0.82         | 95.2                         | 6.8                            | 1935     |



# FLSPX

## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors



**CATEGORY 2  
ZONE 21**

### Selection

IP 65 - 50 Hz - Class F -  $\Delta T$  80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
II - 2D - T<sub>MAX</sub> 125 °C

**6**  
poles  
1000 min<sup>-1</sup>

**A**

| Type         | Rated power at 50 Hz<br>$P_N$<br>kW | IM 1001 (IM B3) |     | IM 3001 (IM B5) |     |
|--------------|-------------------------------------|-----------------|-----|-----------------|-----|
|              |                                     | Code            | Qty | Code            | Qty |
| FLSPX 80 L   | 0.25                                |                 | -   |                 | -   |
| FLSPX 80 L   | 0.37                                |                 | -   |                 | -   |
| FLSPX 80 L   | 0.55                                |                 | -   |                 | -   |
| FLSPX 90 S   | 0.75                                |                 | -   |                 | -   |
| FLSPX 90 L   | 1.1                                 |                 | -   |                 | -   |
| FLSPX 100 LK | 1.5                                 |                 | -   |                 | -   |
| FLSPX 112 M  | 2.2                                 |                 | -   |                 | -   |
| FLSPX 132 S  | 3                                   |                 | -   |                 | -   |
| FLSPX 132 M  | 4                                   |                 | -   |                 | -   |
| FLSPX 132 M  | 5.5                                 |                 | -   |                 | -   |
| FLSPX 160 M  | 7.5                                 |                 | -   |                 | -   |
| FLSPX 160 L  | 11                                  |                 | -   |                 | -   |
| FLSPX 180 L  | 15                                  |                 | -   |                 | -   |
| FLSPX 200 LA | 18.5                                |                 | -   |                 | -   |
| FLSPX 200 LB | 22                                  |                 | -   |                 | -   |
| FLSPX 225 M  | 30                                  |                 | -   |                 | -   |
| FLSPX 250 M  | 37                                  |                 | -   |                 | -   |
| FLSPX 280 S  | 45                                  |                 | -   |                 | -   |
| FLSPX 280 M  | 55                                  |                 | -   |                 | -   |
| FLSPX 315 ST | 75                                  |                 | -   |                 | -   |
| FLSPX 315 M  | 90                                  |                 | -   |                 | -   |
| FLSPX 315 LA | 110                                 |                 | -   |                 | -   |
| FLSPX 315 LB | 132                                 |                 | -   |                 | -   |
| FLSPX 315 LB | 150                                 |                 | -   |                 | -   |
| FLSPX 355 LA | 185                                 |                 | -   |                 | -   |
| FLSPX 355 LB | 220                                 |                 | -   |                 | -   |
| FLSPX 355 LD | 250                                 |                 | -   |                 | -   |
| FLSPX 355 LD | 300                                 |                 | -   |                 | -   |

# FLSPX

## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors



**CATEGORY 2  
ZONE 21**

### Selection

IP 65 - 50 Hz - Class F -  $\Delta$ T 80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
II - 2D - T<sub>MAX</sub> 125 °C

**8**  
poles  
750 min<sup>-1</sup>

| Type         | Rated power<br>at 50 Hz | Rated speed                | Rated moment | Rated current      | Power factor   | Efficiency<br>IEC 60034-2;<br>1996 | Starting torque /<br>Rated torque | Weight      |
|--------------|-------------------------|----------------------------|--------------|--------------------|----------------|------------------------------------|-----------------------------------|-------------|
|              | $P_N$<br>kW             | $N_N$<br>min <sup>-1</sup> | $M_N$<br>Nm  | $I_{N(400V)}$<br>A | cos φ<br>100 % | $\eta$<br>100 %                    | $I_D / I_N$                       | IM B3<br>kg |
| FLSPX 80 L   | 0.18                    | 710                        | 2.5          | 0.8                | 0.64           | 52.3                               | 3                                 | 14          |
| FLSPX 80 L   | 0.25                    | 720                        | 3.4          | 1.1                | 0.60           | 54.5                               | 3.2                               | 16          |
| FLSPX 90 S   | 0.37                    | 685                        | 5            | 1.2                | 0.71           | 64                                 | 3.5                               | 21          |
| FLSPX 90 L   | 0.55                    | 695                        | 7.5          | 1.7                | 0.72           | 63                                 | 3.3                               | 23          |
| FLSPX 100 LK | 0.75                    | 720                        | 10           | 2.3                | 0.68           | 70.9                               | 4.1                               | 41          |
| FLSPX 100 LK | 1.1                     | 720                        | 15           | 3.8                | 0.62           | 68                                 | 4.1                               | 43          |
| FLSPX 112 M  | 1.5                     | 725                        | 20           | 4.8                | 0.63           | 72.5                               | 4                                 | 45          |
| FLSPX 132 S  | 2.2                     | 715                        | 30           | 7.2                | 0.60           | 74                                 | 3.2                               | 71          |
| FLSPX 132 M  | 3                       | 705                        | 40           | 9.1                | 0.63           | 76                                 | 3.1                               | 81          |
| FLSPX 160 MA | 4                       | 710                        | 54           | 11.3               | 0.63           | 81.5                               | 3.8                               | 105         |
| FLSPX 160 MB | 5.5                     | 710                        | 74           | 15                 | 0.65           | 82                                 | 3.8                               | 111         |
| FLSPX 160 L  | 7.5                     | 715                        | 100          | 20                 | 0.65           | 83                                 | 3.8                               | 128         |
| FLSPX 180 L  | 11                      | 724                        | 147          | 27                 | 0.70           | 85.1                               | 3.9                               | 175         |
| FLSPX 200 L  | 15                      | 729                        | 196          | 34                 | 0.72           | 88.1                               | 5                                 | 265         |
| FLSPX 225 ST | 18.5                    | 727                        | 242          | 41                 | 0.73           | 89                                 | 5                                 | 285         |
| FLSPX 225 M  | 22                      | 732                        | 288          | 48                 | 0.72           | 92.1                               | 5.9                               | 388         |
| FLSPX 250 M  | 30                      | 729                        | 393          | 61                 | 0.78           | 91.2                               | 6.2                               | 393         |
| FLSPX 280 S  | 37                      | 723                        | 487          | 75                 | 0.78           | 92                                 | 4.5                               | 472         |
| FLSPX 280 M  | 45                      | 730                        | 592          | 102                | 0.70           | 91.7                               | 6                                 | 563         |
| FLSPX 315 ST | 55                      | 738                        | 715          | 102                | 0.83           | 94.2                               | 7.4                               | 850         |
| FLSPX 315 M  | 75                      | 743                        | 972          | 147                | 0.78           | 94.8                               | 7.4                               | 1000        |
| FLSPX 315 LA | 90                      | 742                        | 1169         | 177                | 0.78           | 94.7                               | 6.7                               | 1030        |
| FLSPX 315 LB | 110                     | 742                        | 1420         | 222                | 0.76           | 94.8                               | 7.2                               | 1125        |
| FLSPX 355 LA | 132                     | 741                        | 1704         | 258                | 0.78           | 95.3                               | 6.7                               | 1415        |
| FLSPX 355 LB | 160                     | 741                        | 2065         | 312                | 0.78           | 95.3                               | 6.9                               | 1535        |
| FLSPX 355 LD | 200                     | 741                        | 2581         | 364                | 0.84           | 95                                 | 6.7                               | 1935        |

# FLSPX

## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors



**CATEGORY 2  
ZONE 21**

### Selection

IP 65 - 50 Hz - Class F -  $\Delta T$  80 K - 230 V  $\Delta$  / 400 V Y or 400 V  $\Delta$  - S1  
 II - 2D - T<sub>MAX</sub> 125 °C

**8  
poles  
750 min<sup>-1</sup>**

**A**

| Type         | Rated power at 50 Hz<br>$P_N$<br>kW | IM 1001 (IM B3) |     | IM 3001 (IM B5) |     |
|--------------|-------------------------------------|-----------------|-----|-----------------|-----|
|              |                                     | Code            | Qty | Code            | Qty |
| FLSPX 80 L   | 0.18                                |                 | -   |                 | -   |
| FLSPX 80 L   | 0.25                                |                 | -   |                 | -   |
| FLSPX 90 S   | 0.37                                |                 | -   |                 | -   |
| FLSPX 90 L   | 0.55                                |                 | -   |                 | -   |
| FLSPX 100 LK | 0.75                                |                 | -   |                 | -   |
| FLSPX 100 LK | 1.1                                 |                 | -   |                 | -   |
| FLSPX 112 M  | 1.5                                 |                 | -   |                 | -   |
| FLSPX 132 S  | 2.2                                 |                 | -   |                 | -   |
| FLSPX 132 M  | 3                                   |                 | -   |                 | -   |
| FLSPX 160 MA | 4                                   |                 | -   |                 | -   |
| FLSPX 160 MB | 5.5                                 |                 | -   |                 | -   |
| FLSPX 160 L  | 7.5                                 |                 | -   |                 | -   |
| FLSPX 180 L  | 11                                  |                 | -   |                 | -   |
| FLSPX 200 L  | 15                                  |                 | -   |                 | -   |
| FLSPX 225 ST | 18.5                                |                 | -   |                 | -   |
| FLSPX 225 M  | 22                                  |                 | -   |                 | -   |
| FLSPX 250 M  | 30                                  |                 | -   |                 | -   |
| FLSPX 280 S  | 37                                  |                 | -   |                 | -   |
| FLSPX 280 M  | 45                                  |                 | -   |                 | -   |
| FLSPX 315 ST | 55                                  |                 | -   |                 | -   |
| FLSPX 315 M  | 75                                  |                 | -   |                 | -   |
| FLSPX 315 LA | 90                                  |                 | -   |                 | -   |
| FLSPX 315 LB | 110                                 |                 | -   |                 | -   |
| FLSPX 355 LA | 132                                 |                 | -   |                 | -   |
| FLSPX 355 LB | 160                                 |                 | -   |                 | -   |
| FLSPX 355 LD | 200                                 |                 | -   |                 | -   |

# FLSPX

## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors



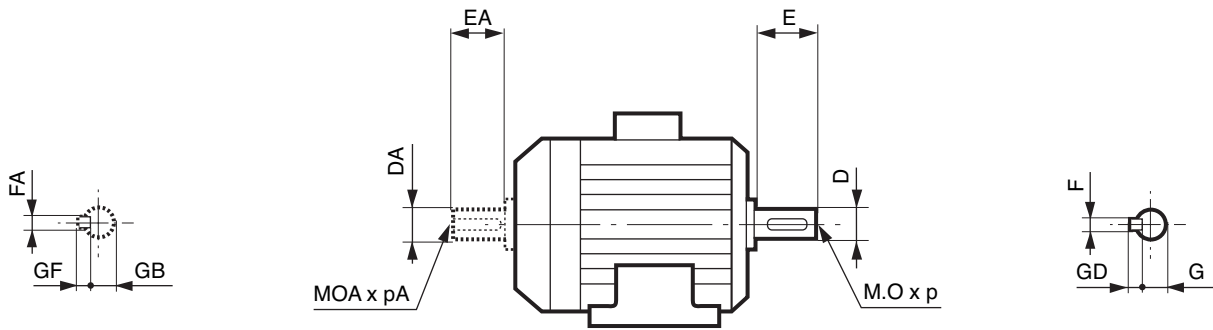
**CATEGORY 2  
ZONE 21**

### Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65  
Cage rotor

Dimensions in millimetres

- shaft end



#### Main shaft end

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

#### Secondary shaft end

| Type              | 4. 6 and 8 poles |    |       |      |     |    |    | 2 poles |    |      |      |     |    |    |
|-------------------|------------------|----|-------|------|-----|----|----|---------|----|------|------|-----|----|----|
|                   | FA               | GF | DA    | GB   | EA  | OA | pA | FA      | GF | DA   | GB   | EA  | OA | pA |
| FLSPX 80 L        | 5                | 5  | 14j6  | 11   | 30  | 5  | 15 | 5       | 5  | 14j6 | 11   | 30  | 5  | 15 |
| FLSPX 90 S/L      | 6                | 6  | 19j6  | 15.5 | 40  | 6  | 16 | 6       | 6  | 19j6 | 15.5 | 40  | 6  | 16 |
| FLSPX 100 LK      | 8                | 7  | 24j6  | 20   | 50  | 8  | 19 | 8       | 7  | 24j6 | 20   | 50  | 8  | 19 |
| FLSPX 112 M       | 8                | 7  | 24j6  | 20   | 50  | 8  | 19 | 8       | 7  | 24j6 | 20   | 50  | 8  | 19 |
| FLSPX 132 S/M/MR  | 8                | 7  | 28j6  | 24   | 60  | 10 | 22 | 8       | 7  | 28j6 | 24   | 60  | 10 | 22 |
| FLSPX 160 M/L     | 12               | 8  | 42k6  | 37   | 110 | 16 | 36 | 12      | 8  | 42k6 | 37   | 110 | 16 | 36 |
| FLSPX 180 MR/L    | 14               | 9  | 48k6  | 42.5 | 110 | 16 | 36 | 14      | 9  | 48k6 | 42.5 | 110 | 16 | 36 |
| FLSPX 200 L       | 16               | 10 | 55m6  | 49   | 110 | 20 | 42 | 16      | 10 | 55m6 | 49   | 110 | 20 | 42 |
| FLSPX 225 ST/MT/M | 18               | 11 | 60m6  | 53   | 140 | 20 | 42 | 16      | 10 | 55m6 | 49   | 110 | 20 | 42 |
| FLSPX 250 M       | 18               | 11 | 60m6  | 53   | 140 | 20 | 42 | 18      | 11 | 60m6 | 53   | 140 | 20 | 42 |
| FLSPX 280 S/M     | 20               | 12 | 60m6  | 53   | 140 | 20 | 42 | 18      | 11 | 65m6 | 58   | 140 | 20 | 42 |
| FLSPX 315 ST      | 22               | 14 | 80m6  | 71   | 170 | 20 | 42 | 18      | 11 | 65m6 | 58   | 140 | 20 | 42 |
| FLSPX 315 M       | 22               | 14 | 80m6  | 71   | 170 | 20 | 42 | 18      | 11 | 65m6 | 58   | 140 | 20 | 42 |
| FLSPX 315 L       | 25               | 14 | 90m6  | 81   | 170 | 24 | 50 | 20      | 12 | 70m6 | 62.5 | 140 | 20 | 42 |
| FLSPX 355 L/LK    | 28               | 16 | 100m6 | 90   | 210 | 24 | 50 | 22      | 14 | 80m6 | 71   | 170 | 20 | 42 |

# FLSPX

## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors



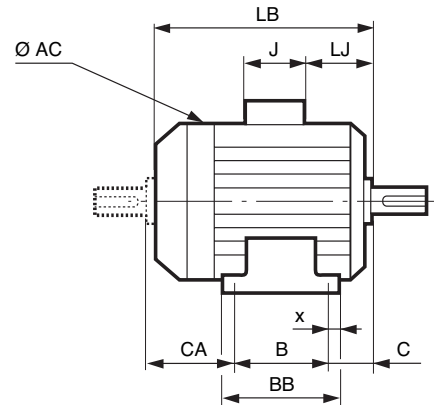
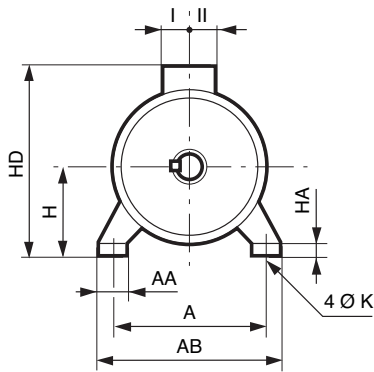
**CATEGORY 2  
ZONE 21**

### Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65  
Cage rotor

Dimensions in millimetres

- foot mounted



| Type            | Main dimensions |     |     |     |     |    |     |    |    |     |     |     |      |     |     |     |     |     |
|-----------------|-----------------|-----|-----|-----|-----|----|-----|----|----|-----|-----|-----|------|-----|-----|-----|-----|-----|
|                 | A               | AB  | B   | BB  | C   | x  | AA  | K  | HA | H   | AC  | HD  | LB   | LJ  | J   | I   | II  | CA  |
| FLSPX 80 L      | 125             | 157 | 100 | 130 | 50  | 20 | 32  | 9  | 10 | 80  | 160 | 230 | 214  | 27  | 126 | 63  | 63  | 68  |
| FLSPX 90 S      | 140             | 172 | 100 | 160 | 56  | 22 | 34  | 10 | 11 | 90  | 185 | 250 | 243  | 22  | 126 | 63  | 63  | 93  |
| FLSPX 90 L      | 140             | 172 | 125 | 160 | 56  | 22 | 34  | 10 | 11 | 90  | 185 | 250 | 243  | 22  | 126 | 63  | 63  | 68  |
| FLSPX 100 LK    | 160             | 200 | 140 | 174 | 63  | 22 | 42  | 12 | 12 | 100 | 226 | 293 | 323  | 37  | 150 | 75  | 75  | 125 |
| FLSPX 112 M     | 190             | 230 | 140 | 174 | 70  | 22 | 45  | 12 | 12 | 112 | 226 | 305 | 323  | 37  | 150 | 75  | 75  | 119 |
| FLSPX 112 MR    | 190             | 230 | 140 | 174 | 70  | 22 | 45  | 12 | 12 | 112 | 226 | 305 | 344  | 37  | 150 | 75  | 75  | 142 |
| FLSPX 132 S     | 216             | 255 | 140 | 223 | 89  | 31 | 58  | 12 | 15 | 132 | 264 | 345 | 387  | 28  | 150 | 75  | 75  | 164 |
| FLSPX 132 M     | 216             | 255 | 178 | 223 | 89  | 31 | 58  | 12 | 15 | 132 | 264 | 345 | 387  | 28  | 150 | 75  | 75  | 126 |
| FLSPX 132 MR    | 216             | 255 | 178 | 223 | 89  | 31 | 58  | 12 | 15 | 132 | 264 | 345 | 410  | 28  | 150 | 75  | 75  | 149 |
| FLSPX 160 M     | 254             | 294 | 210 | 294 | 108 | 20 | 65  | 14 | 24 | 160 | 310 | 440 | 495  | 30  | 246 | 126 | 147 | 182 |
| FLSPX 160 L     | 254             | 294 | 254 | 294 | 108 | 20 | 65  | 14 | 24 | 160 | 310 | 440 | 495  | 30  | 246 | 126 | 147 | 138 |
| FLSPX 180 MR    | 279             | 324 | 241 | 295 | 121 | 25 | 80  | 14 | 28 | 180 | 310 | 460 | 515  | 30  | 246 | 126 | 147 | 158 |
| FLSPX 180 L     | 279             | 330 | 279 | 335 | 121 | 28 | 70  | 14 | 28 | 180 | 350 | 468 | 555  | 55  | 220 | 128 | 128 | 160 |
| FLSPX 200 L     | 318             | 374 | 305 | 361 | 133 | 28 | 80  | 18 | 50 | 200 | 394 | 515 | 681  | 65  | 220 | 128 | 128 | 248 |
| FLSPX 225 ST    | 356             | 420 | 286 | 367 | 149 | 28 | 100 | 18 | 35 | 225 | 394 | 540 | 681  | 65  | 220 | 128 | 128 | 251 |
| FLSPX 225 MT    | 356             | 420 | 311 | 367 | 149 | 28 | 100 | 18 | 35 | 225 | 394 | 540 | 681  | 65  | 220 | 128 | 128 | 226 |
| FLSPX 225 M     | 356             | 426 | 311 | 375 | 149 | 32 | 80  | 18 | 27 | 225 | 540 | 656 | 780  | 70  | 352 | 173 | 210 | 326 |
| FLSPX 250 M     | 406             | 476 | 349 | 413 | 168 | 32 | 80  | 22 | 27 | 250 | 540 | 681 | 780  | 70  | 352 | 173 | 210 | 269 |
| FLSPX 280 S     | 457             | 527 | 368 | 432 | 190 | 32 | 80  | 22 | 27 | 280 | 540 | 711 | 860  | 70  | 352 | 173 | 210 | 302 |
| FLSPX 280 M     | 457             | 527 | 419 | 483 | 190 | 32 | 80  | 22 | 27 | 280 | 540 | 711 | 960  | 70  | 352 | 173 | 210 | 357 |
| FLSPX 315 ST    | 508             | 598 | 406 | 547 | 216 | 45 | 90  | 27 | 45 | 315 | 556 | 755 | 1068 | 107 | 274 | 140 | 240 | 452 |
| FLSPX 315 M     | 508             | 600 | 457 | 598 | 216 | 45 | 100 | 27 | 45 | 315 | 624 | 822 | 1203 | 119 | 354 | 180 | 330 | 536 |
| FLSPX 315 L     | 508             | 600 | 508 | 598 | 216 | 45 | 100 | 27 | 45 | 315 | 624 | 822 | 1203 | 119 | 354 | 180 | 330 | 485 |
| FLSPX 355 LA/LB | 610             | 710 | 630 | 710 | 254 | 40 | 110 | 27 | 35 | 355 | 700 | 900 | 1305 | 110 | 354 | 180 | 330 | 427 |
| FLSPX 355 LC/LD | 610             | 710 | 630 | 710 | 254 | 40 | 110 | 27 | 35 | 355 | 700 | 900 | 1430 | 110 | 354 | 180 | 330 | 552 |

# FLSPX



## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors

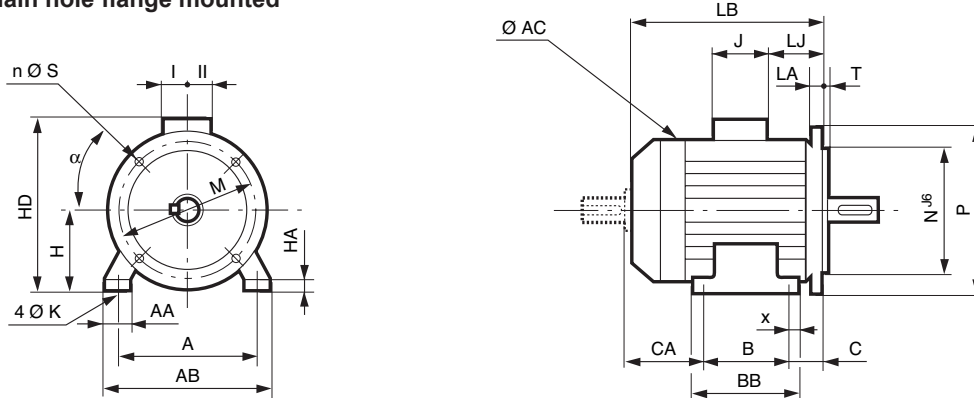
**CATEGORY 2  
ZONE 21**

### Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65  
Cage rotor

Dimensions in millimetres

- (FF) foot and plain hole flange mounted



Main dimensions

| Type            | A   | AB  | B   | BB  | C   | x  | AA  | K  | HA | H   | AC  | HD  | LB   | LJ  | J   | I   | II  | Sym.  |
|-----------------|-----|-----|-----|-----|-----|----|-----|----|----|-----|-----|-----|------|-----|-----|-----|-----|-------|
| FLSPX 80 L      | 125 | 157 | 100 | 130 | 50  | 20 | 32  | 9  | 10 | 80  | 160 | 230 | 214  | 27  | 126 | 63  | 63  | FF165 |
| FLSPX 90 S      | 140 | 172 | 100 | 160 | 76  | 22 | 34  | 10 | 11 | 90  | 185 | 250 | 263  | 42  | 126 | 63  | 63  | FF165 |
| FLSPX 90 L      | 140 | 172 | 125 | 160 | 76  | 22 | 34  | 10 | 11 | 90  | 185 | 250 | 263  | 42  | 126 | 63  | 63  | FF165 |
| FLSPX 100 LK    | 160 | 200 | 140 | 174 | 63  | 22 | 42  | 12 | 12 | 100 | 226 | 293 | 323  | 37  | 150 | 75  | 75  | FF215 |
| FLSPX 112 M     | 190 | 230 | 140 | 174 | 70  | 22 | 45  | 12 | 12 | 112 | 226 | 305 | 323  | 37  | 150 | 75  | 75  | FF215 |
| FLSPX 112 MR    | 190 | 230 | 140 | 174 | 70  | 22 | 45  | 12 | 12 | 112 | 226 | 305 | 344  | 37  | 150 | 75  | 75  | FF215 |
| FLSPX 132 S     | 216 | 255 | 140 | 223 | 89  | 31 | 58  | 12 | 15 | 132 | 264 | 345 | 387  | 28  | 150 | 75  | 75  | FF265 |
| FLSPX 132 M     | 216 | 255 | 178 | 223 | 89  | 31 | 58  | 12 | 15 | 132 | 264 | 345 | 387  | 28  | 150 | 75  | 75  | FF265 |
| FLSPX 132 MR    | 216 | 255 | 178 | 223 | 89  | 31 | 58  | 12 | 15 | 132 | 264 | 345 | 410  | 28  | 150 | 75  | 75  | FF265 |
| FLSPX 160 M     | 254 | 294 | 210 | 294 | 108 | 20 | 65  | 14 | 24 | 160 | 310 | 440 | 495  | 30  | 246 | 126 | 147 | FF300 |
| FLSPX 160 L     | 254 | 294 | 254 | 294 | 108 | 20 | 65  | 14 | 24 | 160 | 310 | 440 | 495  | 30  | 246 | 126 | 147 | FF300 |
| FLSPX 180 MR    | 279 | 324 | 241 | 295 | 121 | 25 | 80  | 14 | 28 | 180 | 310 | 460 | 515  | 30  | 246 | 126 | 147 | FF300 |
| FLSPX 180 L     | 279 | 330 | 279 | 335 | 121 | 28 | 70  | 14 | 28 | 180 | 350 | 468 | 555  | 55  | 220 | 128 | 128 | FF300 |
| FLSPX 200 L     | 318 | 374 | 305 | 361 | 133 | 28 | 80  | 18 | 50 | 200 | 394 | 515 | 681  | 65  | 220 | 128 | 128 | FF350 |
| FLSPX 225 ST    | 356 | 420 | 286 | 367 | 149 | 28 | 100 | 18 | 35 | 225 | 394 | 540 | 681  | 65  | 220 | 128 | 128 | FF400 |
| FLSPX 225 MT    | 356 | 420 | 311 | 367 | 149 | 28 | 100 | 18 | 35 | 225 | 394 | 540 | 681  | 65  | 220 | 128 | 128 | FF400 |
| FLSPX 225 M     | 356 | 426 | 311 | 375 | 149 | 32 | 80  | 18 | 27 | 225 | 540 | 656 | 780  | 70  | 352 | 173 | 210 | FF400 |
| FLSPX 250 M     | 406 | 476 | 349 | 413 | 168 | 32 | 80  | 22 | 27 | 250 | 540 | 681 | 780  | 70  | 352 | 173 | 210 | FF500 |
| FLSPX 280 S     | 457 | 527 | 368 | 432 | 190 | 32 | 80  | 22 | 27 | 280 | 540 | 711 | 860  | 70  | 352 | 173 | 210 | FF500 |
| FLSPX 280 M     | 457 | 527 | 419 | 483 | 190 | 32 | 80  | 22 | 27 | 280 | 540 | 711 | 960  | 70  | 352 | 173 | 210 | FF500 |
| FLSPX 315 ST    | 508 | 598 | 406 | 547 | 216 | 45 | 90  | 27 | 45 | 315 | 556 | 755 | 1068 | 107 | 274 | 140 | 240 | FF600 |
| FLSPX 315 M     | 508 | 600 | 457 | 598 | 216 | 45 | 100 | 27 | 45 | 315 | 624 | 822 | 1203 | 119 | 354 | 180 | 330 | FF600 |
| FLSPX 315 L     | 508 | 600 | 508 | 598 | 216 | 45 | 100 | 27 | 45 | 315 | 624 | 822 | 1203 | 119 | 354 | 180 | 330 | FF600 |
| FLSPX 355 LA/LB | 610 | 710 | 630 | 710 | 254 | 40 | 110 | 27 | 35 | 355 | 700 | 900 | 1305 | 110 | 354 | 180 | 330 | FF740 |
| FLSPX 355 LC/LD | 610 | 710 | 630 | 710 | 254 | 40 | 110 | 27 | 35 | 355 | 700 | 900 | 1430 | 110 | 354 | 180 | 330 | FF740 |

CA dimension and shaft end dimensions identical to those of foot mounted motors.

# FLSPX

## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors



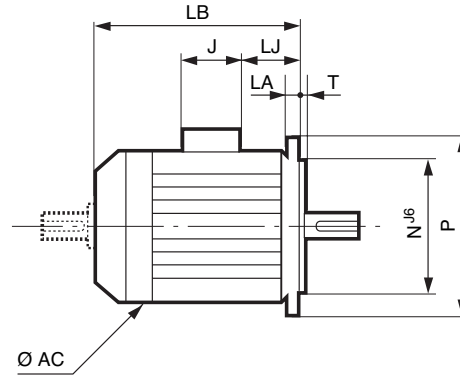
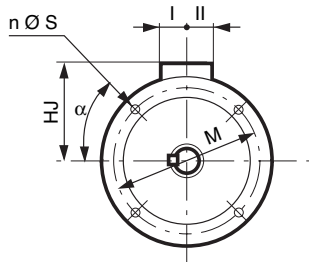
**CATEGORY 2  
ZONE 21**

### Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65  
Cage rotor

Dimensions in millimetres

- (FF) plain hole flange mounted



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

| Type         | Main dimensions |      |       |      |     |      |      |
|--------------|-----------------|------|-------|------|-----|------|------|
|              | AC              | LB   | HJ    | LJ   | J   | I    | II   |
| FLSPX 80 L   | 160             | 214  | 159.5 | 11   | 187 | 63.5 | 63.5 |
| FLSPX 90 L   | 185             | 263  | 171   | 35.5 | 187 | 63.5 | 63.5 |
| FLSPX 90 S   | 185             | 263  | 171   | 35.5 | 187 | 63.5 | 63.5 |
| FLSPX 100 LK | 226             | 323  | 194.5 | 38   | 187 | 63.5 | 63.5 |
| FLSPX 112 M  | 226             | 323  | 194.5 | 38   | 187 | 63.5 | 63.5 |
| FLSPX 132 M  | 264             | 387  | 191   | 46   | 114 | 57   | 57   |
| FLSPX 132 MR | 264             | 387  | 191   | 46   | 114 | 57   | 57   |
| FLSPX 132 S  | 264             | 387  | 191   | 46   | 114 | 57   | 57   |
| FLSPX 160 L  | 310             | 495  | 225   | 50   | 160 | 80   | 80   |
| FLSPX 160 M  | 310             | 495  | 225   | 55   | 160 | 80   | 80   |
| FLSPX 160 MA | 310             | 495  | 225   | 55   | 160 | 80   | 80   |
| FLSPX 160 MB | 310             | 495  | 225   | 50   | 160 | 80   | 80   |
| FLSPX 180 L  | 350             | 555  | 280   | 55   | 220 | 128  | 128  |
| FLSPX 180 MR | 310             | 515  | 225   | 50   | 160 | 80   | 80   |
| FLSPX 200 L  | 394             | 681  | 315   | 65   | 220 | 128  | 128  |
| FLSPX 200 LA | 394             | 681  | 315   | 65   | 220 | 128  | 128  |
| FLSPX 200 LB | 394             | 681  | 315   | 65   | 220 | 128  | 128  |
| FLSPX 225 M  | 540             | 780  | 431   | 70   | 352 | 173  | 210  |
| FLSPX 225 MT | 394             | 681  | 315   | 65   | 220 | 128  | 128  |
| FLSPX 225 ST | 394             | 681  | 315   | 65   | 220 | 128  | 128  |
| FLSPX 250 M  | 540             | 780  | 431   | 70   | 352 | 173  | 210  |
| FLSPX 280 M  | 540             | 960  | 431   | 70   | 352 | 173  | 210  |
| FLSPX 280 S  | 540             | 860  | 431   | 70   | 352 | 173  | 210  |
| FLSPX 315 LA | 624             | 1203 | 520   | 70   | 452 | 217  | 269  |
| FLSPX 315 LB | 624             | 1203 | 520   | 70   | 452 | 217  | 269  |
| FLSPX 315 M  | 624             | 1203 | 520   | 70   | 452 | 217  | 269  |
| FLSPX 315 ST | 556             | 1068 | 446   | 68   | 352 | 173  | 210  |
| FLSPX 355 LA | 700             | 1305 | 555   | 61   | 452 | 217  | 269  |
| FLSPX 355 LB | 700             | 1305 | 555   | 61   | 452 | 217  | 269  |
| FLSPX 355 LC | 700             | 1430 | 555   | 61   | 452 | 217  | 269  |
| FLSPX 355 LD | 700             | 1430 | 555   | 61   | 452 | 217  | 269  |

Shaft end dimensions identical to those of the foot mounted motors.

# FLSPX



## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors

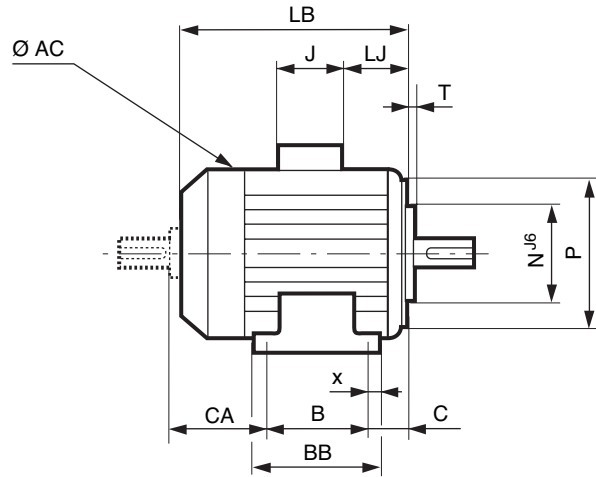
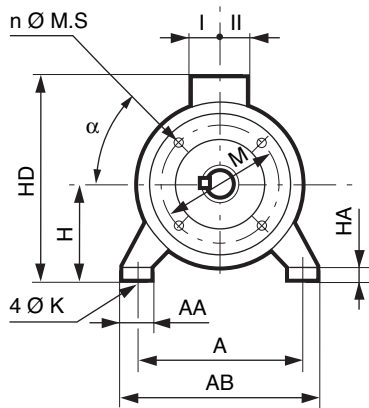
**CATEGORY 2  
ZONE 21**

### Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65  
Cage rotor

Dimensions in millimetres

- (FT) foot and plain hole flange mounted



Main dimensions

| Type         | A   | AB  | B   | BB  | C  | x  | AA | K  | HA | H   | AC  | HD  | LB  | LJ   | J   | I    | II   | Sym.  |
|--------------|-----|-----|-----|-----|----|----|----|----|----|-----|-----|-----|-----|------|-----|------|------|-------|
| FLSPX 80 L   | 125 | 157 | 100 | 130 | 50 | 20 | 32 | 9  | 10 | 80  | 160 | 222 | 214 | 11   | 187 | 63.5 | 63.5 | FT100 |
| FLSPX 90 S   | 140 | 172 | 100 | 160 | 56 | 22 | 34 | 10 | 11 | 90  | 185 | 247 | 243 | 15.5 | 187 | 63.5 | 63.5 | FT115 |
| FLSPX 90 L   | 140 | 172 | 125 | 160 | 56 | 22 | 34 | 10 | 11 | 90  | 185 | 247 | 243 | 15.5 | 187 | 63.5 | 63.5 | FT115 |
| FLSPX 100 LK | 160 | 200 | 140 | 174 | 63 | 22 | 42 | 12 | 12 | 100 | 226 | 276 | 323 | 38   | 187 | 63.5 | 63.5 | FT130 |
| FLSPX 112 M  | 190 | 230 | 140 | 174 | 70 | 22 | 45 | 12 | 12 | 112 | 226 | 288 | 323 | 38   | 187 | 63.5 | 63.5 | FT130 |
| FLSPX 132 S  | 216 | 255 | 140 | 223 | 89 | 31 | 58 | 12 | 15 | 132 | 264 | 323 | 387 | 46   | 114 | 57   | 57   | FT215 |
| FLSPX 132 M  | 216 | 255 | 178 | 223 | 89 | 31 | 58 | 12 | 15 | 132 | 264 | 323 | 387 | 46   | 114 | 57   | 57   | FT215 |
| FLSPX 132 MR | 216 | 255 | 178 | 223 | 89 | 31 | 58 | 12 | 15 | 132 | 264 | 323 | 387 | 46   | 114 | 57   | 57   | FT215 |

CA dimension and shaft end dimensions identical to those of foot mounted motors.



# FLSPX



## Atmospheres containing explosive dust totally enclosed three-phase asynchronous motors

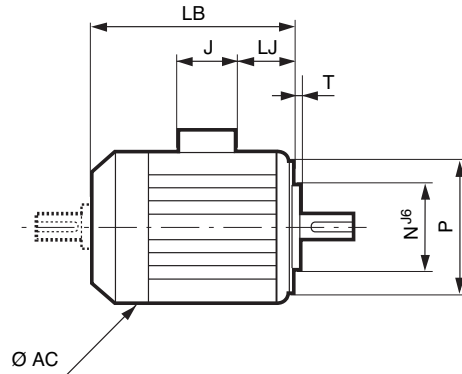
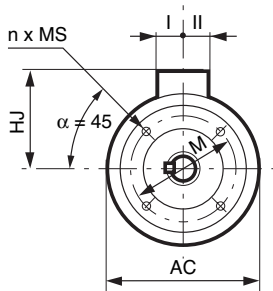
**CATEGORY 2  
ZONE 21**

### Dimensions

Dimensions of the FLSPX totally enclosed three-phase asynchronous motors - IP 65  
Cage rotor

Dimensions in millimetres

- (FT) plain hole flange mounted



| IEC symbol | Flange dimensions |     |     |     |   |     |
|------------|-------------------|-----|-----|-----|---|-----|
|            | M                 | N   | P   | T   | n | MS  |
| FT 100     | 100               | 80  | 120 | 3   | 4 | M6  |
| FT 115     | 115               | 95  | 140 | 3   | 4 | M8  |
| FT 115     | 115               | 95  | 140 | 3   | 4 | M8  |
| FT 130     | 130               | 110 | 160 | 3.5 | 4 | M8  |
| FT 130     | 130               | 110 | 160 | 3.5 | 4 | M8  |
| FT 130     | 130               | 110 | 160 | 3.5 | 4 | M8  |
| FT 215     | 215               | 180 | 250 | 4   | 4 | M12 |
| FT 215     | 215               | 180 | 250 | 4   | 4 | M12 |
| FT 215     | 215               | 180 | 250 | 4   | 4 | M12 |

| Type         | Main dimensions |     |     |    |     |    |    |
|--------------|-----------------|-----|-----|----|-----|----|----|
|              | AC              | LB  | HJ  | LJ | J   | I  | II |
| FLSPX 80 L   | 160             | 214 | 150 | 27 | 126 | 63 | 63 |
| FLSPX 90 S   | 185             | 243 | 160 | 22 | 126 | 63 | 63 |
| FLSPX 90 L   | 185             | 243 | 160 | 22 | 126 | 63 | 63 |
| FLSPX 100 LK | 226             | 323 | 193 | 37 | 150 | 75 | 75 |
| FLSPX 112 M  | 226             | 323 | 193 | 37 | 150 | 75 | 75 |
| FLSPX 112 MR | 226             | 344 | 193 | 37 | 150 | 75 | 75 |
| FLSPX 132 S  | 264             | 387 | 213 | 28 | 150 | 75 | 75 |
| FLSPX 132 M  | 264             | 387 | 213 | 28 | 150 | 75 | 75 |
| FLSPX 132 MR | 264             | 410 | 213 | 28 | 150 | 75 | 75 |

Shaft end dimensions identical to those of foot mounted motors.

