

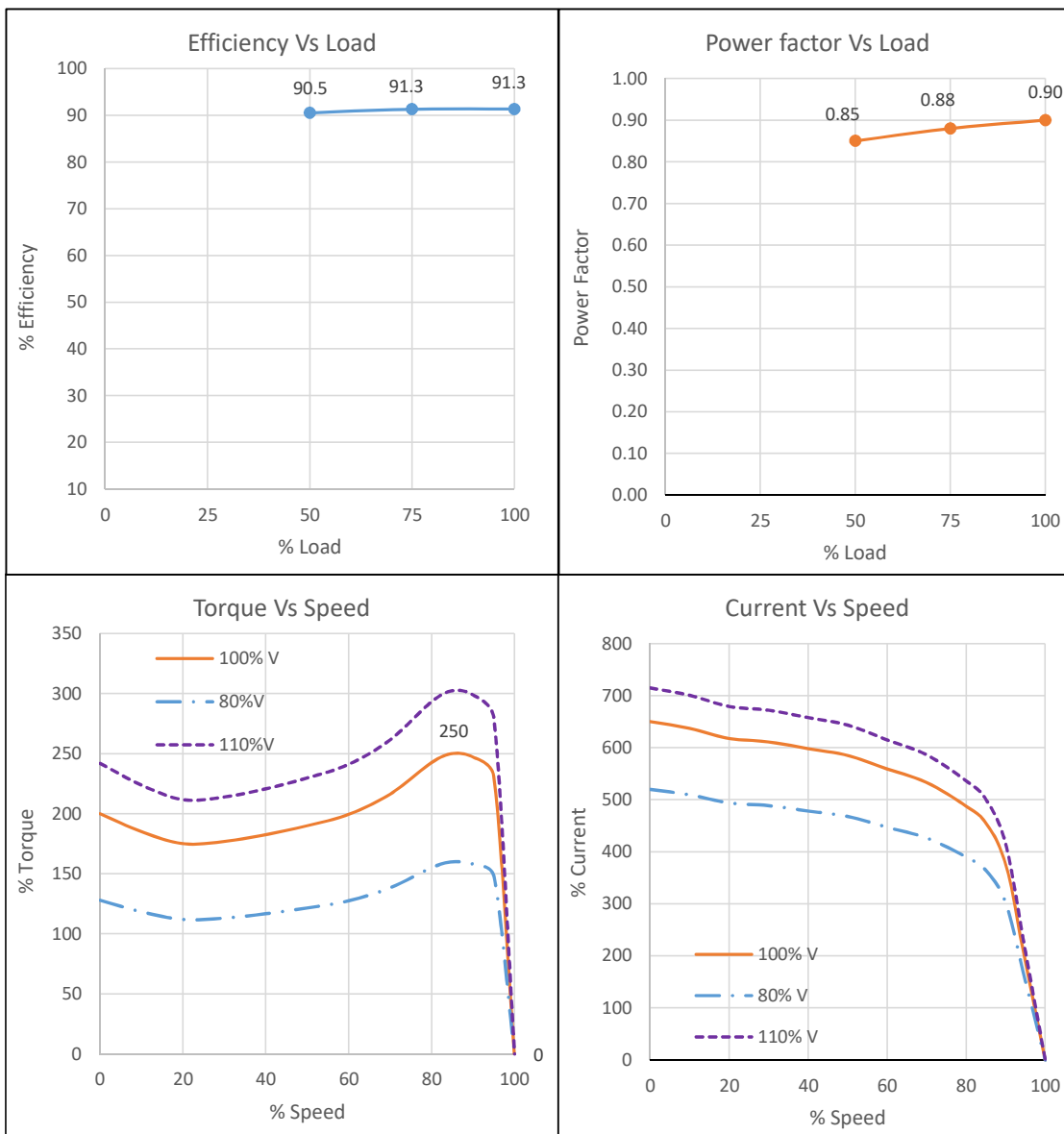
**IE2**

**TECHNICAL DATASHEET**  
**3 PHASE INDUCTION MOTOR - FIRE FIGHTING**



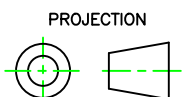
| Sr No                                                                                                                                         | Parameter                             | Unit              | Data                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------|--------------------------------------|
| <b>Product Specifications</b>                                                                                                                 |                                       |                   |                                      |
| 1                                                                                                                                             | Rated Output                          | kW                | 22                                   |
| 2                                                                                                                                             | Number of Poles                       | No                | 2                                    |
| 3                                                                                                                                             | Frame Designation                     |                   | KM160L                               |
| 4                                                                                                                                             | Product Code                          |                   | KM2.22T0.ALC.B03.TSN                 |
| 5                                                                                                                                             | Mounting                              |                   | B3                                   |
| <b>Electrical</b>                                                                                                                             |                                       |                   |                                      |
| 6                                                                                                                                             | Type of Duty                          |                   | Continuous S1                        |
| 7                                                                                                                                             | Rated Voltage                         | V                 | 415 ±10%                             |
| 8                                                                                                                                             | Rated Frequency                       | Hz                | 50 ±5%                               |
| 9                                                                                                                                             | Rated Speed                           | RPM               | 2910                                 |
| 10                                                                                                                                            | Rated Current                         | A                 | 37                                   |
| 11                                                                                                                                            | Method of Starting                    |                   | Direct On Line                       |
| 12                                                                                                                                            | Starting Current (SCC)                | % of FLA          | 650                                  |
| 13                                                                                                                                            | Rated Torque                          | Kg-m              | 7.36                                 |
| 14                                                                                                                                            | Starting Torque (STT)                 | % of FLT          | 200                                  |
| 15                                                                                                                                            | Maximum Torque (POT)                  | % of FLT          | 250                                  |
| 16                                                                                                                                            | Efficiency at 100% / 75% / 50% load   | %                 | 91.3 / 91.3/ 90.5                    |
| 17                                                                                                                                            | Power factor at 100% / 75% / 50% load |                   | 0.9 / 0.88 / 0.85                    |
| 18                                                                                                                                            | Thermal Withstand Time (Hot)          | s                 | 10                                   |
| 19                                                                                                                                            | Thermal Withstand Time (Cold)         | s                 | 20                                   |
| 20                                                                                                                                            | Thermal Time Constant (Stator)        | min               | 40                                   |
| 21                                                                                                                                            | Connection / Number of Terminals      |                   | Delta / 6                            |
| 22                                                                                                                                            | Permissible Starts/hour (Hot/Cold)    | Nos               | 2/3                                  |
| 23                                                                                                                                            | Insulation Class / Thermal Limit      |                   | F/F                                  |
| 24                                                                                                                                            | Winding Treatment                     |                   | VPI, Dual Coat Copper Wire           |
| <b>Mechanical</b>                                                                                                                             |                                       |                   |                                      |
| 25                                                                                                                                            | Degree of Protection                  |                   | IP55                                 |
| 26                                                                                                                                            | Enclosure / MOC /Method of Cooling    |                   | TEFC / CI/ IC411                     |
| 27                                                                                                                                            | Bearing DE/NDE                        |                   | 6309ZZ/6209ZZ                        |
| 28                                                                                                                                            | Type of Coupling                      |                   | Direct/Flexible                      |
| 29                                                                                                                                            | Noise Level                           |                   | As per IS12065                       |
| 30                                                                                                                                            | Vibration Level                       |                   | As per IS12075                       |
| 31                                                                                                                                            | Moment of Inertia GD <sup>2</sup>     | kg-m <sup>2</sup> | 0.231                                |
| 32                                                                                                                                            | Position of Terminal Box              |                   | TOP                                  |
| 33                                                                                                                                            | Maximum Cable Size                    |                   | 2X3CX25 mm <sup>2</sup>              |
| 34                                                                                                                                            | Direction of Rotation                 |                   | Bidirectional ( Default: CW from DE) |
| 35                                                                                                                                            | Paint Shade                           |                   | RAL 3001                             |
| 36                                                                                                                                            | Net weight                            | kg                | 146                                  |
| 37                                                                                                                                            | Accessories                           |                   | NA                                   |
| <b>Enviromental</b>                                                                                                                           |                                       |                   |                                      |
| 38                                                                                                                                            | Ambient Temperature /Temperature Rise | °C                | 50 / 95 (By resistance method)       |
| 39                                                                                                                                            | Altitude Above MSL                    | m                 | ≤ 1000                               |
| <b>Notes:</b> All performance data shall be subject to tolerances as per IS15999/IEC 60034.<br>Applicable Standards:IS 12615-2018, IS 15999-1 |                                       |                   |                                      |
| Customer                                                                                                                                      |                                       | PO No./ Enq. No   |                                      |
|                                                                                                                                               |                                       | Date              |                                      |
| Checked                                                                                                                                       | BMD                                   | 18-05-2023        |                                      |
| Approved                                                                                                                                      | SSN                                   | 18-05-2023        | Document No: KM2-001 Rev.0           |
| <b>KIRLOSKAR OIL ENGINES LTD.</b><br><b>ELECTRIC MOTORS</b>                                                                                   |                                       |                   |                                      |

# PERFORMANCE CURVE

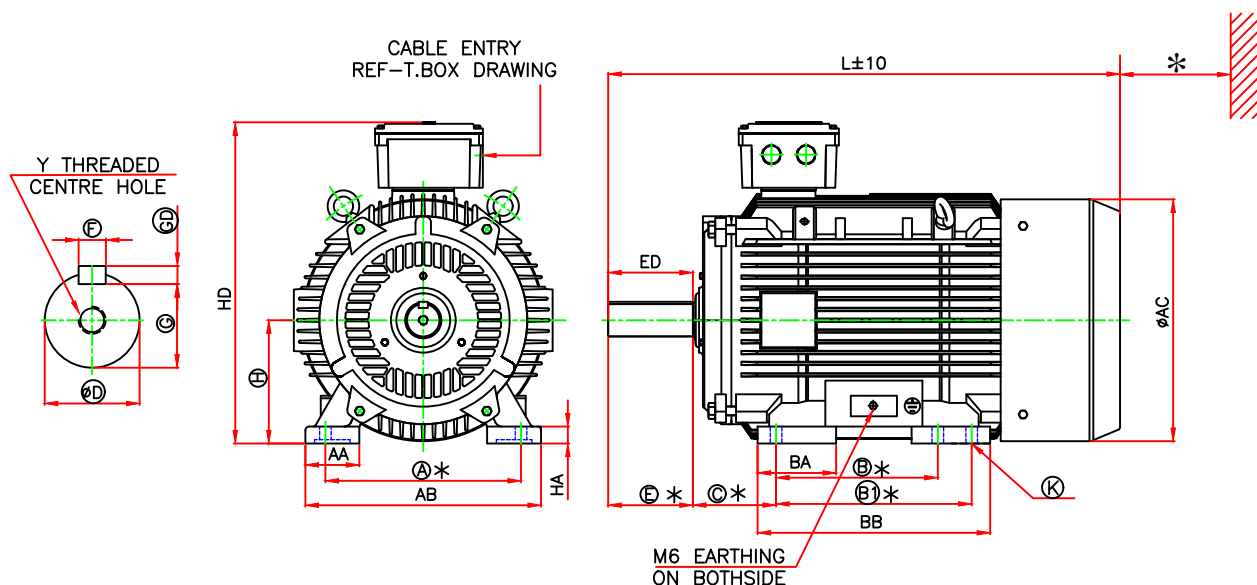


|          |        |                 |                            |
|----------|--------|-----------------|----------------------------|
| kW       | 22     | Customer        |                            |
| Pole     | 2      | PO No / Enq. No |                            |
| Frame    | KM160L | Date            |                            |
| Mounting | B3     | Product Code    | KM2.22T0.ALC.B03.TSN       |
| Checked  | BMD    | 18-05-2023      |                            |
| Approved | SSN    | 18-05-2023      | Document No KM2-002 Rev. 0 |

KIRLOSKAR OIL ENGINES LTD.  
ELECTRIC MOTORS



# GENERAL ARRANGEMENT DRAWING FOR TEFC 3 PHASE INDUCTION MOTOR



| FRAME  | FOOT FIXING |     |     |     |           |    |     |     |     |         | OVER ALL |     |     |    |
|--------|-------------|-----|-----|-----|-----------|----|-----|-----|-----|---------|----------|-----|-----|----|
|        | A           | B   | B1  | C   | H TOL.    | AA | AB  | BA  | BB  | K TOL.  | AC       | L   | HD  | HA |
| KM160L | 254         | 210 | 254 | 108 | 160/159.5 | 70 | 306 | 102 | 302 | 15/15.5 | 314      | 665 | 417 | 22 |

| D END SHAFT EXTENSION AND KEY |     |     |           |         |           |        |
|-------------------------------|-----|-----|-----------|---------|-----------|--------|
| D TOL.                        | E   | ED  | F TOL.    | GD TOL. | G         | Y      |
| 42.018/42.002                 | 110 | 110 | 12/11.957 | 8.0/7.9 | 37.0/36.8 | M16X45 |

| kW   | PRODUCT CODE         |
|------|----------------------|
|      | 2 POLE               |
| 18.5 | KM2.18T5.ABC.B03.TSN |
| 22   | KM2.22T0.ALC.B03.TSN |

## NOTES:

- \* 100mm MINIMUM DISTANCE TO BE MAINTAINED FOR EFFICIENT COOLING OF THE MOTOR.
- \* TOLERANCES ON MANDATORY DIMENSIONS ARE AS PER IS:1231/IEC:60072

RINGED DIMENSIONS ARE AS PER IS:1231/IEC:60072

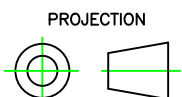
ALL DIMENSIONS ARE IN mm,

|          |      |            |                 |                         |          |                      |
|----------|------|------------|-----------------|-------------------------|----------|----------------------|
|          | NAME | DATE       | kW              | REFER TABLE             | FRAME    | KM160L               |
| DRAWN    | KSK  | 29/05/2023 | POLE            | REFER TABLE             | MOUNTING | B3 (HORIZONTAL FOOT) |
| CHECKED  | SGS  | 29/05/2023 | PRODUCT CODE    | REFER TABLE             | CUSTOMER |                      |
| APPROVED | SSN  | 29/05/2023 | MAX. CABLE SIZE | 2RX3CX25MM <sup>2</sup> | PO NO    |                      |
|          |      |            | PROJECT         |                         | CLIENT   |                      |

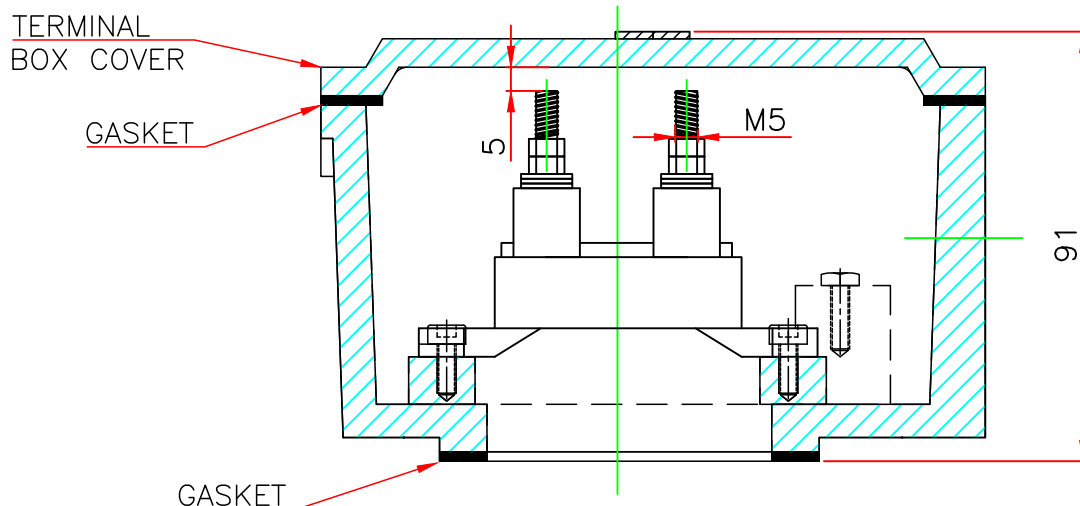
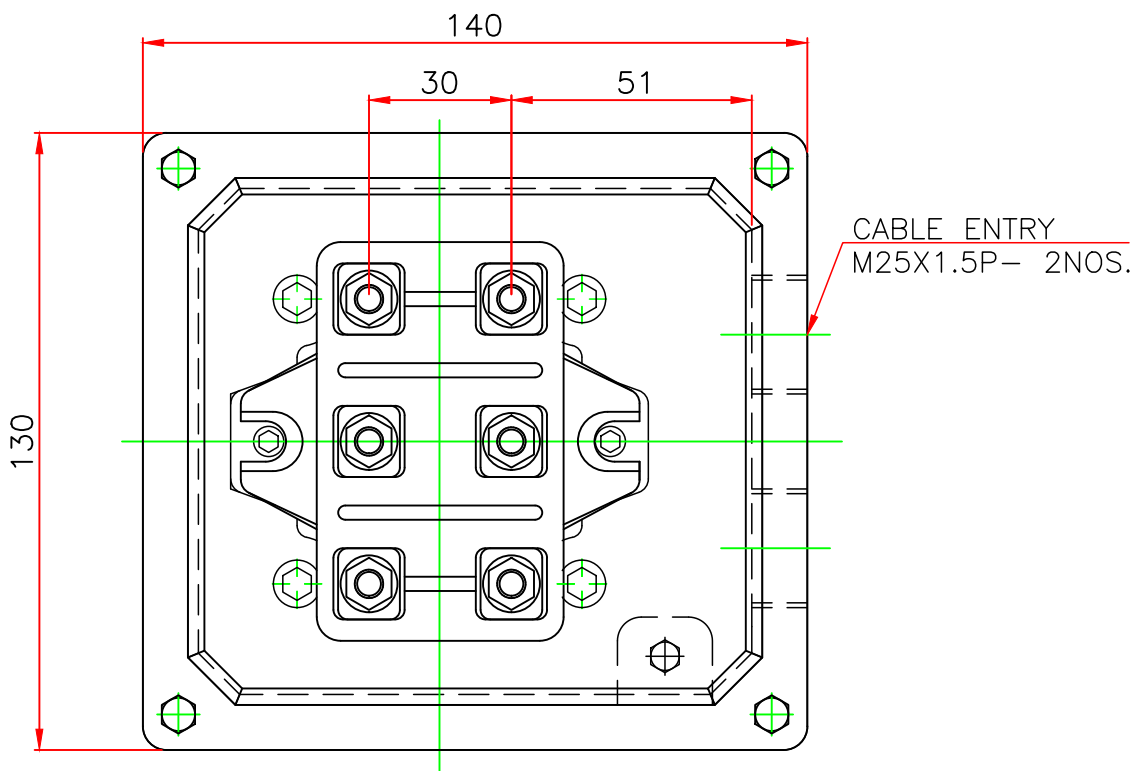
**KIRLOSKAR OIL ENGINES LTD.**  
**ELECTRIC MOTORS**

DO NOT SCALE  
FORMAT NO.:KM-GA-2021 R0

DRAWING NO  
**KM160LB3TSFFR0**



# TERMINAL ARRANGEMENT DRAWING



ALL DIMENSIONS ARE IN mm

|                                               |      |            |                 |                                          |                           |          |
|-----------------------------------------------|------|------------|-----------------|------------------------------------------|---------------------------|----------|
|                                               | NAME | DATE       | kW              |                                          | FRAME                     | KM160M/L |
| DRAWN                                         | KSK  | 29/05/2023 | POLE            |                                          | CUSTOMER                  |          |
| CHECKED                                       | SGS  | 29/05/2023 | PRODUCT CODE    |                                          | PO NO                     |          |
| APPROVED                                      | SSN  | 29/05/2023 | MAX. CABLE SIZE | 2RX3CX25MM <sup>2</sup>                  | CLIENT                    |          |
|                                               |      |            | CABLE ENTRY     | M25X1.5P-2NOS.                           | PROJECT                   |          |
| KIRLOSKAR OIL ENGINES LTD.<br>ELECTRIC MOTORS |      |            |                 | DO NOT SCALE<br>FORMAT NO.:KM-TB-2021 R0 | DRAWING NO<br>KM160TBFFR0 |          |