

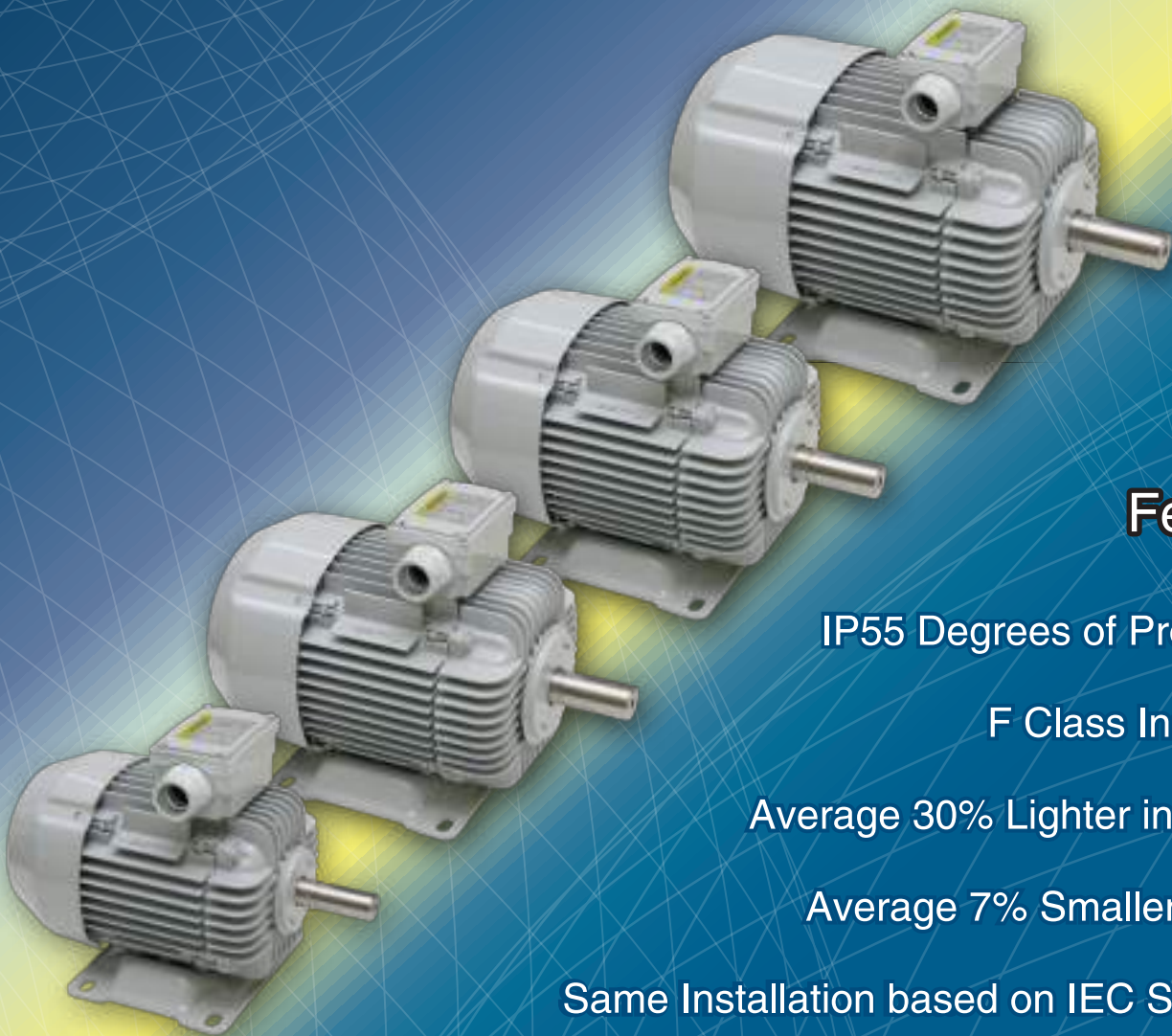
MEATH

MET SERIES THREE PHASE INDUCTION MOTOR

Next generation technology

The excellence of the light & small & low noise

*Best matching with
pump or fan etc.*



Features

- IP55 Degrees of Protection
- F Class Insulation
- Average 30% Lighter in Weight
- Average 7% Smaller in Size
- Same Installation based on IEC Standard

Motor Section

Attached with **TERMINAL BLOCK** for easy connection

New design **TERMINAL BOX**, cable outlet can be swapped from left to right

Computer aid engineering (CAE) analyzed fins improve to higher heat transfer

Bigger size bearing provides longer bearing service life

Select **V-RING** instead of fringer, for higher protection against entering water

Tapped shaft end for convenience in machine attachment

F class insulation is used, by temperature rise under B class, to gain longer insulation service life

Power cable inlet rubber seal to water-proof structure

New **COOLING FAN & FAN COVER** are designed to reach to maximum air flow rate for effective cooling but also low in noise

New varnish process, better in varnish coating, for more safety and longer coil service life

Long life (salt spray test) According to JIS Z 2371 (There is no visible corrosion & no rust occurred after 192 hours)

New **N-7 coating** color tone for bright and easy to blend with machine painting

Same installation as previous model (based on IEC standard)

Salt spray test (No rust occurred after 192 hours)

Temp. Rise

| Power (HP) | Temp. Rise (K) |
|------------|----------------|
| 1 | ~85K |
| 1.5 | ~80K |
| 2 | ~95K |
| 3 | ~95K |

F Class 105K
B Class 80K

Feature Descriptions

■ IP55 Approval (Pass IP55 Test)

Water Protection

Solid Body Protection



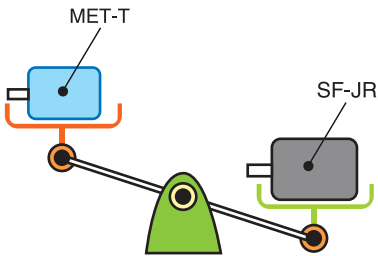
Protection against water jets (hose-proof)



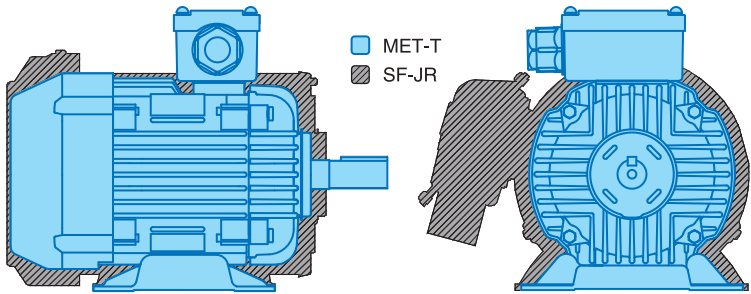
Protection against dust deposits

■ Light Weight

■ Small Size and Same Installation



The average weight decrease by 30%

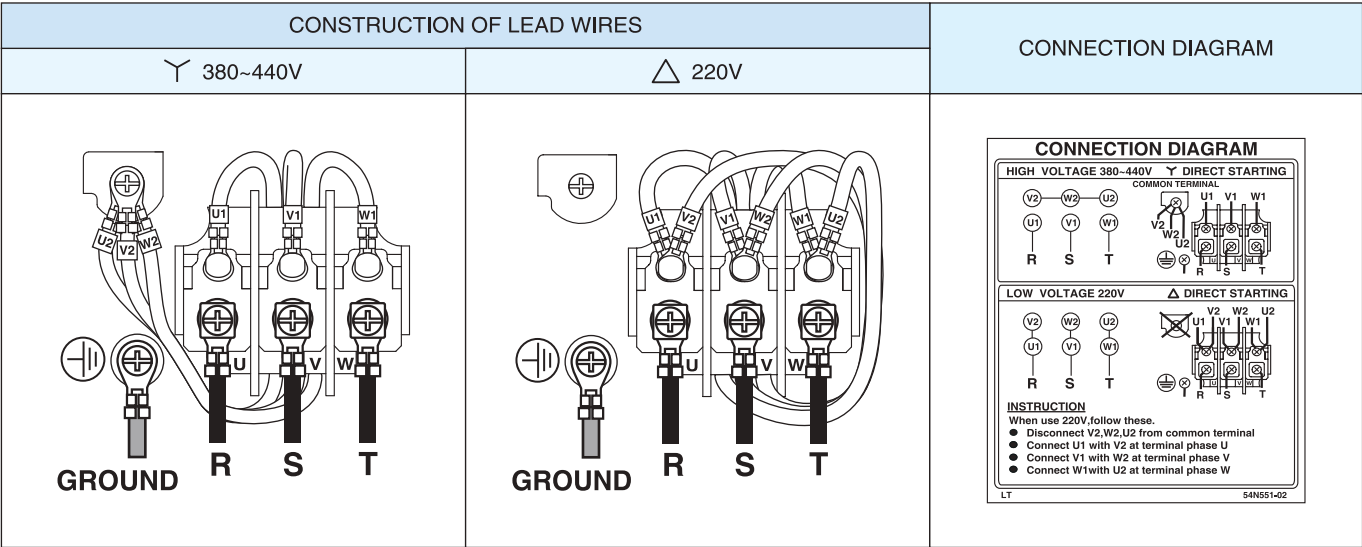


The average size decrease by 7%

Specifications

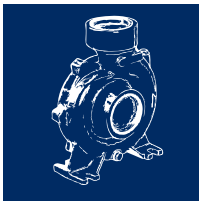
| ITEM | | SPECIFICATIONS |
|---------------------------|---------------------|--|
| Phase | | Three phase |
| Voltage & Frequency | | 220/380~415V 50Hz, 220/440V 60Hz |
| Enclosure Construction | | Totally enclosed fan-cooled |
| Degrees of Protection | | IP55 |
| Mounting | | Horizontal |
| Frame Material | | Aluminium |
| Power Transmission System | | Direct-couple or belt driven |
| Direction of Rotation | | Counterclockwise (CCW), viewed from shaft end side |
| Thermal Class | | Class F (155°C) |
| Temperature Rise | | Class B (80K) |
| Rating | | S1 (continuous) |
| Circumstance Conditions | Ambient Temperature | -20 ~ +40°C |
| | Ambient Humidity | 95% relative humidity or less |
| | Operating Altitude | Up to 1,000m above sea level |
| | Environment | No bursting, erosive gas or vapor |
| Connection Type | | Terminal block |
| Coating | | Polyurethane |
| Color | | N-7 (light gray) |
| Conformed Standard | | IEC 60034-1, JEC-2137-2000 |

Connection Diagram



Applications

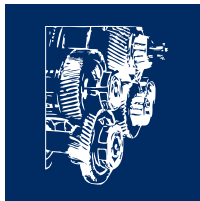
■ 1~2HP for Medium Load



Pump
(Water, Oil, Vacuum)



Fan & Blower



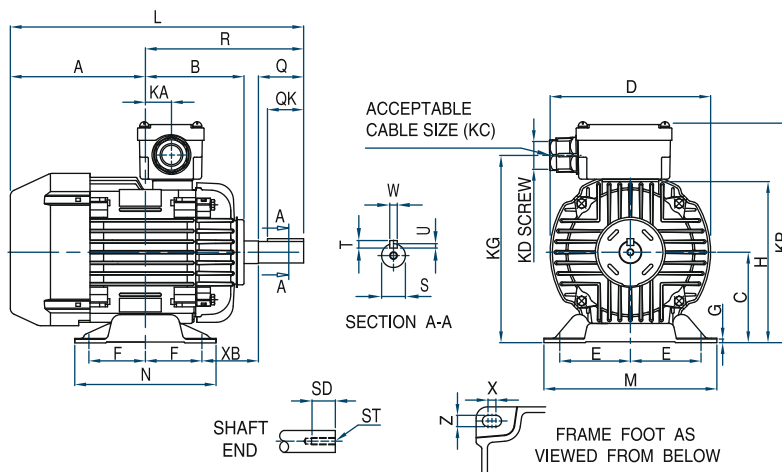
Gear

■ 3HP for all purpose

Outline Dimensions



MET-T 1HP 4P 80M



Unit : mm

| Model | Frame No. | Output HP (kW) | Pole | Motor | | | | | | | | | | | | | |
|-------|-----------|----------------|------|-------|-------|-----|-----|------|------|-----|-------|-------|-----|-----|----|----|---|
| | | | | A | B | C* | D | E | F | G | H | L | M | N | XB | Z | X |
| MET-T | 80M | 1 (0.75) | 4 | 119.5 | 87.5 | 80 | 142 | 62.5 | 50 | 3.2 | 142.5 | 259.5 | 153 | 125 | 50 | 10 | 7 |
| | 90S | 1.5 (1.1) | 4 | 139 | 103.5 | 90 | 172 | 70 | 50 | 4 | 164.5 | 295 | 168 | 125 | 56 | 10 | 7 |
| | 90L | 2 (1.5) | 4 | 134 | 108.5 | 90 | 172 | 70 | 62.5 | 4 | 164.5 | 302.5 | 168 | 150 | 56 | 10 | 7 |
| | 100L | 3 (2.2) | 4 | 167 | 116.5 | 100 | 180 | 80 | 70 | 4 | 178 | 360 | 195 | 168 | 63 | 12 | 4 |

* The perpendicular variation of tolerance for the shaft center is $\begin{matrix} 0 \\ -0.5 \end{matrix}$

| Model | Frame No. | Terminal Box | | | | | Shaft End | | | | | | | | Bearing No. | | Approx. Weight (kg) | Approx. Packing Dimensions (L x W x H) | Gross Weight (kg) | |
|-------|-----------|--------------|-------|-------|--------|-------|-----------|----|-------|-------|---|-----|---|-----|-------------|-----------|---------------------|--|-------------------|----------|
| | | KA | KG | KP | KD | KC | Q | QK | R | S | T | U | W | ST | SD | Drive End | | | | Opposite |
| MET-T | 80M | 25.5 | 166 | 194.5 | PF 3/4 | 13~17 | 40 | 32 | 140 | 19 j6 | 6 | 3.5 | 6 | M6 | 12 | 6204 | 6204 | 8.2 | 300 x 203 x 225 | 9.0 |
| | 90S | 29 | 188 | 216.5 | PF 3/4 | 13~17 | 50 | 40 | 156 | 24 j6 | 7 | 4 | 8 | M8 | 16 | 6205 | 6205 | 13.1 | 343 x 218 x 248 | 14.3 |
| | 90L | 34 | 188 | 216.5 | PF 3/4 | 13~17 | 50 | 40 | 168.5 | 24 j6 | 7 | 4 | 8 | M8 | 16 | 6205 | 6205 | 13.2 | 343 x 218 x 248 | 14.4 |
| | 100L | 42 | 201.5 | 230 | PF 3/4 | 13~17 | 60 | 45 | 193 | 28 j6 | 7 | 4 | 8 | M10 | 20 | 6206 | 6206 | 17.5 | 395 x 255 x 260 | 18.3 |

Characteristics and Performance

Note : Representative value

| Frame no. | Output HP (kW) | Freq. (Hz) | Voltage (V) | 50% Load | | | 75% Load | | | 100% Load | | | | Torque | | Is (A) | Moment of Inertia J(kg-m ²) | |
|-----------|----------------|------------|-------------|----------|---------|-------|----------|---------|-------|-----------|---------|-------|---------------|--------------|----------------|--------|---|---------------|
| | | | | (A) | Eff.(%) | PF(%) | (A) | Eff.(%) | PF(%) | (A) | Eff.(%) | PF(%) | Speed (r/min) | Torque (N-m) | Starting Ts(%) | | | Maximum Tm(%) |
| 80M | 1 (0.75) | 50 | 220 | 2.55 | 65.0 | 56.0 | 3.00 | 68.0 | 72.0 | 3.50 | 70.0 | 80.0 | 1400 | 5.12 | 255 | 272 | 14.7 | 0.00144 |
| | | | 380 | 1.50 | 65.0 | 55.0 | 1.70 | 69.0 | 70.0 | 2.00 | 70.5 | 79.0 | 1400 | 5.12 | 261 | 271 | 8.52 | |
| | | | 415 | 1.85 | 61.3 | 44.5 | 1.96 | 66.0 | 59.0 | 2.15 | 69.0 | 70.0 | 1420 | 5.04 | 324 | 340 | 9.80 | |
| | | 60 | 220 | 2.10 | 70.0 | 67.0 | 2.60 | 73.0 | 80.0 | 3.20 | 72.0 | 85.0 | 1680 | 4.26 | 237 | 250 | 13.7 | |
| | | | 440 | 1.35 | 65.0 | 54.0 | 1.51 | 71.0 | 68.0 | 1.77 | 73.0 | 77.0 | 1710 | 4.19 | 327 | 361 | 9.78 | |
| | | | 220 | 3.45 | 71.0 | 58.0 | 4.10 | 74.0 | 72.0 | 4.85 | 75.0 | 79.5 | 1420 | 7.57 | 324 | 341 | 26.8 | |
| 90S | 1.5 (1.1) | 50 | 380 | 1.95 | 70.0 | 62.0 | 2.34 | 73.0 | 74.0 | 2.80 | 76.0 | 81.0 | 1420 | 7.57 | 328 | 340 | 15.4 | 0.00288 |
| | | | 415 | 2.15 | 68.0 | 53.0 | 2.40 | 74.0 | 67.0 | 2.85 | 75.0 | 76.0 | 1430 | 7.51 | 404 | 420 | 17.2 | |
| | | | 220 | 2.90 | 72.0 | 70.0 | 3.60 | 76.0 | 80.0 | 4.50 | 76.0 | 87.0 | 1700 | 6.32 | 287 | 300 | 24.4 | |
| | | 60 | 440 | 1.80 | 68.0 | 58.0 | 2.10 | 74.0 | 71.0 | 2.45 | 76.0 | 80.0 | 1730 | 6.21 | 223 | 431 | 16.8 | |
| | | | 220 | 4.85 | 69.0 | 56.0 | 5.60 | 74.0 | 72.0 | 6.70 | 74.0 | 79.0 | 1410 | 10.2 | 285 | 297 | 31.6 | |
| | | | 380 | 2.70 | 70.0 | 61.0 | 3.20 | 74.0 | 74.0 | 3.80 | 76.0 | 81.0 | 1410 | 10.2 | 269 | 301 | 18.3 | |
| 90L | 2 (1.5) | 50 | 415 | 3.40 | 65.0 | 48.0 | 3.60 | 72.0 | 62.0 | 4.00 | 73.0 | 73.0 | 1420 | 10.1 | 355 | 377 | 20.7 | 0.00288 |
| | | | 220 | 4.10 | 72.0 | 69.0 | 5.10 | 74.0 | 80.0 | 6.50 | 73.0 | 86.0 | 1700 | 8.43 | 247 | 257 | 29.4 | |
| | | | 440 | 2.50 | 71.0 | 57.0 | 2.90 | 76.0 | 70.0 | 3.40 | 77.0 | 79.0 | 1720 | 8.33 | 370 | 398 | 20.7 | |
| | | 60 | 220 | 5.70 | 80.5 | 63.0 | 6.88 | 83.0 | 76.0 | 8.50 | 84.5 | 82.0 | 1420 | 15.1 | 264 | 292 | 47.8 | |
| | | | 380 | 3.15 | 82.0 | 65.0 | 3.84 | 83.0 | 78.0 | 4.90 | 84.5 | 84.0 | 1420 | 15.1 | 253 | 284 | 27.6 | |
| | | | 415 | 3.73 | 76.0 | 54.0 | 4.18 | 81.0 | 68.0 | 5.00 | 82.5 | 78.0 | 1430 | 15.0 | 303 | 346 | 29.7 | |
| 100L | 3 (2.2) | 60 | 220 | 4.55 | 84.0 | 75.0 | 6.00 | 85.0 | 85.0 | 7.80 | 85.5 | 89.0 | 1700 | 12.6 | 230 | 258 | 44.0 | 0.00389 |
| | | | 440 | 2.85 | 79.5 | 63.0 | 3.40 | 83.0 | 76.0 | 4.30 | 85.0 | 83.0 | 1720 | 12.5 | 307 | 354 | 29.3 | |

MITSUBISHI ELECTRIC AUTOMATION (THAILAND) CO., LTD.