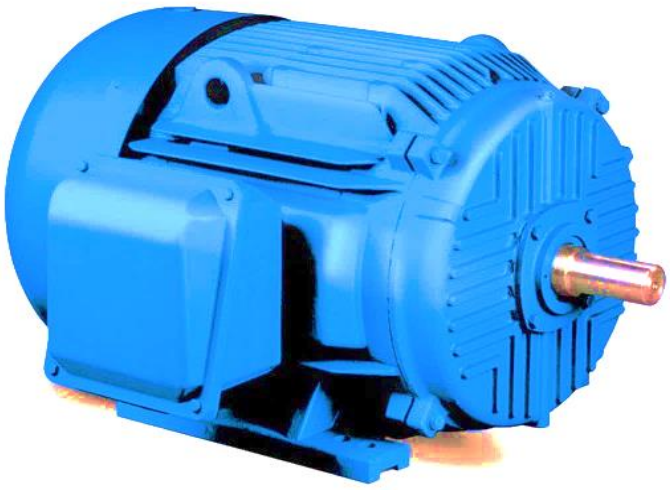
FELM

Electric Motors - www.felm.it

c UL us

# NEMA MG-1 MOTORS

## CC Number by DOE – Nema Premium Efficiency tab 12-12



Series FTNP

# CERTIFICATE OF COMPLIANCE

| | |
|---|---|
| **Certificate Number** | E481791 |
| **Report Reference** | E481791-20210430 |
| **Issue Date** | 2021-APRIL-30 |

**Issued to:** FELM srl
Via MorandiInverunoITMIIT20001

**This certificate confirms that representative samples of** Motors for Appliance Applications - Component
See Addendum Page

Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

**Standard(s) for Safety:** UL 1004-1- Standards for Rotating Electrical Machines - General Requirements.
CSA C22.2 No. 100-14- Standard for Motors and generators

**Additional Information:** See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

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contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/



# CERTIFICATE OF COMPLIANCE

| | |
|---|---|
| **Certificate Number** | E481791 |
| **Report Reference** | E481791-20210430 |
| **Issue Date** | 2021-APRIL-30 |

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

***-80G-2 ,***-80G-4 ,***-80K-2 ,***-90L-2 ,***-90L-4 ,***-90L-6 ,***-90S-2 ,***-90S-4 ,***-90S-6 ,***-100L-2 ,***-100L-4 ,***-100L-6 ,***-100LX-4 ,***-112M-2 ,***-112M-4 ,***-112M-6 ,***-132M-4 ,***-132M-6 ,***-132MX-6 ,***-132S-2 ,***-132S-4 ,***-132S-6 ,***-132SX-2 ,***-160L-2 ,***-160L-4 ,***-160L-6 ,***-160LX-2 ,***-160LX-4 ,***-160LX-6 ,***-160LY-2 ,***-180L-4 ,***-180L-6 ,***-180M-2 ,***-180M-4 ,***-200L-2 ,***-200L-4 ,***-200L-6 ,***-200LX-2 ,***-200LX-6 ,***-225M-2 ,***-225M-4 ,***-225M-6 ,***-225S-4 ,***-250M-2 ,***-250M-4 ,***-250M-6 ,***-280M-2 ,***-280M-4 ,***-280M-6 ,***-280S-2 ,***-280S-4 ,***-280S-6 ,***-315L-2 ,***-315L-4 ,***-315L-6 ,***-315LX-2 ,***-315LX-4 ,***-315LX-6 ,***-315M-2 ,***-315M-4 ,***-315M-6 ,***-315S-2 ,***-315S-4 ,***-315S-6 ,***-355L-2 ,***-355L-4 ,***-355L-6 ,***-355LX-2 ,***-355LX-4 ,***-355LX-6 ,***-355LY-2 ,***-355LY-4 ,***-355LY-6 ,***-355M-2 ,***-355M-4 ,***-355M-6 ,***-355MX-6 ,***-355MY-6 ,***-400M-2 ,***-400M-4 ,***-400M-6.

****143T-2 ,****143T-4 ,****145T-2 ,****145T-4 ,****145T-6 ,****182T-2 ,****182T-4 ,****182T-6 ,****184T-2 ,****184T-4 ,****184T-6 ,****213T-2 ,****213T-4 ,****213T-6 ,****215T-2 ,****215T-4 ,****215T-6 ,****254T-2 ,****254T-4 ,****254T-6 ,****256T-2 ,****256T-4 ,****256T-6 ,****284T-4 ,****284T-6 ,****284TS-2 ,****286T-4 ,****286T-6 ,****286TS-2 ,****324T-4 ,****324T-6 ,****324TS-2 ,****326T-4 ,****326T-6 ,****326TS-2 ,****364T-4 ,****364T-6 ,****364TS-2 ,****365T-4 ,****365T-6 ,****365TS-2 ,****404T-6 ,****405T-4 ,****405T-6 ,****405TS-2 ,****444T-4 ,****444T-6 ,****444TS-2 ,****445T-4 ,****445T-6 ,****445TS-2 ,****447T-4 ,****447T-6 ,****447TS-2 ,****449T-4 ,****449T-6 ,****449TS-2 ,****504/5T-4 ,****504/5T-6 ,****586/7T-4 ,****586/7T-6 ,FWMP 400LY-4.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

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# FELM Electric Motors

## General

FELM NEMA motors FTNP series, TEFC, is designed and manufactured according with the latest version of NEMA MG1 - 2016 construction. TEFC motor with design B meets MG1 standard 12-12.

All motors are with UL certificate, and suitable for VFD application. *1

All motors are with service factor 1.15

F1 & F2 are interchangeable from 143T to 449T.

Frame 143T through to N6808, 3600, 1800, 1200 and 900RPM, continuous duty at 40°C, 230/460V 60HZ. 575V available on request.

## Bearings

Oversized, world top brand of life sealed with pre-lubricated ball bearing up to 280T, and

re-greaseable bearings from 254T and up.

World top brand of high performance grease applied for longer operation life.

Grease pipes and relief vents with plug are provided for all open bearing construction.

## Insulation

All motors are with excellent insulation system class F, temperature rise B.

## Conduit Box

Oversized conduit box made of fabricated steel provides big space for connections.

Diagonally and rotatable in 90° positions.

Cast iron conduit box from frame N5007 and up.

***1 Meets NEMA MG1 part 31, CT 20:1 VT 4:1, wider range available on request (also depends on the inverter selection)**

## Cooling Fan

Increased safety external cooling fan meets non-sparking feature, and aluminium fan/steel fan available on request.

Forced ventilation unit available on request for VFD operation.

## Grounding and bearing protection

Aegis shaft grounding ring available on request.

Insulated bearing or insulated bracket (size 447 and up ) available on request.

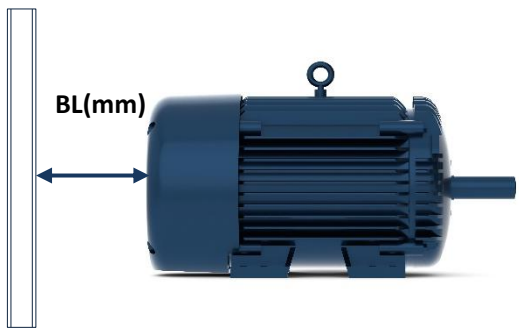
## Auxiliaries

Space heater, Wind RTDs, bearing RTDs, SPM vibration detecting available on request or specific applications.

## Cooling

Cooling air flows from the non-drive-end to the drive-end. The fan is independent of the direction of rotation of the motor. When the motor is installed, air flow should not be impeded to enter in the motor cowl. The following minimum dimension BL should be adopted. Cooling are flown from the NDE to the DE side. The minimum space between the cooling fan and the wall or barrier must be kept for sufficient cooling.

| Frame Size | Dimension BL (mm) |
|---|---|
| 140T | 20 |
| 182T-215T | 30 |
| 254T-286T | 40 |
| 324T-400T | 50 |
| 444T and up | 65 |

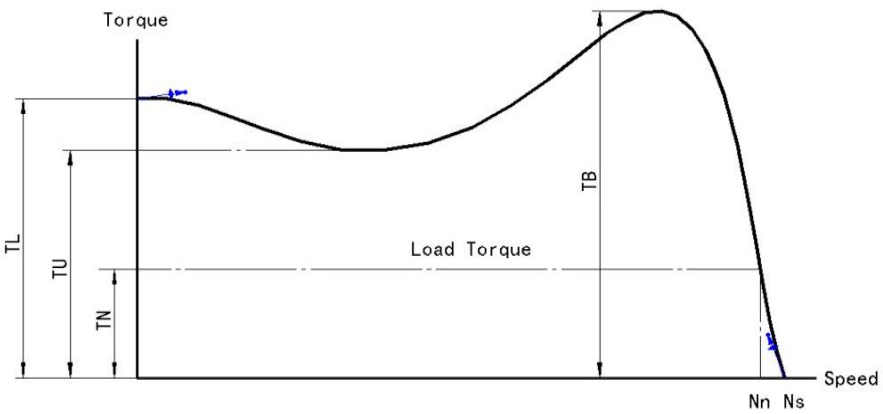


## Ambient Temperature and Altitude

The rated outputs specified in the datasheet are based on ambient temperature of 40°C (104°F) and at 1000m (3300ft) altitude. Please refer to the multiplication factors in the table, in case of different ambient temperature and/or altitude.

| Ambient temparature | Temperature factor | Altitude above sea level | Ambient factor |
|---|---|---|---|
| 30° | 1.06 | 3300 ft | 1 |
| 35° | 1.03 | 4900 ft | 0.98 |
| 40° | 1 | 6600 ft | 0.94 |
| 45° | 0.97 | 8200 ft | 0.91 |
| 50° | 0.93 | 9900 ft | 0.87 |
| 55° | 0.88 | 11500 ft | 0.82 |
| 60° | 0.82 | 13000 ft | 0.77 |
| **Effective Power = (Rated Power) * (Temperature factor) * (Altitudine factor)** | | | |

## Typical torque-speed curve is shown in the below




**TN=Full load torque**

**TL=Locked rotor torque**

**TU=Pull up torque**

**TB= Breakdown torque**

**Nn=Full load speed**

**Ns= Synchronous speed**

FELM motor with design B has the locked rotor torque (LRC) performance meets MG1 standard value or larger.

## Variable Frequency Drive application

VFD becomes popular in many applications, providing small starting current, slow starting speed, and significant energy saving. The following shall be considered with apply standard motor as VFD.

**1. Operation**

Voltage(Ampere) fed by VFD is not pure sinusoidal which could affect the motor performance on loss, vibration and noise. In additional, the changes on distribution of losses could affect the temperature balance inside the motor, and lead to higher bearing temperature.

**2. Frequency range**

The actual speed of the motor driven by inverter could be big different than the rated. Make sure do not exceed the maximum allowed speed or critical speed of the motor. Refer to us if necessary.

The followings shall be checked and considered when the inverter runs the motor at a speed higher than rated.

Maximum torque of the motor

Bearing construction

Lubrication

Critical speed

Shaft seals

Ventilation

Fan noise

The motor may lose its cooling capacity when run at low speed, which leads to higher winding temperature and bearing temperature. A forced ventilator can help to increase the cooling. The Check of lubrication performance at low speed is also necessary.

**3. Lubrication**

Usually the effectiveness of lubrication can be indicated by measuring bearing temperature. The interval of lubrication shall be reduced when the bearing temperature higher than 80°C (176°F).

If the motor continuously runs at low speed, as well as low ambient temperature, the standard grease may be not sufficient and special grease may required. Consult FELM for more information.

When the motor equipped with life sealed bearing, the lift time may be different than standard application.

**4. Insulation protection**

Most of inverter has the IGBT unit, with fast switching, steep voltage pules and cable reflections. This will provide large stress to winding insulation of the motor. The protection solution shall be considered as per table below.

| Voltage | Motor nominal Pn or frame size | | |
|---|---|---|---|
| | Pn<100HP | Pn ≥ 100Hp or ≥ 449T | Pn ≥ 400Hp or > 5800T |
| **Un ≤ 500V** | Standard motor | Standard motor | Standard motor |
| | | + Insuleted N-bearing | + Insuleted N-bearing |
| | | | + Common mode filter |
| **Un ≤ 600V** | Standard Motor | Standard motor | Standard motor |
| | + du/dt filter | + Insuleted N-bearing | + Insuleted N-bearing |
| | OR | + du/dt filter | + du/dt filter |
| | Reinforced insulation | OR | Light Common mode filter |
| | | Reinforced insulation | OR |
| | | + Insuleted N-bearing | Reinforced insulation |
| | | | + Insuleted N-bearing |
| | | | + Common mode filter |
| **Un ≤ 690V** | Reinforced insulation | Reinforced insulation | Reinforced insulation |
| | + du/dt filter | + Insuleted N-bearing | + Insuleted N-bearing |
| | | + du/dt filter | + du/dt filter |
| | | | Light Common mode filter |

**5. Shaft current protection**

The motor shall avoid to have shaft voltage larger than 300mv, otherwise the risk of bearing damaging is rising. Aegis grounding ring or similar device, insulated bearing or insulated bracket are available on request, to protect the bearing.

**6. Cable, grounding and EMC**

The motor shall be connected to inverter by shielded cable and EMC gland.

# TEFC Design B Premium efficiency Standard Motor 230/460/575V. 60Hz. – FTNP Series

| Hp | kW | RPM | Frame | Full Load Amps | | Full Load Torque Lb.Ft. | Efficiency % | Power Factor | Torque(%) | | Sound Power Level dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 230/460V or 460V | 575V | | Full Load | Full Load | Locked Rotor | Break - down | |
| 1 | 0.75 | 3460 | 143T | 2.92/1.46 | 1.16 | 1.5 | 77 | 0.84 | 310 | 350 | 70 |
| 1 | 0.75 | 1760 | 143T | 2.98/1.49 | 1.19 | 3 | 85.5 | 0.74 | 275 | 300 | 65 |
| 1 | 0.75 | 1160 | 145T | 3.16/1.58 | 1.27 | 4.6 | 82.5 | 0.72 | 170 | 265 | 64 |
| 1.5 | 1.1 | 3490 | 143T | 3.92/1.96 | 1.57 | 2.2 | 84 | 0.85 | 200 | 270 | 70 |
| 1.5 | 1.1 | 1755 | 145T | 4.2/2.1 | 1.68 | 4.4 | 86.5 | 0.78 | 275 | 300 | 66 |
| 1.5 | 1.1 | 1180 | 182T | 4.38/2.19 | 1.75 | 6.6 | 87.5 | 0.73 | 180 | 280 | 67 |
| 2 | 1.5 | 3490 | 145T | 5.12/2.56 | 2.05 | 3.0 | 85.5 | 0.86 | 200 | 260 | 70 |
| 2 | 1.5 | 1755 | 145T | 5.58/2.79 | 2.23 | 6.0 | 86.5 | 0.78 | 250 | 300 | 66 |
| 2 | 1.5 | 1180 | 184T | 5.74/2.87 | 2.3 | 9.0 | 88.5 | 0.73 | 180 | 280 | 67 |
| 3 | 2.2 | 3500 | 182T | 7.34/3.67 | 2.94 | 4.4 | 86.5 | 0.89 | 200 | 280 | 75 |
| 3 | 2.2 | 1760 | 182T | 7.44/3.72 | 2.97 | 8.8 | 89.5 | 0.84 | 215 | 250 | 68 |
| 3 | 2.2 | 1185 | 213T | 8.8/4.4 | 3.53 | 13.1 | 89.5 | 0.72 | 155 | 230 | 67 |
| 5 | 3.7 | 3500 | 184T | 11.8/5.9 | 4.7 | 7.5 | 88.5 | 0.90 | 140 | 250 | 75 |
| 5 | 3.7 | 1755 | 184T | 12.2/6.1 | 4.88 | 14.9 | 89.5 | 0.86 | 215 | 250 | 68 |
| 5 | 3.7 | 1180 | 215T | 14.4/7.2 | 5.77 | 22.2 | 89.5 | 0.73 | 155 | 230 | 67 |
| 7.5 | 5.5 | 3520 | 213T | 17.2/8.6 | 6.86 | 11.0 | 89.5 | 0.90 | 140 | 250 | 77 |
| 7.5 | 5.5 | 1770 | 213T | 18.6/9.3 | 7.44 | 22.0 | 91.7 | 0.82 | 180 | 250 | 70 |
| 7.5 | 5.5 | 1185 | 254T | 20.8/10.4 | 8.3 | 32.8 | 91 | 0.73 | 160 | 230 | 70 |
| 10 | 7.5 | 3520 | 215T | 23.2/11.6 | 9.28 | 15.1 | 90.2 | 0.90 | 150 | 250 | 77 |
| 10 | 7.5 | 1770 | 215T | 24.8/12.4 | 9.9 | 29.9 | 91.7 | 0.83 | 180 | 250 | 70 |
| 10 | 7.5 | 1185 | 256T | 28.4/14.2 | 11.3 | 44.7 | 91 | 0.73 | 160 | 220 | 70 |
| 15 | 11 | 3550 | 254T | 34.4/17.2 | 13.8 | 21.9 | 91 | 0.89 | 170 | 240 | 87 |
| 15 | 11 | 1780 | 254T | 36.4/18.2 | 14.6 | 43.7 | 92.4 | 0.83 | 160 | 220 | 75 |
| 15 | 11 | 1185 | 284T | 37.6/18.8 | 15.1 | 65.6 | 91.7 | 0.82 | 150 | 230 | 80 |
| 20 | 15 | 3545 | 256T | 46.4/23.2 | 18.6 | 29.9 | 91 | 0.89 | 150 | 210 | 88 |
| 20 | 15 | 1780 | 256T | 48.2/24.1 | 19.3 | 59.6 | 93 | 0.84 | 160 | 220 | 75 |
| 20 | 15 | 1185 | 286T | 50/25 | 20 | 89.5 | 91.7 | 0.82 | 140 | 220 | 80 |
| 25 | 18.5 | 3555 | 284TS | 57.6/28.8 | 23 | 36.8 | 91.7 | 0.89 | 140 | 220 | 88 |
| 25 | 18.5 | 1775 | 284T | 58.4/29.2 | 23.3 | 73.7 | 93.6 | 0.85 | 150 | 220 | 85 |
| 25 | 18.5 | 1190 | 324T | 67.4/33.7 | 27 | 109.9 | 93 | 0.75 | 150 | 230 | 81 |

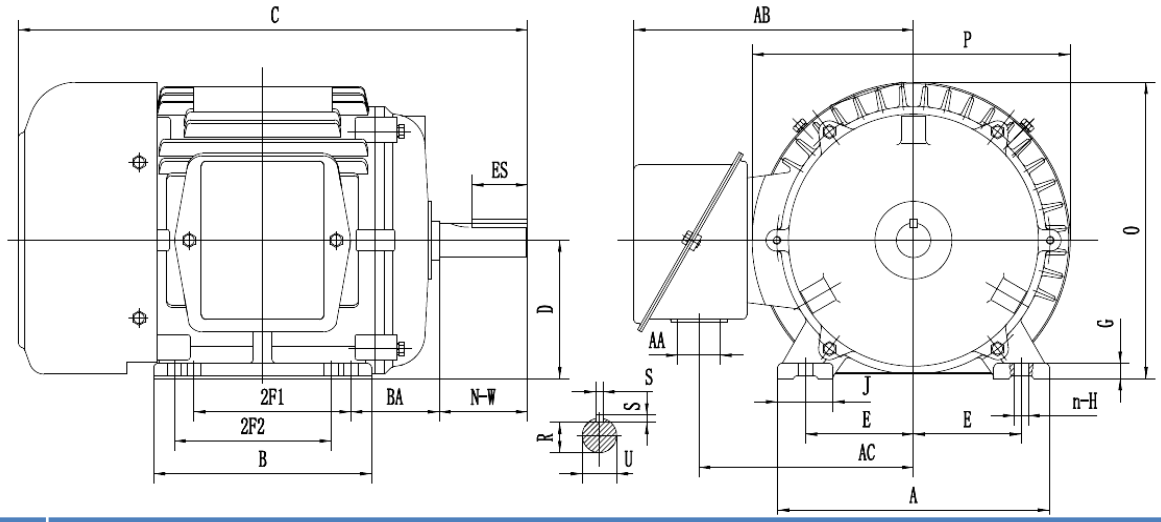
# TEFC Design B Premium efficiency Standard Motor 230/460/575V 60Hz – FTNP series

| Hp | kW | RPM | Frame | Full Load Amps | | Full Load Torque Lb.Ft. | Efficiency % | Power Factor | Torque(%) | | Sound Power Level dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 230/460V or 460V | 575V | | Full Load | Full Load | Locked Rotor | Break -down | |
| 30 | 22 | 3555 | 286TS | 68.4/34.2 | 27.4 | 43.7 | 91.7 | 0.89 | 140 | 220 | 88 |
| 30 | 22 | 1775 | 286T | 69.4/34.7 | 27.8 | 87.6 | 93.6 | 0.86 | 150 | 220 | 85 |
| 30 | 22 | 1185 | 326T | 77.2/38.6 | 30.8 | 131.2 | 93 | 0.78 | 140 | 210 | 81 |
| 40 | 30 | 3555 | 324TS | 92.6/46.3 | 37 | 59.6 | 92.4 | 0.88 | 150 | 230 | 89 |
| 40 | 30 | 1780 | 324T | 93.0/46.5 | 37.2 | 119.1 | 94.1 | 0.86 | 160 | 230 | 85 |
| 40 | 30 | 1190 | 364T | 101.4/50.7 | 40.5 | 178.2 | 94.1 | 0.79 | 140 | 230 | 82 |
| 50 | 37 | 3555 | 326TS | 113.4/56.7 | 45.4 | 73.6 | 93 | 0.89 | 150 | 230 | 90 |
| 50 | 37 | 1780 | 326T | 114.2/57.1 | 45.7 | 146.9 | 94.5 | 0.87 | 160 | 240 | 85 |
| 50 | 37 | 1190 | 365T | 125/62.5 | 50 | 219.7 | 94.1 | 0.80 | 145 | 230 | 83 |
| 60 | 45 | 3570 | 364TS | 137.2/68.6 | 54.9 | 89.1 | 93.6 | 0.88 | 150 | 210 | 89 |
| 60 | 45 | 1785 | 364T | 138/69 | 55.3 | 178.2 | 95 | 0.86 | 140 | 200 | 88 |
| 60 | 45 | 1190 | 404T | 140/70 | 56.2 | 267.2 | 94.5 | 0.85 | 145 | 220 | 85 |
| 75 | 55 | 3570 | 365TS | 167.6/83.8 | 67 | 108.9 | 93.6 | 0.90 | 140 | 210 | 89 |
| 75 | 55 | 1780 | 365T | 168/84 | 67.3 | 218.4 | 95.4 | 0.87 | 150 | 220 | 88 |
| 75 | 55 | 1190 | 405T | 172/86 | 68.7 | 326.6 | 94.5 | 0.86 | 145 | 220 | 85 |
| 100 | 75 | 3575 | 405TS | 224/112 | 89.6 | 148.3 | 94.1 | 0.89 | 150 | 250 | * |
| 100 | 75 | 1790 | 405T | 226/113 | 90.4 | 296.1 | 95.4 | 0.87 | 150 | 230 | * |
| 100 | 75 | 1190 | 444T | 232/116 | 96.7 | 445.4 | 95 | 0.85 | 135 | 220 | * |
| 125 | 90 | 3585 | 444TS | 264/132 | 106 | 177.4 | 95 | 0.91 | 130 | 230 | * |
| 125 | 90 | 1790 | 444T | 276/138 | 110 | 355.3 | 95.4 | 0.87 | 130 | 220 | * |
| 125 | 90 | 1190 | 445T | 290/145 | 116 | 534.5 | 95 | 0.85 | 135 | 220 | * |
| 150 | 110 | 3585 | 445TS | 322/161 | 129 | 216.8 | 95 | 0.91 | 140 | 230 | * |
| 150 | 110 | 1790 | 445T | 336/168 | 134 | 434.3 | 95.8 | 0.87 | 130 | 220 | * |
| 150 | 110 | 1190 | 447T | 344/172 | 141 | 653.3 | 95.8 | 0.85 | 140 | 240 | * |
| 200 | 150 | 3585 | 447TS | 434/217 | 173 | 295.7 | 95.4 | 0.91 | 150 | 230 | * |
| 200 | 150 | 1790 | 447T | 456/228 | 182 | 592.2 | 96.2 | 0.86 | 120 | 220 | * |
| 200 | 150 | 1190 | 449T | 460/230 | 187 | 890.8 | 95.8 | 0.85 | 120 | 210 | * |
| 250 | 185 | 3585 | 449TS | 268 | 216 | 364.7 | 95.8 | 0.91 | 200 | 250 | * |
| 250 | 185 | 1790 | 449T | 282 | 227 | 730.4 | 96.2 | 0.86 | 200 | 250 | * |
| 250 | 185 | 1190 | 449T | 288 | 241 | 1098.7 | 95.8 | 0.85 | 175 | 250 | * |
| 300 | 220 | 3585 | 449TS | 320 | 257 | 443.5 | 95.8 | 0.91 | 200 | 250 | * |
| 300 | 220 | 1790 | 449T | 332 | 266 | 888.3 | 96.2 | 0.87 | 200 | 250 | * |

*= data on request

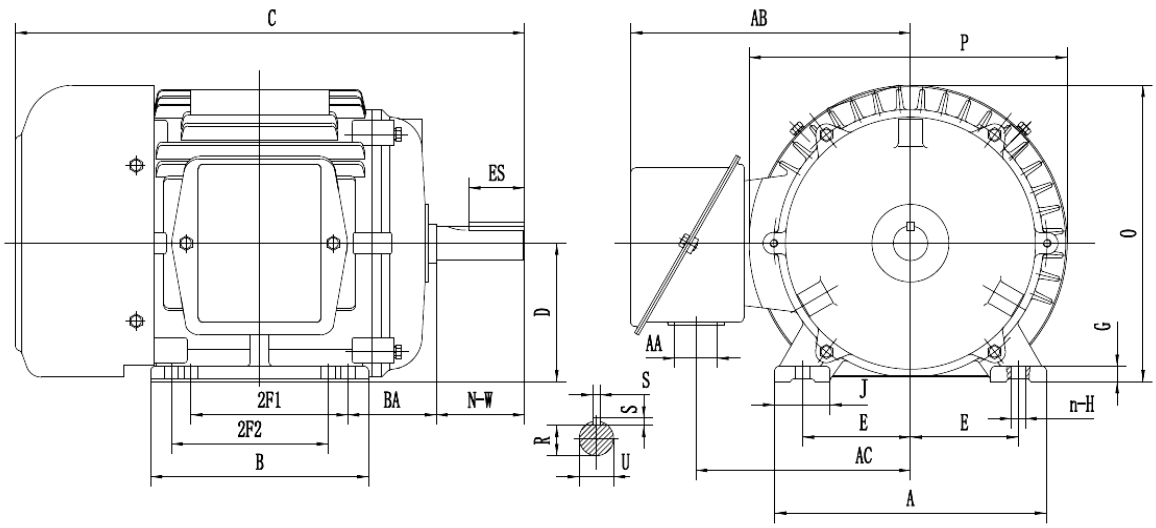
## Dimensions FTNP series

FELM NEMA TEFC Design B premium efficiency motors, foot mount, F1




| Size | Dimensions (Inches) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | n-H | 2F1 | 2F2 | G | J | N-W | BA | P | R | S | U | ES | AA | AB | AC | O |
| 143T | 6.93 | 5.55 | 13 | 3.5 | 2.75 | 8-0.34 | 4 | 4 | 0.4 | 1.42 | 2.25 | 2.25 | 8 | 0.77 | 0.188 | 0.875 | 1.41 | 1 | 7.2 | 5.5 | 7.5 |
| 145T | 6.93 | 6.55 | 14 | 3.5 | 2.75 | 8-0.34 | 5 | 5 | 0.4 | 1.42 | 2.25 | 2.25 | 8 | 0.77 | 0.188 | 0.875 | 1.41 | 1 | 7.2 | 5.5 | 7.5 |

## Frame 182T 184T

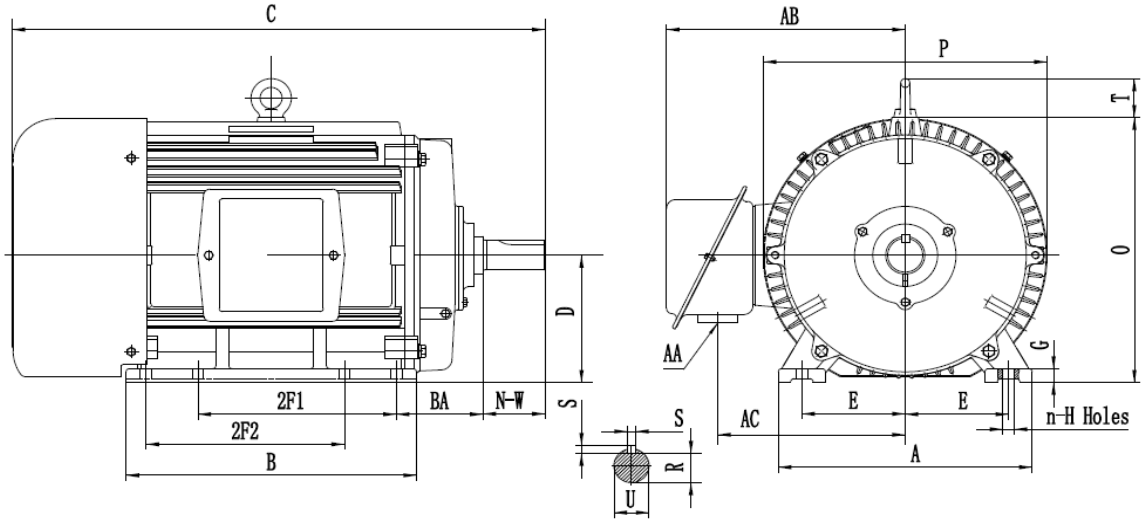



| Size | Dimensions (Inches) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | n-H | 2F1 | 2F2 | G | J | N-W | BA | P | R | S | U | ES | AA | AB | AC | O | T |
| 182T | 9 | 5.6 | 15 | 4.5 | 3.75 | 4-0.41 | 4.5 | NA | 0.45 | 1.6 | 2.75 | 2.75 | 9.87 | 0.986 | 0.25 | 1.125 | 1.78 | 1 | 8.2 | 6.5 | 9.27 | 1.73 |
| 184T | 9 | 6.6 | 16 | 4.5 | 3.75 | 8-0.41 | 4.5 | 5.5 | 0.45 | 1.6 | 2.75 | 2.75 | 9.87 | 0.986 | 0.25 | 1.125 | 1.78 | 1 | 8.2 | 6.5 | 9.27 | 1.73 |

Note:
Dimensions subject to change, please ask for dimensional drawing when ordering.

## Dimensions FTNP series

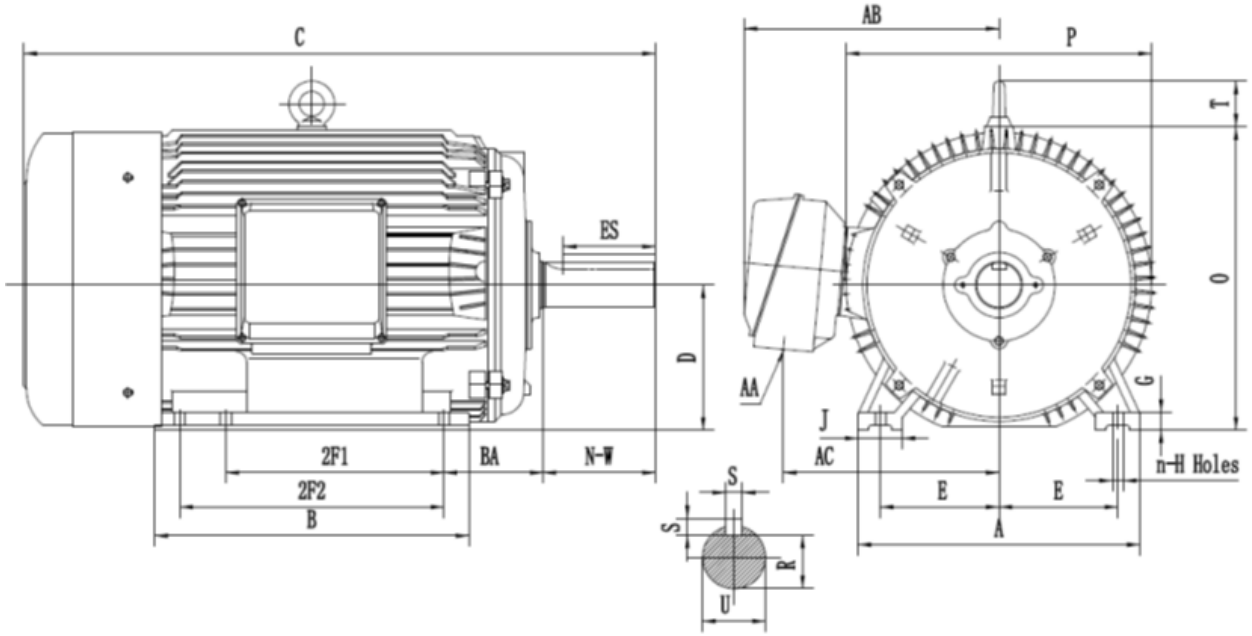
FELM NEMA  design B premium efficiency motors, foot mount, F1




| Size | Dimensions (Inches) | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | n-H | 2F1 | 2F2 | G | J | N-W | BA | P | R | S | U | ES | AA | AB | AC | O | T |
| 213T | 1.4 | 7 | 18 | 5.25 | 4.25 | 4-0.41 | 5.5 | NA | 0.6 | 1.8 | 3.38 | 3.5 | 11.9 | 1.201 | 0.312 | 1.375 | 2.41 | 1 | 9.6 | 7.9 | 10.9 | 1.73 |
| 215T | 14 | 8.5 | 19.5 | 5.25 | 4.25 | 4-0.41 | 7 | NA | 0.6 | 1.8 | 3.38 | 3.5 | 11.9 | 1.201 | 0.312 | 0.375 | 2.41 | 1 | 9.6 | 7.9 | 10.9 | 1.73 |
| 254T | 12.2 | 12.8 | 26.7 | 6.25 | 5 | 8-0.53 | 8.25 | 8.25 | 0.53 | 2.56 | 4 | 4.25 | 14.2 | 1.416 | 0.375 | 1.625 | 2.91 | 1.25 | 12.7 | 9.5 | 13.35 | 2.05 |
| 256T | 12.2 | 13.98 | 27.8 | 6.25 | 5 | 8-0.53 | 10 | 10 | 0.53 | 2.56 | 4 | 4.25 | 14.2 | 1.416 | 0.375 | 1.625 | 2.91 | 1.25 | 12.7 | 9.5 | 13.35 | 2.05 |
| 284TS | 13.8 | 15.75 | 28.9 | 7 | 5.5 | 8-0.53 | 9.5 | 9.5 | 0.55 | 2.76 | 3.25 | 4.75 | 15.4 | 1.416 | 0.375 | 1.625 | 1.91 | 1.5 | 13.5 | 10.2 | 14.85 | 2.05 |
| 284T | 13.8 | 15.75 | 30.2 | 7 | 5.5 | 8-0.53 | 9.5 | 9.5 | 0.55 | 2.76 | 4.62 | 4.75 | 15.4 | 1.591 | 0.5 | 1.875 | 3.28 | 1.5 | 13.5 | 10.2 | 14.85 | 2.05 |
| 286TS | 13.8 | 16.93 | 30 | 7 | 5.5 | 8-0.53 | 11 | 11 | 0.55 | 2.76 | 3.25 | 4.75 | 15.4 | 1.416 | 0.375 | 1.625 | 1.91 | 1.5 | 13.5 | 10.2 | 14.85 | 2.05 |
| 286T | 13.8 | 16.93 | 31.3 | 7 | 5.5 | 8-0.53 | 11 | 11 | 0.55 | 2.76 | 4.62 | 4.75 | 15.4 | 1.591 | 0.5 | 1.875 | 3.28 | 1.5 | 13.5 | 10.2 | 14.85 | 2.05 |
| 324TS | 14.2 | 16.38 | 31.1 | 8 | 6.25 | 8-0.66 | 10.5 | 10.5 | 0.86 | 2.85 | 3.75 | 5.25 | 17.2 | 1.591 | 0.5 | 1.875 | 2.03 | 2 | 14.2 | 11.34 | 16.66 | 2.44 |
| 324T | 14.2 | 16.38 | 32.6 | 8 | 6.25 | 8-0.66 | 10.5 | 10.5 | 0.86 | 2.85 | 5.25 | 5.25 | 17.2 | 1.845 | 0.5 | 2.125 | 3.91 | 2 | 14.2 | 11.34 | 16.66 | 2.44 |
| 326TS | 14.2 | 17.56 | 32.3 | 8 | 6.25 | 8-0.66 | 12 | 12 | 0.86 | 2.85 | 3.75 | 5.25 | 17.2 | 1.845 | 0.5 | 1.875 | 2.03 | 2 | 14.2 | 11.34 | 16.66 | 2.44 |
| 326T | 14.2 | 17.56 | 33.7 | 8 | 6.25 | 8-0.66 | 12 | 12 | 0.86 | 2.85 | 5.25 | 5.25 | 17.2 | 1.591 | 0.5 | 2.125 | 3.91 | 2 | 14.2 | 11.34 | 16.66 | 2.44 |
| 364TS | 17 | 18.2 | 34.1 | 9 | 7 | 8-0.66 | 11.25 | 11.25 | 1.17 | 3 | 3.75 | 5.88 | 19.4 | 1.591 | 0.5 | 1.875 | 2.03 | 3 | 16.3 | 12.3 | 18.77 | 2.83 |
| 364T | 17 | 18.2 | 36.23 | 9 | 7 | 8-0.66 | 11.25 | 11.25 | 1.17 | 3 | 5.88 | 5.88 | 19.4 | 2.021 | 0.625 | 2.375 | 4.28 | 3 | 16.3 | 12.3 | 18.77 | 2.83 |
| 365TS | 17 | 20 | 35.9 | 9 | 7 | 8-0.66 | 12.25 | 12.25 | 1.17 | 3 | 3.75 | 5.88 | 19.4 | 1.591 | 0.5 | 1.875 | 2.03 | 3 | 16.3 | 12.3 | 18.77 | 2.83 |
| 365T | 17 | 20 | 38.03 | 9 | 7 | 8-0.66 | 12.25 | 12.25 | 1.17 | 3 | 5.88 | 5.88 | 19.4 | 2.021 | 0.625 | 2.375 | 4.28 | 3 | 16.3 | 12.3 | 18.77 | 2.83 |
| 404T | 19.13 | 14.96 | 36.4 | 10 | 8 | 4-0.81 | 12.25 | NA | 1.18 | 3.15 | 7.25 | 6.62 | 21.5 | 2.45 | 0.75 | 2.875 | 6.1 | 3 | 18.11 | 15.68 | 21.02 | 2.83 |
| 405TS | 19.13 | 16.53 | 34.8 | 10 | 8 | 4-0.81 | 13.75 | NA | 1.18 | 3.15 | 4.25 | 6.62 | 21.5 | 1.845 | 0.5 | 2.125 | 2.78 | 3 | 18.11 | 15.68 | 21.02 | 2.83 |
| 405T | 19.13 | 16.53 | 37.8 | 10 | 8 | 4-0.81 | 13.75 | NA | 1.18 | 3.15 | 7.25 | 6.62 | 21.5 | 2.45 | 0.75 | 2.875 | 6.1 | 3 | 18.11 | 15.68 | 21.02 | 2.83 |

## Dimensions FTNP series

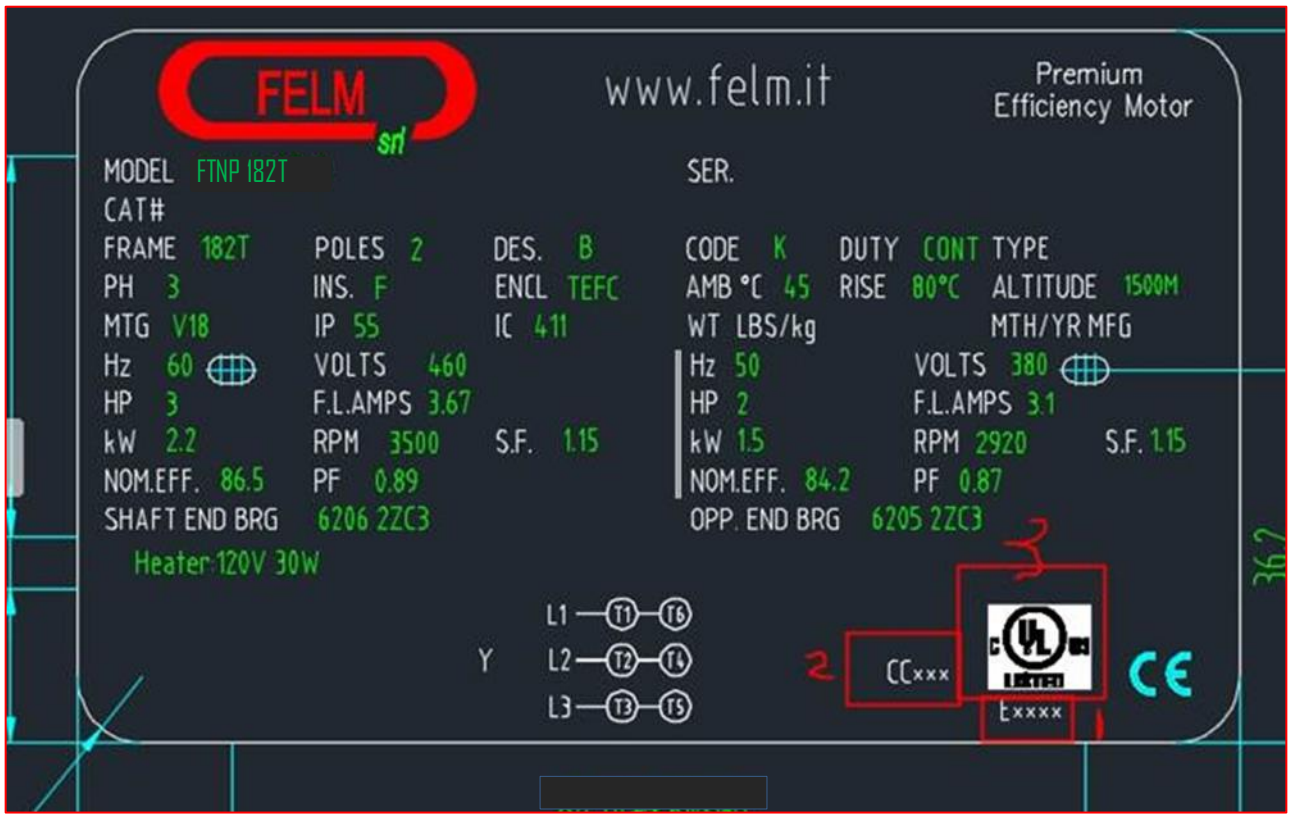
FELM NEMA  design B premium efficiency motors, foot mount, F1




| Size | Dimensions (Inches) | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | n-H | 2F1 | 2F2 | G | J | N-W | BA | P | R | S | U | ES | AA | AB | AC | O | T |
| 444TS | 22 | 25.59 | 47.05 | 11 | 9 | 4-0.81 | 14.5 | NA | 1.38 | 3.35 | 475 | 7.5 | 23.1 | 2.021 | 0.625 | 2.375 | 3.03 | 2X3 | 19.5 | 16.3 | 23 | 3.5 |
| 444T | 22 | 25.59 | 50.79 | 11 | 9 | 4-0.81 | 14.5 | NA | 1.38 | 3.35 | 8.5 | 7.5 | 23.1 | 2.88 | 0.875 | 3.375 | 6.91 | 1X3 | 19.5 | 16.3 | 23 | 3.5 |
| 445TS | 22 | 25.59 | 47.05 | 11 | 9 | 6-0.81 | 14.5 | 16.5 | 1.38 | 3.35 | 4.75 | 7.5 | 23.1 | 2.021 | 0.625 | 2.375 | 3.03 | 2X3 | 19.5 | 16.3 | 23 | 3.5 |
| 445T | 22 | 25.59 | 50.79 | 11 | 9 | 6-0.81 | 14.5 | 16.5 | 1.38 | 3.35 | 8.5 | 7.5 | 23.1 | 2.88 | 0.875 | 3.375 | 6.91 | 2X3 | 19.5 | 16.3 | 23 | 3.5 |
| 447TS | 22 | 30.71 | 52.17 | 11 | 9 | 6-0.81 | 16.5 | 20 | 1.38 | 3.35 | 4.75 | 7.5 | 23.1 | 2.021 | 0.625 | 2.375 | 3.03 | 2X3 | 19.5 | 16.3 | 23 | 3.5 |
| 447T | 22 | 30.71 | 55.91 | 11 | 9 | 6-0.81 | 16.5 | 20 | 1.38 | 3.35 | 8.5 | 7.5 | 23.1 | 2.88 | 0.875 | 3.375 | 6.91 | 2X3 | 19.5 | 16.3 | 23 | 3.5 |
| 449TS | 22 | 30.71 | 52.17 | 11 | 9 | 6-0.81 | 20 | 25 | 1.38 | 3.35 | 4.75 | 7.5 | 23.1 | 2.021 | 0.625 | 2.375 | 3.03 | 2X3 | 19.5 | 16.3 | 23 | 3.5 |
| 449T | 22 | 30.71 | 55.91 | 11 | 9 | 6-0.81 | 20 | 25 | 1.38 | 3.35 | 8.5 | 7.5 | 23.1 | 2.88 | 0.875 | 3.375 | 6.91 | 2X3 | 19.5 | 16.3 | 23 | 3.5 |

Note:
Dimensions subject to change, please ask for dimensional drawing when ordering.

# NAMEPLATE FTNP SERIES




All data (technical, dimensions, etc..) listed in the tables are indicative and not binding. The guaranteed values are upon request. Felm srl reserves the right to change the project, the technical characteristics and dimensions at any time without previous notice.

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