DATA SHEET

Three Phase Induction Motor - Squirrel Cage

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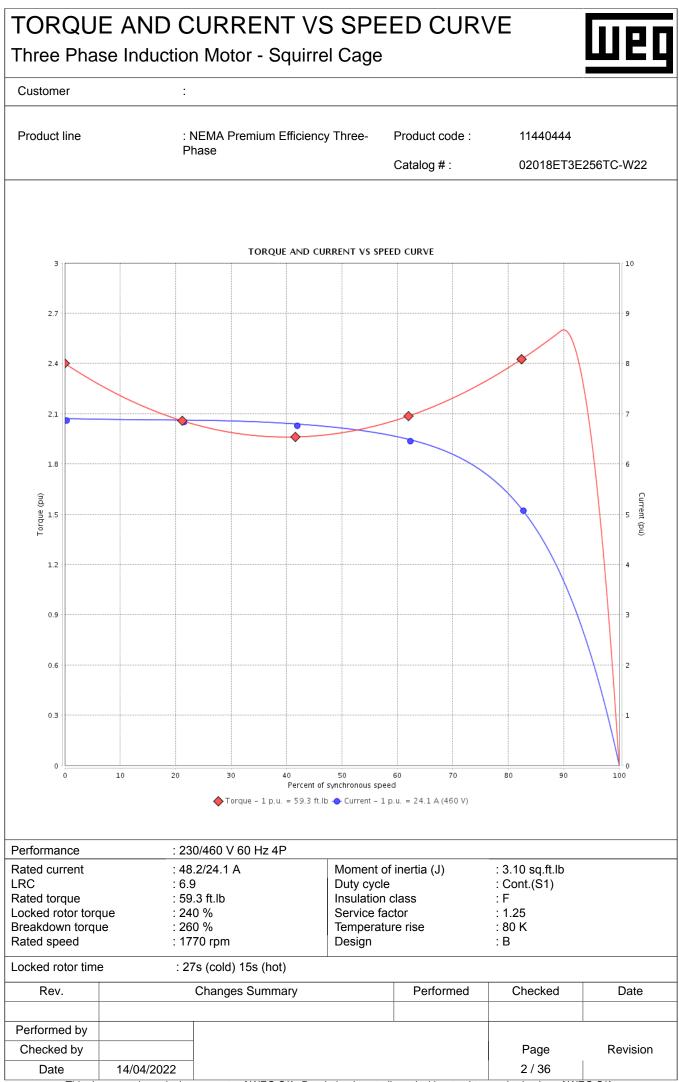
Customer

| Product line | | : NEMA Pre Phase | mium Efficien | cy Three- | Product code | e: 11 | 11440444 | |
|---|---|---|---------------------------------------|--|-----------------------------------|--------------------------|---|-------------------------|
| | | Phase | | | Catalog # : | 02 | 018ET3E256 | TC-W22 |
| Frame Insulation class Duty cycle Ambient tempera Altitude Protection degre Design | | : 254/6TC : F : Cont.(S1) : -20°C to + : 1000 m.a. : IP55 : B | | Mounti Rotatio Startin Approx | | : F : E : C : 3 | C411 - TEFC -1 Both (CW and Direct On Line 42 lb 5.10 sq.ft.lb | |
| Output [HP] | | 20 | 15 | 15 | 15 | 20 | 20 | 20 |
| Poles | | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Frequency [Hz] | | 60 | 50 | 50 | 50 | 50 | 50 | 50 |
| Rated voltage [V] | | 230/460 | 380 | 400 | 415 | 380 | 400 | 415 |
| Rated current [A] | | 48.2/24.1 | 21.8 | 21.2 | 20.6 | 29.4 | 28.0 | 27.1 |
| . R. Amperes [A] | | 333/166 | 161 | 167 | 173 | 168 | 174 | 179 |
| _RC [A] | | 6.9x(Code H) | 7.4x(Code H) | 7.9x(Code J) | 8.4x(Code K) | 5.7x(Code F) | 6.2x(Code G) | 6.6x(Code H |
| No load current [A |] | 19.2/9.60 | 9.90 | 10.5 | 11.0 | 9.90 | 10.5 | 11.0 |
| Rated speed [RPN | | 1770 | 1470 | 1475 | 1477 | 1455 | 1460 | 1465 |
| Slip [%] | | 1.67 | 2.00 | 1.67 | 1.53 | 3.00 | 2.67 | 2.33 |
| Rated torque [ft.lb | 1 | 59.3 | 53.6 | 53.4 | 53.3 | 72.2 | 71.9 | 71.7 |
| Locked rotor torqu | | 240 | 250 | 280 | 300 | 190 | 210 | 229 |
| Breakdown torque | | 260 | 290 | 320 | 340 | 210 | 229 | 260 |
| Service factor | | 1.25 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Temperature rise | | 80 K | 80 K | 80 K | 80 K | 105 K | 105 K | 105 K |
| _ocked rotor time | | 27s (cold) 15s (hot) | 21s (cold) 12s (hot) | 25s (cold) 14s (hot) | 25s (cold) 14s (hot) | 21s (cold) 12s (hot) | 25s (cold) 14s (hot) | 25s (cold) 14s (hot) |
| Noise level ² | | 64.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) | 61.0 dB(A) |
| | 25% | | . , | | | | | |
| Efficiency (%) | 50% | 91.7 | 91.0 | 89.8 | 89.8 | 91.7 | 91.0 | 91.0 |
| (/0) | 75% | 92.4 | 91.5 | 91.0 | 91.3 | 91.0 | 91.0 | 91.7 |
| | 100% | 93.0 | 91.4 | 91.4 | 91.7 | 90.2 | 91.0 | 91.7 |
| | 25% | 0.00 | 0.05 | 0.00 | 0.00 | 0.75 | 0.70 | 0.70 |
| Power Factor | 50% 75% | 0.68 | 0.65 | 0.62 | 0.60 | 0.75 | 0.72 | 0.70 |
| | | 0.79 0.84 | 0.78 | 0.75 0.82 | 0.73 0.81 | 0.83 0.86 | 0.81 | 0.80 |
| 100% Bearing type Sealing Lubrication interval | | Drive end : 6309 C3 : V'Ring : 20000 h | Non drive 6209 (V'Rin 20000 | end Founda C3 Max. tra g Max. cc | tion loads | : 72 | 23 lb 265 lb | 0.04 |
| Lubricant amour Lubricant type Notes USABLE @208V | | | 9 g I Polyrex EM | | | | | |
| This revision repl must be eliminate (1) Looking the m (2) Measured at 2 (3) Approximate v manufacturing pro (4) At 100% of ful | ed. lotor from the lm and with t weight subjec ocess. | e shaft end. tolerance of +3 | dB(A). | | are average va supply, subject | | | |
| Rev. | | Changes | Summary | | Performe | ed Che | ecked | Date |
| | | | | | | | | |
| Performed by | | | | | | | | Doutois |
| Performed by Checked by | 14/04/202 | | | | | | age / 36 | Revision |

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 Date
 14/04/2022
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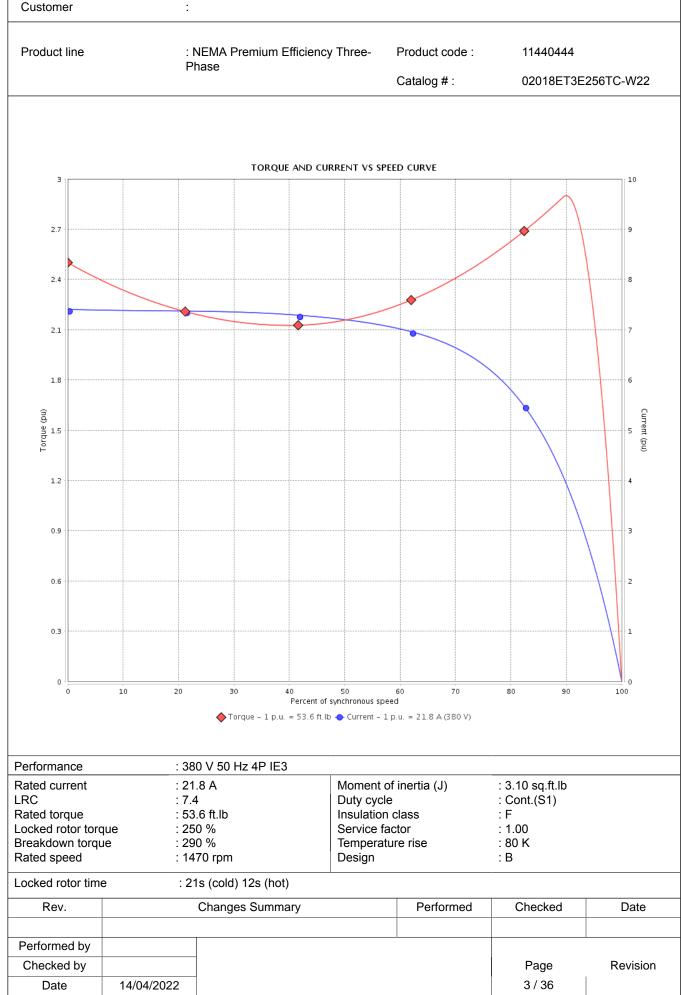
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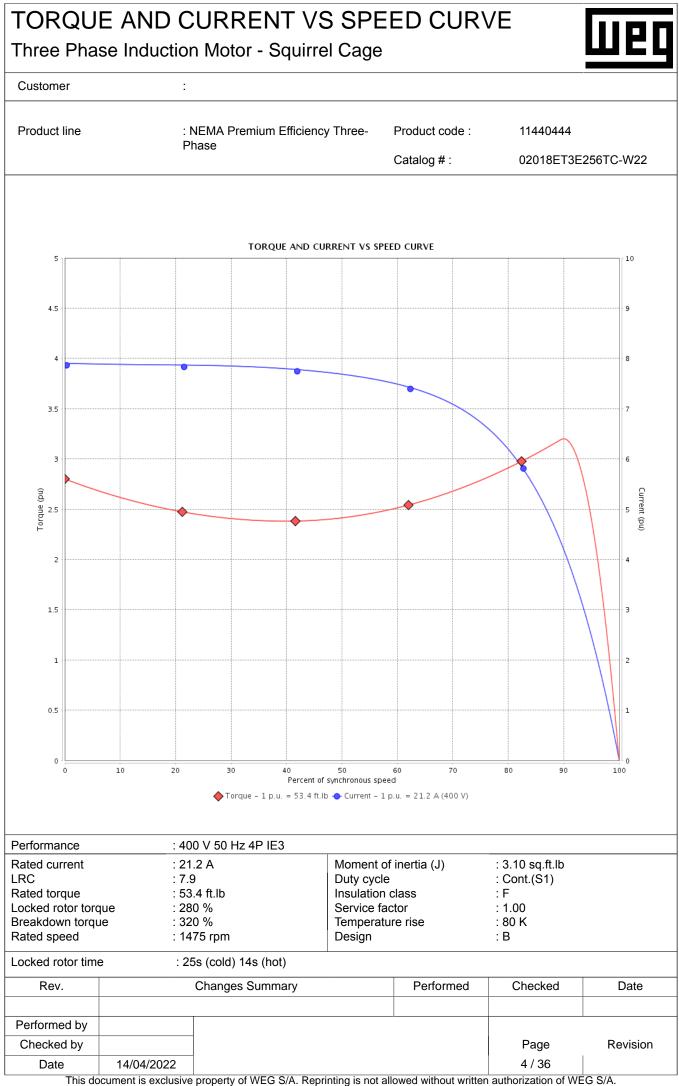
TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

Customer



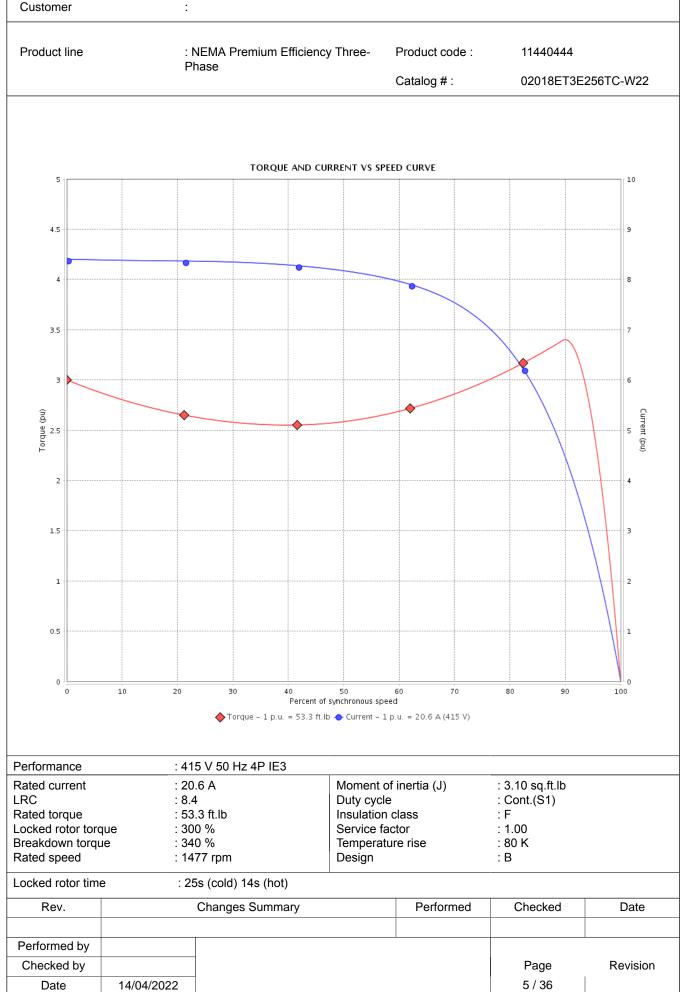
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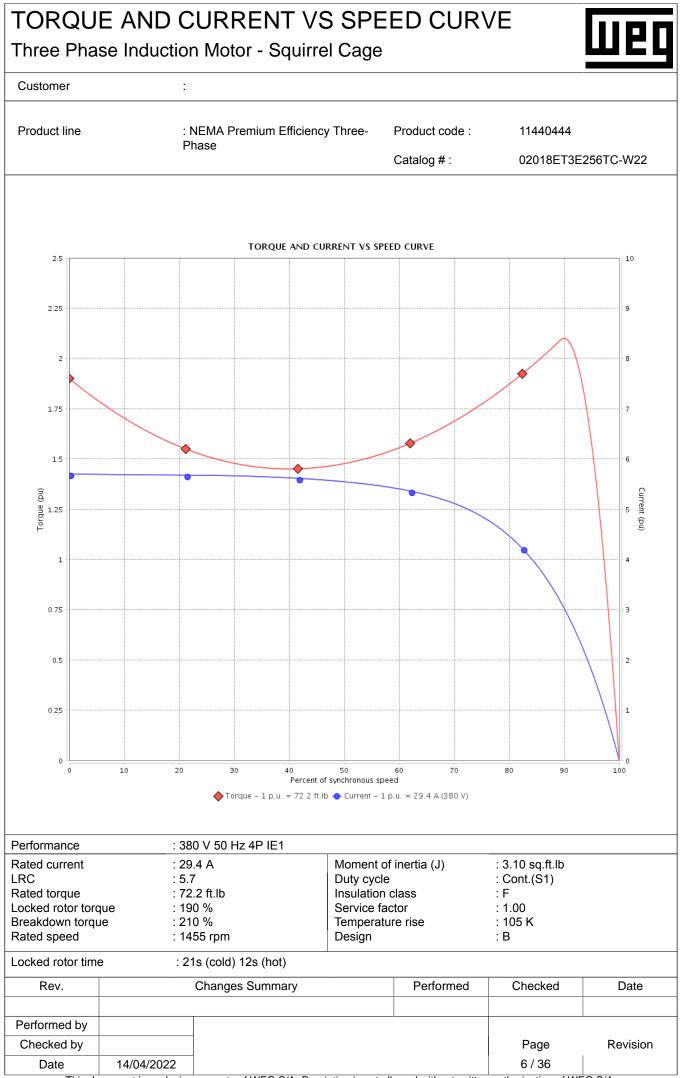
TORQUE AND CURRENT VS SPEED CURVE

Three Phase Induction Motor - Squirrel Cage

Customer



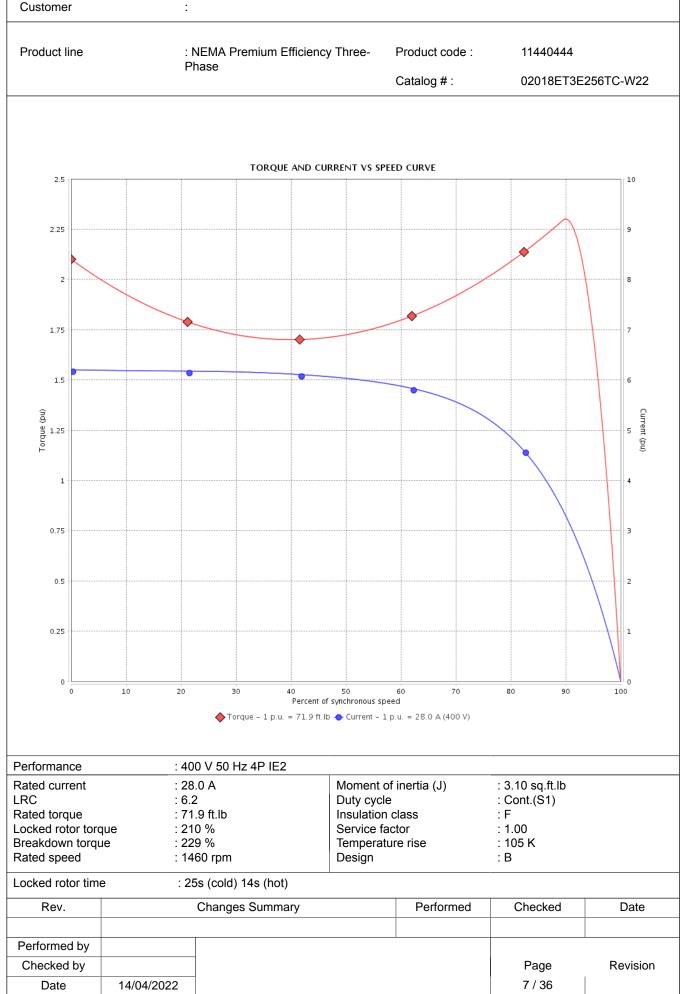
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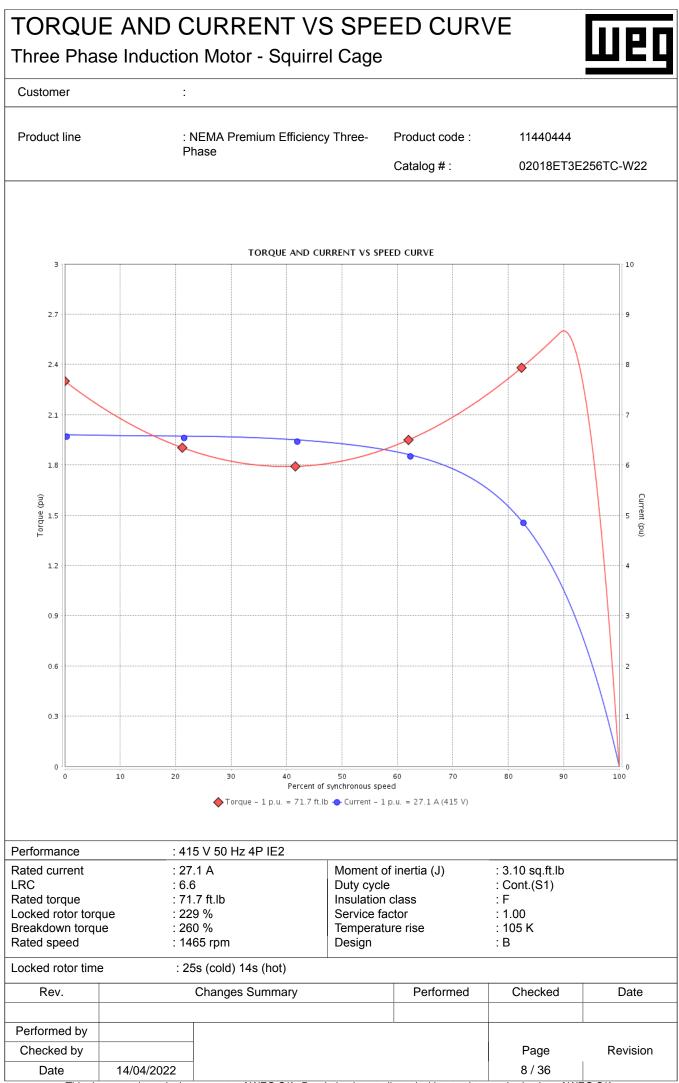
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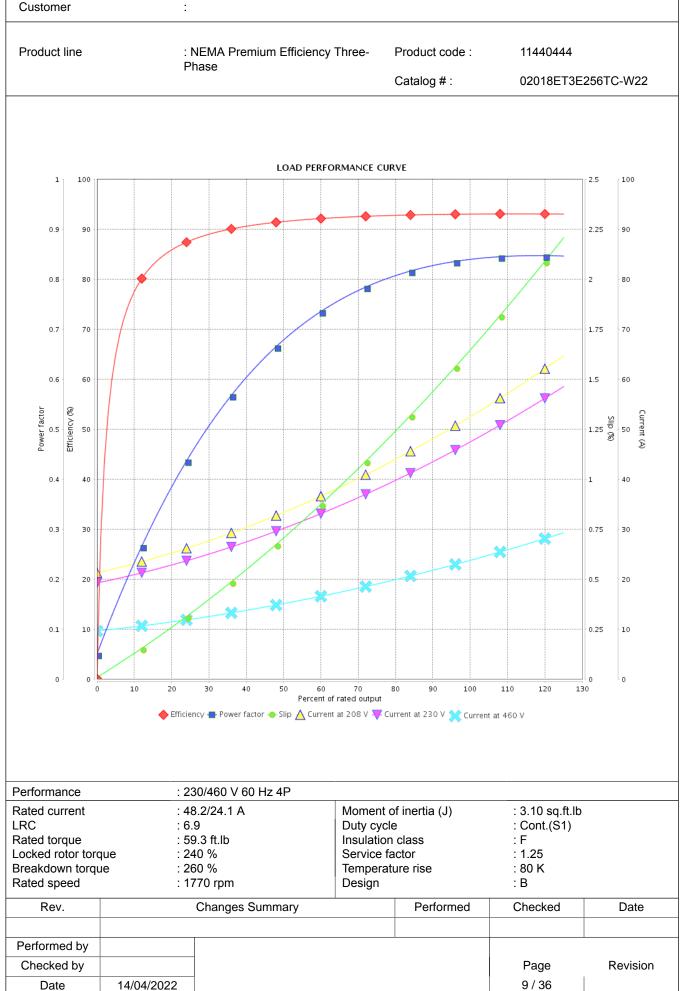


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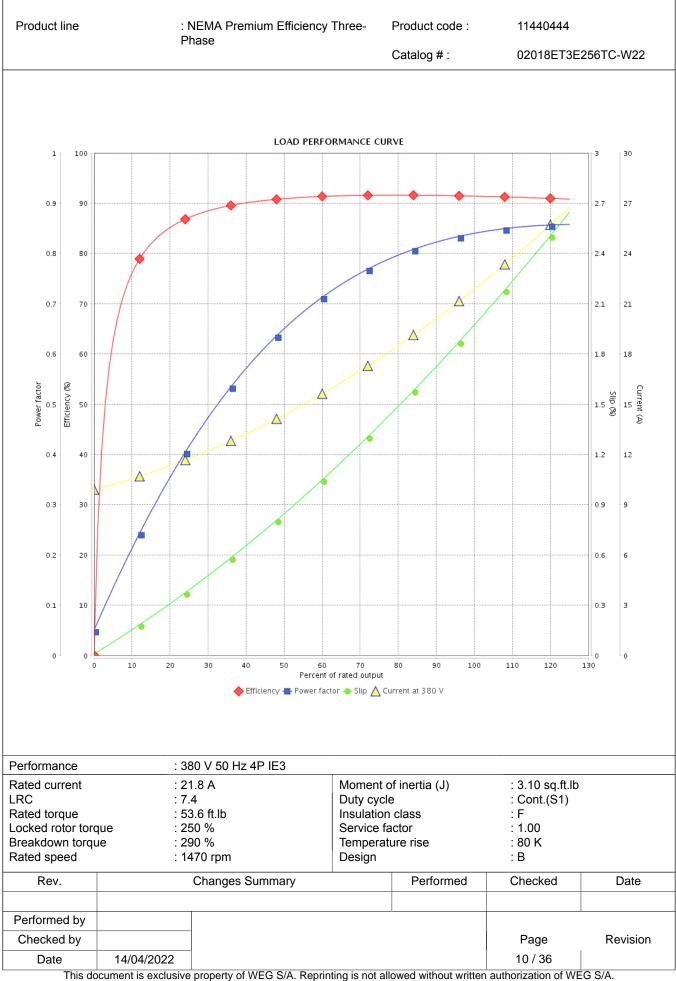
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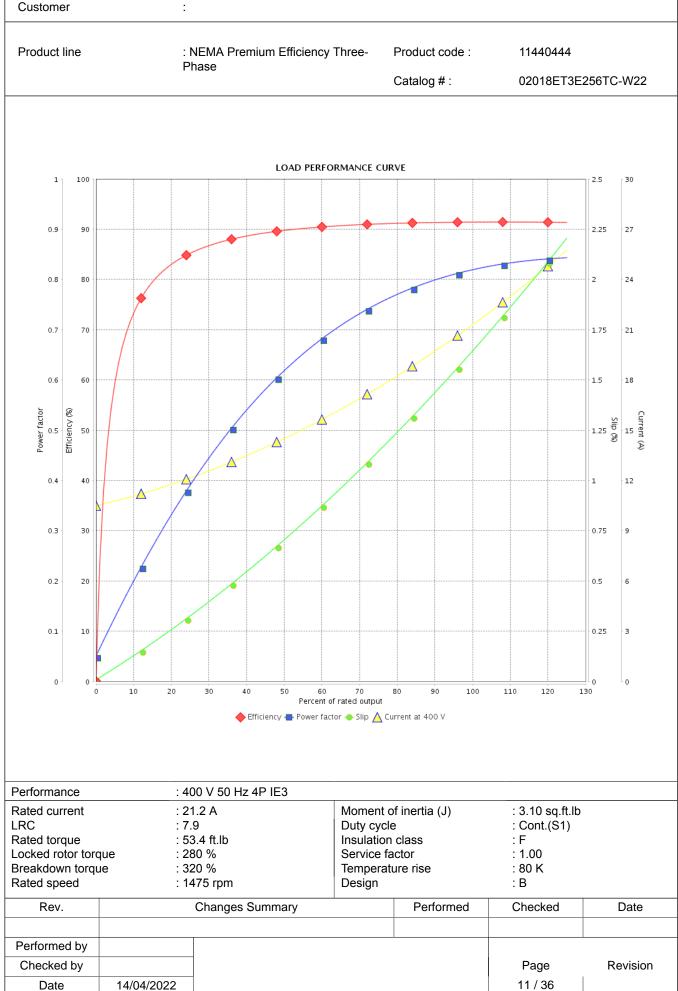


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Three Phase Induction Motor - Squirrel Cage

Customer



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LOAD PERFORMANCE CURVE Three Phase Induction Motor - Squirrel Cage Customer : Product line : NEMA Premium Efficiency Three-Product code : 11440444 Phase Catalog # : 02018ET3E256TC-W22 LOAD PERFORMANCE CURVE 100 25 1 2.5 2.25 22.5 0.9 90 Δ 0.8 80 20 2 Δ 17.5 1.75 0.7 70 \wedge 0.6 60 1.5 15 Efficiency (%) Power factor \wedge 12.5 Current 1.25 Slip 0.5 50 Δ è Δ 0.4 40 1 10 0.3 30 0.75 7.5 0.2 20 0.5 5 0.1 10 0.25 2.5 0 0 0 0 ó 10 20 100 110 120 130 30 40 50 60 70 80 90 Percent of rated output 🔶 Efficiency 🖶 Power factor 🔶 Slip 🛕 Current at 415 V Performance : 415 V 50 Hz 4P IE3 : 20.6 A Rated current Moment of inertia (J) : 3.10 sq.ft.lb LRC : 8.4 Duty cycle : Cont.(S1) : 53.3 ft.lb Insulation class Rated torque : F Locked rotor torque : 300 % Service factor : 1.00 Breakdown torque : 340 % Temperature rise : 80 K Rated speed : 1477 rpm Design : B Rev. Performed Checked Date **Changes Summary** Performed by Checked by Revision Page

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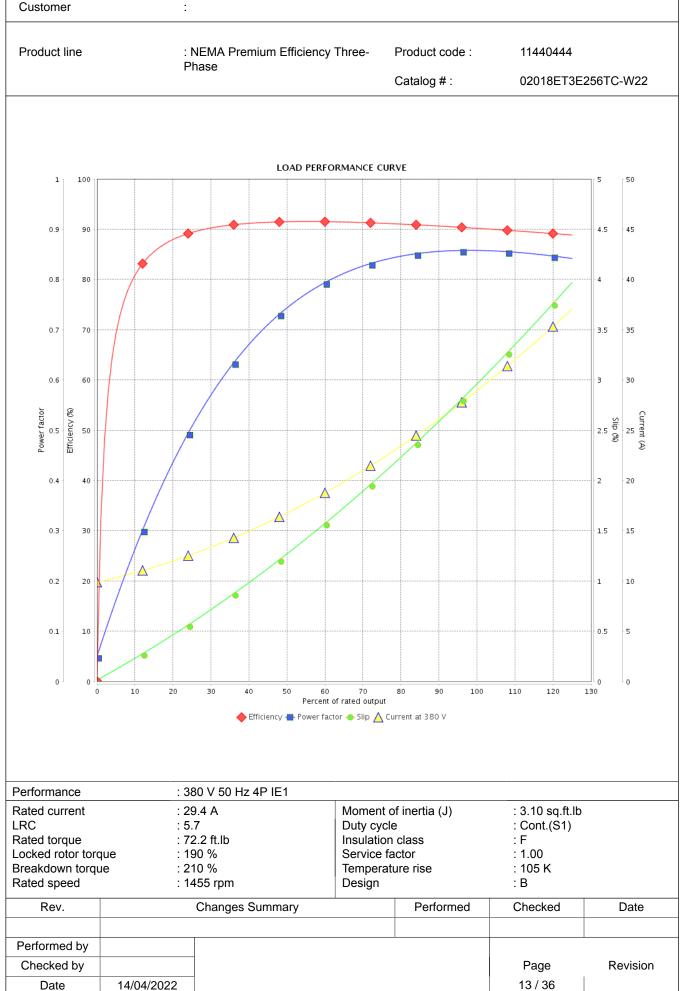
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Three Phase Induction Motor - Squirrel Cage

Customer



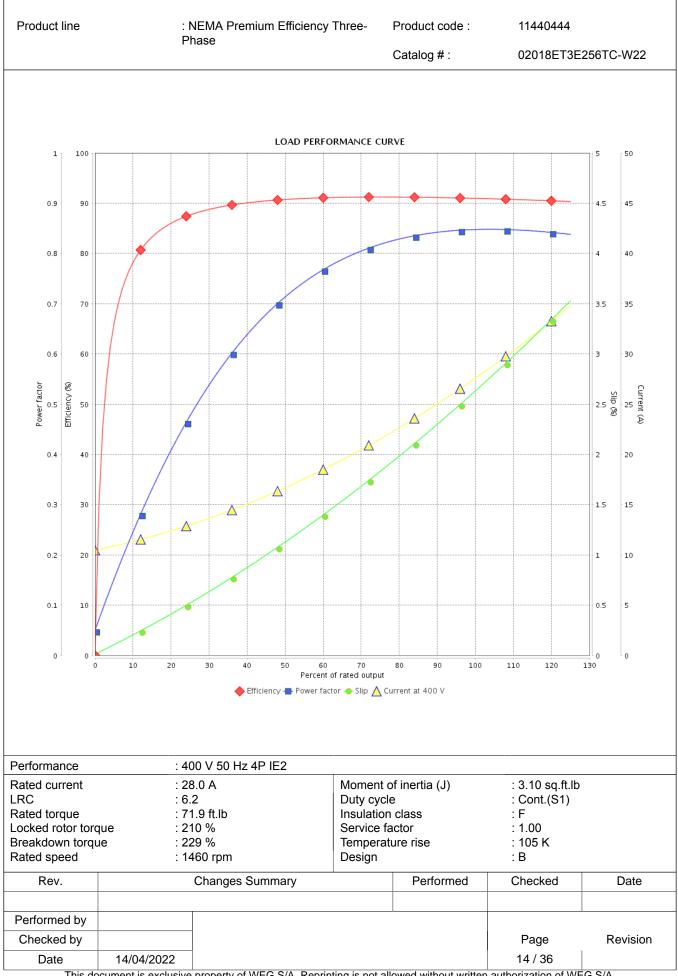
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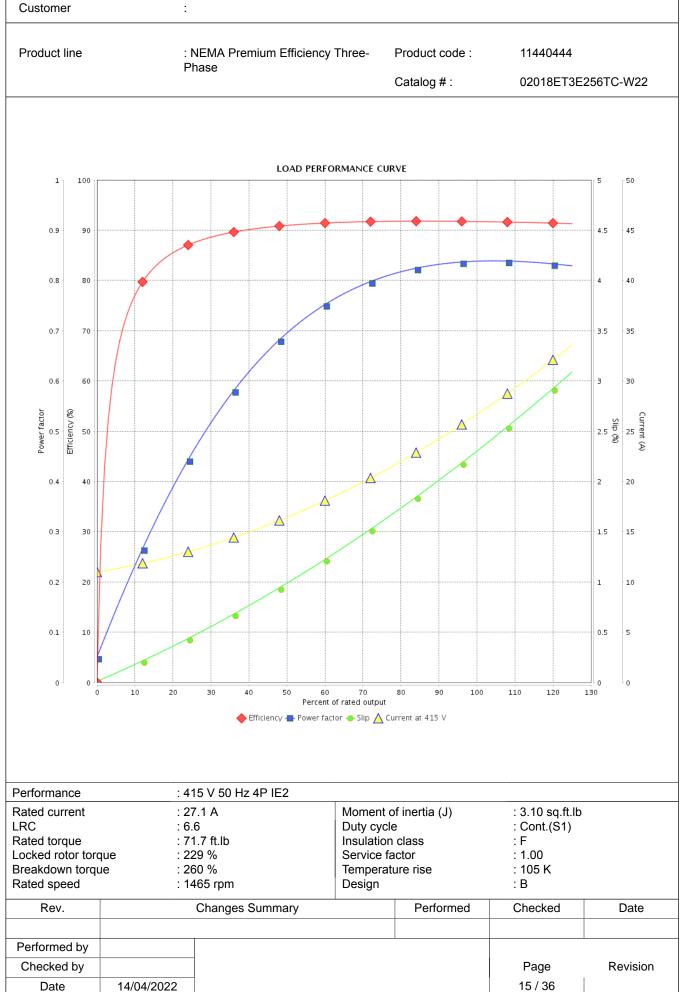


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Three Phase Induction Motor - Squirrel Cage

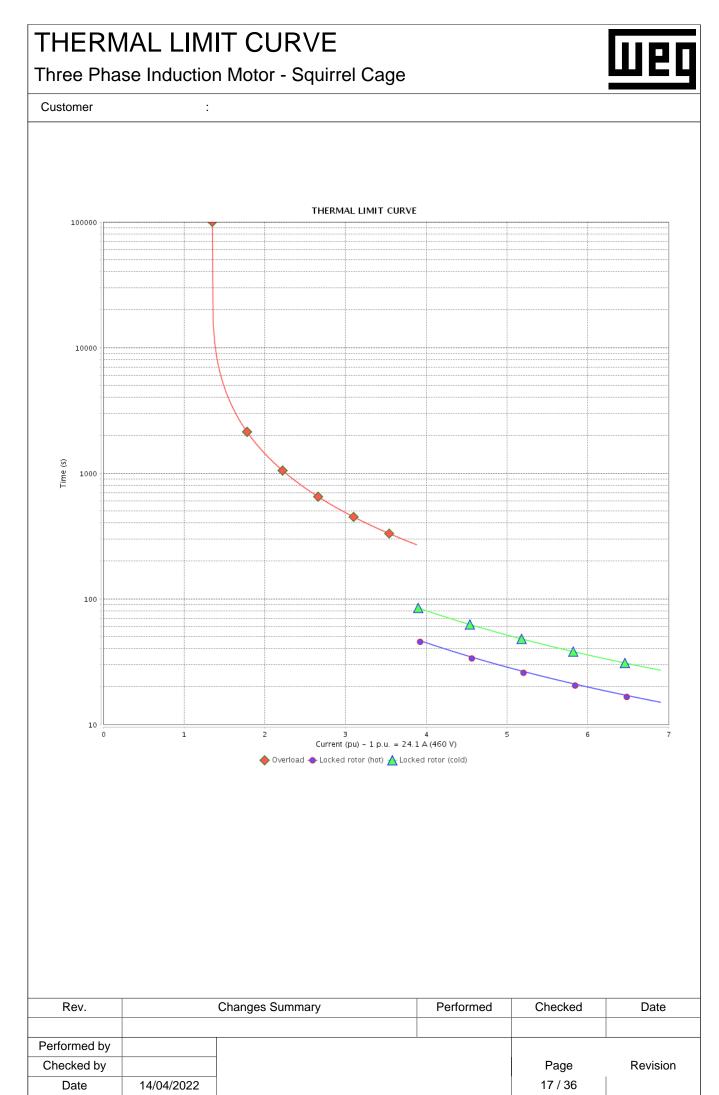
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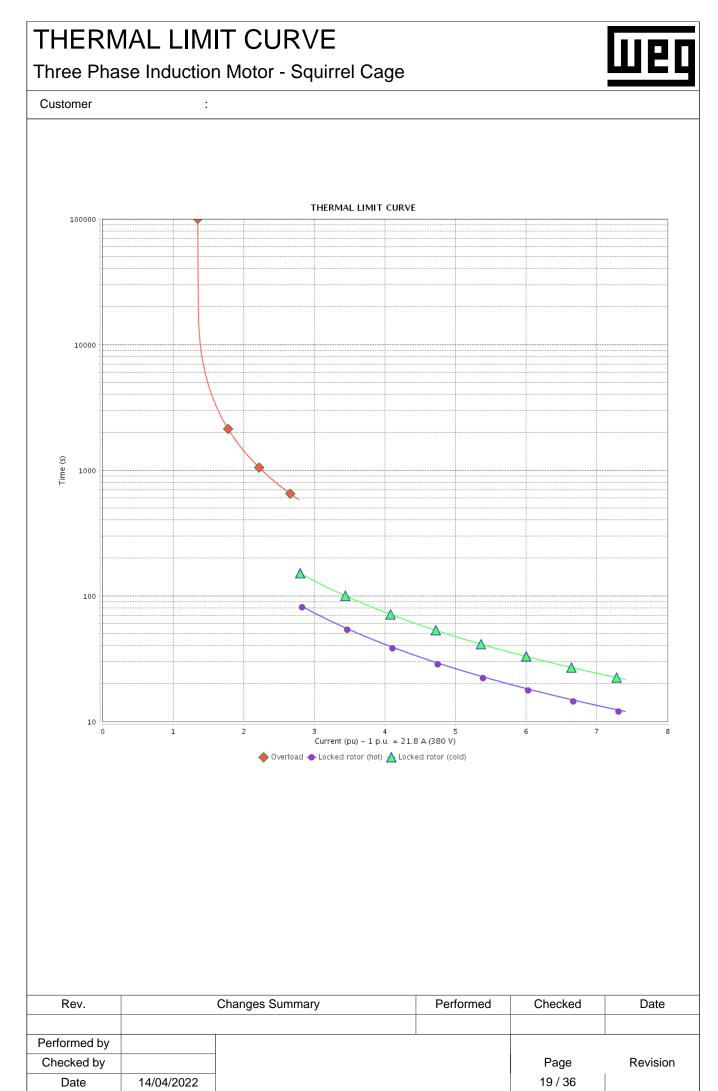
| THERMAL I | IMIT CURVE | | Шер |
|------------------|---|----------------|--------------------|
| Three Phase Indu | uction Motor - Squirrel Cage |) | шсч |
| Customer | : | | |
| Product line | : NEMA Premium Efficiency Three- Phase | Product code : | 11440444 |
| | Thase | Catalog # : | 02018ET3E256TC-W22 |
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| Performance | : 23 | 30/460 V 60 Hz 4P | | | | |
|---|-------------------------------------|--|---|-----------|--|----------|
| Rated current LRC Rated torque Locked rotor toro Breakdown torqu Rated speed | : 6. : 59 jue : 24 je : 26 | 8.2/24.1 A .9 9.3 ft.lb 40 % 60 % 770 rpm | Moment of inertia (J) Duty cycle Insulation class Service factor Temperature rise Design | | : 3.10 sq.ft.lb : Cont.(S1) : F : 1.25 : 80 K : B | |
| Heating constant | t | | | | | |
| Cooling constant | | | | | | |
| Rev. | Rev. Changes Summary | | | Performed | Checked | Date |
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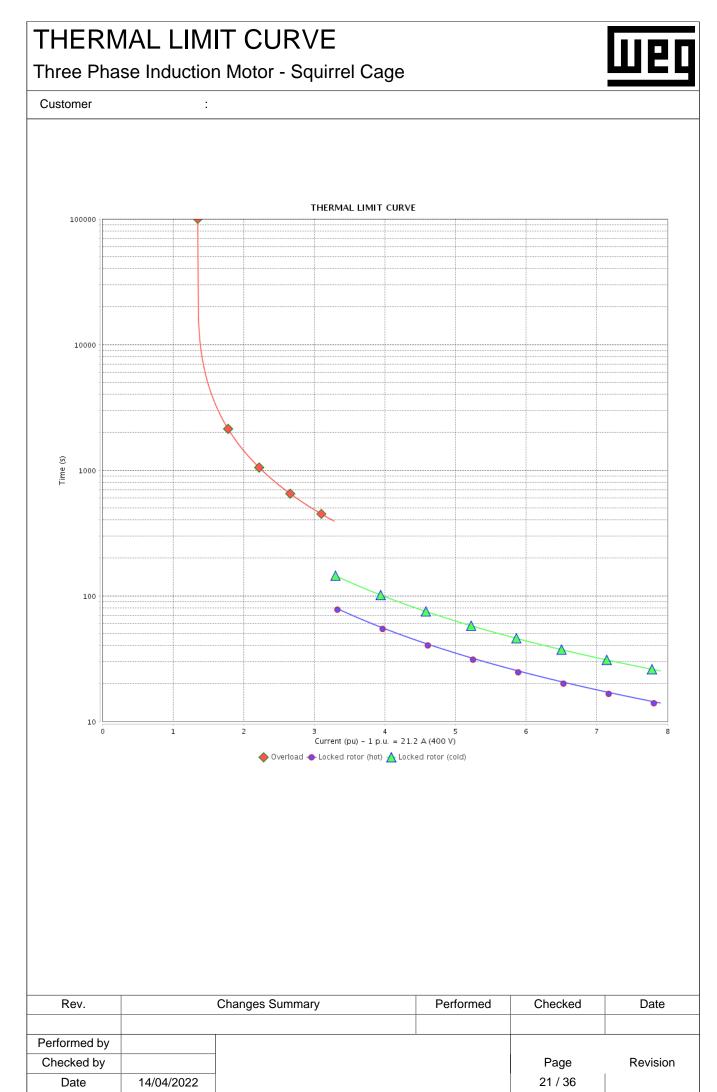
| THERMAL LIMIT CURVE | | | | | |
|---------------------|---|----------------|--------------------|--|--|
| Three Phase Ir | nduction Motor - Squirrel Cage | ; | | | |
| Customer | : | | | | |
| Product line | : NEMA Premium Efficiency Three- Phase | Product code : | 11440444 | | |
| | Fliase | Catalog # : | 02018ET3E256TC-W22 | | |
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| Performance | | : 380 V 50 Hz 4P IE3 | | | | |
|-------------------|------------------|-------------------------------|----------------------------|----------------------|---------------------|----------|
| Rated current | | : 21.8 A | .8 A Moment of inertia (J) | | : 3.10 sq.ft.lb | |
| LRC | | : 7.4 | Duty cycle | e | : Cont.(S1) | |
| Rated torque | | : 53.6 ft.lb | Insulation | class | : F | |
| Locked rotor torc | que | : 250 % | Service fa | ictor | : 1.00 | |
| Breakdown torqu | Je | : 290 % | Temperat | ure rise | : 80 K | |
| Rated speed | | : 1470 rpm | Design | | : B | |
| Heating constant | t | | | | | |
| Cooling constant | t | | | | | |
| Rev. | | Changes Summary | | Performed | Checked | Date |
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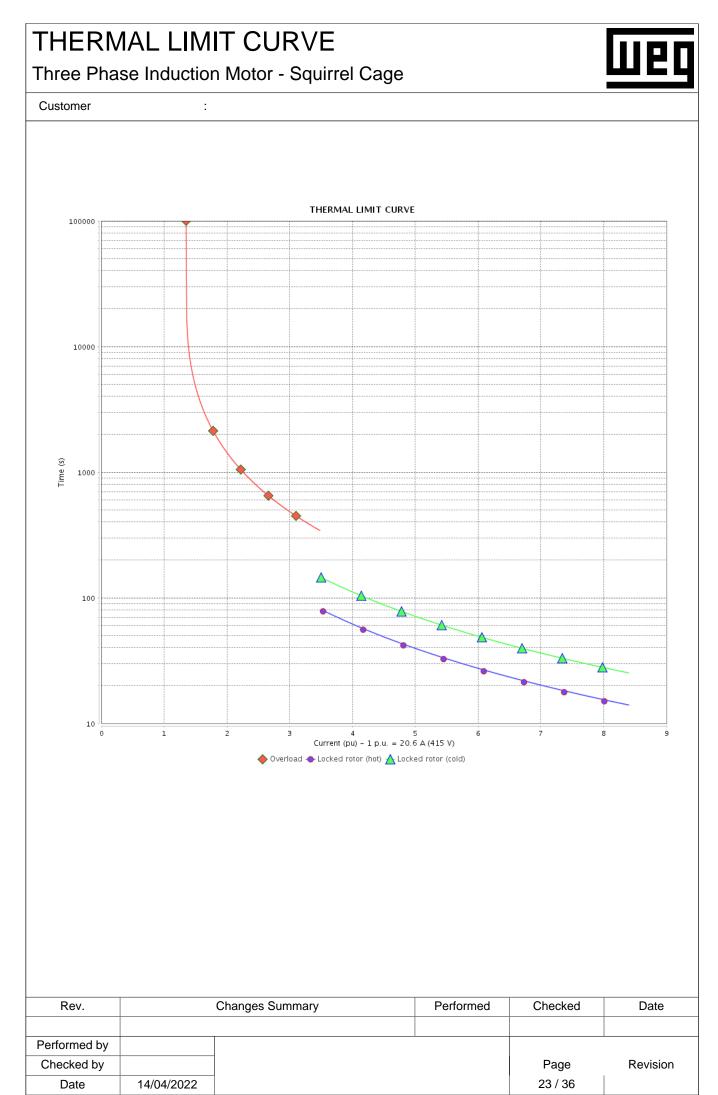
| THERMAL L | IMIT CURVE | | Шед |
|------------------|--|----------------|--------------------|
| Three Phase Indu | uction Motor - Squirrel Cage |) | шеч |
| Customer | : | | |
| Product line | : NEMA Premium Efficiency Three- Phase | Product code : | 11440444 |
| | Theorem and the second se | Catalog # : | 02018ET3E256TC-W22 |
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| Performance | : 4 | 00 V 50 Hz 4P IE3 | | | | |
|---|---------------------------------|--|---|-----------|--|----------|
| Rated current LRC Rated torque Locked rotor toro Breakdown torqu Rated speed | : 7 : 5 que : 2 Je : 3 | 21.2 A 7.9 53.4 ft.lb 280 % 320 % 475 rpm | Moment of inertia (J) Duty cycle Insulation class Service factor Temperature rise Design | | : 3.10 sq.ft.lb : Cont.(S1) : F : 1.00 : 80 K : B | |
| Heating constant | t | | | | | |
| Cooling constant | t | | | | | |
| Rev. | Rev. Changes Summary | | | Performed | Checked | Date |
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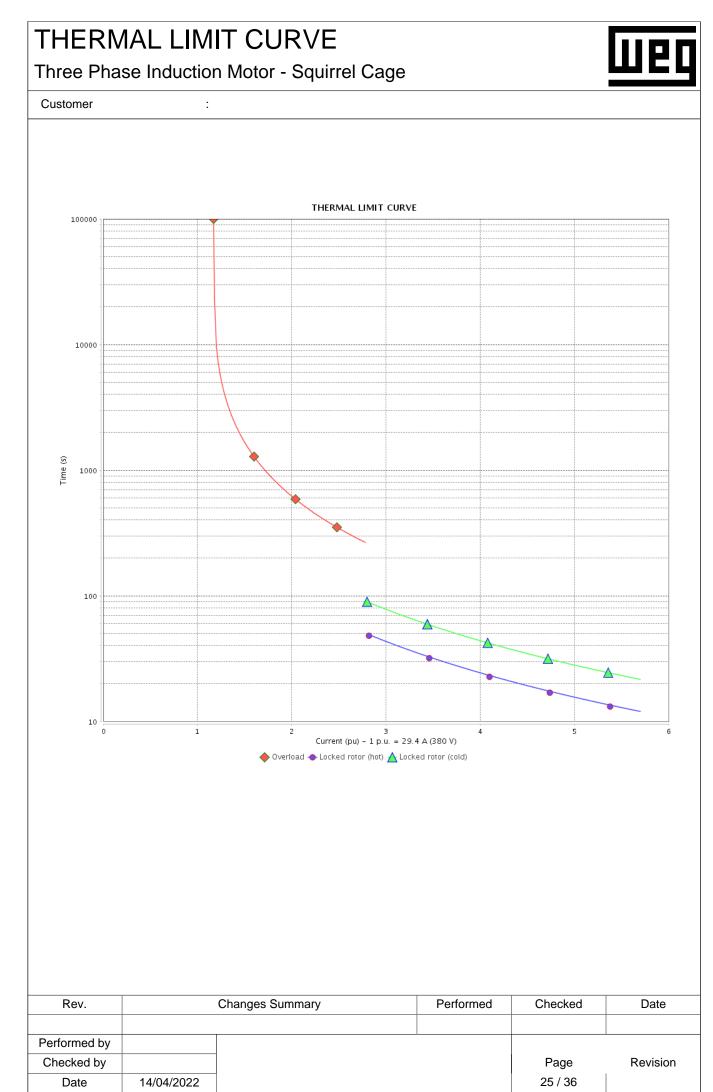
| THERMAL LIMIT CURVE Three Phase Induction Motor - Squirrel Cage Customer |
|--|
| Customer : |
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| Product line : NEMA Premium Efficiency Three- Product code : 11440444 Phase |
| Catalog # : 02018ET3E256TC-W22 |
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| Performance | : 4 | 15 V 50 Hz 4P IE3 | | | | |
|---|--|---|---|-----------|--|----------|
| Rated current LRC Rated torque Locked rotor torc Breakdown torqu Rated speed Heating constant Cooling constant | : 8 : 5 iue : 3 iue : 3 : 1 t | 0.6 A .4 3.3 ft.lb 00 % 40 % 477 rpm | Moment of inertia (J) Duty cycle Insulation class Service factor Temperature rise Design | | : 3.10 sq.ft.lb : Cont.(S1) : F : 1.00 : 80 K : B | |
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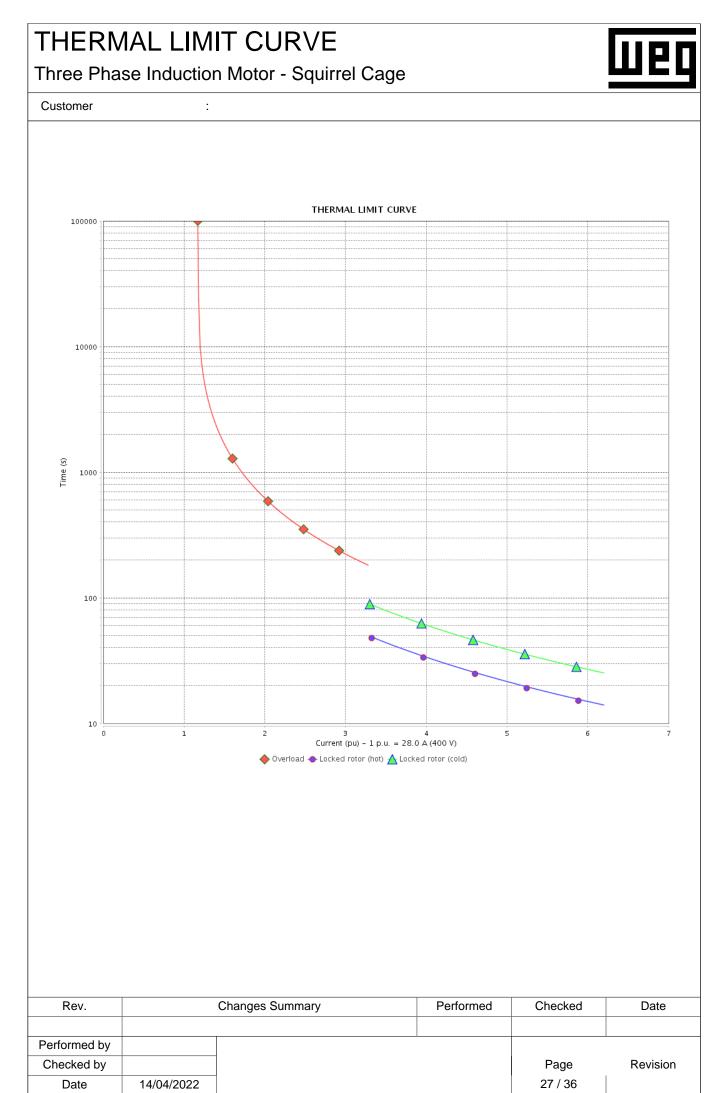
| THERMAL LIMIT CURVE Three Phase Induction Motor - Squirrel Cage | | | | | | |
|---|---|----------------|--------------------|--|--|--|
| Customer | : | | | | | |
| Product line | : NEMA Premium Efficiency Three- Phase | Product code : | 11440444 | | | |
| | | Catalog # : | 02018ET3E256TC-W22 | | | |
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| Performance | : 3 | 80 V 50 Hz 4P IE1 | | | | |
|---|----------------------------------|---|---|-----------|---|----------|
| Rated current LRC Rated torque Locked rotor toro Breakdown torqu Rated speed | : 5 : 7; que : 1 ue : 2 | 9.4 A .7 2.2 ft.lb 90 % 10 % 455 rpm | Moment of inertia (J) Duty cycle Insulation class Service factor Temperature rise Design | | : 3.10 sq.ft.lb : Cont.(S1) : F : 1.00 : 105 K : B | |
| | - 1 | 400 1011 | Design | | . D | |
| Heating constant | | | | | | |
| Cooling constant | t | | | | | |
| Rev. | | Changes Summary | | Performed | Checked | Date |
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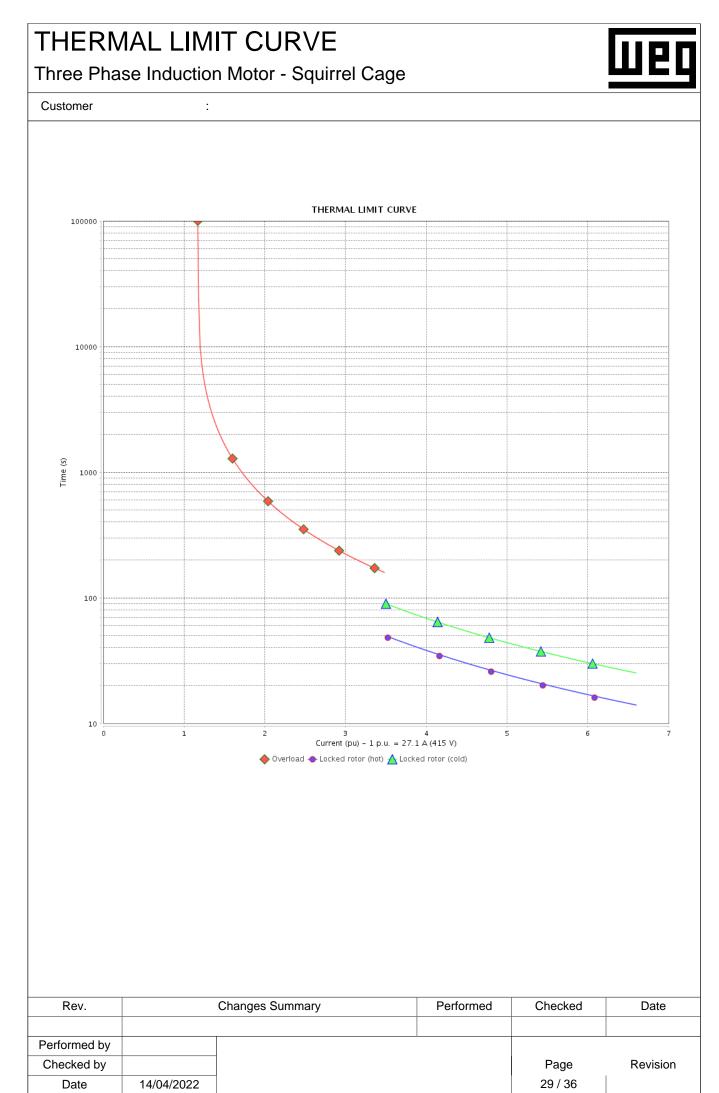
| THERMAL LIMIT CURVE Three Phase Induction Motor - Squirrel Cage | | | | | | |
|---|----------------------------------|----------------|--------------------|--|--|--|
| Customer | : | | | | | |
| Product line | : NEMA Premium Efficiency Three- | Product code : | 11440444 | | | |
| | Phase | Catalog # : | 02018ET3E256TC-W22 | | | |
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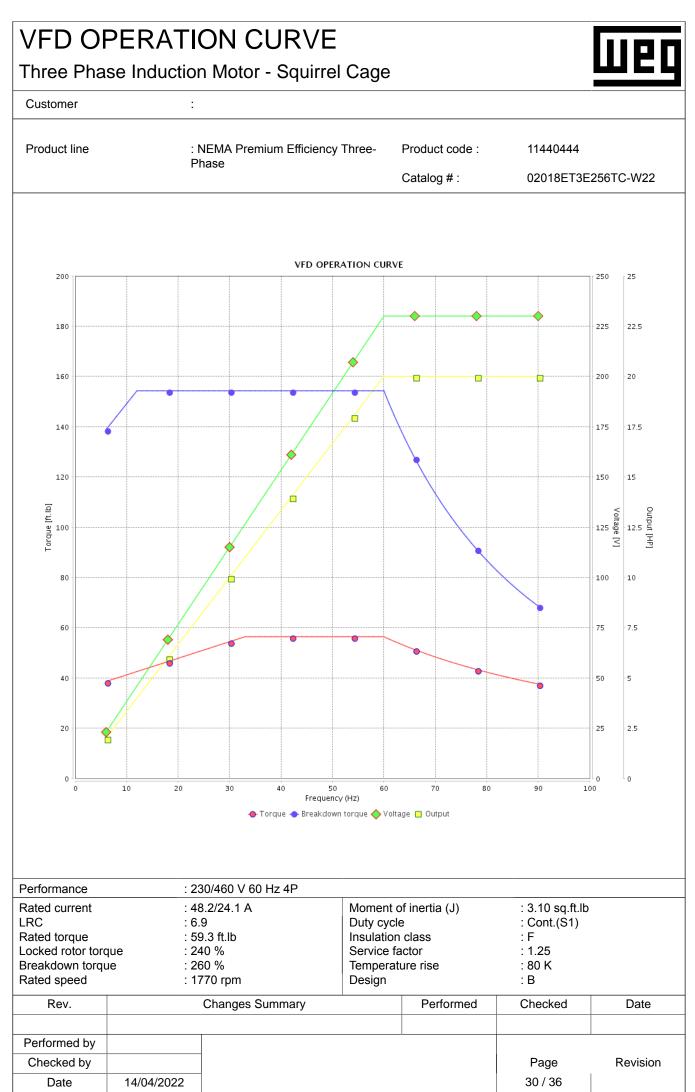
| : 40 | 400 V 50 Hz 4P IE2 | | | | |
|---------------------------------------|--|--|--|--|--|
| : 28 | : 28.0 A | | Moment of inertia (J) | | |
| : 6. | .2 Duty cycle | | Duty cycle : Cont.(S1) | | |
| | | Insulation class | | :F | |
| I rotor torque : 210 % Service factor | | ctor | : 1.00 | | |
| | 29 % | Temperature rise | | : 105 K | |
| : 14 | 460 rpm | Design | | : B | |
| | | | | | |
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| 14/04/2022 | | | | 26 / 36 | |
| | : 24 : 6. : 7 e : 2 : 22 : 14 | : 6.2 : 71.9 ft.lb e : 210 % : 229 % : 1460 rpm Changes Summary | : 28.0 A Moment o : 6.2 Duty cycle : 71.9 ft.lb Insulation e : 210 % Service fa : 229 % Temperatu : 1460 rpm Design | : 28.0 A Moment of inertia (J) : 6.2 Duty cycle : 71.9 ft.lb Insulation class e : 210 % : 229 % Temperature rise : 1460 rpm Design | e 28.0 A 6.2 71.9 ft.lb e 229 % 1460 rpm Changes Summary Performed Page |

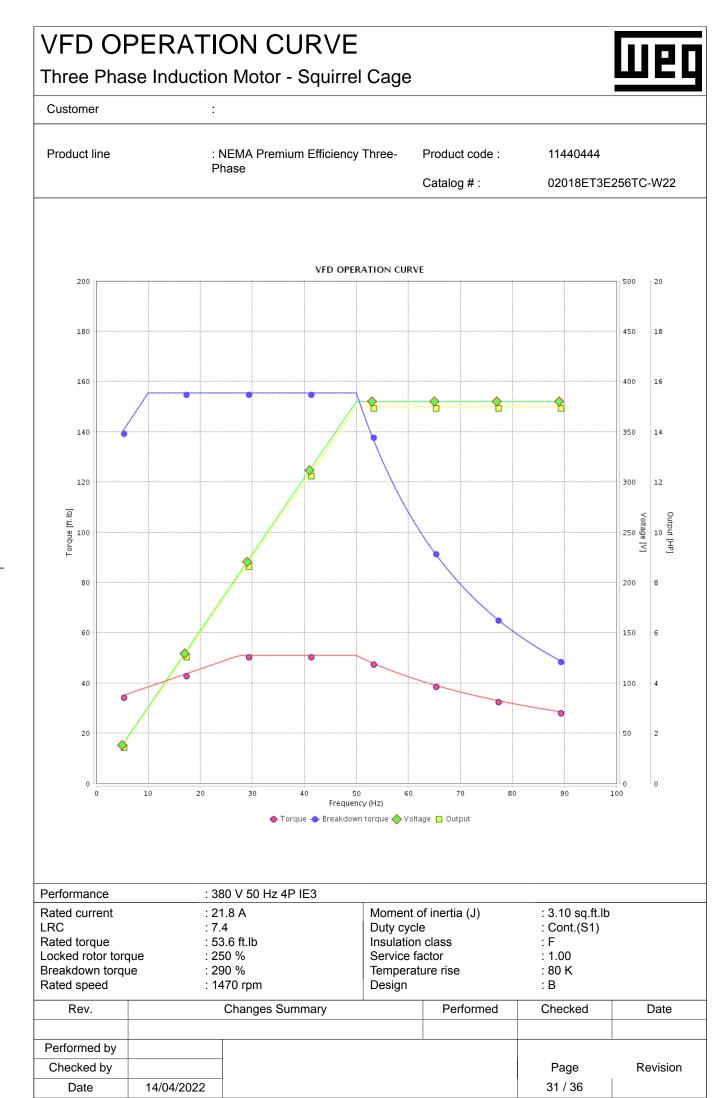


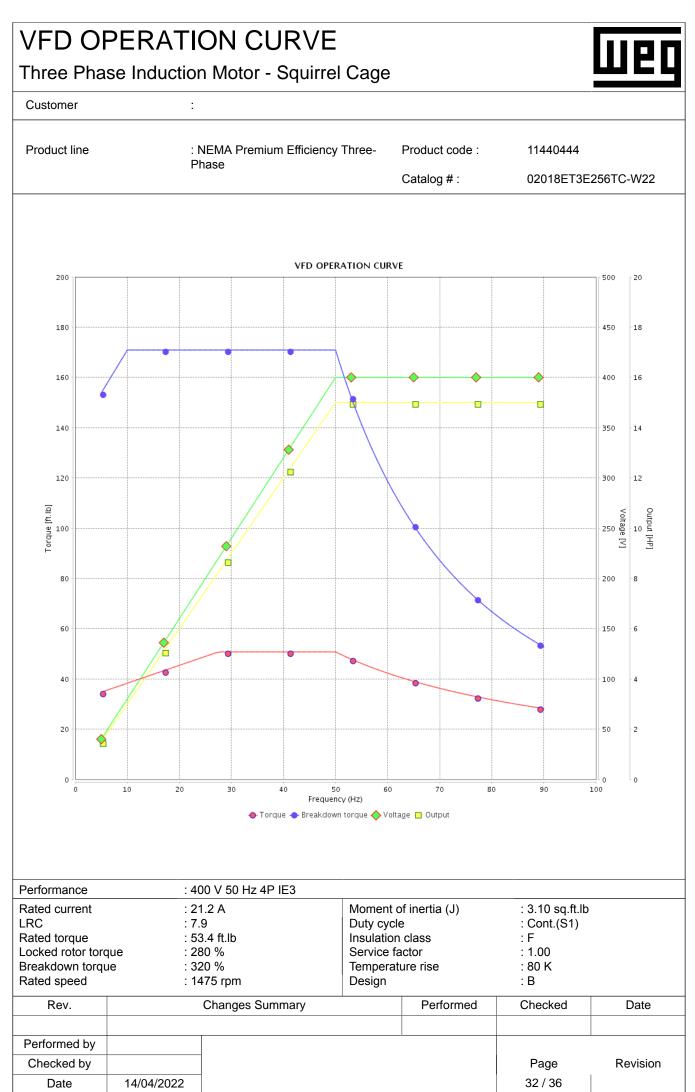
| | . LIMIT CURVE | 9 | Шер |
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| Customer | : | | |
| Product line | : NEMA Premium Efficiency Three- | Product code : | 11440444 |
| | Phase | Catalog # : | 02018ET3E256TC-W22 |
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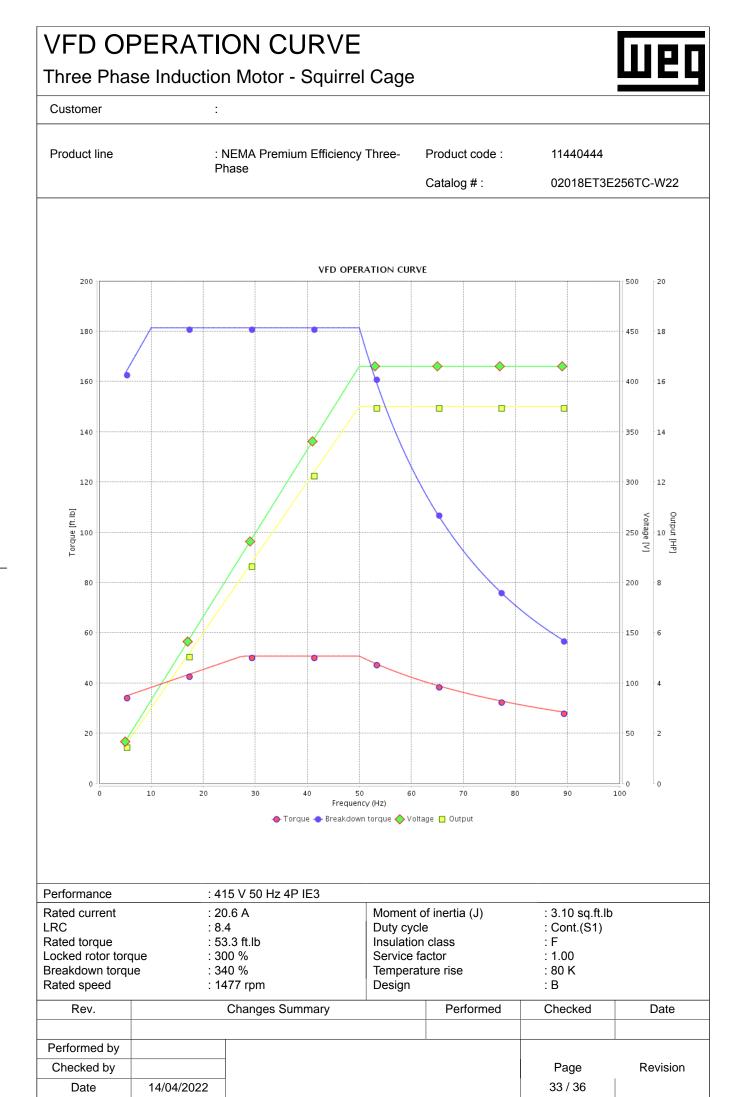
| Performance | : | 415 V 50 Hz 4P IE2 | | | | |
|-------------------|-----------------|--------------------|------------------|----------------|-----------------|----------|
| Rated current | : | : 27.1 A Moment of | | of inertia (J) | : 3.10 sq.ft.lb | |
| LRC | : | 6.6 | Duty cycle | | : Cont.(S1) | |
| Rated torque | | | class | :F | | |
| Locked rotor torc | que : | 229 % | Service factor | | : 1.00 | |
| Breakdown torqu | ie : | 260 % | Temperature rise | | : 105 K | |
| Rated speed | : | 1465 rpm | Design | | : B | |
| Heating constant | t | | | | | |
| Cooling constant | t | | | | | |
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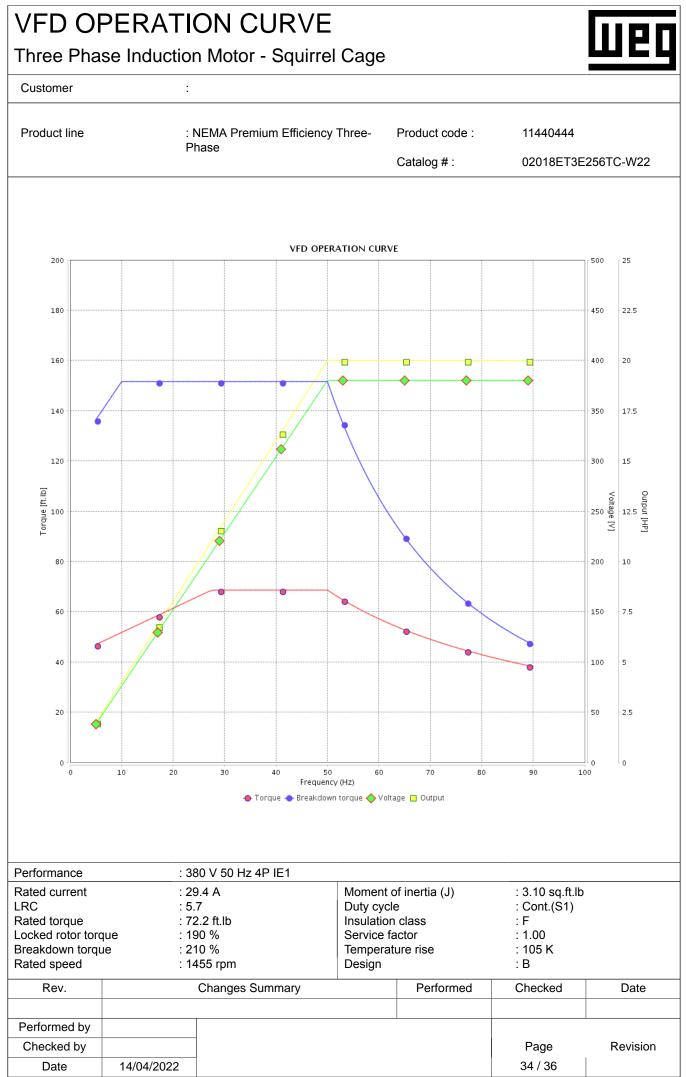


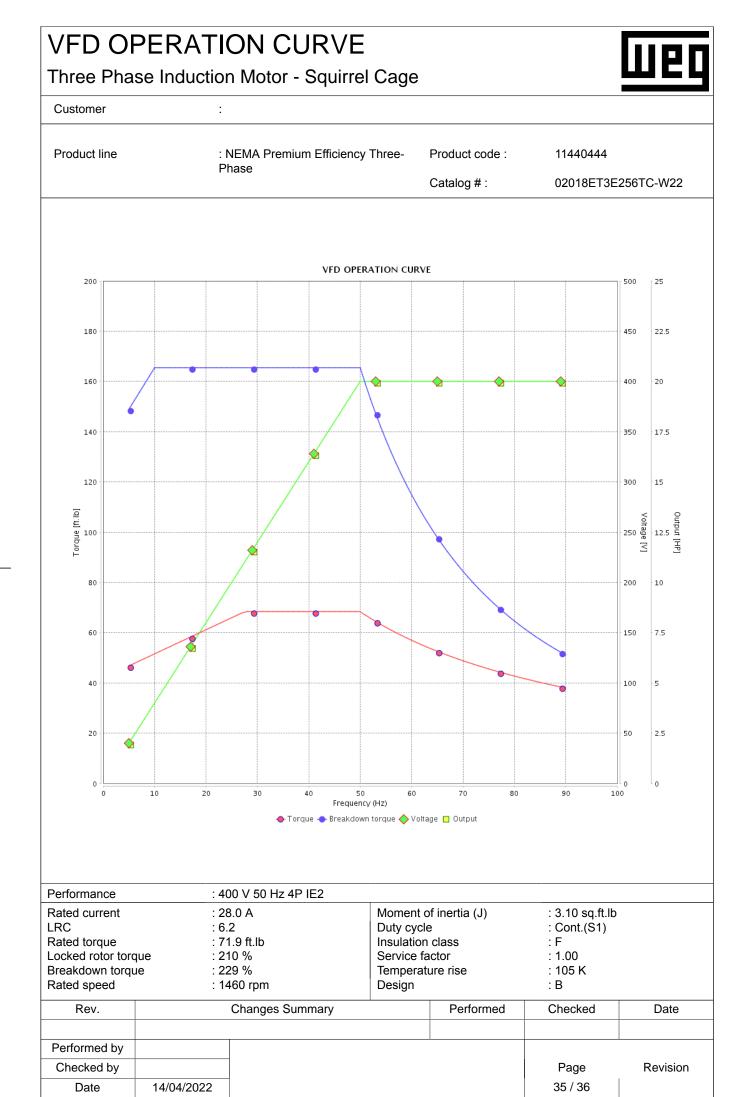


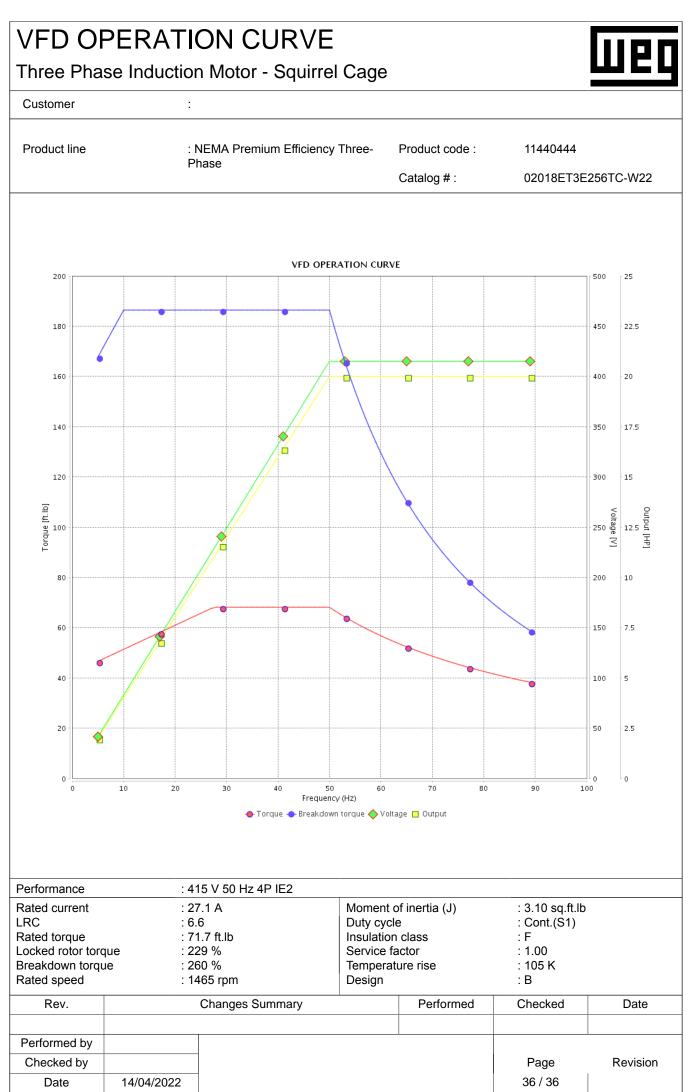


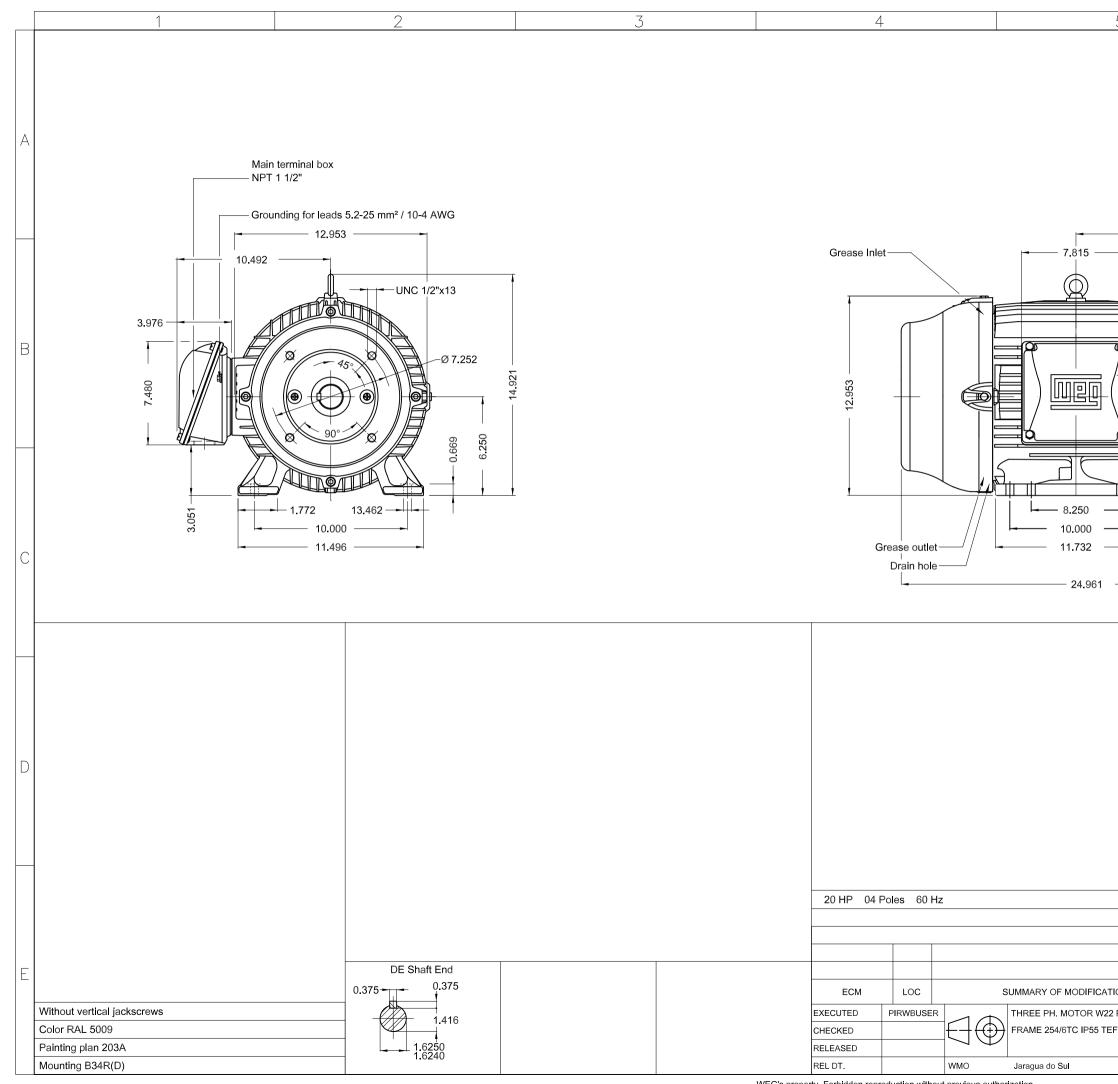












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