

BRUSHLESS MOTOR
TKW202HF
 ELECTRONIC DRIVE
Drive 110/306 Arms



No UL certification

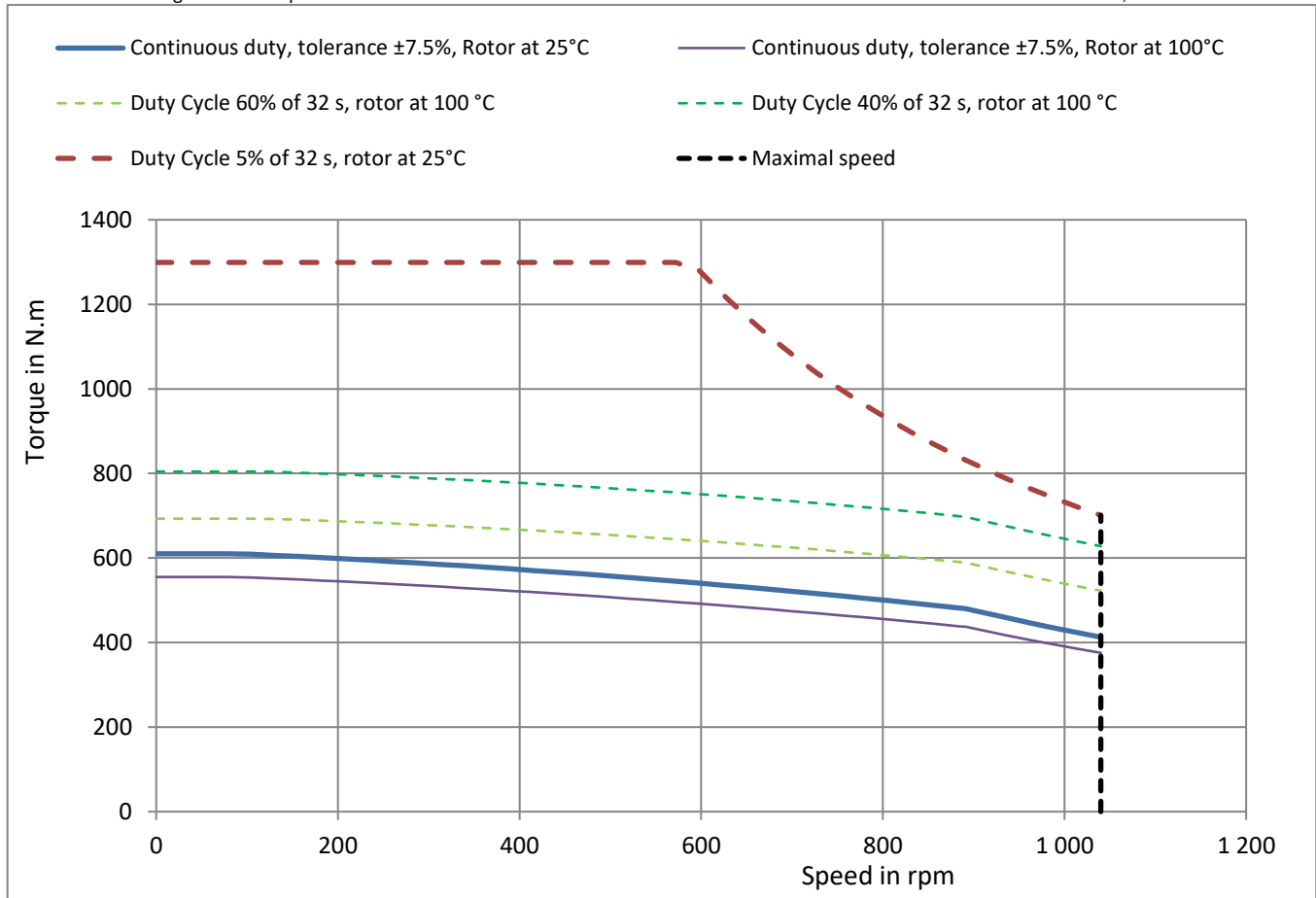
| | | | | |
|----------------|--|-------|---------------------------|---|
| P _n | Rated power ** | 45 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 5.8 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 480 | <i>Nm</i> | |
| N _n | Rated speed | 895 | <i>rpm</i> | |
| I _n | Rated current | 87.4 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 356 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 610 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 107 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 1300 | <i>Nm</i> | |
| I _p | Max. current | 306 | <i>A_{rms}</i> | |
| N _p | Max. speed | 1040 | <i>rpm</i> | |
| J | Rotor inertia | 0.18 | <i>kg.m²</i> | Number of poles : 60 Electrical frequency @N _p 520 Hz Efficiency : at rated torque : 91.6 % at 75% of rated torque : 91.4 % |
| K _e | Back emf constant at 1000 rpm (25°C)* | 355 | <i>V_{rms}</i> | |
| K _t | Torque sensitivity (rotor 25°C) | 5.71 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.126 | <i>Ω</i> | |
| L | Winding inductance * | 0.941 | <i>mH</i> | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 45 | kW | Ps1 |
| Peak power ** | 80.2 | kW | Ps6 |
| Low speed torque ** | 610 | N.m | Mo |
| Low speed peak torque ** | 1300 | N.m | MoS6 |
| Nominal speed (S1) | 895 | rpm | Nb |
| Max speed **** | 1040 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 107 | Arms | Io |
| S6 current at low speed | 306 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|------|-------------------|------|
| Rotor inertia | 0.18 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 1040 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|-------|-------------------|-----|
| Number of poles | 60 | | |
| Winding resistance (25°C) * | 0.126 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 355 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 3.39 | Vrms / (rad/s) | ku |
| Torque constant | 5.71 | N.m / Arms | Kt |
| Short circuit current | 137 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 0.941 | mH | Lq |
| Inductance Ld * | 0.951 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|-----------|-----|------|
| Motor thermal resistance | 0.0311 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 81 | s | Tthw |
| Water cooling / Minimum flow: | 5.8 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW204HI
 ELECTRONIC DRIVE
Drive 165/428 Arms



No UL certification

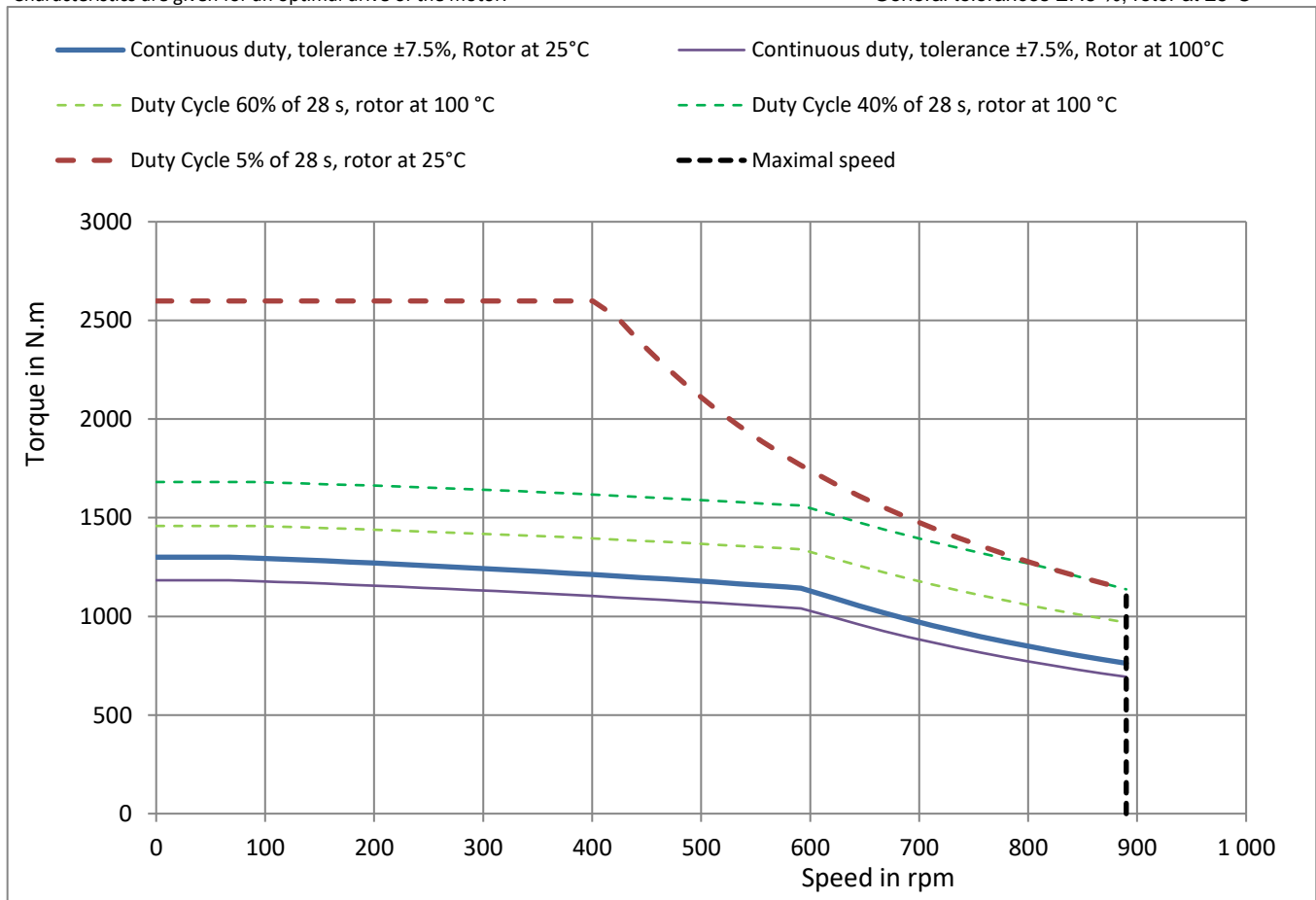
| | | | | |
|----------------|--|-------|---------------------------|--|
| P _n | Rated power ** | 71.1 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 10 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 1140 | <i>Nm</i> | |
| N _n | Rated speed | 595 | <i>rpm</i> | |
| I _n | Rated current | 143 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 358 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 1300 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 160 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 2600 | <i>Nm</i> | |
| I _p | Max. current | 428 | <i>A_{rms}</i> | |
| N _p | Max. speed | 890 | <i>rpm</i> | |
| J | Rotor inertia | 0.35 | <i>kg.m²</i> | Number of poles : 60 Electrical frequency @N _p 445 Hz |
| Ke | Back emf constant at 1000 rpm (25°C)* | 507 | <i>V_{rms}</i> | |
| Kt | Torque sensitivity (rotor 25°C) | 8.14 | <i>Nm/A_{rms}</i> | Efficiency : at rated torque : 91 % at 75% of rated torque : 91.8 % |
| R _b | Winding resistance(25°C) * | 0.113 | <i>Ω</i> | |
| L | Winding inductance * | 0.962 | <i>mH</i> | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 71.1 | kW | Ps1 |
| Peak power ** | 111 | kW | Ps6 |
| Low speed torque ** | 1300 | N.m | Mo |
| Low speed peak torque ** | 2600 | N.m | MoS6 |
| Nominal speed (S1) | 595 | rpm | Nb |
| Max speed **** | 890 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 160 | Arms | Io |
| S6 current at low speed | 428 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|------|-------------------|------|
| Rotor inertia | 0.35 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 890 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|-------|-------------------|-----|
| Number of poles | 60 | | |
| Winding resistance (25°C) * | 0.113 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 507 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 4.84 | Vrms / (rad/s) | ku |
| Torque constant | 8.14 | N.m / Arms | Kt |
| Short circuit current | 192 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 0.962 | mH | Lq |
| Inductance Ld * | 0.971 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.0156 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 71 | s | Tthw |
| Water cooling / Minimum flow: | 10 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW206HM
 ELECTRONIC DRIVE
Drive 120/306 Arms



No UL certification

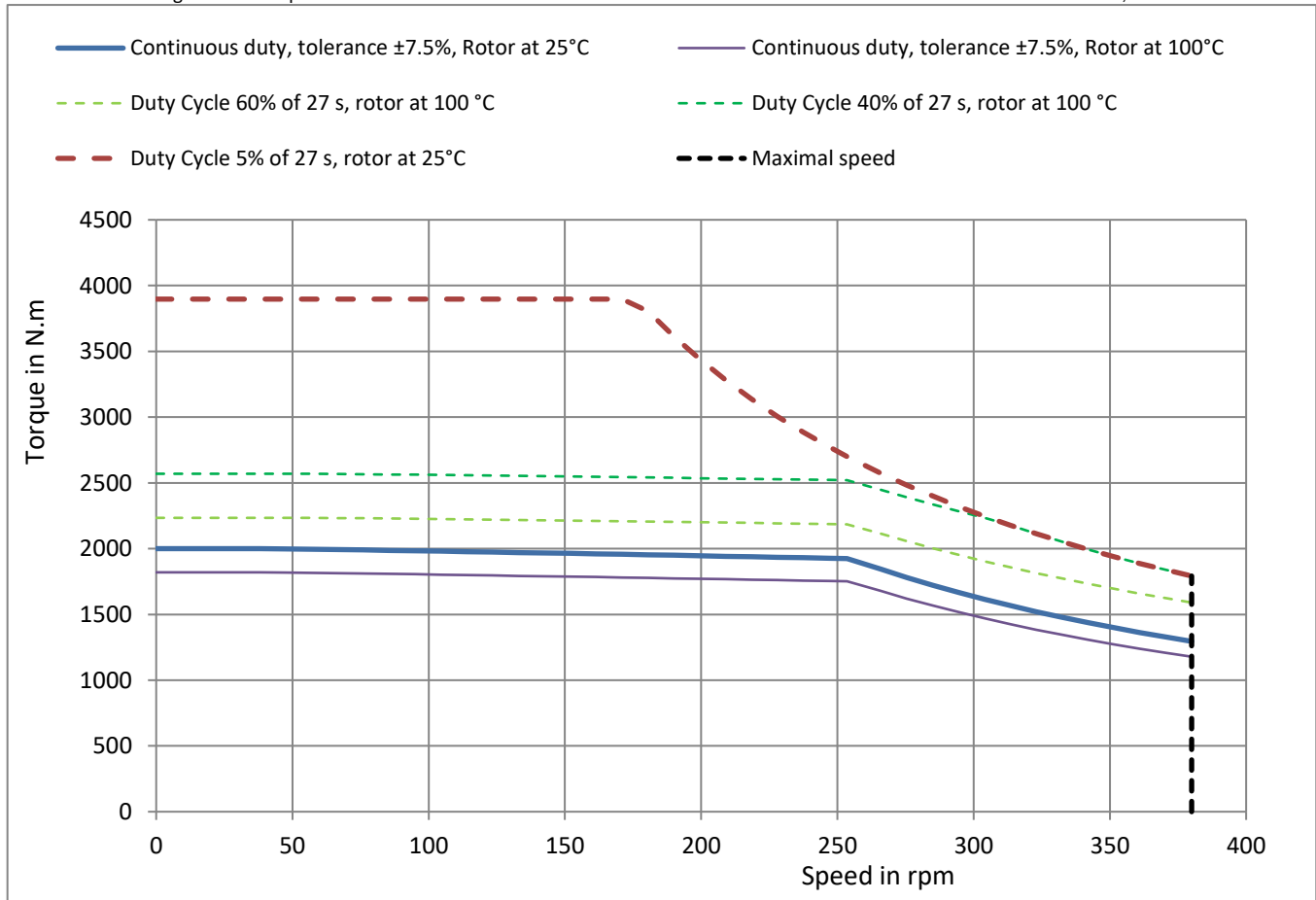
| | | | | |
|----------------|--|-------|---------------------------|---|
| P _n | Rated power ** | 51.3 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 14 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 1920 | <i>Nm</i> | |
| N _n | Rated speed | 255 | <i>rpm</i> | |
| I _n | Rated current | 114 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 353 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 2000 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 117 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 3900 | <i>Nm</i> | |
| I _p | Max. current | 306 | <i>A_{rms}</i> | |
| N _p | Max. speed | 380 | <i>rpm</i> | |
| J | Rotor inertia | 0.52 | <i>kg.m²</i> | Number of poles : 60 Electrical frequency @N _p 190 Hz Efficiency : at rated torque : 84.7 % at 75% of rated torque : 88.4 % |
| K _e | Back emf constant at 1000 rpm (25°C)* | 1070 | <i>V_{rms}</i> | |
| K _t | Torque sensitivity (rotor 25°C) | 17.1 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.315 | <i>Ω</i> | |
| L | Winding inductance * | 2.79 | <i>mH</i> | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 51.3 | kW | Ps1 |
| Peak power ** | 71.9 | kW | Ps6 |
| Low speed torque ** | 2000 | N.m | Mo |
| Low speed peak torque ** | 3900 | N.m | MoS6 |
| Nominal speed (S1) | 255 | rpm | Nb |
| Max speed **** | 380 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 117 | Arms | Io |
| S6 current at low speed | 306 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|------|-------------------|------|
| Rotor inertia | 0.52 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 380 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|-------|-------------------|-----|
| Number of poles | 60 | | |
| Winding resistance (25°C) * | 0.315 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 1070 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 10.2 | Vrms / (rad/s) | ku |
| Torque constant | 17.1 | N.m / Arms | Kt |
| Short circuit current | 138 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 2.79 | mH | Lq |
| Inductance Ld * | 2.84 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.0104 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 68 | s | Tthw |
| Water cooling / Minimum flow: | 14 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW208HM
 ELECTRONIC DRIVE
Drive 120/306 Arms



No UL certification

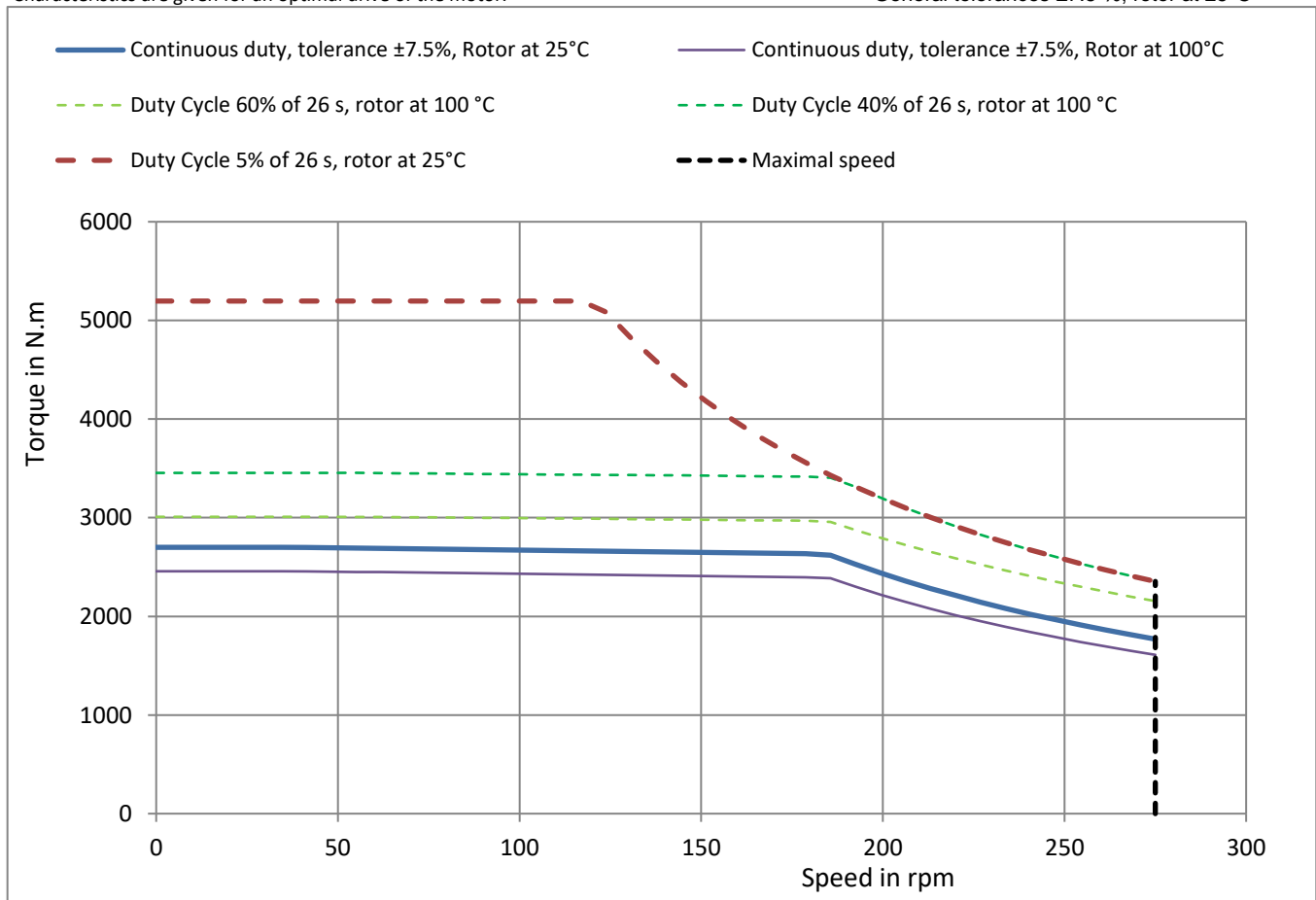
| | | | | |
|----------------|--|------|---------------------------|--|
| P _n | Rated power ** | 50.9 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 18 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 2630 | <i>Nm</i> | |
| N _n | Rated speed | 185 | <i>rpm</i> | |
| I _n | Rated current | 117 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 357 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 2700 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 119 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 5200 | <i>Nm</i> | |
| I _p | Max. current | 306 | <i>A_{rms}</i> | |
| N _p | Max. speed | 275 | <i>rpm</i> | |
| J | Rotor inertia | 0.69 | <i>kg.m²</i> | Number of poles : 60 Electrical frequency @N _p 138 Hz |
| Ke | Back emf constant at 1000 rpm (25°C)* | 1420 | <i>V_{rms}</i> | |
| Kt | Torque sensitivity (rotor 25°C) | 22.7 | <i>Nm/A_{rms}</i> | Efficiency : at rated torque : 80.8 % at 75% of rated torque : 85.8 % |
| R _b | Winding resistance(25°C) * | 0.41 | <i>Ω</i> | |
| L | Winding inductance * | 3.7 | <i>mH</i> | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 50.9 | kW | Ps1 |
| Peak power ** | 67.8 | kW | Ps6 |
| Low speed torque ** | 2700 | N.m | Mo |
| Low speed peak torque ** | 5200 | N.m | MoS6 |
| Nominal speed (S1) | 185 | rpm | Nb |
| Max speed **** | 275 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 119 | Arms | Io |
| S6 current at low speed | 306 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|------|-------------------|------|
| Rotor inertia | 0.69 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 275 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|------|-------------------|-----|
| Number of poles | 60 | | |
| Winding resistance (25°C) * | 0.41 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 1420 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 13.6 | Vrms / (rad/s) | ku |
| Torque constant | 22.7 | N.m / Arms | Kt |
| Short circuit current | 138 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 3.7 | mH | Lq |
| Inductance Ld * | 3.79 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.00778 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 66 | s | Tthw |
| Water cooling / Minimum flow: | 18 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW302HP
 ELECTRONIC DRIVE
Drive 55/86 Arms



No UL certification

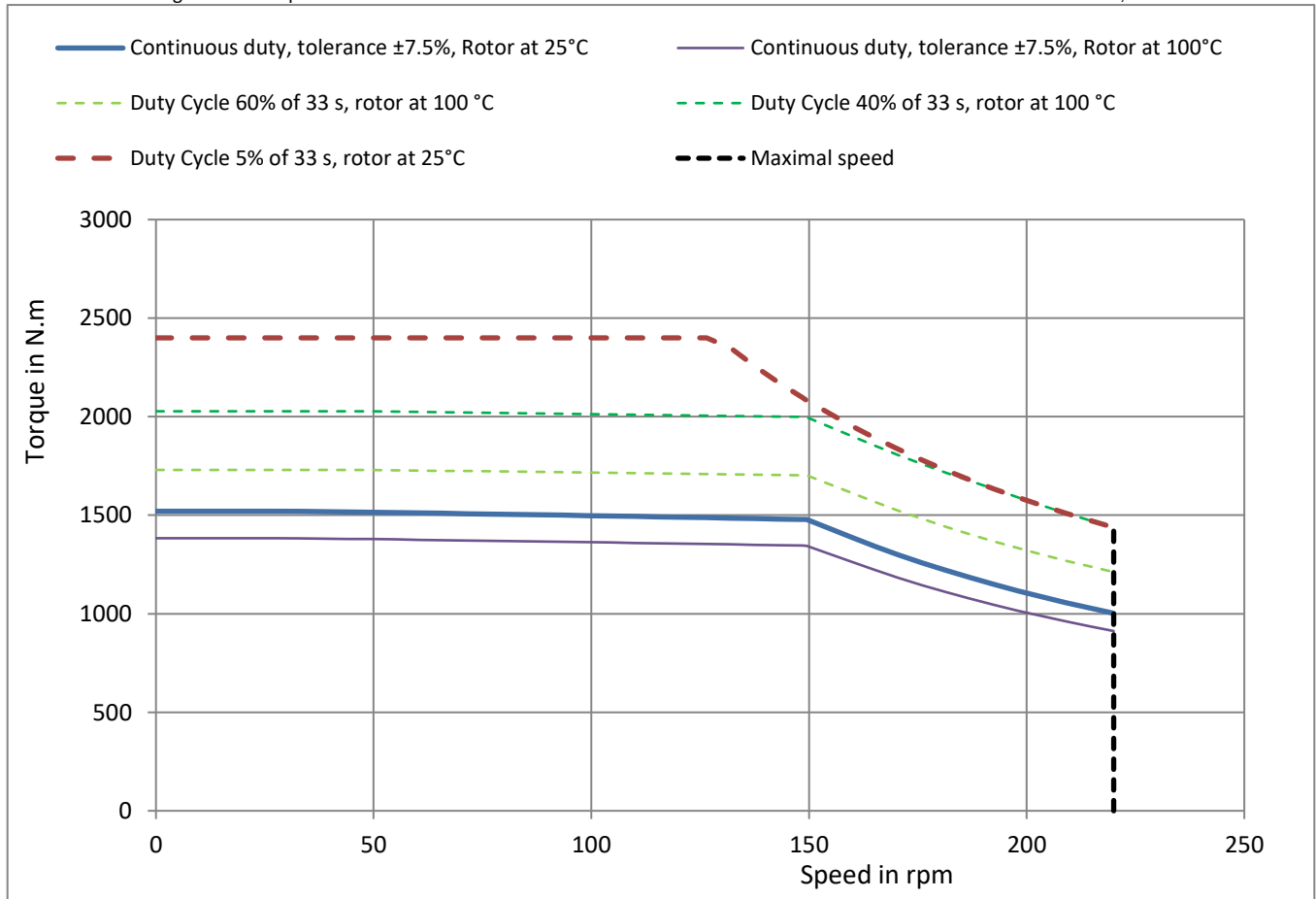
| | | | | |
|----------------|--|------|---------------------------|---|
| P _n | Rated power ** | 23.2 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 7 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 1480 | <i>Nm</i> | |
| N _n | Rated speed | 150 | <i>rpm</i> | |
| I _n | Rated current | 49.4 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 360 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 1520 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 50.4 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 2400 | <i>Nm</i> | |
| I _p | Max. current | 86 | <i>A_{rms}</i> | |
| N _p | Max. speed | 220 | <i>rpm</i> | |
| J | Rotor inertia | 1.2 | <i>kg.m²</i> | Number of poles : 90 Electrical frequency @N _p 165 Hz |
| Ke | Back emf constant at 1000 rpm (25°C)* | 1880 | <i>V_{rms}</i> | |
| K _t | Torque sensitivity (rotor 25°C) | 30.1 | <i>Nm/A_{rms}</i> | Efficiency : at rated torque : 83 % at 75% of rated torque : 87.4 % |
| R _b | Winding resistance(25°C) * | 0.88 | <i>Ω</i> | |
| L | Winding inductance * | 6.46 | <i>mH</i> | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C



BRUSHLESS MOTOR
TKW302HP Parameters
 ELECTRONIC DRIVE
 Drive 55/86 Arms



No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 23.2 | kW | Ps1 |
| Peak power ** | 33.1 | kW | Ps6 |
| Low speed torque ** | 1520 | N.m | Mo |
| Low speed peak torque ** | 2400 | N.m | MoS6 |
| Nominal speed (S1) | 150 | rpm | Nb |
| Max speed **** | 220 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 50.4 | Arms | Io |
| S6 current at low speed | 86 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|-----|-------------------|------|
| Rotor inertia | 1.2 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 220 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|------|-------------------|-----|
| Number of poles | 90 | | |
| Winding resistance (25°C) * | 0.88 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 1880 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 18 | Vrms / (rad/s) | ku |
| Torque constant | 30.1 | N.m / Arms | Kt |
| Short circuit current | 70.5 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 6.46 | mH | Lq |
| Inductance Ld * | 6.55 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|---------|-----|------|
| Motor thermal resistance | 0.0202 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 85 | s | Tthw |
| Water cooling / Minimum flow: | 7 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW304HG
 ELECTRONIC DRIVE
Drive 215/333 Arms



No UL certification

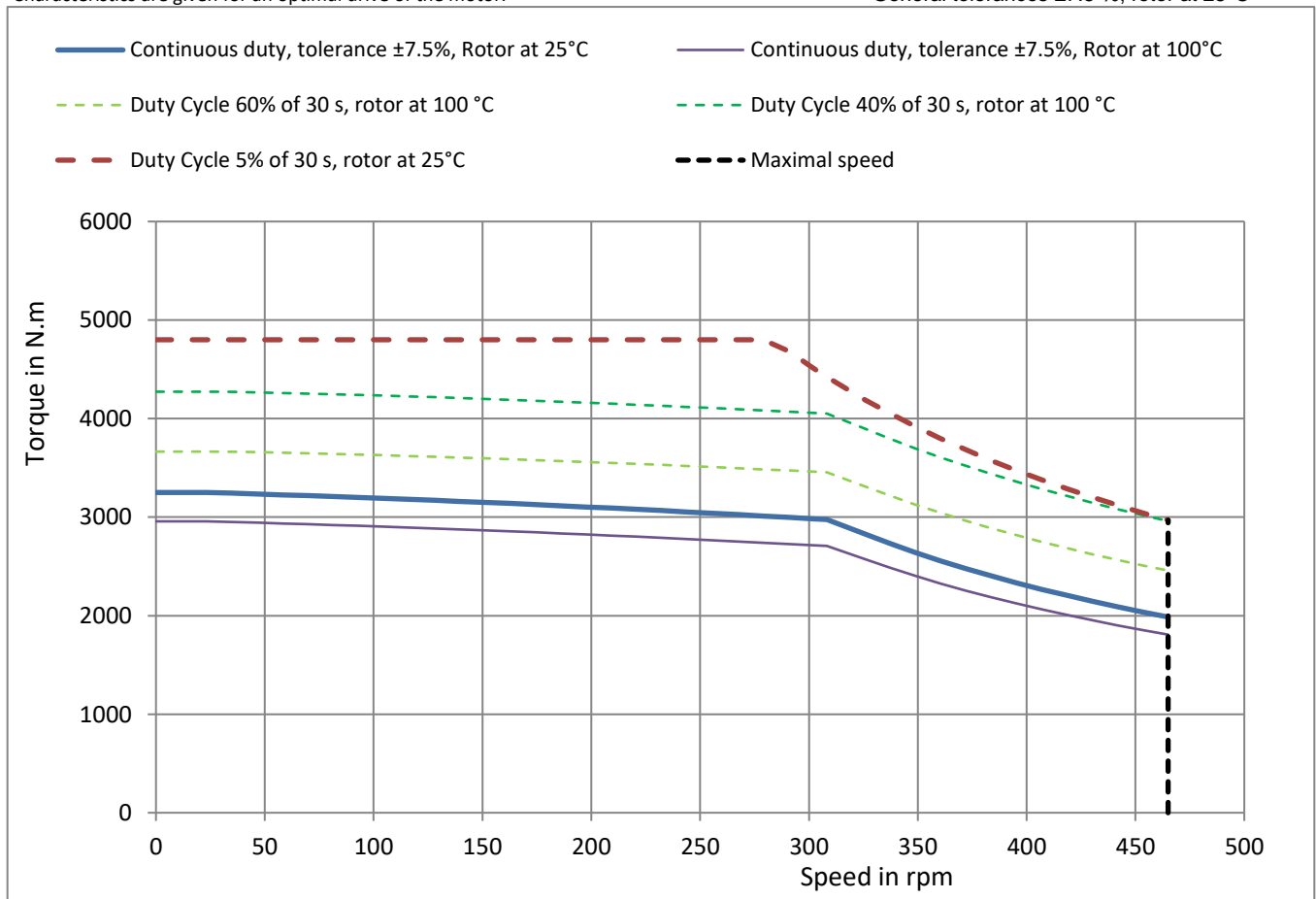
| | | | | |
|----------------|--|--------|---------------------------|---|
| P _n | Rated power ** | 96.4 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 15 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 2970 | <i>Nm</i> | |
| N _n | Rated speed | 310 | <i>rpm</i> | |
| I _n | Rated current | 195 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 355 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 3250 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 210 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 4800 | <i>Nm</i> | |
| I _p | Max. current | 333 | <i>A_{rms}</i> | |
| N _p | Max. speed | 465 | <i>rpm</i> | |
| J | Rotor inertia | 2.3 | <i>kg.m²</i> | Number of poles : 90 Electrical frequency @N _p 349 Hz Efficiency : at rated torque : 90.5 % at 75% of rated torque : 92 % |
| K _e | Back emf constant at 1000 rpm (25°C)* | 972 | <i>V_{rms}</i> | |
| K _t | Torque sensitivity (rotor 25°C) | 15.5 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.0993 | <i>Ω</i> | |
| L | Winding inductance * | 0.859 | <i>mH</i> | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 96.4 | kW | Ps1 |
| Peak power ** | 145 | kW | Ps6 |
| Low speed torque ** | 3250 | N.m | Mo |
| Low speed peak torque ** | 4800 | N.m | MoS6 |
| Nominal speed (S1) | 310 | rpm | Nb |
| Max speed **** | 465 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 210 | Arms | Io |
| S6 current at low speed | 333 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|-----|-------------------|------|
| Rotor inertia | 2.3 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 465 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|--------|-------------------|-----|
| Number of poles | 90 | | |
| Winding resistance (25°C) * | 0.0993 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 972 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 9.28 | Vrms / (rad/s) | ku |
| Torque constant | 15.5 | N.m / Arms | Kt |
| Short circuit current | 273 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 0.859 | mH | Lq |
| Inductance Ld * | 0.872 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.0101 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 76 | s | Tthw |
| Water cooling / Minimum flow: | 15 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW306HF
 ELECTRONIC DRIVE
Drive 245/381 Arms



No UL certification

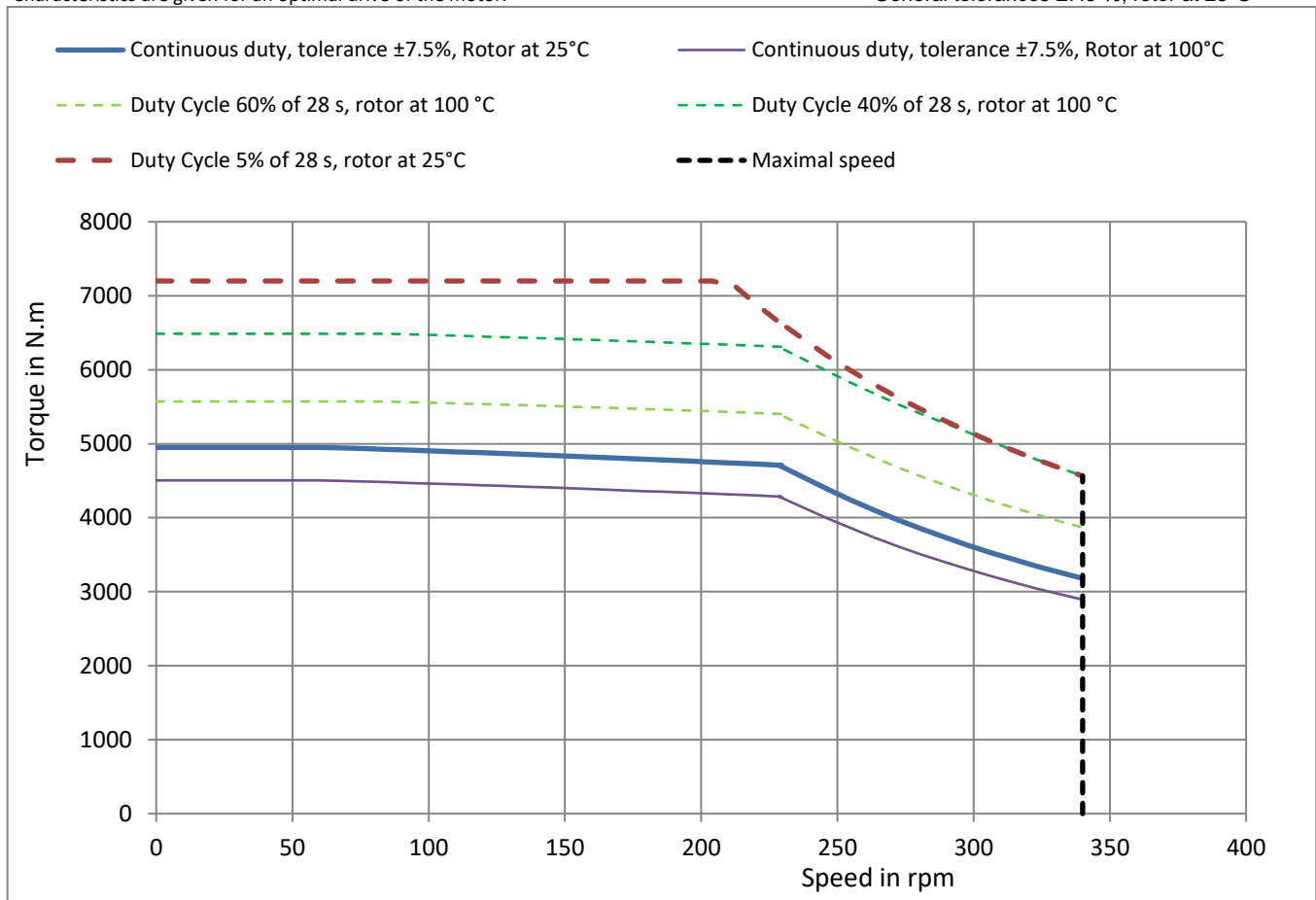
| | | | | |
|----------------|--|-------|---------------------------|---|
| P _n | Rated power ** | 113 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 22 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 4710 | <i>Nm</i> | |
| N _n | Rated speed | 230 | <i>rpm</i> | |
| I _n | Rated current | 234 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 357 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 4950 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 244 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 7200 | <i>Nm</i> | |
| I _p | Max. current | 381 | <i>A_{rms}</i> | |
| N _p | Max. speed | 340 | <i>rpm</i> | |
| J | Rotor inertia | 3.4 | <i>kg.m²</i> | Number of poles : 90 Electrical frequency @N _p 255 Hz Efficiency : at rated torque : 88.4 % at 75% of rated torque : 91 % |
| K _e | Back emf constant at 1000 rpm (25°C)* | 1280 | <i>V_{rms}</i> | |
| K _t | Torque sensitivity (rotor 25°C) | 20.3 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.11 | <i>Ω</i> | |
| L | Winding inductance * | 0.984 | <i>mH</i> | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 113 | kW | Ps1 |
| Peak power ** | 162 | kW | Ps6 |
| Low speed torque ** | 4950 | N.m | Mo |
| Low speed peak torque ** | 7200 | N.m | MoS6 |
| Nominal speed (S1) | 230 | rpm | Nb |
| Max speed **** | 340 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 244 | Arms | Io |
| S6 current at low speed | 381 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|-----|-------------------|------|
| Rotor inertia | 3.4 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 340 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|-------|-------------------|-----|
| Number of poles | 90 | | |
| Winding resistance (25°C) * | 0.11 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 1280 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 12.2 | Vrms / (rad/s) | ku |
| Torque constant | 20.3 | N.m / Arms | Kt |
| Short circuit current | 312 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 0.984 | mH | Lq |
| Inductance Ld * | 1 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.00673 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 71 | s | Tthw |
| Water cooling / Minimum flow: | 22 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW308HL
 ELECTRONIC DRIVE
Drive 135/205 Arms



No UL certification

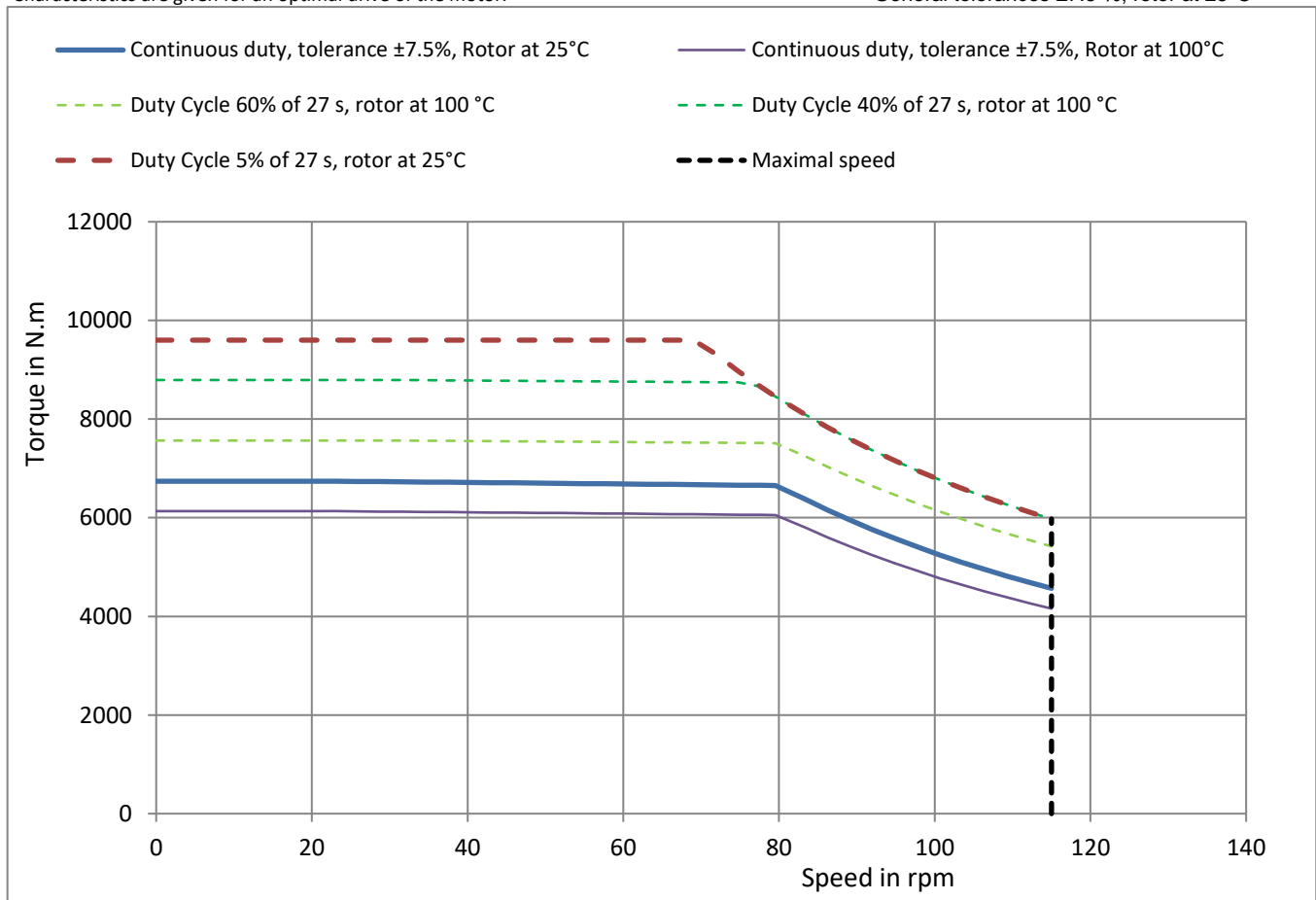
| | | | | |
|----------------|--|-------|---------------------------|--|
| P _n | Rated power ** | 55.7 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 27 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 6650 | <i>Nm</i> | |
| N _n | Rated speed | 80 | <i>rpm</i> | |
| I _n | Rated current | 133 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 358 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 6740 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 134 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 9600 | <i>Nm</i> | |
| I _p | Max. current | 205 | <i>A_{rms}</i> | |
| N _p | Max. speed | 115 | <i>rpm</i> | |
| J | Rotor inertia | 4.6 | <i>kg.m²</i> | Number of poles : 90 Electrical frequency @N _p 86 Hz |
| Ke | Back emf constant at 1000 rpm (25°C)* | 3160 | <i>V_{rms}</i> | |
| K _t | Torque sensitivity (rotor 25°C) | 50.1 | <i>Nm/A_{rms}</i> | Efficiency : at rated torque : 74.8 % at 75% of rated torque : 81.9 % |
| R _b | Winding resistance(25°C) * | 0.499 | <i>Ω</i> | |
| L | Winding inductance * | 4.52 | <i>mH</i> | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 55.7 | kW | Ps1 |
| Peak power ** | 72 | kW | Ps6 |
| Low speed torque ** | 6740 | N.m | Mo |
| Low speed peak torque ** | 9600 | N.m | MoS6 |
| Nominal speed (S1) | 80 | rpm | Nb |
| Max speed **** | 115 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 134 | Arms | Io |
| S6 current at low speed | 205 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|-----|-------------------|------|
| Rotor inertia | 4.6 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 115 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|-------|-------------------|-----|
| Number of poles | 90 | | |
| Winding resistance (25°C) * | 0.499 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 3160 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 30.2 | Vrms / (rad/s) | ku |
| Torque constant | 50.1 | N.m / Arms | Kt |
| Short circuit current | 168 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 4.52 | mH | Lq |
| Inductance Ld * | 4.6 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.00505 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 69 | s | Tthw |
| Water cooling / Minimum flow: | 27 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW30AHD
 ELECTRONIC DRIVE
Drive 355/534 Arms



No UL certification

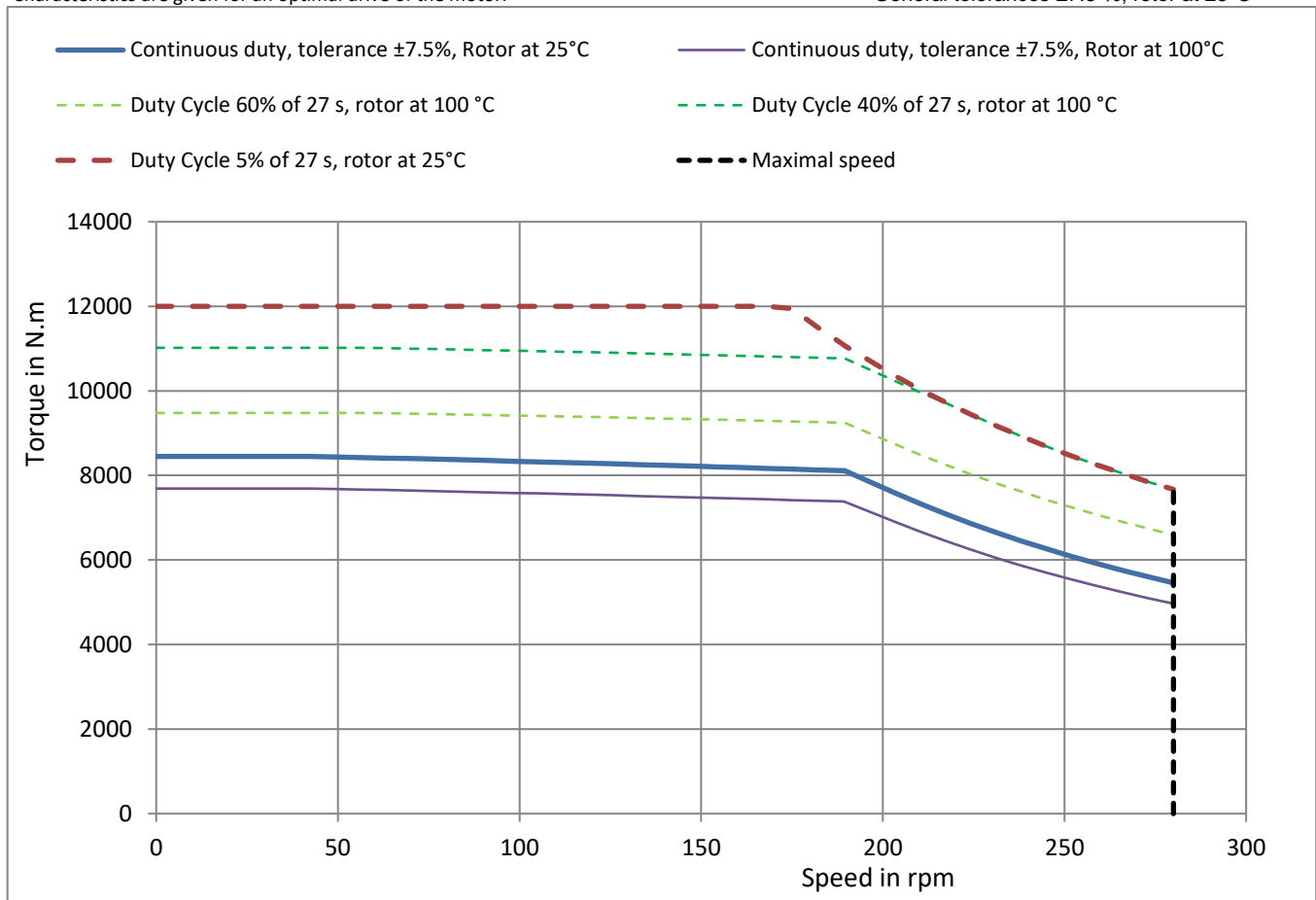
| | | | | |
|----------------|--|--------|---------------------------|---|
| P _n | Rated power ** | 162 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 36 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 8110 | <i>Nm</i> | |
| N _n | Rated speed | 190 | <i>rpm</i> | |
| I _n | Rated current | 339 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 359 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 8450 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 351 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 12000 | <i>Nm</i> | |
| I _p | Max. current | 534 | <i>A_{rms}</i> | |
| N _p | Max. speed | 280 | <i>rpm</i> | |
| J | Rotor inertia | 5.7 | <i>kg.m²</i> | Number of poles : 90 Electrical frequency @N _p 210 Hz Efficiency : at rated torque : 87.2 % at 75% of rated torque : 90.3 % |
| Ke | Back emf constant at 1000 rpm (25°C)* | 1520 | <i>V_{rms}</i> | |
| Kt | Torque sensitivity (rotor 25°C) | 24.1 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.0886 | <i>Ω</i> | |
| L | Winding inductance * | 0.836 | <i>mH</i> | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|-------|------|------|
| Rated power ** | 162 | kW | Ps1 |
| Peak power ** | 225 | kW | Ps6 |
| Low speed torque ** | 8450 | N.m | Mo |
| Low speed peak torque ** | 12000 | N.m | MoS6 |
| Nominal speed (S1) | 190 | rpm | Nb |
| Max speed **** | 280 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 351 | Arms | Io |
| S6 current at low speed | 534 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|-----|-------------------|------|
| Rotor inertia | 5.7 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 280 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|--------|-------------------|-----|
| Number of poles | 90 | | |
| Winding resistance (25°C) * | 0.0886 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 1520 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 14.5 | Vrms / (rad/s) | ku |
| Torque constant | 24.1 | N.m / Arms | Kt |
| Short circuit current | 438 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 0.836 | mH | Lq |
| Inductance Ld * | 0.851 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.00404 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 69 | s | Tthw |
| Water cooling / Minimum flow: | 36 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW402HG
 ELECTRONIC DRIVE
Drive 180/457 Arms



No UL certification

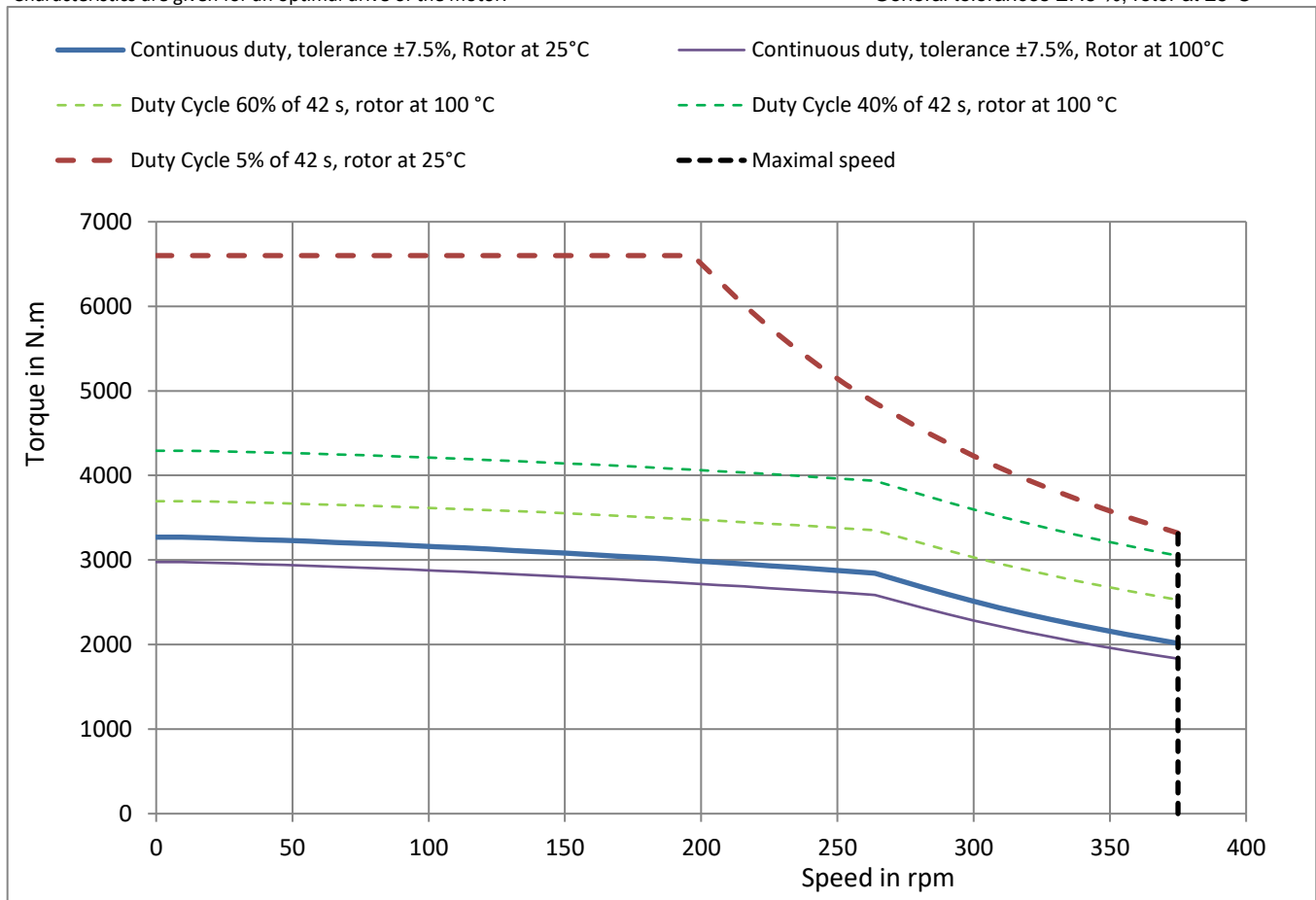
| | | | | |
|----------------|--|--------|---------------------------|--|
| P _n | Rated power ** | 78.8 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 11 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 2840 | <i>Nm</i> | |
| N _n | Rated speed | 265 | <i>rpm</i> | |
| I _n | Rated current | 156 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 356 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 3270 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 177 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 6600 | <i>Nm</i> | |
| I _p | Max. current | 457 | <i>A_{rms}</i> | |
| N _p | Max. speed | 375 | <i>rpm</i> | |
| J | Rotor inertia | 3.5 | <i>kg.m²</i> | Number of poles : 120 Electrical frequency @N _p 375 Hz Efficiency : at rated torque : 91.7 % at 75% of rated torque : 92.4 % |
| K _e | Back emf constant at 1000 rpm (25°C)* | 1150 | <i>V_{rms}</i> | |
| K _t | Torque sensitivity (rotor 25°C) | 18.5 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.0946 | <i>Ω</i> | |
| L | Winding inductance * | 0.943 | <i>mH</i> | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|------|------|------|
| Rated power ** | 78.8 | kW | Ps1 |
| Peak power ** | 136 | kW | Ps6 |
| Low speed torque ** | 3270 | N.m | Mo |
| Low speed peak torque ** | 6600 | N.m | MoS6 |
| Nominal speed (S1) | 265 | rpm | Nb |
| Max speed **** | 375 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 177 | Arms | Io |
| S6 current at low speed | 457 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|-----|-------------------|------|
| Rotor inertia | 3.5 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 375 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|--------|-------------------|-----|
| Number of poles | 120 | | |
| Winding resistance (25°C) * | 0.0946 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 1150 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 11 | Vrms / (rad/s) | ku |
| Torque constant | 18.5 | N.m / Arms | Kt |
| Short circuit current | 221 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 0.943 | mH | Lq |
| Inductance Ld * | 0.959 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.0147 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 110 | s | Tthw |
| Water cooling / Minimum flow: | 11 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW404HR
 ELECTRONIC DRIVE
Drive 140/334 Arms



No UL certification

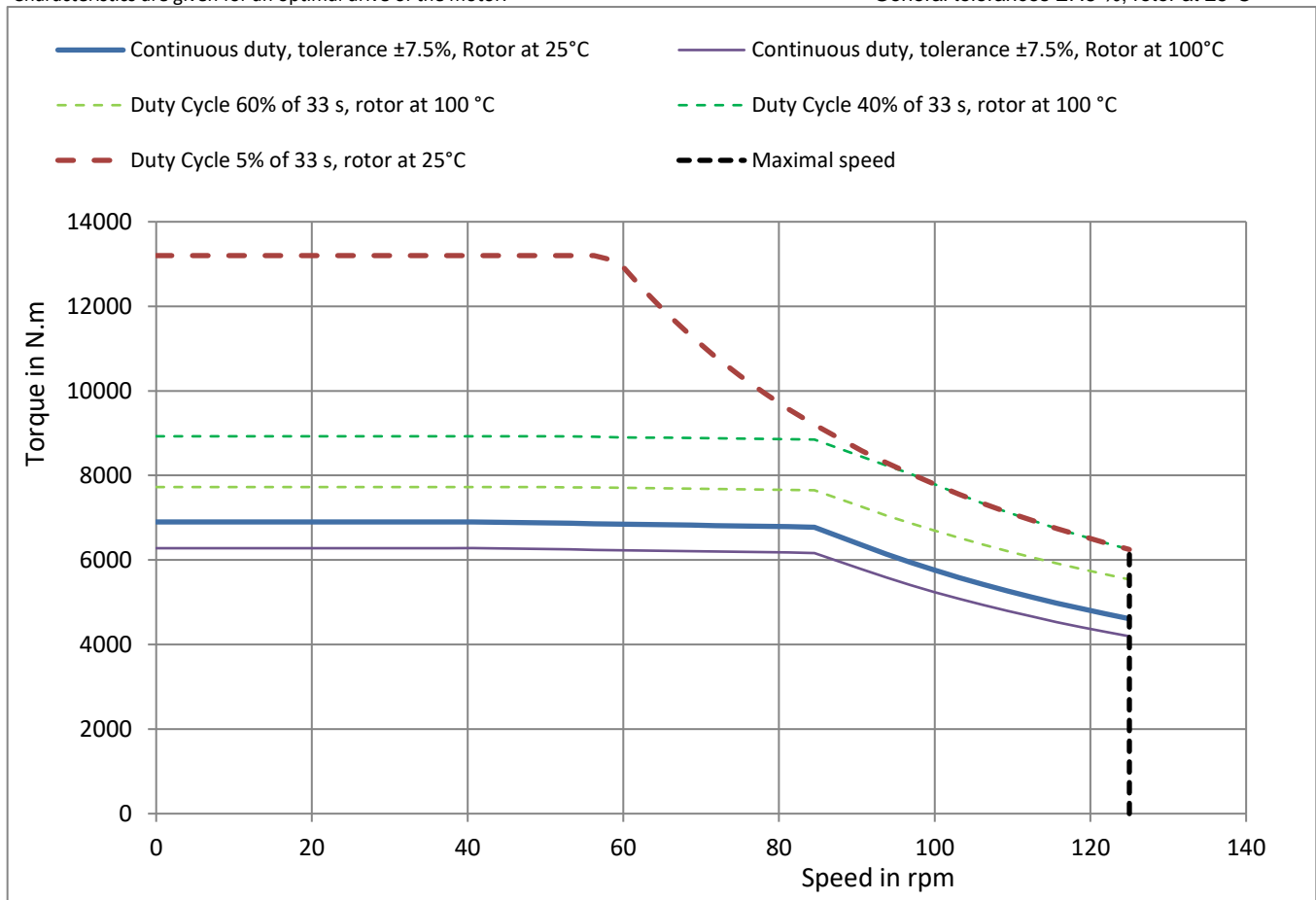
| | | | | |
|----------------|--|-------|---------------------------|--|
| P _n | Rated power ** | 60.3 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 19 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 6780 | <i>Nm</i> | |
| N _n | Rated speed | 84.9 | <i>rpm</i> | |
| I _n | Rated current | 135 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 355 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 6900 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 137 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 13200 | <i>Nm</i> | |
| I _p | Max. current | 334 | <i>A_{rms}</i> | |
| N _p | Max. speed | 125 | <i>rpm</i> | |
| J | Rotor inertia | 6.8 | <i>kg.m²</i> | Number of poles : 120 Electrical frequency @N _p 125 Hz Efficiency : at rated torque : 83.5 % at 75% of rated torque : 87.9 % |
| Ke | Back emf constant at 1000 rpm (25°C)* | 3160 | <i>V_{rms}</i> | |
| Kt | Torque sensitivity (rotor 25°C) | 50.4 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.3 | <i>Ω</i> | |
| L | Winding inductance * | 3.54 | <i>mH</i> | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|-------|------|------|
| Rated power ** | 60.3 | kW | Ps1 |
| Peak power ** | 81.8 | kW | Ps6 |
| Low speed torque ** | 6900 | N.m | Mo |
| Low speed peak torque ** | 13200 | N.m | MoS6 |
| Nominal speed (S1) | 84.9 | rpm | Nb |
| Max speed **** | 125 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 137 | Arms | Io |
| S6 current at low speed | 334 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|-----|-------------------|------|
| Rotor inertia | 6.8 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 125 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|------|-------------------|-----|
| Number of poles | 120 | | |
| Winding resistance (25°C) * | 0.3 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 3160 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 30.2 | Vrms / (rad/s) | ku |
| Torque constant | 50.4 | N.m / Arms | Kt |
| Short circuit current | 162 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 3.54 | mH | Lq |
| Inductance Ld * | 3.59 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.00735 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 84 | s | Tthw |
| Water cooling / Minimum flow: | 19 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW406HG
 ELECTRONIC DRIVE
Drive 340/790 Arms



No UL certification

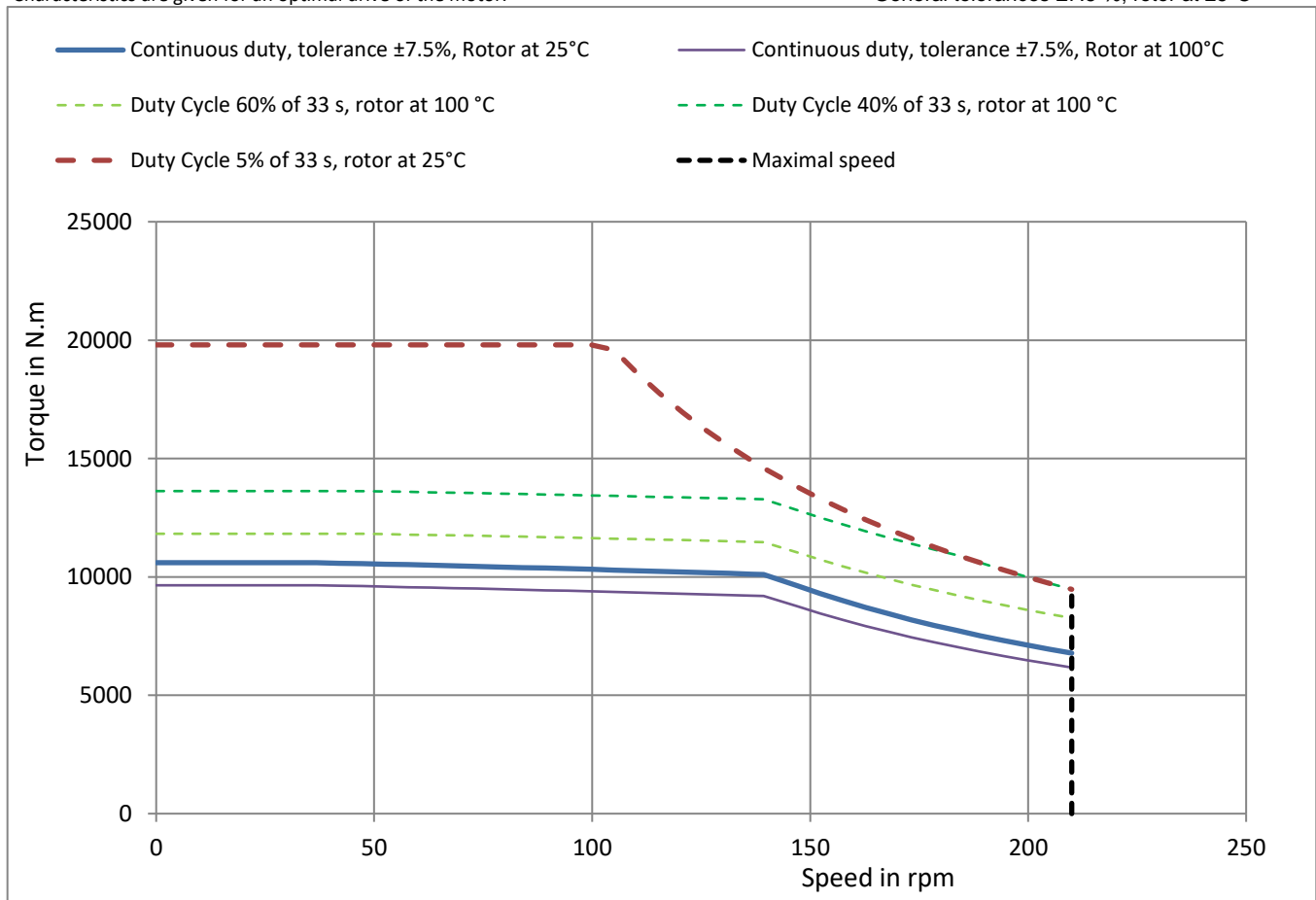
| | | | | |
|----------------|--|--------|---------------------------|--|
| P _n | Rated power ** | 148 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 30 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 10100 | <i>Nm</i> | |
| N _n | Rated speed | 140 | <i>rpm</i> | |
| I _n | Rated current | 319 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 354 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 10600 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 333 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 19800 | <i>Nm</i> | |
| I _p | Max. current | 790 | <i>A_{rms}</i> | |
| N _p | Max. speed | 210 | <i>rpm</i> | |
| J | Rotor inertia | 10.1 | <i>kg.m²</i> | |
| Ke | Back emf constant at 1000 rpm (25°C)* | 2000 | <i>V_{rms}</i> | Number of poles : 120 Electrical frequency @N _p 210 Hz Efficiency : at rated torque : 88.1 % at 75% of rated torque : 90.9 % |
| Kt | Torque sensitivity (rotor 25°C) | 31.9 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.0815 | <i>Ω</i> | |
| L | Winding inductance * | 0.942 | <i>mH</i> | |
| | | | | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|-------|------|------|
| Rated power ** | 148 | kW | Ps1 |
| Peak power ** | 215 | kW | Ps6 |
| Low speed torque ** | 10600 | N.m | Mo |
| Low speed peak torque ** | 19800 | N.m | MoS6 |
| Nominal speed (S1) | 140 | rpm | Nb |
| Max speed **** | 210 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 333 | Arms | Io |
| S6 current at low speed | 790 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|------|-------------------|------|
| Rotor inertia | 10.1 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 210 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|--------|-------------------|-----|
| Number of poles | 120 | | |
| Winding resistance (25°C) * | 0.0815 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 2000 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 19.1 | Vrms / (rad/s) | ku |
| Torque constant | 31.9 | N.m / Arms | Kt |
| Short circuit current | 382 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 0.942 | mH | Lq |
| Inductance Ld * | 0.964 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.0049 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 84 | s | Tthw |
| Water cooling / Minimum flow: | 30 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW408HQ
 ELECTRONIC DRIVE
Drive 160/362 Arms



No UL certification

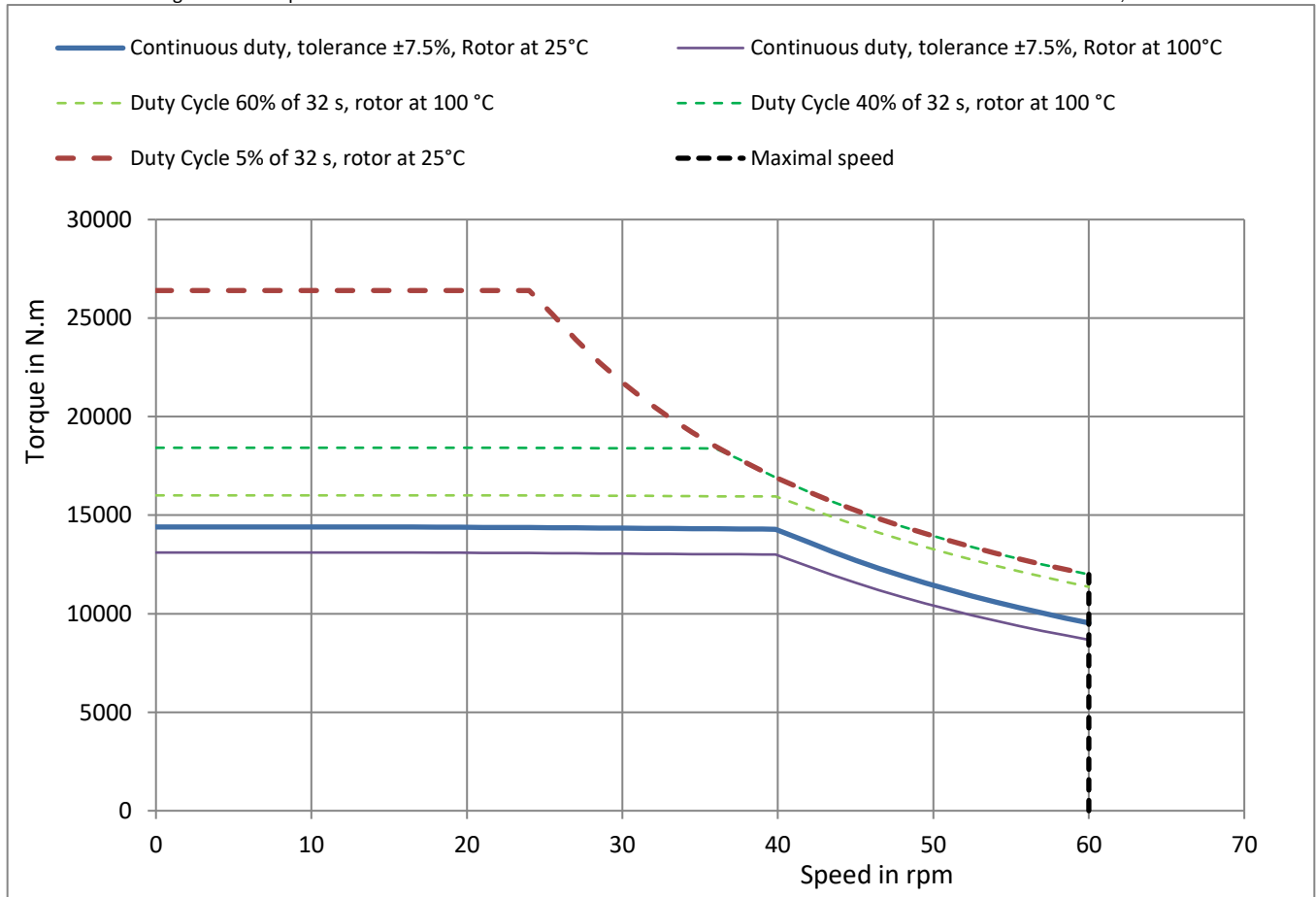
| | | | | |
|----------------|--|-------|---------------------------|---|
| P _n | Rated power ** | 59.9 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 37 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 14300 | <i>Nm</i> | |
| N _n | Rated speed | 40.1 | <i>rpm</i> | |
| I _n | Rated current | 155 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 358 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 14400 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 156 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 26400 | <i>Nm</i> | |
| I _p | Max. current | 362 | <i>A_{rms}</i> | |
| N _p | Max. speed | 60 | <i>rpm</i> | |
| J | Rotor inertia | 13.4 | <i>kg.m²</i> | Number of poles : 120 Electrical frequency @N _p 60 Hz Efficiency : at rated torque : 70.1 % at 75% of rated torque : 78.3 % |
| Ke | Back emf constant at 1000 rpm (25°C)* | 5830 | <i>V_{rms}</i> | |
| Kt | Torque sensitivity (rotor 25°C) | 92.5 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.508 | <i>Ω</i> | |
| L | Winding inductance * | 5.95 | <i>mH</i> | |
| | | | | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|-------|------|------|
| Rated power ** | 59.9 | kW | Ps1 |
| Peak power ** | 75.3 | kW | Ps6 |
| Low speed torque ** | 14400 | N.m | Mo |
| Low speed peak torque ** | 26400 | N.m | MoS6 |
| Nominal speed (S1) | 40.1 | rpm | Nb |
| Max speed **** | 60 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 156 | Arms | Io |
| S6 current at low speed | 362 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|------|-------------------|------|
| Rotor inertia | 13.4 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 60 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|-------|-------------------|-----|
| Number of poles | 120 | | |
| Winding resistance (25°C) * | 0.508 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 5830 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 55.7 | Vrms / (rad/s) | ku |
| Torque constant | 92.5 | N.m / Arms | Kt |
| Short circuit current | 175 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 5.95 | mH | Lq |
| Inductance Ld * | 6.12 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.00368 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 82 | s | Tthw |
| Water cooling / Minimum flow: | 37 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW40AHM
 ELECTRONIC DRIVE
Drive 225/511 Arms



No UL certification

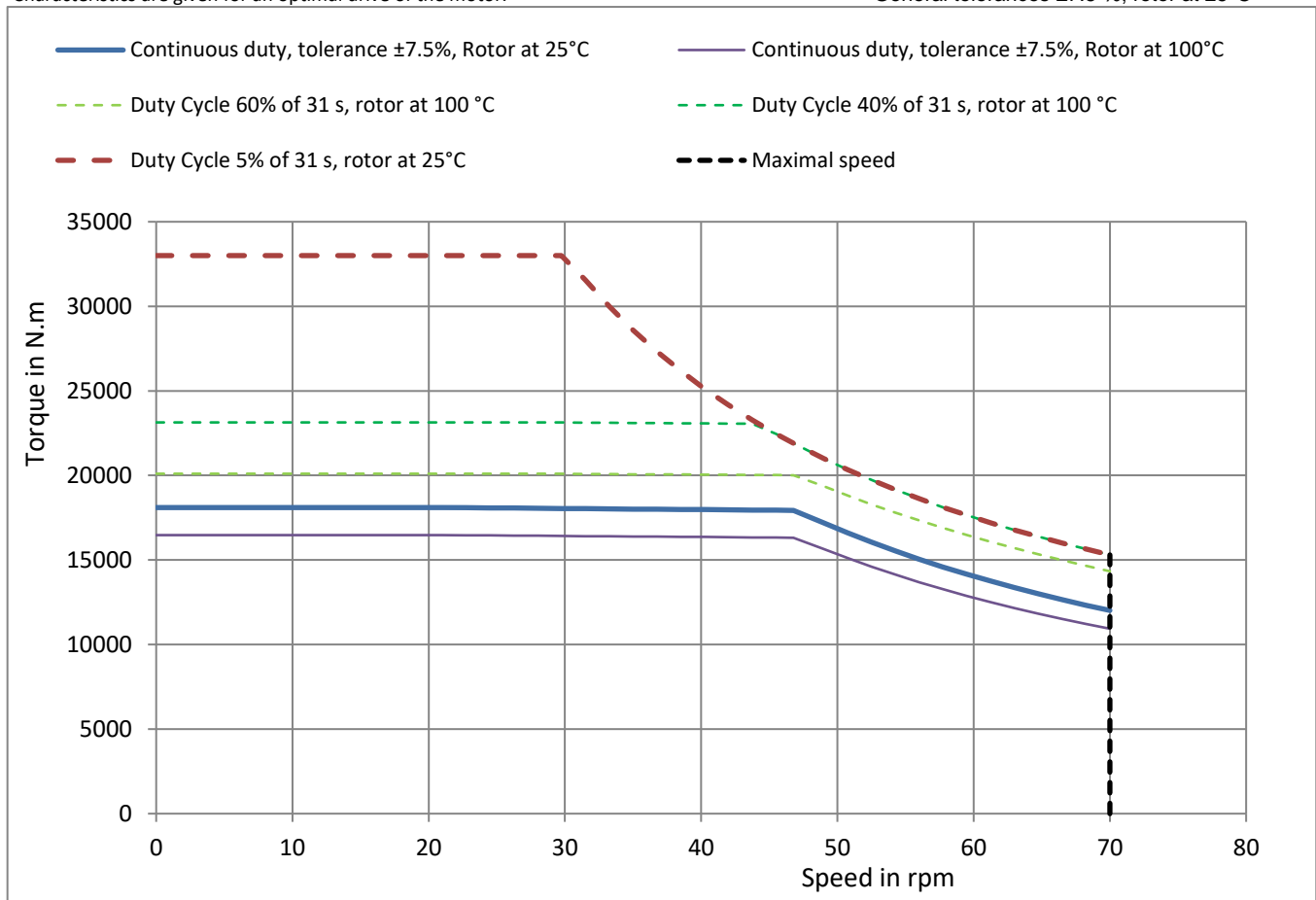
| | | | | |
|----------------|--|-------|---------------------------|---|
| P _n | Rated power ** | 88.3 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 47 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 17900 | <i>Nm</i> | |
| N _n | Rated speed | 47 | <i>rpm</i> | |
| I _n | Rated current | 220 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 359 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 18100 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 221 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 33000 | <i>Nm</i> | |
| I _p | Max. current | 511 | <i>A_{rms}</i> | |
| N _p | Max. speed | 70 | <i>rpm</i> | |
| J | Rotor inertia | 16.7 | <i>kg.m²</i> | Number of poles : 120 Electrical frequency @N _p 70 Hz Efficiency : at rated torque : 73.3 % at 75% of rated torque : 80.8 % |
| K _e | Back emf constant at 1000 rpm (25°C)* | 5160 | <i>V_{rms}</i> | |
| K _t | Torque sensitivity (rotor 25°C) | 81.8 | <i>Nm/A_{rms}</i> | |
| R _b | Winding resistance(25°C) * | 0.315 | <i>Ω</i> | |
| L | Winding inductance * | 3.72 | <i>mH</i> | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|-------|------|------|
| Rated power ** | 88.3 | kW | Ps1 |
| Peak power ** | 112 | kW | Ps6 |
| Low speed torque ** | 18100 | N.m | Mo |
| Low speed peak torque ** | 33000 | N.m | MoS6 |
| Nominal speed (S1) | 47 | rpm | Nb |
| Max speed **** | 70 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 221 | Arms | Io |
| S6 current at low speed | 511 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|------|-------------------|------|
| Rotor inertia | 16.7 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 70 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|-------|-------------------|-----|
| Number of poles | 120 | | |
| Winding resistance (25°C) * | 0.315 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 5160 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 49.3 | Vrms / (rad/s) | ku |
| Torque constant | 81.8 | N.m / Arms | Kt |
| Short circuit current | 247 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 3.72 | mH | Lq |
| Inductance Ld * | 3.84 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.00294 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 80 | s | Tthw |
| Water cooling / Minimum flow: | 47 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C

BRUSHLESS MOTOR
TKW40CHK
 ELECTRONIC DRIVE
Drive 260/580 Arms



No UL certification

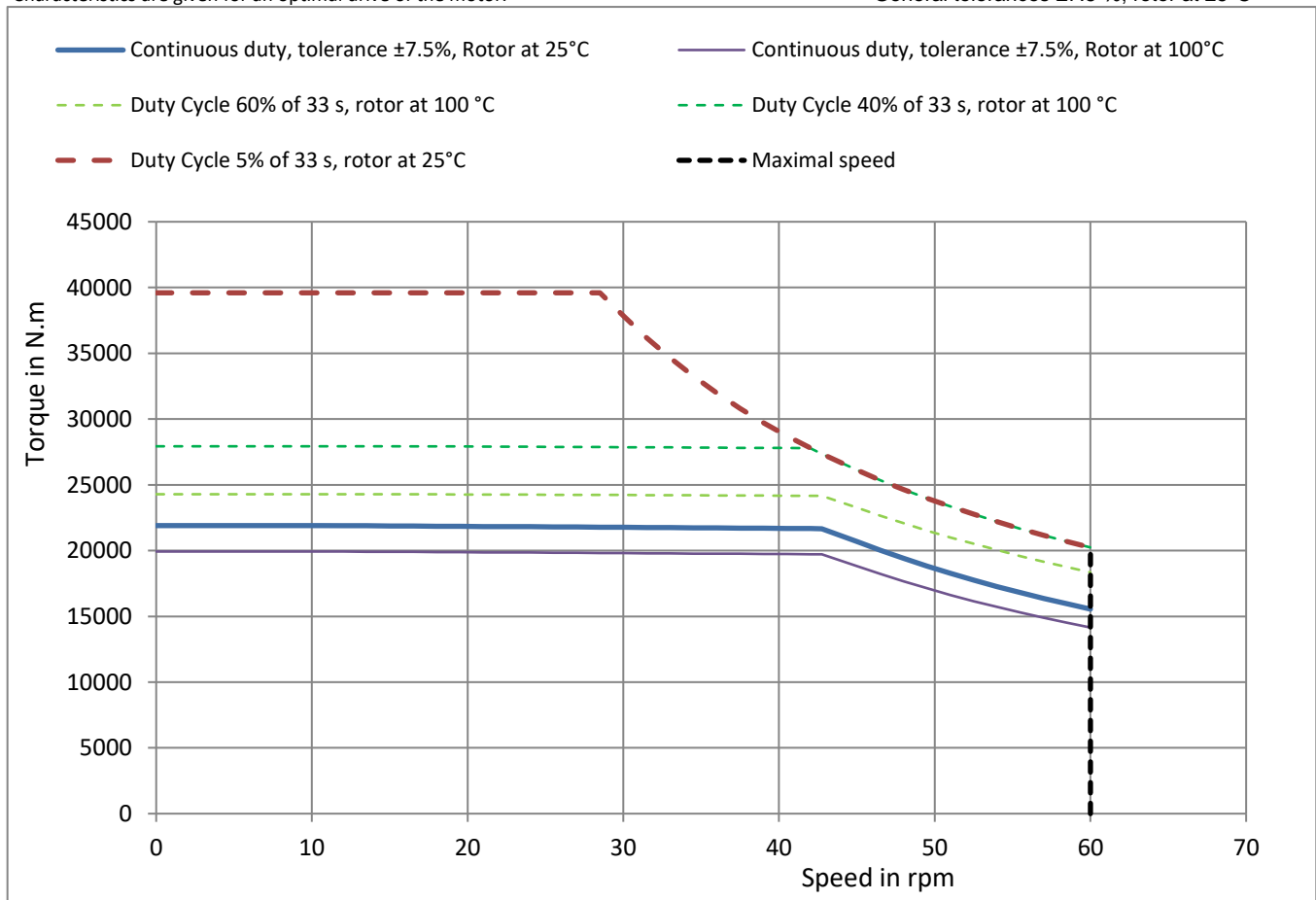
| | | | | |
|----------------|--|-------|---------------------------|--|
| P _n | Rated power ** | 97.5 | <i>kW</i> | Cooling type : Water cooling IC 97 W Minimum flow: 56 l/min Maximum Inlet Temperature: 25 °C Max. absolute pressure: 5 bars |
| M _n | Rated torque ** | 21700 | <i>Nm</i> | |
| N _n | Rated speed | 43 | <i>rpm</i> | |
| I _n | Rated current | 251 | <i>A_{rms}</i> | |
| U _n | Rated voltage * | 349 | <i>V_{rms}</i> | |
| UR | Voltage of the mains | 400 | <i>V_{rms}</i> | |
| U | DC voltage supply when motor is loaded | 540 | <i>V</i> | |
| M _o | Low speed torque ** | 21900 | <i>N.m</i> | Environment : Ambient temperature : 40°C MAX Altitude : < 1000 m Thermal class : F (according to IEC 60034-1) |
| I _o | Permanent current at low speed | 253 | <i>A_{rms}</i> | |
| M _p | Max. torque ** | 39600 | <i>Nm</i> | |
| I _p | Max. current | 580 | <i>A_{rms}</i> | |
| N _p | Max. speed | 60 | <i>rpm</i> | |
| J | Rotor inertia | 20 | <i>kg.m²</i> | Number of poles : 120 Electrical frequency @N _p 60 Hz |
| Ke | Back emf constant at 1000 rpm (25°C)* | 5470 | <i>V_{rms}</i> | |
| Kt | Torque sensitivity (rotor 25°C) | 86.6 | <i>Nm/A_{rms}</i> | Efficiency : at rated torque : 73.1 % at 75% of rated torque : 80.6 % |
| R _b | Winding resistance(25°C) * | 0.274 | <i>Ω</i> | |
| L | Winding inductance * | 3.47 | <i>mH</i> | |

All data are given in typical values under standard conditions.

* Phase to Phase

Characteristics are given for an optimal drive of the motor.

** General tolerances ±7.5 %, rotor at 25°C





No UL certification

Main characteristics

| | | | |
|--|-------|------|------|
| Rated power ** | 97.5 | kW | Ps1 |
| Peak power ** | 127 | kW | Ps6 |
| Low speed torque ** | 21900 | N.m | Mo |
| Low speed peak torque ** | 39600 | N.m | MoS6 |
| Nominal speed (S1) | 43 | rpm | Nb |
| Max speed **** | 60 | rpm | Nmax |
| DC voltage supply when motor is loaded | 540 | Vdc | Ū |
| Permanent current at low speed | 253 | Arms | Io |
| S6 current at low speed | 580 | Arms | IoS6 |

Mechanical parameters

| | | | |
|--------------------------|----|-------------------|------|
| Rotor inertia | 20 | kg.m ² | J |
| Motor mass | -- | kg | M |
| Maximum speed with Drive | 60 | rpm | Nmax |
| Maximum mechanical speed | - | rpm | Nmec |

Electrical parameters

| | | | |
|---|-------|-------------------|-----|
| Number of poles | 120 | | |
| Winding resistance (25°C) * | 0.274 | Ω | Rb |
| Back EMF voltage/ 1000 rpm * | 5470 | Vrms / 1000 rpm | ke |
| Back EMF voltage / (rad/s) * | 52.2 | Vrms / (rad/s) | ku |
| Torque constant | 86.6 | N.m / Arms | Kt |
| Short circuit current | 280 | Arms | Icc |
| Inductance Lq (Back EMF voltage axis) * | 3.47 | mH | Lq |
| Inductance Ld * | 3.59 | mH | Ld |
| Optimal phasing at permanent current | 10 | electrical degree | ψo |
| Optimal phasing at S6 current | 20 | electrical degree | ψm |

Thermal parameters

| | | | |
|--|----------|-----|------|
| Motor thermal resistance | 0.00245 | K/W | Rth |
| Motor thermal time constant | -- | s | Tth |
| Winding thermal time constant | 84 | s | Tthw |
| Water cooling / Minimum flow: | 56 l/min | | |
| Maximum Inlet Temperature: | | | |
| Max. absolute pressure: | 5 bars | | |
| Thermal class according to IEC 60034-1 | F | | |

* Phase to phase

** Tolerances ± 7.5% and rotor at 25°C