

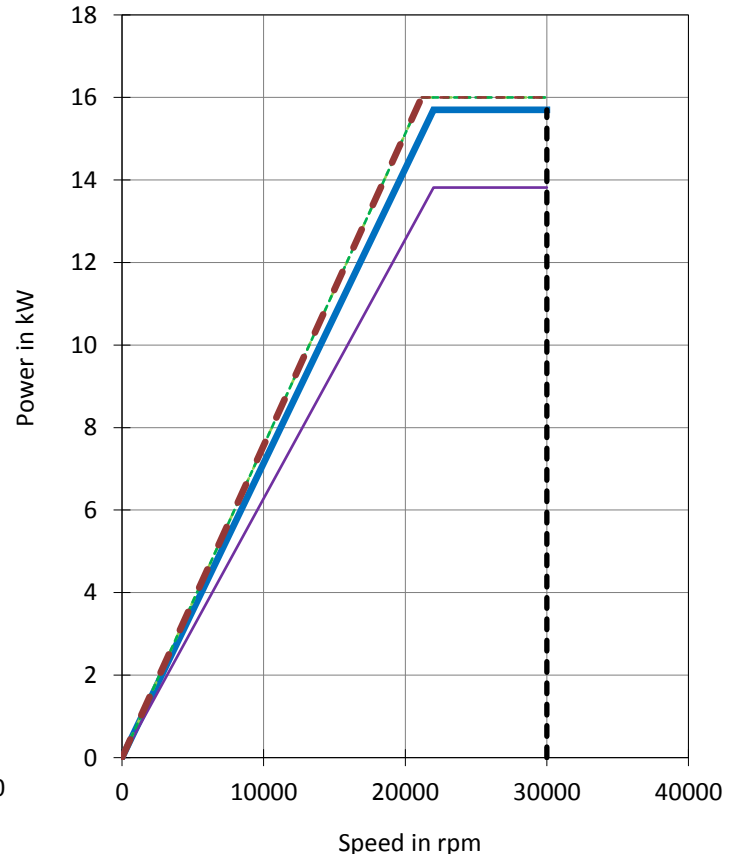
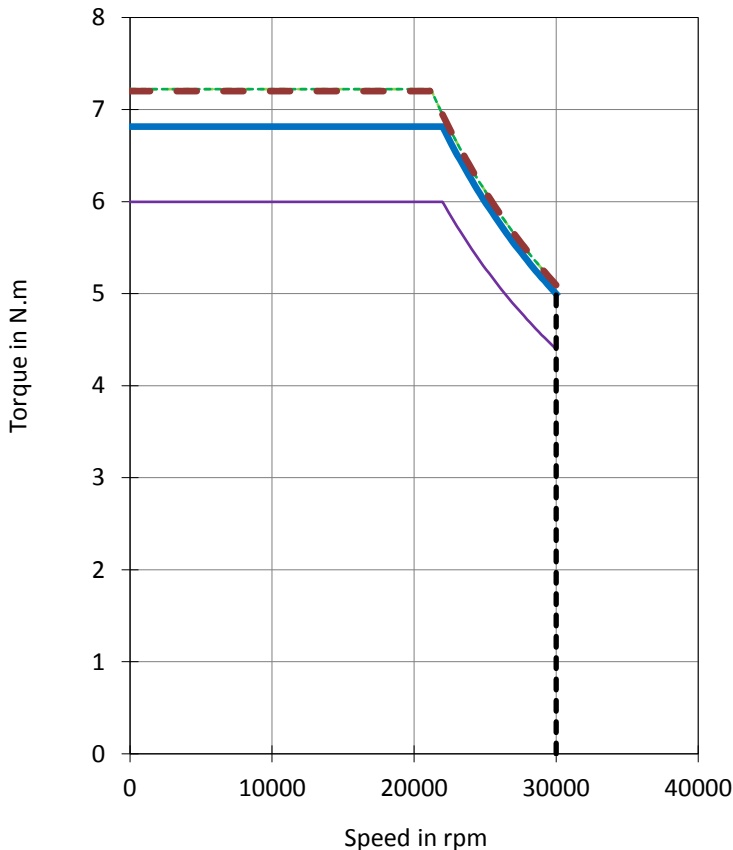
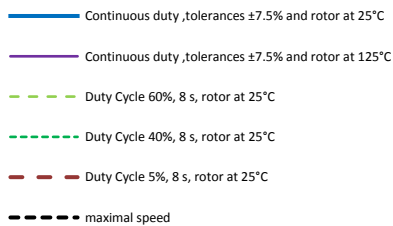
High speed brushless motor

MGV430BAI
ELECTRONIC DRIVE
890SD-522450D



S1 power **/**	15.7 / 12.8	kW	Ps1
S6 power **/**	16 / 13.1	kW	Ps6
Low speed torque ** / **	6.8 / 5.55	N.m	M ₀
Low speed S6 torque **/**	7.2 / 5.87	N.m	M ₀ S6
Base speed (S1)	22000	rpm	Nb
Max speed ****	30000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	35	Arms	I ₀
S6 current at low speed	37.7	Arms	I ₀ S6
Winding resistance(25°C) *	0.205	Ω	Rb
Rotor inertia	0.00089	kg.m ²	J
Thermal time constant	1	min	Tth
Motor mass	35	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	3.3	l/min	Wf

All data are given in typical values under standard conditions



* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

Steel bearings limited to = 26000 rpm

Hybrid bearings limited to = 33000 rpm

X LIFE bearings limited to = 45000 rpm

High speed brushless motor

MGV430BAI
ELECTRONIC DRIVE
890SD-522450D



Main characteristics

S1 power **/***	15.7 / 12.8	kW	Ps1
S6 power **/***	16 / 13.1	kW	Ps6
Low speed torque ** / ***	6.8 / 5.55	N.m	M ₀
Low speed S6 torque **/***	7.2 / 5.87	N.m	M ₀ S6
Base speed (S1)	22000	rpm	Nb
Max speed ****	30000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	35	Arms	I ₀
S6 current at low speed	37.7	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.00089	kg.m ²	J
Motor mass	35	kg	M
Maximum speed with steel bearings	26000	rpm	N ₁
Maximum speed with hybrid bearings	33000	rpm	N ₂
Maximum speed with X LIFE bearings	45000	rpm	N ₃
Maximum speed with Drive	30000	rpm	Nmax
Maximum mechanical speed	50000	rpm	Nmec

Electrical parameters

Number of poles	4		
Winding resistance (25°C) *	0.205	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	11.7	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.112	Vrms / (rad/s)	ku
Torque constant	0.194	N.m / Arms	Kt
Short circuit current	31.6	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	2.35	mH	Lq
Inductance Ld phase to phase *	2.05	mH	Ld
Optimal phasing at permanent current	20	electrical degree	ψ ₀
Optimal phasing at S6 current	22	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.0818	K/W	Rth
Motor thermal time constant	1	min	Tth
Winding thermal time constant	0.38	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	3.3	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

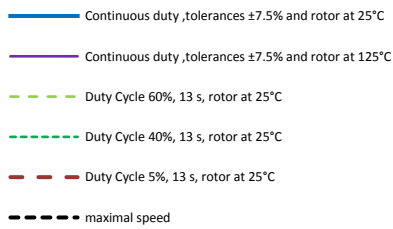
High speed brushless motor

MGV635CAD
ELECTRONIC DRIVE
890SD-432730E

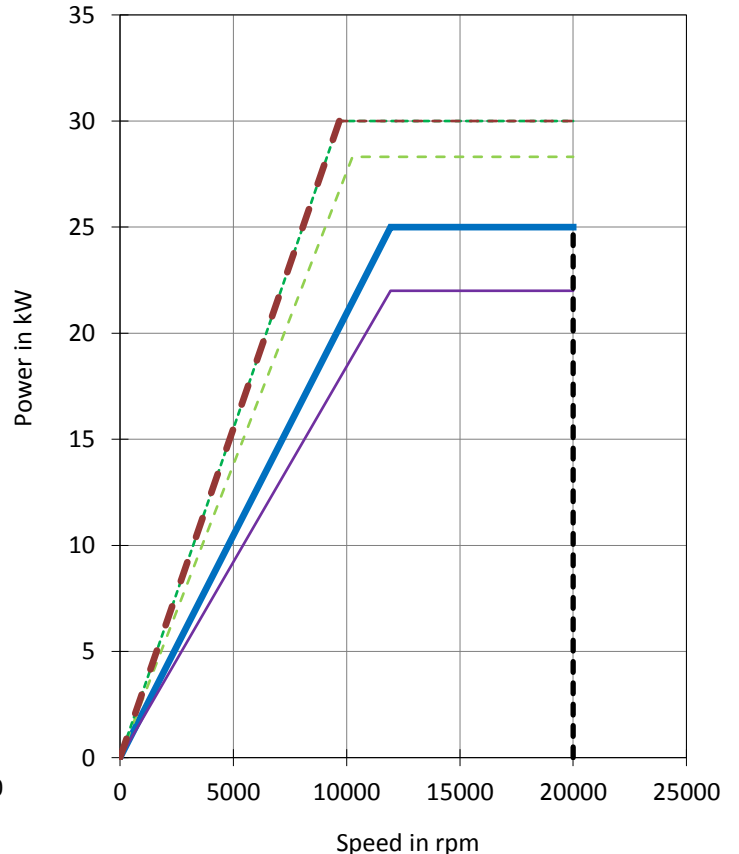
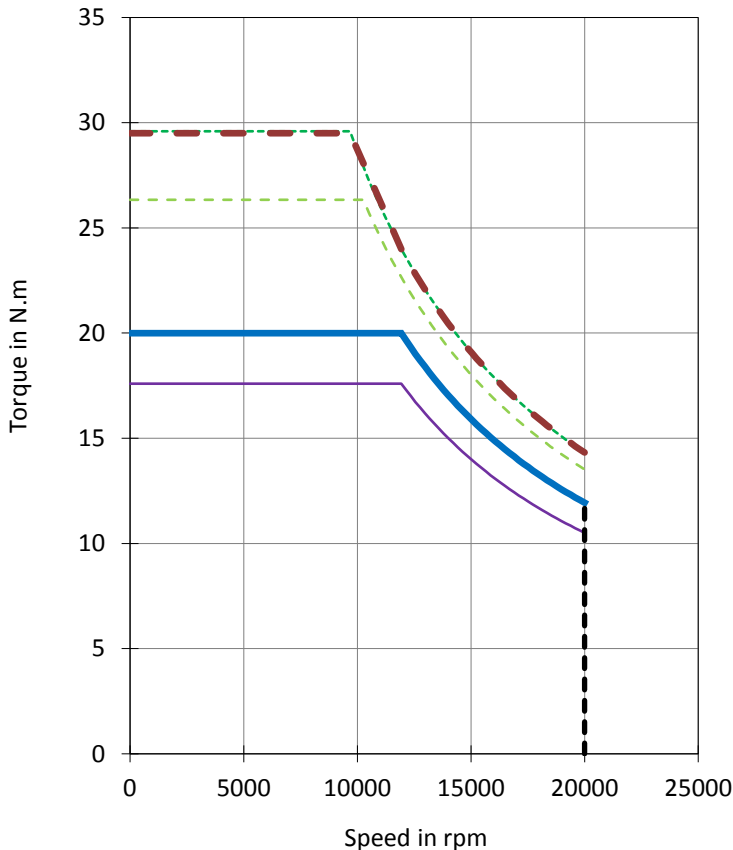


S1 power **/**	25 / 20.9	kW	Ps1
S6 power **/**	30 / 25.1	kW	Ps6
Low speed torque ** / **	20 / 16.7	N.m	M _o
Low speed S6 torque **/**	29.5 / 24.7	N.m	M _o S6
Base speed (S1)	11900	rpm	Nb
Max speed ****	20000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	49.4	Arms	I _o
S6 current at low speed	73.1	Arms	I _o S6
Winding resistance(25°C) *	0.189	Ω	Rb
Rotor inertia	0.00352	kg.m ²	J
Thermal time constant	1.5	min	Tth
Motor mass	55	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	5.6	l/min	Wf

All data are given in typical values under standard conditions



- * Phase to phase
- ** Tolerances ± 7.5% and rotor at 25°C
- *** minimum value with rotor at 125°C
- **** Speed limit due to the bearings:
 Steel bearings limited to = 18500 rpm
 Hybrid bearings limited to = 25000 rpm
 X LIFE bearings limited to = 30000 rpm



High speed brushless motor

MGV635CAD
ELECTRONIC DRIVE
890SD-432730E



Main characteristics

S1 power **/***	25 / 20.9	kW	Ps1
S6 power **/***	30 / 25.1	kW	Ps6
Low speed torque ** / ***	20 / 16.7	N.m	M ₀
Low speed S6 torque **/***	29.5 / 24.7	N.m	M ₀ S6
Base speed (S1)	11900	rpm	Nb
Max speed ****	20000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	49.4	Arms	I ₀
S6 current at low speed	73.1	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.00352	kg.m ²	J
Motor mass	55	kg	M
Maximum speed with steel bearings	18500	rpm	N ₁
Maximum speed with hybrid bearings	25000	rpm	N ₂
Maximum speed with X LIFE bearings	30000	rpm	N ₃
Maximum speed with Drive	20000	rpm	Nmax
Maximum mechanical speed	30000	rpm	Nmec

Electrical parameters

Number of poles	6		
Winding resistance (25°C) *	0.189	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	24.5	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.234	Vrms / (rad/s)	ku
Torque constant	0.405	N.m / Arms	Kt
Short circuit current	53	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	1.93	mH	Lq
Inductance Ld phase to phase *	1.7	mH	Ld
Optimal phasing at permanent current	15	electrical degree	ψ ₀
Optimal phasing at S6 current	20	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.0753	K/W	Rth
Motor thermal time constant	1.5	min	Tth
Winding thermal time constant	0.57	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	5.6	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

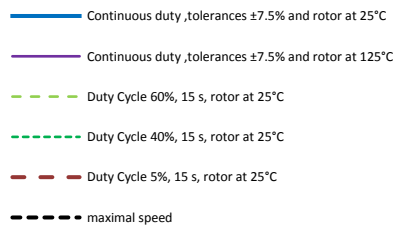
High speed brushless motor

MGV840CAD
ELECTRONIC DRIVE
890SD-433105F



S1 power **/**	63 / 52.8	kW	Ps1
S6 power **/**	64 / 53.6	kW	Ps6
Low speed torque ** / ***	58 / 48.6	N.m	M _o
Low speed S6 torque **/**	59.5 / 49.9	N.m	M _o S6
Base speed (S1)	10400	rpm	Nb
Max speed ****	20000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	123	Arms	I _o
S6 current at low speed	126	Arms	I _o S6
Winding resistance(25°C) *	0.0522	Ω	Rb
Rotor inertia	0.0186	kg.m ²	J
Thermal time constant	2.4	min	Tth
Motor mass	115	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	11	l/min	Wf

All data are given in typical values under standard conditions



* Phase to phase

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

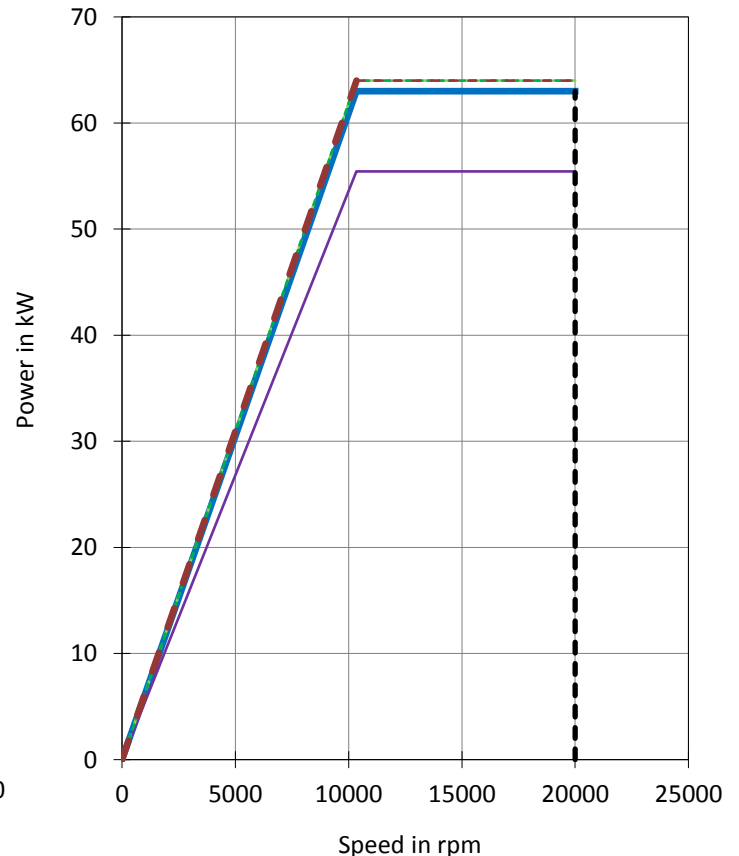
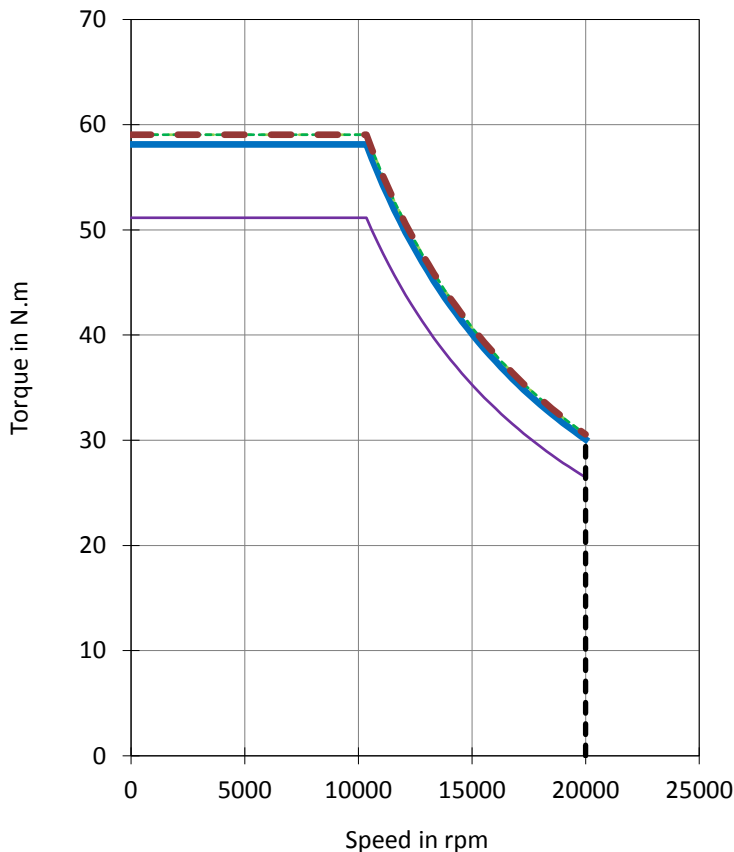
*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

Steel bearings limited to = 14300 rpm

Hybrid bearings limited to = 18000 rpm

X LIFE bearings limited to = 24000 rpm



High speed brushless motor

MGV840CAD
ELECTRONIC DRIVE
890SD-433105F



Main characteristics

S1 power **/***	63 / 52.8	kW	Ps1
S6 power **/***	64 / 53.6	kW	Ps6
Low speed torque ** / ***	58 / 48.6	N.m	M ₀
Low speed S6 torque **/***	59.5 / 49.9	N.m	M ₀ S6
Base speed (S1)	10400	rpm	Nb
Max speed ****	20000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	123	Arms	I ₀
S6 current at low speed	126	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.0186	kg.m ²	J
Motor mass	115	kg	M
Maximum speed with steel bearings	14300	rpm	N ₁
Maximum speed with hybrid bearings	18000	rpm	N ₂
Maximum speed with X LIFE bearings	24000	rpm	N ₃
Maximum speed with Drive	20000	rpm	Nmax
Maximum mechanical speed	24000	rpm	Nmec

Electrical parameters

Number of poles	6		
Winding resistance (25°C) *	0.0522	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	28.3	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.27	Vrms / (rad/s)	ku
Torque constant	0.472	N.m / Arms	Kt
Short circuit current	130	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	0.96	mH	Lq
Inductance Ld phase to phase *	0.8	mH	Ld
Optimal phasing at permanent current	20	electrical degree	ψ ₀
Optimal phasing at S6 current	20	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.0391	K/W	Rth
Motor thermal time constant	2.4	min	Tth
Winding thermal time constant	0.64	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	11	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

High speed brushless motor

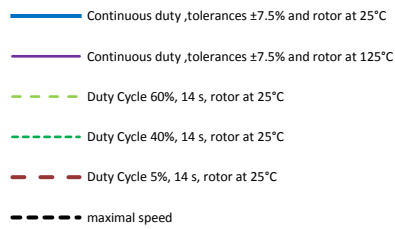
MGV860CBD
ELECTRONIC DRIVE
890PXA-43215M



/ Need protection module

S1 power **/**	94 / 76.3	kW	Ps1
S6 power **/**	100 / 81.2	kW	Ps6
Low speed torque ** / ***	120 / 97.4	N.m	M ₀
Low speed S6 torque **/**	161 / 131	N.m	M ₀ S6
Base speed (S1)	7500	rpm	Nb
Max speed ****	20000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	136	Arms	I ₀
S6 current at low speed	189	Arms	I ₀ S6
Winding resistance(25°C) *	0.0717	Ω	Rb
Rotor inertia	0.0264	kg.m ²	J
Thermal time constant	2.4	min	Tth
Motor mass	135	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	17	l/min	Wf

All data are given in typical values under standard conditions



* Phase to phase

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

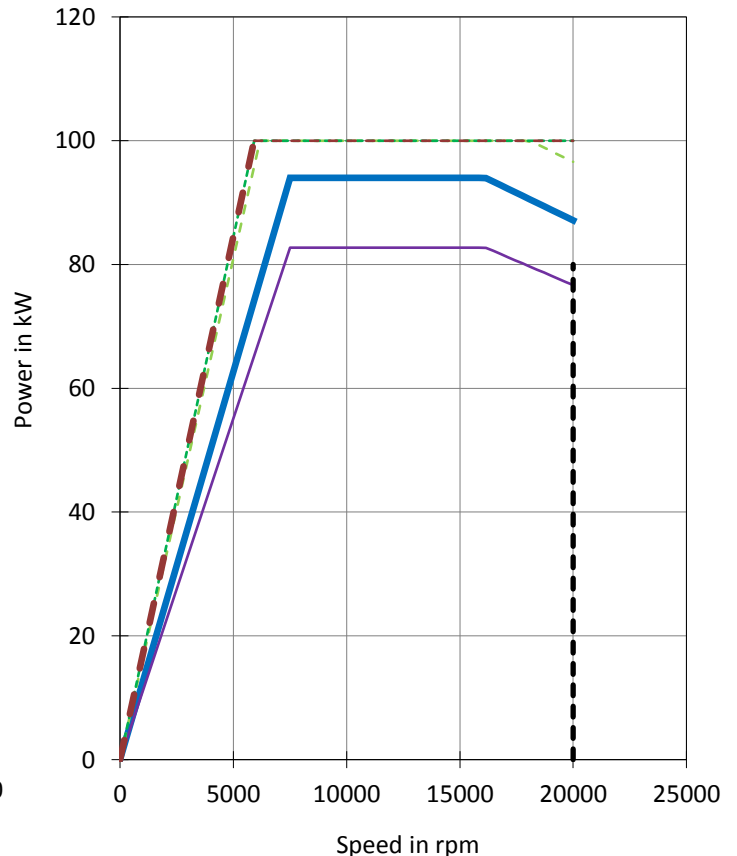
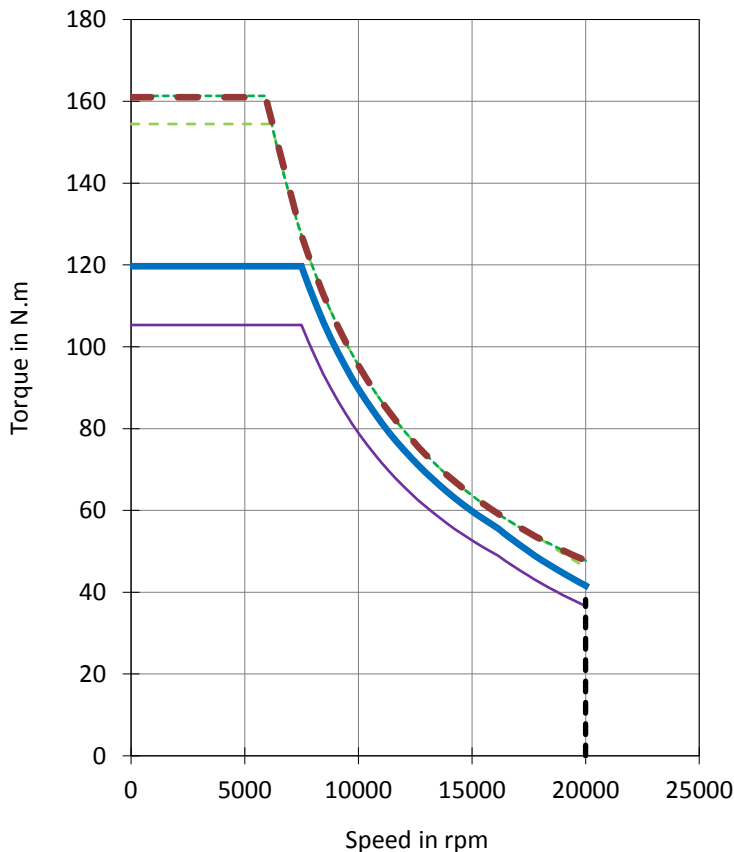
*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

Steel bearings limited to = 14300 rpm

Hybrid bearings limited to = 18000 rpm

X LIFE bearings limited to = 24000 rpm



High speed brushless motor

MGV860CBD
ELECTRONIC DRIVE
890PXSA-43215M



Main characteristics

S1 power **/***	94 / 76.3	kW	Ps1
S6 power **/***	100 / 81.2	kW	Ps6
Low speed torque ** / ***	120 / 97.4	N.m	M ₀
Low speed S6 torque **/***	161 / 131	N.m	M ₀ S6
Base speed (S1)	7500	rpm	Nb
Max speed ****	20000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	136	Arms	I ₀
S6 current at low speed	189	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.0264	kg.m ²	J
Motor mass	135	kg	M
Maximum speed with steel bearings	14300	rpm	N ₁
Maximum speed with hybrid bearings	18000	rpm	N ₂
Maximum speed with X LIFE bearings	24000	rpm	N ₃
Maximum speed with Drive	20000	rpm	Nmax
Maximum mechanical speed	24000	rpm	Nmec

Electrical parameters

Number of poles	6		
Winding resistance (25°C) *	0.0717	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	54.3	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.519	Vrms / (rad/s)	ku
Torque constant	0.882	N.m / Arms	Kt
Short circuit current	177	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	1.31	mH	Lq
Inductance Ld phase to phase *	1.13	mH	Ld
Optimal phasing at permanent current	20	electrical degree	ψ ₀
Optimal phasing at S6 current	20	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.0261	K/W	Rth
Motor thermal time constant	2.4	min	Tth
Winding thermal time constant	0.59	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	17	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

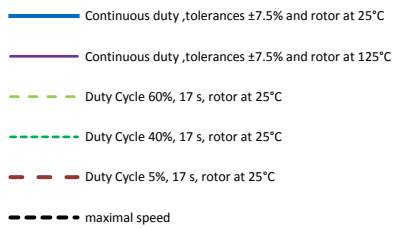
High speed brushless motor

MGV950CAX
ELECTRONIC DRIVE
890PXA-43480M



S1 power **/**	169 / 138	kW	Ps1
S6 power **/**	170 / 139	kW	Ps6
Low speed torque ** / ***	193 / 158	N.m	M _o
Low speed S6 torque **/**	195 / 159	N.m	M _o S6
Base speed (S1)	8350	rpm	Nb
Max speed ****	20000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	435	Arms	I _o
S6 current at low speed	440	Arms	I _o S6
Winding resistance(25°C) *	0.00747	Ω	Rb
Rotor inertia	0.063	kg.m ²	J
Thermal time constant	3.2	min	Tth
Motor mass	270	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	18	l/min	Wf

All data are given in typical values under standard conditions



* Phase to phase

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

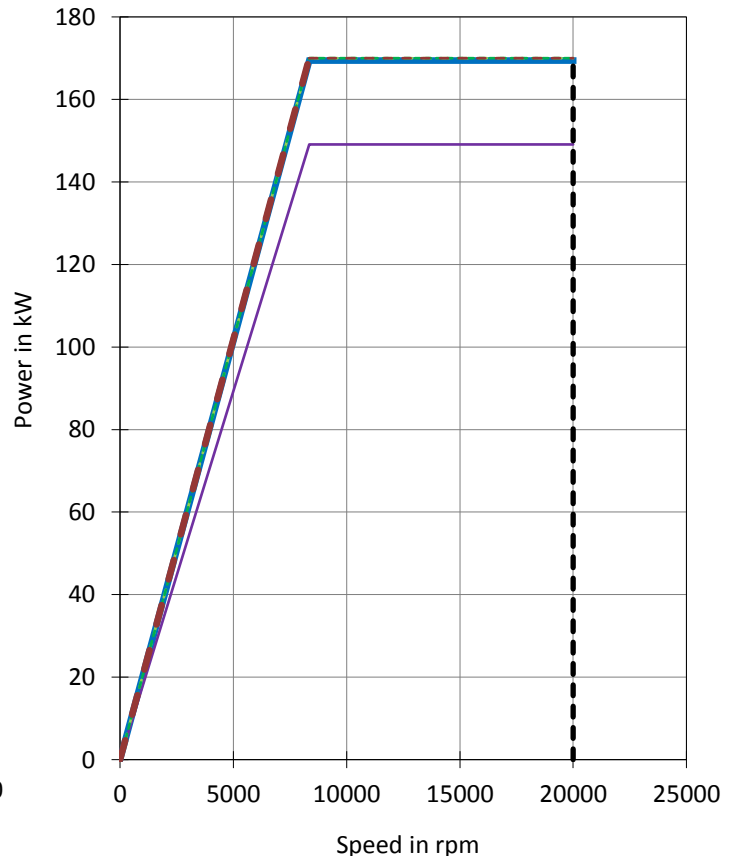
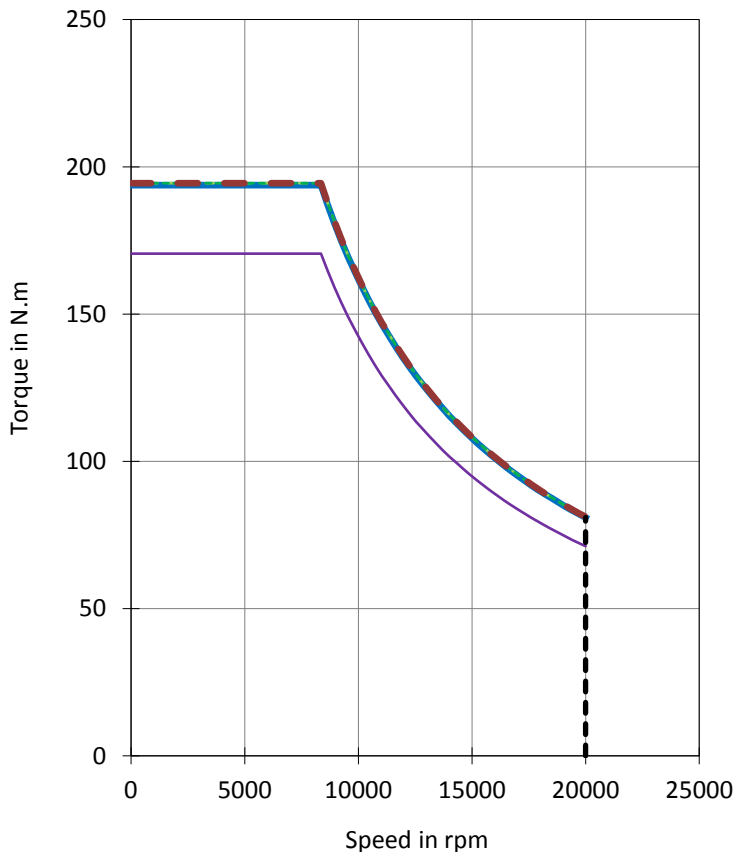
*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

Steel bearings limited to = 11700 rpm

Hybrid bearings limited to = 16000 rpm

X LIFE bearings limited to = 20000 rpm



High speed brushless motor

MGV950CAX
ELECTRONIC DRIVE
890PXSA-43480M



Main characteristics

S1 power **/***	169 / 138	kW	Ps1
S6 power **/***	170 / 139	kW	Ps6
Low speed torque ** / ***	193 / 158	N.m	M ₀
Low speed S6 torque **/***	195 / 159	N.m	M ₀ S6
Base speed (S1)	8350	rpm	Nb
Max speed ****	20000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	435	Arms	I ₀
S6 current at low speed	440	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.063	kg.m ²	J
Motor mass	270	kg	M
Maximum speed with steel bearings	11700	rpm	N ₁
Maximum speed with hybrid bearings	16000	rpm	N ₂
Maximum speed with X LIFE bearings	20000	rpm	N ₃
Maximum speed with Drive	20000	rpm	Nmax
Maximum mechanical speed	20000	rpm	Nmec

Electrical parameters

Number of poles	6		
Winding resistance (25°C) *	0.00747	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	27.8	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.265	Vrms / (rad/s)	ku
Torque constant	0.444	N.m / Arms	Kt
Short circuit current	368	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	0.294	mH	Lq
Inductance Ld phase to phase *	0.278	mH	Ld
Optimal phasing at permanent current	20	electrical degree	ψ ₀
Optimal phasing at S6 current	20	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.0137	K/W	Rth
Motor thermal time constant	3.2	min	Tth
Winding thermal time constant	0.74	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	18	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

High speed brushless motor

MGV966DAX
ELECTRONIC DRIVE
890PXSA-43580M

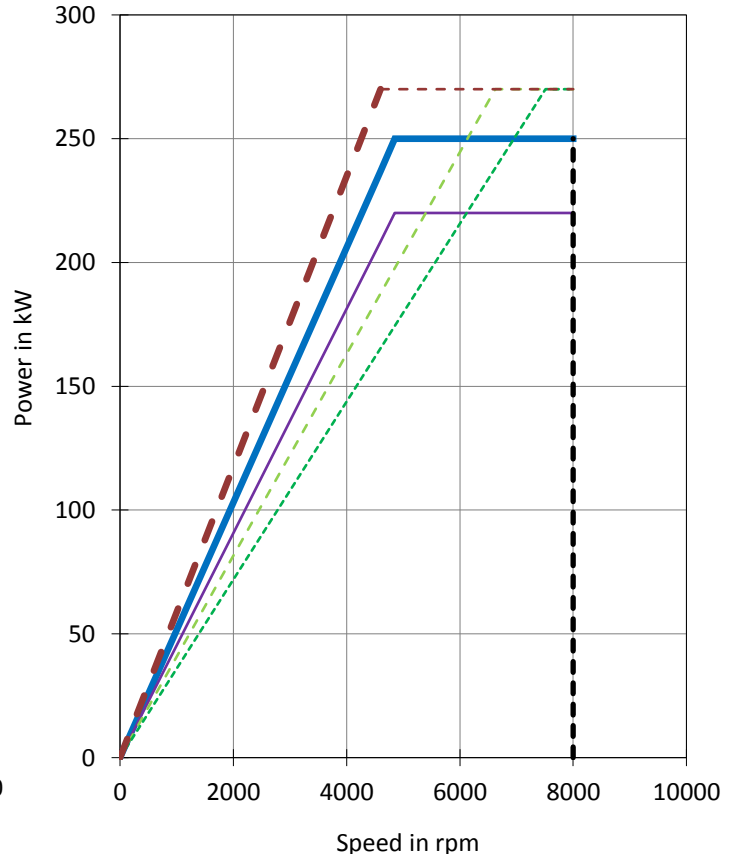
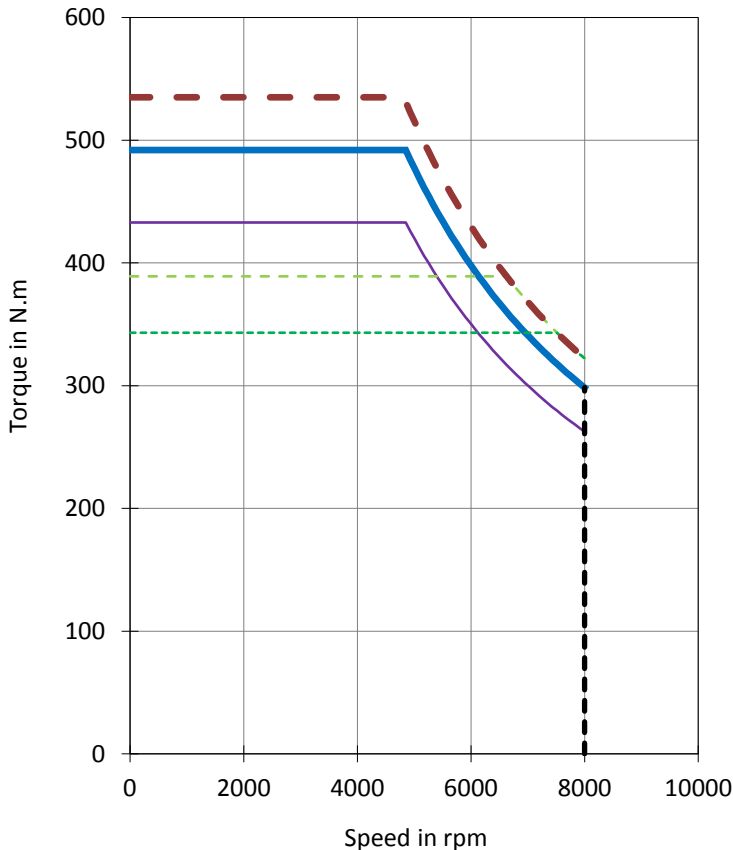


S1 power **/**	250 / 193	kW	Ps1
S6 power **/**	270 / 208	kW	Ps6
Low speed torque ** / **	520 / 400	N.m	M ₀
Low speed S6 torque **/**	535 / 412	N.m	M ₀ S6
Base speed (S1)	4600	rpm	Nb
Max speed ****	8000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	505	Arms	I ₀
S6 current at low speed	520	Arms	I ₀ S6
Winding resistance(25°C) *	0.0135	Ω	Rb
Rotor inertia	0.076	kg.m ²	J
Thermal time constant	3	min	Tth
Motor mass	300	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	28	l/min	Wf

All data are given in typical values under standard conditions

- Continuous duty ,tolerances ±7.5% and rotor at 25°C
- Continuous duty ,tolerances ±7.5% and rotor at 125°C
- - - Duty Cycle 60%, 14 s, rotor at 25°C
- - - Duty Cycle 40%, 14 s, rotor at 25°C
- - - Duty Cycle 5%, 14 s, rotor at 25°C
- - - maximal speed

- * Phase to phase
- ** Tolerances ± 7.5% and rotor at 25°C
- *** minimum value with rotor at 125°C
- **** Speed limit due to the bearings:
Steel bearings limited to = 7000 rpm
Hybrid bearings limited to = ./. rpm
X LIFE bearings limited to = 8000 rpm



High speed brushless motor

MGV966DAX
ELECTRONIC DRIVE
890PXSA-43580M



Main characteristics

S1 power **/***	250 / 193	kW	Ps1
S6 power **/***	270 / 208	kW	Ps6
Low speed torque ** / ***	520 / 400	N.m	M ₀
Low speed S6 torque **/***	535 / 412	N.m	M ₀ S6
Base speed (S1)	4600	rpm	Nb
Max speed ****	8000	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	505	Arms	I ₀
S6 current at low speed	520	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.076	kg.m ²	J
Motor mass	300	kg	M
Maximum speed with steel bearings	7000	rpm	N ₁
Maximum speed with hybrid bearings	-	rpm	N ₂
Maximum speed with X LIFE bearings	8000	rpm	N ₃
Maximum speed with Drive	8000	rpm	Nmax
Maximum mechanical speed	8000	rpm	Nmec

Electrical parameters

Number of poles	8		
Winding resistance (25°C) *	0.0135	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	64.1	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.612	Vrms / (rad/s)	ku
Torque constant	1.03	N.m / Arms	Kt
Short circuit current	665	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	0.299	mH	Lq
Inductance Ld phase to phase *	0.266	mH	Ld
Optimal phasing at permanent current	15	electrical degree	ψ ₀
Optimal phasing at S6 current	15	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.0099	K/W	Rth
Motor thermal time constant	3	min	Tth
Winding thermal time constant	0.62	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	28	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

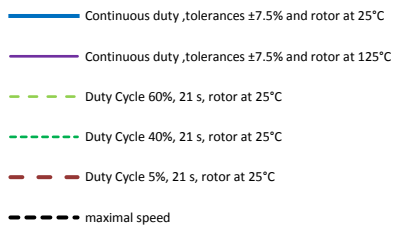
High speed brushless motor

MGVA50DAX
ELECTRONIC DRIVE
890PXA-43580M



S1 power **/**	240 / 199	kW	Ps1
S6 power **/**	244 / 203	kW	Ps6
Low speed torque ** / **	412 / 342	N.m	M _o
Low speed S6 torque **/**	416 / 345	N.m	M _o S6
Base speed (S1)	5600	rpm	Nb
Max speed ****	11800	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	519	Arms	I _o
S6 current at low speed	525	Arms	I _o S6
Winding resistance(25°C) *	0.00884	Ω	Rb
Rotor inertia	0.292	kg.m ²	J
Thermal time constant	4	min	Tth
Motor mass	395	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	28	l/min	Wf

All data are given in typical values under standard conditions



* Phase to phase

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

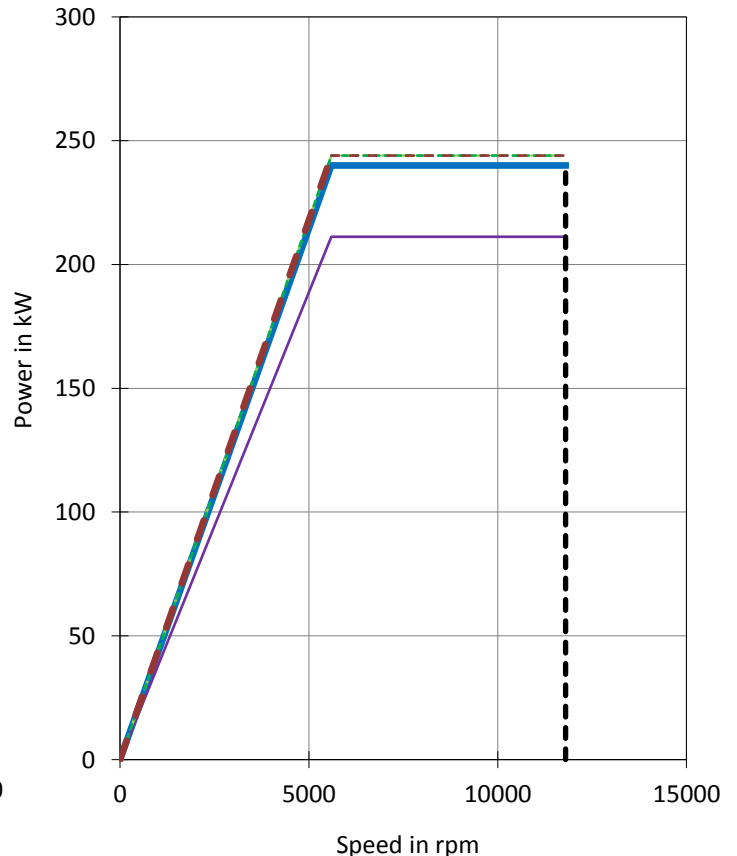
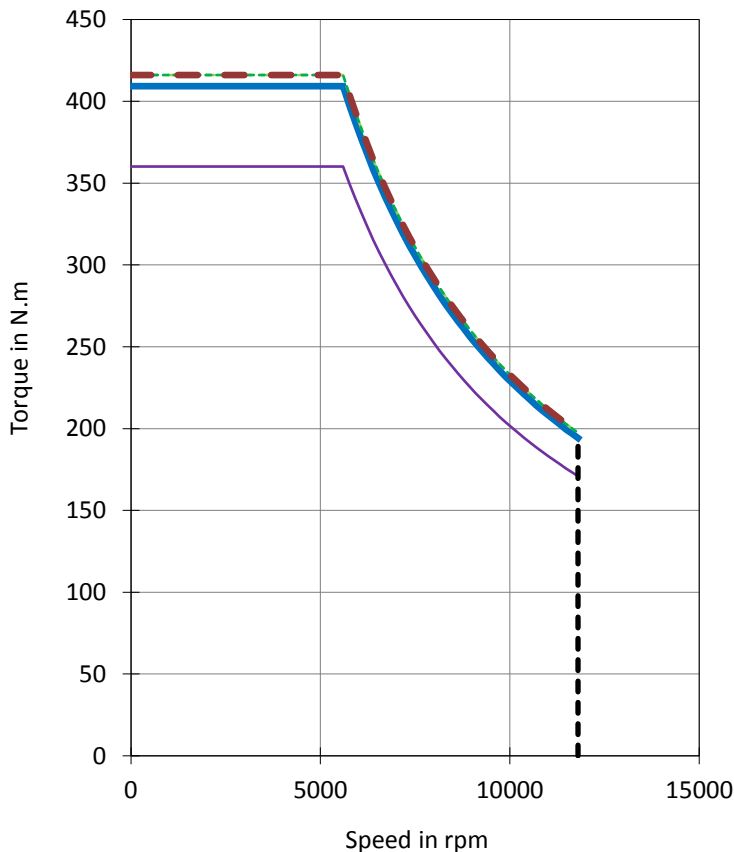
*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

Steel bearings limited to = 9200 rpm

Hybrid bearings limited to = 12000 rpm

X LIFE bearings limited to = ./. rpm



High speed brushless motor

MGVA50DAX
ELECTRONIC DRIVE
890PXSA-43580M



Main characteristics

S1 power **/***	240 / 199	kW	Ps1
S6 power **/***	244 / 203	kW	Ps6
Low speed torque ** / ***	412 / 342	N.m	M ₀
Low speed S6 torque **/***	416 / 345	N.m	M ₀ S6
Base speed (S1)	5600	rpm	Nb
Max speed ****	11800	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	519	Arms	I ₀
S6 current at low speed	525	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.292	kg.m ²	J
Motor mass	395	kg	M
Maximum speed with steel bearings	9200	rpm	N ₁
Maximum speed with hybrid bearings	12000	rpm	N ₂
Maximum speed with X LIFE bearings	-	rpm	N ₃
Maximum speed with Drive	11800	rpm	Nmax
Maximum mechanical speed	13000	rpm	Nmec

Electrical parameters

Number of poles	8		
Winding resistance (25°C) *	0.00884	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	50.9	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.486	Vrms / (rad/s)	ku
Torque constant	0.794	N.m / Arms	Kt
Short circuit current	520	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	0.272	mH	Lq
Inductance Ld phase to phase *	0.27	mH	Ld
Optimal phasing at permanent current	20	electrical degree	ψ ₀
Optimal phasing at S6 current	20	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.01055	K/W	Rth
Motor thermal time constant	4	min	Tth
Winding thermal time constant	0.92	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	28	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

High speed brushless motor

MGVA50DBY
ELECTRONIC DRIVE
890PXA-43580M

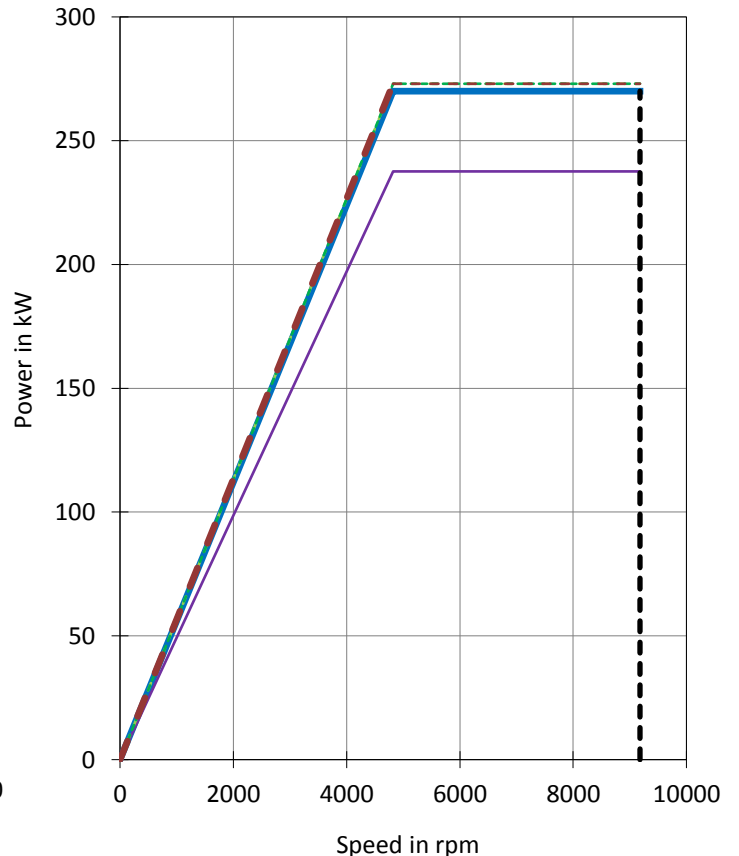
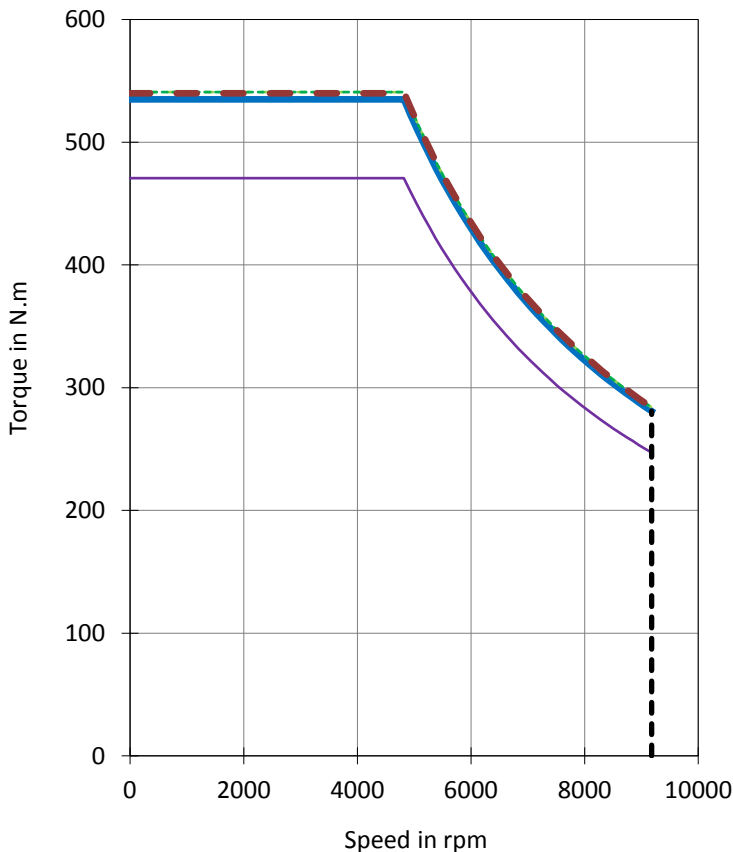


S1 power **/**	270 / 220	kW	Ps1
S6 power **/**	273 / 222	kW	Ps6
Low speed torque ** / **	535 / 435	N.m	M _o
Low speed S6 torque **/**	540 / 439	N.m	M _o S6
Base speed (S1)	4820	rpm	Nb
Max speed ****	9180	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	520	Arms	I _o
S6 current at low speed	526	Arms	I _o S6
Winding resistance(25°C) *	0.00931	Ω	Rb
Rotor inertia	0.292	kg.m ²	J
Thermal time constant	4	min	Tth
Motor mass	395	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	28	l/min	Wf

All data are given in typical values under standard conditions

- Continuous duty ,tolerances ±7.5% and rotor at 25°C
- Continuous duty ,tolerances ±7.5% and rotor at 125°C
- - - Duty Cycle 60%, 24 s, rotor at 25°C
- - - Duty Cycle 40%, 24 s, rotor at 25°C
- - - Duty Cycle 5%, 24 s, rotor at 25°C
- - - maximal speed

- * Phase to phase
- ** Tolerances ± 7.5% and rotor at 25°C
- *** minimum value with rotor at 125°C
- **** Speed limit due to the bearings:
Steel bearings limited to = 9200 rpm
Hybrid bearings limited to = 12000 rpm
X LIFE bearings limited to = ./. rpm



High speed brushless motor

MGVA50DBY
ELECTRONIC DRIVE
890PXSA-43580M



Main characteristics

S1 power **/***	270 / 220	kW	Ps1
S6 power **/***	273 / 222	kW	Ps6
Low speed torque ** / ***	535 / 435	N.m	M ₀
Low speed S6 torque **/***	540 / 439	N.m	M ₀ S6
Base speed (S1)	4820	rpm	Nb
Max speed ****	9180	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	520	Arms	I ₀
S6 current at low speed	526	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.292	kg.m ²	J
Motor mass	395	kg	M
Maximum speed with steel bearings	9200	rpm	N ₁
Maximum speed with hybrid bearings	12000	rpm	N ₂
Maximum speed with X LIFE bearings	-	rpm	N ₃
Maximum speed with Drive	9180	rpm	Nmax
Maximum mechanical speed	13000	rpm	Nmec

Electrical parameters

Number of poles	8		
Winding resistance (25°C) *	0.00931	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	66.1	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.631	Vrms / (rad/s)	ku
Torque constant	1.03	N.m / Arms	Kt
Short circuit current	589	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	0.308	mH	Lq
Inductance Ld phase to phase *	0.31	mH	Ld
Optimal phasing at permanent current	20	electrical degree	ψ ₀
Optimal phasing at S6 current	20	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.011	K/W	Rth
Motor thermal time constant	4	min	Tth
Winding thermal time constant	1	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	28	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

High speed brushless motor

MGVB40HAA
ELECTRONIC DRIVE
2X890PXSA-43420M

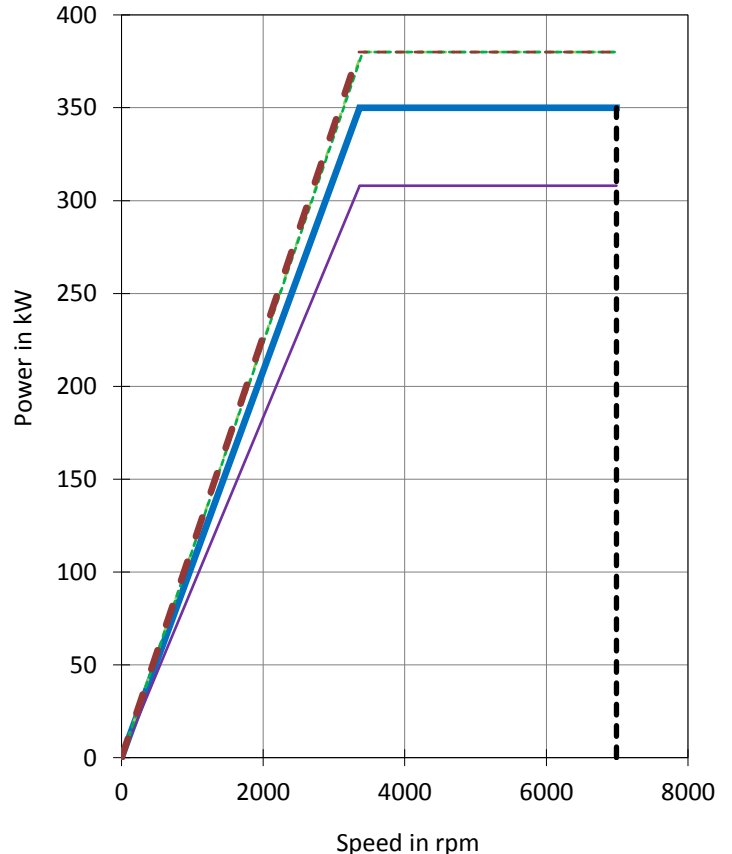
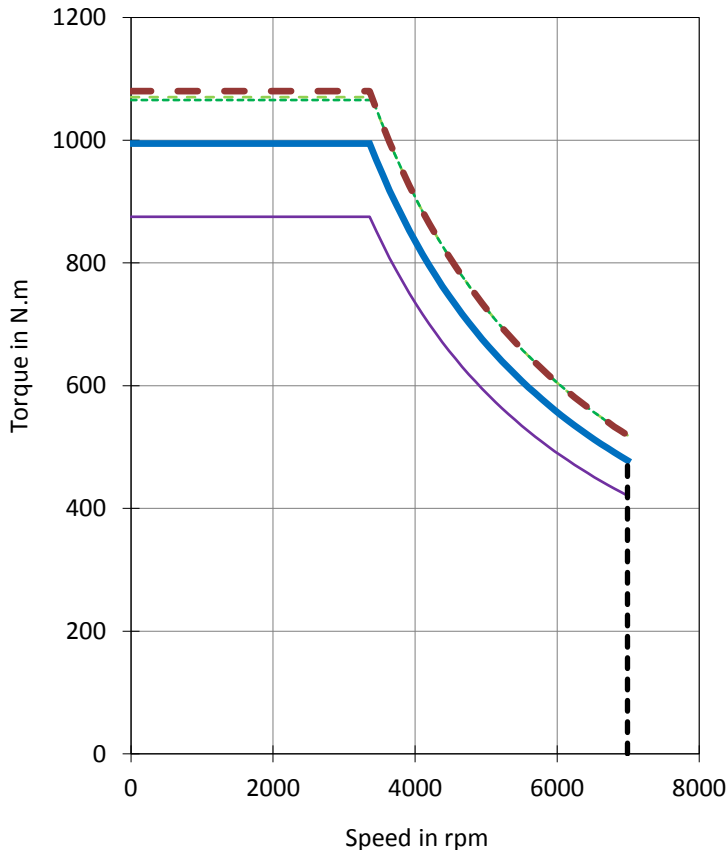


S1 power **/**	350 / 283	kW	Ps1
S6 power **/**	380 / 308	kW	Ps6
Low speed torque ** / **	1000 / 810	N.m	M ₀
Low speed S6 torque **/**	1080 / 874	N.m	M ₀ S6
Base speed (S1)	3350	rpm	Nb
Max speed ****	6990	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	722	Arms	I ₀
S6 current at low speed	780	Arms	I ₀ S6
Winding resistance(25°C) *	0.00617	Ω	Rb
Rotor inertia	0.84	kg.m ²	J
Thermal time constant	5	min	Tth
Motor mass	650	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	40	l/min	Wf

All data are given in typical values under standard conditions

- Continuous duty ,tolerances ±7.5% and rotor at 25°C
- Continuous duty ,tolerances ±7.5% and rotor at 125°C
- - - Duty Cycle 60%, 26 s, rotor at 25°C
- - - Duty Cycle 40%, 26 s, rotor at 25°C
- - - Duty Cycle 5%, 26 s, rotor at 25°C
- - - maximal speed

- * Phase to phase
- ** Tolerances ± 7.5% and rotor at 25°C
- *** minimum value with rotor at 125°C
- **** Speed limit due to the bearings:
Steel bearings limited to = ./ . rpm
Hybrid bearings limited to = ./ . rpm
X LIFE bearings limited to = 8000 rpm



High speed brushless motor

MGVB40HAA
ELECTRONIC DRIVE
2X890PXSA-43420M



Main characteristics

S1 power **/***	350 / 283	kW	Ps1
S6 power **/***	380 / 308	kW	Ps6
Low speed torque ** / ***	1000 / 810	N.m	M ₀
Low speed S6 torque **/***	1080 / 874	N.m	M ₀ S6
Base speed (S1)	3350	rpm	Nb
Max speed ****	6990	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	722	Arms	I ₀
S6 current at low speed	780	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	0.84	kg.m ²	J
Motor mass	650	kg	M
Maximum speed with steel bearings	-	rpm	N ₁
Maximum speed with hybrid bearings	-	rpm	N ₂
Maximum speed with X LIFE bearings	8000	rpm	N ₃
Maximum speed with Drive	6990	rpm	Nmax
Maximum mechanical speed	8000	rpm	Nmec

Electrical parameters

Number of poles	16		
Winding resistance (25°C) *	0.00617	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	86.1	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.822	Vrms / (rad/s)	ku
Torque constant	1.39	N.m / Arms	Kt
Short circuit current	764	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	0.185	mH	Lq
Inductance Ld phase to phase *	0.156	mH	Ld
Optimal phasing at permanent current	10	electrical degree	ψ ₀
Optimal phasing at S6 current	11	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.0078	K/W	Rth
Motor thermal time constant	5	min	Tth
Winding thermal time constant	1.1	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	40	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

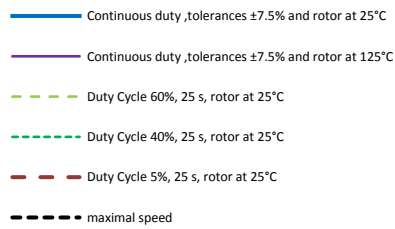
High speed brushless motor

MGVB50HBS
ELECTRONIC DRIVE
3X890PXSA-43580M



S1 power **/**	500 / 405	kW	Ps1
S6 power **/**	650 / 526	kW	Ps6
Low speed torque ** / **	1500 / 1210	N.m	M _o
Low speed S6 torque **/**	2000 / 1620	N.m	M _o S6
Base speed (S1)	3200	rpm	Nb
Max speed ****	6180	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Û
Permanent current at low speed	1010	Arms	I _o
S6 current at low speed	1340	Arms	I _o S6
Winding resistance(25°C) *	0.00417	Ω	Rb
Rotor inertia	1.04	kg.m ²	J
Thermal time constant	5	min	Tth
Motor mass	740	kg	M
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	50	l/min	Wf

All data are given in typical values under standard conditions



* Phase to phase

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

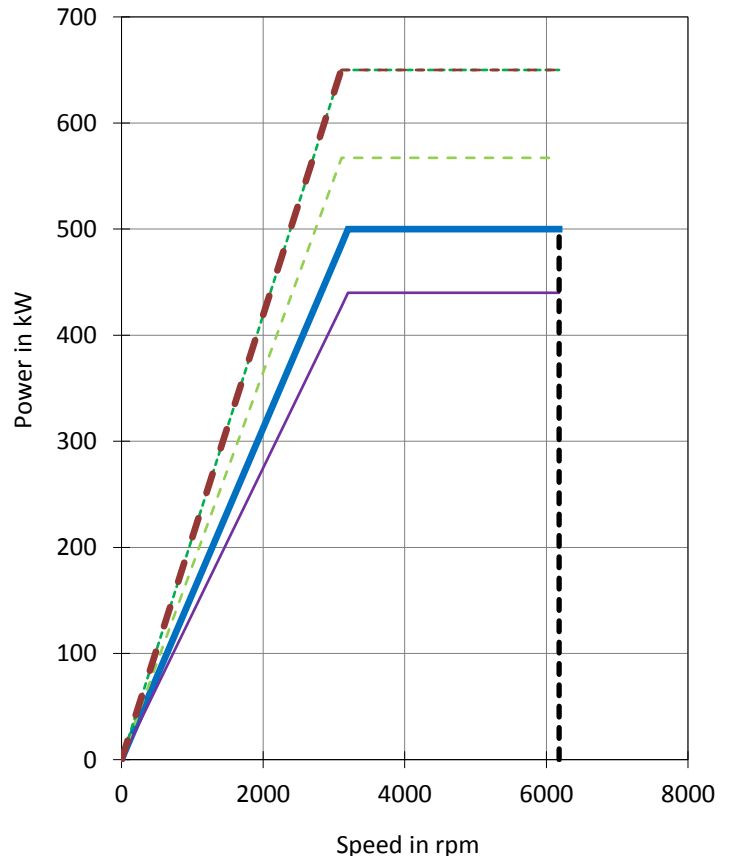
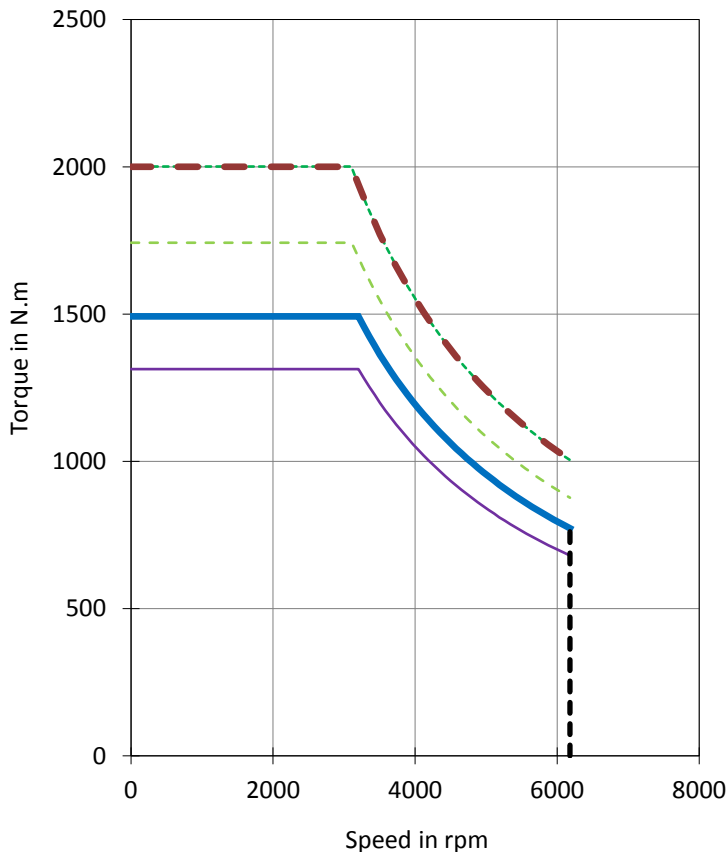
*** minimum value with rotor at 125°C

**** Speed limit due to the bearings:

Steel bearings limited to = ./ . rpm

Hybrid bearings limited to = ./ . rpm

X LIFE bearings limited to = 8000 rpm



High speed brushless motor

MGVB50HBS
ELECTRONIC DRIVE
3X890PXSA-43580M



Main characteristics

S1 power **/***	500 / 405	kW	Ps1
S6 power **/***	650 / 526	kW	Ps6
Low speed torque ** / ***	1500 / 1210	N.m	M ₀
Low speed S6 torque **/***	2000 / 1620	N.m	M ₀ S6
Base speed (S1)	3200	rpm	Nb
Max speed ****	6180	rpm	Nmax
DC voltage supply when motor is loaded	540	Vdc	Ū
Permanent current at low speed	1010	Arms	I ₀
S6 current at low speed	1340	Arms	I ₀ S6

Mechanical parameters

Rotor inertia	1.04	kg.m ²	J
Motor mass	740	kg	M
Maximum speed with steel bearings	-	rpm	N ₁
Maximum speed with hybrid bearings	-	rpm	N ₂
Maximum speed with X LIFE bearings	8000	rpm	N ₃
Maximum speed with Drive	6180	rpm	Nmax
Maximum mechanical speed	8000	rpm	Nmec

Electrical parameters

Number of poles	16		
Winding resistance (25°C) *	0.00417	Ω	Rb
Back EMF voltage phase to phase / 1000 rpm	97.2	Vrms / 1000 rpm	ke
Back EMF voltage phase to phase / (rad/s)	0.928	Vrms / (rad/s)	ku
Torque constant	1.49	N.m / Arms	Kt
Short circuit current	1290	Arms	Icc
Inductance Lq phase to phase (Back EMF voltage axis) *	0.125	mH	Lq
Inductance Ld phase to phase *	0.104	mH	Ld
Optimal phasing at permanent current	10	electrical degree	ψ ₀
Optimal phasing at S6 current	13	electrical degree	ψ _m

Thermal parameters

Motor thermal resistance	0.00624	K/W	Rth
Motor thermal time constant	5	min	Tth
Winding thermal time constant	1.1	min	Tth w
Min water cooling flow (Inlet 25°C MAX, 30% glycol)	50	l/min	Wf
Thermal class according to IEC 60034-1	F		

All data are given in typical values under standard conditions

* Phase to phase

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

*** minimum value with rotor at 125°C

**** Speed limit due to the bearings: