

Brushless Servomotors N2 -xxxx Series

U_{dc} = 320 VDC / 560 VDC



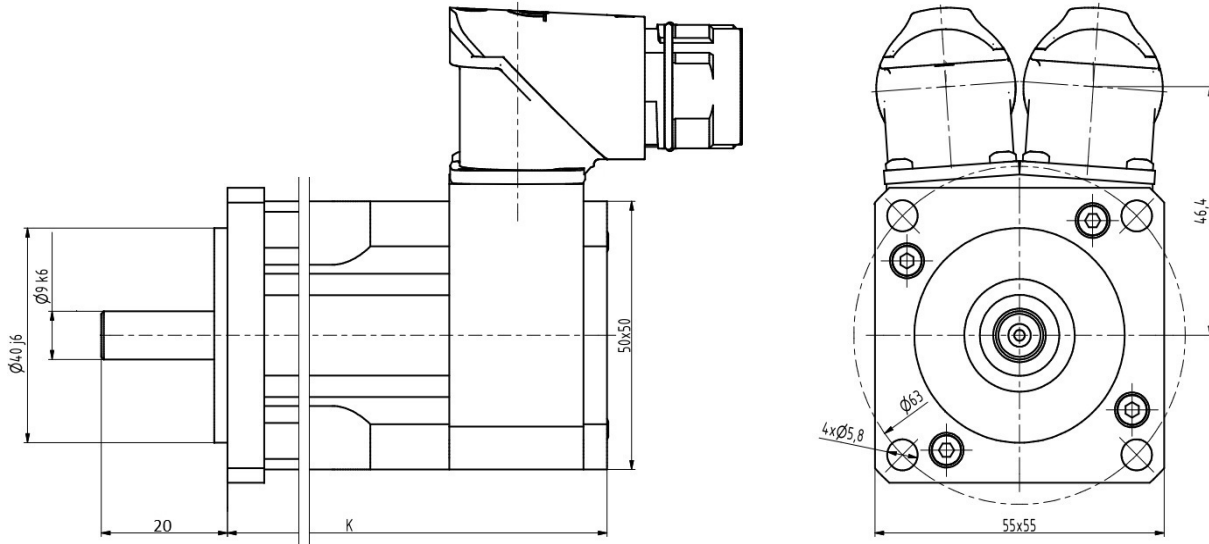
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Features:

- economically attractive
- most compact design
- needle winding technology
- plug connection

Options:

- holding brake, feather key DIN 6885
- special shaft/flange, special mechanics
- various encoders
- cable, UL certificate



Parameters			N2-0028		N2-0054		N2-0075		N2-0095	
DC Bus Voltage	U _{dc}	V	320	560	320	560	320	560	320	560
Rated Torque	M _N	Nm	0,25		0,48		0,68		0,85	
Rated AC Current	I _N	A	0,96	0,96	1,12	0,9	1,48	0,83	1,7	1,07
Stall Torque	M ₀	Nm	0,28		0,54		0,75		0,95	
Stall Current	I ₀	A	0,97	0,97	1,17	0,93	1,54	0,86	1,82	1,15
Peak Torque	M _{max}	Nm	1,12		2,16		3		3,8	
Peak AC Current	I _{max}	A	4,4	4,4	5,4	4,3	7,1	3,9	8,4	5,3
Rated Speed*	n _N	min ⁻¹	4500							
Max. Mech. Speed	n _{max}	min ⁻¹	12000							
Torque Constant	K _T	Nm/A	0,29	0,29	0,46	0,58	0,49	0,88	0,52	0,83
Voltage Constant	K _E	V/1000	17,5	17,5	28	35	29,5	53	31,5	50
Resistance Ph-Ph	R _{Ph}	Ω	26,9	26,9	25,37	41,1	16,96	53,86	13,05	33,57
Inductance Ph-Ph	L _{Ph}	mH	26,8	26,8	32,3	51,2	22,7	72,1	19	48,5
EL. Time Constant	T _{el}	ms	1,00	1,00	1,27	1,25	1,34	1,34	1,46	1,44
Therm. Constant	T _{th}	min	10		12		12		18	
Number of poles	2p		6							
Inertia	J	kgcm ²	0,05		0,07		0,09		0,11	
Rated Brake torque	M ₂	Nm	2							
Weight without brake	m	kg	0,76		0,93		1,1		1,27	
Weight with brake	m _{Br}	kg	1,2		1,37		1,54		1,71	
Length without brake	K	mm	67		82		97		112	
Length with brake	K1	mm	105		120		135		150	

* Other windings / nominal speeds possible; tolerance +/-10%; Inductance +/-25%

Protection Class	IP6x
Electrical Connections	M23 Industrial Connectors, Cable, Special
Thermal Protection	PTC, PT1000, NTC
Rated Parameters	Acc. to EN 60034-1, T _{Ambient} = 40°C, T _{Rise} = 110K, Flange Temperature ≤ 65°C
Motor Controller	Standard winding designed for power supply U _{cc} = 320 or 560 VDC, other voltages optional
Flange/Shaft	Acc. To DIN 42955N, optional R, Special

Brushless Servomotors N3 -xxxx Series

U_{dc} = 320 VDC / 560 VDC



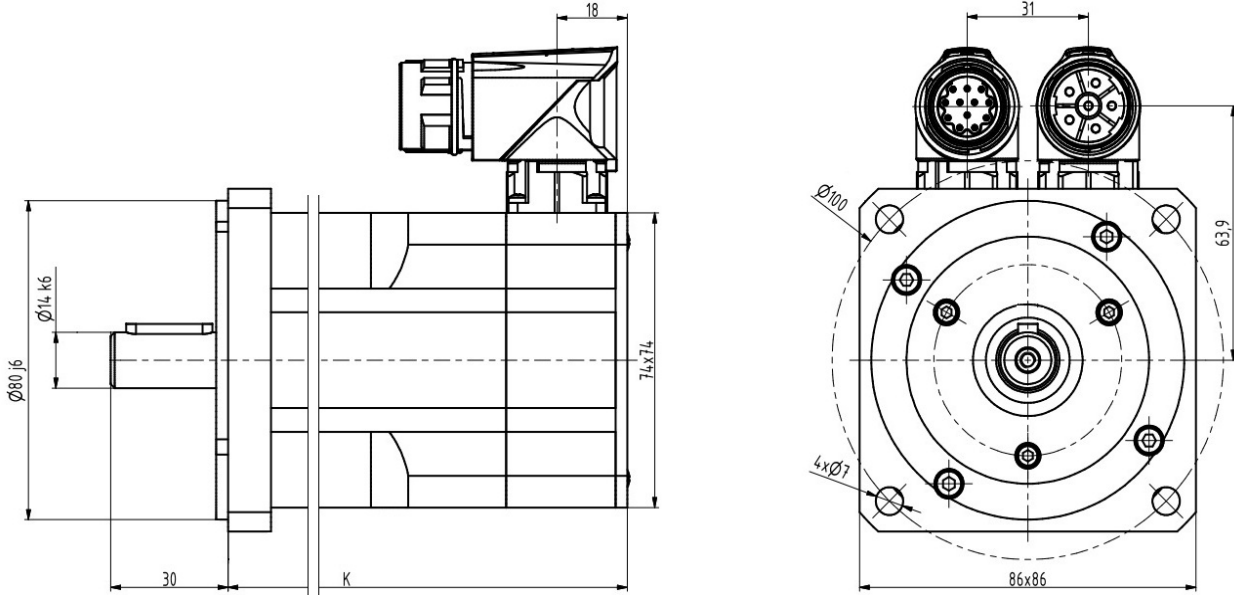
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Features:

- economically attractive
- most compact design
- needle winding technology
- plug connection

Options:

- holding brake, feather key DIN 6885
- special shaft/flange, special mechanics
- various encoders
- cable, UL certificate



Parameters			N3-0115		N3-0205		N3-0350		N3-0480	
DC Bus Voltage	U _{dc}	V	320	560	320	560	320	560	320	560
Rated Torque	M _N	Nm	1,13		1,9		3		3,7	
Rated AC Current	I _N	A	2,31	1,26	3,06	1,72	4,31	2,42	4,46	2,6
Stall Torque	M ₀	Nm	1,15		2,05		3,5		4,8	
Stall Current	I ₀	A	2,02	1,1	2,79	1,57	4,23	2,38	4,84	2,82
Peak Torque	M _{max}	Nm	3,45		6,15		10,5		14,4	
Peak AC Current	I _{max}	A	9,2	5	12,7	7,2	19,4	10,9	17,3	10,1
Rated Speed*	n _N	min ⁻¹	3000							
Max. Mech. Speed	n _{max}	min ⁻¹	12000							
Torque Constant	K _T	Nm/A	0,57	1,04	0,74	1,31	0,83	1,47	0,99	1,7
Voltage Constant	K _E	V/1000	34,5	63	44,5	79	50	89	60	103
Resistance Ph-Ph	R _{Ph}	Ω	8,39	27,76	5,26	16,4	2,81	8,89	2,5	7,53
Inductance Ph-Ph	L _{Ph}	mH	18	59,3	13,3	42,4	8,1	25,5	7,5	22,7
EL. Time Constant	T _{el}	ms	2,15	2,14	2,53	2,59	2,88	2,87	3,00	3,01
Therm. Constant	T _{th}	min	21		23		27		30	
Number of poles	2p		10							
Inertia	J	kgcm ²	0,31		0,55		1,04		1,52	
Rated Brake torque	M ₂	Nm	4,5							
Weight without brake	m	kg	1,5		2		2,9		3,8	
Weight with brake	m _{Br}	kg	2		2,5		3,4		4,3	
Length without brake	K	mm	82		100		136		172	
Length with brake	K1	mm	120		138		174		210	

* Other windings / nominal speeds possible; tolerance +/-10%; Inductance +/-25%

Protection Class IP6x

Electrical Connections M23 Industrial Connectors, Cable, Special

Thermal Protection PTC, PT1000, Thermoswitch, NTC

Rated Parameters Acc. to EN 60034-1, T_{Ambient} = 40°C, T_{Rise} = 110K, Flange Temperature ≤ 65°C

Motor Controller Standard winding designed for power supply U_{cc} = 320 or 560 VDC, other voltages optional

Flange/Shaft Acc. To DIN 42955N, optional R, Special

Brushless Servomotors

N4 -xxxx Series

U_{dc} = 320 VDC / 560 VDC



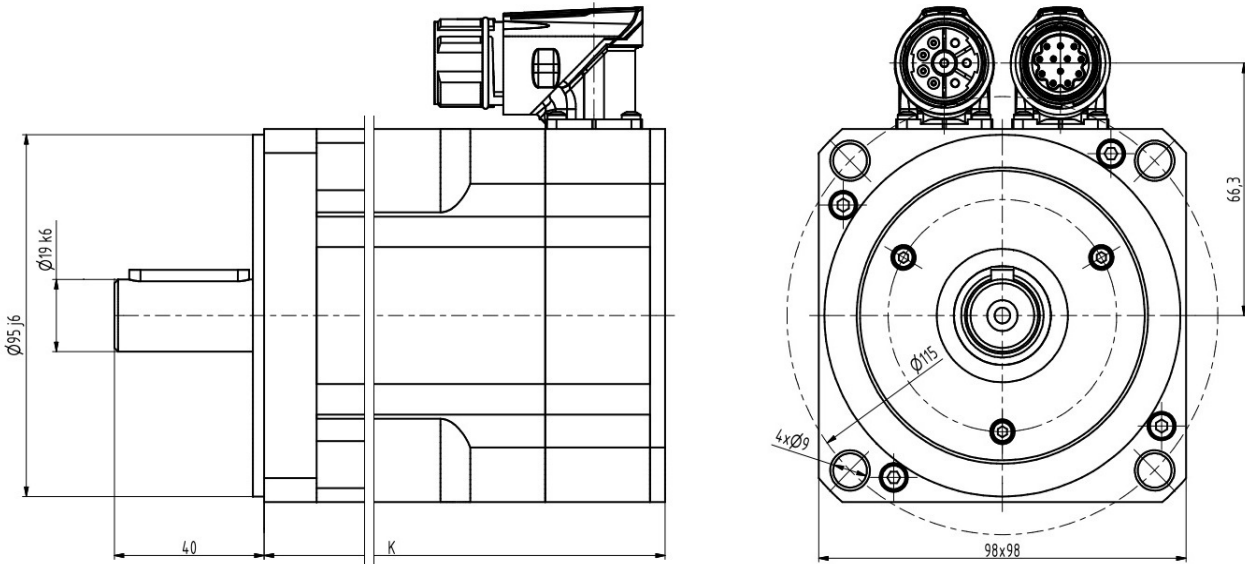
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Features:

- economically attractive
- most compact design
- needle winding technology
- plug connection

Options:

- holding brake, feather key DIN 6885
- special shaft/flange, special mechanics
- various encoders
- cable, UL certificate



Parameters			N4-0510		N4-0750		N4-0960		N4-1130	
DC Bus Voltage	U _{dc}	V	320	560	320	560	320	560	320	560
Rated Torque	M _N	Nm	4,2		6,1		7,7		8,8	
Rated AC Current	I _N	A	7,01	3,94	8,77	5,14	10,84	6,03	11,42	7,41
Stall Torque	M ₀	Nm	5,1		7,5		9,6		11,3	
Stall Current	I ₀	A	6,8	3,81	8,9	5,2	10,7	6	11,6	7,5
Peak Torque	M _{max}	Nm	15,3		22,5		28,8		33,9	
Peak AC Current	I _{max}	A	31	17,4	40,7	23,8	49,2	27,4	43,1	27,9
Rated Speed*	n _N	min ⁻¹	3000							
Max. Mech. Speed	n _{max}	min ⁻¹	9000							
Torque Constant	K _T	Nm/A	0,75	1,34	0,84	1,44	0,89	1,6	0,98	1,51
Voltage Constant	K _E	V/1000	45,5	81	51	87	54	97	59	91
Resistance Ph-Ph	R _{Ph}	Ω	1,24	3,98	0,76	2,29	0,59	1,98	0,59	1,42
Inductance Ph-Ph	L _{Ph}	mH	6,8	21,7	4,8	13,5	3,6	11,9	3,7	8,9
EL. Time Constant	T _{el}	ms	5,48	5,45	6,32	5,90	6,10	6,01	6,27	6,27
Therm. Constant	T _{th}	min	25		30		35		40	
Number of poles	2p		10							
Inertia	J	kgcm ²	2,04		3,26		4,49		5,7	
Rated Brake torque	M ₂	Nm	9							
Weight without brake	m	kg	3,8		5,1		6,4		7,7	
Weight with brake	m _{Br}	kg	4,6		5,9		7,2		8,5	
Length without brake	K	mm	113		143		173		203	
Length with brake	K1	mm	154		184		214		244	

* Other windings / nominal speeds possible; tolerance +/-10%; Inductance +/-25%

Protection Class	IP6x
Electrical Connections	M23 Industrial Connectors, Cable, Special
Thermal Protection	PTC, PT1000, Thermoswitch, NTC
Rated Parameters	Acc. to EN 60034-1, T _{Ambient} = 40°C, T _{Rise} = 110K, Flange Temperature ≤ 65°C
Motor Controller	Standard winding designed for power supply U _{cc} = 320 or 560 VDC, other voltages optional
Flange/Shaft	Acc. To DIN 42955N, optional R, Special

Brushless Servomotors N5 -xxxx Series

U_{dc} = 320 VDC / 560 VDC



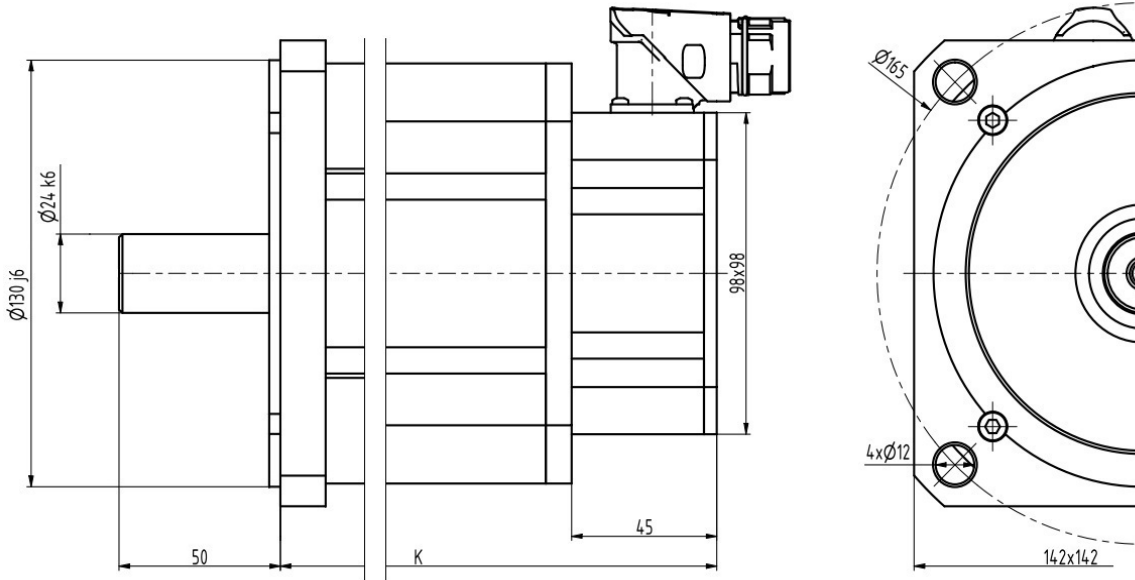
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Features:

- economically attractive
- most compact design
- needle winding technology
- plug connection

Options:

- holding brake, feather key DIN 6885
- special shaft/flange, special mechanics
- various encoders
- cable, UL certificate



Parameters			N5-1200		N5-1600		N5-2000		N5-2400	
DC Bus Voltage	U _{dc}	V	320	560	320	560	320**	560	320**	560
Rated Torque	M _N	Nm	10,5		13,8		16		20	
Rated AC Current	I _N	A	14,73	8,25	16,95	9,89	18,4	11,5	22,97	14,35
Stall Torque	M ₀	Nm	12		16		20		24	
Stall Current	I ₀	A	14,2	8	17,3	10,1	18,6	11,6	22,3	14
Peak Torque	M _{max}	Nm	36		48		60		72	
Peak AC Current	I _{max}	A	52,5	29,4	61	35,6	63,6	39,8	76,6	47,9
Rated Speed*	n _N	min ⁻¹	3000							
Max. Mech. Speed	n _{max}	min ⁻¹	9000							
Torque Constant	K _T	Nm/A	0,84	1,51	0,93	1,59	1,08	1,72	1,08	1,72
Voltage Constant	K _E	V/1000	51	91	56	96	65	104	65	104
Resistance Ph-Ph	R _{Ph}	Ω	0,42	1,33	0,3	0,88	0,28	0,701	0,22	0,56
Inductance Ph-Ph	L _{Ph}	mH	3,4	10,9	2,5	7,5	2,4	6,3	2	5
EL. Time Constant	T _{el}	ms	8,10	8,20	8,33	8,52	8,57	8,99	9,09	8,93
Therm. Constant	T _{th}	min	45,00		55,00		65,00		75,00	
Number of poles	2p		10							
Inertia	J	kgcm ²	7,9		11,5		15,1		18,7	
Rated Brake torque	M ₂	Nm	18							
Weight without brake	m	kg	7,5		9,5		11,5		13,5	
Weight with brake	m _{Br}	kg	8,6	0	10,6		12,6		14,6	
Length without brake	K	mm	145		175		205		235	
Length with brake	K1	mm	181		211		241		271	

* Other windings / nominal speeds possible; tolerance +/-10%; Inductance +/-25%

**Special winding

Protection Class IP6x

Electrical Connections M23 Industrial Connectors, Cable, Special

Thermal Protection PTC, PT1000, Thermoswitch, NTC

Rated Parameters Acc. to EN 60034-1, T_{Ambient} = 40°C, T_{Rise} = 110K, Flange Temperature ≤ 65°C

Motor Controller Standard winding designed for power supply U_{cc} = 320 or 560 VDC, other voltages optional

Flange/Shaft Acc. To DIN 42955N, optional R, Special

Brushless Servomotors N6 -xxxx Series

U_{dc} = 320 VDC / 560 VDC



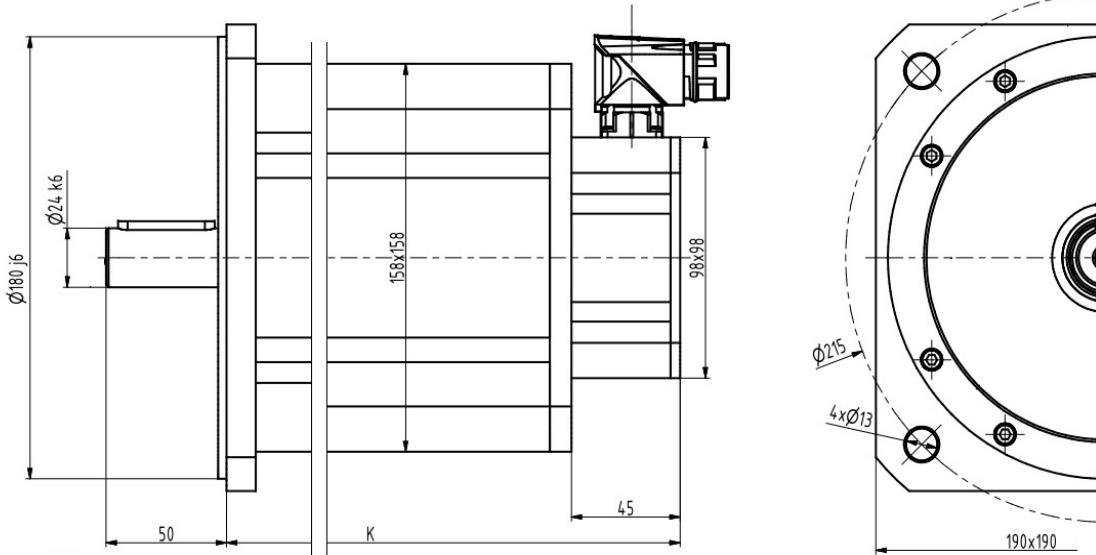
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Features:

- economically attractive
- most compact design
- needle winding technology
- plug connection

Options:

- holding brake, feather key DIN 6885
- special shaft/flange, special mechanics
- various encoders
- cable, UL certificate



Parameters			N6-1800		N6-2400		N6-3000		N6-3800		N6-4400	
DC Bus Voltage	U _{dc}	V	560**	560	560**	560	560**	560	560	560**	560	560**
Rated Torque	M _N	Nm	14,8	13	20	17	25,3	21	29	25	36,5	30
Rated AC Current	I _N	A	8,56	10,96	10,66	13,81	12,92	16,19	14,95	19,71	17,31	24,35
Stall Torque	M ₀	Nm	18		24		30		38		44	
Stall Current	I ₀	A	8,8	12,2	10,8	15,3	12,8	17,8	16,6	23,9	17,7	28,3
Peak Torque	M _{max}	Nm	51		72		90		114		132	
Peak AC Current	I _{max}	A	32,9	45,4	42,3	59,6	45,9	63,9	64,4	92,5	63,7	101,6
Rated Speed*	n _N	min ⁻¹	2000	3000	2000	3000	2000	3000	2000	3000	2000	3000
Max. Mech. Speed	n _{max}	min ⁻¹	6000									
Torque Constant	K _T	Nm/A	2,03	1,47	2,22	1,57	2,35	1,69	2,28	1,62	2,547	1,55
Voltage Constant	K _E	V/1000	123	89	134	95	142	102	138	98	154	94
Resistance Ph-Ph	R _{Ph}	Ω	1,19	0,62	0,81	0,41	0,63	0,33	0,52	0,25	0,49	0,19
Inductance Ph-Ph	L _{Ph}	mH	13,7	7,2	10,8	5,5	9,2	4,7	7,2	3,5	7	2,8
EL. Time Constant	T _{el}	ms	11,51	11,61	13,33	13,41	14,60	14,24	13,85	14,00	14,29	14,74
Therm. Constant	T _{th}	min	42		47		52		57		62	
Number of poles	2p		10									
Inertia	J	kgcm ²	18,5		25,6		32,7		39,9		47	
Rated Brake torque	M ₂	Nm	36 / 72***									
Weight without brake	m	kg	10,1		12,8		15,5		18,3		21	
Weight with brake	m _{Br}	kg	13,2		15,9		18,6		21,4		24,1	
Length without brake	K	mm	158		183		208		233		258	
Length with brake	K1	mm	222		247		272		297		322	

* Other windings / nominal speeds possible; tolerance +/-10%; Inductance +/-25%

**Special winding

***reinforced brake on request

Protection Class IP6x

Electrical Connections M23 Industrial Connectors, Cable, Special

Thermal Protection PTC, PT1000, Thermoswitch, NTC

Rated Parameters Acc. to EN 60034-1, T_{Ambient} = 40°C, T_{Rise} = 110K, Flange Temperature ≤ 65°C

Motor Controller Standard winding designed for power supply U_{cc} = 320 or 560 VDC, other voltages optional

Flange/Shaft Acc. To DIN 42955N, optional R, Special

Brushless Servomotors N7 -xxxx Series

U_{dc} = 320 VDC / 560 VDC



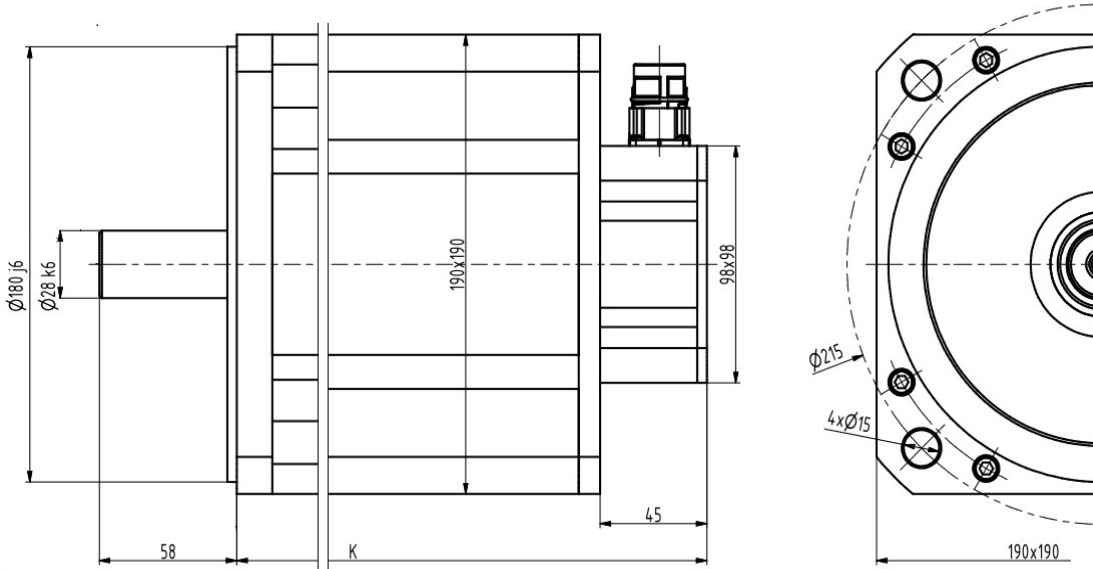
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Features:

- economically attractive
- most compact design
- needle winding technology
- plug connection

Options:

- holding brake, feather key DIN 6885
- special shaft/flange, special mechanics
- various encoders
- cable, UL certificate



Parameters			N7-3000		N7-4000		N7-5000		N7-6000	
DC Bus Voltage	U _{dc}	V	560**	560	560	560**	560	560**	560	560**
Rated Torque	M _N	Nm	26,1	23	32,8	25	40,4	30	54	36,2
Rated AC Current	I _N	A	13,24	15,52	15,38	20,1	21,82	24,35	14,58	20,71
Stall Torque	M ₀	Nm	30		40		50		60	
Stall Current	I ₀	A	13	16,3	16,7	26,3	22,7	31,5	15,1	30
Peak Torque	M _{max}	Nm	85		120		150		180	
Peak AC Current	I _{max}	A	46,1	57,7	59,1	90,2	78,9	109,3	51,1	101,8
Rated Speed*	n _N	min ⁻¹	2000	3000	2000	3000	2000	3000	1000	2500
Max. Mech. Speed	n _{max}	min ⁻¹	6000							
Torque Constant	K _T	Nm/A	2,3	1,84	2,4	1,52	2,2	1,59	3,99	2,067
Voltage Constant	K _E	V/1000	139	111	145	92	133	98	241	125
Resistance Ph-Ph	R _{Ph}	Ω	0,64	0,41	0,43	0,17	0,25	0,13	0,62	0,16
Inductance Ph-Ph	L _{Ph}	mH	10,1	6,4	7,8	3,1	4,9	2,6	13	3
El. Time Constant	T _{el}	ms	15,78	15,61	18,14	18,24	19,60	20,00	20,97	18,75
Therm. Constant	T _{th}	min	80		90		100		108	
Number of poles	2p		10							
Inertia	J	kgcm ²	49,5		69		88		107	
Rated Brake torque	M ₂	Nm	36 / 72***							
Weight without brake	m	kg	16,5		21,5		26,5		31,5	
Weight with brake	m _{Br}	kg	20,1		25,1		30,1		35,1	
Length without brake	K	mm	181		211		241		271	
Length with brake	K1	mm	240		270		300		330	

* Other windings / nominal speeds possible; tolerance +/-10%; Inductance +/-25%

**Special winding

***reinforced brake on request

Protection Class IP6x

Electrical Connections M23 Industrial Connectors, Cable, Special

Thermal Protection PTC, PT1000, Thermoswitch, NTC

Rated Parameters Acc. to EN 60034-1, T_{Ambient} = 40°C, T_{Rise} = 110K, Flange Temperature ≤ 65°C

Motor Controller Standard winding designed for power supply U_{cc} = 320 or 560 VDC, other voltages optional

Flange/Shaft Acc. To DIN 42955N, optional R, Special