

Frameless servomotors

NK series

0,4 to 72 Nm



Description

Servo motor Kit is an innovative and global approach enabling the complete integration of motor in a simplified mechanical system.

The size constraints are considered with a maximum effectiveness.

This approach provides accuracy, reliability and robustness benefits matchless with traditional construction.

A complete base is available to meet the design of many mechanical systems in different application domains. Other adaptation can be developed on request.

Advantages

Compactness and reduced weight of mechanical system

Reduced costs

Direct Drive : accurate and robust mechanics complete and optimized solution including sensor, cooling system and drive

Integration assistance

Technical specifications

Frameless servomotors					
Model	Low speed Torque (N.m)	Max. speed (rpm)	Max. constant power (kW)	Inertia (kg.m ² .10 ⁻⁹)	Weight (kg)
N K 1 1 0	0.4	8000	0.25	1.3	0.422
N K 2 1 0	0.9	6000	0.4	3.8	0.72
N K 3 1 0	2		0.9	7.9	0.885
N K 4 2 0	4		1.75	29	1.68
N K 4 3 0	5.5		2.25	42.6	2.305
N K 6 2 0	8	5000	2.75	98	3.71
N K 6 3 0	12	4500	3.7	147	5.355
N K 8 2 0	15	5600	5.8	320	6.165
N K 8 4 0	28	3500	6.8	620	11.7
N K 8 6 0	42	2600	7.7	920	17.445

Frameless servomotors with water cooling					
Model	Low speed Torque (N.m)	Max. speed (rpm)	Max. constant power (kW)	Inertia (kg.m ² .10 ⁻⁹)	Weight (kg)
N K 3 1 0 W	3.4	15000	4.7	7.9	0.885
N K 4 2 0 W	7	12000	8	29	1.68
N K 4 3 0 W	10	10000	10	42.6	2.305
N K 6 2 0 W	14		14	98	3.71
N K 6 3 0 W	21	8000	17	147	5.355
N K 8 2 0 W	26		20	320	6.165
N K 8 4 0 W	48	6000	30	620	11.7
N K 8 6 0 W	72	4000		920	17.44

Autoryzowany dystrybutor Parker:

ARA
PNEUMATIK

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0,45 to 72 Nm



Selection and ordering

(For frameless servomotors with water cooling, please contact us)

230 VAC power supply- mono or three-phased

Stall Torque $M_0(1)$ (Nm)	Rated Torque M_N (Nm)	Max. Speed AC890 - 638 - Digivex N_{MAX} (rpm)	Max. Speed Compax 3 $N_{COMPAX3}$ (rpm)	Moment of Inertia J ($kg.m^2.10^{-5}$)	Product Code												
0.45	0.33	6000	6000	1.30	N	K	1	1	0	E	▪	P	R	1	▪	0	0
1.00	0.80	4000	3420	3.80	N	K	2	1	0	E	▪	T	R	1	▪	0	0
1.00	0.61	6000	5530	3.80	N	K	2	1	0	E	▪	P	R	1	▪	0	0
2.00	1.80	2300	1930	7.90	N	K	3	1	0	E	▪	P	R	1	▪	0	0
2.00	1.65	4000	3600	7.90	N	K	3	1	0	E	▪	K	R	1	▪	0	0
4.00	3.53	2300	1990	29.00	N	K	4	2	0	E	▪	P	R	1	▪	0	0
4.00	3.14	4000	3620	29.00	N	K	4	2	0	E	▪	J	R	1	▪	0	0
5.50	4.68	3200	2860	42.60	N	K	4	3	0	E	▪	J	R	1	▪	0	0
5.50	4.29	4000	3700	42.60	N	K	4	3	0	E	▪	F	R	1	▪	0	0
8.00	7.42	2200	1880	98.00	N	K	6	2	0	E	▪	R	R	1	▪	0	0
8.00	6.08	4000	3670	98.00	N	K	6	2	0	E	▪	J	R	1	▪	0	0
12.00	10.73	1450	1320	147.00	N	K	6	3	0	E	▪	R	R	1	▪	0	0
12.00	9.21	2800	2600	147.00	N	K	6	3	0	E	▪	K	R	1	▪	0	0
12.00	7.60	4000	3750	147.00	N	K	6	3	0	E	▪	G	R	1	▪	0	0
16.00	13.24	3600	3310	320.00	N	K	8	2	0	E	▪	L	R	1	▪	0	0
28.00	22.88	2200	2070	620.00	N	K	8	4	0	E	▪	J	R	1	▪	0	0
41.00	32.80	1900	1900	920.00	N	K	8	6	0	E	▪	F	R	1	▪	0	0
41.00	27.47	2600	2510	920.00	N	K	8	6	0	E	▪	D	R	1	▪	0	0

400 VAC power supply- three-phased

Stall Torque $M_0(1)$ (Nm)	Rated Torque M_N (Nm)	Max. Speed AC890 - 637f - Digivex NMAX (rpm)	Max. Speed Compax 3 $N_{COMPAX3}$ (rpm)	Moment of Inertia J ($kg.m^2.10^{-5}$)	Product Code												
1.00	0.61	6000	6000	3.80	N	K	2	1	0	E	▪	T	R	1	▪	0	0
2.00	1.65	4000	3570	7.90	N	K	3	1	0	E	▪	P	R	1	▪	0	0
4.00	3.60	2000	1710	29.00	N	K	4	2	0	E	▪	V	R	1	▪	0	0
4.00	3.14	4000	3630	29.00	N	K	4	2	0	E	▪	P	R	1	▪	0	0
5.50	5.38	1000	1000	42.60	N	K	4	3	0	E	▪	V	R	1	▪	0	0
5.50	4.77	3000	2670	42.60	N	K	4	3	0	E	▪	P	R	1	▪	0	0
5.50	4.29	4000	3650	42.60	N	K	4	3	0	E	▪	L	R	1	▪	0	0
8.00	7.52	2000	1730	98.00	N	K	6	2	0	E	▪	V	R	1	▪	0	0
8.00	6.17	3900	3440	98.00	N	K	6	2	0	E	▪	R	R	1	▪	0	0
8.00	4.10	4500	5700	98.00	N	K	6	2	0	E	▪	J	R	1	▪	0	0
12.00	10.83	1350	1150	147.00	N	K	6	3	0	E	▪	V	R	1	▪	0	0
12.00	9.34	2700	2390	147.00	N	K	6	3	0	E	▪	R	R	1	▪	0	0
12.00	7.60	4000	3710	147.00	N	K	6	3	0	E	▪	N	R	1	▪	0	0
16.00	14.72	1900	1620	320.00	N	K	8	2	0	E	▪	K	R	1	▪	0	0
16.00	12.94	3900	3600	320.00	N	K	8	2	0	E	▪	R	R	1	▪	0	0
28.00	23.17	2100	1910	620.00	N	K	8	4	0	E	▪	Q	R	1	▪	0	0
28.00	18.56	3500	3270	620.00	N	K	8	4	0	E	▪	K	R	1	▪	0	0
41.00	27.47	2600	2440	920.00	N	K	8	6	0	E	▪	J	R	1	▪	0	0

* Mounting on aluminium flange : 280 x 280 x 8 mm (NK1-2), 400 x 400 x 12 mm (NK3-8)

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Drives associations

230 VAC power supply- mono or three-phased							
Standards Motors Ref.	Low Speed Current I_0 (A _{RMS})	Nominal Current I_N (A _{RMS})	Drives sizes				
			Compax3	AC890SD	AC650S	638	Digivex
NK110E...P...	0.99	0.78	C3S100V2...	890SD-231300B0...	650S-22140010...	638A-01-3-F...	DSD13004...
NK210E...T...	1.34	1.11	C3S100V2...	890SD-231300B0...	650S-22140010...	638A-02-3-F...	DSD13004...
NK210E...P...	1.99	1.32	C3S100V2...	890SD-231300B0...	650S-22140010...	638A-02-3-F...	DSD13004...
NK310E...P...	1.39	1.27	C3S100V2...	890SD-231300B0...	650S-22140010...	638A-02-3-F...	DSD13004...
NK310E...K...	2.43	2.06	C3S100V2...	890SD-231550B0...	650S-22140010...	638A-04-3-F...	DSD13004...
NK420E...P...	2.71	2.41	C3S100V2...	890SD-231550B0...	650S-22140010...	638A-04-3-F...	DSD13004...
NK420E...J...	4.69	3.74	C3S100V2...	890SD-231700B0...	650S-22170020...	638A-04-3-F...	DSD13007...
NK430E...J...	5.24	4.53	C3S100V2...	890SD-231700B0...	650S-22170020...	638A-06-3-F...	DSD13007...
NK430E...F...	6.64	5.28	C3S100V2...	890SD-232110B0...	650S-22170020...	-	DSD13015...
NK620E...R...	5.31	4.99	C3S100V2...	890SD-231700B0...	650S-22170020...	638A-06-3-F...	DSD13007...
NK620E...J...	9.89	7.82	C3S100V2...	890SD-232165B0...	-	-	DSD13015...
NK630E...R...	5.25	4.75	C3S100V2...	890SD-231700B0...	650S-22170020...	638A-06-3-F...	DSD13007...
NK630E...K...	9.86	7.80	C3S100V2...	890SD-232165B0...	-	-	DSD13015...
NK630E...G...	13.90	9.31	C3S150V2...	890SD-232240C0...	-	-	DSD13015...
NK820E...L...	17.50	14.82	-	890SD-232240C0...	-	-	DSD13030...
NK840E...J...	18.90	15.70	-	890SD-232240C0...	-	-	DSD13030...
NK860E...F...	27.00	22.00	-	890SD-232300C0...	-	-	DSD13060...
NK860E...D...	33.00	22.72	-	-	-	-	DSD13060...

400 VAC power supply- three-phased							
Standards Motors Ref.	Low Speed Current I_0 (A _{RMS})	Nominal Current I_N (A _{RMS})	Drives sizes				
			Compax3	AC890SD	AC650S	637f	Digivex
NK210E...T...	1.34	0.89	C3S015V4...	890SD-531200B0...	650S-43125020...	637f/K02-6	DSD16002...
NK310E...P...	1.39	1.18	C3S015V4...	890SD-531200B0...	650S-43125020...	637f/K02-6	DSD16002...
NK420E...V...	1.36	1.23	C3S015V4...	890SD-531200B0...	650S-43125020...	637f/K02-6	DSD16002...
NK420E...P...	2.71	2.16	C3S038V4...	890SD-531450B0...	650S-43155020...	637f/K04-6	DSD16004...
NK430E...V...	1.41	1.38	C3S015V4...	890SD-531200B0...	650S-43125020...	637f/K02-6	DSD16002...
NK430E...P...	2.82	2.48	C3S038V4...	890SD-531450B0...	650S-43155020...	637f/K04-6	DSD16004...
NK430E...L...	3.78	3.01	C3S038V4...	890SD-531600B0...	650S-43155020...	637f/K04-6	DSD16008...
NK620E...V...	2.83	2.69	C3S038V4...	890SD-531450B0...	650S-43155020...	637f/K04-6	DSD16004...
NK620E...R...	5.31	4.25	C3S075V4...	890SD-532100B0...	650S-43155020...	637f/K06-6	DSD16008...
NK620E...J...	9.89	5.56	C3S150V4...	890SD-532160B0...	650S-43216030...	637f/K10-6	DSD16016...
NK630E...V...	2.62	2.40	C3S038V4...	890SD-531450B0...	650S-43155020...	637f/K04	DSD16004...
NK630E...R...	5.25	4.20	C3S075V4...	890SD-532100B0...	650S-43155020...	637f/K06	DSD16008...
NK630E...N...	7.92	5.30	C3S150V4...	890SD-532120B0...	650S-43190030...	637f/K10	DSD16016...
NK820E...K...	5.16	4.79	C3S075V4...	890SD-532100B0...	650S-43155020...	637f/K06	DSD16008...
NK820E...R...	11.00	9.07	C3S150V4...	890SD-532160B0...	650S-43216030...	637f/K16	DSD16016...
NK840E...Q...	10.10	8.47	C3S150V4...	890SD-532160B0...	650S-43216030...	637f/K16	DSD16016...
NK840E...K...	16.80	11.51	C3S300V4...	890SD-532240C0...	-	637f/K22	DSD16032...
NK860E...J...	18.50	12.78	C3S300V4...	890SD-532240C0...	-	637f/K22	DSD16032...

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NK series

0,4 to 72 Nm



NK codification

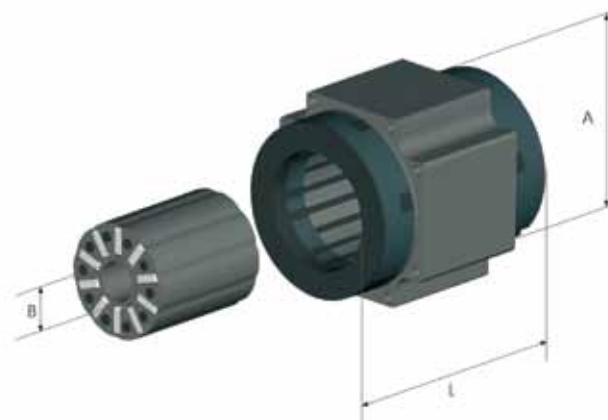
NK series			Product code example							
	NK	4	20	E	Y	K	R	1	0	00
MOTORS FAMILY										
10 Poles Frameless Brushless Motors			NK							
SIZES										
See Drawings			1 - 8							
LENGTHS										
See Drawings			10 - 60							
COOLING										
Natural cooling			E							
Water cooling			W							
FEEDBACK SENSORS	SUPPLY	MOTORS								
2 poles resolver (standard)	Standard	NK1 - 8		A						
Cost effective absolute POSIVEX encoder	Option	NK2 - 8		M						
Absolute single-turn HIPERFACE encoder 128 ppt SKS36	Option	NK2 - 8		R						
Absolute multi-turn HIPERFACE encoder 128 ppt SKM36	Option	NK2 - 8		S						
Absolute single-turn HIPERFACE encoder 1024 ppt SRS50	Option	NK3 - 8		T						
Absolute multi-turn HIPERFACE encoder 1024 ppt SRM50	Option	NK3 - 8		U						
Absolute single-turn ENDAT encoder ECN 1113	Option	NK2 - 8		V						
Absolute multi-turn ENDAT encoder EQN 1125	Option	NK2 - 8		W						
Low cost encoder with 10 commutation tracks 2048 ppr	Option	NK2 - 8		X						
Without feedback sensor (standard)	Option	NK1 - 8		Y						
Other sensor	Option	NK1 - 8		Z						
Absolute multi-turn HIPERFACE 16ppr SEL37 (NX1 on request)	Option	NK2 - 8		Q						
THERMAL PROTECTION + BRAKE	SUPPLY	MOTORS								
Without	Standard	NK1 - 8		0						
PTC	Option	NK1 - 8		1						
Thermo switch	Option	NK1 - 8		2						
Brake	Option	NK1 - 8		3						
Brake + PTC	Option	NK1 - 8		4						
Brake + Thermo switch	Option	NK1 - 8		5						
MECHANICAL CHARACTERISTICS	SUPPLY	MOTORS								
Standard (see drawings)	Standard	NK1 - 8		00						
Customization	On demand	NK1 - 8		xx						

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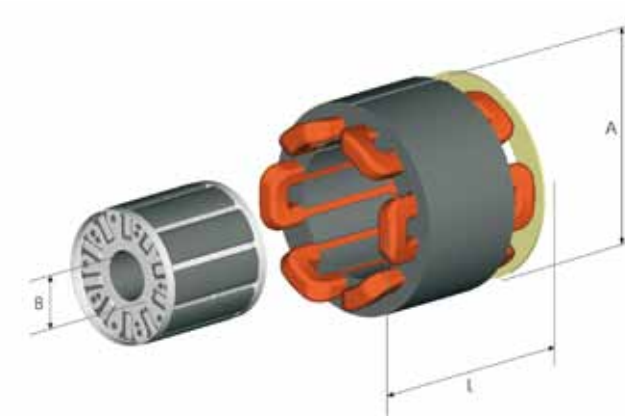
0,4 to 72 Nm

Dimensions



2

Motor	A (mm)	B (mm)	L (mm)
N K 1 1 0	42	9	65
N K 2 ■ ■	56	12	68



Motor	A (mm)	B (mm)	L (mm)
N K 3 1 0	62	14	75
N K 4 2 0	80	20	92
N K 4 3 0			117
N K 6 2 0	111	26	104
N K 6 3 0			133
N K 8 2 0	143	40	110
N K 8 4 0			170
N K 8 6 0			230
N K 3 1 0 W	82	14	85
N K 4 2 0 W	100	20	102
N K 4 3 0 W			127
N K 6 2 0 W	131	26	114
N K 6 3 0 W			143
N K 8 2 0 W	143	40	120
N K 8 4 0 W			180
N K 8 6 0 W			240

Option

Several types of sensors are combined with servo motor kit according to the application requirements such as robustness, resolution, and accuracy: resolver, high resolution sensor, optical encoder...

Autoryzowany dystrybutor Parker:

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