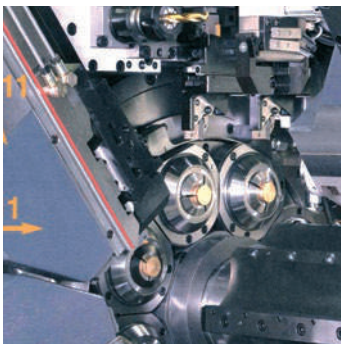
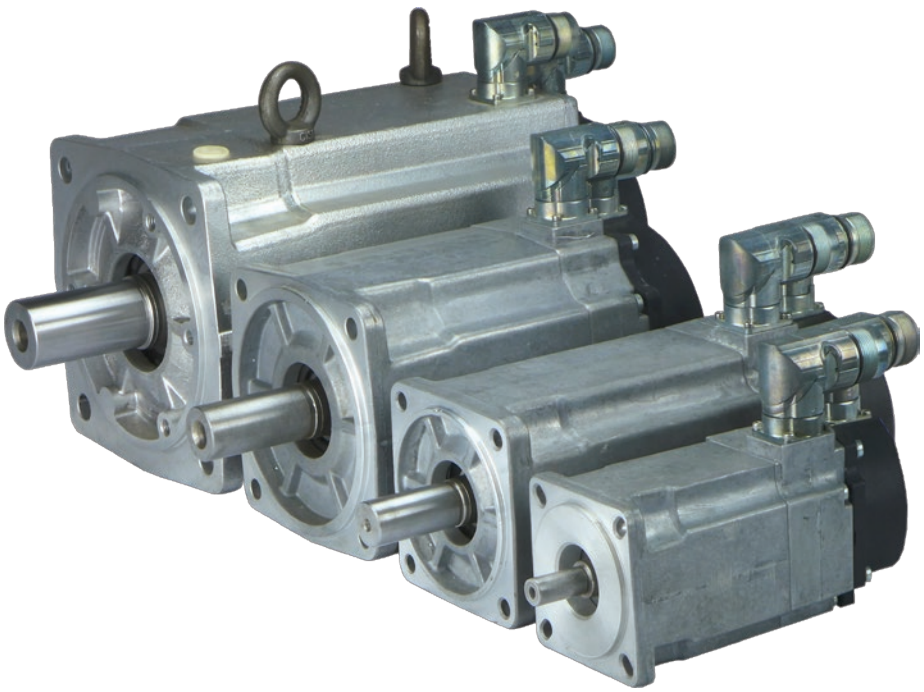


- aerospace
- climate control
- electromechanical
- filtration
- fluid & gas handling
- hydraulics
- pneumatics
- process control
- sealing & shielding



NV Series

High Speed Servo Motor

Parker核心代理商

Parker

杭州摩森机电科技有限公司
系统集成商
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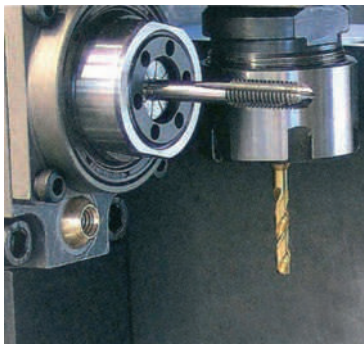


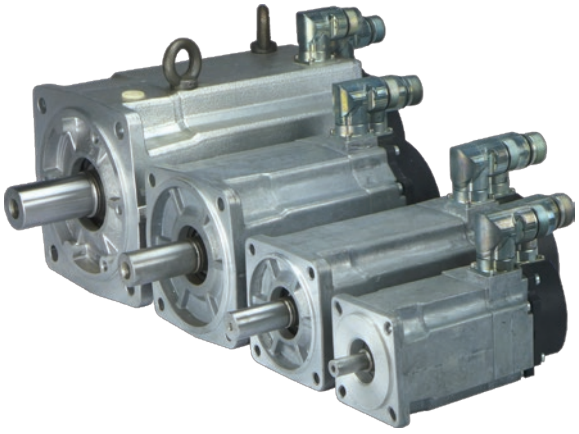
ENGINEERING YOUR SUCCESS.

High Speed Servo Motor - NV Series

Overview

Description

The NV series is a range of compact servomotors specially designed for high speed operation.
NV motors are balanced with high accuracy to minimize the level of vibration and to increase their service life, making them particularly suitable for auxiliary spindle applications on machine tools. NV motors feature high dynamic performance and torque densities, while taking advantage of a large variety of options and customization possibilities.
Available in kit version on request



Advantages

- **High-Speed capabilities, precise and accurate positioning, high dynamic performance**
- **Compact and robust**
- **Design flexibility**

Application

- Special Machines
- Tooling Machines
- Test Benches
- Sprayers
- Centrifuges

Features

- Mounting
  - Flange with clearance holes
- Mechanical interface
  - Solid smooth shaft
- Feedback sensor
  - 2 pole resolver (standard)
  - Absolute encoders: Hiperface (option)
  - Without sensor (option)
- Connections
  - Connectors (standard)
  - Cables (option)
  - Terminal box (fan cooled motors)
- Options
  - Thermal protection (PTC, KTY)

Technical Characteristics - Overview

Motor type	Synchronous permanent magnet servomotors
Poles number	10
Voltage supply	230 VAC or 400 VAC
Power range	0.7...11 kW
Torque range	0.4...11.5 Nm
Speed range	7000...17 000 min^{-1}
Ingress protection level (IEC60034-5)	• IP64 (standard) • IP65 (option) • IP67 (on request)
Cooling method	• Natural ventilation (standard) • Fan cooling (NV860V) • Water cooled up to 60 kW (on request)
Temperature class (IEC60034-1)	Class F

Technical Data

Model	Size	Stall [1]		Nominal [1]				Peak [1] Torque	Inertia	Ke [2] [3]	Kt [2] [3]
		Torque	Current	Power	Torque	Speed	Current		No brake		
		T_0 [Nm]	I_0 [A]	P_n [kW]	T_n [Nm]	n [min^{-1}]	I_n [A]	T_{max} [Nm]	J [$kgmm^2$]	Ke [Vs]	Kt [Nm/A_{rms}]
230VAC power supply - single or three-phased											
NV310EAW	71	0.9	5.13	0.73	0.41	17 000	2.78	1.8	73.4	11.1	0.175
400 VAC power supply - three-phased											
NV420EAI	91.5	1.9	5.25	1.4	0.95	14 000	2.78	2.87	290	22.1	0.362
NV430EAH	91.5	2.5	5.63	1.5	1.3	11 000	3.48	3.78	426	28	0.444
NV620EAJ	121	3.5	9.86	1.8	1.6	11 000	5.02	5.42	900	23.8	0.355
NV630EAI	121	5.5	11.1	2.0	1.9	10 000	4.34	8.51	1300	31.7	0.497
NV820EAN	155	7.6	14.7	3.1	3.3	9 000	7.73	11.5	3100	34.5	0.517
NV840EAJ	155	13.5	19.4	5.5	6.6	8 000	10.5	20.4	5700	43.8	0.697
NV860EAE	155	18.5	28.3	7.3	9.9	7 000	16.3	27.9	8400	41.3	0.653
400 VAC power supply - three-phased - fan cooled											
NV860VAC	155	30	57	11	11.5	9 000	23.7	37	8400	33	0.526

[1] Data referred to motor mounted on aluminium flange: 400 x 400 x 12 mm, Temperature <40 °C near motor's flange. Stall torques refer to motor turning at 100 min^{-1}
[2] Data measured at 20 °C. When "hot" consider -0.09 %/K derating
[3] Manufacturing tolerance data ±10 %

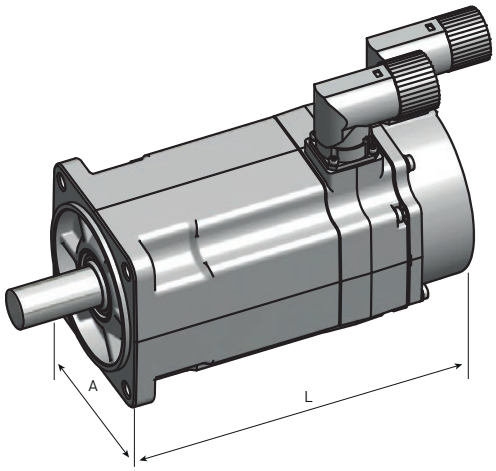
Drive Association

Motor	Associated Drive Sizes			
	PSD1	Compax3	AC890	AC30
230VAC power supply - single or three-phased				
NV310EAW	PSD1SW1300…[1]	C3S063V2… [2]	890SD-231700B0-B00-1A500 [2]	-
400 VAC power supply - three-phased				
NV420EAI	PSD1MW1400… [1]	C3S075V4… [2]	890SD-532100B0-B00-1A500 [2]	31V-4D0008
NV430EAH	PSD1MW1400… [1]	C3S075V4…	890SD-532100B0-B00-1A500	31V-4D0008
NV620EAJ	PSD1MW1600… [1]	C3S150V4…	890SD-532160B0-B00-1A500	31V-4D0012
NV630EAI	PSD1MW1600… [1]	C3S150V4…	890SD-532160B0-B00-1A500	31V-4E0016
NV820EAN	PSD1MW1600… [1]	C3S150V4…	890SD-53216SB0-B00-1A500	31V-4E0023
NV840EAJ	PSD1MW1800… [1]	C3S300V4…	890SD-532240C0-B00-1A500	31V-4F0032
NV860EAE	PSD1MW1800…	C3S300V4…	890SD-532240C0-B00-1A500	31V-4G0045
400 VAC power supply - three-phased - fan cooled				
NV860VAC	-	C3H090V4…	890SD-532590D0-B00-1A500	31V-4H0105

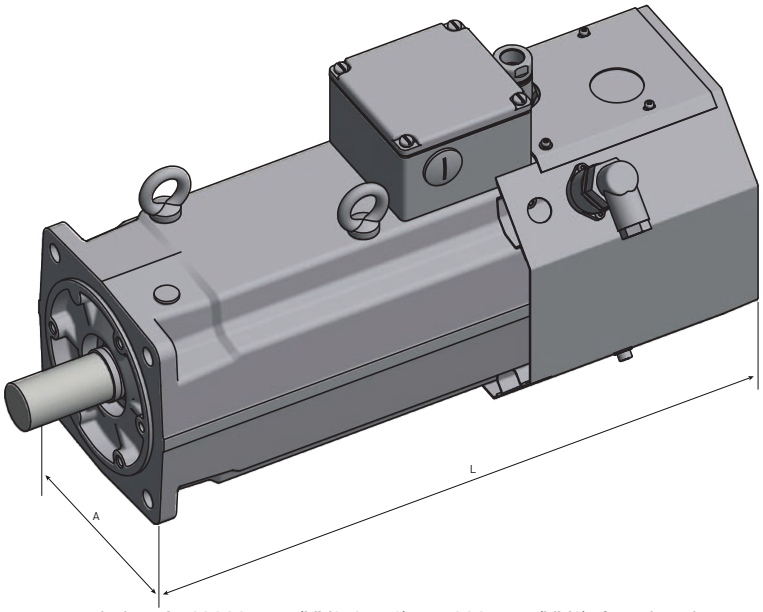
[1] max. speed: 7 200 min^{-1}
[2] max. speed: 12 000 min^{-1}

Dimensions (resolver version)

Motor	A	Mounting Flange centering / interaxis hole	Shaft diameter x length	L	Weight	Fr* [N]	Fa* [N]
	[mm]	[mm]	[mm]	[mm]	[kg]		
NV310	71	60 / 75-80	11 x 23	147	2	170	70
NV420	91.5	80 / 100	19 x 40	175	3.7	380	30
NV430	91.5	80 / 100	19 x 40	200	4.6	395	35
NV620	121	110 / 130	24 x 50	181	6.9	380	180
NV630	121	110 / 130	24 x 50	210	8.8	400	190
NV820	155	130 / 165	32 x 58	200	13	950	50
NV840	155	130 / 165	32 x 58	260	20	1050	80
NV860	155	130 / 165	32 x 58	320	27	1100	100



Motor	A	Mounting Flange centering / interaxis hole	Shaft diameter x length	L	Weight	Fr* [N]	Fa* [N]
	[mm]	[mm]	[mm]	[mm]	[kg]		
NV860V	185	130 / 165	32 x 58	424	30.5	1100	100



* Fr and Fa not cumulative: At 10000 rpm (NV3,4 et 6) or 5000 rpm (NV8), for a bearing servicing life of 20 000h.
At maximum speed, no axial load should be applied on motor's shaft, under penalty of shortening the servicing life.

Options

Feedback Sensors

2 poles resolver - option A

- Accuracy: ±10' max
- Transformation ratio: 0.5 ±5 %
- Max. operating speed: 17 000 min^{-1}
- Working temperature range: -55...+155 °C

Single turn / Multiturn absolute encoder HIPERFACE SKS/SKM 36 - option R/S

- Number of sine/cosine periods per revolution: 128
- Absolute position per revolution: 4096 (12 bits)
- Number of absolutely encodable revolutions: 4096 (SKM36)
- Max. operating speed SKS36: 12 000 min^{-1}
- Max. operating speed SKM36: 9000 min^{-1}
- Working temperature range: -20...+110 °C

Single turn / Multiturn absolute encoder HIPERFACE DSL SIL2 EKS/EKM36 - option P/Q

- Absolute position per revolution: 262 144 (18 bits)
- Number of absolutely encodable revolutions: 4096 (EKM36)
- Max. operating speed EKS36: 12 000 min^{-1}
- Max. operating speed EKM36: 9 000 min^{-1}
- Working temperature range: -20...+115 °C

Order Code

NV Series

	1	2	3	4	5	6	7
Order example	**NV310E**	**A**	**R**	**7**	**0**	**0**	**0**

1	**Motor type**	
	NV310E **NV420E** **NV430E** **...** **NV860V**	see table "Technical Data"
2	**Feedback sensor**	
	A	2 pole resolver (standard) Max. speed 17 000 min^{-1}
	R	HIPERFACE encoder 128 ppr SKS36 Max. speed 12 000 min^{-1}
	S	Absolute multi-turn HIPERFACE encoder 128 ppr SKM36 Max. speed 9000 min^{-1}
	P	Absolute single-turn HIPERFACE DSL SIL2 encoder EKS36 Max. speed 12 000 min^{-1}
	Q	Absolute multi-turn HIPERFACE DSL SIL2 encoder EKM36 Max. speed 9 000 min^{-1}
3	**Painting**	
	R	Unpainted (standard)
	B	Black mat (on request)
4	**Connections / Ventilation**	
	1	Shielded cables / No
	7	Connectors (standard) / No
	9	Terminal boxes / Yes
5	**Thermal protection**	
	0	Without protection (standard)
	1	PTC on power connector
	A	PTC on sensor connector
	C	KTY on sensor connector
6	**Protection degree**	
	0	IP64 (standard)
	1	IP65
7	**Fix code**	
	0	

Cables

Motor cable

Drive	Cable reference [1]	
	Current ≤ 15 A	Current ≤ 21 A
With or without brake		
Compax3	CC3UP1F1R0xxx	CC3UP2F1R0xxx
AC890	CS4UP1F1R0xxx	CS4UP2F1R0xxx
With or without brake & thermal sensor		
Compax3	CC3UQ1F1R0xxx	CC3UQ2F1R0xxx
AC890	CS4UQ1F1R0xxx	CS4UQ2F1R0xxx
With or without brake & Hiperface DSL encoder		
PSD1	CP1UD1F1R0xxx	CP1UD2F1R0xxx

Feedback cable

Drive	Cable reference [1]	
	Resolver	Hiperface encoder
Compax3	CC3UA1F1R0xxx	CC3UR1F1R0xxx
AC890	CS4UA1F1R0xxx	-

(*) The 3 last digits indicate cable length in meters ±5 %max
For non-standard length cable with length different from: 1/2/3/4/5/10/15/20/25/30/40/50 m please contact us.
Example CC3UP1F1R0015: power cable, length = 15 m.

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