



ServoStep

All-in-one integrated stepper motors with closed-loop, ePLC, multiturn encoder and Ethernet inside

NEMA 17
(42 mm)

NEMA 23
(57 mm)

NEMA 34
(87 mm)

NEMA 43
(110 mm)



0.8 Nm

3 Nm

12 Nm

25 Nm

JVL is the world leader within integrated servo and stepper motors. We offer two complete ranges: ServoStep all-in-one stepper motors from 0.36 to 25 Nm – and MAC motor® all-in-one servo motors from 50 to 4500 W. All motors are designed for IIoT and are Industry 4.0 ready. All major industrial Ethernet protocols are supported: Profinet, EtherNet/IP, Sercos, EtherCAT, Powerlink and Modbus TCP/UDP.

Key features

- Closed-loop
- Absolute multiturn encoder
- Automatic current-control (less heat)
- 0-3000 RPM in 0.01 RPM steps
- High resolution: 409600 cnt/rev
- Smooth and silent running
- Very high torque as standard
- Ultra high torque as option
- STO SIL3 option (safe torque off)
- Embedded Ethernet switch
- High positioning precision
- 100% automatic setup
- Doubleshaft available
- Protection up to IP65
- Supply voltage 7-72 VDC





JVL - your global partner



JVL A/S is a Danish company with subsidiaries in Germany, UK, USA and Turkey. And we have distributors and partner companies in more than 30 countries world-wide – sales and support are always nearby.

NEMA 17 NEMA 23											
Main motor type*		MIS171	MIS173	MIS176	MIS231S	MIS232S	MIS234S	MIS231T	MIS232T	SMC66	
Holding torque		0.36 [51]	0.56 [79]	0.80 [113]	0.97 [137]	1.97 [279]	3.08 [462]	1.16 [164]	2.53 [358]	6 A	Nm [Oz-In]
Resolution		409600	409600	409600	409600	409600	409600	409600	409600	409600	Counts per rev.
Supply voltage Driver		7-72	7-72	7-72	7-72	7-72	7-72	7-72	7-72	7-72	VDC
Supply: Control + I/O		7-28	7-28	7-28	7-28	7-28	7-28	7-28	7-28	7-28	VDC
Max supply current Driver @24 / 48 / 72 VDC		2.9 / 2.0 / 1.3	3.3 / 3.2 / 2.7	2.8 / 3.0 / 3.2	5.1 / 5.2 / 5.1	4.4 / 4.6 / 4.8	3.5 / 4.1 / 4.1	6.7 / 6.3 / 5.6	5.9 / 6.1 / 6.2	6.7 / 6.3 / 6.2	ADC RMS
Nominal speed range		0.01 - 3000	0.01 - 3000	0.01 - 3000	0.01 - 3000	0.01 - 3000	0.01-3000	0.01-3000	0.01-3000	0.01 - 3000	RPM
Max mechanical power**		100	142	135	177	221	212	198	316		W
Rotor inertia		0.02 [0.0003]	0.054 [0.0008]	0.1 [0.00144]	0.3 [0.0042]	0.48 [0.0068]	0.65 [0.0092]	0.3 [0.0042]	0.48 [0.0068]		kg-cm ² /oz-in-s ²
Flange dimensions		42x42 [1.7]	42x42 [1.7]	42x42 [1.7]	57x57 [2.3x2.3]	57x57 [2.3x2.3]	57x57 [2.3x2.3]	57x57 [2.3x2.3]	57x57 [2.3x2.3]	42x109	mm [Inch]
Length		73.5 [2.89]	85.2 [3.35]	106 [4.17]	103 [4.06]	124 [4.88]	161 [6.34]	103 [4.06]	124 [4.88]	59.5	mm [inch]
Shaft diameter***		ø5 [0.19]	ø6.35 [0.2]	ø8 [0.315]	ø6.35 [0.25]	ø6.35 [0.25]	ø10 [0.3937]	ø6.35 [0.25]	ø10 [0.3937]	ø10 [0.3937]	mm [inch]
Weight		0.54 [1.19]	0.68 [1.50]	0.90 [1.98]	1.1 [2.43]	1.4 [3.09]	2.0 [4.41]	1.1 [2.43]	1.4 [3.09]	0.40 [0.88]	kg [lb]
Protection class		IP42 (IP65 Optional)									

* Rear end connectors available ** Peak power @ 72 VDC *** Other shaft types also available

NEMA 34 NEMA 43											
Main motor type		MIS340	MIS341	MIS342	MIS343	MIL34	MIS430	MIS431	MIS432	SMC85	
Holding torque		3.0 [425]	5.1 [722]	9.0 [1274]	12.0 [1699]	2300 N	10.0 [1416]	18.7 [2648]	25.0 [3539]	9 A	Nm [Oz-In]
Resolution		409600	409600	409600	409600	409600	409600	409600	409600	409600	Counts per rev.
Supply voltage Driver		7-72	7-72	7-72	7-72	7-72	7-72	7-72	7-72	7-72	VDC
Supply: Control + I/O		7-28	7-28	7-28	7-28	7-28	7-28	7-28	7-28	7-28	VDC
Max supply current Driver @24 / 48 / 72 VDC		5.0 / 5.2 / 5.4	5.6 / 5.3 / 5.9	6.0 / 5.4 / 6.1	6.3 / 5.7 / 6.6	5.6 / 5.3 / 5.6	6.6	6.6	6.6	6.6	ADC RMS
Nominal speed range		0.01 - 3000	0.01 - 3000	0.01 - 3000	0.01-3000	0.01 - 3000	0.01-3000	0.01-3000	0.01-3000	0.01-3000	RPM
Max mechanical power**		260	288	367	296	288	240	323	245		W
Rotor inertia		1.4 [0.0198]	2.7 [0.0382]	4.0 [0.0564]	5.3 [0.0750]		5.5 [0.0778]	10.9 [0.154]	16.2 [0.2292]		kg-cm ² /oz-in-s ²
Flange dimensions		87x87 [3.4x3.4]	87x87 [3.4x3.4]	87x87 [3.4x3.4]	87x87 [3.4x3.4]	87x87 [3.4x3.4]	110x110 [4.3x4.3]	110x110 [4.3x4.3]	110x110 [4.3x4.3]	51x116	mm [Inch]
Length		95.0 [3.74]	125.0 [4.92]	155.0 [6.10]	185.0 [7.28]		145.5 [5.73]	196.5 [7.74]	247.5 [9.74]	117	mm [inch]
Shaft diameter***		ø9.53 [0.3752]	ø9.53 [0.3752]	ø14.0 [0.5512]	ø14 [0.5512]		ø19 [0.748]	ø19 [0.748]	ø19 [0.748]		mm [inch]
Weight		2.1 [4.5]	3.1 [6.9]	4.3 [9.5]	5.3 [11.7]		5.1 [11.2]	8.9 [19.6]	11.8 [26.0]	0.6 [1.3]	kg [lb]
Protection class		IP42 (IP65 Optional)									

** Peak power @ 72 VDC *** Other shaft types also available

Software integration on all major platforms



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