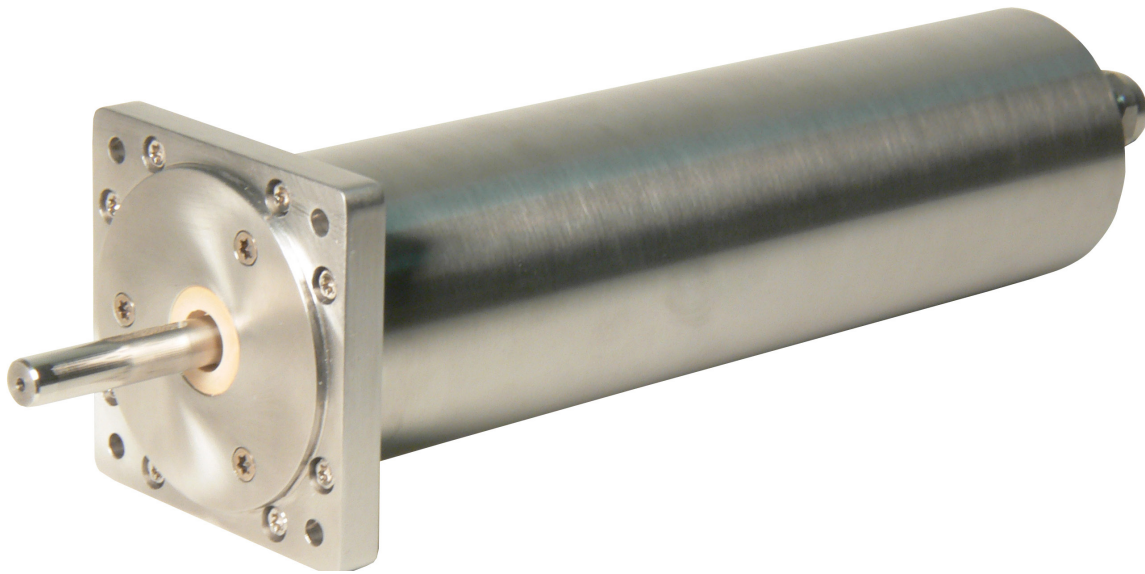


Integrated Servo Motor in Stainless Steel IP67 100 W RMS - 370 W peak



JVL now offers its world famous integrated servo motors MAC140 and MAC141 in totally stainless steel versions especially for the food and medico industry.

These stainless steel motors are designed with IP67 protection and can withstand high pressure wash down conditions. JVL stainless steel servo motors are designed to be a durable solution for long time operation. The concept is based on a stainless steel tube with integrated rear end and a fully sealed stainless steel front flange. The motor used is a special version of the 134 W MAC140 and 141 with stainless steel shaft.

Since stainless steel has a high thermal resistance, the MAC140..141 is downgraded to 100 W when used in the stainless steel tube.

For MAC141 the continuous power rating of 100 W corresponds to e.g. 0.35 Nm at full speed (2.700 RPM) or 0.48 Nm (peak torque) at 2.000 RPM. Over shorter time periods it is still possible to make use of both the peak torque and maximum speed. For more comprehensive specifications, see the tables on page 2 and 3.

Similarly to the non-stainless steel versions, the MAC motors will protect themselves and shut down if the temperature becomes too high.

- 100% stainless steel shaft, flange and tube
- Special Teflon sealing for long lasting waterproof operation
- Cost-effective in harsh wet corrosive environment

- Shaft seal and leak-proof cable entry provide waterproof sealings in both ends
- Brushless servo motor: choose between 0.32/0.9 Nm @ up to 4000RPM or 0.48/1.59 Nm @ up to 2700 RPM (RMS/peak torque)
- Stainless Steel IP 67 Cable Glands are standard
- Integrated encoder as well as driver and controller electronics
- Option for built-in planetary gearbox with ratios 3:1...216:1
- Option for built-in PLC, RS232/485, Profibus, CANbus, Devicenet, or industrial Ethernet - EtherCAT EtherNet/IP, ProfiNet, Powerlink, Modbus TCP and more
- Option for pressure valve

MAC100 with gearbox - Non-preferred

Note that MAC100 with or without gearbox is not a preferred type, longer lead times on these motors must be expected.

Part no.	Gear	Efficiency	Output Torque (Nm)			Output Speed (RPM)				weight [kg] ¹	
			Motor Torque			24 VDC		48 VDC			
			0.32	0.24	0.90	1.490	2.000	2.980	4.000		
Max RMS	Max speed	Peak torque	RMS	Max	RMS	Max					
MAC100-A3ASSG-S000	No gear	1.00	0.3	0.2	0.9	1.490	2.000	2.980	4.000	2.5	
MAC100-A3ASSG-S003	3	0.96	0.9	0.7	2.6	477	667	954	1.333	3.4	1-Stage
MAC100-A3ASSG-S004	4	0.96	1.2	0.9	3.5	358	500	715	1.000	3.4	
MAC100-A3ASSG-S005	5	0.96	1.5	1.2	4.3	286	400	572	800	3.4	
MAC100-A3ASSG-S006	6	0.96	1.8	1.4	5.2	238	333	477	667	3.4	
MAC100-A3ASSG-S009	9	0.94	2.0	2.0	7.6	156	222	311	444	3.6	
MAC100-A3ASSG-S012	12	0.94	2.7	2.7	10.2	117	167	233	333	3.6	2-Stage
MAC100-A3ASSG-S016	16	0.94	3.6	3.6	13.5	88	125	175	250	3.6	
MAC100-A3ASSG-S020	20	0.94	4.5	4.5	16.9	70	100	140	200	3.6	
MAC100-A3ASSG-S024	24	0.94	5.4	5.4	20.3	58	83	117	167	3.6	
MAC100-A3ASSG-S030	30	0.94	6.8	6.8	30.0	47	67	93	133	3.6	
MAC100-A3ASSG-S036	36	0.94	8.1	8.1	38.0	39	56	78	111	3.6	
MAC100-A3ASSG-S048	48	0.90	10.4	10.4	50.0	28	42	56	83	3.8	3-Stage
MAC100-A3ASSG-S064	64	0.90	13.8	13.8	60.0	21	31	42	63	3.8	
MAC100-A3ASSG-S080	80	0.90	17.3	17.3	60.0	17	25	34	50	3.8	
MAC100-A3ASSG-S120	120	0.90	25.9	25.9	60.0	11	17	22	33	3.8	
MAC100-A3ASSG-S150	150	0.90	30.0	30.0	45.0	8.9	13	18	27	3.8	
MAC100-A3ASSG-S180	180	0.90	33.0	33.0	45.0	7.5	11	15	22	3.8	
MAC100-A3ASSG-S216	216	0.90	36.0	36.0	50.0	6.2	9.3	12	19	3.8	

¹The weight is the total weight for motor and expansion module (MAC00-EP4) excl. cables

Red digits: Motor must be limited.

The following Load values are for Ratios 3:1 to 216:1, i.e. including gearbox

Radial Load: 750N at 30mm distance from ball bearing

Axial Load: 130N

Output Torque:

Max RMS - Continuous Output Torque

Max Speed - Continuous Output Torque at maximum speed 48 VDC

Output Speed:

RMS - Output speed at maximum RMS torque (equal to 100 W)

Max - Maximum speed at reduced torque (equal to 100 W)



MAC101 with gearbox - Preferred

Note that below motors have a minimum order quantity of 5 pcs except the preferred motors marked with *
Preferred types are normally on stock while 6-8 weeks delivery time must be expected on the other types.

Part no.	Gear	Efficiency	Output Torque (Nm)			Output Speed (RPM)				weight [kg] ¹	
			Motor Torque			24 VDC		48 VDC			
			0.48	0.35	1.59	1.000	1.350	2.000	2.700		
			Max RMS	Max speed	Peak torque	RMS	Max	RMS	Max		
MAC101-A3ASSG-S000*	No gear	1.00	0.5	0.4	1.6	1.000	1.350	2.000	2.700	2.7	
MAC101-A3ASSG-S003	3	0.96	1.4	1.0	4.6	320	450	640	900	3.6	1-Stage
MAC101-A3ASSG-S004	4	0.96	1.8	1.3	6.1	240	338	480	675	3.6	
MAC101-A3ASSG-S005*	5	0.96	2.3	1.7	7.6	192	270	384	540	3.6	
MAC101-A3ASSG-S006	6	0.96	2.8	2.0	9.2	160	225	320	450	3.6	
MAC101-A3ASSG-S009*	9	0.94	4.1	3.0	13.5	104	150	209	300	3.8	2-Stage
MAC101-A3ASSG-S012*	12	0.94	5.4	3.9	17.9	78	113	157	225	3.8	
MAC101-A3ASSG-S016	16	0.94	7.2	5.3	23.9	59	84	118	169	3.8	
MAC101-A3ASSG-S020*	20	0.94	9.0	6.6	29.9	47	68	94	135	3.8	
MAC101-A3ASSG-S024	24	0.94	10.8	7.9	35.9	39	56	78	113	3.8	
MAC101-A3ASSG-S030	30	0.94	13.5	9.9	30.0	31	45	63	90	3.8	
MAC101-A3ASSG-S036*	36	0.94	16.2	11.8	38.0	26	38	52	75	3.8	
MAC101-A3ASSG-S048	48	0.90	20.7	15.1	50.0	19	28	38	56	4.0	3-Stage
MAC101-A3ASSG-S064	64	0.90	27.6	20.2	60.0	14	21	28	42	4.0	
MAC101-A3ASSG-S080	80	0.90	34.6	25.2	60.0	11	17	23	34	4.0	
MAC101-A3ASSG-S120*	120	0.90	50.0	37.8	60.0	7.5	11	15	23	4.0	
MAC101-A3ASSG-S150	150	0.90	30.0	30.0	45.0	6.0	9.0	12	18	4.0	
MAC101-A3ASSG-S180	180	0.90	33.0	33.0	45.0	5.0	7.5	10	15	4.0	
MAC101-A3ASSG-S216	216	0.90	36.0	36.0	50.0	4.2	6.3	8.3	13	4.0	

¹) The weight is the total weight for motor and expansion module (MAC00-EP4) excl. cables

Red digits: Motor must be limited.

The following Load values are for Ratios 3:1 to 216:1, i.e. including gearbox

Radial Load: 750N at 30mm distance from ball bearing

Axial Load: 130N

Output Torque:

Max RMS - Continuous Output Torque

Max Speed - Continuous Output Torque at maximum speed 48 VDC

Output Speed:

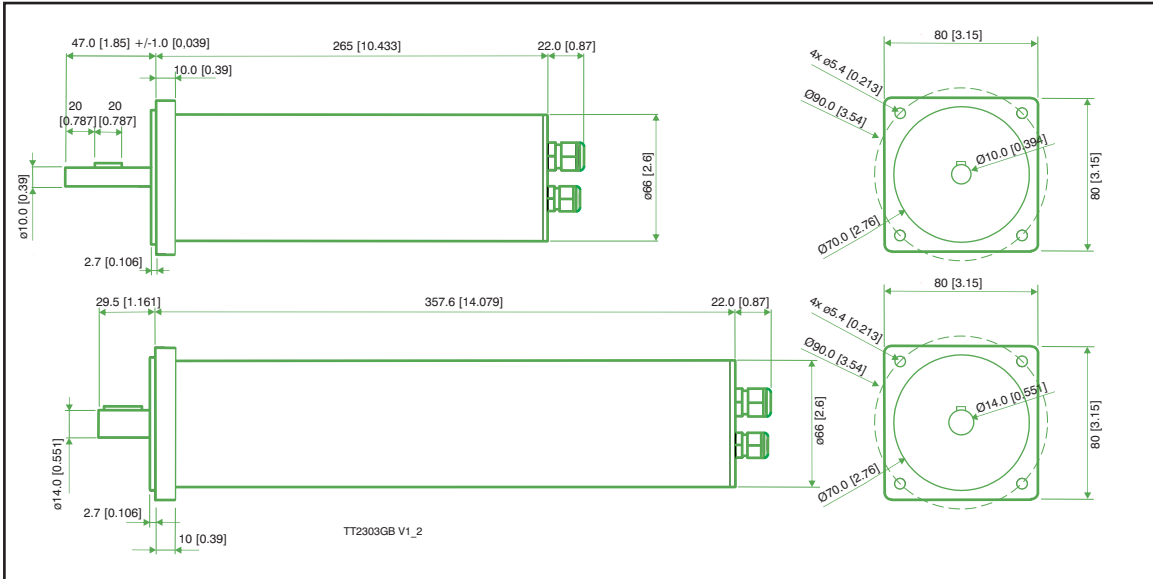
RMS - Output speed at maximum RMS torque (equal to 100 W)

Max - Maximum speed at reduced torque (equal to 100 W)



MAC101 with gearbox

Mechanical dimensions



Stainless steel types	Food Grade	Protection	Shaft	Flange	Housing
MAC140/141-A1	No	IP42	AISI5140	Aluminium	Aluminium
MAC140/141-A3	Yes	IP67	AISI202	AISI321	Aluminium painted
MAC100/101 w/o gearbox	Yes	IP67/69	AISI303	AISI316L	AISI316L
MAC100/101 w. gearbox	Yes	IP67/69	AISI316L	AISI316L	AISI316L



Optional, Pressure Valve

Ordering information

MAC10X-A3ASSG-SXXXA9

MAC10x, AC-servomotor, brushless, 100 W RMS:
0: MAC140 inside
1: MAC141 inside, preferred

Stainless steel motor
IP67 protection

gear ratio
000: Without gear
003: 3:1 ratio
009: 9:1 ratio
012: 12:1 ratio
020: 20:1 ratio
036: 36:1 ratio
120: 120:1 ratio

Blank for: B4, R4, FC4, FD4, FP4 FS4
A9: Generation 2 connector for Ethernet modules: EC4, E14, EL4, EM4, EP4

TT1546-01GB 101: 134W (MAC141 inside)

MAC10X must be ordered with expansion module and 3-4 pcs M12 cables.

Accessories

MacTalk_USB	Software for setup of MAC motor®
MAC00-xx	Expansion modules. See our wide range on www.jvl.dk
WI1000-M12yCAP1	IP67 Protection Cap for M12 Male/Female
WI1000-M12M5TxxN	COM cable
WI1000-M12y8TxxN	Signal or COM cable, female/male 8pin
WI1006-M12y5SxxR	CAN or DeviceNet cable, female/male 5pin
WI1026-M12y5SxxR	Profibus cable, female/male 5pin
WI1046-M12M4SxxR	Ethernet cable, D-coded male 5pin
MT0013	Pressure valve plug. M12x1.5
MT0014	Pressure valve plug. M16x1.5

Y: Available with M: male or F: female connector

XX: The cables standard length is 05: 5 meter, for other length please contact JVL

Example of order with Profinet module:

MAC100-A3ASSG-S005 + MAC00-EP4 + WI1000-M12F5T05N (Power) + WI1000-M12M8T05N (I/O + RS232) + 1-2 pcs WI1046-M12M4S05R (Ethernet D-coded)



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