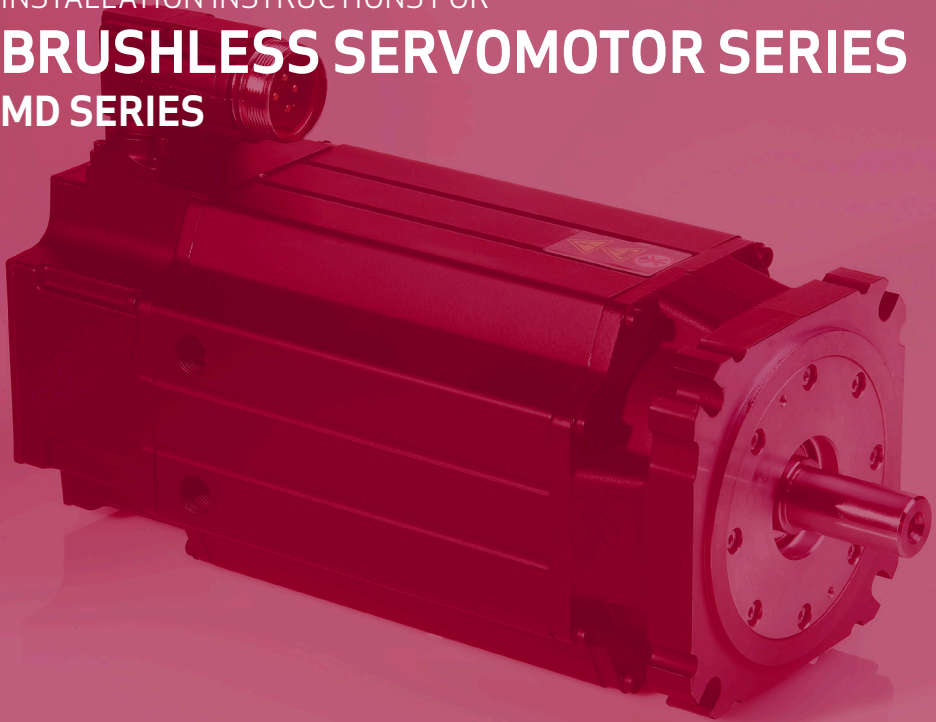


INSTALLATION INSTRUCTIONS FOR

BRUSHLESS SERVOMOTOR SERIES MD SERIES



Rev B, September 2013

HIGH DYNAMICS FOR MORE PRODUCTION
IN HIGH PERFORMANCE APPLICATIONS

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1.0 GENERAL

These Installation Instructions describe how to install, operate and maintain the MD series motors. Use this document if you are responsible for installing or troubleshooting the Moog MD Series motor products. Read all instructions before installing this motor.

1.1 SAFETY CONSIDERATIONS

As with any electro-mechanical device, safety should be considered during the installation and operation of MD series brushless servo motor. Throughout this manual you will see paragraphs marked with CAUTION and WARNING signs as shown below.



CAUTION



WARNING

2.0 INTRODUCTION

Brushless construction means that Moog G400 series servo motors are maintenance free. The longevity of the motors is limited only by the life of the bearings, which have lifetime lubrication (a minimum of 20,000 operation hours with the recommended maximum axial and radial loads). Because of product liability issues any motor damage should be repaired by Moog, non Moog staff may be unable to comply with safety rules (e.g. VDE guidelines) and Moog quality standards.

3.0 SHIPMENT

Please check the contents of delivery are as ordered and that no damage, especially in the areas of the shaft and connectors, has occurred during transit. Any problems should be immediately addressed to Moog with a description of the fault or damage.



DO NOT OPEN OR ATTEMPT TO OPEN THE MOTOR.

FAILURE TO OBSERVE THESE SAFETY PROCEDURES COULD RESULT IN PERSONAL INJURY OR EQUIPMENT DAMAGE.

DESTRUCTION OF THE PAINT SEALS ON THE SCREWS WILL MAKE THE WARRANTY VOID.

4.0 INSTALLATION

The installation must comply with the local regulations and use of equipment and installation practices that promote electromagnetic compatibility and safety.



THE MOTOR IS INTENDED FOR INSTALLATION AND USE BY QUALIFIED PERSONNEL, FAMILIAR WITH ELECTRICAL MACHINES AND SAFETY REQUIREMENTS.

THE SAFETY EQUIPMENT NECESSARY TO PREVENT ACCIDENTS AND ELECTRICAL SHOCKS MUST BE PROVIDED BY THE INSTALLER



KTY THERMISTORS ARE ESD SENSITIVE. SO FOR MOTORS WITH KTY AS TEMPERATURE SENSORS ADDITIONAL CARE IS REQUIRED. DO NOT TOUCH THESE MOTORS CONNECTOR PINS WITH BARE HANDS.

IF THE USER CARRIES OUT A HIPOT TEST, THEN PINS MUST BE SHORT CIRCUITED BEFORE THE TEST IS CARRIED OUT.
THE POLARITY MUST BE CAREFULLY OBSERVED.
AVOID CURRENTS > 4 MA IN THE KTY CIRCUIT.



FOR LIQUID COOLED MOTOR SWITCH ON THE COOLANT ONLY WHEN MOTOR IS ON IF COOLANT INLET TEMPERATURE IS LESS THAN 20°C TO AVOID CONDENSATION.

4.1 RECOMMENDED SERVO DRIVES

The Motors are intended to be used in combination with a UL Recognized Servodrive which is in accordance with UL 508C Power Conversion Equipment or MSD series or DS2000 drives of Moog.

5.0 G400 SERIES MOTOR CODIFICATION

The motor nameplate data are used for the setting of the servo drive. In case of contact with Moog, identification data of the motor must be supplied.

Type: JSW6-201-011-03-01-01-00 Ambient temp: -40°C/+40°C Model: G448-1027 S/N: N102 Date: 12 08 IP65 CLASS F IEC34 NEMA-MG7 VDE-0530-S1		General
MOOG [®] G400 Series www.moog.com Made in INDIA Brushless Servomotor		Standards
CE c UL us n_N: 1100 min⁻¹ P_N: 28.12kW Insulation: MOOG155 M₀: 263.2 Nm I₀: 255 Arms Ke: 4.36 Vpk/rad/s J : 485.3 kgcm² U_d: 565 V		Technical data

STANDARD	
IP65	Degree of protection. Motor protected against jets of water (at shaft with seal option)
I.C.L.F	motor listed for insulation class F (155°C)
IEC 60034	motor fulfills IEC 60034 (Standard defines rating and performance of rotating electrical machines)
VDE-0530-S1	performance measurements are done according to VDE-0530
CE	conformity certificate will be supplied on request
UL	File number E339858

TECHNICAL DATA ARE MEASURED AT 25°C AMBIENT TEMPERATURE	
P _N	nominal power (max continuous output power)
M ₀	continuous stall torque
I ₀	continuous stall current (at M0)
Ke	back emf (voltage constant)
J	rotor moment of inertia
U _d	nominal operative voltage (bus voltage)

NAMEPLATE DATA	
Type	Motor type
Ambient temp	Ambient temperature
Model	Motor model number (ordering number)
S/N	Serial number
Date	Week and year of production
Insulation	UL approved insulation system
Brake	Brake is optional. Data provided refers to holding torque

6.0 MOUNTING DIMENSIONS FOR MOOG MD SERIES MOTORS

MOUNTING DIMENSIONS MOOG MD SERIES MOTOR							
Type	A	Pmax	C	øAJ	øAK		AH
		mm[in]	mm[in]	mm[in]	mm[in]		mm[in]
JSC3	See tables at section 8	70[2.75]	19.8[0.77]	75[2.95]	60[2.36]	+0.012/-0.007[0.00047/-0.00028]	30[1.18]
JSC4		100[3.93]	9.8[0.38]	115[4.52]	95[3.74]	+0.013/-0.008[0.00051/-0.00031]	40[1.57]
JSC5		140[5.51]	11.8[0.46]	165[6.49]	130[5.11]	+0.014/-0.011[0.00055/-0.00043]	50[1.96]
JSW5		145[5.70]	20.7[0.81]	165[6.49]	130[5.11]	+0.014/-0.011[0.00055/-0.00043]	50[1.96]
JHC5		140[5.51]	12[0.47]	165[6.49]	130[5.11]	+0.014/-0.011[0.00055/-0.00043]	50[1.96]
JHW5		145[5.70]	20[0.78]	165[6.49]	130[5.11]	+0.014/-0.011[0.00055/-0.00043]	50[1.96]
JSC6		190[7.48]	21.7[0.85]	215[8.46]	180[7.08]	+0.014/-0.011[0.00055/-0.00043]	110[4.33]
JSW6		190[7.48]	25[0.98]	215[8.46]	180[7.08]	+0.014/-0.011[0.00055/-0.00043]	110[4.33]
JHC6		190[7.48]	11[0.43]	215[8.46]	180[7.08]	+0.014/-0.011[0.00055/-0.00043]	60[2.36]
JHW6		190[7.48]	25[0.98]	215[8.46]	180[7.08]	+0.014/-0.011[0.00055/-0.00043]	82[3.22]
JSC7		275[10.82]	30[1.18]	300[11.81]	250[9.84]	+0.016/-0.013[0.00063/-0.00051]	140[5.51]
JSS7		275[10.82]	30[1.18]	300[11.81]	250[9.84]	+0.016/-0.013[0.00063/-0.00051]	140[5.51]

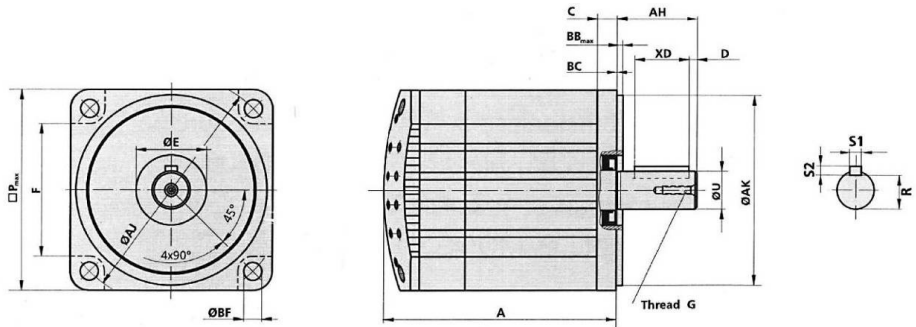
MOUNTING DIMENSIONS MOOG MD SERIES MOTOR							
Type	øU		BBmax	øBF	XD	R	S1xS2
	mm[in]		mm[in]	mm[in]	mm[in]	mm[in]	mm[in]
JSC3	14[0.55]	+0.008/-0.003[0.00031/-0.00012]	2.5[0.09]	5.5[0.21]	22[0.866]	11[0.43]	5x5[0.19x0.19]
JSC4	19[0.74]	+0.009/-0.004[0.00035/-0.00016]	3[0.11]	9[0.35]	32[1.25]	15.5[0.61]	6x6[0.23x0.23]
JSC5	38[1.49]	+0.018/+0.002[0.00070/7.9E-05]	3.5[0.13]	12.2[0.48]	40[1.57]	33[1.29]	10x8[0.39x0.31]
JSW5	38[1.49]	+0.018/+0.002[0.00070/7.9E-05]	3.5[0.13]	11.5[0.45]	40[1.57]	33[1.29]	10x8[0.39x0.31]
JHC5	24[0.94]	+0.015/+0.002[0.00059/7.9E-05]	3.5[0.13]	11[0.43]	40[1.57]	20[0.78]	8x7[0.31x0.27]
JHW5	24[0.94]	+0.015/+0.002[0.00059/7.9E-05]	3.5[0.13]	11.5[0.45]	40[1.57]	20[0.78]	8x7[0.31x0.27]
JSC6	60[2.36]	+0.03/+0.011[0.0011/0.00043]	4[0.15]	13.7[0.53]	80[3.14]	53[2.08]	18x11[0.70x0.43]
JSW6	60[2.36]	+0.03/+0.011[0.0011/0.00043]	4[0.15]	14[0.55]	80[3.14]	53[2.08]	18x11[0.70x0.43]
JHC6	32[1.25]	+0.018/+0.002[0.00070/7.9E-05]	4[0.15]	13.6[0.53]	40[1.57]	27[1.06]	10x8[0.39x0.31]
JHW6	42[1.65]	+0.018/+0.002[0.00070/7.9E-05]	4[0.15]	14[0.55]	70[2.75]	36.9[1.45]	12x8[0.47x0.31]
JSC7	65[2.55]	+0.03/+0.011[0.0011/0.00043]	5[0.19]	18[0.70]	125[4.92]	58[2.28]	18x11[0.70x0.43]
JSS7	65[2.55]	+0.03/+0.011[0.0011/0.00043]	5[0.19]	18[0.70]	125[4.92]	58[2.28]	18x11[0.70x0.43]

MOUNTING DIMENSIONS MOOG MD SERIES MOTOR								
Type	D	BC	øE		F	G	H	M
	mm[in]	mm[in]	mm[in]		mm[in]			Nm
JSC3	4[0.15]	0	35[1.37]	+0.039/0[0.0015/0]	-	M5X12.5	M5X30	5.2
JSC4	4[0.15]	0	35.02[1.37]	+0.019/-0.019[0.0007/-0007]	66.3[2.61]	M6X16	M8X30	21.6
JSC5	5[0.19]	0	55[2.16]	+0.039/0[0.0015/0]	98.8[3.88]	M12X28	M10X35	43
JSW5	5[0.19]	0	55[2.16]	+0.039/0[0.0015/0]	-	M12X28	M10X40	43
JHC5	5[0.19]	0	47[1.85]	+0.039/0[0.0015/0]	98.8[3.88]	M4X17	M10X35	43
JHW5	5[0.19]	0	77[3.03]	+0.039/0[0.0015/0]	-	M8X19	M10X45	43
JSC6	13[0.51]	0	85[3.34]	+0.054/0[0.0021/0]	128[5.03]	M20X42	M12X45	73
JSW6	13[0.51]	0	85[3.34]	+0.054/0[0.0021/0]	-	M20X42	M12X50	73
JHC6	10[0.39]	0	50[1.96]	+0.039/0[0.0015/0]	128[5.03]	M4X16	M12X35	73
JHW6	5[0.19]	0	65[2.55]	+0.046/0[0.0018/0]	-	M16X36	M12X45	73
JSC7	5[0.19]	0	100[3.93]	+0.054/0[0.0021/0]	-	M20X42	M16X65	180
JSS7	5[0.19]	0	100[3.93]	+0.054/0[0.0021/0]	-	M20X42	M16X65	180

A	Length of motor without shaft, pilot and mating connector
Pmax	Maximum width of motor (end view) excluding terminal housing, etc.
C	Thickness of flange plate of motor
øAJ	Diameter of mounting bolt circle in flange of motor
øAK	Diameter of pilot on flange of motor AH Mounting surface of flange of motor to end of shaft
øU	Diameter of shaft extension
BB max	Maximum height of pilot of mounting flange of motor
øBF	Clearance hole in mounting flange of motor
XD	Usable length of keyseat

R	Bottom of keyseat to opposite side of shaft
S1	Width of key
S2	Height of key w
D	Distance between end of shaft and key
BC	Distance between mounting flange of motor to shoulder shaft (always=0mm)
øE	Diameter of hole for shaft in flange of motor
F	Width of motor between recesses for mounting screws
G	Thread in motor shaft
H	Recommended flange screws (kind and length)
M	Tightening torque for flange screws

All dimensions without tolerance are according to DIN ISO 2768, part 1, category c.



6.1 MOUNTING

Moog recommends the use of Hex head screws according to DIN 912 8.8 (see column H in the table on page 6). Moog motors generate heat during normal operation. Therefore a good heat sink and sufficient ventilation should be provided when mounting the motor, i.e. the motor must be fitted to a sufficiently large metal machine part. The motors should be protected against contact with the hot surfaces if necessary. The motor shaft should be degreased carefully before mounting a coupling. When using a degreaser (grease dissolving substance) prevent it from flowing into the bearing as this will destroy the lifetime lubrication. A clamp coupling or a shrink connection is recommended to provide a reliable torque transmission.

The resulting damage to the bearings can reduce the motor's life. Excessive axial force on the rotor shaft can impair the functionality of an optional brake. This leads either to reduced braking force or brake failure. Therefore excessive pressure and shocks on the front end of the

shaft and the back housing must be avoided under all circumstances. The impulse of any hammer blow always exceeds the maximum permissible axial and radial forces.



THE MOTOR CAN BE DAMAGED DURING MOUNTING BY EXCESSIVE AXIAL OR RADIAL FORCES APPLIED TO THE SHAFT



ABSOLUTELY AVOID USING THE HAMMER, WHICH COULD CAUSE SERIOUS DAMAGE TO THE MOTOR


MAXIMUM PERMISSIBLE AXIAL AND RADIAL LOADS (N) FOR MOOG MD SERIES MOTORS DURING INSTALLATION												
Type	JSC3	JSC4	JSC5	JSW5	JHC5	JHW5	JSC6	JSW6	JHC6	JHW6	JSC7	JSS7
Axial Load*	150	300	700	700	400	400	1600	2000	700	1200	2000	2000
Radial Load*	1500	1500	4000	4000	2500	2500	7000	9500	3000	6000	6000	6000

* During Installation, less load is allowed when the motor is rotating. See catalogue.


6.2 ELECTRICAL INTERFACES

For connection of MD series Moog motors, it is best to use the mating connectors and cable characteristics indicated in the tables on pages 7 and 8. When using non Moog components, the cable specifications must be fulfilled in every way.

The pin layouts of the connectors are shown in the following tables. Connection and disconnection of the motors must be made with the controller switched off. Simply disabling the controller is not sufficient. During installation, special attention should be paid to the diameter of the protective earth (PE) conductor, which must be sized according to legal safety rules. We recommend shielding of power and signal cables. The shielding should be connected to earth at both ends.



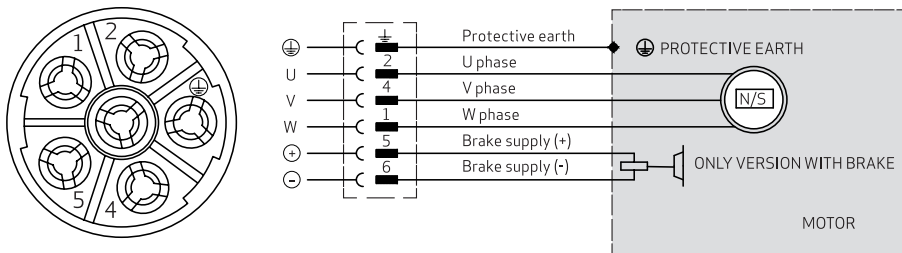
A ROTATING MOTOR CAN GENERATE DANGEROUSLY HIGH VOLTAGES. ALWAYS MAKE SURE THAT THERE ARE NO EXPOSED CABLES



SMALL WIRE DIAMETERS LEAD TO AN UNACCEPTABLE HEATING IN THE CABLE. THIS RESULTS IN POWER LOSS TO THE MOTOR, ESPECIALLY WHEN THE CABLES ARE LONG.

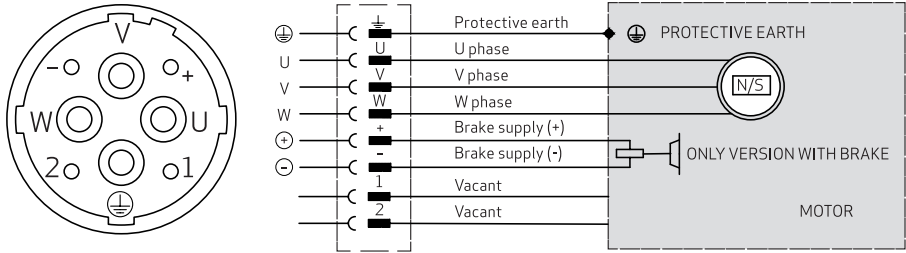
6.3 WIRING SCHEMATICS - POWER AND SIGNAL

Power Connector Size 1



Cable Scheme	4 x 0.75mm ² Power (JSC3)	TYPE	
	4 x 2.5mm ² Power (JSC4, JHC5-047 & -063)		JSC3
	4 x 4.0mm ² Power (JHC5-079 & JHC5-094)		JSC4
Mating Connector loose	2 x 1.0mm ² Brake outer shield	JHC5	
	Model Number: C08365-001 (up to 2.5mm ²) C08365-002 (2.5 to 4 mm ²)		

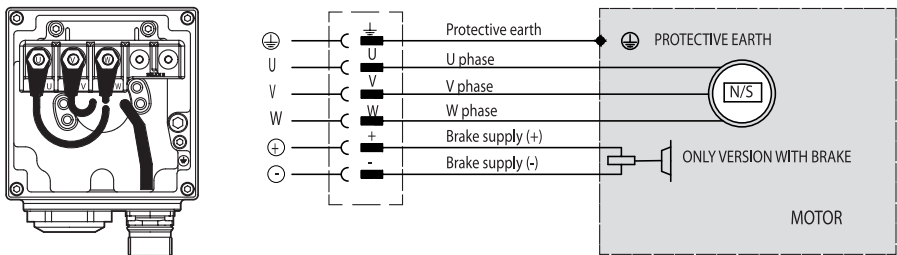
Power Connector Size 1.5



Cable Scheme	4 x 6mm ² Power (JHW5-047 to -079, JSC5, JSW5, JHC6-079 & -105, JHW6-079)
	4 x 10mm ² Power (JHW5-094, JHC6-131 & -157, JHW6-105 to -157)
Mating Connector loose	2 x 1.0mm ² Brake 4 x 10mm ² Power (JHW5-094, JHC6-131 & -157, JHW6-105 to -157)
	2 x 1.0mm ² Brake outer shield
Model Number: B47711-001	

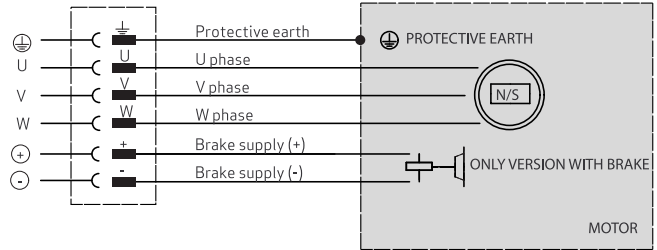
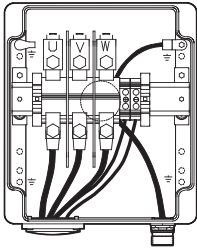
TYPE
JSC5
JSW5
JHW5
JSC6
JHC6
JSW6
JHW6

CONNECTOR BOX DETAILS



Cable Scheme	4 x 6mm ² Power (JSW5 & JHW5)
	4 x 10mm ² Power (JSC6 & JHC6)
	2 x 1.0mm ² Brake

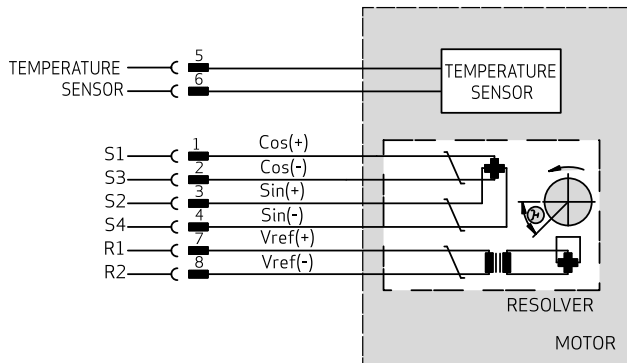
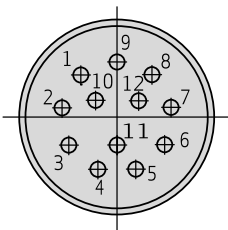
Optional for TYPE
JSW5
JHW5
JSC6
JHC6



Cable Scheme	4 x 10mm ² Power (JSW6, JHW6 & JSC7)
	4 x 16mm ² Power (JSS7)
	2 x 1.0mm ² Brake

TYPE
JSW6
JHW6
JSC7
JSS7

SIGNAL RESOLVER CONNECTOR

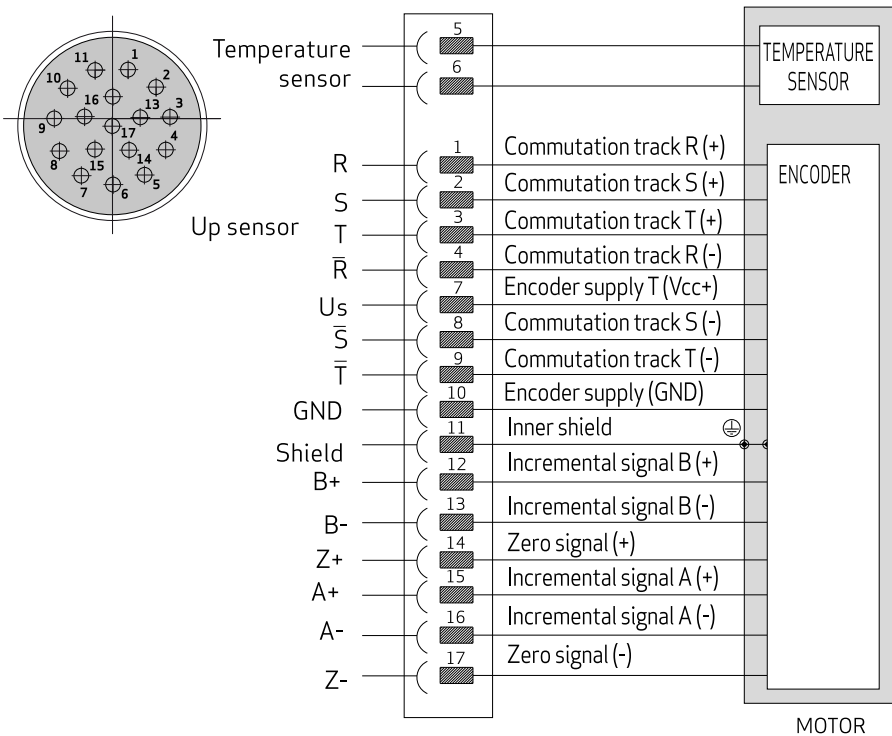


Cable Scheme	8 x 0.25 mm ² , stranded wires, twisted paired, outer shield
Mating Connector loose	Model Number: C08485-001

TYPE
Jxx3 TO Jxx7

SIGNAL ENCODER CONNECTOR¹⁾

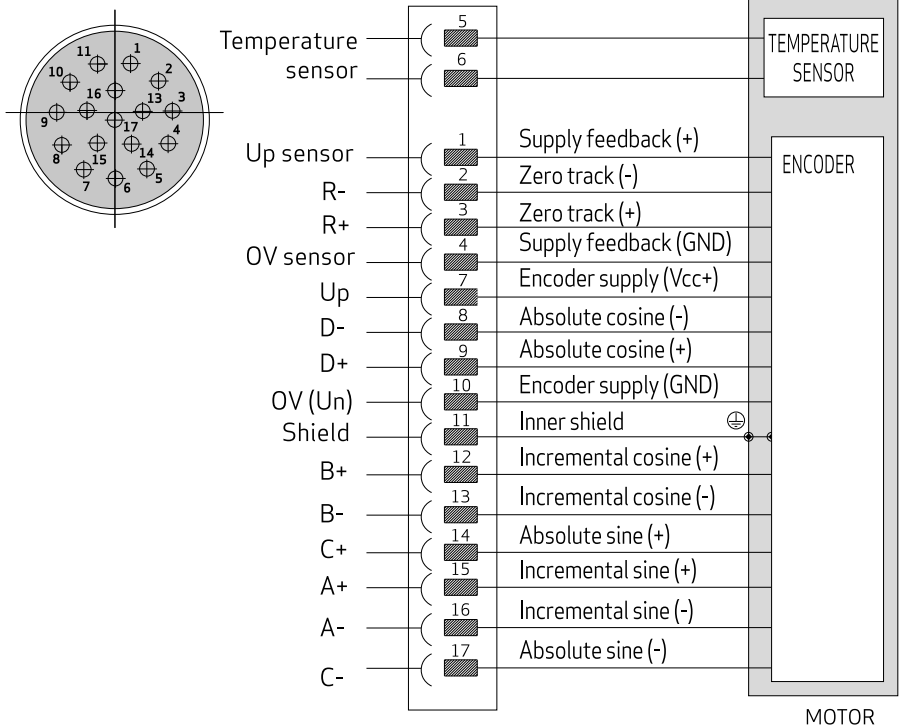
Stegmann Incremental



1) See ordering information; Feedback option

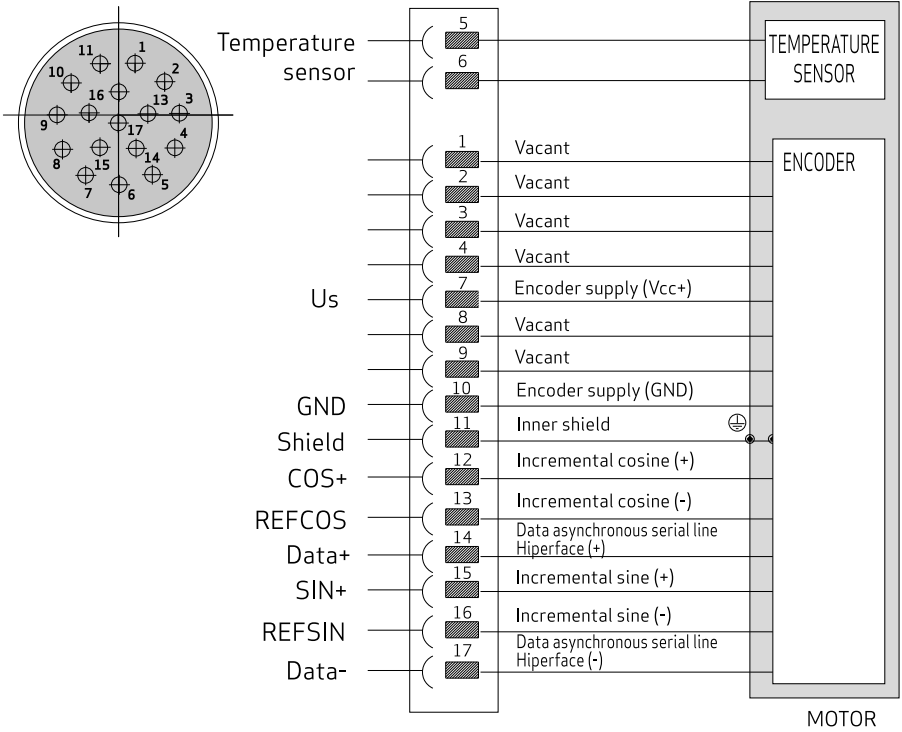
SIGNAL ENCODER CONNECTOR¹⁾

Heidenhain Incremental



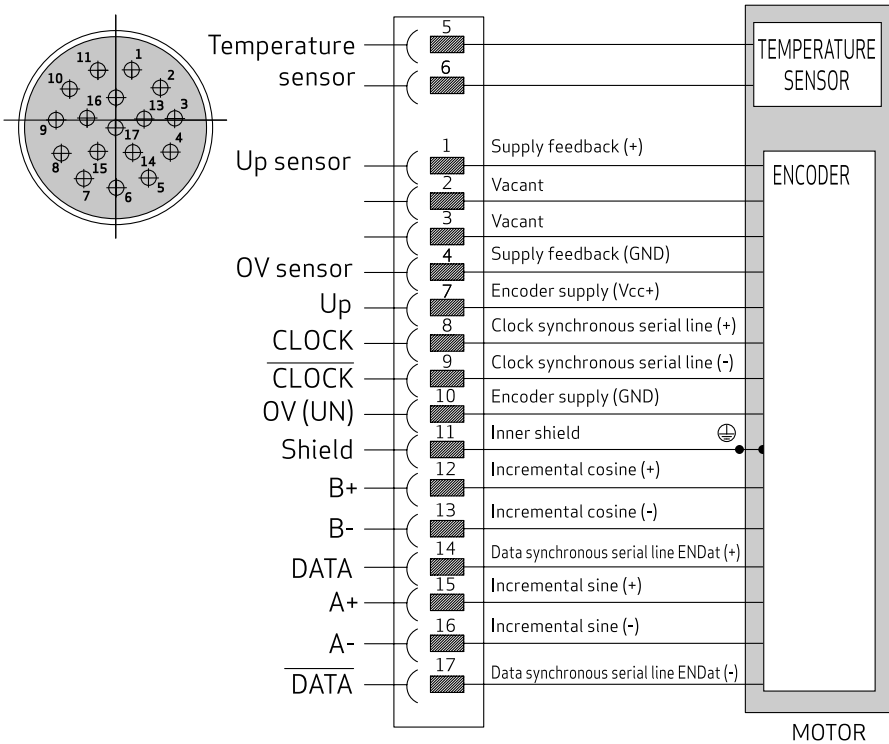
SIGNAL ENCODER CONNECTOR¹⁾

Stegmann Absolute



SIGNAL ENCODER CONNECTOR¹⁾

Heidenhain Absolute



Cable Scheme	17 x 0.25 mm ² , stranded wires, twisted paired
Mating Connector loose	Model Number: C08666-001

TYPE
Jxx3 TO Jxx7

7.0 COOLANT SPECIFICATION FOR LIQUID COOLED MOTORS.

- Motors must have a proper closed loop cooling circuit.
- The cooling medium has to be composed from desalted and demineralized water chemically neutral and with the addition of anti-corrosion agent. Such products have to be compatible with the materials of the housings (aluminum and its alloys), with the materials of the gaskets (Viton) and with all the components of the circuit. For additional requirements, refer to the table.

Chemical requirement of the cooling medium

Contents and chemical composition	Value
.pH value	6 ... 8
Total hardness	<150ppm
Chloride	<50ppm
Sulfate	<50ppm
Particle size	<0,05mm
Suspension solid parts	<2ppm
Total salinity (NaCl)	<1500ppm
Nitrate	<50ppm
Manganese (Mn)	<0,15ppm
Organic parts	<2ppm
Large solid parts	None
Free carbon dioxide	<3ppm
Iron (Fe)	<0,2ppm
Oils	0
Total alkalinity	<600ppm

- If water is used as coolant, a proper additive must be used for anticorrosion protection and to avoid the growth of algae.
- A constant monitoring of coolant flow is recommended.
- Inlet coolant temperature must be between 25° and 40°C to avoid condensation inside of the motor or while starting the motor the inlet coolant temperature must

- be higher than the motor frame temperature by at least 2°C.
- The suggested flow rates for different motor types are tabulated below.

Motor Type	Flow rates (ltrs/min)
JHW5/JSW5/JHS5/JSS5	5
JHW6/JSW6/JHS6/JSS6	8
JSS7	8

- Inox pipe fittings are recommended for connecting the cooling circuit to the motor. Before activating the motor, make sure the cooling circuit is completely filled and leak free.
- The pipe fitting length "D" for the cooling connection to the motor must not exceed a maximum length indicated in the table below to allow the correct coolant flow.

Motor Type	Thread	Thread depth C (mm)	Length D (mm)
JHW5/JSW5 (Fig 1)	3/8"	7	10
JHW6/JSW6 (Fig 1)	1/2"	7	12
JHS5/JSS5/JHS6/JSS6/JSS7 (Fig 2)	M18 x1.5	6	11

- The max pressure for the cooling circuit: 1 MPa (10 bar). The pressure drop across the motor depends on the water flow and the motor size. It must not exceed 0.1Mpa (1bar)

Cleaning and check cooling circuit

Periodically cleaning and checking of the cooling circuit is recommended. The use of cleaning products and/or deposit removers has to be subjected to preventive verification of compatibility with the materials of the housings (aluminum and its alloys), with the materials of the gaskets (Viton) and with all the components of the circuit.

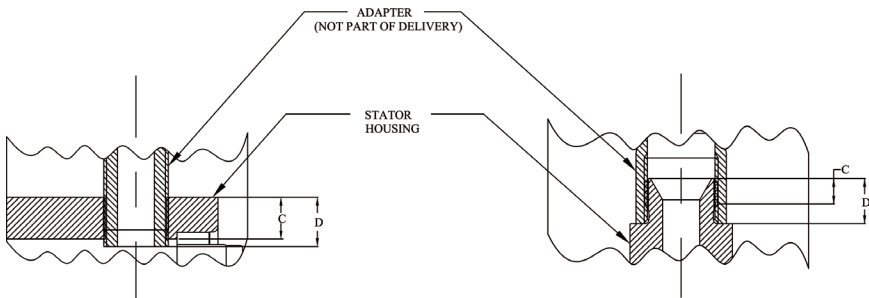


FIGURE 1

FIGURE 2

8.0 MAINTENANCE

- Check the regular condition of the motor.
- Check the motor for normal operation.
- Keep clean the motor, in order to ensure free ventilation and cooling.
- Check the motor is not noisy during operation and that vibration does not exceed standard levels.

What to do if repairs are required?

If a repair of a Moog motor should prove necessary, all parts such as gear, toothed wheels, pinions etc. Not fitted by Moog should be removed because Moog cannot guarantee correct disassembly. Grease and dirt on the front flange should be removed. Moog would appreciate a detailed failure or breakdown report attached to the delivery paperwork. "For Repair" should be clearly started on the delivery note.

PROBLEM	CAUSE	ACTION
Motor does not start	Wrong connections	Check the connections of the motor power and signal cables
	Mechanical brake	Check that the brake is supplied with 24VDC in tolerance range and that it is not locked
	Mechanical failure	Check that the mechanics coupled to the servomotor allow free rotation
	Parameters	Check the parameter settings of the drive system
	Overload	Reduce the load or resize the motor
Motor does not reach the rated speed	Parameters	Check the parameter settings of the drive system
	Overload	Reduce the load or resize the motor
Motor runs in wrong direction	Connections	Check both the power and signal connections on the motor and drive side
Motor overheats	Overload	Reduce the load or resize the motor
	Wrong connections	Check that no phase is incidentally open or grounded
	Harmonic distortion	High harmonic distortion in the frequency converter output is not allowed
Vibrations or loud noise	Bearing failure	Contact Moog for repairs
	Misalignment	Check the correct alignment of the motor and load. Ignoring misalignment can cause serious damage of bearings, shaft and mechanics

9.0 MOTOR LENGTH

The tables here below entail the "A" dimension of the motors as indicated in the picture on page 7. To identify correctly the option, refer to the table in ordering code or boxcar information page of this manual.

JSC3														
Brake		Feed Back Option							A dimension mm [in]					
									Stack length					
No	Yes	00 & 01	02	03	04	05	06	07	-020	-040	-050	-060	-075	
									170[6.69]	221[8.70]	246[9.68]	272[10.70]	309[12.16]	
									170[6.69]	221[8.70]	246[9.68]	272[10.70]	309[12.16]	
									170[6.69]	221[8.70]	246[9.68]	272[10.70]	309[12.16]	
									170[6.69]	221[8.70]	246[9.68]	272[10.70]	309[12.16]	
									170[6.69]	221[8.70]	246[9.68]	272[10.70]	309[12.16]	
									192[7.55]	243[9.56]	268[10.55]	294[11.57]	331[13.03]	
									210[8.26]	261[10.27]	287[11.29]	312[12.28]	350[13.77]	
									210[8.26]	261[10.27]	287[11.29]	312[12.28]	350[13.77]	
									210[8.26]	261[10.27]	287[11.29]	312[12.28]	350[13.77]	
									210[8.26]	261[10.27]	287[11.29]	312[12.28]	350[13.77]	

JSC4														
Brake		Feed Back Option							A dimension mm [in]					
									Stack length					
No	Yes	00 & 01	02	03	04	05	06	07	-026	-040	-053	-067	-080	
									225[8.85]	260[10.23]	293[11.53]	328[12.91]	361[14.21]	
									225[8.85]	260[10.23]	293[11.53]	328[12.91]	361[14.21]	
									225[8.85]	260[10.23]	293[11.53]	328[12.91]	361[14.21]	
									225[8.85]	260[10.23]	293[11.53]	328[12.91]	361[14.21]	
									225[8.85]	260[10.23]	293[11.53]	328[12.91]	361[14.21]	
									246[9.68]	281[11.063]	314[12.36]	349[13.74]	382[15.03]	
									267[10.51]	302[11.88]	335[13.18]	370[14.56]	403[15.86]	
									267[10.51]	302[11.88]	335[13.18]	370[14.56]	403[15.86]	
									267[10.51]	302[11.88]	335[13.18]	370[14.56]	403[15.86]	
									267[10.51]	302[11.88]	335[13.18]	370[14.56]	403[15.86]	

JSC5													
Brake		Feed Back Option							A dimension mm [in]				
No	Yes	00 & 01	02	03	04	05	06	07	Stack length				
									-063	-084	-105	-126	
									343[13.50]	396[15.59]	450[17.71]	503[19.80]	
									343[13.50]	396[15.59]	450[17.71]	503[19.80]	
									343[13.50]	396[15.59]	450[17.71]	503[19.80]	
									343[13.50]	396[15.59]	450[17.71]	503[19.80]	
									343[13.50]	396[15.59]	450[17.71]	503[19.80]	
									343[13.50]	396[15.59]	450[17.71]	503[19.80]	
									357[14.05]	410[16.14]	464[18.26]	517[20.35]	
									385[15.15]	438[17.24]	492[19.37]	545[21.45]	
									385[15.15]	438[17.24]	492[19.37]	545[21.45]	
									385[15.15]	438[17.24]	492[19.37]	545[21.45]	
									385[15.15]	438[17.24]	492[19.37]	545[21.45]	
									385[15.15]	438[17.24]	492[19.37]	545[21.45]	
									385[15.15]	438[17.24]	492[19.37]	545[21.45]	

JSW5													
Brake		Feed Back Option							A dimension mm [in]				
No	Yes	00 & 01	02	03	04	05	06	07	Stack length				
									-063	-084	-105	-126	
									341[13.42]	394[15.51]	448[17.63]	501[19.72]	
									341[13.42]	394[15.51]	448[17.63]	501[19.72]	
									341[13.42]	394[15.51]	448[17.63]	501[19.72]	
									341[13.42]	394[15.51]	448[17.63]	501[19.72]	
									346[13.62]	399[15.70]	453[17.83]	506[19.92]	
									346[13.62]	399[15.70]	453[17.83]	506[19.92]	
									346[13.62]	399[15.70]	453[17.83]	506[19.92]	
									405[15.94]	458[18.03]	512[20.15]	565[22.24]	
									405[15.94]	458[18.03]	512[20.15]	565[22.24]	
									405[15.94]	458[18.03]	512[20.15]	565[22.24]	
									405[15.94]	458[18.03]	512[20.15]	565[22.24]	
									405[15.94]	458[18.03]	512[20.15]	565[22.24]	
									405[15.94]	458[18.03]	512[20.15]	565[22.24]	
									405[15.94]	458[18.03]	512[20.15]	565[22.24]	

JHC5													
Brake		Feed Back Option							A dimension mm [in]				
No	Yes	00 & 01	02	03	04	05	06	07	-047	-063	-079	-094	
									285[11.22]	325[12.79]	365[14.37]	405[15.94]	
									285[11.22]	325[12.79]	365[14.37]	405[15.94]	
									285[11.22]	325[12.79]	365[14.37]	405[15.94]	
									285[11.22]	325[12.79]	365[14.37]	405[15.94]	
									285[11.22]	325[12.79]	365[14.37]	405[15.94]	
									285[11.22]	325[12.79]	365[14.37]	405[15.94]	
									285[11.22]	325[12.79]	365[14.37]	405[15.94]	
									300[11.81]	340[13.38]	380[14.96]	420[16.53]	
									327[12.87]	367[14.44]	407[16.02]	447[17.59]	
									327[12.87]	367[14.44]	407[16.02]	447[17.59]	
									327[12.87]	367[14.44]	407[16.02]	447[17.59]	
									327[12.87]	367[14.44]	407[16.02]	447[17.59]	
									327[12.87]	367[14.44]	407[16.02]	447[17.59]	
									327[12.87]	367[14.44]	407[16.02]	447[17.59]	

JHW5													
Brake		Feed Back Option							A dimension mm [in]				
No	Yes	00 & 01	02	03	04	05	06	07	-047	-063	-079	-094	
									289[11.37]	329[12.95]	369[14.52]	409[16.10]	
									289[11.37]	329[12.95]	369[14.52]	409[16.10]	
									289[11.37]	329[12.95]	369[14.52]	409[16.10]	
									289[11.37]	329[12.95]	369[14.52]	409[16.10]	
									289[11.37]	329[12.95]	369[14.52]	409[16.10]	
									289[11.37]	329[12.95]	369[14.52]	409[16.10]	
									289[11.37]	329[12.95]	369[14.52]	409[16.10]	
									352[13.85]	392[15.43]	432[17.00]	472[18.58]	
									352[13.85]	392[15.43]	432[17]	472[18.58]	
									352[13.85]	392[15.43]	432[17.00]	472[18.58]	
									352[13.85]	392[15.43]	432[17.00]	472[18.58]	
									352[13.85]	392[15.43]	432[17.00]	472[18.58]	
									352[13.85]	392[15.43]	432[17.00]	472[18.58]	
									352[13.85]	392[15.43]	432[17.00]	472[18.58]	

JSC6													
Brake		Feed Back Option							A dimension mm [in]				
									Stack length				
No	Yes	00 & 01	02	03	04	05	06	07	-100	-134	-167	-201	
									477[18.77]	562[22.12]	647[25.47]	732[28.81]	
									477[18.77]	562[22.16]	647[25.47]	732[28.81]	
									477[18.77]	562[22.16]	647[25.47]	732[28.81]	
									477[18.77]	562[22.16]	647[25.47]	732[28.81]	
									477[18.77]	562[22.16]	647[25.47]	732[28.81]	
									477[18.77]	562[22.16]	647[25.47]	732[28.81]	
									514[20.23]	599[23.58]	684[26.92]	769[30.27]	
									536[21.10]	621[24.44]	706[27.79]	791[31.14]	
									536[21.10]	621[24.44]	706[27.79]	791[31.14]	
									536[21.10]	621[24.44]	706[27.79]	791[31.14]	
									536[21.10]	621[24.44]	706[27.79]	791[31.14]	
									536[21.10]	621[24.44]	706[27.79]	791[31.14]	

JSW6													
Brake		Feed Back Option							A dimension mm [in]				
									Stack length				
No	Yes	00 & 01	02	03	04	05	06	07	-100	-134	-167	-201	
									524[20.62]	609[23.97]	694[27.32]	779[30.66]	
									524[20.62]	609[23.97]	694[27.32]	779[30.66]	
									524[20.62]	609[23.97]	694[27.32]	779[30.66]	
									524[20.62]	609[23.97]	694[27.32]	779[30.66]	
									524[20.62]	609[23.97]	694[27.32]	779[30.66]	
									524[20.62]	609[23.97]	694[27.32]	779[30.66]	
									524[20.62]	609[23.97]	694[27.32]	779[30.66]	
									613[24.13]	698[27.48]	783[30.82]	868[34.17]	
									613[24.13]	698[27.48]	783[30.82]	868[34.17]	
									613[24.13]	698[27.48]	783[30.82]	868[34.17]	
									613[24.13]	698[27.48]	783[30.82]	868[34.17]	
									613[24.13]	698[27.48]	783[30.82]	868[34.17]	
									613[24.13]	698[27.48]	783[30.82]	868[34.17]	

JHC6													
Brake		Feed Back Option							A dimension mm [in]				
No	Yes	00 & 01	02	03	04	05	06	07	Stack length				
									-079	-105	-131	-157	
									390[15.35]	457[17.99]	524[20.62]	590[23.22]	
									390[15.35]	457[17.99]	524[20.62]	590[23.22]	
									390[15.35]	457[17.99]	524[20.62]	590[23.22]	
									390[15.35]	457[17.99]	524[20.62]	590[23.22]	
									390[15.35]	457[17.99]	524[20.62]	590[23.22]	
									390[15.35]	457[17.99]	524[20.62]	590[23.22]	
									390[15.35]	457[17.99]	524[20.62]	590[23.22]	
									427[16.81]	494[19.44]	561[22.08]	627[24.68]	
									449[17.67]	516[20.31]	583[22.95]	649[25.55]	
									449[17.67]	516[20.31]	583[22.95]	649[25.55]	
									449[17.67]	516[20.31]	583[22.95]	649[25.55]	
									449[17.67]	516[20.31]	583[22.95]	649[25.55]	
									449[17.67]	516[20.31]	583[22.95]	649[25.55]	
									449[17.67]	516[20.31]	583[22.95]	649[25.55]	
									449[17.67]	516[20.31]	583[22.95]	649[25.55]	

JHW6													
Brake		Feed Back Option							A dimension mm [in]				
No	Yes	00 & 01	02	03	04	05	06	07	Stack length				
									-079	-105	-131	-157	
									464[18.26]	531[20.90]	598[23.54]	664[26.14]	
									464[18.26]	531[20.90]	598[23.54]	664[26.14]	
									464[18.26]	531[20.90]	598[23.54]	664[26.14]	
									464[18.26]	531[20.90]	598[23.54]	664[26.14]	
									464[18.26]	531[20.90]	598[23.54]	664[26.14]	
									464[18.26]	531[20.90]	598[23.54]	664[26.14]	
									464[18.26]	531[20.90]	598[23.54]	664[26.14]	
									464[18.26]	531[20.90]	598[23.54]	664[26.14]	
									553[21.77]	620[24.40]	687[27.04]	753[29.64]	
									553[21.77]	620[24.40]	687[27.04]	753[29.64]	
									553[21.77]	620[24.40]	687[27.04]	753[29.64]	
									553[21.77]	620[24.40]	687[27.04]	753[29.64]	
									553[21.77]	620[24.40]	687[27.04]	753[29.64]	
									553[21.77]	620[24.40]	687[27.04]	753[29.64]	
									553[21.77]	620[24.40]	687[27.04]	753[29.64]	
									553[21.77]	620[24.40]	687[27.04]	753[29.64]	

JSC7 & JSS7													
Brake		Feed Back Option							A dimension mm [in]				
No	Yes	00 & 01	02	03	04	05	06	07	Stack length				
									-122	-163	-204	-245	
									513[20.19]	633[24.92]	737[29.01]	841[33.11]	
									513[20.19]	633[24.92]	737[29.01]	841[33.11]	
									513[20.19]	633[24.92]	737[29.01]	841[33.11]	
									513[20.19]	633[24.92]	737[29.01]	841[33.11]	
									513[20.19]	633[24.92]	737[29.01]	841[33.11]	
									513[20.19]	633[24.92]	737[29.01]	841[33.11]	
									513[20.19]	633[24.92]	737[29.01]	841[33.11]	
									622[24.48]	742[29.21]	846[33.30]	950[37.40]	
									622[24.48]	742[29.21]	846[33.30]	950[37.40]	
									622[24.48]	742[29.21]	846[33.30]	950[37.40]	
									622[24.48]	742[29.21]	846[33.30]	950[37.40]	
									622[24.48]	742[29.21]	846[33.30]	950[37.40]	
									622[24.48]	742[29.21]	846[33.30]	950[37.40]	
									622[24.48]	742[29.21]	846[33.30]	950[37.40]	

10.0 ORDERING CODE



S	Standard dynamic
H ¹⁾	High dynamic

¹⁾ Only available for motor sizes 5 & 6

Cooling options	
C	Natural cooling
W ¹⁾	Liquid cooling - aluminium conduit
S ²⁾	Liquid cooling - stainless steel conduit

¹⁾ With high torque brake option only
²⁾ Size 7 only

Motor size	
3	70 mm (Flange)
4	100 mm (Flange)
5	140 mm (Flange)
6	190 mm (Flange)
7	275 mm (Flange)

Nominal speed	
xxx	r/100 min

Example: r/min = 3500 xxx = 035

Special version	
00	Standard version

Stack length	
xxx	Active length in 0.1 in

Example: Active length 0.1 in 160 mm = 0.63 in: xxx = 063

	Brake options ¹⁾		Straight connector	Rotable connector	Conne- tor box ²⁾	NTC Thermal sensor	KTY Thermal sensor
	Low-T	High-T					
00							Standard ³⁾
01							
02							
03							
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
99							Special

¹⁾ Liquid cooling motors have only the high torque brake option.

²⁾ Applicable only for JxW5, JxW6 and JS57 as standard.

³⁾ Fixed angled connectors, PTC sensor, no brake

	Keyway	Shaft exit seal	Heavy bearing	Bearing thermal sensor ¹⁾
01				
02				
03				
07				
08				
09				
10				
14				
15				
16				
17				
21				
22				
23				
24				
99				Special

¹⁾ Only available for liquid cooling

²⁾ Plain shaft, standard bearing, no shaft seal, no bearing thermal sensor

	Motor size				Resolver/ Encoder type	Steg- main	Heiden- hain
	3	4	5	6			
00	Resolver with same number of poles of the motor						
01	2 poles resolver						
02					Incremental		
03	SKS36		SR550		Absolute single turn		
04	SKM36		SRM50		Absolute multi turn		
05	ERN1185		ERN1387		Incremental		
06	ECN1113		ECN1313		Absolute single turn		
07	EQN1125		EQN1325		Absolute multi turn		
99							Special

Brake options		J5x3	J5x4	Jxx5	Jxx6	Jxx7
1	Low torque	-	-	14 Nm	22 Nm	-
2	High torque	4.5 Nm	14 Nm	22 Nm	72 Nm	145 Nm

TAKE A CLOSER LOOK

Moog designs a range of motion control products that complement the performance of those featured in this catalog. Visit our website for more information and contact the Moog facility nearest you.

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