

ISMG Servo Motor for Hydraulic Servo Pump

High reluctance torque,
bigger overload capacity,
and better flux-weakening
performance

IPM (Interior Permanent
Magnet) rotor structure,
with excellent electromag-
netic performance

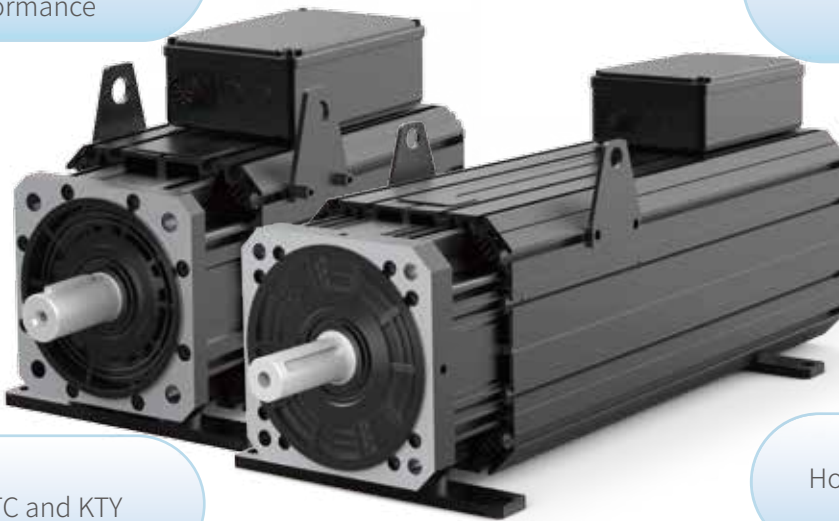


Less iron and copper
losses, higher efficiency
and less heating

Resolver feedback

Built-in PTC and KTY

Hollow shaft is optional



Product Model Definition

ISMG1-30D 15C D- R1 A 1 F A

Mark	Frame
ISMG1	200 X 200 frame
ISMG2	260 X 260 frame

Mark	Rated power
C	x 100
D	x 1000
E	x 10000
Eg.	95C: 9500 W

Mark	Rated speed
C	x 100
Eg.	15C: 1500 rpm

Mark	Voltage class
D	380V

Mark	Encoder type
R1	Resolver

Mark	Shaft connection
1	Plain shaft
3	Keyed+tapped hole
6	Taper shaft
A	Keyed + taper hole, IPM rotor structure

Mark	Version
A	Version A

Mark	Cooling
X	Natural cooling
F	Forced cooling

Mark	Brake, gear, oil seal
1	Oil seal

Servo Motor Specifications

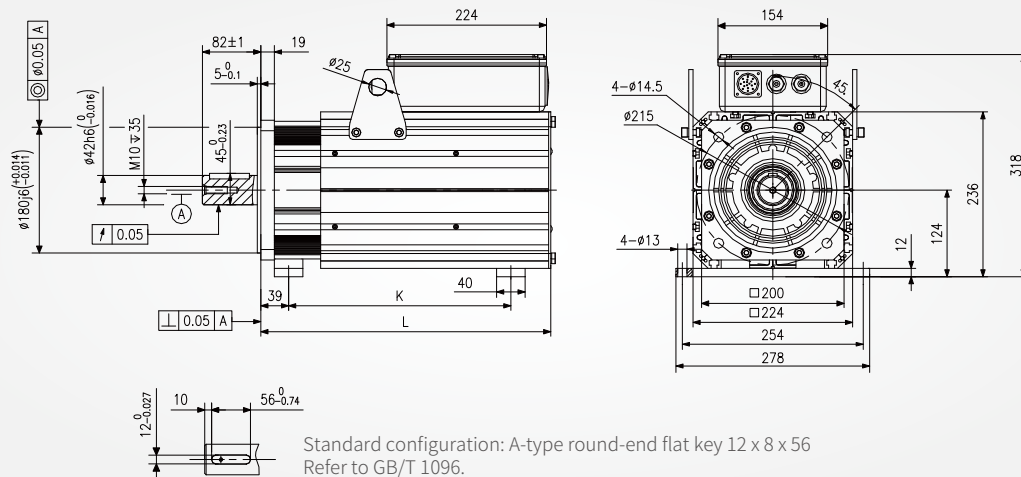
Series		ISMG1														
Model	ISMG1-xxxxxxx-R1A1FA	95C15CD	11D17CD	12D20CD	14D15CD	16D17CD	18D20CD	17D15CD	20D17CD	23D20CD	22D15CD	24D17CD	28D20CD	30D15CD	34D17CD	41D20CD
Frame size		200 x 200														
Length [mm]		375			410			445			480			550		
Rated voltage [V]		380														
Rated frequency [Hz]		100	113.33	133.33	100	113.33	133.33	100	113.33	133.33	100	113.33	133.33	100	113.33	133.33
Rated speed [RPM]		1,500	1,700	2,000	1,500	1,700	2,000	1,500	1,700	2,000	1,500	1,700	2,000	1,500	1,700	2,000
Back EMF [V]		311.9	303	297	297	303	316.8	297	295	297	311.9	303	297	297	303	316.8
Rated power [kW]	S1	7.9	8.9	10.5	11.8	13.4	15.7	14.5	16.4	19.3	18.1	20.5	24.1	23.6	26.7	31.4
	S4	9.5	11	12	14	16	18	17	20	23	22	24	28	30	34	41
Rated current [A]	S1	15.4	18.1	21.6	24.4	27.1	30.4	29.9	34.1	39.8	35.5	41.5	49.8	48.7	54.2	60.7
	S4	18.5	21.7	26	29.2	32.5	36.4	35.7	40.7	47.6	41.7	48.7	58.4	63.3	70.4	78.9
Rated torque [Nm]	S1	50			75			92			115			150		
	S4	60			90			110			135			195		
Inertia [kgm²10 ⁻³]		7.5			9			10.5			12			15		
Net weight [kg]		45.2			51.9			59			66			79.8		
Poles		8														

Series		ISMG2														
Model	ISMG2- xxxxxxx -R1A1FA	31D15CD	36D17CD	42D20CD	42D15CD	48D17CD	57D20CD	52D15CD	60D17CD	70D20CD	60D15CD	68D17CD	80D20CD	80D15CD	91D17CD	11E20CD
Frame size		266 x 266														
Length [mm]		525			575			625			675			775		
Rated voltage [V]		380														
Rated frequency [Hz]		100	113.33	133.33	100	113.33	133.33	100	113.33	133.33	100	113.33	133.33	100	113.33	133.33
Rated speed [RPM]		1,500	1,700	2,000	1,500	1,700	2,000	1,500	1,700	2,000	1,500	1,700	2,000	1,500	1,700	2,000
Back EMF [V]		311.9	303	297	297	303	316.8	303	300.5	303	311.9	303	297	297	336.8	316.8
Rated power [kW]	S1	26.7	30.3	35.6	36.1	40.9	48.2	44.8	50.7	59.7	53.4	60.5	71.2	69.1	78.3	92.1
	S4	31	36	42	42	48	57	52	60	70	60	68	80	80	91	110
Rated current [A]	S1	52.5	61.4	73.6	74.7	83	93.1	94.1	107.5	125.6	104.9	122.7	147.2	142.9	142.9	178.1
	S4	61.7	72.2	86.6	87.7	97.5	109.3	110.6	126.4	147.6	118.8	139	166.7	165.6	165.6	206.5
Rated torque [Nm]	S1	170			230			285			340			440		
	S4	200			270			335			385			510		
Inertia [kgm²10 ⁻³]		29.6			36.8			43.4			50			64		
Net weight [kg]		122			141.3			158.4			175.4			217		
Poles		8														

S1: Continuous duty -- The operation of a motor at a rated load may take an unspecified time period to reach thermal equilibrium.
S4: Intermittent periodic duty with start -- This is a sequence of identical duty cycles, each consisting load for a period, an operation at constant load period, followed by a stationary and de-energized period. This cycle has a great impact on temperature rise.

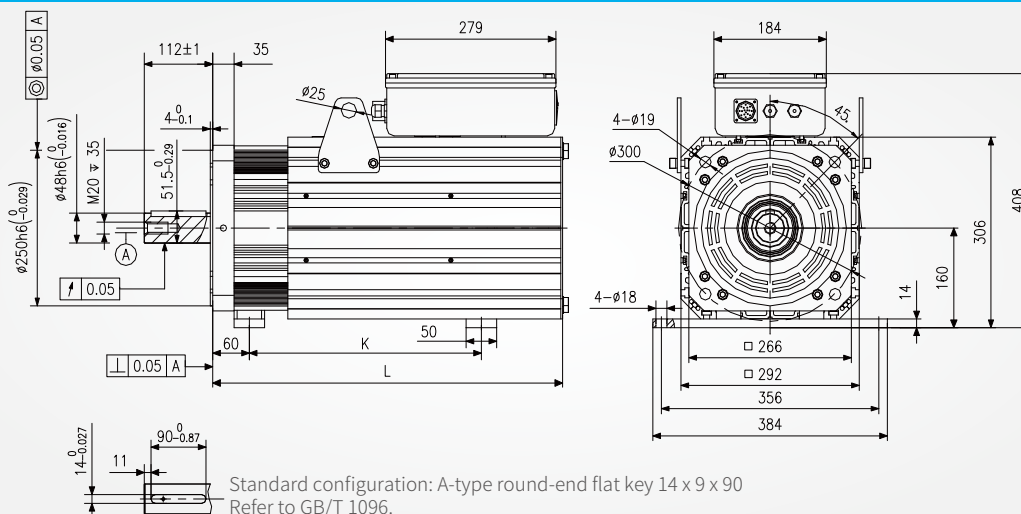
Servo Motor Dimensions

ISMG1 (200 x 200 forced ventilated)



Motor Model	ISMG1-95C15CD-R1A1FA	ISMG1-14D15CD-R1A1FA	ISMG1-17D15CD-R1A1FA	ISMG1-22D15CD-R1A1FA	ISMG1-30D15CD-R1A1FA
	ISMG1-11D17CD-R1A1FA	ISMG1-16D17CD-R1A1FA	ISMG1-20D17CD-R1A1FA	ISMG1-24D17CD-R1A1FA	ISMG1-34D17CD-R1A1FA
	ISMG1-12D20CD-R1A1FA	ISMG1-18D20CD-R1A1FA	ISMG1-23D20CD-R1A1FA	ISMG1-28D20CD-R1A1FA	ISMG1-41D20CD-R1A1FA
K	285	312	354	396	471
L	375	410	445	480	550

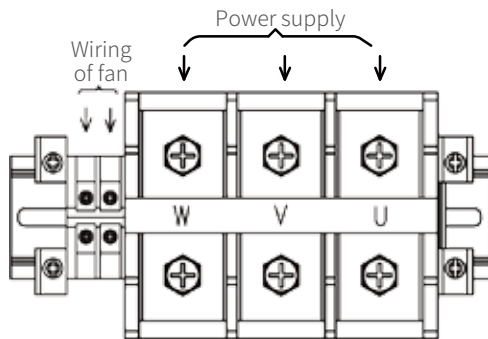
ISMG2 (266 x 266 forced ventilated)



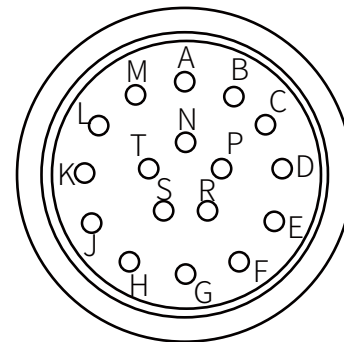
Motor Model	ISMG2-31D15CD-R1A1FA	ISMG2-42D15CD-R1A1FA	ISMG2-52D15CD-R1A1FA	ISMG2-60D15CD-R1A1FA	ISMG2-80D15CD-R1A1FA
	ISMG2-36D17CD-R1A1FA	ISMG2-48D17CD-R1A1FA	ISMG2-60D17CD-R1A1FA	ISMG2-68D17CD-R1A1FA	ISMG2-91D17CD-R1A1FA
	ISMG2-42D20CD-R1A1FA	ISMG2-57D20CD-R1A1FA	ISMG2-70D20CD-R1A1FA	ISMG2-80D20CD-R1A1FA	ISMG2-11E20CD-R1A1FA
K	360	370	476	476	583
L	525	575	625	675	775

Wiring Diagram

Terminals of main circuit

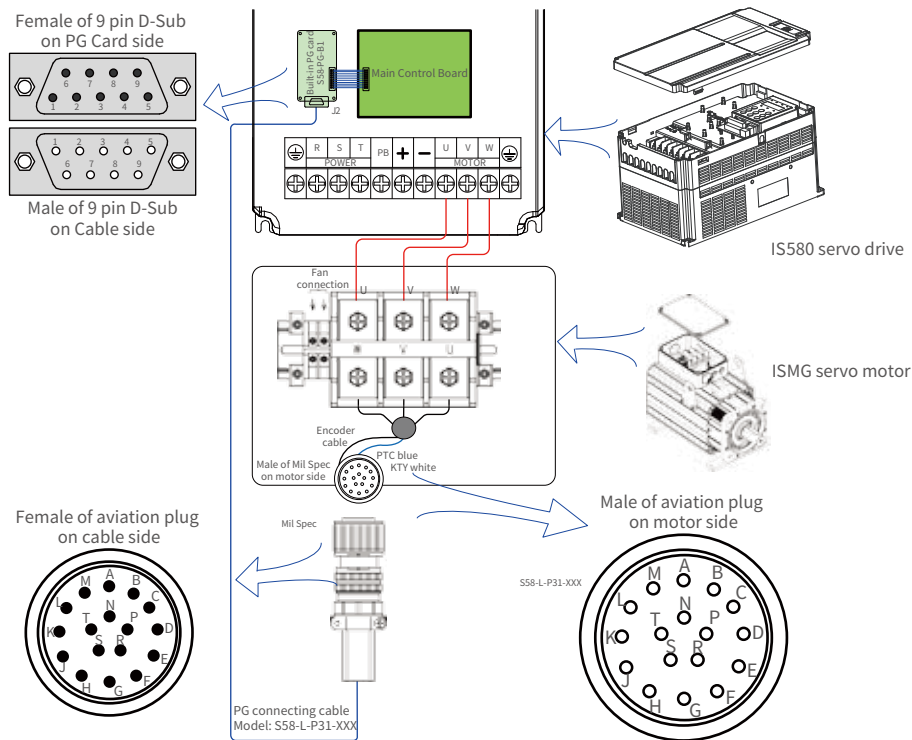


17P aviation plug on motor side



17P Aviation Plug	A	B	C	D	E	F	G	H	L	K	J
DB9 Connector	1	2	3	4	5	9	7	8	6		Housing
Signal Definition	REF-	REF+	Cos+	Cos-	Sin+	Sin-	PTC-M	KTY-N	PTC-N	KTY-M	Shielding
Wire Colour	Yellow/White	Red/White	Red	Black	Yellow	Blue	Brown	Orange		Grey	Shielding
Remark	Twisted pair		Twisted pair		Twisted pair			KTY, PTC common			

ISMG Servo Motor Wiring with IS580 Servo Drive



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