

Enquiry N°:

Created by: DB / Checked by: EG/TB

SERVO MOTOR 089LDA306QGCG114093-SGV1

089LDA306QGCG114093-SGV1

AGV Solution Motor + Gearbox + Wheel + Brake



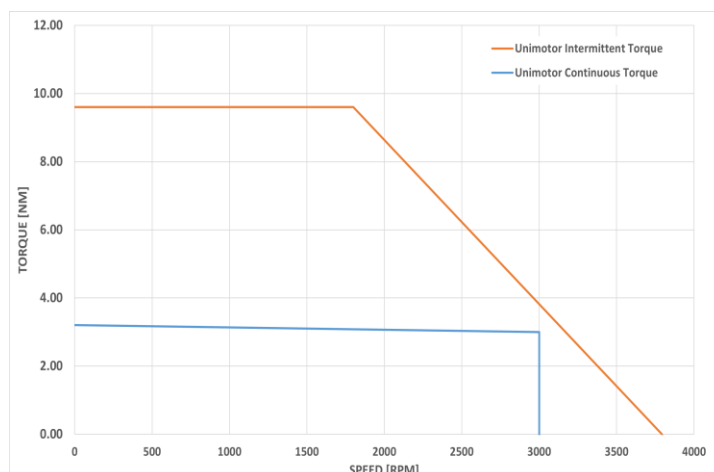
Definition

Type	Unimotor HD	
Frame Size (mm)	089	
Voltage	L	40-50V DC
Magnet type	D	D - High dynamic
Frame Length	A	
Speed (min-1)	30	3000 @ 48V
Brake	6	Braked
Connection type	Q	Power and Signal flying leads (0.5m)
Output shaft	G	Integrated Gearbox Shaft
Feedback device code	CJ	Renco R35i encoder 4096 5PP push-pull comms
Inertia & thermistor	G	Standard inertia + no thermistor
PCD (Gearbox)	114	114.3mm (Gearbox mounting)
Shaft Diameter (Gearbox)	093	93mm (Gearbox clearance)
Insulation class	F	
UL Motor / UL Stator	UL Stator	

Nominal characteristics

Motor Ambient Temperature (°C)	0 to 40	Motor Ambient Storage Temperature (°C)	-15 to 40
Motor Peak Torque (Nm)	9.6		
Motor Stall Torque (Nm)	3.2	Stall Current	23.0
Rated Torque (Nm)	3	Rated Current (A)	21.6
Rated Power (kW) @ 48V	0.94		
Winding Thermal Time Constant (s)	85	Kt (Nm/A)	0.14
Number of Poles	10	Ke (V/kmin-1)	8.5
Maximum Cogging (Nm)	0.05	R (ph-ph) (Ohm)	0.08
Inertia Motor + GBox (kg.cm ²)	1.08	L (ph-ph) (mH)	0.46
Ingress Protection Level (IP)	54	Weight (kg) Motor + gearbox	~6.0
Intermittent Torque (Nm)	4.8 (S3 Duty)		
Intermittent Power (kW)	0.7 (S3 Duty)	Intermittent Current (A)	34.29 (S3 Duty)
Brake	06 Type	Static Torque (N.m)	4.0
Release Time (ms)	<150ms	Backlash (°)	TBA
Brake Supply Voltage (V)	24	Brake Coil Power (W)	15

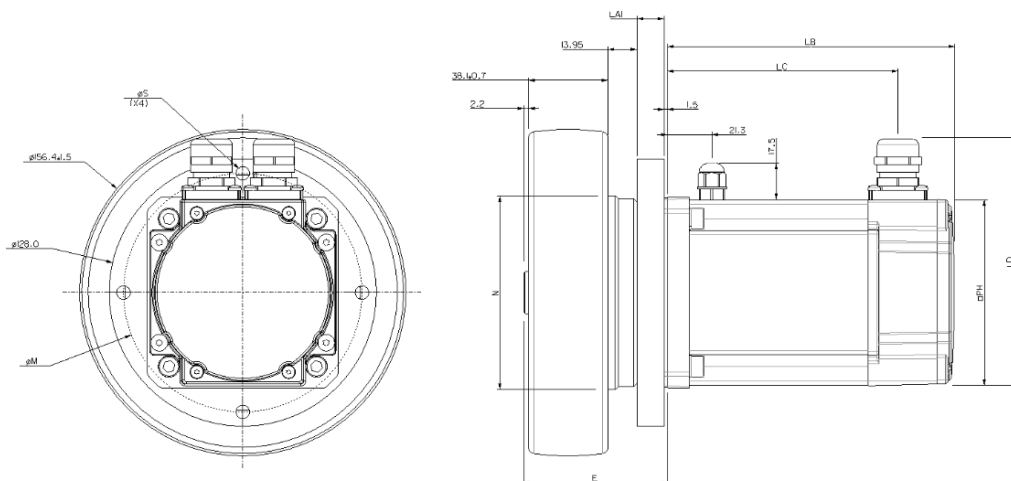
Torque / speed graph



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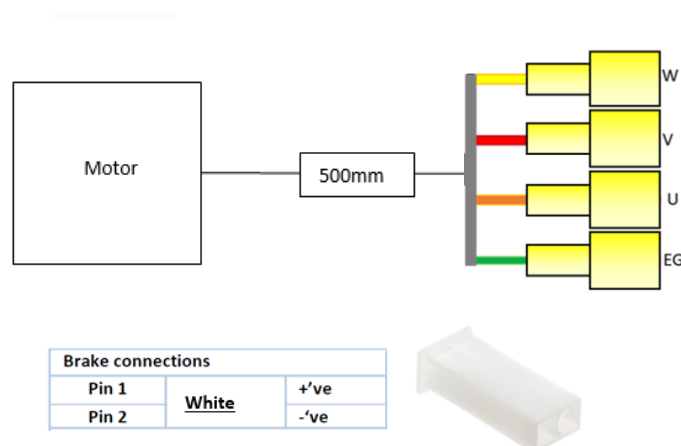
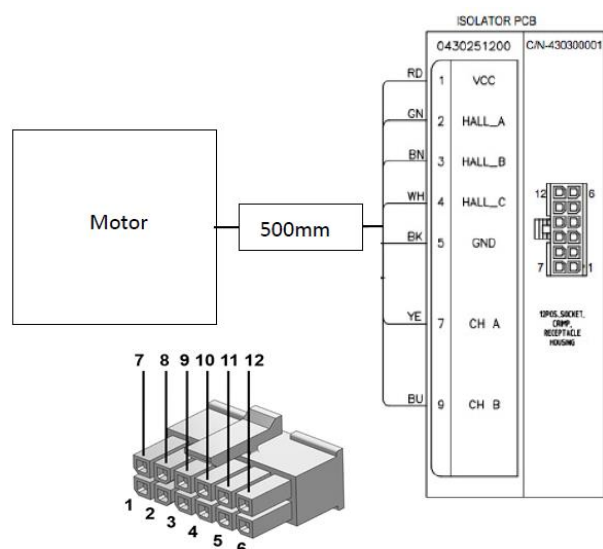
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Motors ($^{\circ}$ & *mm*)

LB	Motor length	137.8±1
LC	Gland position	110.5±1
LA1	Flange thickness	13±0.1
N	GBox Clearance Dia	93 h7
LD	Gland overall height	119±1
PH	Motor Housing Width	89±0.3
E	GBox Length	68.7
M	Fixing hole PCD	114.3
S	Fixing hole Dia	6.5
	Motor+Gbox length	206.5
	Mounting Bolt	M6

Motor electrical interface Flying leads option:

Feedback device code: CJ - Renco R35i encoder 4096 5PP push-pull comms						Connection type: Q - Power and Signal flying leads (0.5m)		
1	Red	Power	7	Yellow	CH A	1	U	Orange (x 1)
2	Green	HALL A	8		-	2	V	Red (x 1)
3	Brown	HALL B	9	Blue	CH B	3	W	Yellow (x 1)
4	White	HALL C	10			4	Earth	Green/Yellow (x 1)
5	Black	GND	11					
6	Red		12					
SIG Cable (28 AWG): 500mm (from M16 gland to customer end) 7 cores of 28 AWG PVC wire, insulated in UL AWM 2725 PVC jacket, screened; 12-Way Molex connector 43025-1200						PWR Cable: 500mm (from M20 gland to customer end) 4 cores of 12 AWG UL 1330 wire, with polyolefin heat shrink sleeve Shrouded Spade terminals fitted to lead wires Brake connection: 0.5 m flying lead 2 cores of 18 AWG PVC wire, insulated; 2-Way Molex connector 39-01-3023		



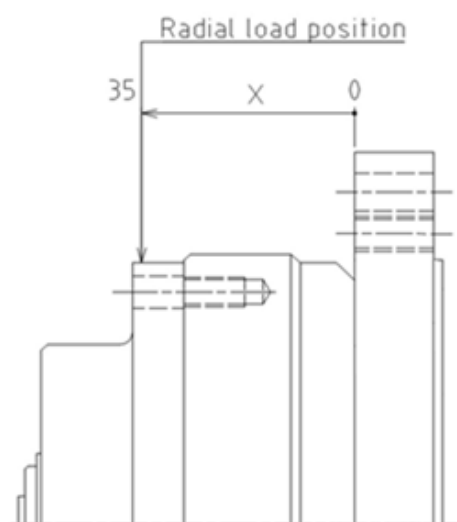
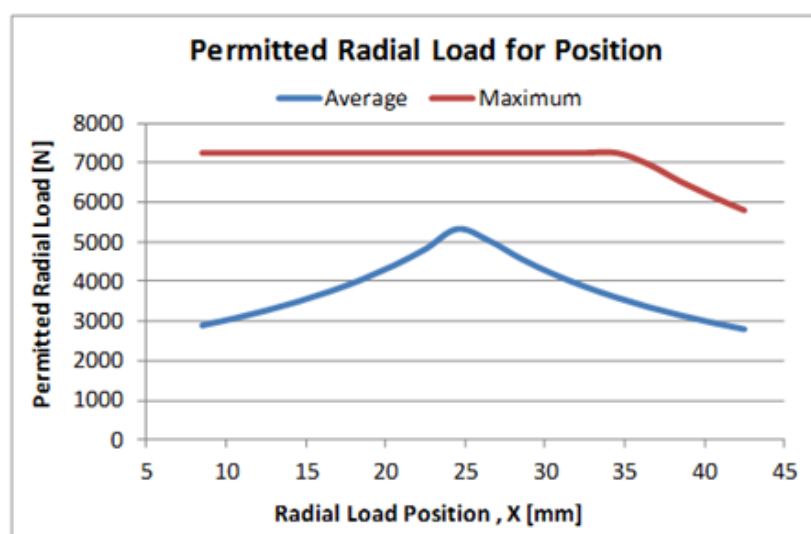
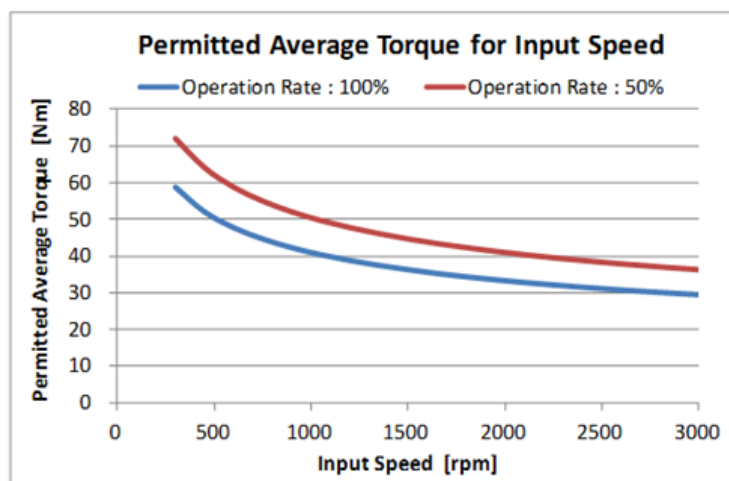
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Gear Box characteristics

Ratio	9	Backlash (arc/min)	≤7
Stages	1	Radial Load (Fr, N) @ Fa=0, Input Speed Nom	3500
Inertia (kg.cm ²)	~0.2	Radial Load MAX (Fr, N)	7250
Weight (kg)	2.7	Axial Load (Fa, N) @ Fr=0, Input Speed Nom	2200
Efficiency	95%		



Wheel Specification

Wheel material	Polyurethane
Shore hardness	78 A
Wheel hub material	Aluminium
Mounting bolts	Cap head hex - M5 x 25mm
No of bolts	5
Bolt tightening torque	5.7 Nm
Weight	0.9 kg