



Hollow Shaft Motorized Rotary Actuator – ARM & ABM

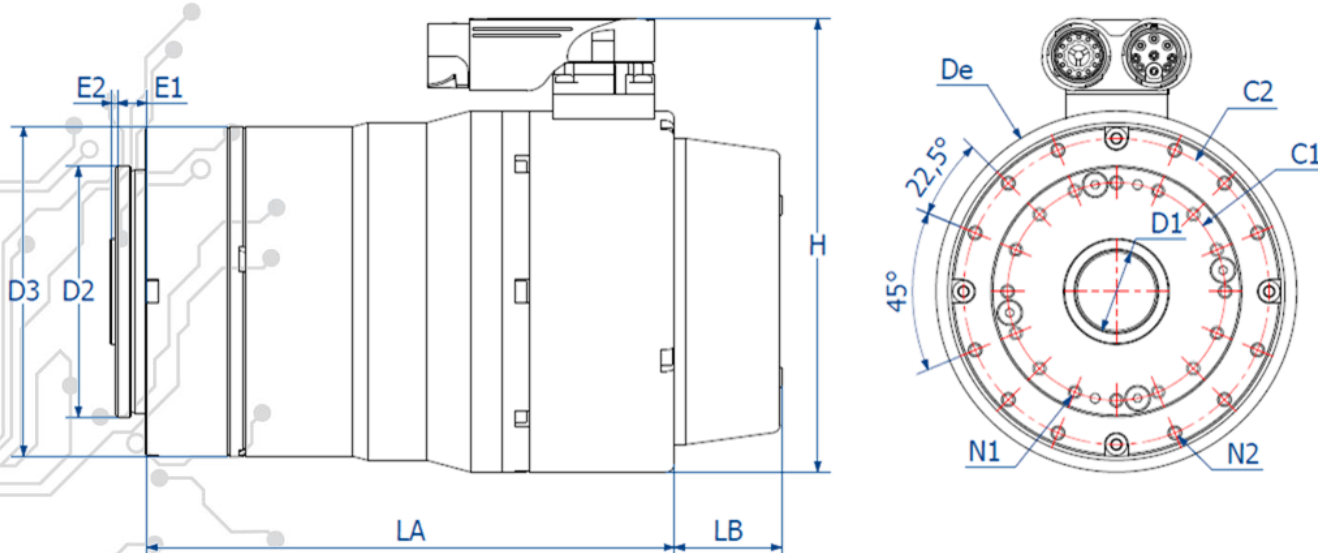


The Precision Integrated Rotary Actuators **ARM & ABM** series with Zero Backlash are composed of a very compact brushless servomotor, a hollow shaft zero speed gear reducer and an absolute position feedback device.

- Rare earth magnets for high temperature
- **8 poles** construction, Sinusoidal BEMF
- Integrated Thermal Protection
- Hollow shaft (ARM) or hollow blind shaft (ABM)
- Absolute single or multiturn encoders
- Precision gear reducers with zero backlash and high rigidity
- Compact design
- Smooth finish

Description	Symbol	Units	ABM/ARM 20						ABM/ARM 30						ABM/ARM 35						ABM/ARM 51			ABM 62	
Motor Type	-	-	DSM7.30.1			DSM7.30.2			DSM5.30.1			DSM5.30.2			DSM5.31.1			DSM5.31.2			DSM5.51.2			DSM5.62.2	
Stall Torque	M ₁₀	Nm	1			1			1			1			1,5			1,5			10			28	
Stall Current	I ₁₀	A	1,7			1,1			1,7			1,1			1,65			1,1			6,5			12,5	
Voltage Constant	K _E	V/krpm	36			56			36			56			55			86			93			134	
Torque Constant	K _T	Nm/A	0,595			0,926			0,595			0,926			0,91			1,422			1,538			2,216	
Resistance 20°C	R _{U-V}	Ohm	7,9			19			7,9			19			9			23			1,61			0,74	
Inductance 1kHz	L _{U-V}	mH	11			25			11			25			16			35			7			5,3	
Rated Voltage	V _n	V	230			400			230			400			230			400			400			400	
Rated Speed	N _{1n}	min ⁻¹	2500						2500						2000						1500			1500	
Max Speed @Vn	N _{1MAX}	min ⁻¹	5300			6000			5300			6000			3400			3900			3900			3000	
Max InSpeed	N _{1MAX}	min ⁻¹	7000						7000						6500						4000			3000	
Weight	m	kg	2,9						3,2						5,1						17			43	
Gearbox Type	-	-	ECY-103						ECY-105						ECY-107						F4FC-C15			F4CF-C35	
Gearbox Ratio	i	-	50	80	100	50	80	100	50	80	100	50	80	100	50	80	100	50	80	100	59			59	
Rated Current	I _{1n}	A	1,4	1,4	1,4	0,9	0,9	0,9	1,4	1,4	1,4	0,9	0,9	0,9	1,5	1,5	1,5	1	1	1	4,8			10,6	
Peak current	I _{1pk}	A	3,7	3,1	3	2,4	2	1,9	5,2	4,4	4,1	3,3	2,9	2,6	5,3	4,7	4,4	3,4	3	2,8	11,9			28,2	
Rated Torque	M _{2n}	Nm	14	22	28	14	22	28	14	22	28	14	22	28	24	35	43	24	35	43	225			727	
Peak Torque	M _{2pk}	Nm	34	43	54	34	43	54	56	74	82	56	74	82	98	137	157	98	137	157	540			1962	
Max OutSpeed	N _{2MAX}	min ⁻¹	106	66	53	120	75	60	106	66	53	120	75	60	68	43	34	78	49	39	66			42	

Mechanical Drawings



Mechanical Coupling Main Dimensions (mm)

Type	H	E1	E2	D1 H7	D2 h7	D3 h7	C1	C2	N1	N2	Connectors type
ABM/ARM20	117	7,7	1,4	19	54	74	48	68	16x M3	12x M3	M15/M23
ABM/ARM30	117	7,9	1,3	21	64	84	55,5	78	16x M3	12x M3	M15/M23
ABM/ARM35	117	6,5	1	25,5	72	95	63	87,5	16x M4	12x M4	M15/M23
ABM/ARM51	197	1,3	3	40	71	137	92	149	16x M6	12x ø6,6	M15/M23
ABM62	237	0	4	65	174	220	145	238	12x M10	8x ø11	M23

Axial Main Dimensions (mm) and Available Actuator/Feedback Combinations

Check the following page for ordering codes and feedback features.

Type	EQI1131 & MT ABS35		EKM36 & SKM36		SEM70		SSI CCD1618		SEM90		SSI CCD1619	
	LA	LB	LA	LB	LA	LB	LA	LB	LA	LB	LA	LB
ABM20	121,5	0	135,5	0	-	-	-	-	-	-	-	-
ABM20 with brake 2Nm	128,5	27	128,5	41	-	-	-	-	-	-	-	-
ARM20	-	-	-	-	127,5	0	127,5	0	-	-	-	-
ABM30	128	0	142	0	-	-	-	-	-	-	-	-
ABM30 with brake 2Nm	135	27	135	41	-	-	-	-	-	-	-	-
ARM30	-	-	-	-	134	0	134	0	-	-	-	-
ARM30 with brake 1,7Nm*	-	-	-	-	131	36	131	36	-	-	-	-
ABM35	139	0	153	0	-	-	-	-	-	-	-	-
ABM35 with brake 2Nm	146	27	146	41	-	-	-	-	-	-	-	-
ARM35	-	-	-	-	145	0	145	0	-	-	-	-
ARM35 with brake 1,7Nm*	-	-	-	-	142	36	142	36	-	-	-	-
ABM51	210	0	215	0	-	-	-	-	-	-	-	-
ABM51 with brake 18Nm	219	35	219	43	-	-	-	-	-	-	-	-
ARM51	-	-	-	-	-	-	-	-	210	0	210	0
ARM51 with brake 5Nm*	-	-	-	-	-	-	-	-	210,5	38	210,5	38
ABM62	259	0	277	0	-	-	-	-	-	-	-	-
ABM62 with brake 40Nm	287	38	287	50	-	-	-	-	-	-	-	-

* Spring Brake

Data shown on this catalogue are referred to the following conditions:

- Room Temperature max 40° C
- Room Temperature min. 0 °C
- Altitude max 1000 m asl
- F insulation class, F and H insulating
- Rms value
- IP44
- Values tolerance ±10%
- Overtemperature max 100K
- Aluminum test plate 250x250x15 [mm]
- Only for Intermittent duty S3 50%

Data of this catalogue may be changed without notice.

Nomenclature Breakdown

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	B	M	3	5	2	0	Y	D	R	0	5	0	x	x

POS. DESCRIPTION

1-3 Product
 ABM = Blind Shaft Motorized Rotary Actuator – Zero Backlash
 ARM = Hollow Shaft Motorized Rotary Actuator – Zero Backlash

4 Motor Size
 3 = DSM5.3
 5 = DSM5.5
 6 = DSM5.6

5 Motor Length

6 Winding Version
 1 = Winding code 1 for 320Vdcbus
 2 = Winding code 2 for 560Vdcbus
Contact our technical support for additional winding types

7 Holding brake
 0 = Without brake
 1 = Permanent Magnet Brake 24V_{DC}±6% (ABM Only)
 2 = Spring Brake 24V_{DC}±6% (ARM Only)

8 Feedback
 3 = Heidenhain Encoder EQI1131 Endat Multi Turn 2.2
 B = ABS Absolute Multiturn Encoder 17/35 bit with external battery
 H = Sick encoder SEM90 Hiperface 64 PPR Multi turn
 Q = Sick encoder SEM70 Hiperface 32 PPR Multi turn
 Y = Sick encoder EKM36 18bit Multi turn NO SIL, DSL
 Z = Sick encoder SKM36 Hiperface 128 PPR Multi turn
 x = Special feedback (14-15)
Available on request SIL option on some types of encoders

9 Connection type
 7 = M23 90° 6 poles power connector / M23 90° feedback
 D = M15 YTEC single connector 9p/12+3p
 J = M15 YTEC single connector 9p/12p
 V = Single M23 type 9 poles connector for DSL encoder
 Z = M15 ITEC single connector 12+3 poles

10-13 Gearbox Ratio
 R050 = 1:50
 R080 = 1:80
 R059 = 1:59
Contact our technical support for additional ratios

14-15 Special version
 G6 = CCD-1618 SSI MT special feedback
 G7 = CCD-1619 SSI MT special feedback

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- **RARE EARTH SC DC SERVOMOTORS**
- **DSW WATER-COOLED**
- **LOW-COST SOLUTIONS**
- **PLANETARY GEARS**
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- **TORQUE MOTORS**
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