



Hollow Shaft Motorized Rotary Actuator – ARM & ABM

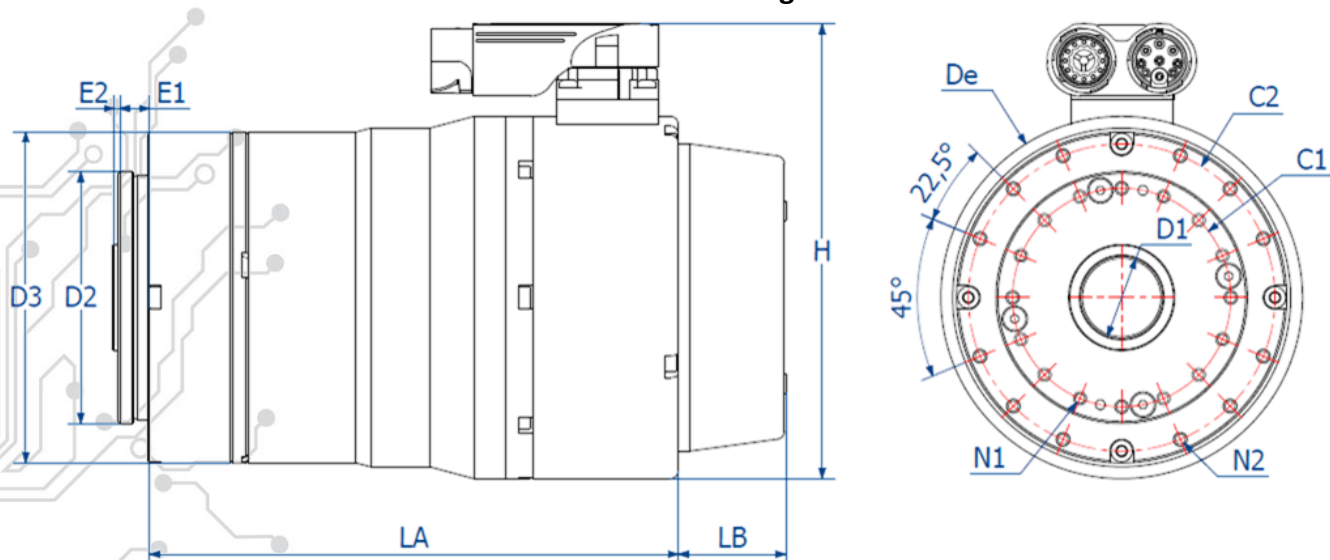


The Precision Integrated Rotary Actuators **ARM & ABM** series with Zero Backlash are composed of a very compact brushless servomotor, a hollow shaft zero speed gear reducer and an absolute position feedback device.

- 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											
			DSM7.30.1			DSM7.30.2			DSM5.30.1			DSM5.30.2			DSM5.31.1			DSM5.31.2			DSM5.51.2			DSM5.62.2		
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			2500			2000			2000			1500			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			7000			7000			6500			6500			4000			3000		
Weight	m	kg	2,9			2,9			3,2			3,2			5,1			5,1			17			43		
Gearbox Type	-	-	ECY-103			ECY-103			ECY-105			ECY-105			ECY-107			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	59	59	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	4,8	4,8	10,6	10,6	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	11,9	11,9	28,2	28,2	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	225	225	727	727	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	540	540	1962	1962	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	66	66	42	42	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	16xM3	12xM3	M15
ABM/ARM30	117	7,9	1,3	21	64	84	55,5	78	16xM3	12xM3	M15
ABM/ARM35	117	6,5	1	25,5	72	95	63	87,5	16xM4	12xM4	M15
ABM/ARM51	197	1,3	3	40	71	137	92	149	16xM6	12xø6,6	M23
ABM62	237	0	4	65	174	220	145	238	12xM10	8xø11	M23

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

Type	EQ1131 & 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	128,5	27	128,5	41	-	-	-	-	-	-	-	-
ARM20	-	-	-	-	127,5	0	127,5	0	-	-	-	-
ABM30	128	0	142	0	-	-	-	-	-	-	-	-
ABM30 with brake	135	27	135	41	-	-	-	-	-	-	-	-
ARM30	-	-	-	-	134	0	134	0	-	-	-	-
ABM35	139	0	153	0	-	-	-	-	-	-	-	-
ABM35 with brake	146	27	146	41	-	-	-	-	-	-	-	-
ARM35	-	-	-	-	145	0	145	0	-	-	-	-
ABM51	210	0	215	0	-	-	-	-	-	-	-	-
ABM51 with brake	219	35	219	43	-	-	-	-	-	-	-	-
ARM51	-	-	-	-	-	-	-	-	210	0	210	0
ABM62	259	0	277	0	-	-	-	-	-	-	-	-
ABM62 with brake	287	38	287	50	-	-	-	-	-	-	-	-

*Check the following page for ordering codes and feedback features. Hollow Shaft version (ARM) with brake not available.

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
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1-3	<p>Product</p> <p>ABM = Blind Shaft Motorized Rotary Actuator – Zero Backlash ARM = Hollow Shaft Motorized Rotary Actuator – Zero Backlash</p>
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4	<p>Motor Size</p> <p>3 = DSM5.3 5 = DSM5.5 6 = DSM5.6</p>
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5	<p>Motor Length</p>
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6	<p>Winding Version</p> <p>1 = Winding code 1 for 320Vdcbus 2 = Winding code 2 for 560Vdcbus <i>Contact our technical support for additional winding types</i></p>
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7	<p>Holding brake</p> <p>0 = Without brake 1 = Permanent Magnet Brake 24V_{DC}±6% (ABM Only)</p>
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8	<p>Feedback</p> <p>3 = Heidenhain Encoder EQ11131 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)</p>
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Available on request SIL option on some types of encoders

9	<p>Connection type</p> <p>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</p>
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10-13	<p>Gearbox Ratio</p> <p>R050 = 1:50 R080 = 1:80 R059 = 1:59 <i>Contact our technical support for additional ratios</i></p>
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14-15	<p>Special version</p> <p>G6 = CCD-1618 SSI MT special feedback G7 = CCD-1619 SSI MT special feedback</p>
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