

1.4 ACME SCREW LINEAR ACTUATORS Series UAL

Technical features table

FEATURES		SIZE	UAL 0	UAL 1	UAL 2	UAL 3	UAL 4
Rod diameter	[mm]		25	25	30	35	40
Protective tube diameter	[mm]		36	36	45	55	60
Motor Flange European standard IEC B14			–	56 B14	63 B14	71 B14	80 B14 90 B14
Max. dynamic load	[N]		500	1600	2500	5100	8500
Max. static load	Pull [N]		3000	4000	6000	10000	12000
	Push [N]		3000	4000	6000	10000	12000
1-start acme screw	[mm]		Tr 13.5 × 3	Tr 13.5 × 3	Tr 16 × 4	Tr 18 × 4	Tr 22 × 5
2-starts acme screw	[mm]		Tr 14×8 (P4)	Tr 14×8 (P4)	Tr 16×8 (P4)	Tr 18×8 (P4)	Tr 22×10 (P5)
Ratio	RV		1 : 1	1 : 1.33	1 : 1.4	1 : 1.04	1 : 1.07
	RN		1 : 2	1 : 2.15	1 : 2.13	1 : 2	1 : 1.94
	RL		–	1 : 3	1 : 2.83	1 : 2.92	1 : 2.93
Linear travel [mm] for 1 input shaft turn (1-start acme screw)	Ratio	RV1	3	2.25	2.86	3.84	4.69
		RN1	1.5	1.39	1.88	2	2.57
		RL1	–	1	1.41	1.37	1.70
Linear travel [mm] for 1 input shaft turn (2 starts acme screw)	Ratio	RV2	8	6	5.71	7.68	9.38
		RN2	4	3.71	3.75	4	5.14
		RL2	–	2.67	2.82	2.74	3.41
Weight (referred to actuator 100 mm stroke length, with lubricant, without motor)	[kg]		2.2	3.3	5	8	11
Extra-weight for each additional 100 mm stroke length	[kg]		0.3	0.3	0.5	0.8	0.9

1.4 BALL SCREW LINEAR ACTUATORS Series UBA

Technical features table

FEATURES		SIZE	UBA 0	UBA 0	UBA 1	UBA 2	UBA 3	UBA 4
Rod diameter	[mm]		30	25	25	30	35	40
Protective tube diameter	[mm]		45	36	36	45	55	60
Motor Flange European standard IEC B14			–	–	56 B14	63 B14	71 B14	80 B14 90 B14
Max. dynamic load (1)	[N]		170	420	1750	2900	3200	5000
Max. static load	Pull [N]		3000	3000	4000	6000	10000	12000
	Push [N]		3000	3000	4000	6000	10000	12000
ROLLED ball screw	Diameter × Pitch [mm]		12.7×12.7	14 × 5	16 × 5	20 × 5	25 × 6	
	Dynamic load C [N]		5250	8400	11260	12300	19380	
	Static load C ₀ [N]		9000	8570	11570	15040	29420	
	Ball diameter [mm]		3.175	3.175	3.175	3.175	3.969	
	Ball circuit quantity		2 × 1.5	2	3	3	3	
Ratio	RV		1 : 1	1 : 1	1 : 1.33	1 : 1.4	1 : 1.04	1 : 1.07
	RN		1 : 2	1 : 2	1 : 2.15	1 : 2.13	1 : 2	1 : 1.94
	RL		–	–	1 : 3	1 : 2.83	1 : 2.92	1 : 2.93
Linear travel [mm] for 1 input shaft turn	Ratio	RV1	12.7 (RV2)	5	3.75	3.57	4.8	5.62
		RN1	6.35 (RN2)	2.5	2.32	2.34	2.5	3.09
		RL1	–	–	1.67	1.76	1.71	2.05
Weight (referred to actuator 100 mm stroke length, with lubricant, without motor)	[kg]		2.2	2.2	3.3	5	8	11
Extra-weight for each additional 100 mm stroke length	[kg]		0.3	0.3	0.3	0.5	0.8	0.9

(1) Values based on estimated ball screw lifetime of at least 2000 hours under load, without shocks or vibrations.

Compact ball screw linear actuator with integral electric motor suitable for push and pull motions.
 D.C. motor available with or without brake.
 Rear fixing attachment can be also supplied mounted at 90° with respect to the motor axis.

ACCESSORIES	Magnetic stroke limit device FCM	Wide range of front attachments
	Rear bracket SP	

PERFORMANCE with: Duty Cycle Fi = 100 % at 25 °C environment temp.

Max. static push and pull load admitted: 3000 N.

The linear speeds and dynamic loads stated below are performances achievable both at the same time during a working condition.

PERFORMANCE WITH D.C. MOTOR 24 V or 12 V					
LINEAR SPEED [mm/s]	DYNAMIC LOAD [N]	RATIO	CURRENT [A]		BALL SCREW d × P
635	85	RV2	4 A (24 V)	9 A (12 V)	12.7 × 12.7
317	170	RN2	4 A (24 V)	9 A (12 V)	12.7 × 12.7
250	210	RV1	4 A (24 V)	9 A (12 V)	14 × 5
125	420	RN1	4 A (24 V)	9 A (12 V)	14 × 5

DC MOTOR 24 V or 12 V FEATURES

DC motor, without fan cooling, with high coercive ferrite permanent magnet field, available without or with brake. Long-life brushes easy to replace.

Power supply cable 1.5 m length with wires 2 × 1 mm². Motor weight: 1.3 kg.

Output power	70 W		Rated speed	3000 rpm	
Rated current	3.7 A (24 V)	8.4 A (12 V)	Rated torque	0.22 Nm	
Peak current	18 A (24 V)	30 A (12 V)	Peak torque	1.1 Nm	
Armature resistance	0.85 Ω (24 V)	0.23 Ω (12 V)	Inductance	1.34 mH (24 V)	0.36 mH (12V)
Protection	IP 54		Insulation class	F	

MOTOR BRAKE: On request normally closed emergency brake for positioning, activated by direct current DC electromagnet. Brake with independent power supply line with cable 1 m length with wires 2 × 1 mm². Motor with brake total weight: 1.8 kg.

Power supply	0.4 A (24 V)	0.85 A (12 V)	Braking torque	0.5 Nm
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WARNING! The brake is normally closed: independent power supply line with the rated voltage is required to open it.
Feed the brake before switching on the motor.

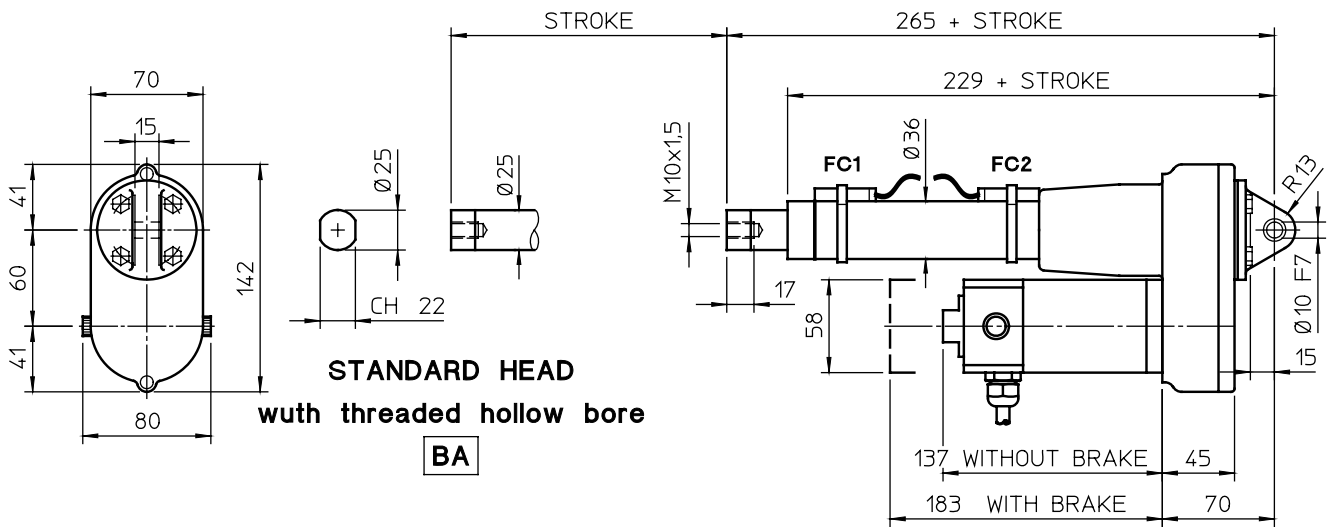
STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	100	200	300	400	500	600	700	800

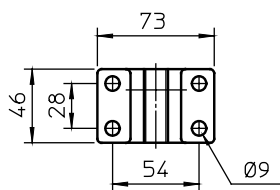
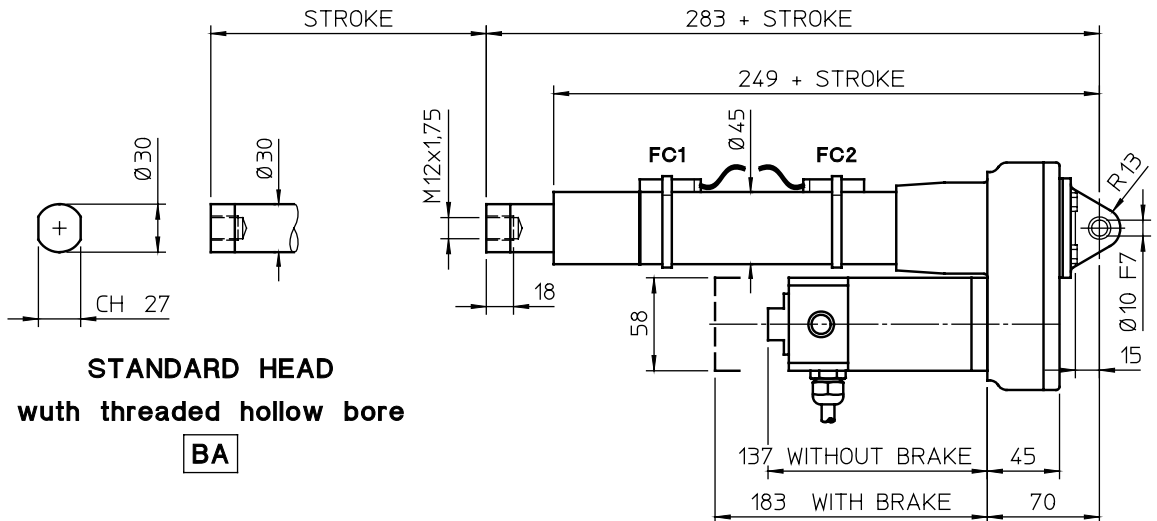
- Note:
- Special stroke lengths available on request.
 - Actuators with Ratio RV1 and RN1 have outer tube dimension different from actuators with Ratio RV2 and RN2 (refer to page 85).
 - Magnetic stroke limit device FCM:
 Features, operation, adjustment and wiring diagrams: on page 95.
 - Over-all dimensions in millimetres (mm).

7.9 BALL SCREW LINEAR ACTUATOR UBA 0 WITH DC MOTOR

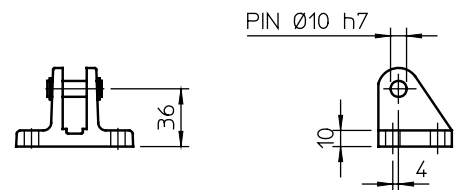
Actuator with ratio RV1 or RN1 – dimensions



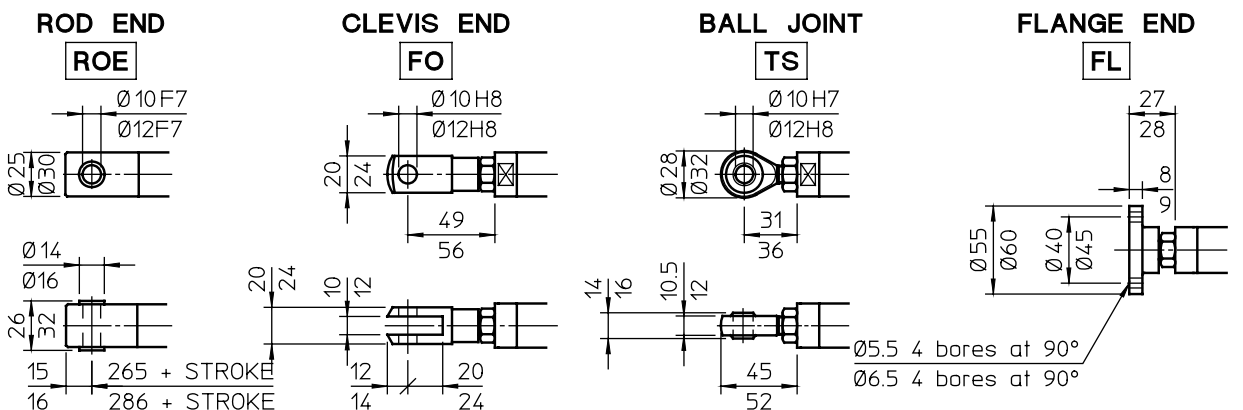
Actuator with ratio RV2 or RN2 – dimensions



REAR BRACKET
SP



FRONT ATTACHMENTS



NOTE: values ABOVE the dimension line refer to actuator UBA 0 RV1 or RN1, values UNDER the dimension line refer to actuator UBA 0 RV2 or RN2