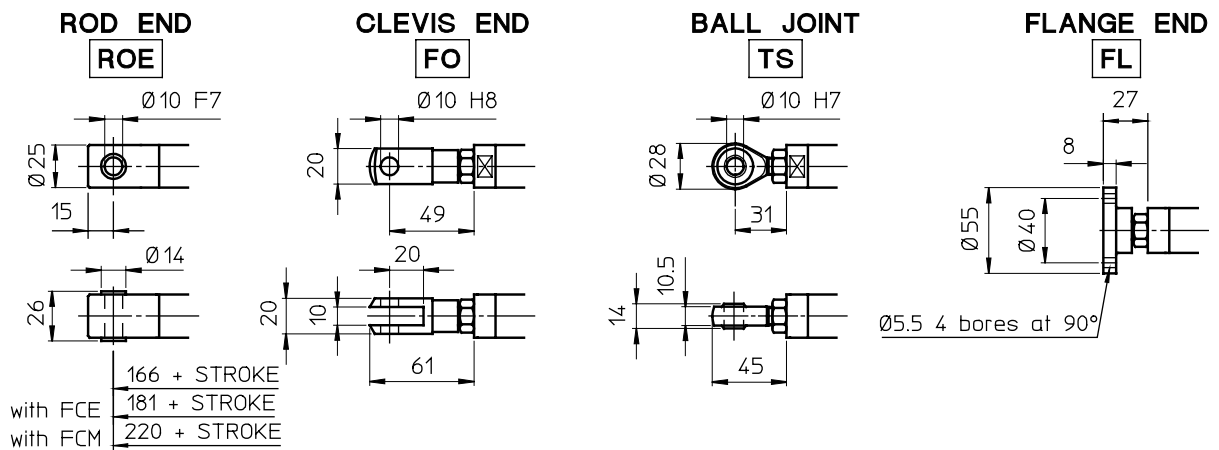


FRONT ATTACHMENTS



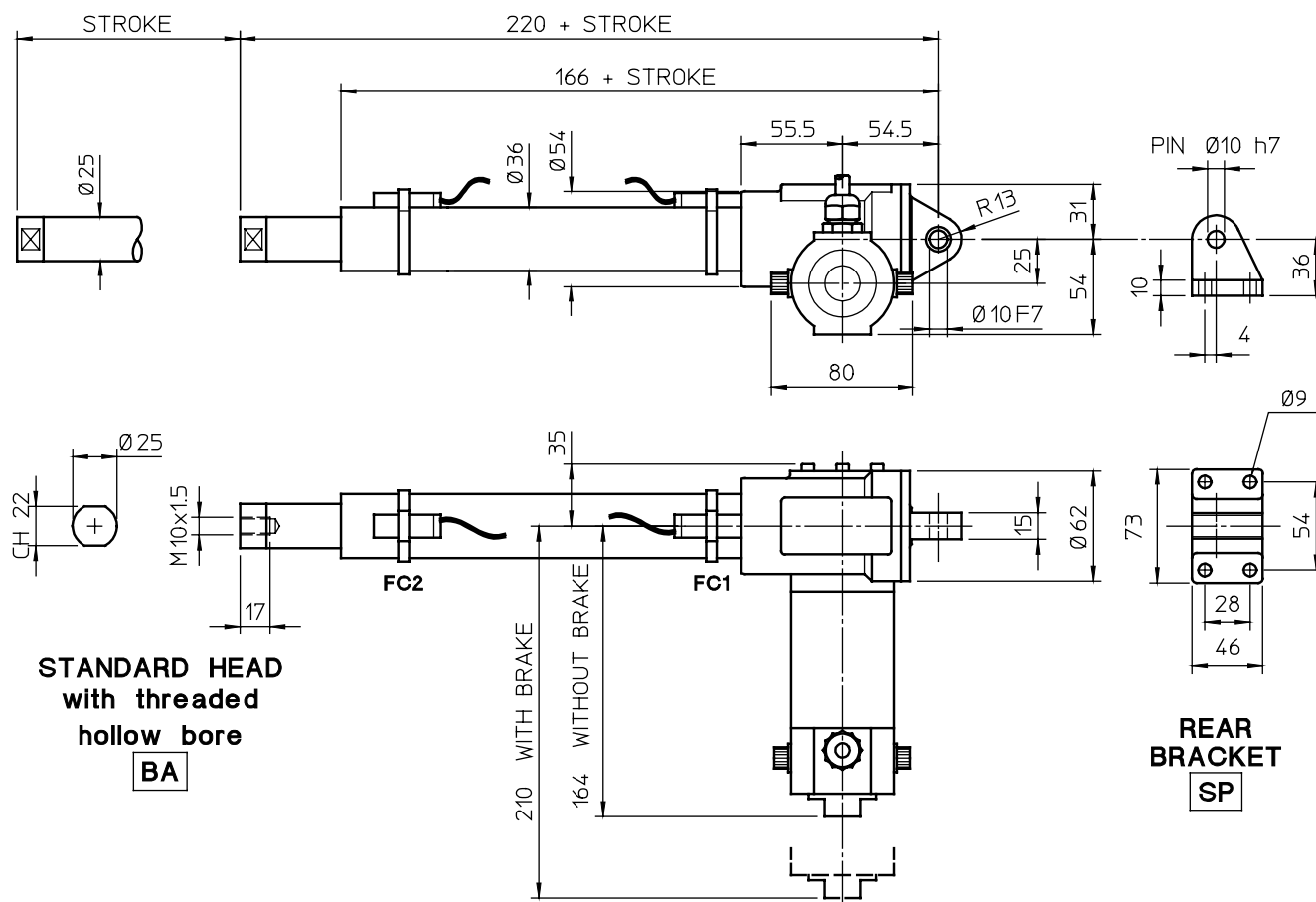
STROKE LENGTHS AVAILABLE IN STOCK WITH OR WITHOUT ELECTRIC STROKE LIMIT DEVICE FCE

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.
 - Over-all dimensions in millimetres (mm).

DIMENSIONS WITH MAGNETIC STROKE LIMIT DEVICE FCM

Features, operation, adjustment and wiring diagrams: on page 95



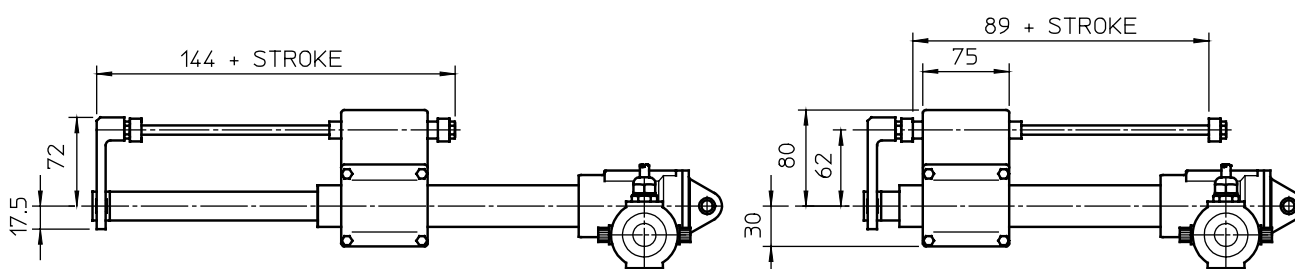
STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	73	173	273	373	473	573	673	773

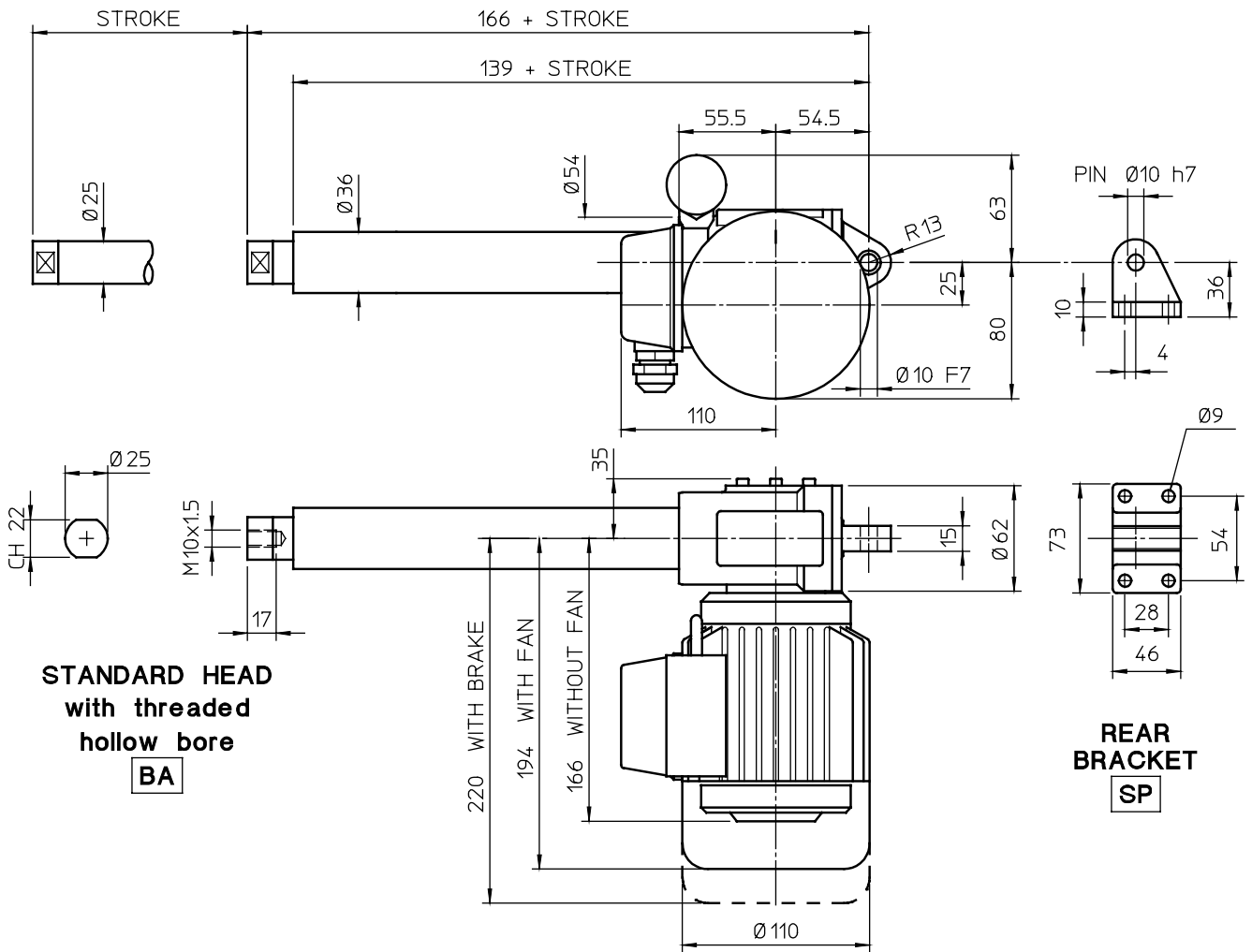
- Note:
- Special stroke lengths available on request.
 - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

ELECTRIC STROKE LIMIT DEVICE FCE

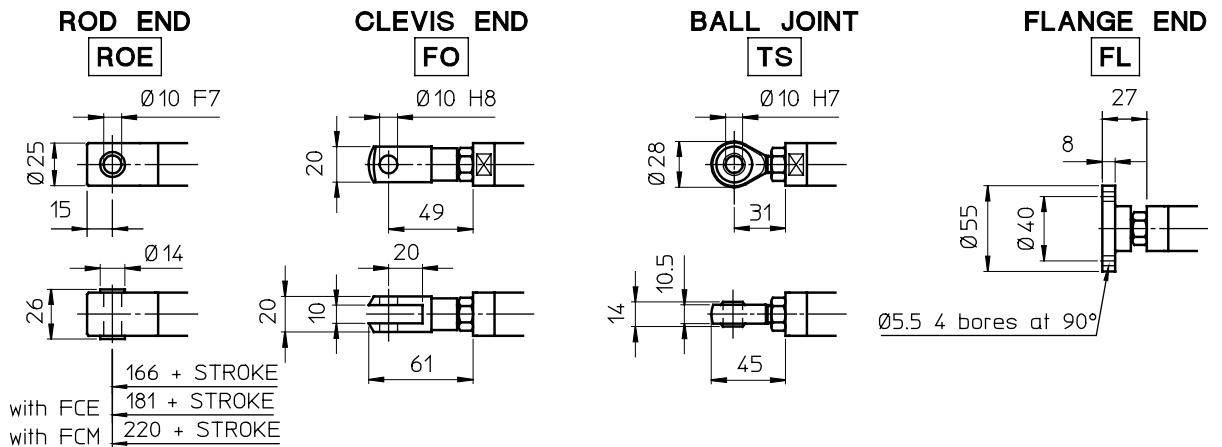
Features, operation, adjustment and wiring diagrams: on page 94



7.1 ACME SCREW LINEAR ACTUATOR ATL 10 WITH AC 1-PHASE MOTOR



FRONT ATTACHMENTS



STROKE LENGTHS AVAILABLE IN STOCK WITH OR WITHOUT ELECTRIC STROKE LIMIT DEVICE FCE

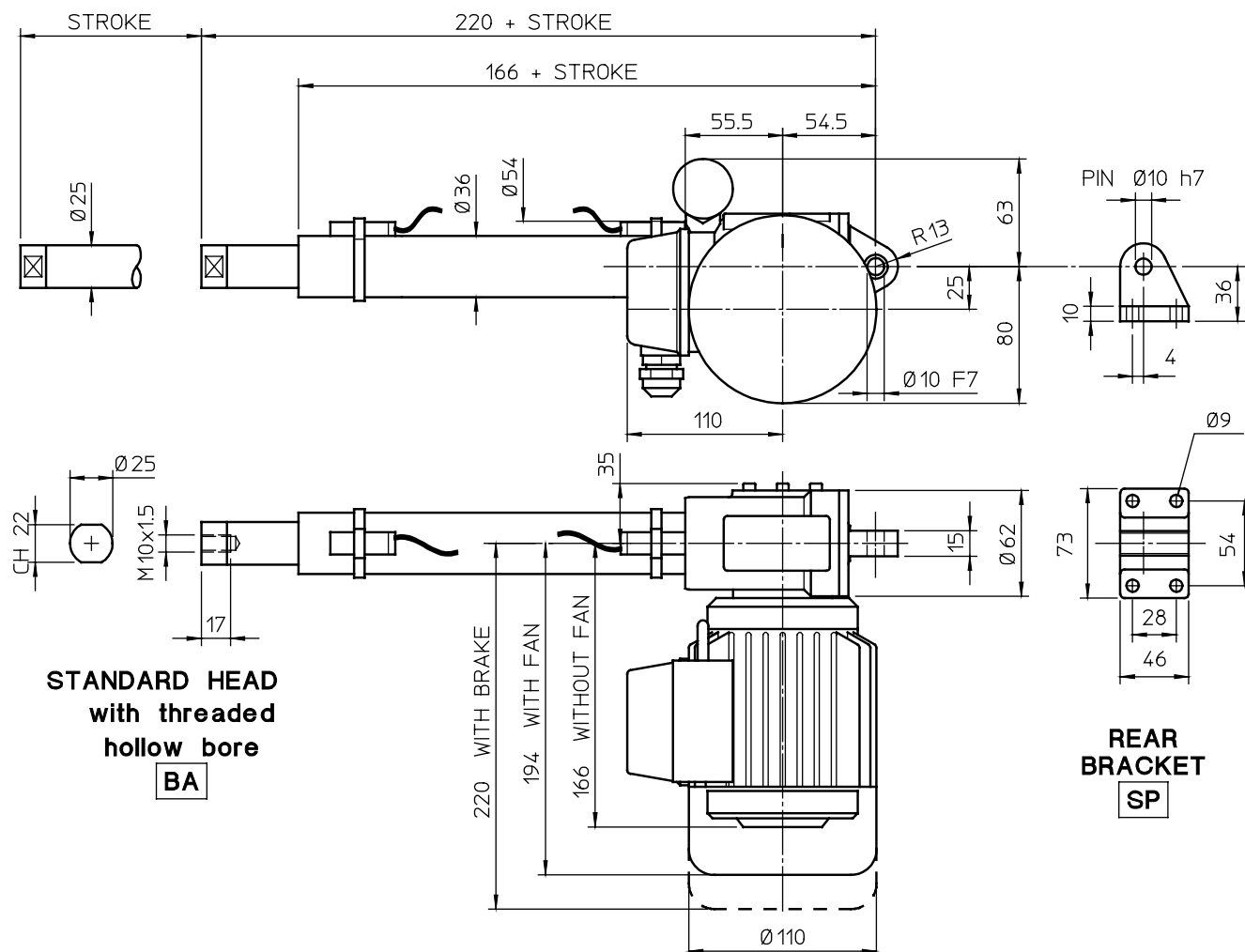
STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	100	200	300	400	500	600	700	800

Note: - Special stroke lengths available on request.
- Over-all dimensions in millimetres (mm).

7.1 ACME SCREW LINEAR ACTUATOR ATL 10 WITH AC 1-PHASE MOTOR

DIMENSIONS WITH MAGNETIC STROKE LIMIT DEVICE FCM

Features, operation, adjustment and wiring diagrams: on page 95



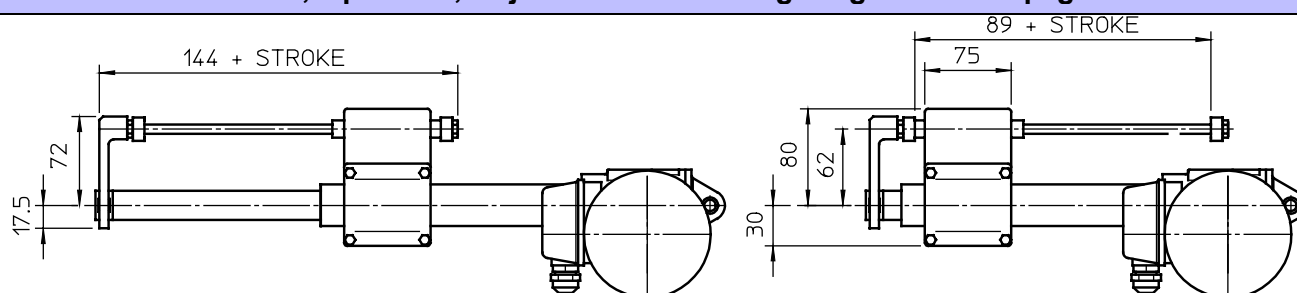
STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

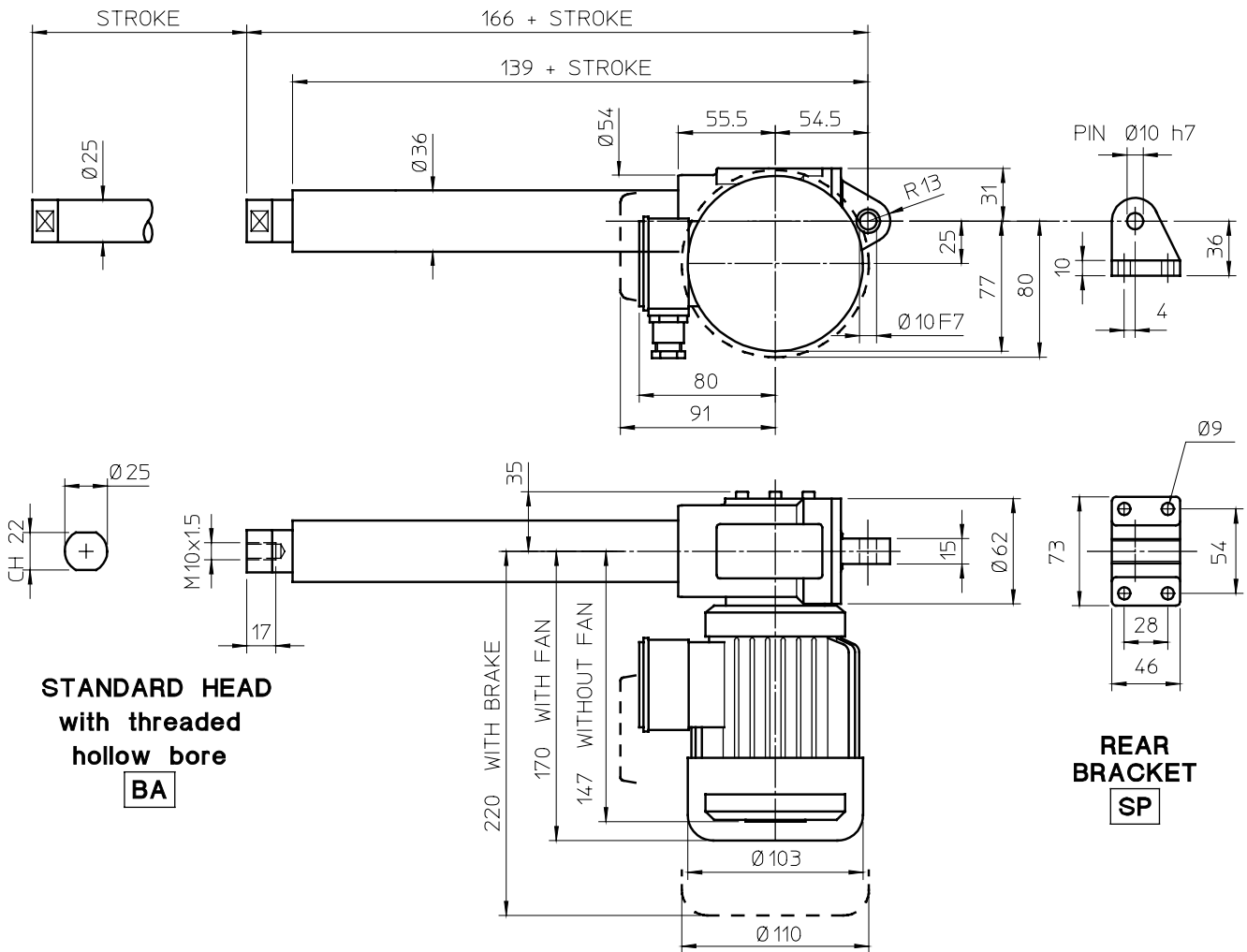
STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	73	173	273	373	473	573	673	773

- Note:
- Special stroke lengths available on request.
 - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

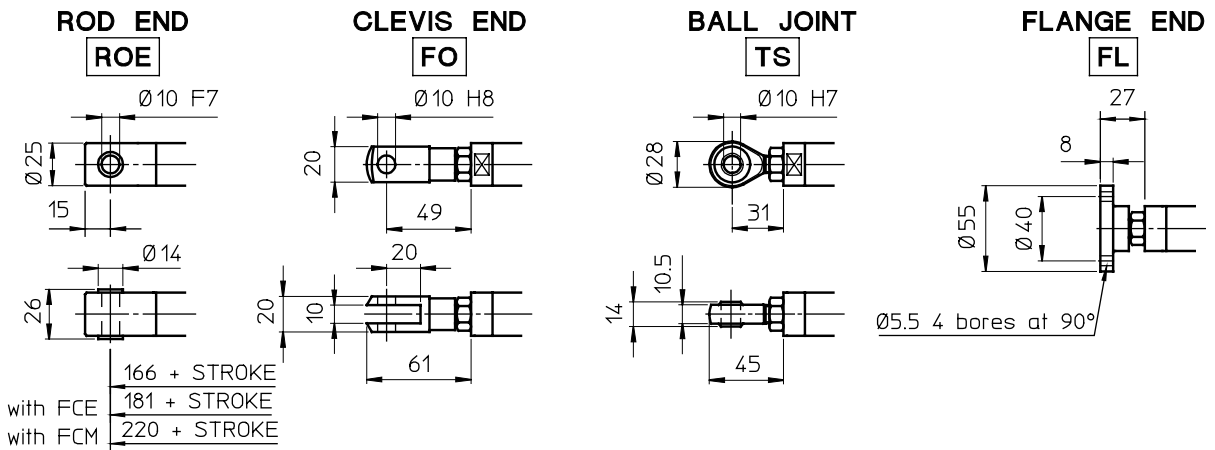
ELECTRIC STROKE LIMIT DEVICE FCE

Features, operation, adjustment and wiring diagrams: on page 94





FRONT ATTACHMENTS



STROKE LENGTHS AVAILABLE IN STOCK WITH OR WITHOUT ELECTRIC STROKE LIMIT DEVICE FCE

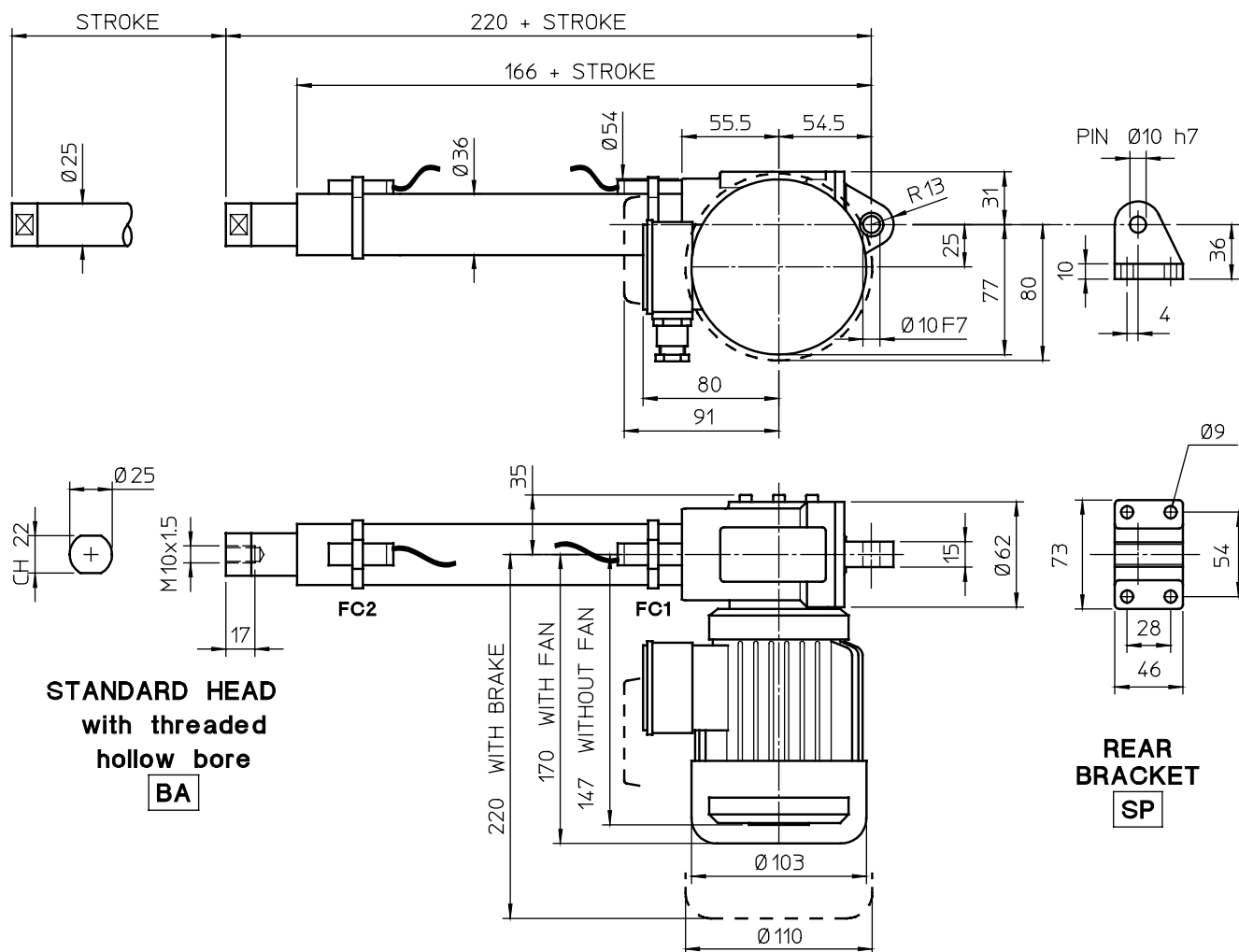
STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	100	200	300	400	500	600	700	800

Note: - Special stroke lengths available on request.
 - Over-all dimensions in millimetres (mm).

7.1 ACME SCREW LINEAR ACTUATOR ATL 10 WITH AC 3-PHASE MOTOR

DIMENSIONS WITH MAGNETIC STROKE LIMIT DEVICE FCM

Features, operation, adjustment and wiring diagrams: on page 95



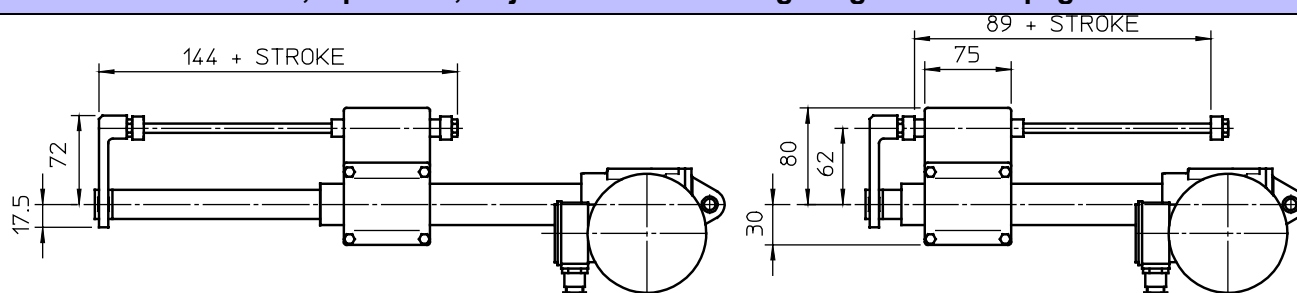
STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	73	173	273	373	473	573	673	773

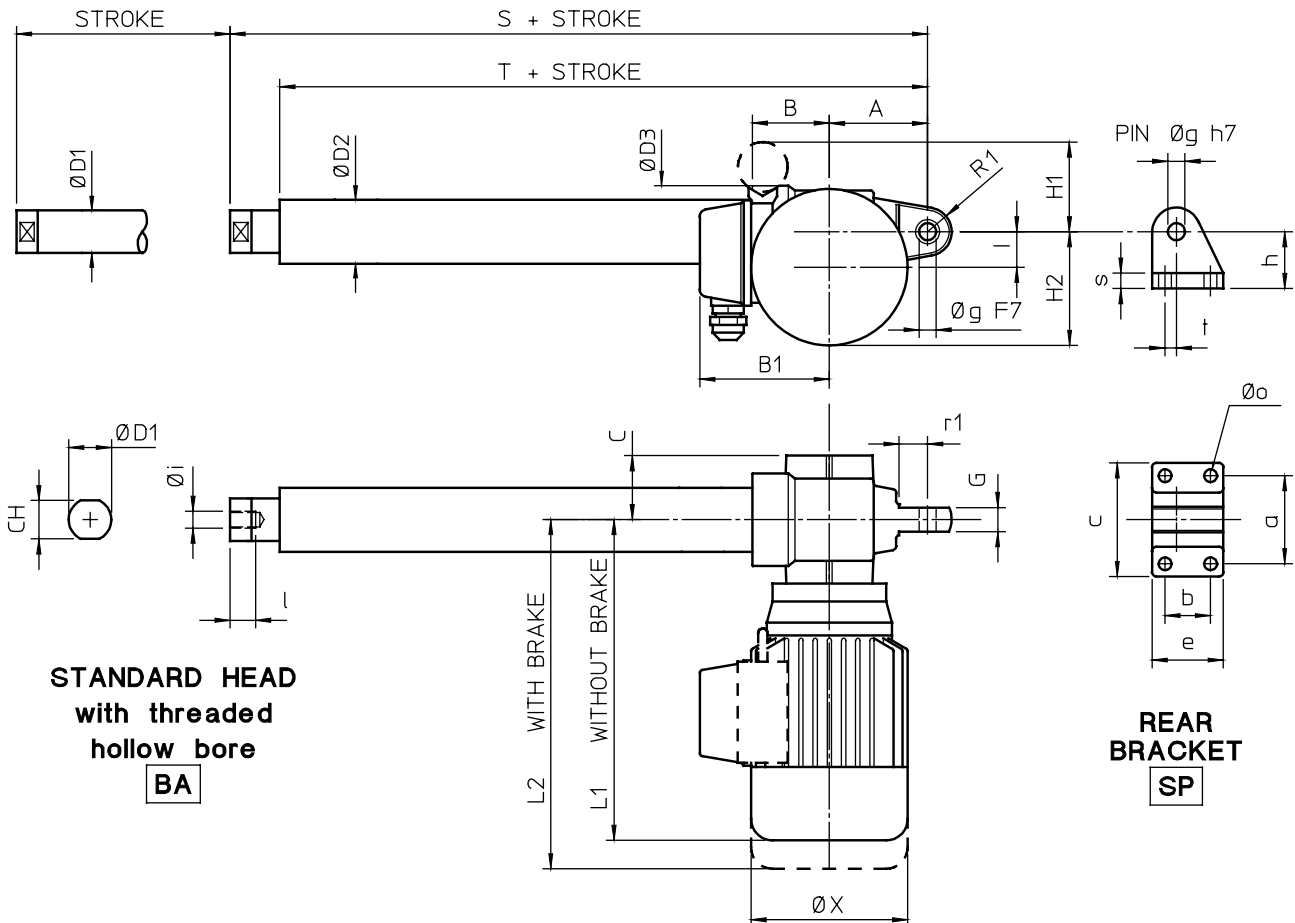
- Note:
- Special stroke lengths available on request.
 - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

ELECTRIC STROKE LIMIT DEVICE FCE

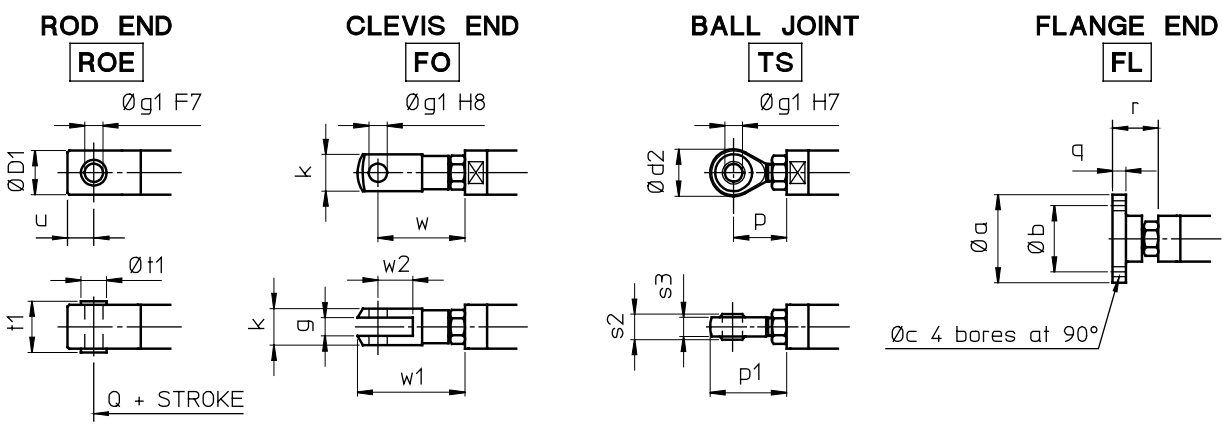
Features, operation, adjustment and wiring diagrams: on page 94



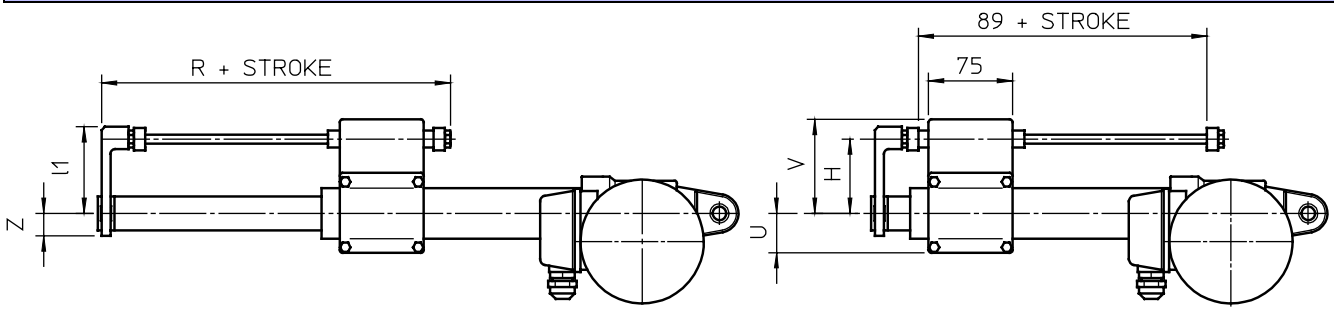
**7.2 ACME SCREW LINEAR ACTUATORS Series ATL 20 – 25 – 30 – 40
AC 3-phase or 1-- phase MOTOR – with Electric Stroke Limit Device FCE**



FRONT ATTACHMENTS



ELECTRIC STROKE LIMIT DEVICE FCE
Features, operation, adjustment and wiring diagrams: on page 94



7.2 ACME SCREW LINEAR ACTUATORS Series ATL 20 – 25 – 30 – 40
AC 3-phase or 1-- phase MOTOR – with Electric Stroke Limit Device FCE

STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash is necessary to increase the guided length between push rod and protective tube. Dimensions **S** and **T** shall be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	Ø D3	G	H1	H2	I	L1	L2	R1
ATL 20	69	54	110	45	22	25	36	65	17	50	80	25	225	251	17
ATL 25	69	54	110	45	27	30	45	65	17	50	80	25	225	251	17
ATL 30	76	62	115	50	30	35	55	78	20	60	92	30	255	291	18
ATL 40	104	78	124	57	36	40	60	92	24	50	115	40	284	373	28

	S	T	Ø X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
ATL 20	183	152	110	62	32	80	50	12	40	M10×1.5	17	9	20	11	8
ATL 25	190	155	110	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
ATL 30	218	180	123	72	38	90	58	14	45	M14×2	24	9	20	12	8
ATL 40	275	225	150	85	55	110	81	20	58	M20×1.5	27	11	32	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q
ATL 20	55	40	5,5	25	28	10	10	20	31	45	198
ATL 25	60	45	6,5	30	32	12	12	24	36	52	207
ATL 30	65	50	6,5	35	36	14	14	27	36	54	238
ATL 40	80	60	8,5	40	50	20	20	40	53	78	300

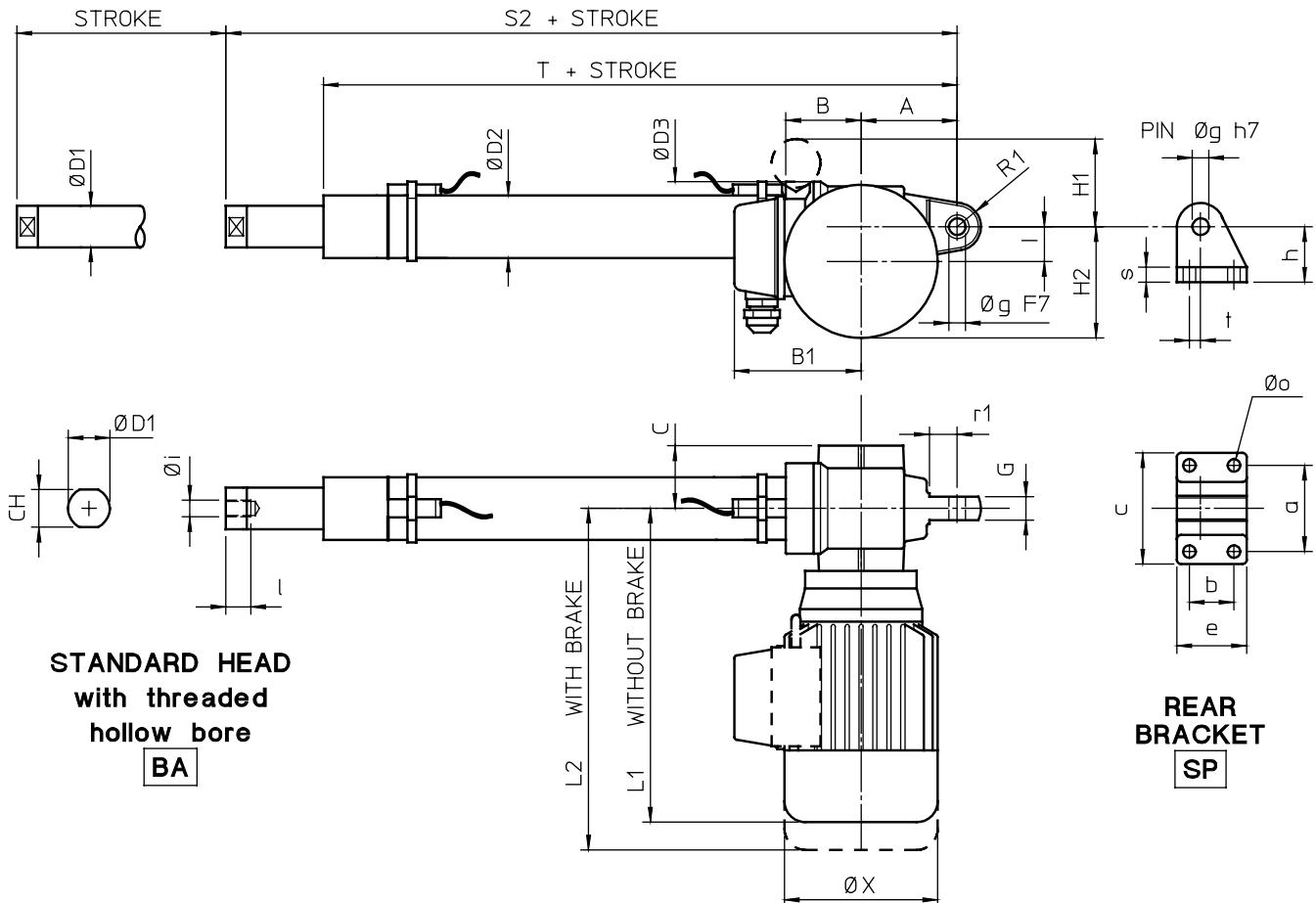
	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
ATL 20	8	27	14	11	26	14	15	49	61	20
ATL 25	9	28	16	12	32	16	18	56	70	24
ATL 30	9	32	19	14	36	18	21	65	81	28
ATL 40	10	42	25	18	42	25	27	90	115	40

ELECTRIC STROKE LIMIT DEVICE FCE DIMENSIONS

	H	R	U	V	Z	I1
ATL 20	62	144	30	80	18	72
ATL 25	67	146	35	85	20	77
ATL 30	71	147	38	90	23	82
ATL 40	75	163	43	93	25	85

Note: Over-all dimensions in millimetres (mm).

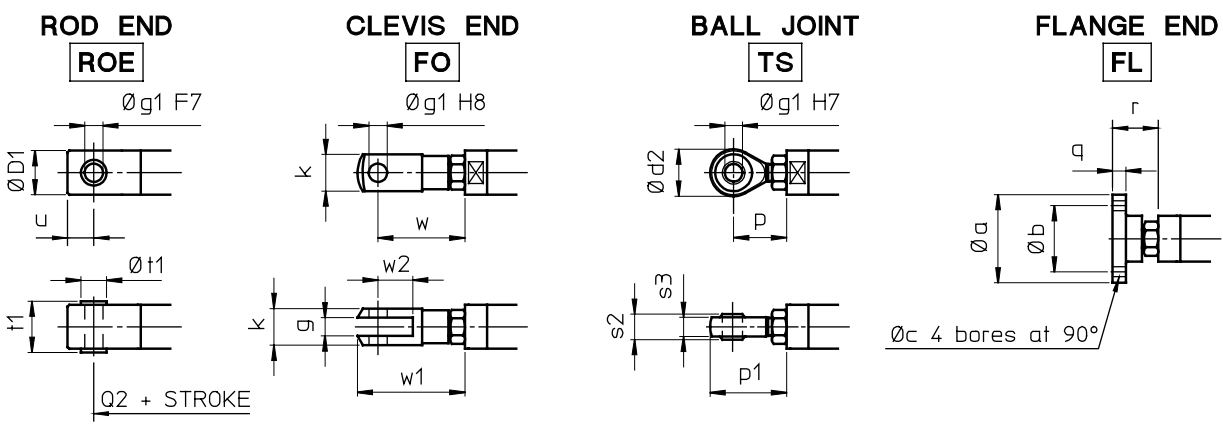
7.2 ACME SCREW LINEAR ACTUATORS Series ATL 20 – 25 – 30 – 40
AC 3-phase or 1-phase MOTOR – with Magnetic Stroke Limit Device FCM



STANDARD HEAD with threaded hollow bore
BA

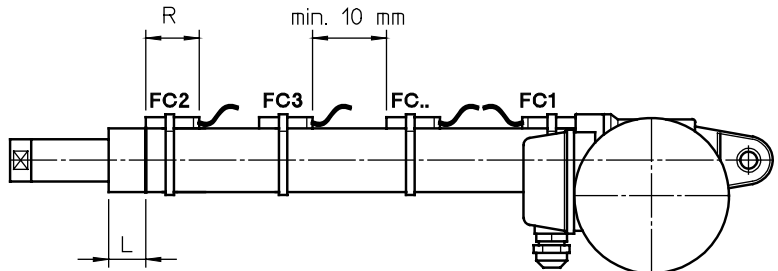
REAR BRACKET
SP

FRONT ATTACHMENTS



MAGNETIC STROKE LIMIT DEVICE FCM DIMENSIONS
Features, operation, adjustment and wiring diagrams: on page 95

	REED SWITCHES	
	NC or (NC+NO)	NO
	L	L
ATL 20	18.5	23.5
ATL 25	26.5	31.5
ATL 30	29	34
ATL 40	35	40



Note: Over-all dimensions in millimetres (mm).

7.2 ACME SCREW LINEAR ACTUATORS Series ATL 20 – 25 – 30 – 40
AC 3-phase or 1-phase MOTOR – with Magnetic Stroke Limit Device FCM

STROKE LENGTHS AVAILABLE IN STOCK

STROKE CODE		C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	ATL 20	72	172	272	372	472	572	672	772
	ATL 25	66	166	266	366	466	566	666	766
	ATL 30	68	168	268	368	468	568	668	768
	ATL 40	63	163	263	363	463	563	663	763

- Note:
- Special stroke lengths available on request.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	Ø D3	G	H1	H2	I	L1	L2	R1
ATL 20	69	54	110	45	22	25	36	65	17	50	80	25	225	251	17
ATL 25	69	54	110	45	27	30	45	65	17	50	80	25	225	251	17
ATL 30	76	62	115	50	30	35	55	78	20	60	92	30	255	291	18
ATL 40	104	78	124	57	36	40	60	92	24	50	115	40	284	373	28

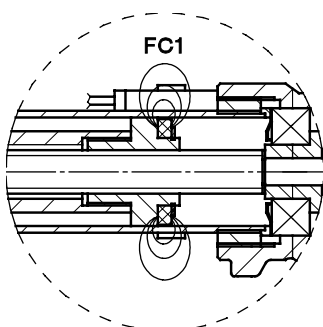
	S2	T	Ø X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
ATL 20	235	180	110	62	32	80	50	12	40	M10×1.5	17	9	20	11	8
ATL 25	252	189	110	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
ATL 30	276	212	123	72	38	90	58	14	45	M14×2	24	9	20	12	8
ATL 40	339	262	150	85	55	110	81	20	58	M20×1.5	27	11	32	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q2
ATL 20	55	40	5,5	25	28	10	10	20	31	45	235
ATL 25	60	45	6,5	30	32	12	12	24	36	52	255
ATL 30	65	50	6,5	35	36	14	14	27	36	54	282
ATL 40	80	60	8,5	40	50	20	20	40	53	78	351

	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
ATL 20	8	27	14	11	26	14	15	49	61	20
ATL 25	9	28	16	12	32	16	18	56	70	24
ATL 30	9	32	19	14	36	18	21	65	81	28
ATL 40	10	42	25	18	42	25	27	90	115	40

MAGNETIC REED SWITCHES FCM DIMENSIONS AND FEATURES

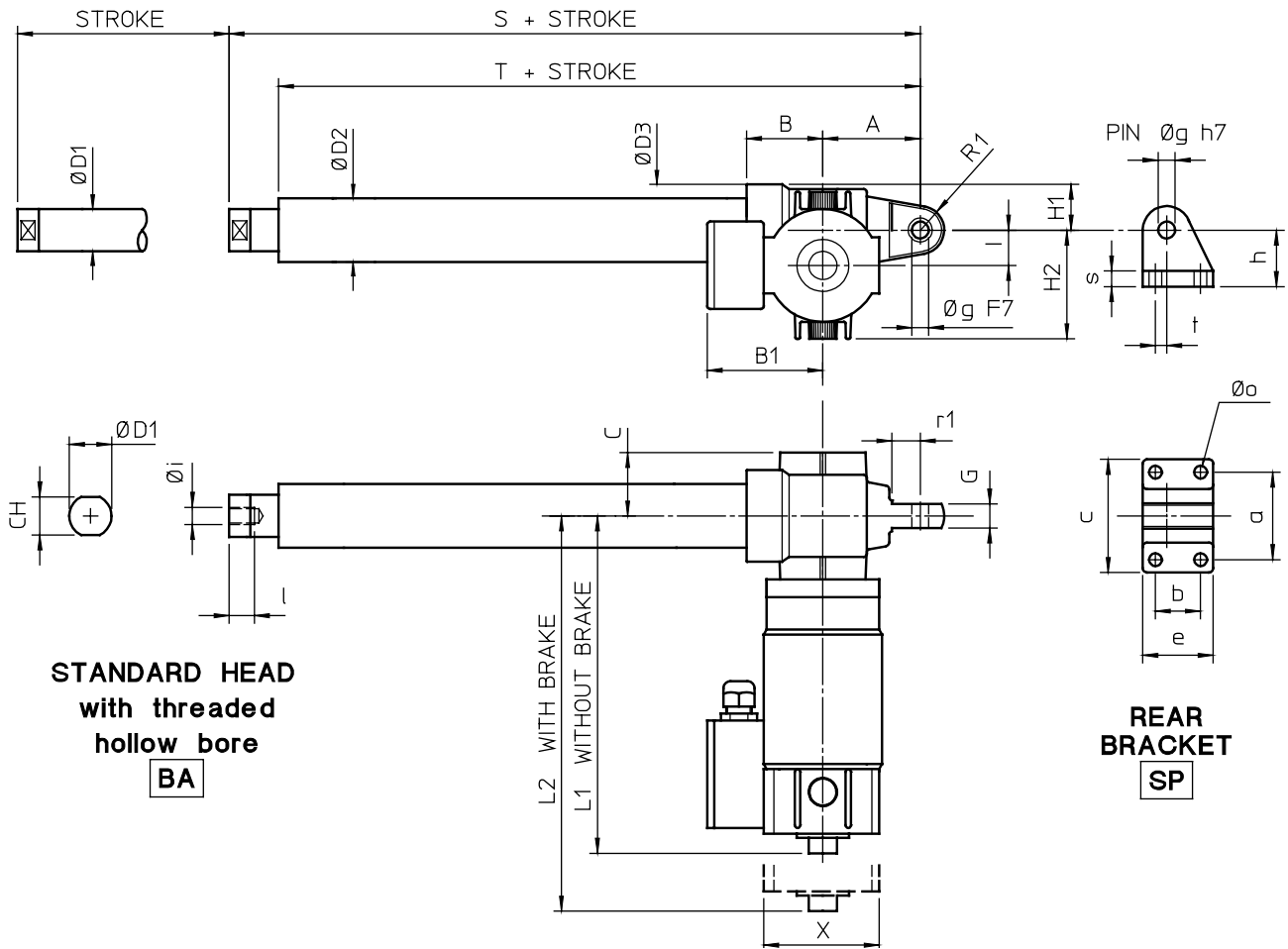


Note: - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

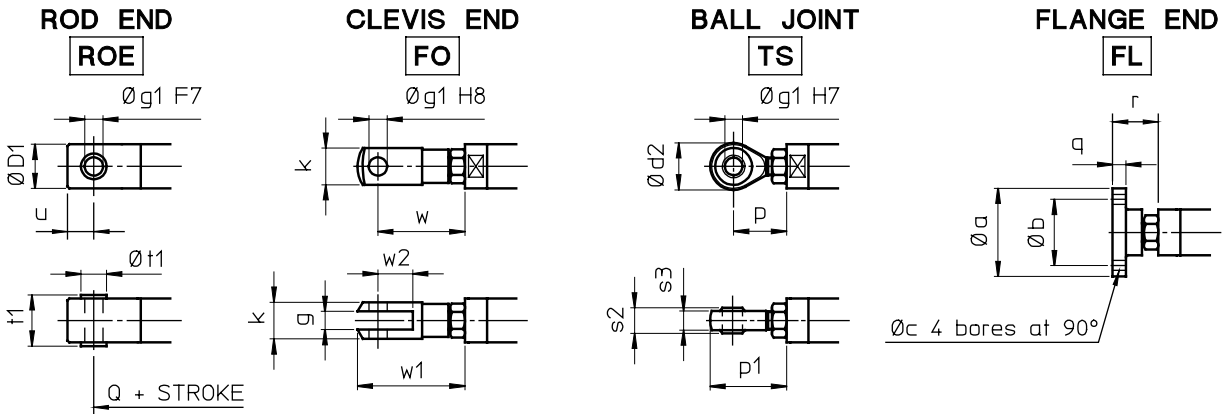
- Additional extra magnetic REED SWITCHES are available for intermediate positions.
- The minimal distance between the REED SWITCHES must be of at least 10 mm.
- REED SWITCH Normally Closed (NC) R = 39 mm
- REED SWITCH Change-over (NC+NO) R = 39 mm
- REED SWITCH Normally Open (NO) R = 29 mm

7.2 ACME SCREW LINEAR ACTUATORS Series ATL 20 – 25 – 30 – 40

DC MOTOR – with Electric Stroke Limit Device FCE

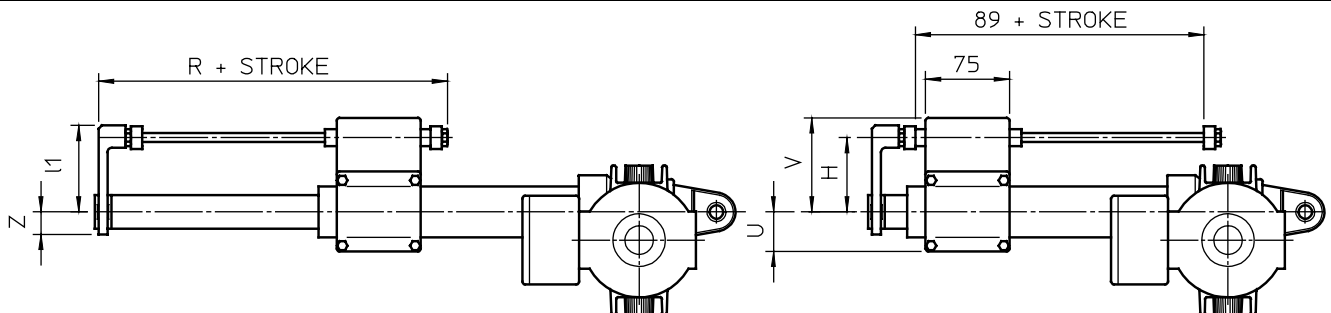


FRONT ATTACHMENTS



ELECTRIC STROKE LIMIT DEVICE FCE

Features, operation, adjustment and wiring diagrams: on page 94



7.2 ACME SCREW LINEAR ACTUATORS Series ATL 20 – 25 – 30 – 40
DC MOTOR – with Electric Stroke Limit Device FCE

STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	Ø D3	G	H1	H2	I	L1	L2	R1
ATL 20	69	54	80	45	22	25	36	65	17	33	79	25	202	243	17
ATL 25	69	54	80	45	27	30	45	65	17	33	79	25	235	276	17
ATL 30	76	62	80	50	30	35	55	78	20	39	84	30	291	332	18
ATL 40	104	78	80	57	36	40	60	92	24	46	94	40	391	432	28

	S	T	X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
ATL 20	183	152	107	62	32	80	50	12	40	M10×1.5	17	9	20	11	8
ATL 25	190	155	107	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
ATL 30	218	180	107	72	38	90	58	14	45	M14×2	24	9	20	12	8
ATL 40	275	225	107	85	55	110	81	20	58	M20×1.5	27	11	32	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q
ATL 20	55	40	5,5	25	28	10	10	20	31	45	198
ATL 25	60	45	6,5	30	32	12	12	24	36	52	207
ATL 30	65	50	6,5	35	36	14	14	27	36	54	238
ATL 40	80	60	8,5	40	50	20	20	40	53	78	300

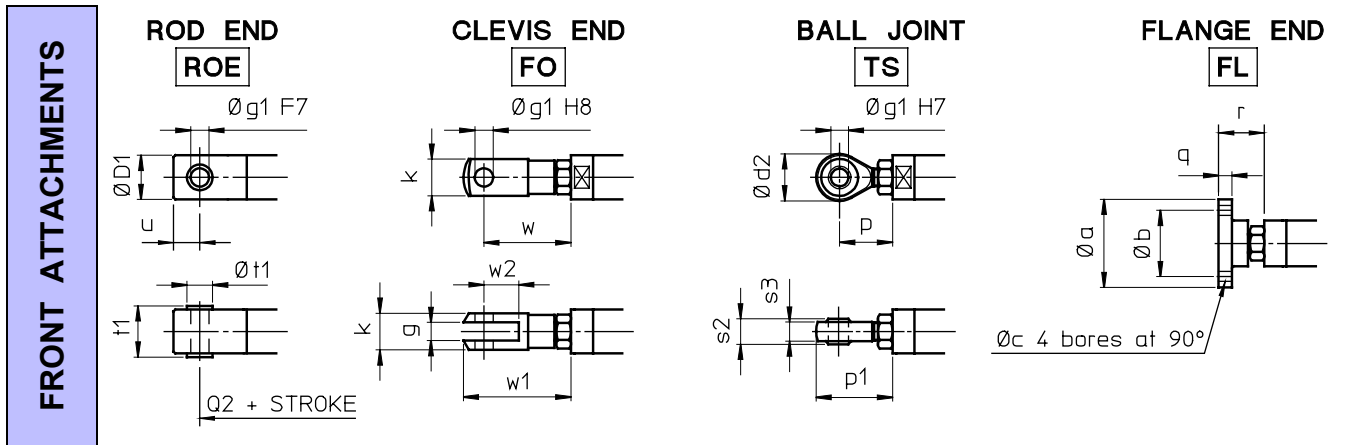
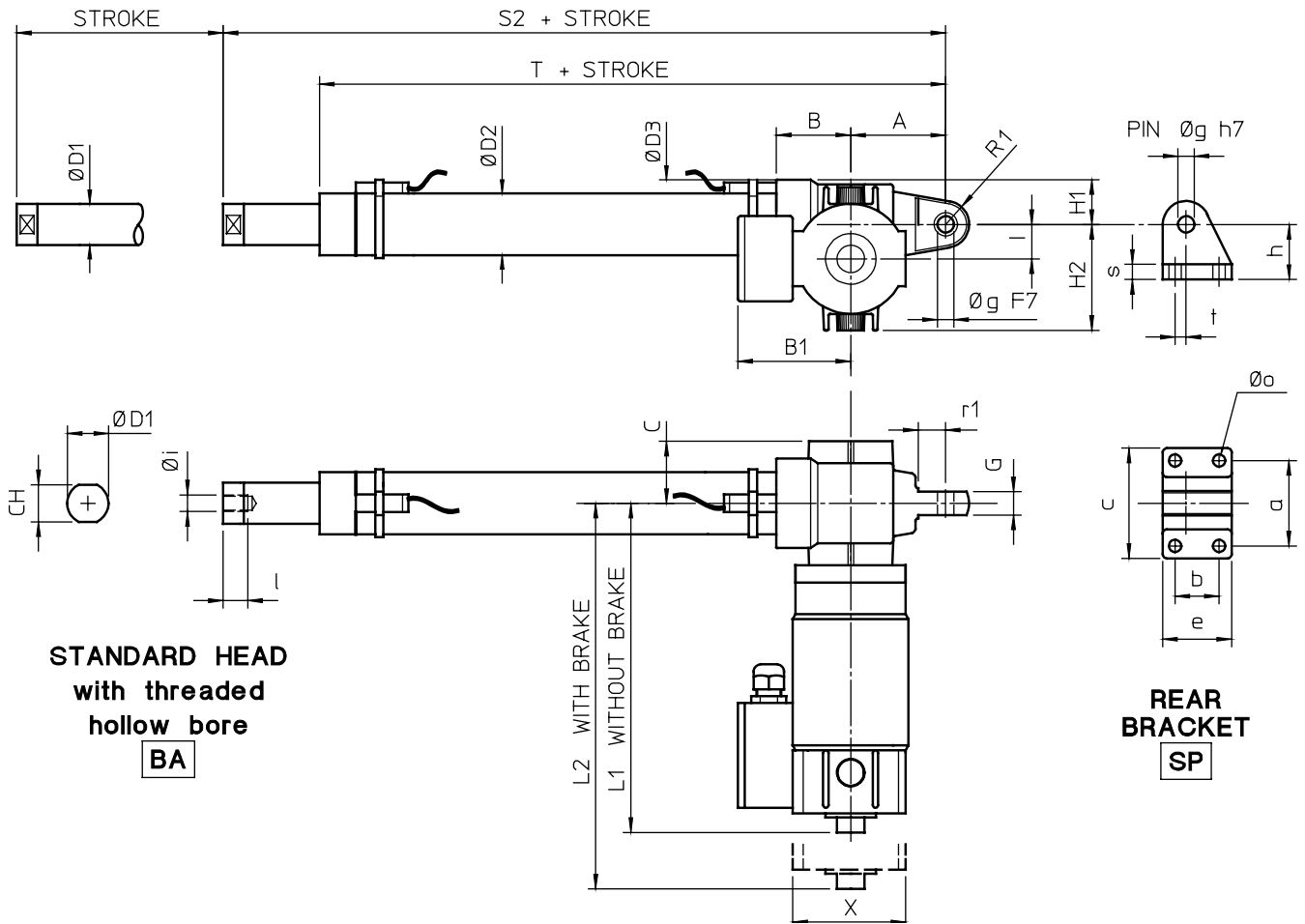
	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
ATL 20	8	27	14	11	26	14	15	49	61	20
ATL 25	9	28	16	12	32	16	18	56	70	24
ATL 30	9	32	19	14	36	18	21	65	81	28
ATL 40	10	42	25	18	42	25	27	90	115	40

ELECTRIC STROKE LIMIT DEVICE FCE DIMENSIONS

	H	R	U	V	Z	I1
ATL 20	62	144	30	80	18	72
ATL 25	67	146	35	85	20	77
ATL 30	71	147	38	90	23	82
ATL 40	75	163	43	93	25	85

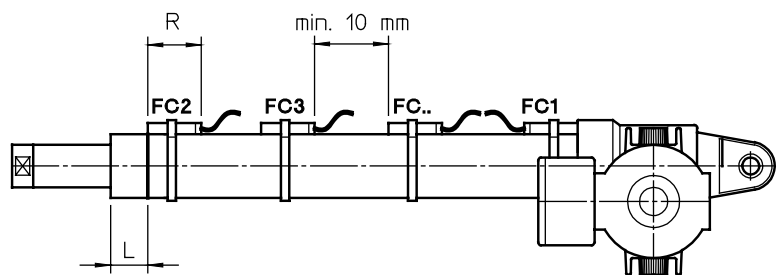
Note: Over-all dimensions in millimetres (mm).

7.2 ACME SCREW LINEAR ACTUATORS Series ATL 20 – 25 – 30 – 40
DC MOTOR – with Magnetic Stroke Limit Device FCM



MAGNETIC STROKE LIMIT DEVICE FCM DIMENSIONS
 Features, operation, adjustment and wiring diagrams: on page 95

	REED SWITCHES	
	NC or (NC+NO)	NO
	L	L
ATL 20	18.5	23.5
ATL 25	26.5	31.5
ATL 30	29	34
ATL 40	35	40



Note: Over-all dimensions in millimetres (mm).

7.2 ACME SCREW LINEAR ACTUATORS Series ATL 20 – 25 – 30 – 40
DC MOTOR – with Magnetic Stroke Limit Device FCM

STROKE LENGTHS AVAILABLE IN STOCK

STROKE CODE		C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	ATL 20	72	172	272	372	472	572	672	772
	ATL 25	66	166	266	366	466	566	666	766
	ATL 30	68	168	268	368	468	568	668	768
	ATL 40	63	163	263	363	463	563	663	763

- Note:
- Special stroke lengths available on request.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	Ø D3	G	H1	H2	I	L1	L2	R1
ATL 20	69	54	80	45	22	25	36	65	17	33	79	25	202	243	17
ATL 25	69	54	80	45	27	30	45	65	17	33	79	25	235	276	17
ATL 30	76	62	80	50	30	35	55	78	20	39	84	30	291	332	18
ATL 40	104	78	80	57	36	40	60	92	24	46	94	40	391	432	28

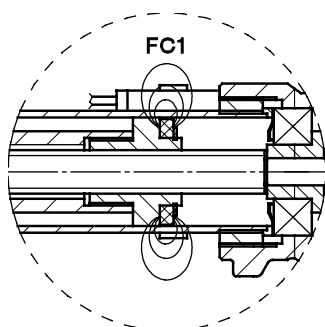
	S2	T	X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
ATL 20	235	180	107	62	32	80	50	12	40	M10×1.5	17	9	20	11	8
ATL 25	252	189	107	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
ATL 30	276	212	107	72	38	90	58	14	45	M14×2	24	9	20	12	8
ATL 40	339	262	107	85	55	110	81	20	58	M20×1.5	27	11	32	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q2
ATL 20	55	40	5,5	25	28	10	10	20	31	45	235
ATL 25	60	45	6,5	30	32	12	12	24	36	52	255
ATL 30	65	50	6,5	35	36	14	14	27	36	54	282
ATL 40	80	60	8,5	40	50	20	20	40	53	78	351

	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
ATL 20	8	27	14	11	26	14	15	49	61	20
ATL 25	9	28	16	12	32	16	18	56	70	24
ATL 30	9	32	19	14	36	18	21	65	81	28
ATL 40	10	42	25	18	42	25	27	90	115	40

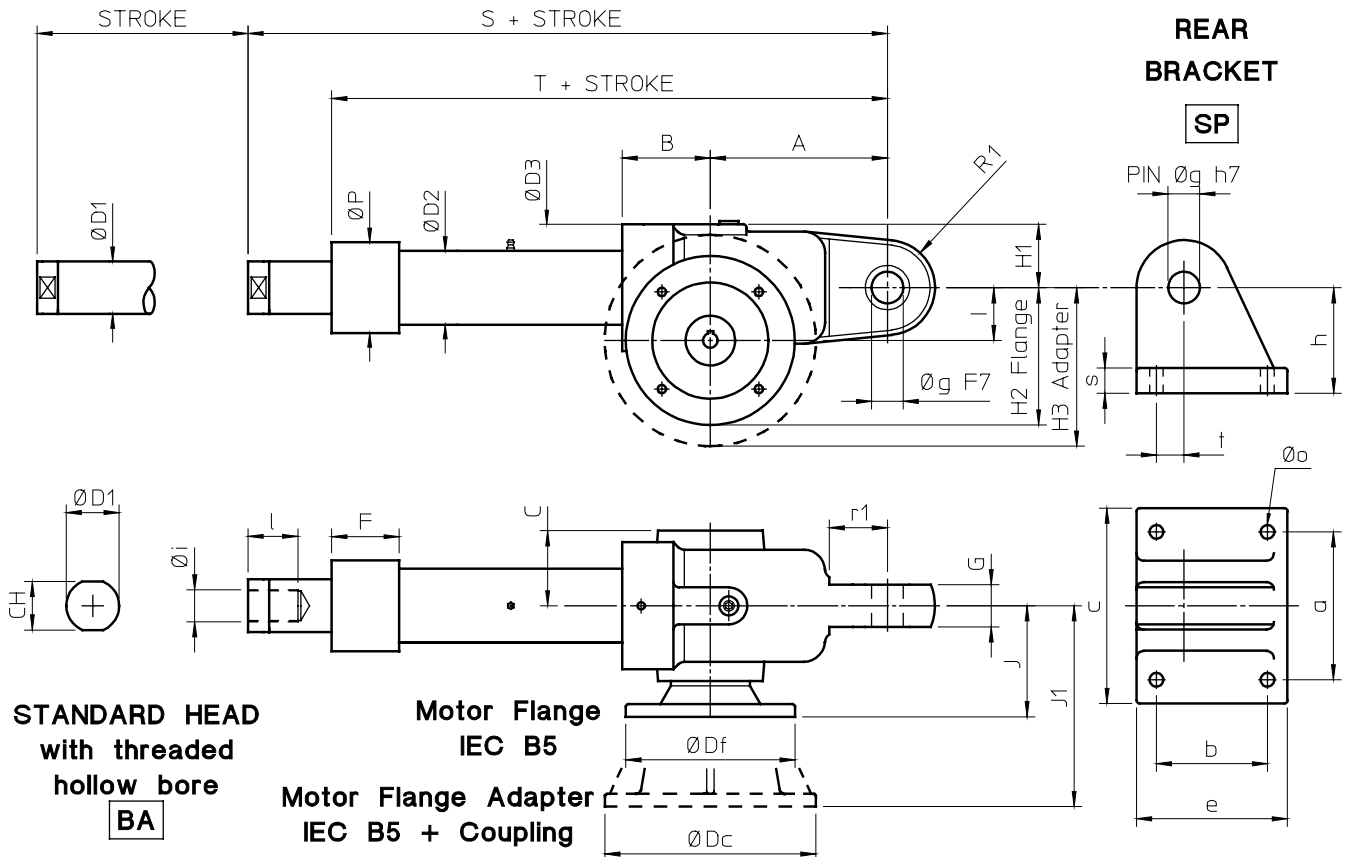
MAGNETIC REED SWITCHES FCM DIMENSIONS AND FEATURES



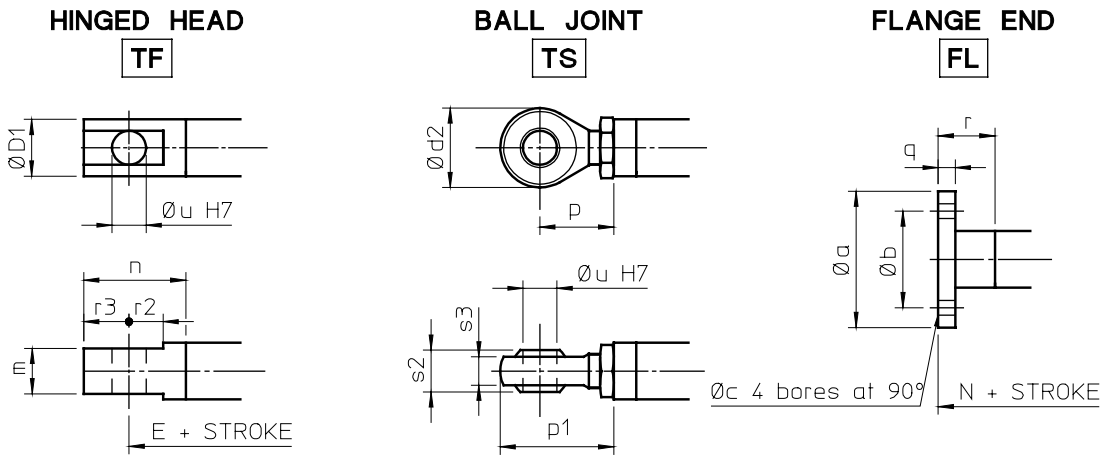
Note: - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

- Additional extra magnetic REED SWITCHES are available for intermediate positions.
- The minimal distance between the REED SWITCHES must be of at least 10 mm.
- REED SWITCH Normally Closed (NC) R = 39 mm
- REED SWITCH Change-over (NC+NO) R = 39 mm
- REED SWITCH Normally Open (NO) R = 29 mm

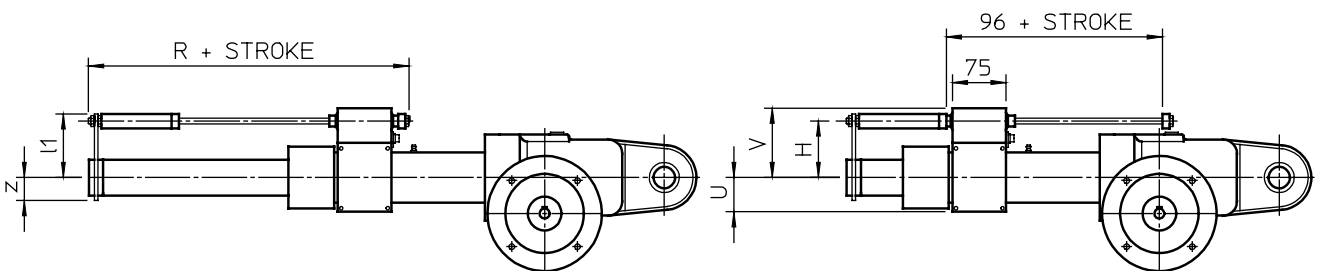
7.3 ACME SCREW LINEAR ACTUATORS Series ATL 50 – 63 – 80
AC 3-phase MOTOR – with Electric Stroke Limit Device FCE



FRONT ATTACHMENTS



ELECTRIC STROKE LIMIT DEVICE FCE
 Features, operation, adjustment and wiring diagrams: **on page 94**



STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash is necessary to increase the guided length between push rod and protective tube. Dimensions **S** and **T** shall be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	C	CH	Ø D1	Ø D2	Ø D3	F	G	H1	I	Ø P	R1	S
ATL 50	168	84	68	46	50	70	120	–	40	63	50	–	45	405
ATL 63	206	96	83	–	60	90	140	37	50	70	63	95	50	516
ATL 80	240	119	103	–	90	115	180	40	60	90	80	125	60	603

	T	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
ATL 50	326	140	105	185	143	30	100	M30×2	45	13	55	20	30
ATL 63	419	180	120	228	160	35	120	M36×2	55	17	58	30	30
ATL 80	509	210	122	278	180	40	130	M42×2	65	21	62	35	32

	Flange IEC		Ø Df		H2		J	Adapter+Coupling IEC		Ø Dc		H3		J1		
ATL 50	63 B5	71 B5	140	160	120	130	102	80 B5; 90 B5		200		150		182		
ATL 63	80 B5		200		163		100	90 B5	100 B5; 112 B5		200	250	163	188	197	218
ATL 80	80 B5; 90 B5		200		180		119	100 B5; 112 B5		250		205		240		

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	E	m	n	N
ATL 50	120	85	13	50	70	435	40	80	415
ATL 63	140	100	17	60	80	546	50	85	526
ATL 80	170	130	21	90	90	638	50	100	623

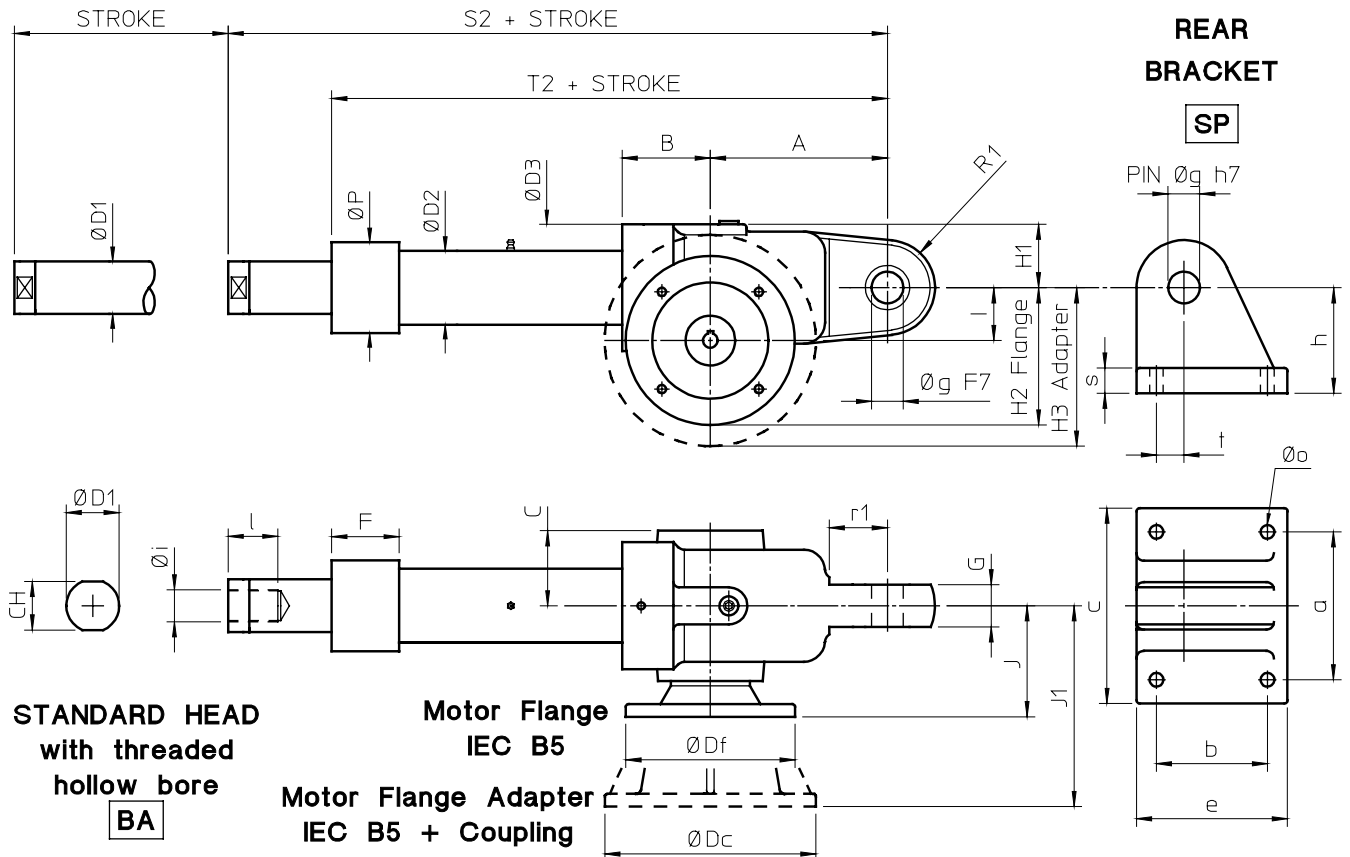
	p	p1	q	r	r2	r3	s2	s3	Ø u
ATL 50	65	100	15	30	30	30	37	25	30
ATL 63	86	126	15	30	30	35	43	28	35
ATL 80	85	130	20	40	35	45	49	33	40

ELECTRIC STROKE LIMIT DEVICE FCE DIMENSIONS

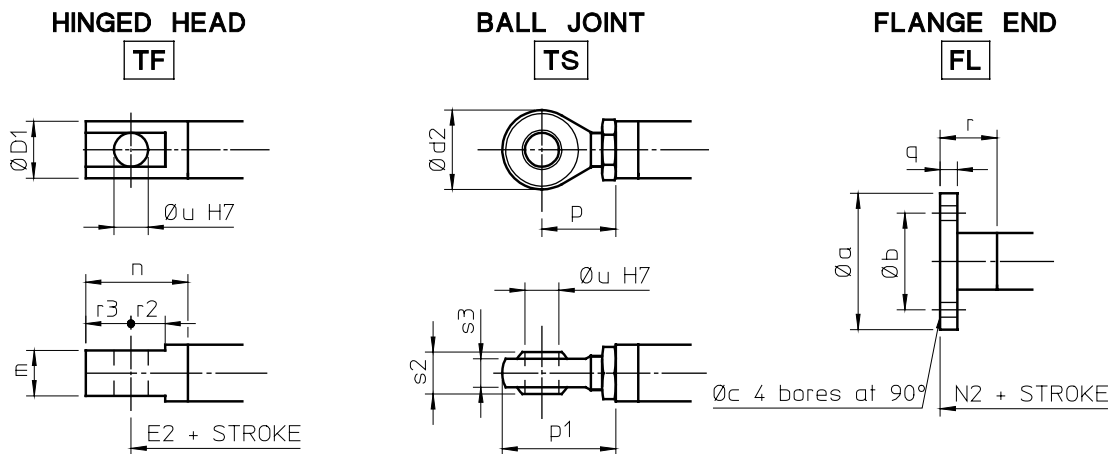
	H	R	U	V	Z	I1
ATL 50	79	188	50	97	32	89
ATL 63	89	237	60	107	37	100
ATL 80	101	237	73	119	55	113

Note: Over-all dimensions in millimetres (mm).

7.3 ACME SCREW LINEAR ACTUATORS Series ATL 50 – 63 – 80
AC 3-phase MOTOR – with Inductive Proximity Stroke Limit Device FCP

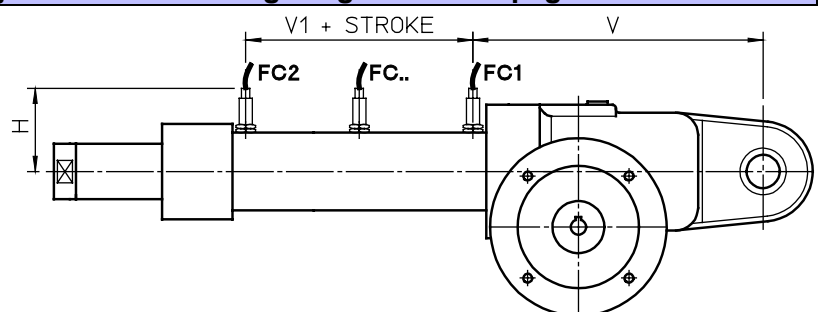


FRONT ATTACHMENTS



INDUCTIVE PROXIMITY STROKE LIMIT DEVICE FCP DIMENSIONS
 Features, operation, adjustment and wiring diagrams: on page 97

	H	V	V1
ATL 50	76.5	263	15
ATL 63	86.5	314	40
ATL 80	99	371	40



Note: Over-all dimensions in millimetres (mm).

7.3
ACME SCREW LINEAR ACTUATORS Series ATL 50 – 63 – 80
AC 3-phase MOTOR – with Inductive Proximity Stroke Limit Device FCP
STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T2** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	C	CH	Ø D1	Ø D2	Ø D3	F	G	H1	I	Ø P	R1	S2
ATL 50	168	84	68	46	50	70	120	–	40	63	50	–	45	443
ATL 63	206	96	83	–	60	90	140	37	50	70	63	95	50	554
ATL 80	240	119	103	–	90	115	180	40	60	90	80	125	60	647

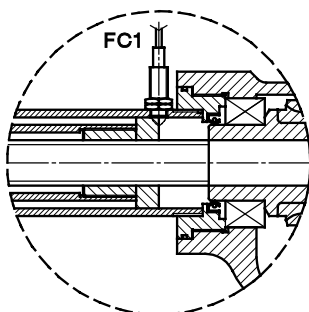
	T2	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
ATL 50	345	140	105	185	143	30	100	M30×2	45	13	55	20	30
ATL 63	438	180	120	228	160	35	120	M36×2	55	17	63	30	30
ATL 80	531	210	122	278	180	40	130	M42×2	65	21	62	35	32

	Flange IEC		Ø Df		H2		J	Adapter+Coupling IEC		Ø Dc		H3		J1		
ATL 50	63 B5	71 B5	140	160	120	130	102	80 B5; 90 B5		200		150		182		
ATL 63	80 B5		200		163		100	90 B5	100 B5; 112 B5		200	250	163	188	197	218
ATL 80	80 B5; 90 B5		200		180		119	100 B5; 112 B5		250		205		240		

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	E2	m	n	N2
ATL 50	120	85	13	50	70	473	40	80	453
ATL 63	140	100	17	60	80	584	50	85	564
ATL 80	170	130	21	90	90	682	50	100	667

	p	p1	q	r	r2	r3	s2	s3	Ø u
ATL 50	65	100	15	30	30	30	37	25	30
ATL 63	86	126	15	30	30	35	43	28	35
ATL 80	85	130	20	40	35	45	49	33	40

INDUCTIVE PROXIMITY STROKE LIMIT DEVICE FCP FEATURES


Note: The PROXIMITY SWITCH FC1, when activated, gives a signal to stop the motor by means of electric relays. FC1 stops the motor before the actuator reaches its minimal retracted length. Actuators equipped with FCP device have retracted and extended dimensions longer than actuators equipped with FCE (electric stroke limit device).

- Additional extra PROXIMITY SWITCHES are available for intermediate positions.
- The minimal distance between the PROXIMITY SWITCHES must be of at least 25 mm.

Compact acme 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 = 30 % over 10 min. at 25 °C environment

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 DC MOTOR 24 V or 12 V					
LINEAR SPEED [mm/s]	DYNAMIC LOAD [N]	RATIO	CURRENT [A]		SELF-LOCKING COEFFICIENT
400	120	RV2	4 A (24 V)	9 A (12 V)	0.51
200	230	RN2	4 A (24 V)	9 A (12 V)	0.51
150	260	RV1	4 A (24 V)	9 A (12 V)	0.32
75	470	RN1	4 A (24 V)	9 A (12 V)	0.32

DC MOTOR 24 V or 12 V FEATURES

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

Power supply cable 1.5 m length and 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 and 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. With lower voltage the brake does not open completely.

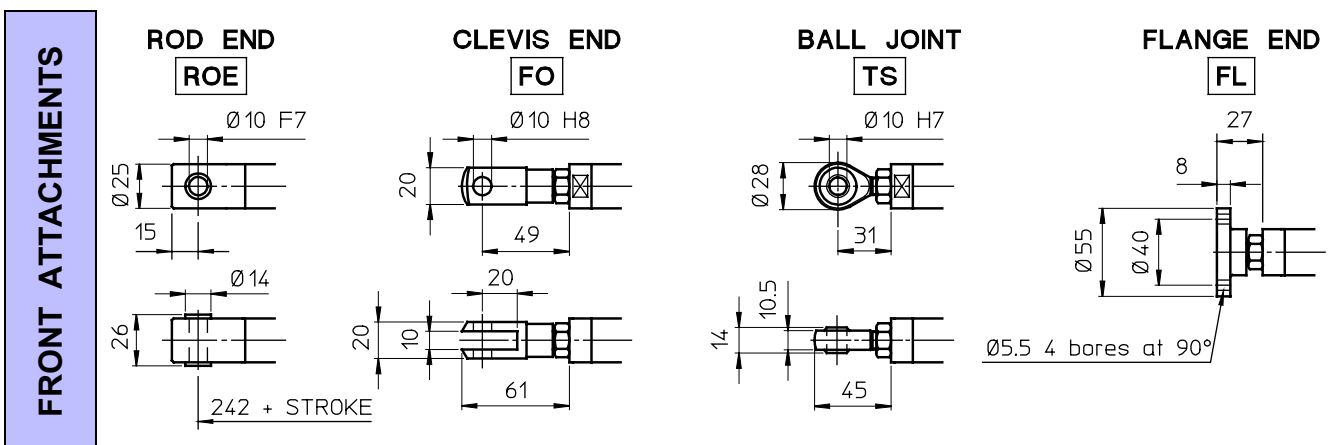
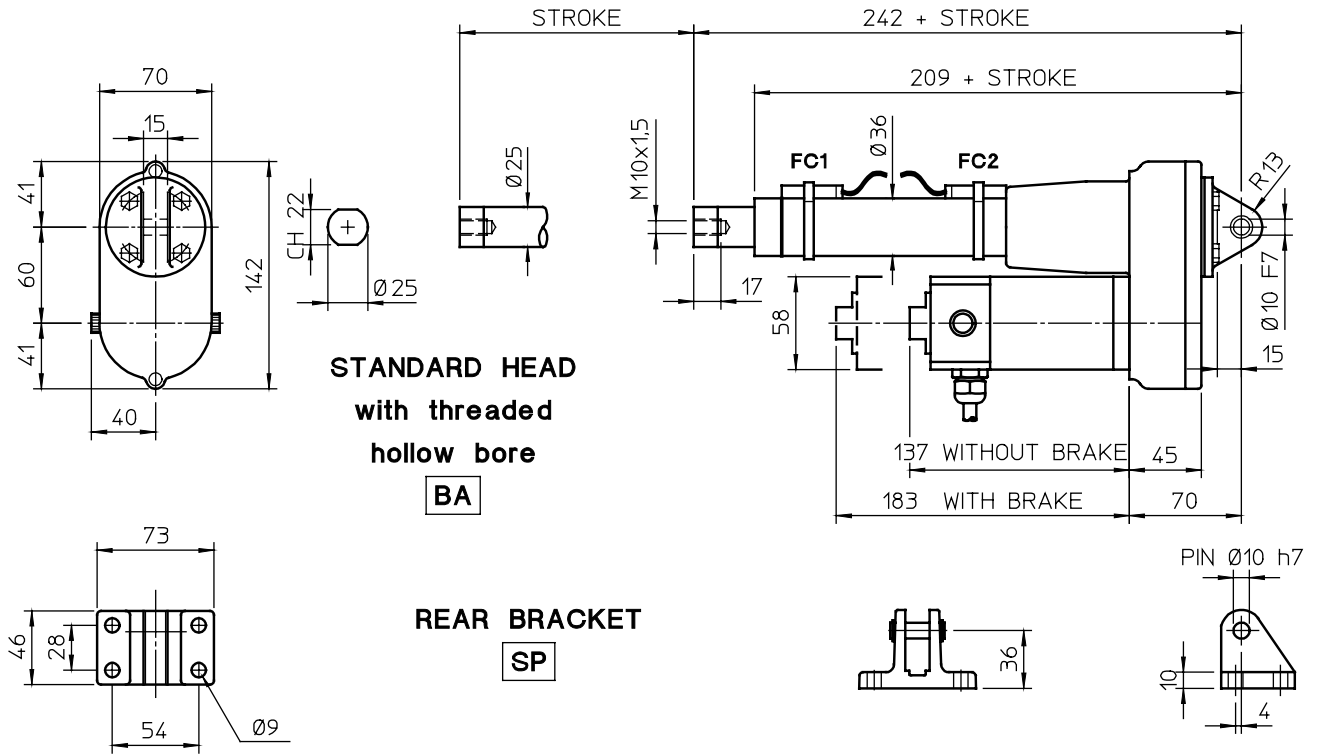
STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

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

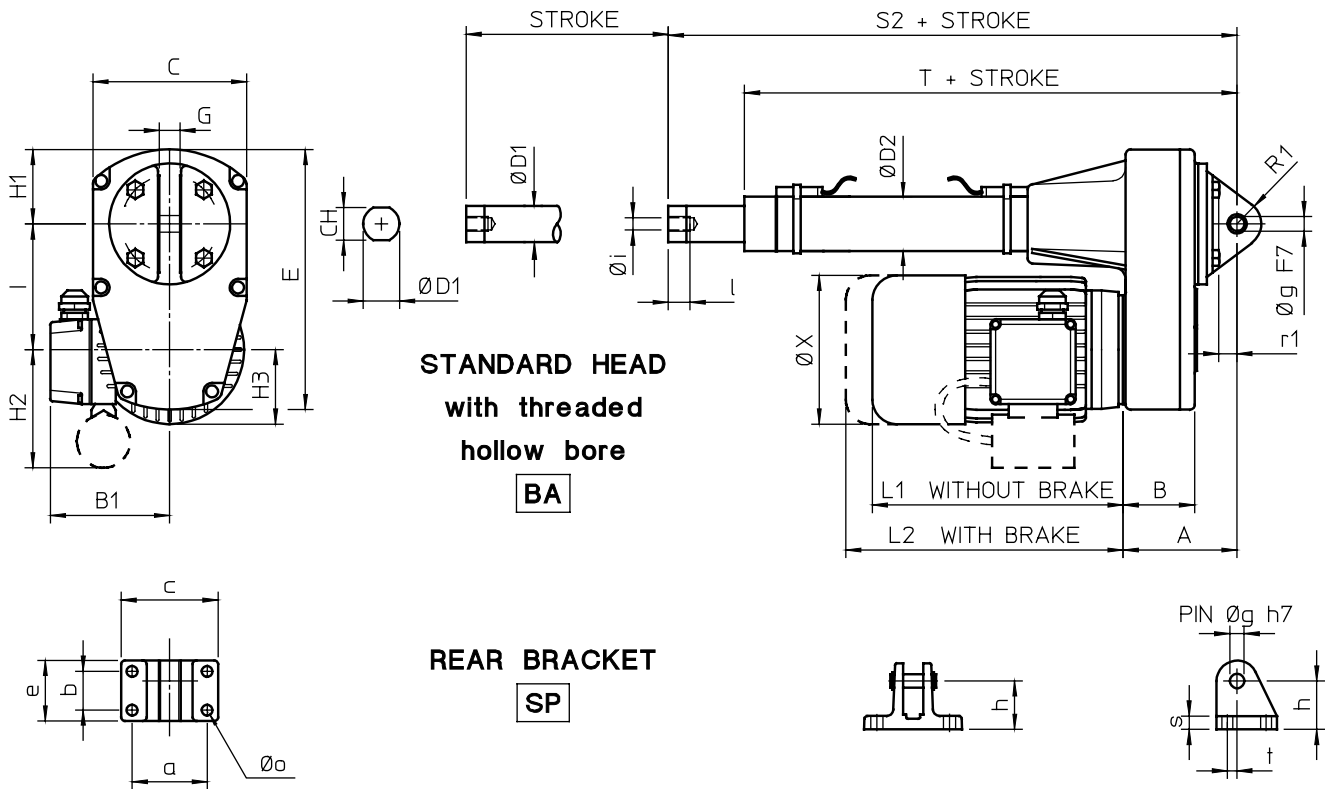
Note: - Special stroke lengths available on request.
- Over-all dimensions in millimetres (mm).

DIMENSIONS WITH MAGNETIC STROKE LIMIT DEVICE FCM

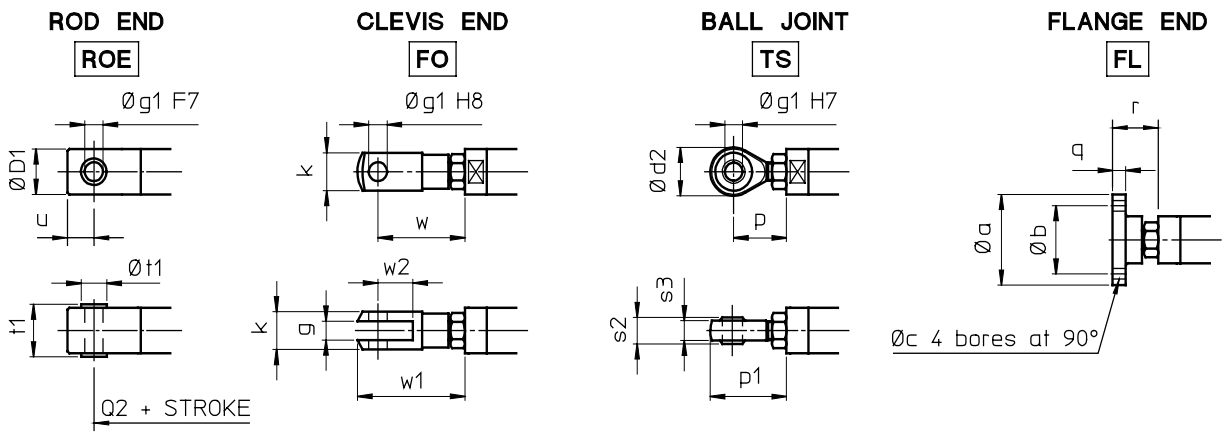
Features, operation, adjustment and wiring diagrams: on page 95



7.5 ACME SCREW LINEAR ACTUATORS Series UAL 1 – 2 – 3 – 4
AC 3-phase or 1-phase MOTOR – with Magnetic Stroke Limit Device FCM

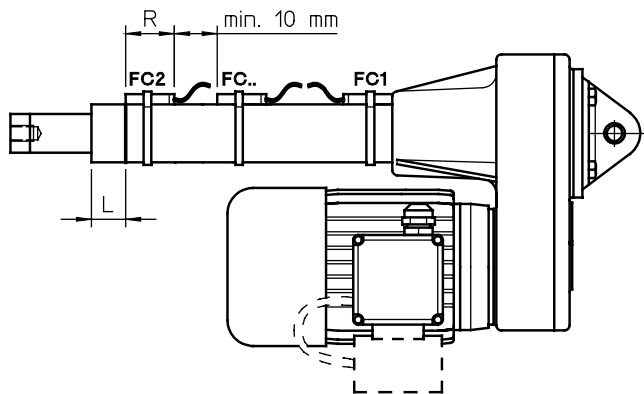


FRONT ATTACHMENTS



MAGNETIC STROKE LIMIT DEVICE FCM DIMENSIONS
 Features, operation, adjustment and wiring diagrams: on page 95

	REED SWITCHES	
	NC or (NC+NO)	NO
	L	L
UAL 1	24	29
UAL 2	32	37
UAL 3	37	42
UAL 4	40	45



7.5 ACME SCREW LINEAR ACTUATORS Series UAL 1 – 2 – 3 – 4
AC 3-phase or 1-phase MOTOR – with Magnetic Stroke Limit Device FCM

STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	E	G	H1	H2	H3	I	L1	L2	R1
UAL 1	82	52	110	114	22	25	36	189	15	58	75	55	90	167	193	17
UAL 2	94	60	115	127	27	30	45	215	17	64	90	62	104	193	229	20
UAL 3	106	71	124	135	30	35	55	247	20	68	90	75	121	215	304	20
UAL 4	120	77	141	161	36	40	60	293	24	81	95	85	138,5	235	340	22

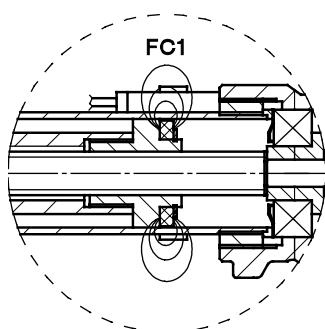
	S2	T	Ø X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
UAL 1	265	232	110	54	28	73	46	10	36	M10×1.5	17	9	18	10	4
UAL 2	284	244	123	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
UAL 3	318	274	150	72	38	90	58	14	45	M14×2	24	9	22	12	8
UAL 4	377	323	170	85	55	110	81	20	58	M20×1.5	27	11	29	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q2
UAL 1	55	40	5,5	25	28	10	10	20	31	45	265
UAL 2	60	45	6,5	30	32	12	12	24	36	52	287
UAL 3	65	50	6,5	35	36	14	14	27	36	54	324
UAL 4	80	60	8,5	40	50	20	20	40	53	78	389

	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
UAL 1	8	27	14	11	26	14	15	49	61	20
UAL 2	9	28	16	12	32	16	18	56	70	24
UAL 3	9	32	19	14	36	18	21	65	81	28
UAL 4	10	42	25	18	42	25	27	90	115	40

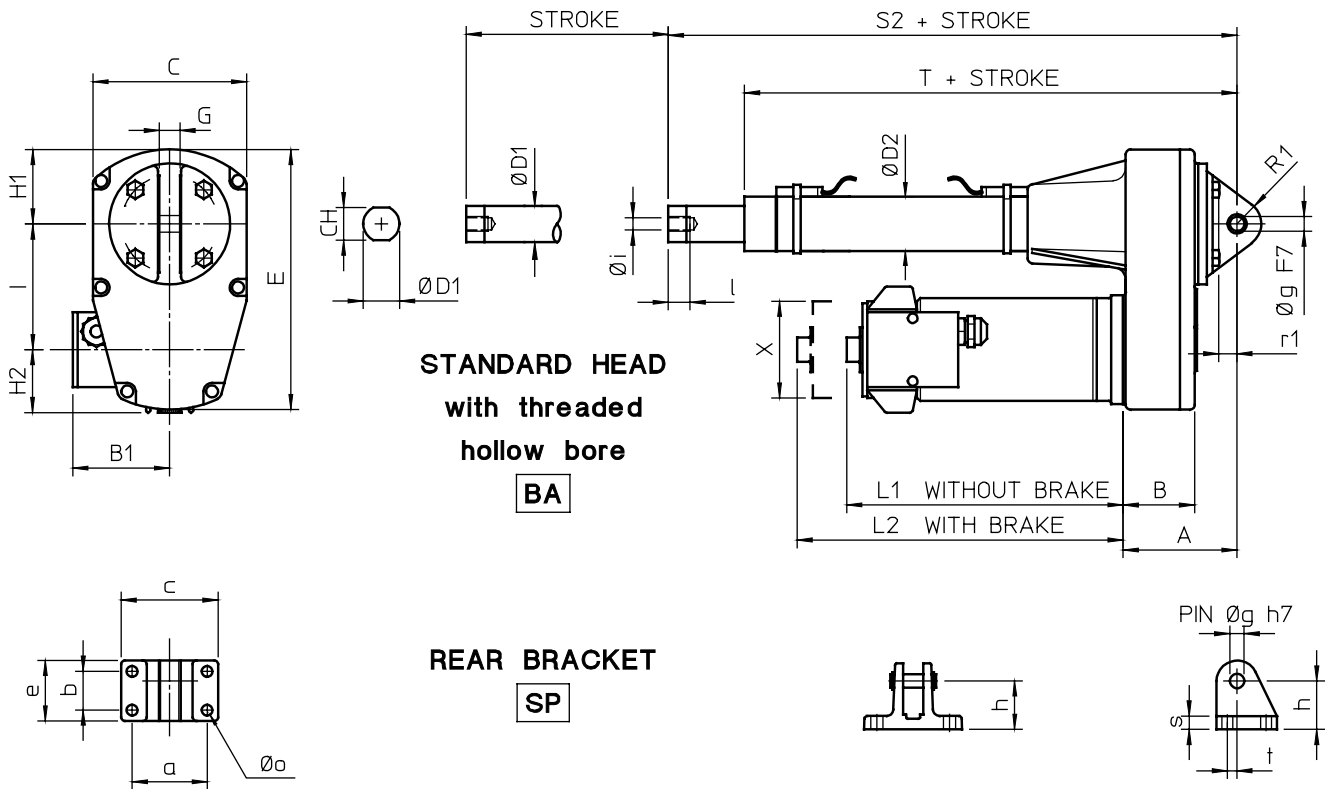
MAGNETIC REED SWITCHES FCM DIMENSIONS AND FEATURES



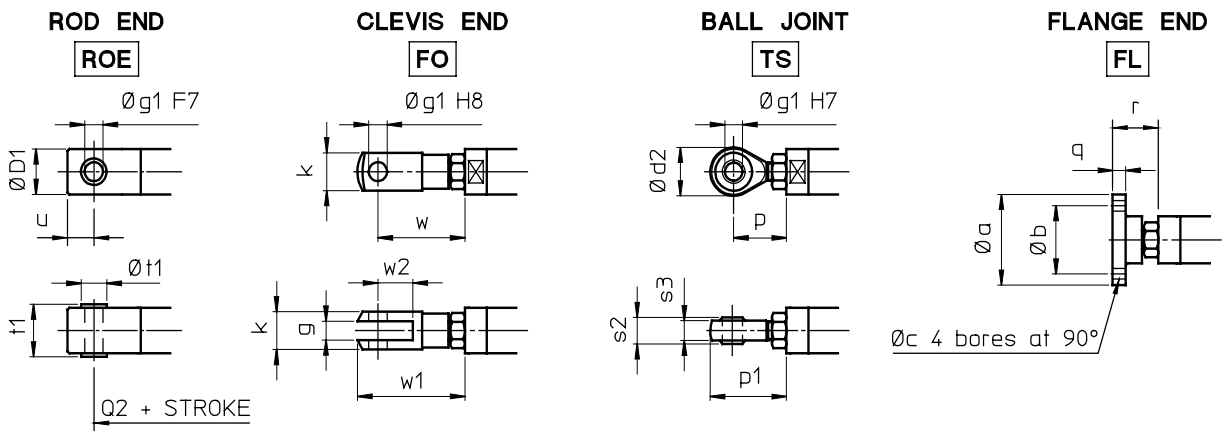
- Note:
- Additional extra magnetic REED SWITCHES are available for intermediate positions.
 - The minimal distance between the REED SWITCHES must be of at least 10 mm.
 - REED SWITCH Normally Closed (NC) R = 39 mm
 - REED SWITCH Change-over (NC+NO) R = 39 mm
 - REED SWITCH Normally Open (NO) R = 29 mm

Note: Over-all dimensions in millimetres (mm).

7.5 ACME SCREW LINEAR ACTUATORS Series UAL 1 – 2 – 3 – 4
DC MOTOR – with Magnetic Stroke Limit Device FCM

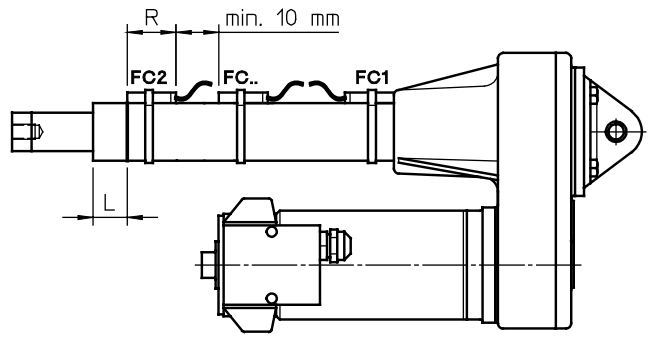


FRONT ATTACHMENTS



MAGNETIC STROKE LIMIT DEVICE FCM DIMENSIONS
 Features, operation, adjustment and wiring diagrams: on page 95

	CONTACT REED	
	NC or (NC+NO)	NO
	L	L
UAL 1	24	29
UAL 2	32	37
UAL 3	37	42
UAL 4	40	45



Note: Over-all dimensions in millimetres (mm).

7.5
ACME SCREW LINEAR ACTUATORS Series UAL 1 – 2 – 3 – 4
DC MOTOR – with Magnetic Stroke Limit Device FCM
STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

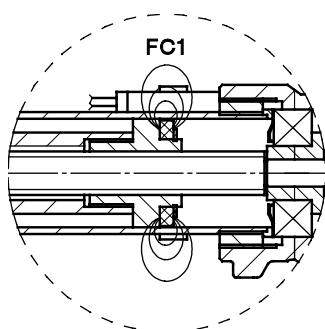
	A	B	B1	C	CH	Ø D1	Ø D2	E	G	H1	H2	I	L1	L2	R1
UAL 1	82	52	80	114	22	25	36	189	15	58	54	90	177	218	17
UAL 2	94	60	80	127	27	30	45	215	17	64	54	104	229	270	20
UAL 3	106	71	80	135	30	35	55	247	20	68	54	121	322	364	20
UAL 4	120	77	118	161	36	40	60	293	24	81	69	138.5	461	503	22

	S2	T	X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
UAL 1	265	232	107	54	28	73	46	10	36	M10×1.5	17	9	18	10	4
UAL 2	284	244	107	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
UAL 3	318	274	107	72	38	90	58	14	45	M14×2	24	9	22	12	8
UAL 4	377	323	138	85	55	110	81	20	58	M20×1.5	27	11	29	15	15

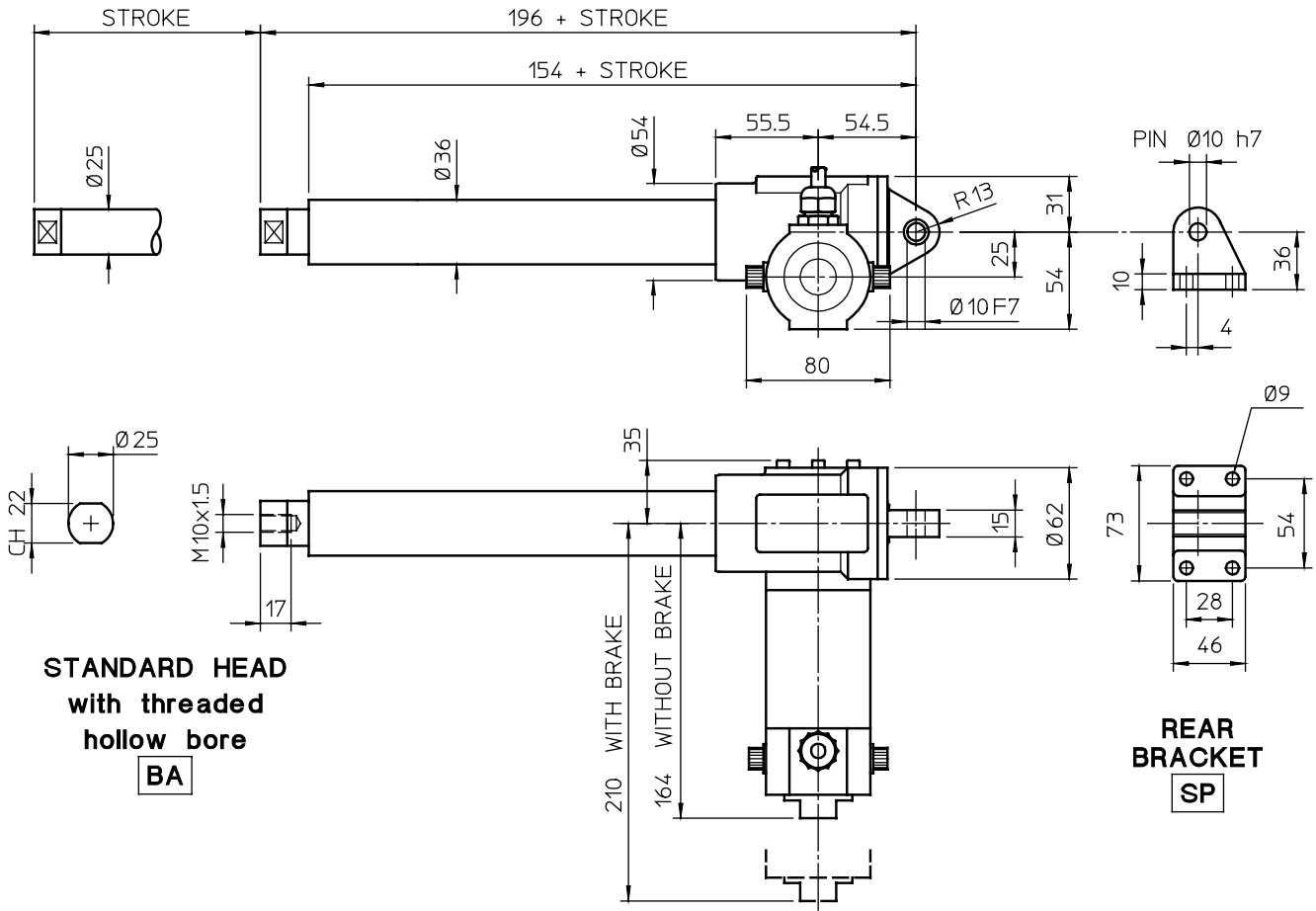
FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q2
UAL 1	55	40	5,5	25	28	10	10	20	31	45	265
UAL 2	60	45	6,5	30	32	12	12	24	36	52	287
UAL 3	65	50	6,5	35	36	14	14	27	36	54	324
UAL 4	80	60	8,5	40	50	20	20	40	53	78	389

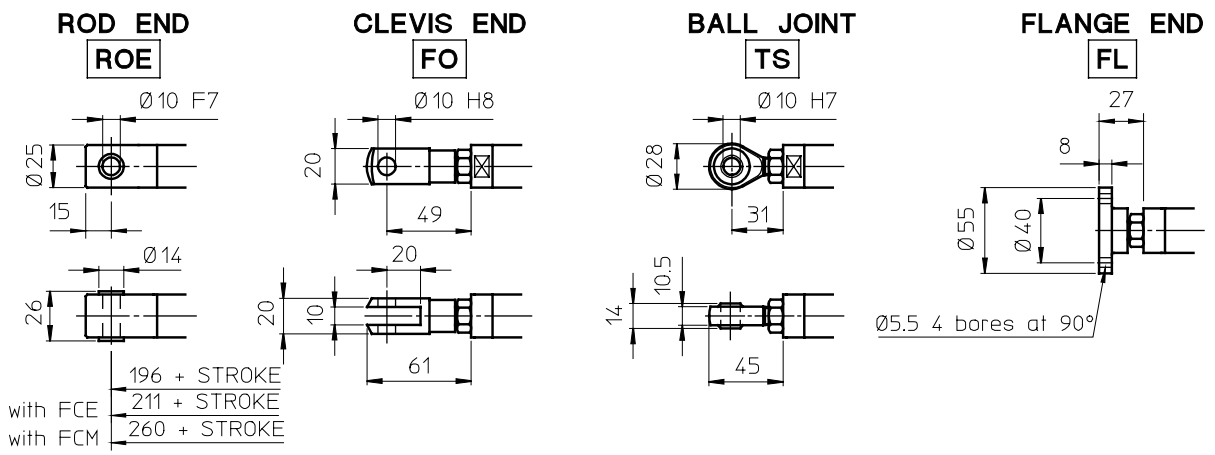
	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
UAL 1	8	27	14	11	26	14	15	49	61	20
UAL 2	9	28	16	12	32	16	18	56	70	24
UAL 3	9	32	19	14	36	18	21	65	81	28
UAL 4	10	42	25	18	42	25	27	90	115	40

MAGNETIC REED SWITCHES FCM DIMENSIONS AND FEATURES


- Note:
- Additional extra magnetic REED SWITCHES are available for intermediate positions.
 - The minimal distance between the REED SWITCHES must be of at least 10 mm.
 - REED SWITCH Normally Closed (NC) R = 39 mm
 - REED SWITCH Change-over (NC+NO) R = 39 mm
 - REED SWITCH Normally Open (NO) R = 29 mm



FRONT ATTACHMENTS



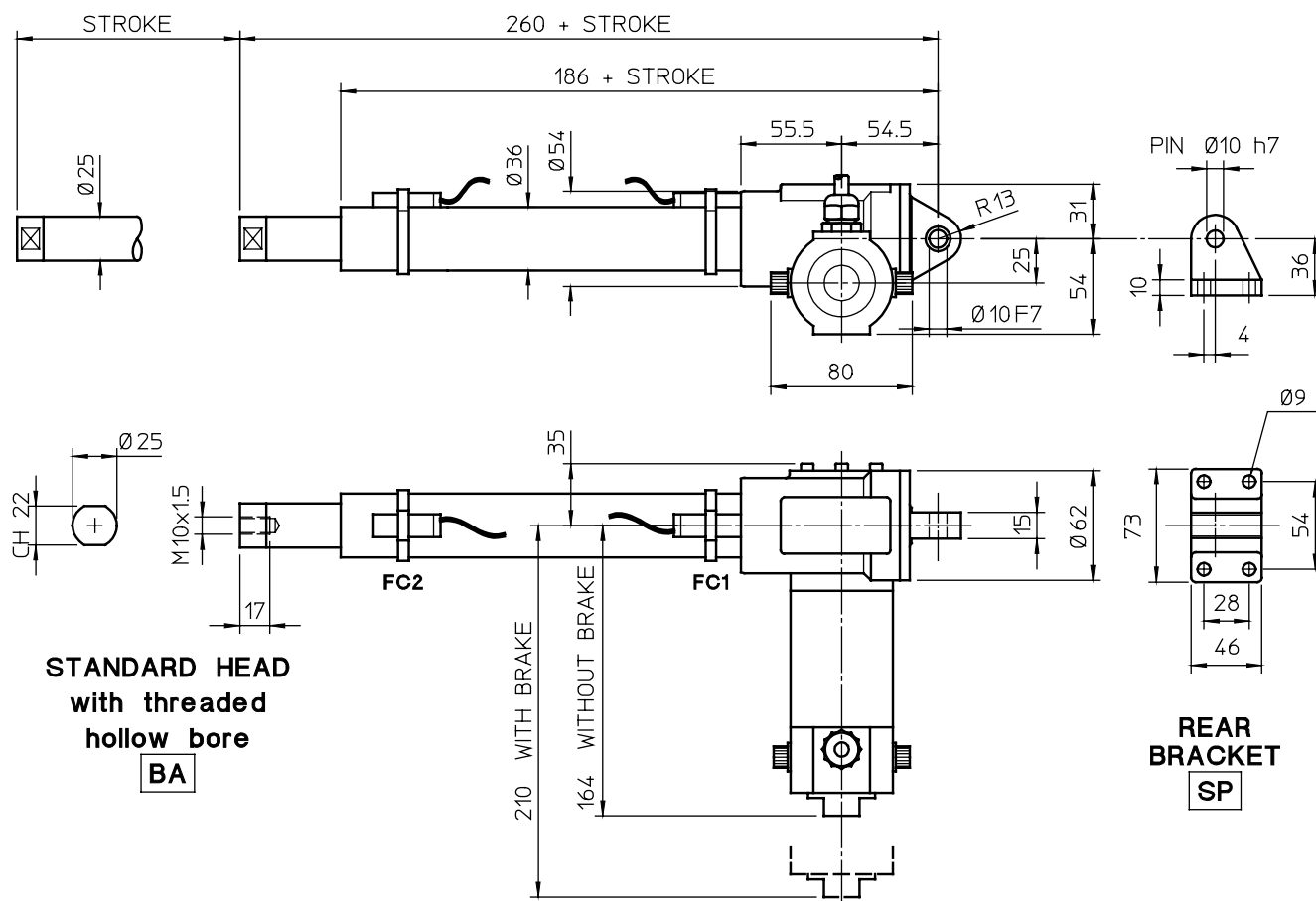
STROKE LENGTHS AVAILABLE IN STOCK WITH OR WITHOUT ELECTRIC STROKE LIMIT DEVICE FCE

STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	85	185	285	385	485	585	685	785

Note: - Special stroke lengths available on request.
 - DC motor features on page 100.
 - Over-all dimensions in millimetres (mm).

DIMENSIONS WITH MAGNETIC STROKE LIMIT DEVICE FCM

Features, operation, adjustment and wiring diagrams: on page 95



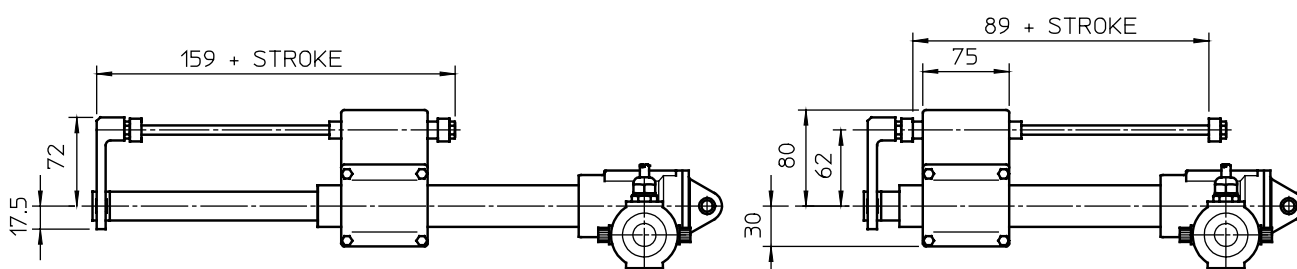
STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

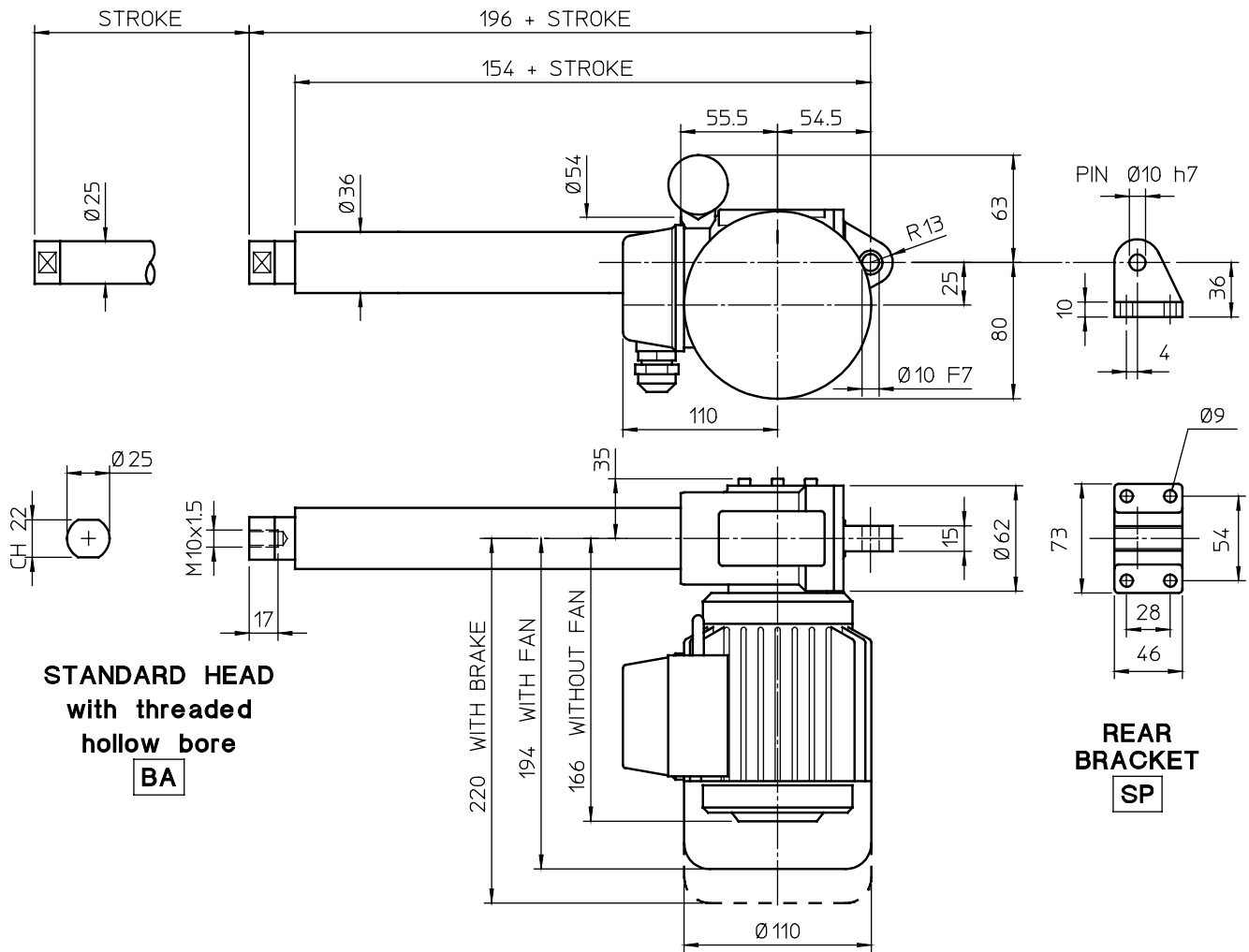
STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	53	153	253	353	453	553	653	753

- Note:
- Special stroke lengths available on request.
 - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

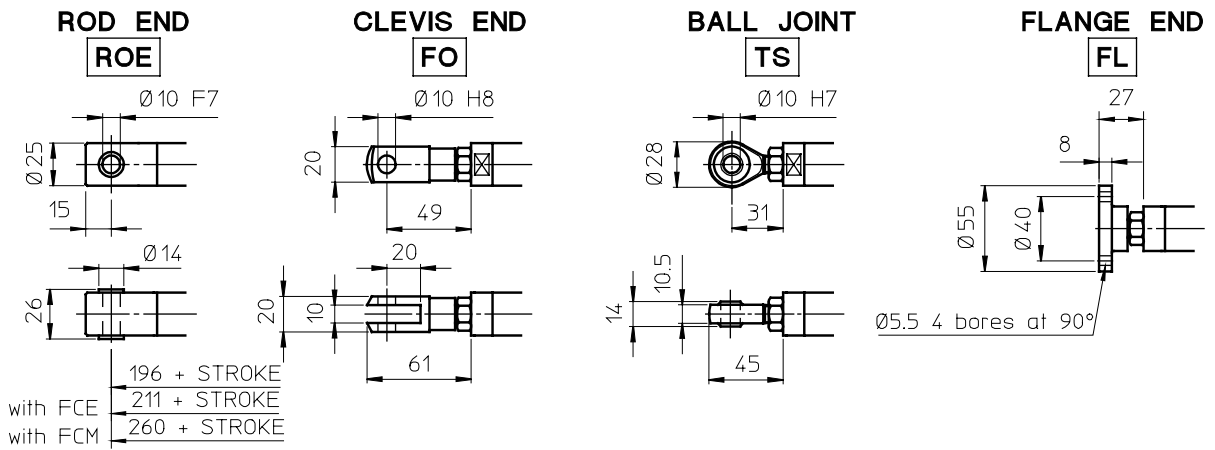
ELECTRIC STROKE LIMIT DEVICE FCE

Features, operation, adjustment and wiring diagrams: on page 94





FRONT ATTACHMENTS



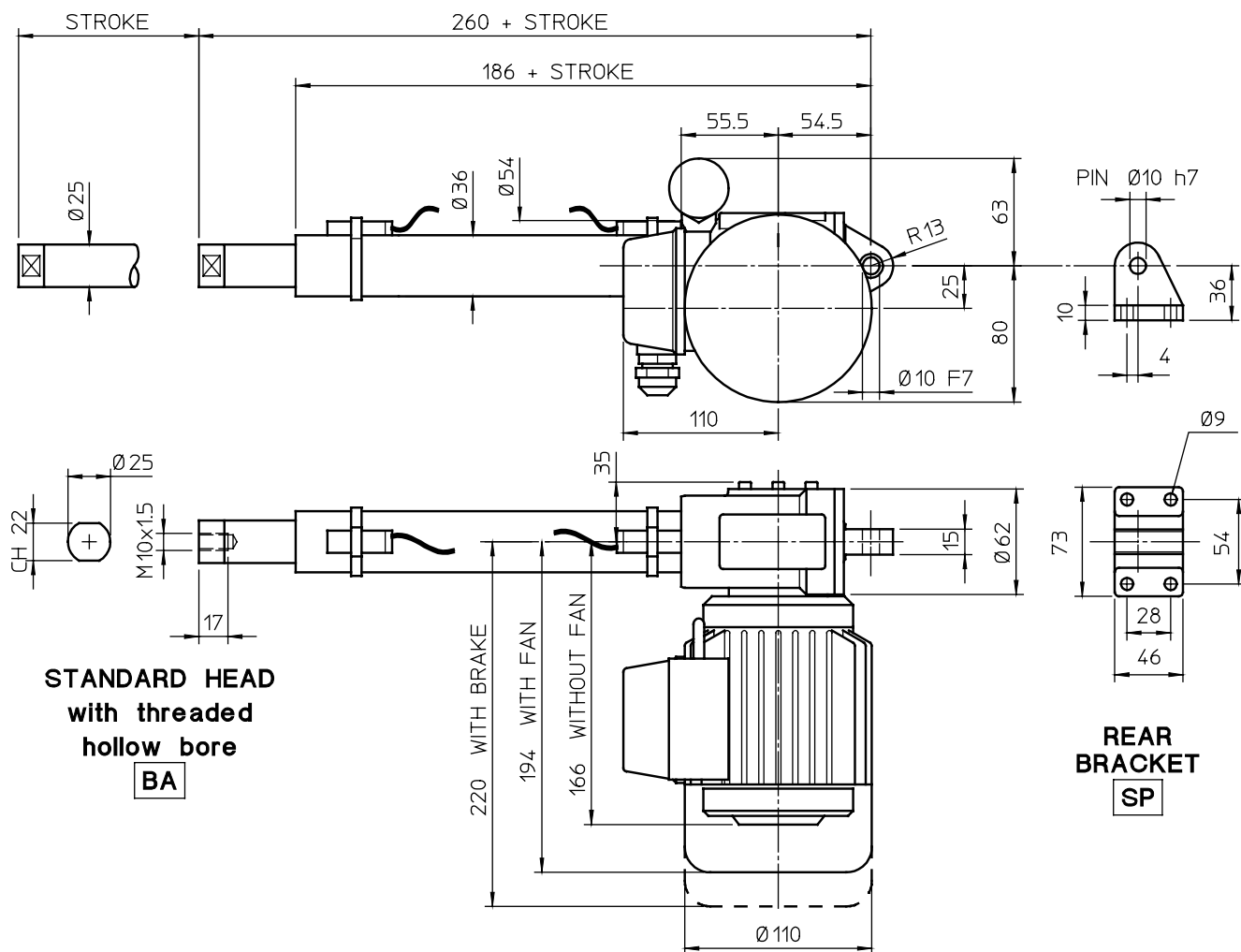
STROKE LENGTHS AVAILABLE IN STOCK WITH OR WITHOUT ELECTRIC STROKE LIMIT DEVICE FCE

STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	85	185	285	385	485	585	685	785

Note: - Special stroke lengths available on request.
 - AC 1-phase motor features on page 100.
 - Over-all dimensions in millimetres (mm).

DIMENSIONS WITH MAGNETIC STROKE LIMIT DEVICE FCM

Features, operation, adjustment and wiring diagrams: on page 95



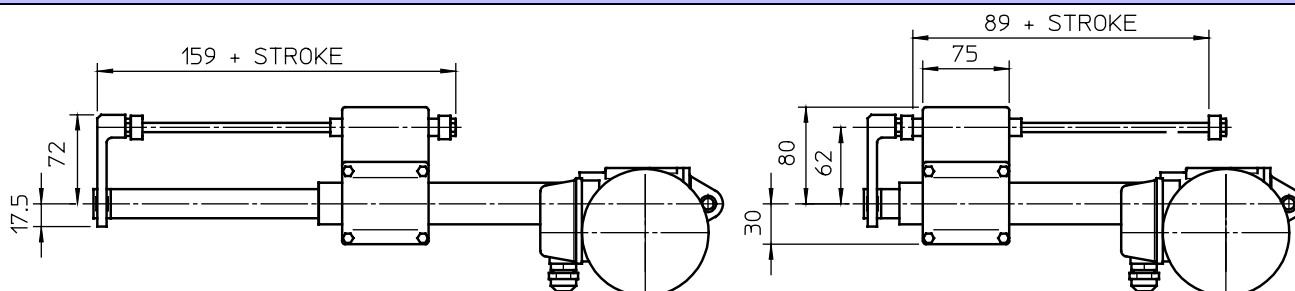
STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

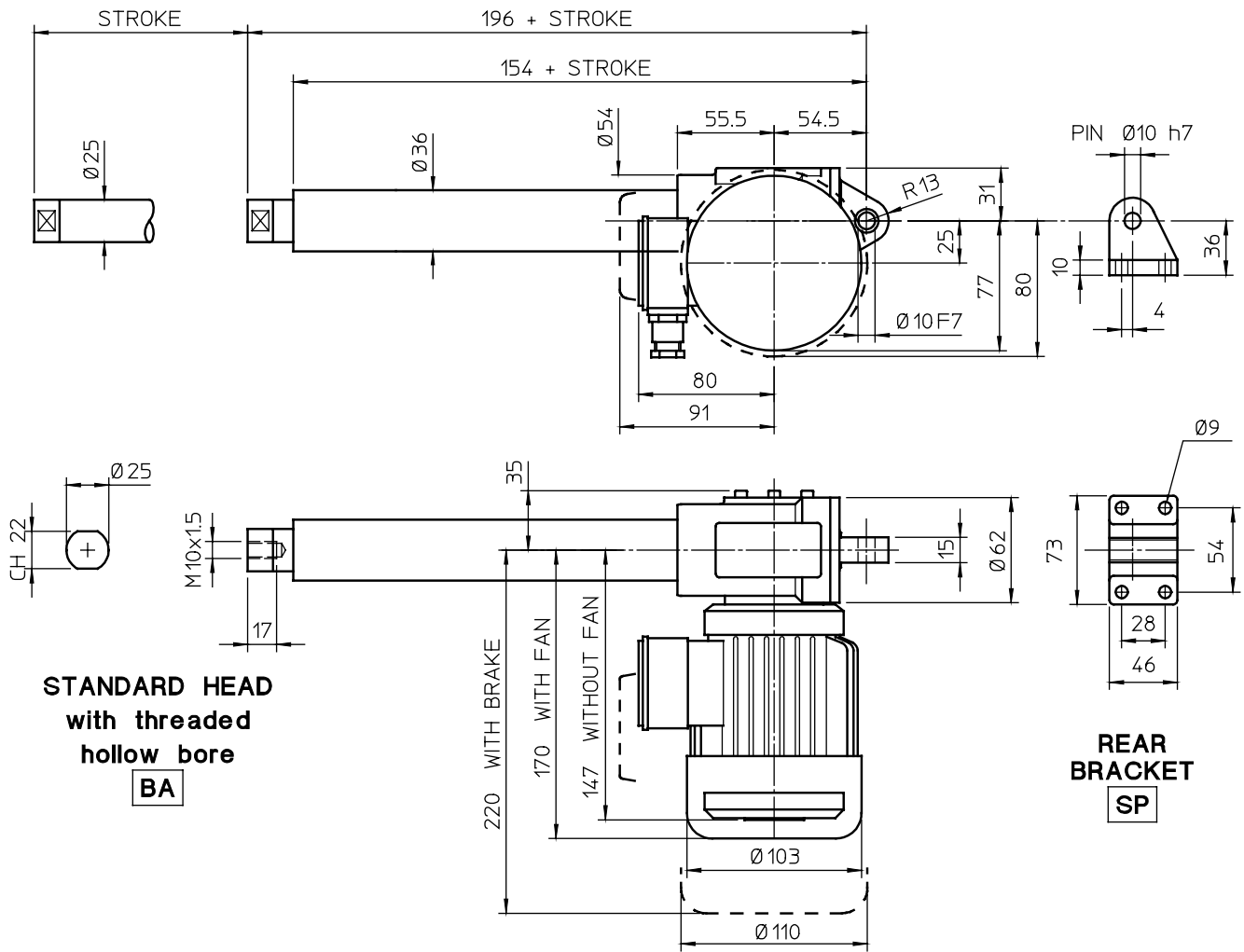
STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	53	153	253	353	453	553	653	753

- Note:
- Special stroke lengths available on request.
 - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

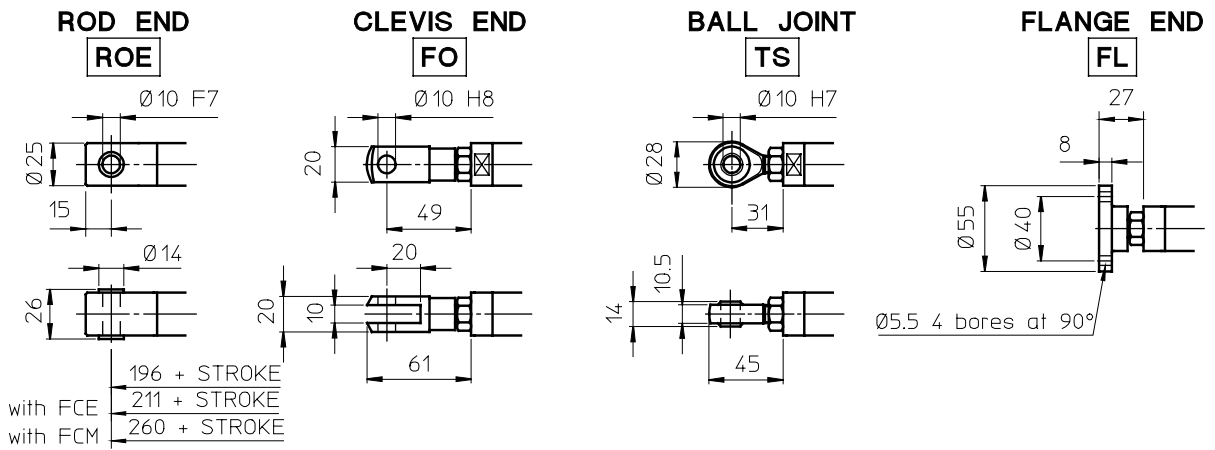
ELECTRIC STROKE LIMIT DEVICE FCE

Features, operation, adjustment and wiring diagrams: on page 94





FRONT ATTACHMENTS



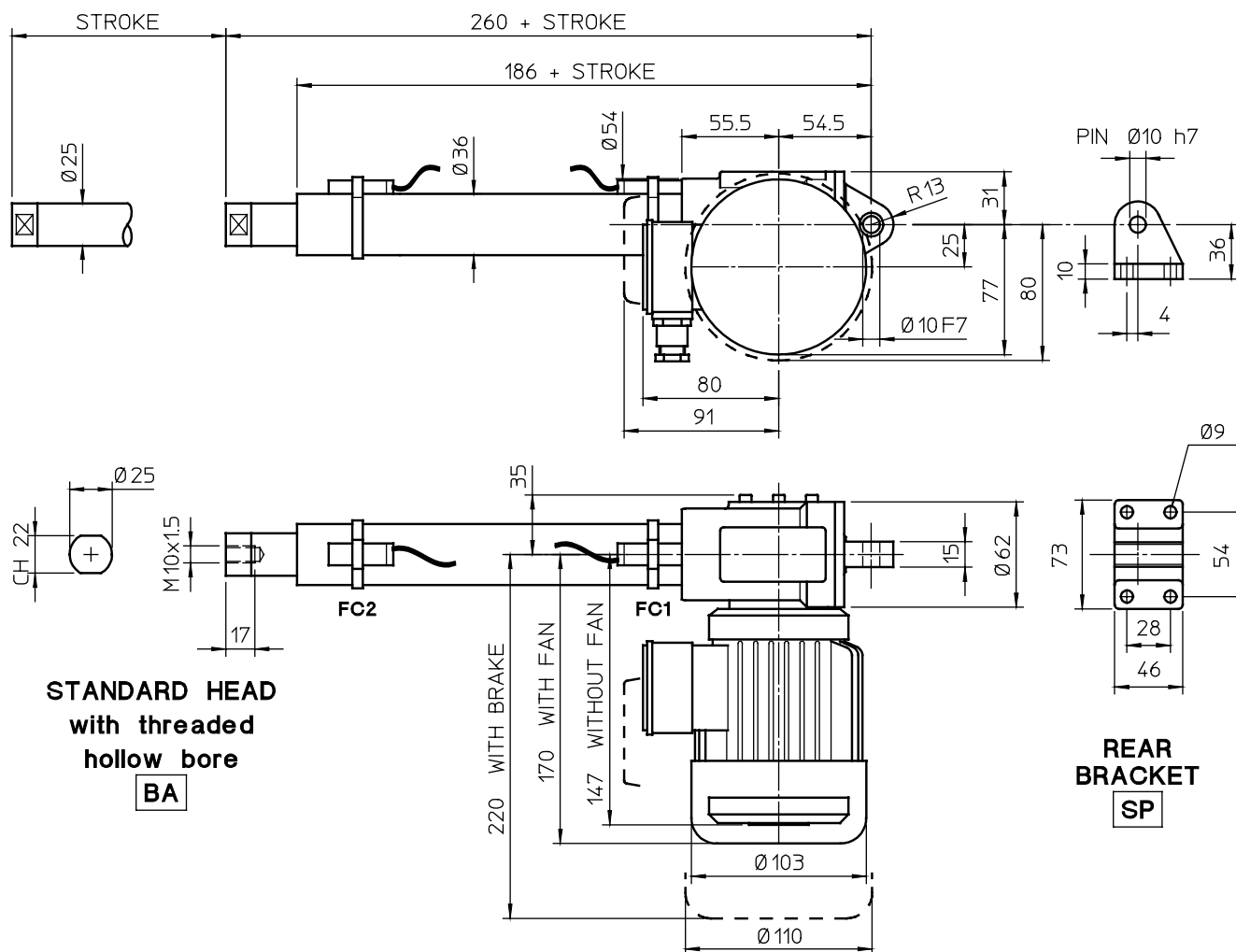
STROKE LENGTHS AVAILABLE IN STOCK WITH OR WITHOUT ELECTRIC STROKE LIMIT DEVICE FCE

STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	85	185	285	385	485	585	685	785

Note: - Special stroke lengths available on request.
 - AC 3-phase motor features on page 100.
 - Over-all dimensions in millimetres (mm).

DIMENSIONS WITH MAGNETIC STROKE LIMIT DEVICE FCM

Features, operation, adjustment and wiring diagrams: on page 95



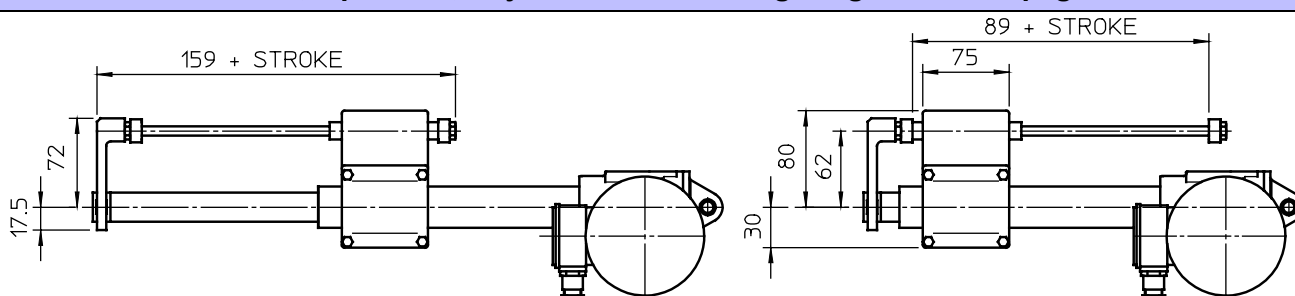
STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	53	153	253	353	453	553	653	753

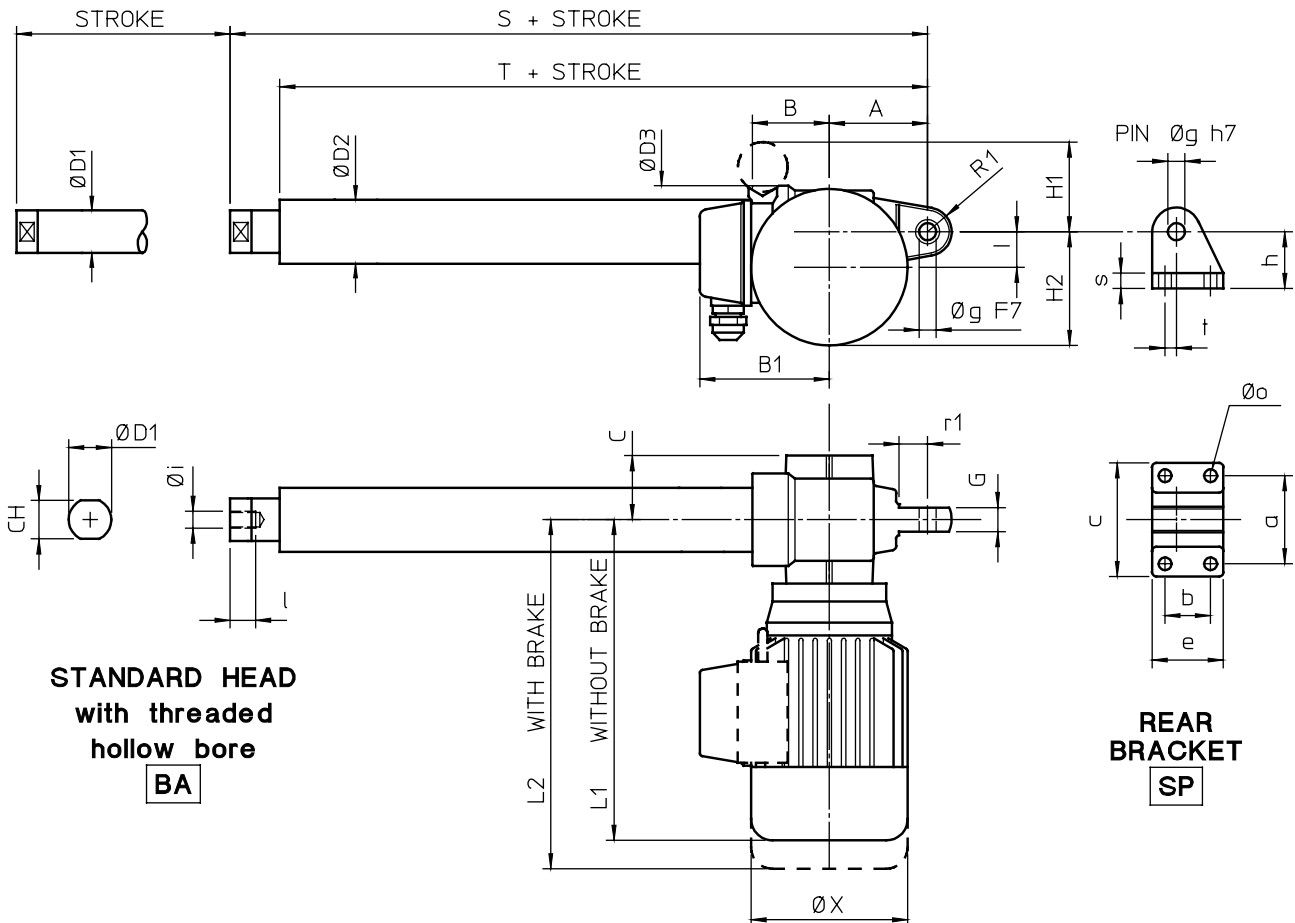
- Note:
- Special stroke lengths available on request.
 - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

ELECTRIC STROKE LIMIT DEVICE FCE

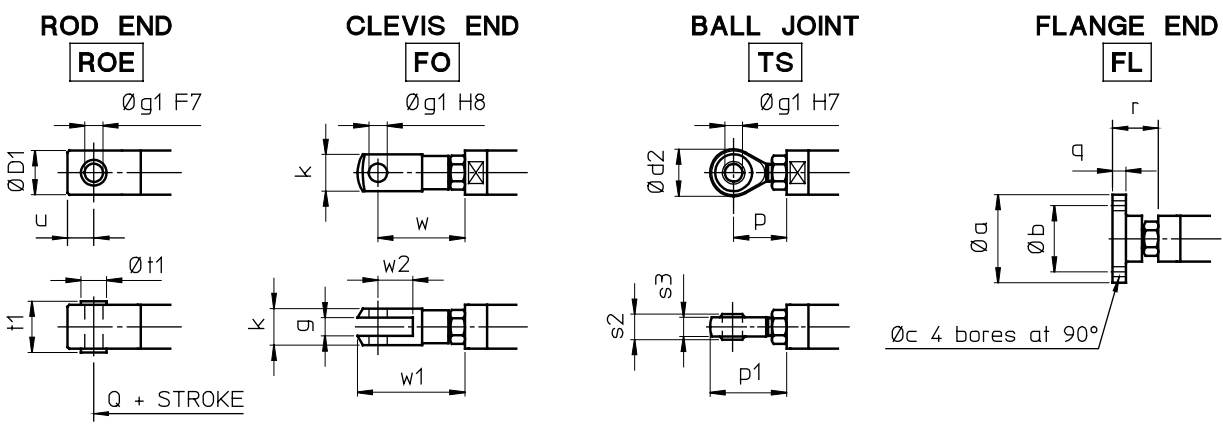
Features, operation, adjustment and wiring diagrams: on page 94



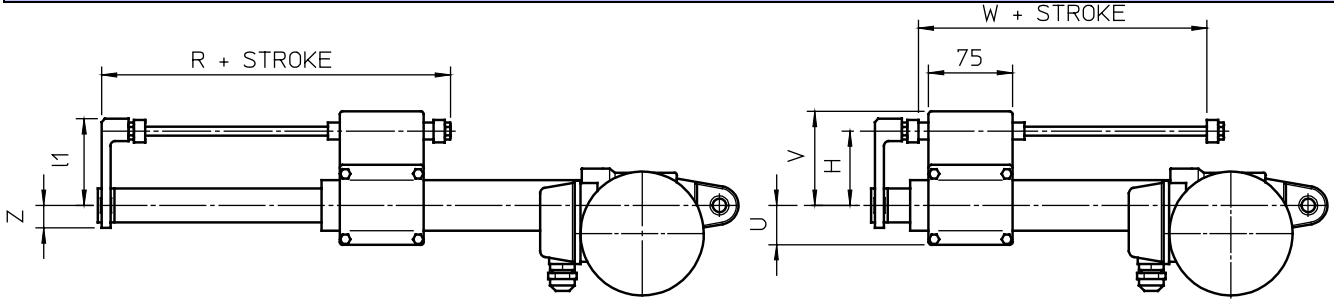
7.7 BALL SCREW LINEAR ACTUATORS Series BSA 20 – 25 – 30 – 40
AC 3-phase or 1-phase MOTOR – with Electric Stroke Limit Device FCE



FRONT ATTACHMENTS



ELECTRIC STROKE LIMIT DEVICE FCE
Features, operation, adjustment and wiring diagrams: on page 94



7.7 BALL SCREW LINEAR ACTUATORS Series BSA 20 – 25 – 30 – 40
AC 3-phase or 1-phase MOTOR – with Electric Stroke Limit Device FCE

STROKE LENGTHS AVAILABLE IN STOCK

STROKE CODE		C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	BSA 20	86	186	286	386	486	586	686	786
	BSA 25	84	184	284	384	484	584	684	784
	BSA 30	90	190	290	390	490	590	690	790
	BSA 40	90	190	290	390	490	590	690	790

- Note:
- Special stroke lengths available on request.
 - For stroke lengths longer than 800 mm, to avoid radial backlash is necessary to increase the guided length between push rod and protective tube. Dimensions **S** and **T** shall be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	Ø D3	G	H1	H2	I	L1	L2	R1
BSA 20	69	54	110	45	22	25	36	65	17	50	80	25	225	251	17
BSA 25	69	54	110	45	27	30	45	65	17	50	80	25	225	251	17
BSA 30	76	62	115	50	30	35	55	78	20	60	92	30	255	291	18
BSA 40	104	78	124	57	36	40	60	92	24	50	115	40	284	373	28

	S	T	Ø X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
BSA 20	211	166	110	62	32	80	50	12	40	M10×1.5	17	9	20	11	8
BSA 25	222	171	110	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
BSA 30	238	190	123	72	38	90	58	14	45	M14×2	24	9	20	12	8
BSA 40	295	235	150	85	55	110	81	20	58	M20×1.5	27	11	32	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q
BSA 20	55	40	5,5	25	28	10	10	20	31	45	226
BSA 25	60	45	6,5	30	32	12	12	24	36	52	239
BSA 30	65	50	6,5	35	36	14	14	27	36	54	258
BSA 40	80	60	8,5	40	50	20	20	40	53	78	320

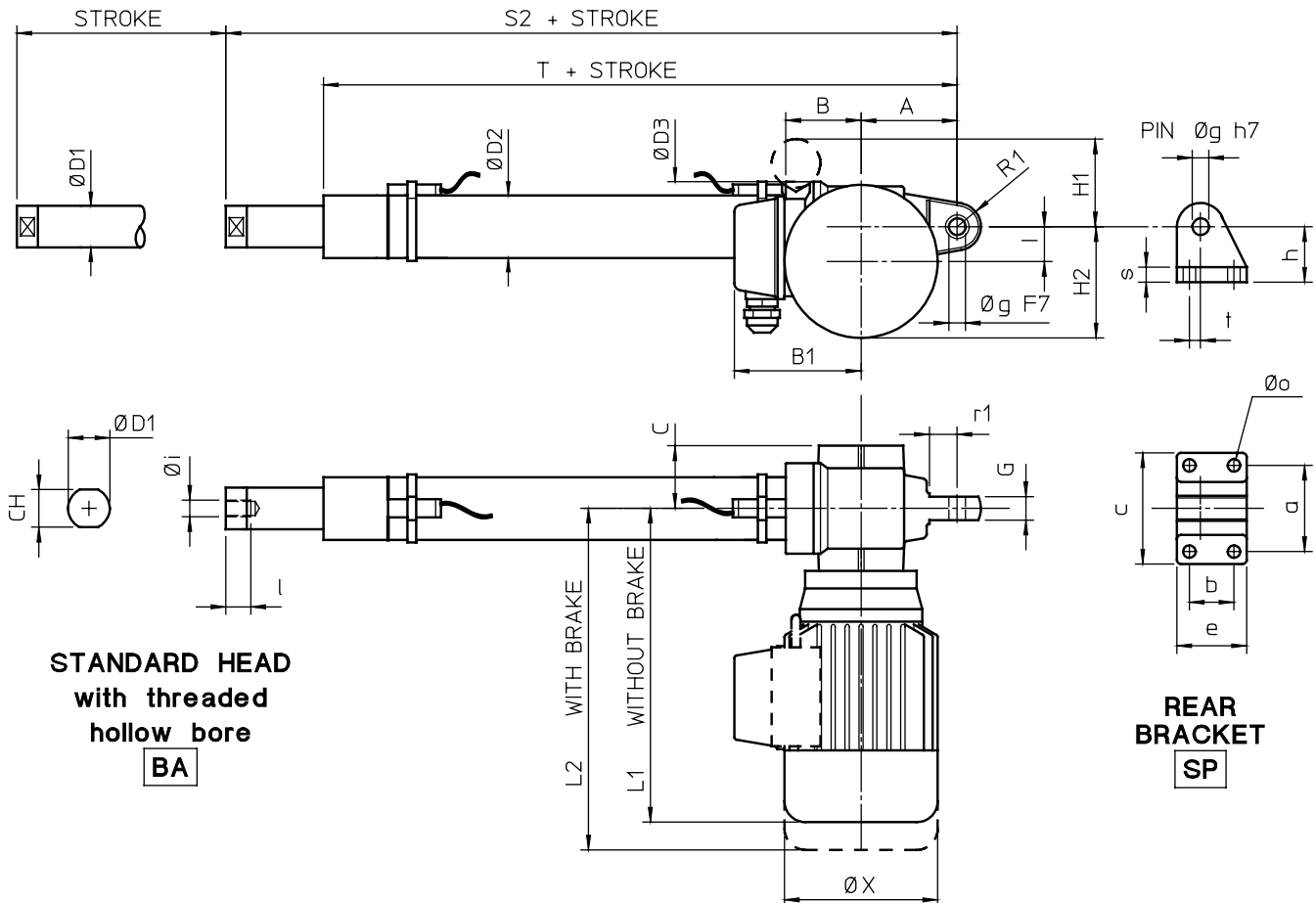
	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
BSA 20	8	27	14	11	26	14	15	49	61	20
BSA 25	9	28	16	12	32	16	18	56	70	24
BSA 30	9	32	19	14	36	18	21	65	81	28
BSA 40	10	42	25	18	42	25	27	90	115	40

ELECTRIC STROKE LIMIT DEVICE FCE DIMENSIONS

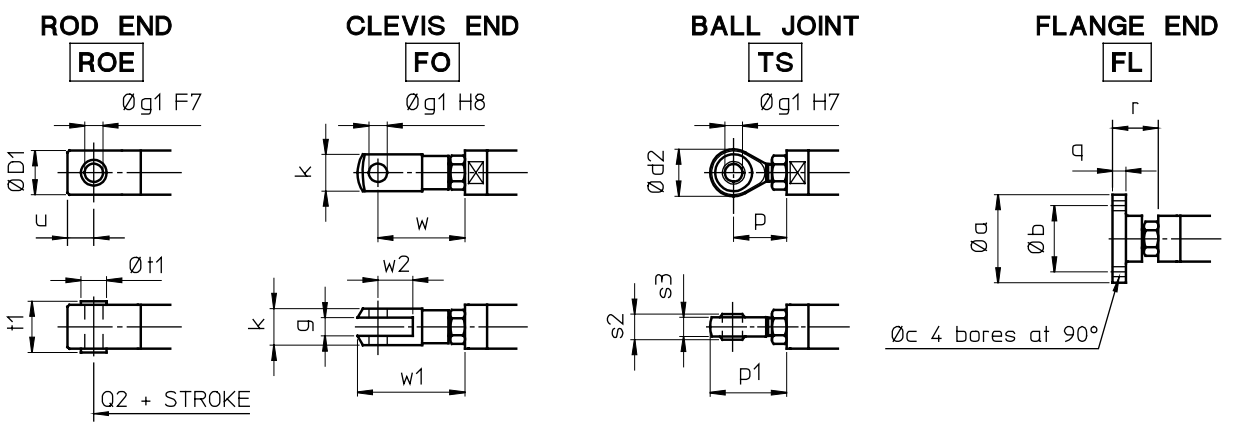
	H	R	U	V	W	Z	I1
BSA 20	62	158	30	80	74	18	72
BSA 25	67	162	35	85	74	20	77
BSA 30	71	157	38	90	79	23	82
BSA 40	75	173	43	93	79	25	85

Note: Over-all dimensions in millimetres (mm).

7.7 BALL SCREW LINEAR ACTUATORS Series BSA 20 – 25 – 30 – 40
AC 3-phase or 1-phase MOTOR – with Magnetic Stroke Limit Device FCM

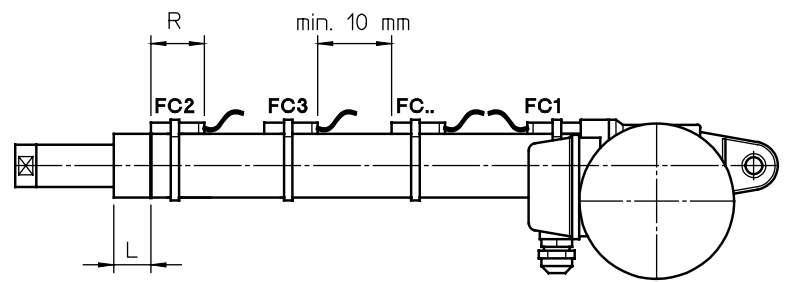


FRONT ATTACHMENTS



MAGNETIC STROKE LIMIT DEVICE FCM DIMENSIONS
 Features, operation, adjustment and wiring diagrams: on page 95

	REED SWITCHES	
	NC or (NC+NO)	NO
	L	L
BSA 20	40	43.5
BSA 25	48	51
BSA 30	58	60.5
BSA 40	66	82.5



Note: Over-all dimensions in millimetres (mm).

7.7 BALL SCREW LINEAR ACTUATORS Series BSA 20 – 25 – 30 – 40

AC 3-phase or 1-phase MOTOR – with Magnetic Stroke Limit Device FCM

STROKE LENGTHS AVAILABLE IN STOCK

STROKE CODE		C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	BSA 20	54	154	254	354	454	554	654	754
	BSA 25	47	147	247	347	447	547	647	747
	BSA 30	46	146	246	346	446	546	646	746
	BSA 40	37	137	237	337	437	537	637	737

- Note:
- Special stroke lengths available on request.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	Ø D3	G	H1	H2	I	L1	L2	R1
BSA 20	69	54	110	45	22	25	36	65	17	50	80	25	225	251	17
BSA 25	69	54	110	45	27	30	45	65	17	50	80	25	225	251	17
BSA 30	76	62	115	50	30	35	55	78	20	60	92	30	255	291	18
BSA 40	104	78	124	57	36	40	60	92	24	50	115	40	284	373	28

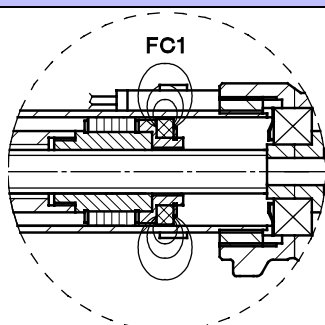
	S2	T	Ø X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
BSA 20	275	198	110	62	32	80	50	12	40	M10×1.5	17	9	20	11	8
BSA 25	296	208	110	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
BSA 30	326	234	123	72	38	90	58	14	45	M14×2	24	9	20	12	8
BSA 40	401	288	150	85	55	110	81	20	58	M20×1.5	27	11	32	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q2
BSA 20	55	40	5,5	25	28	10	10	20	31	45	275
BSA 25	60	45	6,5	30	32	12	12	24	36	52	299
BSA 30	65	50	6,5	35	36	14	14	27	36	54	332
BSA 40	80	60	8,5	40	50	20	20	40	53	78	413

	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
BSA 20	8	27	14	11	26	14	15	49	61	20
BSA 25	9	28	16	12	32	16	18	56	70	24
BSA 30	9	32	19	14	36	18	21	65	81	28
BSA 40	10	42	25	18	42	25	27	90	115	40

MAGNETIC REED SWITCHES FCM DIMENSIONS AND FEATURES

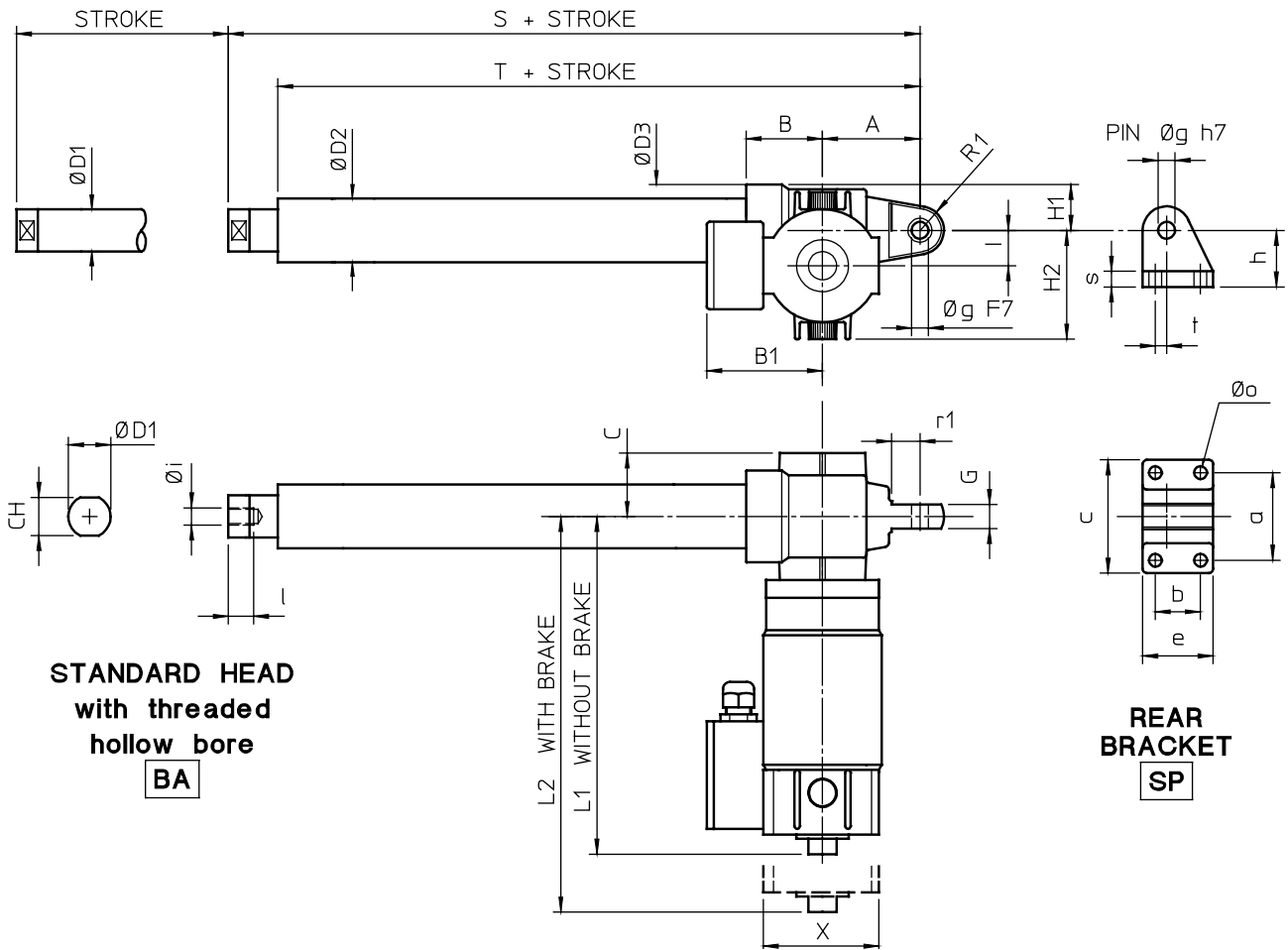


Note: - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

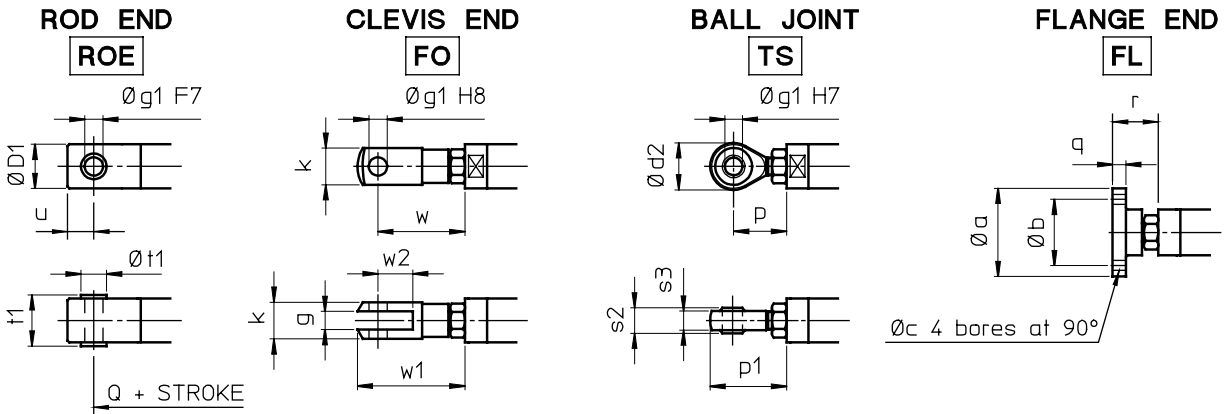
- Additional extra magnetic REED SWITCHES are available for intermediate positions.
- The minimal distance between the REED SWITCHES must be of at least 10 mm.
- REED SWITCH Normally Closed (NC) R = 39 mm
- REED SWITCH Change-over (NC+NO) R = 39 mm
- REED SWITCH Normally Open (NO) R = 29 mm

7.7 BALL SCREW LINEAR ACTUATORS Series BSA 20 – 25 – 30 – 40

DC MOTOR – with Electric Stroke Limit Device FCE

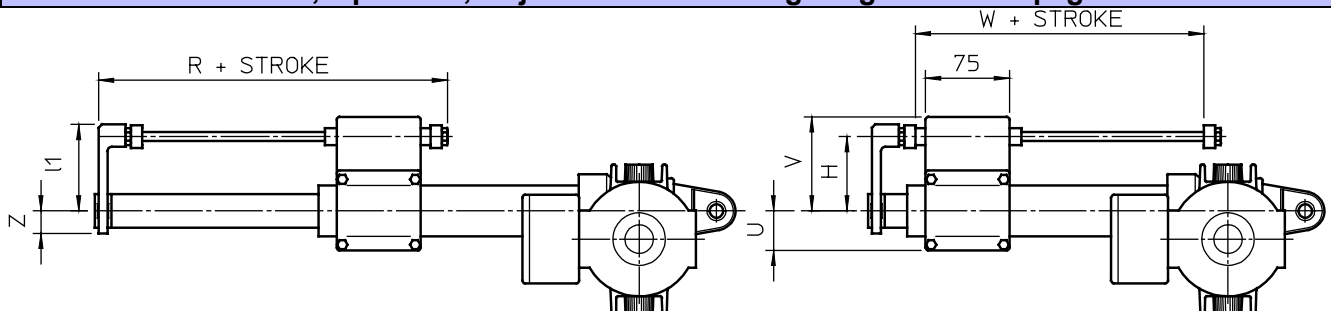


FRONT ATTACHMENTS



ELECTRIC STROKE LIMIT DEVICE FCE

Features, operation, adjustment and wiring diagrams: on page 94



7.7 BALL SCREW LINEAR ACTUATORS Series BSA 20 – 25 – 30 – 40

DC MOTOR – with Electric Stroke Limit Device FCE

STROKE LENGTHS AVAILABLE IN STOCK

STROKE CODE		C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	BSA 20	86	186	286	386	486	586	686	786
	BSA 25	84	184	284	384	484	584	684	784
	BSA 30	90	190	290	390	490	590	690	790
	BSA 40	90	190	290	390	490	590	690	790

- Note:
- Special stroke lengths available on request.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	Ø D3	G	H1	H2	I	L1	L2	R1
BSA 20	69	54	80	45	22	25	36	65	17	33	79	25	202	243	17
BSA 25	69	54	80	45	27	30	45	65	17	33	79	25	235	276	17
BSA 30	76	62	80	50	30	35	55	78	20	39	84	30	291	332	18
BSA 40	104	78	80	57	36	40	60	92	24	46	94	40	391	432	28

	S	T	X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
BSA 20	211	166	107	62	32	80	50	12	40	M10×1.5	17	9	20	11	8
BSA 25	222	171	107	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
BSA 30	238	190	107	72	38	90	58	14	45	M14×2	24	9	20	12	8
BSA 40	295	235	107	85	55	110	81	20	58	M20×1.5	27	11	32	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q
BSA 20	55	40	5,5	25	28	10	10	20	31	45	226
BSA 25	60	45	6,5	30	32	12	12	24	36	52	239
BSA 30	65	50	6,5	35	36	14	14	27	36	54	258
BSA 40	80	60	8,5	40	50	20	20	40	53	78	320

	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
BSA 20	8	27	14	11	26	14	15	49	61	20
BSA 25	9	28	16	12	32	16	18	56	70	24
BSA 30	9	32	19	14	36	18	21	65	81	28
BSA 40	10	42	25	18	42	25	27	90	115	40

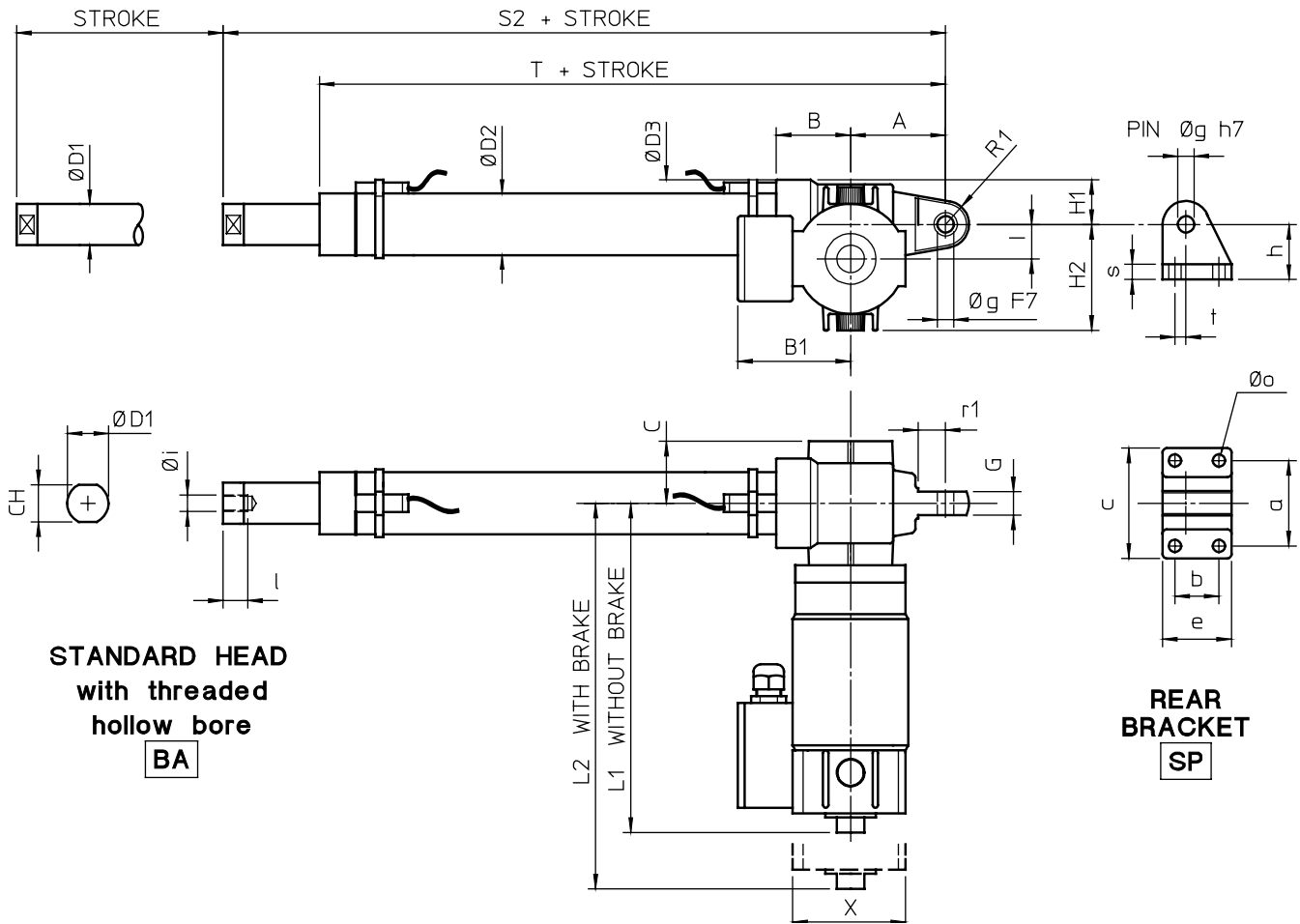
ELECTRIC STROKE LIMIT DEVICE FCE DIMENSIONS

	H	R	U	V	W	Z	I1
BSA 20	62	158	30	80	74	18	72
BSA 25	67	162	35	85	74	20	77
BSA 30	71	157	38	90	79	23	82
BSA 40	75	173	43	93	79	25	85

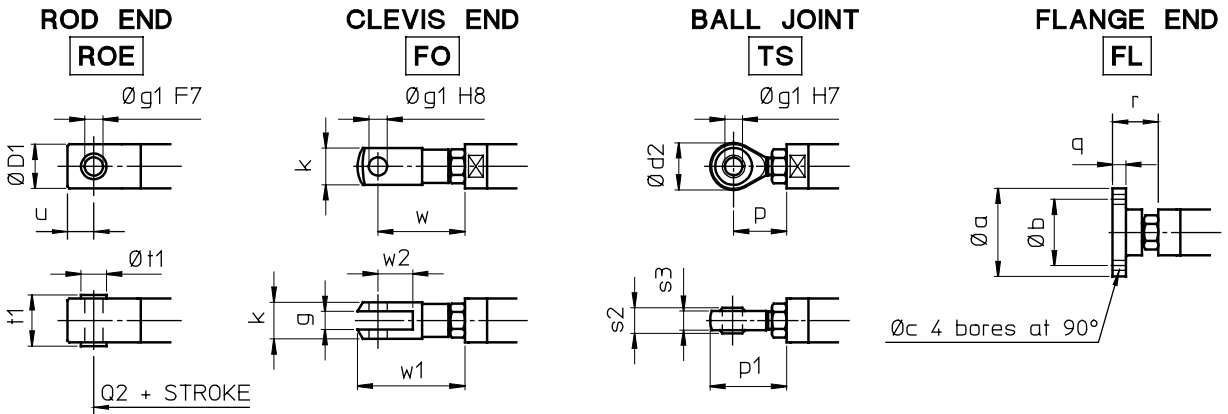
Note: Over-all dimensions in millimetres (mm).

7.7 BALL SCREW LINEAR ACTUATORS Series BSA 20 – 25 – 30 – 40

DC MOTOR – with Magnetic Stroke Limit Device FCM



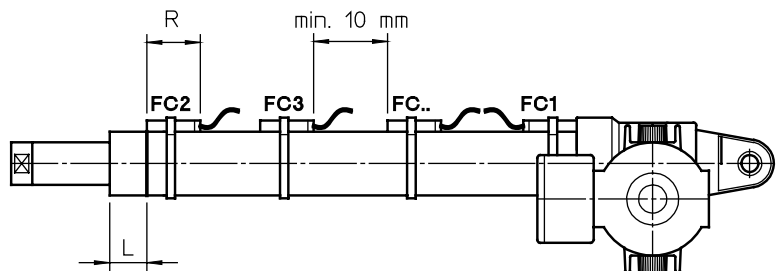
FRONT ATTACHMENTS



MAGNETIC STROKE LIMIT DEVICE FCM DIMENSIONS

Features, operation, adjustment and wiring diagrams: on page 95

	REED SWITCHES	
	NC or (NC+NO)	NO
	L	L
BSA 20	40	43.5
BSA 25	48	51
BSA 30	58	60.5
BSA 40	66	82.5



Note: Over-all dimensions in millimetres (mm).

7.7 BALL SCREW LINEAR ACTUATORS Series BSA 20 – 25 – 30 – 40

DC MOTOR – with Magnetic Stroke Limit Device FCM

STROKE LENGTHS AVAILABLE IN STOCK

STROKE CODE		C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	BSA 20	54	154	254	354	454	554	654	754
	BSA 25	47	147	247	347	447	547	647	747
	BSA 30	46	146	246	346	446	546	646	746
	BSA 40	37	137	237	337	437	537	637	737

- Note:
- Special stroke lengths available on request.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	B1	C	CH	Ø D1	Ø D2	Ø D3	G	H1	H2	I	L1	L2	R1
BSA 20	69	54	80	45	22	25	36	65	17	33	79	25	202	243	17
BSA 25	69	54	80	45	27	30	45	65	17	33	79	25	235	276	17
BSA 30	76	62	80	50	30	35	55	78	20	39	84	30	291	332	18
BSA 40	104	78	80	57	36	40	60	92	24	46	94	40	391	432	28

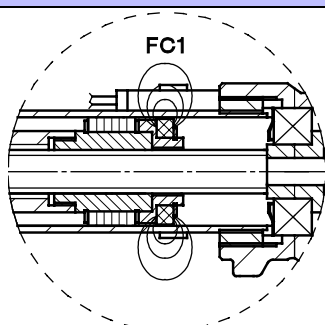
	S2	T	X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
BSA 20	275	198	107	62	32	80	50	12	40	M10×1.5	17	9	20	11	8
BSA 25	296	208	107	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
BSA 30	326	234	107	72	38	90	58	14	45	M14×2	24	9	20	12	8
BSA 40	401	288	107	85	55	110	81	20	58	M20×1.5	27	11	32	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q2
BSA 20	55	40	5,5	25	28	10	10	20	31	45	275
BSA 25	60	45	6,5	30	32	12	12	24	36	52	299
BSA 30	65	50	6,5	35	36	14	14	27	36	54	332
BSA 40	80	60	8,5	40	50	20	20	40	53	78	413

	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
BSA 20	8	27	14	11	26	14	15	49	61	20
BSA 25	9	28	16	12	32	16	18	56	70	24
BSA 30	9	32	19	14	36	18	21	65	81	28
BSA 40	10	42	25	18	42	25	27	90	115	40

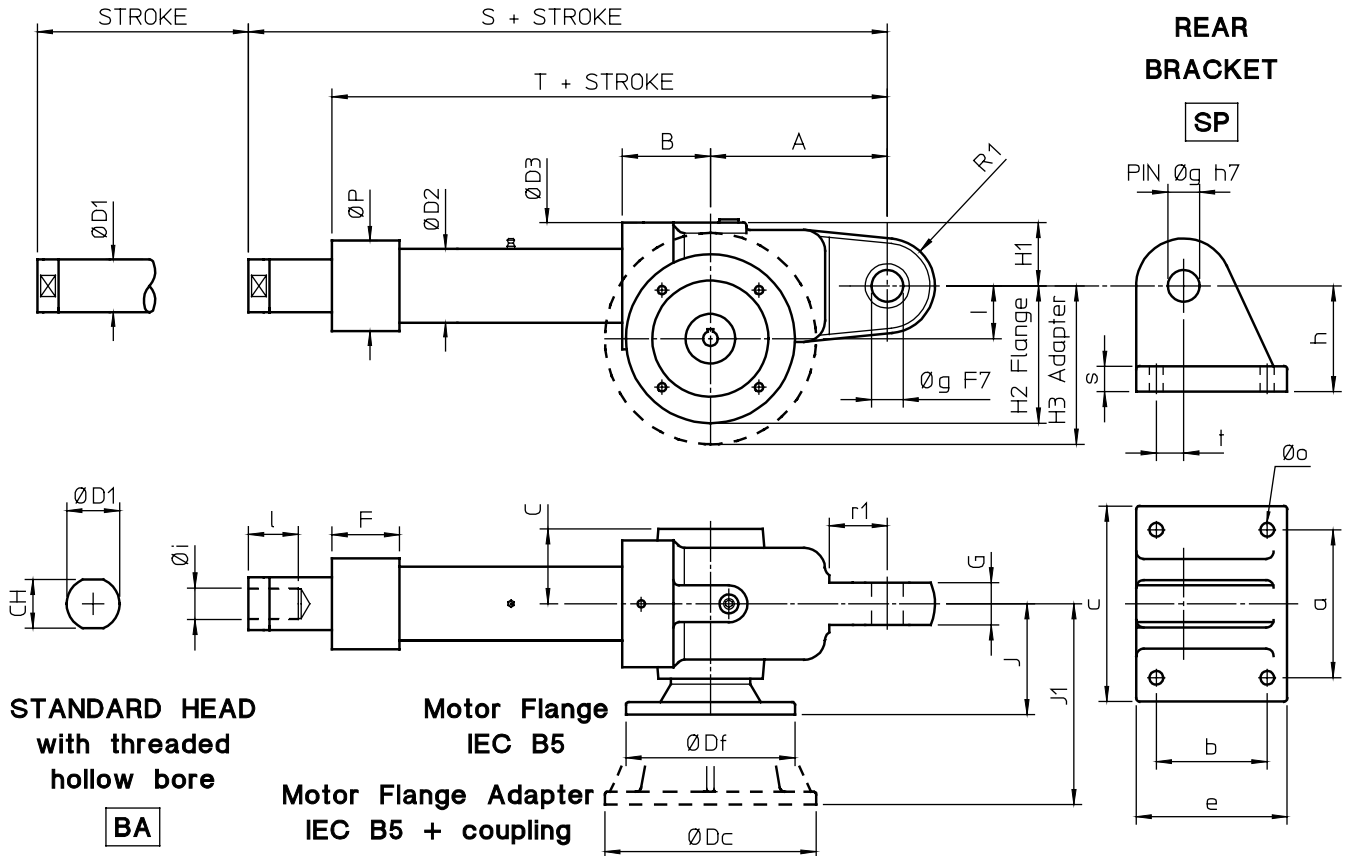
MAGNETIC REED SWITCHES FCM DIMENSIONS AND FEATURES



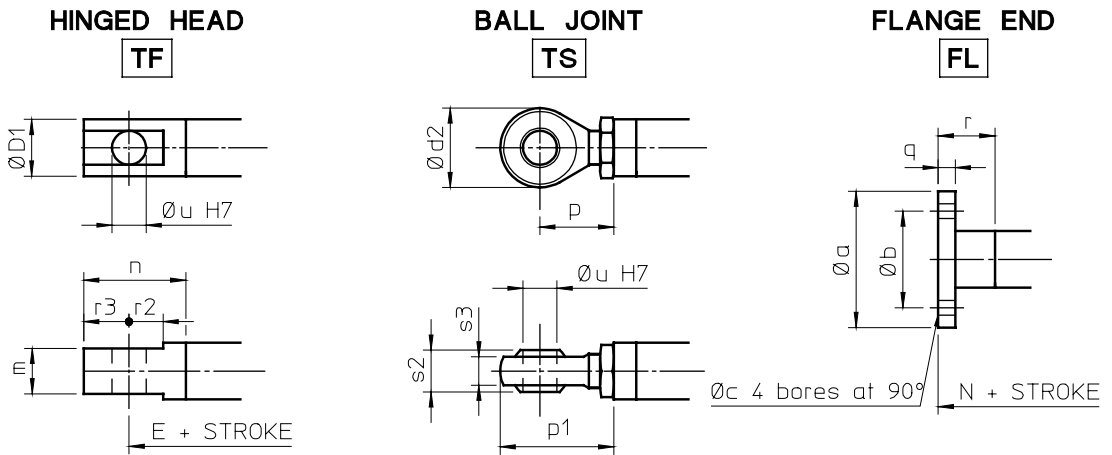
Note: - The travel length performed by an actuator equipped with FCM is reduced compared to an actuator without FCM, because the REED SWITCH FC1 gives the stopping signal to the motor before the actuator reaches its minimal retracted length. Therefore the actuator in retracted position is longer.

- Additional extra magnetic REED SWITCHES are available for intermediate positions.
- The minimal distance between the REED SWITCHES must be of at least 10 mm.
- REED SWITCH Normally Closed (NC) R = 39 mm
- REED SWITCH Change-over (NC+NO) R = 39 mm
- REED SWITCH Normally Open (NO) R = 29 mm

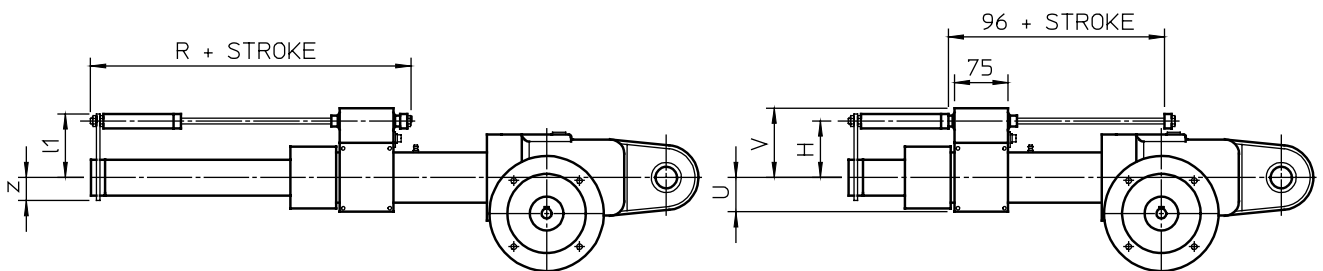
7.8 BALL SCREW LINEAR ACTUATORS Series BSA 50 – 63 – 80
AC 3-phase MOTOR – with Electric Stroke Limit Device FCE



FRONT ATTACHMENTS



ELECTRIC STROKE LIMIT DEVICE FCE
Features, operation, adjustment and wiring diagrams: on page 94



STROKE LENGTHS AVAILABLE IN STOCK

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.

- For stroke lengths longer than 800 mm, to avoid radial backlash is necessary to increase the guided length between push rod and protective tube. Dimensions **S** and **T** shall be considered increased by 200 mm for stroke lengths up to 1500 mm.
- For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt

	A	B	C	CH	Ø D1	Ø D2	Ø D3	F	G	H1	I	Ø P	R1	S
BSA 50	168	84	68	46	50	70	120	–	40	63	50	–	45	481
BSA 63	206	96	83	–	60	90	140	37	50	70	63	95	50	571
BSA 80	240	119	103	–	90	115	180	40	60	90	80	125	60	708

	T	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
BSA 50	394	140	105	185	143	30	100	M30×2	45	13	55	20	30
BSA 63	467	180	120	228	160	35	120	M36×2	55	17	58	30	30
BSA 80	611	210	122	278	180	40	130	M42×2	65	21	62	35	32

	Flange IEC		Ø Df		H2		J	Adapter+Coupling IEC		Ø Dc		H3		J1
BSA 50	63 B5	71 B5	140	160	120	130	102	80 B5; 90 B5		200		150		182
BSA 63	80 B5		200		163		100	90 B5; 100 B5; 112 B5		200 250		163 188		197 218
BSA 80	80 B5; 90 B5		200		180		119	100 B5; 112 B5		250		205		240

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	E	m	n	N
BSA 50	120	85	13	50	70	511	40	80	491
BSA 63	140	100	17	60	80	601	50	85	581
BSA 80	170	130	21	90	90	743	50	100	728

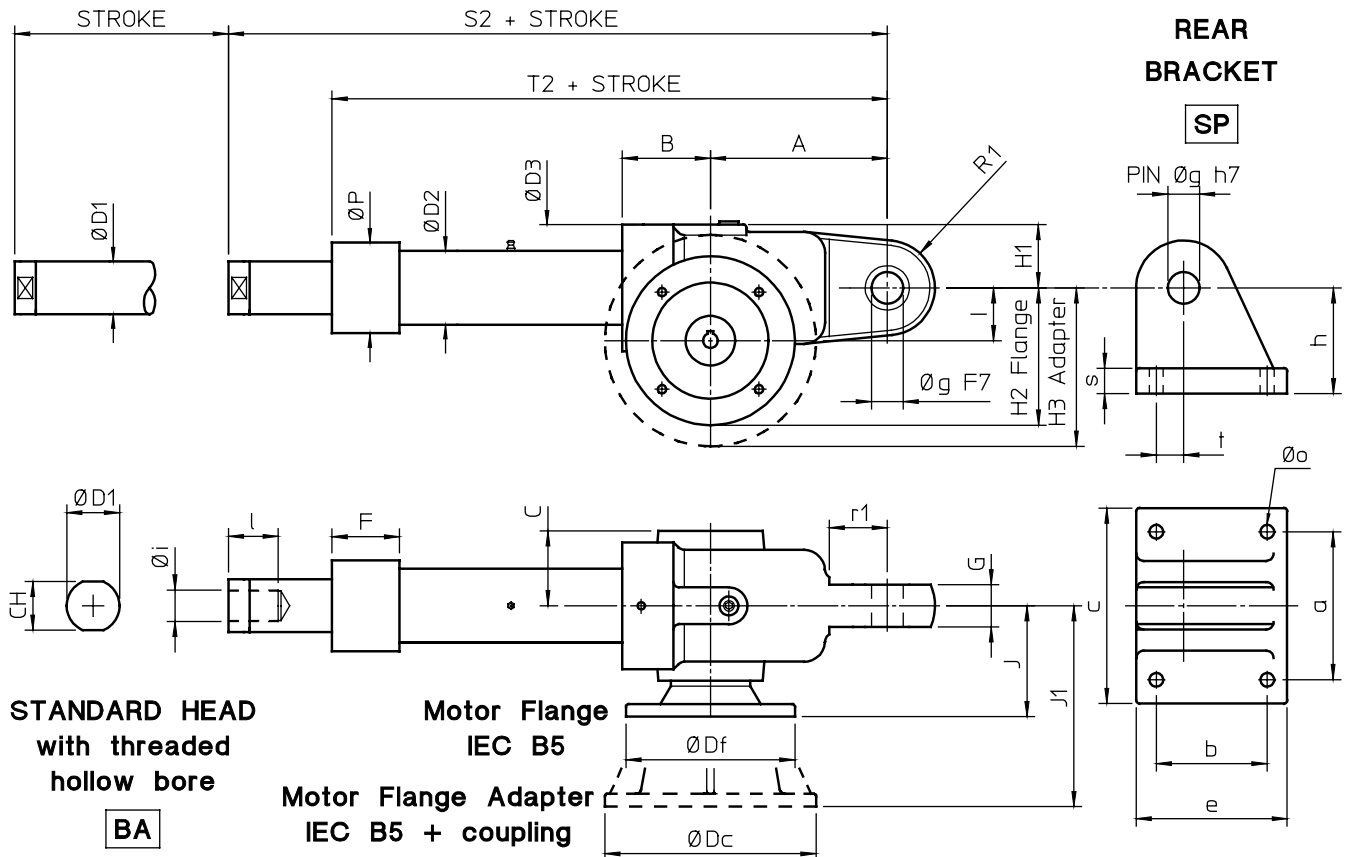
	p	p1	q	r	r2	r3	s2	s3	Ø u
BSA 50	65	100	15	30	30	30	37	25	30
BSA 63	86	126	15	30	30	35	43	28	35
BSA 80	85	130	20	40	35	45	49	33	40

ELECTRIC STROKE LIMIT DEVICE FCE DIMENSIONS

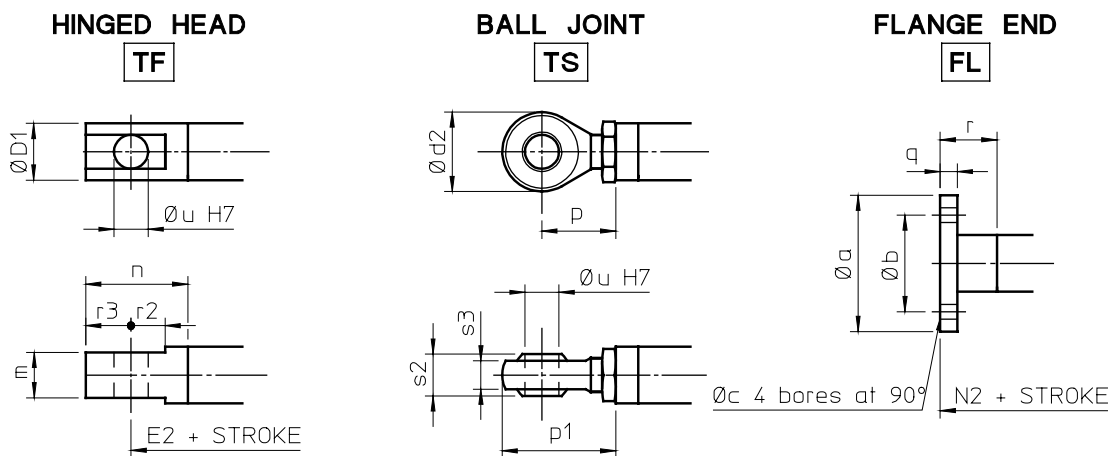
	H	R	U	V	Z	I1
BSA 50	79	196	50	97	32	89
BSA 63	89	244	60	107	37	100
BSA 80	101	240	73	119	55	113

Note: Over-all dimensions in millimetres (mm).

7.8 BALL SCREW LINEAR ACTUATORS Series BSA 50 – 63 – 80
AC 3-phase MOTOR – with Inductive Proximity Stroke Limit Device FCP

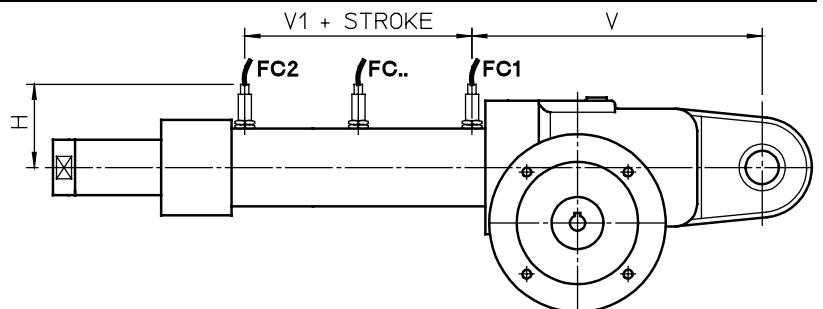


FRONT ATTACHMENTS



INDUCTIVE PROXIMITY STROKE LIMIT DEVICE FCP DIMENSIONS
 Features, operation, adjustment and wiring diagrams: on page 97

	H	V	V1
BSA 50	76.5	263	70
BSA 63	86.5	314	71
BSA 80	99	375	113



Note: Over-all dimensions in millimetres (mm).

7.8 BALL SCREW LINEAR ACTUATORS Series BSA 50 – 63 – 80
AC 3-phase MOTOR – with Inductive Proximity Stroke Limit Device FCP

STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T2** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

	A	B	C	CH	Ø D1	Ø D2	Ø D3	F	G	H1	I	Ø P	R1	S2
BSA 50	168	84	68	46	50	70	120	–	40	63	50	–	45	497
BSA 63	206	96	83	–	60	90	140	37	50	70	63	95	50	579
BSA 80	240	119	103	–	90	115	180	40	60	90	80	125	60	708

	T2	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
BSA 50	402	140	105	185	143	30	100	M30×2	45	13	55	20	30
BSA 63	471	180	120	228	160	35	120	M36×2	55	17	63	30	30
BSA 80	611	210	122	278	180	40	130	M42×2	65	21	62	35	32

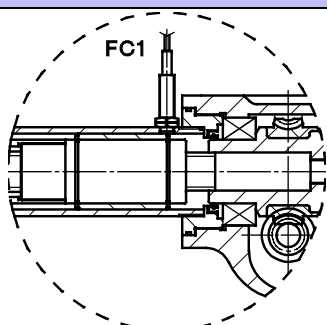
	Flange IEC		Ø Df		H2		J	Adapter+Coupling IEC		Ø Dc		H3		J1		
BSA 50	63 B5	71 B5	140	160	120	130	102	80 B5; 90 B5		200		150		182		
BSA 63	80 B5		200		163		100	90 B5	100 B5; 112 B5		200	250	163	188	197	218
BSA 80	80 B5; 90 B5		200		180		119	100 B5; 112 B5		250		205		240		

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	E2	m	n	N2
BSA 50	120	85	13	50	70	527	40	80	507
BSA 63	140	100	17	60	80	609	50	85	589
BSA 80	170	130	21	90	90	743	50	100	728

	p	p1	q	r	r2	r3	s2	s3	Ø u
BSA 50	65	100	15	30	30	30	37	25	30
BSA 63	86	126	15	30	30	35	43	28	35
BSA 80	85	130	20	40	35	45	49	33	40

INDUCTIVE PROXIMITY STROKE LIMIT DEVICE FCP FEATURES



Note: The PROXIMITY SWITCH FC1, when activated, gives a signal to stop the motor by means of electric relays. FC1 stops the motor before the actuator reaches its minimal retracted length. Actuators equipped with FCP device have retracted and extended dimensions longer than actuators equipped with FCE (electric stroke limit device) even with same stroke length.

- Additional extra PROXIMITY SWITCHES are available for intermediate positions.
- The minimal distance between the PROXIMITY SWITCHES must be of at least 25 mm.

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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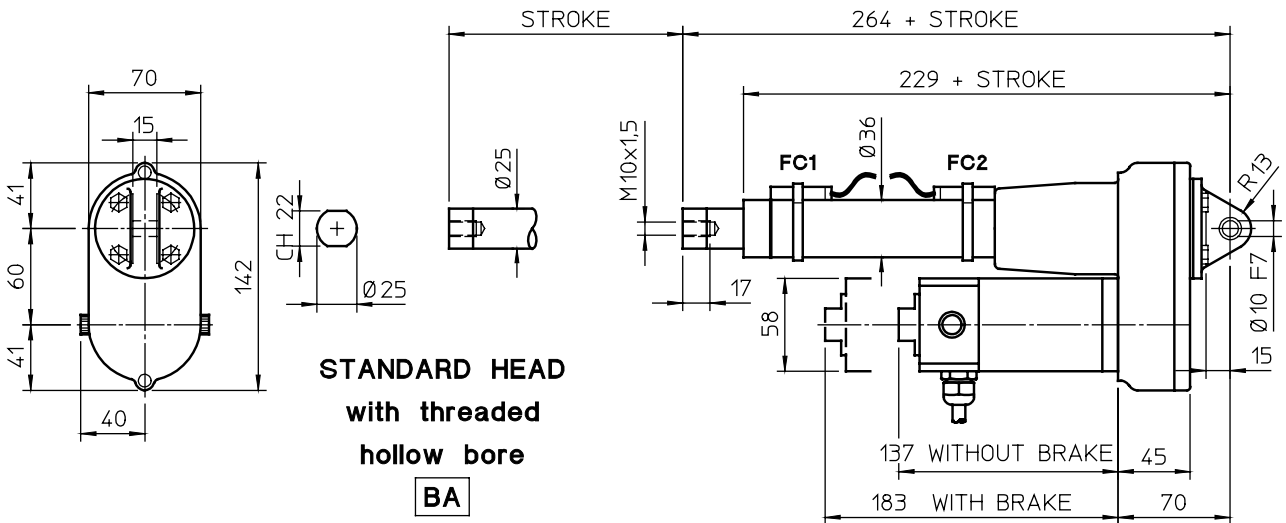
WARNING! The brake is normally closed: independent power supply line with the rated voltage is required to open it. With lower voltage the brake does not open completely.

STROKE LENGTHS AVAILABLE IN STOCK WITH MAGNETIC STROKE LIMIT DEVICE FCM

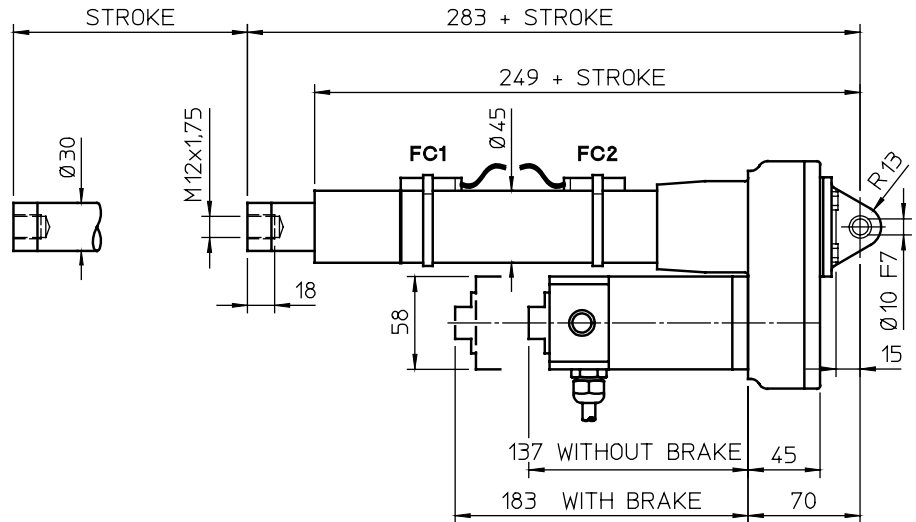
STROKE CODE	C100	C200	C300	C400	C500	C600	C700	C800
STROKE LENGTH [mm]	100	200	300	400	500	600	700	800

- 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).

RATIO RV1, RN1 – DIMENSIONS

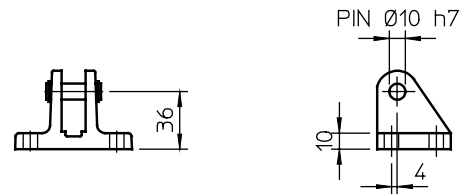
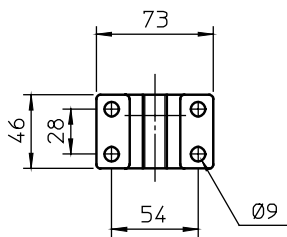


**RATIO RV2, RN2
DIMENSIONS**

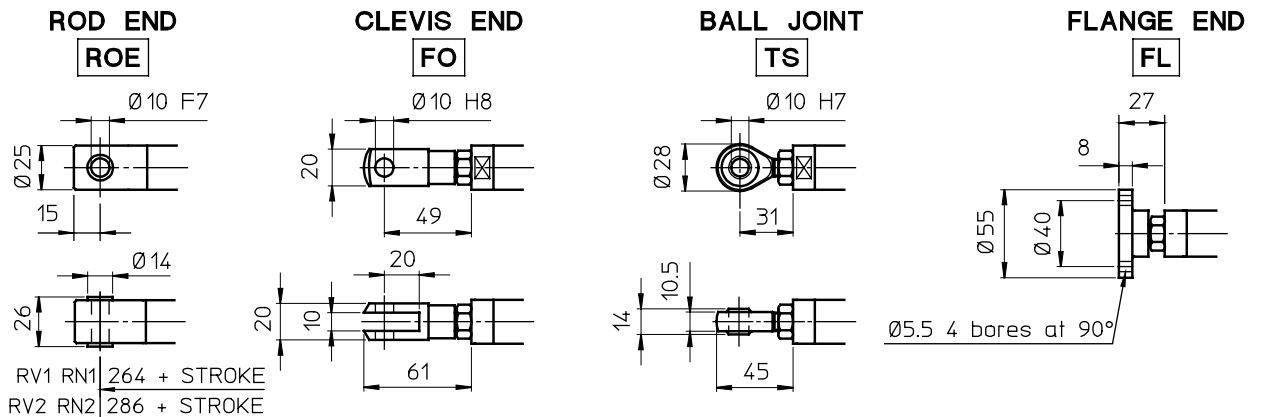


REAR BRACKET

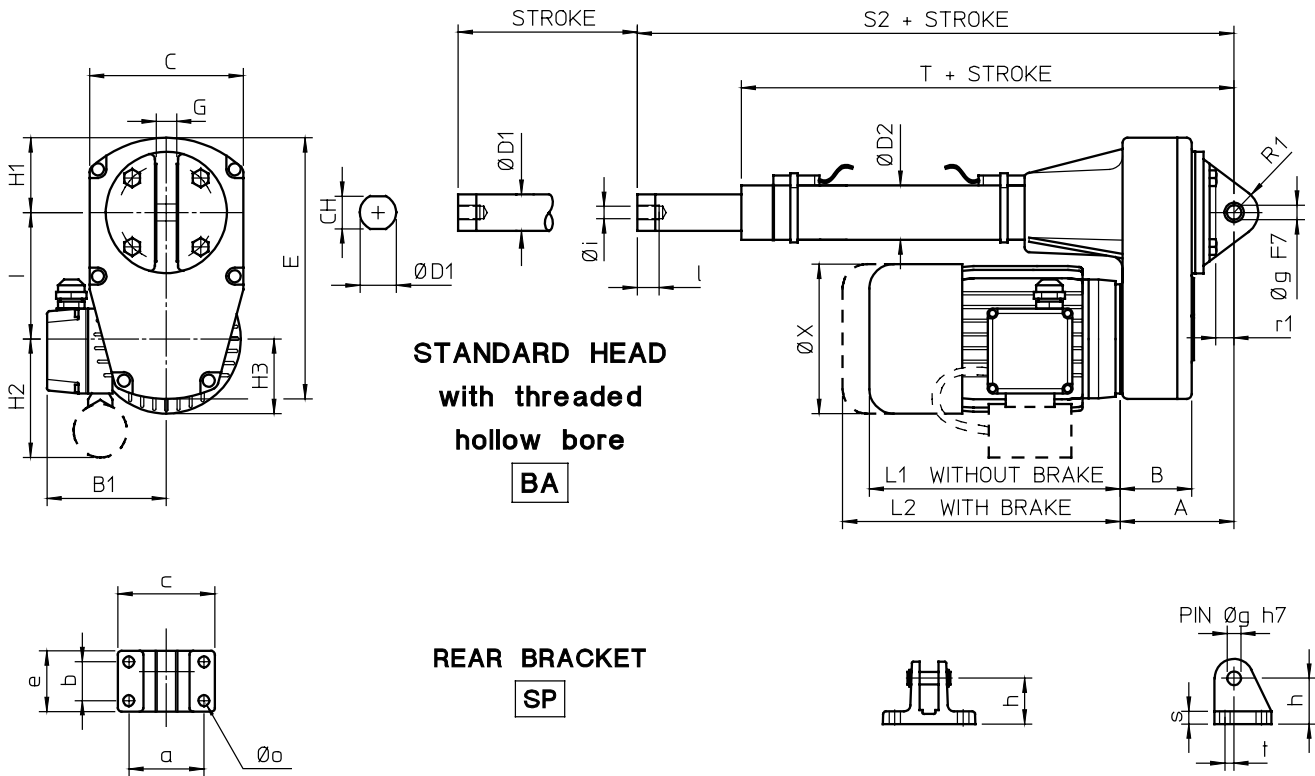
SP



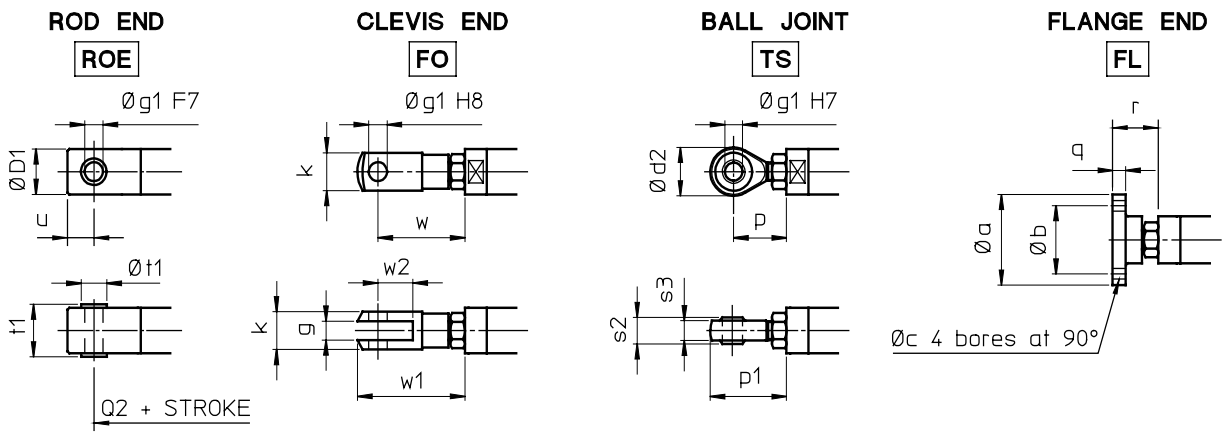
FRONT ATTACHMENTS



7.10 BALL SCREW LINEAR ACTUATORS Series UBA 1-2-3-4
AC 3-phase or 1-phase MOTOR – with Magnetic Stroke Limit Device FCM

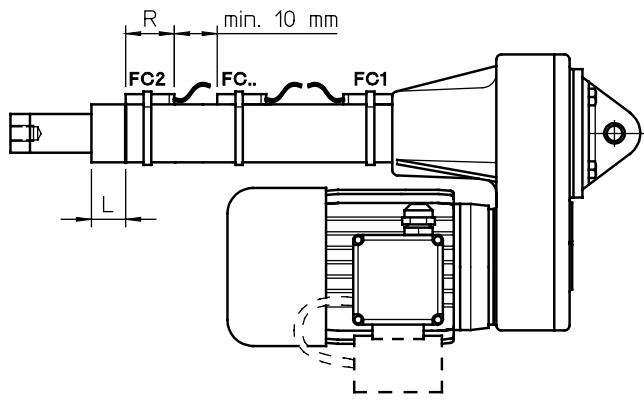


FRONT ATTACHMENTS



MAGNETIC STROKE LIMIT DEVICE FCM DIMENSIONS
 Features, operation, adjustment and wiring diagrams: on page 95

	REED SWITCHES	
	NC or (NC+NO)	NO
	L	L
UBA 1	42	47
UBA 2	51	56
UBA 3	59	64
UBA 4	69	74



7.10
BALL SCREW LINEAR ACTUATORS Series UBA 1 – 2 – 3 – 4
AC 3-phase or 1-phase MOTOR – with Magnetic Stroke Limit Device FCM
STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

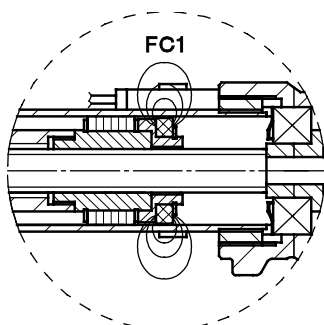
	A	B	B1	C	CH	Ø D1	Ø D2	E	G	H1	H2	H3	I	L2	R1
UBA 1	82	52	110	114	22	25	36	189	15	58	75	55	90	193	17
UBA 2	94	60	115	127	27	30	45	215	17	64	90	62	104	229	20
UBA 3	106	71	124	135	30	35	55	247	20	68	90	75	121	304	20
UBA 4	120	77	141	161	36	40	60	293	24	81	95	90	138,5	340	22

	S2	T	Ø X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
UBA 1	287	250	110	54	28	73	46	10	36	M10×1.5	17	9	18	10	4
UBA 2	307	263	123	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
UBA 3	342	296	150	72	38	90	58	14	45	M14×2	24	9	22	12	8
UBA 4	406	352	170	85	55	110	81	20	58	M20×1.5	27	11	29	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q2
UBA 1	55	40	5,5	25	28	10	10	20	31	45	287
UBA 2	60	45	6,5	30	32	12	12	24	36	52	310
UBA 3	65	50	6,5	35	36	14	14	27	36	54	348
UBA 4	80	60	8,5	40	50	20	20	40	53	78	418

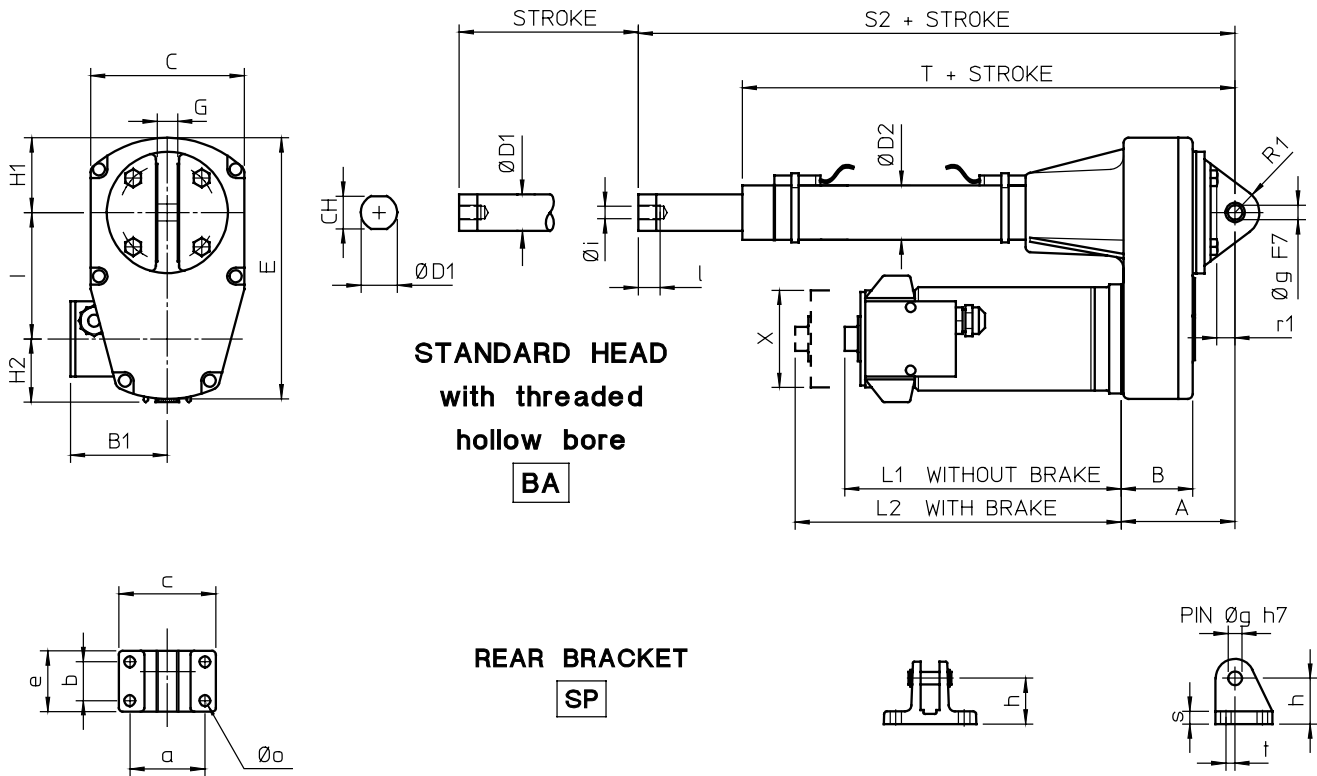
	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
UBA 1	8	27	14	11	26	14	15	49	61	20
UBA 2	9	28	16	12	32	16	18	56	70	24
UBA 3	9	32	19	14	36	18	21	65	81	28
UBA 4	10	42	25	18	42	25	27	90	115	40

MAGNETIC REED SWITCHES FCM DIMENSIONS AND FEATURES


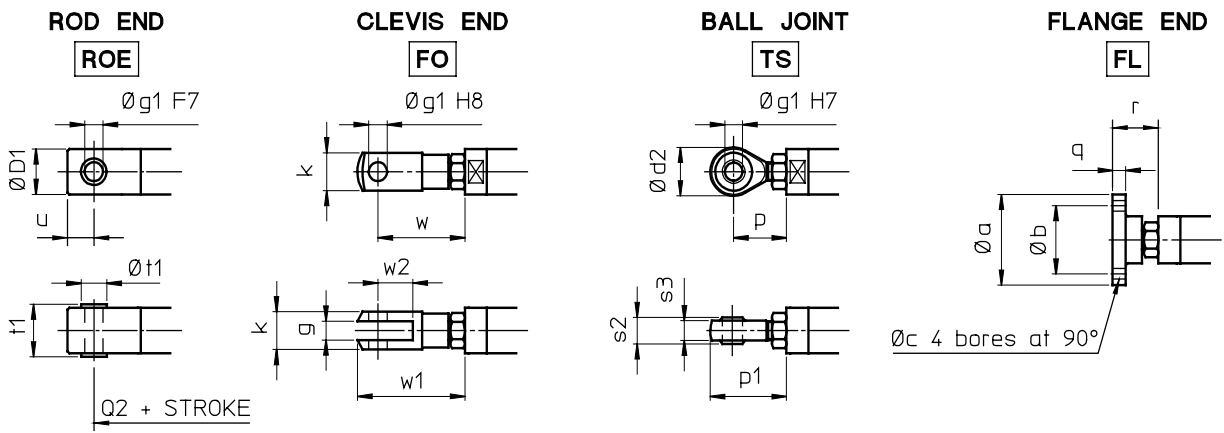
- Note:
- Additional extra magnetic REED SWITCHES are available for intermediate positions.
 - The minimal distance between the REED SWITCHES must be of at least 10 mm.
 - REED SWITCH Normally Closed (NC) R = 39 mm
 - REED SWITCH Change-over (NC+NO) R = 39 mm
 - REED SWITCH Normally Open (NO) R = 29 mm

Note: Over-all dimensions in millimetres (mm).

7.10 BALL SCREW LINEAR ACTUATORS Series UBA 1-2-3-4
DC MOTOR - with Magnetic Stroke Limit Device FCM

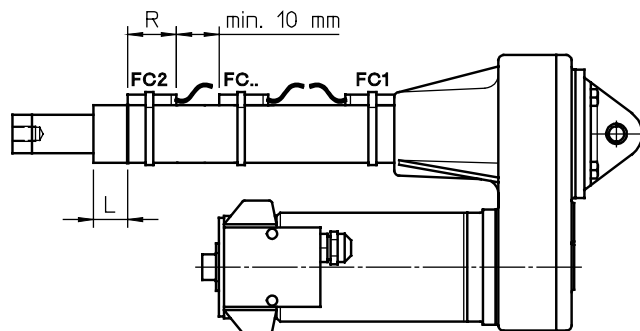


FRONT ATTACHMENTS



MAGNETIC STROKE LIMIT DEVICE FCM DIMENSIONS
 Features, operation, adjustment and wiring diagrams: on page 95

	REED SWITCHES	
	NC or (NC+NO)	NO
	L	L
UBA 1	42	47
UBA 2	51	56
UBA 3	59	64
UBA 4	69	74



7.10
BALL SCREW LINEAR ACTUATORS Series UBA 1 – 2 – 3 – 4
DC MOTOR – with Magnetic Stroke Limit Device FCM
STROKE LENGTHS AVAILABLE IN STOCK

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.
 - For stroke lengths longer than 800 mm, to avoid radial backlash it is necessary to increase the guided length between push rod and protective tube. Dimensions **S2** and **T** must be considered increased by 200 mm for stroke lengths up to 1500 mm.
 - For stroke lengths longer than 1500 mm contact SERVOMECH Technical Dpt.

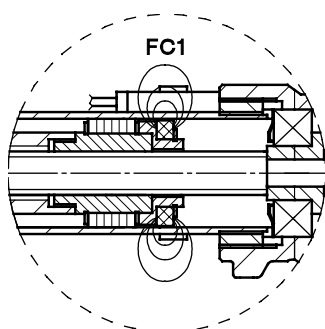
	A	B	B1	C	CH	Ø D1	Ø D2	E	G	H1	H2	I	L2	R1
UBA 1	82	52	80	114	22	25	36	189	15	58	54	90	218	17
UBA 2	94	60	80	127	27	30	45	215	17	64	54	104	270	20
UBA 3	106	71	80	135	30	35	55	247	20	68	54	121	364	20
UBA 4	120	77	118	161	36	40	60	293	24	81	69	138.5	503	22

	S2	T	Ø X	a	b	c	e	Ø g	h	Ø i	l	Ø o	r1	s	t
UBA 1	287	250	107	52	28	73	46	10	36	M10×1.5	17	9	18	10	4
UBA 2	307	263	107	62	32	80	50	12	40	M12×1.75	18	9	20	11	8
UBA 3	342	296	107	72	38	90	58	14	45	M14×2	24	9	22	12	8
UBA 4	406	352	138	85	55	110	81	20	58	M20×1.5	27	11	29	15	15

FRONT ATTACHMENTS DIMENSIONS

	Ø a	Ø b	Ø c	Ø D1	Ø d2	g	Ø g1	k	p	p1	Q2
UBA 1	55	40	5,5	25	28	10	10	20	31	45	287
UBA 2	60	45	6,5	30	32	12	12	24	36	52	310
UBA 3	65	50	6,5	35	36	14	14	27	36	54	348
UBA 4	80	60	8,5	40	50	20	20	40	53	78	418

	q	r	s2	s3	t1	Ø t1	u	w	w1	w2
UBA 1	8	27	14	11	26	14	15	49	61	20
UBA 2	9	28	16	12	32	16	18	56	70	24
UBA 3	9	32	19	14	36	18	21	65	81	28
UBA 4	10	42	25	18	42	25	27	90	115	40

MAGNETIC REED SWITCHES FCM DIMENSIONS AND FEATURES


- Note:
- Additional extra magnetic REED SWITCHES are for intermediate positions.
 - The minimal distance between the REED SWITCHES must be of at least 10 mm.
 - REED SWITCH Normally Closed (NC) R = 39 mm
 - REED SWITCH Change-over (NC+NO) R = 39 mm
 - REED SWITCH Normally Open (NO) R = 29 mm

Note: Over-all dimensions in millimetres (mm).