

## 1.4 ACME SCREW LINEAR ACTUATORS Series ATL

### Technical features table

FEATURES		SIZE	ATL 10	ATL 20	ATL 25	ATL 30	ATL 40
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	56 B14	63 B14	71 B14
Max. dynamic load	[N]		3000	4000	6000	10000	12000
Max. static load	Pull [N]		3000	4000	6000	10000	12000
	Push [N]		4000	6000	8000	12000	15000
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	RH		1 : 4	1 : 4	1 : 4	–	–
	RV		1 : 6.25	1 : 6.25	1 : 6.25	1 : 4	1 : 5
	RN		1 : 12.5	1 : 12.5	1 : 12.5	1 : 16	1 : 20
	RL		1 : 25	1 : 25	1 : 25	1 : 24	1 : 25
	RXL		1 : 50	1 : 50	1 : 50	–	–
Linear travel [mm] for 1 input shaft turn (1-start acme screw)	RH1		0.75	0.75	1	–	–
	RV1		0.48	0.48	0.64	1	1
	RN1		0.24	0.24	0.32	0.25	0.25
	RL1		0.12	0.12	0.16	0.17	0.2
	RXL1		0.06	0.06	0.08	–	–
Linear travel [mm] for 1 input shaft turn (2-starts acme screw)	RH2		2	2	2	–	–
	RV2		1.28	1.28	1.28	2	2
	RN2		0.64	0.64	0.64	0.5	0.5
	RL2		0.32	0.32	0.32	0.33	0.4
	RXL2		0.16	0.16	0.16	–	–
Weight (referred to actuator 100 mm stroke length, with lubricant, without motor)	[kg]		1.7	2.2	2.5	3.8	6.5
Extra-weight for each additional 100 mm stroke length	[kg]		0.3	0.3	0.5	0.8	0.9

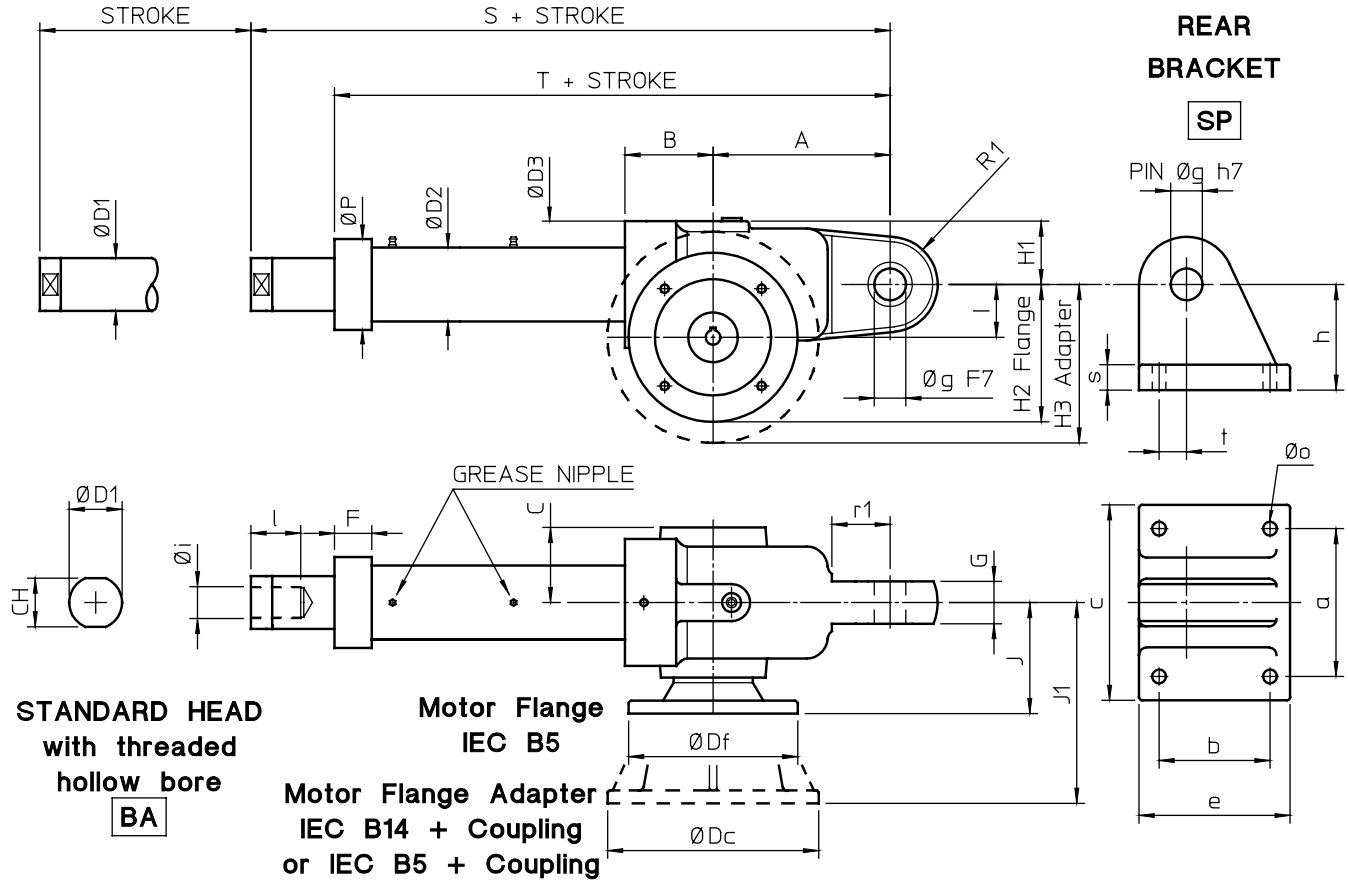
FEATURES		SIZE	ATL 50	ATL 63	ATL 80
Rod diameter	[mm]		50	60	90
Protective tube diameter	[mm]		70	90	115
Motor flange European standard IEC B5			63 B5 – 71 B5	80 B5	80 B5 – 90 B5
Motor flange adapter European standard IEC + coupling			80 B14 or 80 B5 90 B14 or 90 B5	90 B14 or 90 B5 100 B14 or 100 B5	100 B14 or 100 B5 112 B14 or 112 B5
Max. dynamic load	[kN]		25	50	80
Max. static load	pull [kN]		25	50	80
	push [kN]		25	50	100
1-start acme screw	[mm]		Tr 30 × 6	Tr 40 × 7	Tr 60 × 12
2-starts acme screw	[mm]		Tr 30 × 12 (P6)	Tr 40 × 14 (P7)	Tr 60 × 24 (P12)
Ratio	RV		1 : 6	1 : 7	1 : 8
	RN		1 : 18	1 : 14	1 : 24
	RL		1 : 24	1 : 28	1 : 32
Linear travel [mm] for 1 input shaft turn (1-start acme screw)	RV1		1	1	1.5
	RN1		0.33	0.50	0.50
	RL1		0.25	0.25	0.38
Linear travel [mm] for 1 input shaft turn (2-starts acme screw)	RV2		2	2	3
	RN2		0.67	1	1
	RL2		0.50	0.50	0.75
Weight (referred to actuator 100 mm stroke length, with lubricant, without motor)	[kg]		30	50	95
Extra-weight for each additional 100 mm stroke length	[kg]		2	3	5.5

**3.3 ACME SCREW LINEAR ACTUATORS Series ATL with AC 3-PHASE MOTORS  
PERFORMANCE with: Duty Cycle Fi = 30 % over 10 min. at 25 °C environment**

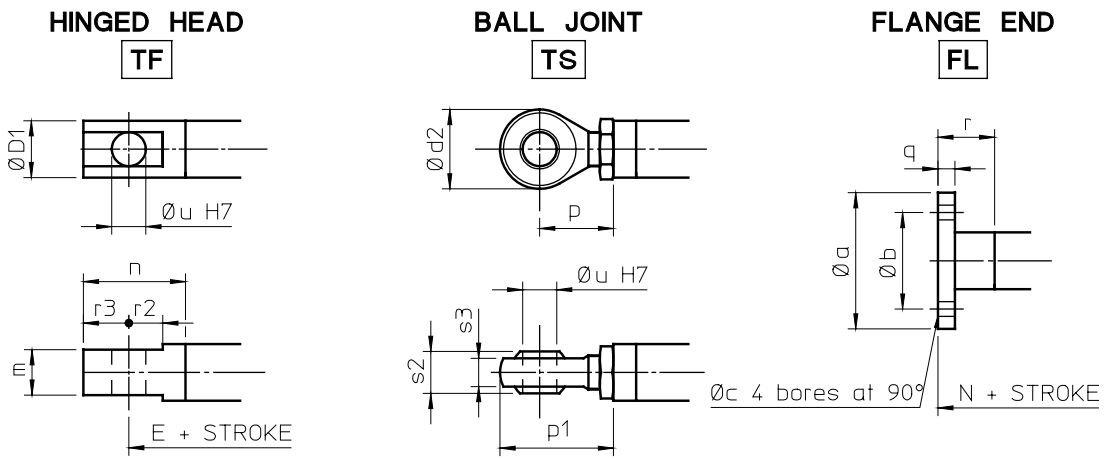
ATL 50				
LINEAR SPEED [mm/s]	DYNAMIC LOAD [kN]	RATIO	MOTOR POWER [kW] NUMBER OF POLES SPEED [rpm]	SELF-LOCKING COEFFICIENT
93	13.7	RV2	2.2 kW 2 poles 2800	0.34
46	17	RV2	1.5 kW 4 poles 1400	0.34
30	25	RN2	2.2 kW 2 poles 2800	0.26
23	25	RV1	1.5 kW 4 poles 1400	0.24
15	25	RN2	1.5 kW 4 poles 1400	0.26
11	25	RL2	0.75 kW 4 poles 1400	0.23
7.5	25	RN1	0.75 kW 4 poles 1400	0.18
5.5	25	RL1	0.75 kW 4 poles 1400	0.15

ATL 63				
LINEAR SPEED [mm/s]	DYNAMIC LOAD [kN]	RATIO	MOTOR POWER [kW] NUMBER OF POLES SPEED [rpm]	SELF-LOCKING COEFFICIENT
93	18	RV2	3 kW 2 poles 2800	0.32
46	33	RV2	3 kW 4 poles 1400	0.32
23	45	RV1	3 kW 4 poles 1400	0.21
11	40	RN1	1.5 kW 4 poles 1400	0.18
5.5	50	RL1	1.5 kW 4 poles 1400	0.13

ATL 80				
LINEAR SPEED [mm/s]	DYNAMIC LOAD [kN]	RATIO	MOTOR POWER [kW] NUMBER OF POLES SPEED [rpm]	SELF-LOCKING COEFFICIENT
140	17	RV2	4 kW 2 poles 2800	0.34
70	31	RV2	4 kW 4 poles 1400	0.34
46	41	RN2	4 kW 2 poles 2800	0.24
35	48	RV1	4 kW 4 poles 1400	0.23
23	73	RN2	4 kW 4 poles 1400	0.24
17	80	RL2	4 kW 4 poles 1400	0.22
11	80	RN1	4 kW 4 poles 1400	0.16
8.5	80	RL1	3 kW 4 poles 1400	0.15

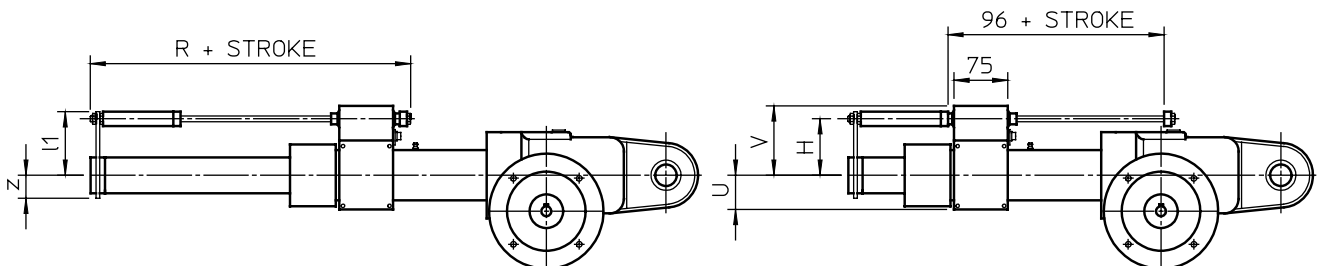


**FRONT ATTACHMENTS**



**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	∅ D1	∅ D2	∅ D3	F	G	H1	I	∅ P	R1	S
<b>ATL 50</b>	168	84	68	46	50	70	120	–	40	63	50	–	45	405
<b>ATL 63</b>	206	96	83	–	60	90	140	37	50	70	63	95	50	516
<b>ATL 80</b>	240	119	103	–	90	115	180	40	60	90	80	125	60	603

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

	Flange IEC	∅ Df	H2	J	Adapter+Coupling IEC	∅ Dc	H3	J1
<b>ATL 50</b>	63 B5	140	120	102	80 B14 – 80 B5	120 – 200	110 – 150	176 – 182
	71 B5	160	130	102	90 B14 – 90 B5	140 – 200	120 – 150	182
<b>ATL 63</b>	80 B5	200	163	100	90 B14 – 90 B5	140 – 200	133 – 163	200
					100/112 B14 – B5	160 – 250	143 – 188	220
<b>ATL 80</b>	80 B5; 90 B5	200	180	119	100/112 B14 – B5	160 – 250	160 – 205	240

**FRONT ATTACHMENTS DIMENSIONS**

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

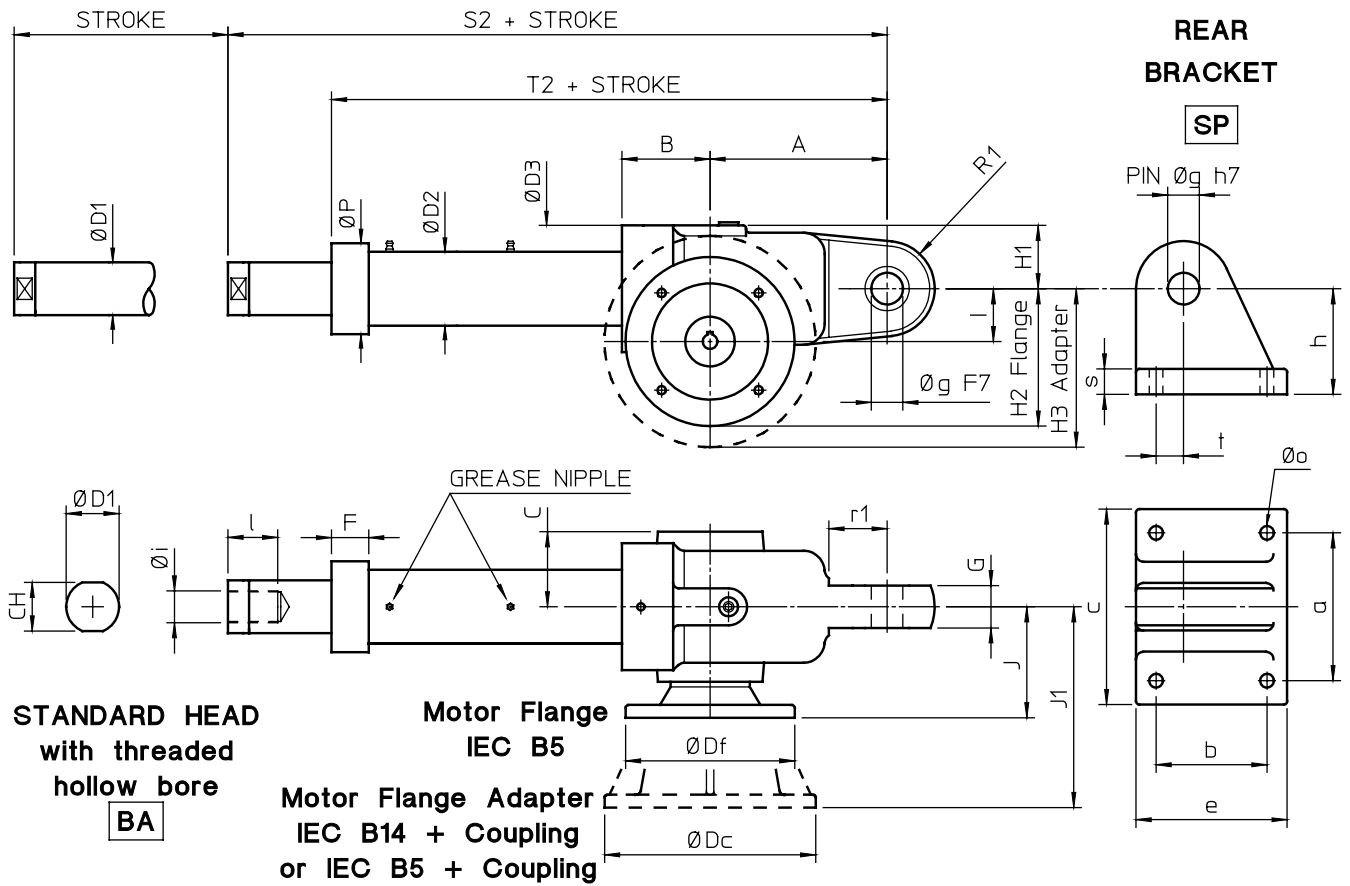
	p	p1	q	r	r2	r3	s2	s3	∅ u
<b>ATL 50</b>	65	100	15	30	30	30	37	25	30
<b>ATL 63</b>	86	126	15	30	30	35	43	28	35
<b>ATL 80</b>	85	130	20	40	35	45	49	33	40

**ELECTRIC STROKE LIMIT DEVICE FCE DIMENSIONS**

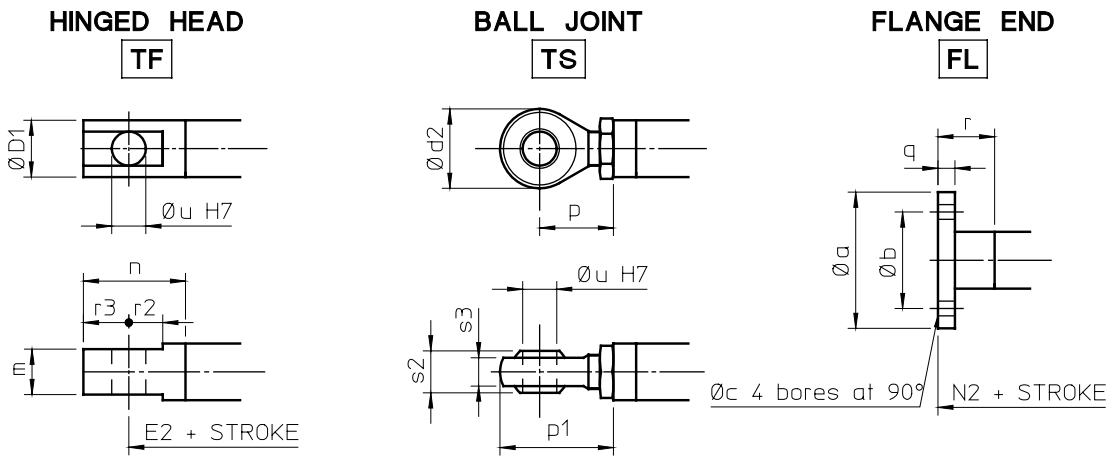
	H	R	U	V	Z	I1
<b>ATL 50</b>	79	188	50	97	32	89
<b>ATL 63</b>	89	237	60	107	37	100
<b>ATL 80</b>	101	237	73	119	55	113

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**

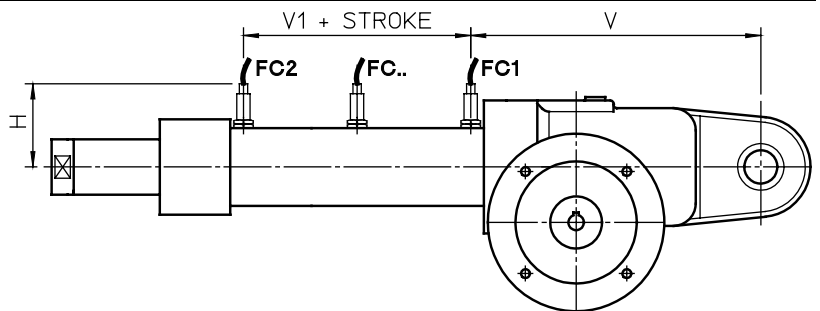


**FRONT ATTACHMENTS**



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

	H	V	V1
<b>ATL 50</b>	76.5	263	15
<b>ATL 63</b>	86.5	314	40
<b>ATL 80</b>	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
<b>STROKE LENGTH [mm]</b>	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	∅ D1	∅ D2	∅ D3	F	G	H1	I	∅ P	R1	S2
<b>ATL 50</b>	168	84	68	46	50	70	120	–	40	63	50	–	45	443
<b>ATL 63</b>	206	96	83	–	60	90	140	37	50	70	63	95	50	554
<b>ATL 80</b>	240	119	103	–	90	115	180	40	60	90	80	125	60	647

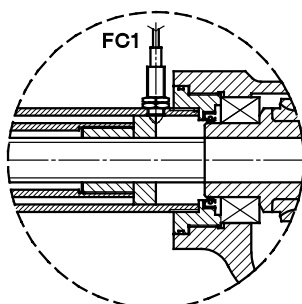
	T2	a	b	c	e	∅ g	h	∅ i	l	∅ o	r1	s	t
<b>ATL 50</b>	345	140	105	185	143	30	100	M30×2	45	13	55	20	30
<b>ATL 63</b>	438	180	120	228	160	35	120	M36×2	55	17	63	30	30
<b>ATL 80</b>	531	210	122	278	180	40	130	M42×2	65	21	62	35	32

	Flange IEC	∅ Df	H2	J	Adapter+Coupling IEC	∅ Dc	H3	J1
<b>ATL 50</b>	63 B5	140	120	102	80 B14 – 80 B5	120 – 200	110 – 150	176 – 182
	71 B5	160	130	102	90 B14 – 90 B5	140 – 200	120 – 150	182
<b>ATL 63</b>	80 B5	200	163	100	90 B14 – 90 B5	140 – 200	133 – 163	200
					100/112 B14 – B5	160 – 250	143 – 188	220
<b>ATL 80</b>	80 B5; 90 B5	200	180	119	100/112 B14 – B5	160 – 250	160 – 205	240

**FRONT ATTACHMENTS DIMENSIONS**

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

	p	p1	q	r	r2	r3	s2	s3	∅ u
<b>ATL 50</b>	65	100	15	30	30	30	37	25	30
<b>ATL 63</b>	86	126	15	30	30	35	43	28	35
<b>ATL 80</b>	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.