

Level compensator LC



- ▶ Adjust differences in levels, for example on lifting devices with several suction cups.
- ▶ Less demand for exact positioning of vacuum handling device.
- ▶ Provides a certain degree of shock and vibration absorption.
- ▶ Allows for soft placement of cups on sensitive or thin objects.
- ▶ Non-rotational design, suitable for use with oval suction cups.
- ▶ Wide range of thread connections and stroke lengths.

Technical data

Description	Unit	Value
Material		Al, SS
Temperature range	°C	0-60

Technical data, specific

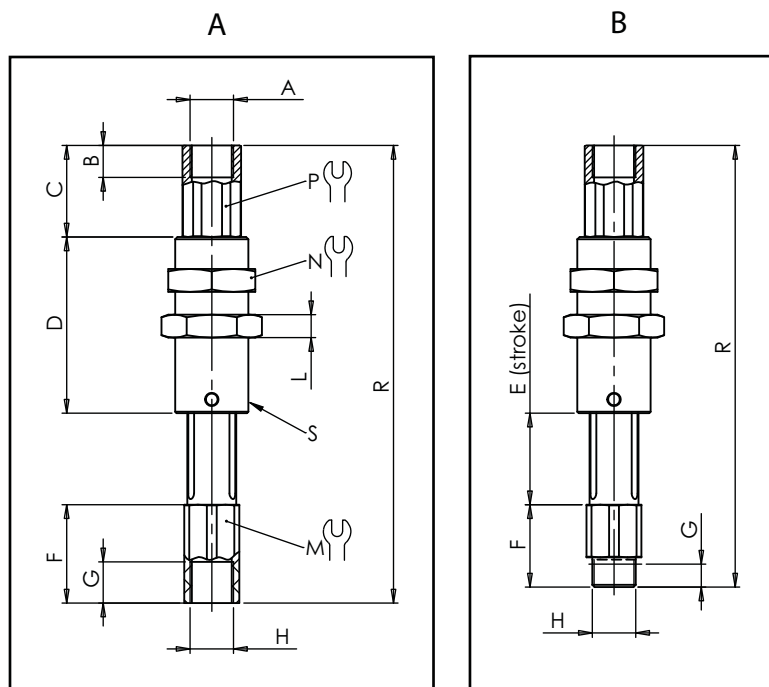
Art. No.	Spring force N/mm	Internal force N	End force N	Weight g	Volume cm ³	Connection	Action range/ Stroke mm	Max. recommended suction cup
0124947	0.21	1.5	3.6	10	0.22	M5	10	Ø25mm (Area: 500mm ²)
0124948	0.21	1.5	3.6	10	0.22	M5	10	Ø25mm (Area: 500mm ²)
0124949	0.085	1.6	3.7	14	0.22	M5	25	Ø25mm (Area: 500mm ²)
0124950	0.085	1.6	3.7	14	0.42	M5	25	Ø25mm (Area: 500mm ²)
0124951	0.27	3.6	9.0	36	1.14	G1/8"	20	Ø50mm (Area: 2000mm ²)
0124952	0.27	3.6	9.0	36	1.14	G1/8"	20	Ø50mm (Area: 2000mm ²)
0124953	0.15	4.3	9.5	46	1.63	G1/8"	35	Ø50mm (Area: 2000mm ²)
0124954	0.15	4.3	9.5	46	1.83	G1/8"	35	Ø50mm (Area: 2000mm ²)
0124955	0.27	4.1	11	64	2.47	G1/4"	25	Ø80mm (Area: 5000mm ²)
0124956	0.27	4.1	11	64	2.8	G1/4"	25	Ø80mm (Area: 5000mm ²)
0124957	0.14	4.3	11.4	90	4.1	G1/4"	50	Ø80mm (Area: 5000mm ²)
0124958	0.14	4.3	11.4	90	4.4	G1/4"	50	Ø80mm (Area: 5000mm ²)
0124959	0.27	5.6	16.5	164	6.6	G3/8"	40	Ø125mm (Area: 12000mm ²)
0124960	0.27	5.6	16.5	164	7.4	G3/8"	40	Ø125mm (Area: 12000mm ²)
0124961	0.14	6	17	231	11.16	G3/8"	80	Ø125mm (Area: 12000mm ²)
0124962	0.14	6	17	231	11.96	G3/8"	80	Ø125mm (Area: 12000mm ²)

Ordering information

Description	Art. No.
Level compensator LC10-F0510	0124947
Level compensator LC10-M0510	0124948
Level compensator LC10-F0525	0124949
Level compensator LC10-M0525	0124950
Level compensator LC16-F1820	0124951
Level compensator LC16-M1820	0124952
Level compensator LC16-F1835	0124953
Level compensator LC16-M1835	0124954
Level compensator LC20-F1425	0124955
Level compensator LC20-M1425	0124956
Level compensator LC20-F1450	0124957
Level compensator LC20-M1450	0124958
Level compensator LC25-F3840	0124959
Level compensator LC25-M3840	0124960
Level compensator LC25-F3880	0124961
Level compensator LC25-M3880	0124962

Dimensions mm

	Art. No.	A	B	C	D	E	F	G	H	L	M	N	P	R	S
A	0124947	M5	5.5	17	23	10	8	5.5	M5	3.5	8	13	8	58	M10x1
B	0124948	M5	5.5	17	23	10	9.5	4.5	M5	3.5	8	13	8	59.5	M10x1
A	0124949	M5	5.5	17	42.5	25	8	5.5	M5	3.5	8	13	8	92.5	M10x1
B	0124950	M5	5.5	17	42.5	25	9.5	4.5	M5	3.5	8	13	8	94	M10x1
A	0124951	G1/8"	7	20	38.5	20	21.5	9	G1/8"	5	12	19	12	100	M16x1
B	0124952	G1/8"	7	20	38.5	20	18	5	G1/8"	5	12	19	12	96.5	M16x1
A	0124953	G1/8"	7	20	58.5	35	21.5	9	G1/8"	5	12	19	12	135	M16x1
B	0124954	G1/8"	7	20	58.5	35	18	5	G1/8"	5	12	19	12	131.5	M16x1
A	0124955	G1/4"	10	23	50	25	15	10	G1/4"	6	16	24	16	113	M20x1.5
B	0124956	G1/4"	10	23	50	25	14	6.5	G1/4"	6	16	24	16	112	M20x1.5
A	0124957	G1/4"	10	23	82.5	50	15	10	G1/4"	6	16	24	16	170.5	M20x1.5
B	0124958	G1/4"	10	23	82.5	50	14	6.5	G1/4"	6	16	24	16	169.5	M20x1.5
A	0124959	G3/8"	11	33	71	40	15	11	G3/8"	8	22	32	22	159	M25x1.5
B	0124960	G3/8"	11	33	71	40	18	9.5	G3/8"	8	22	32	22	162	M25x1.5
A	0124961	G3/8"	11	33	121	80	15	11	G3/8"	8	22	32	22	249	M25x1.5
B	0124962	G3/8"	11	33	121	80	18	9.5	G3/8"	8	22	32	22	252	M25x1.5



Level compensators



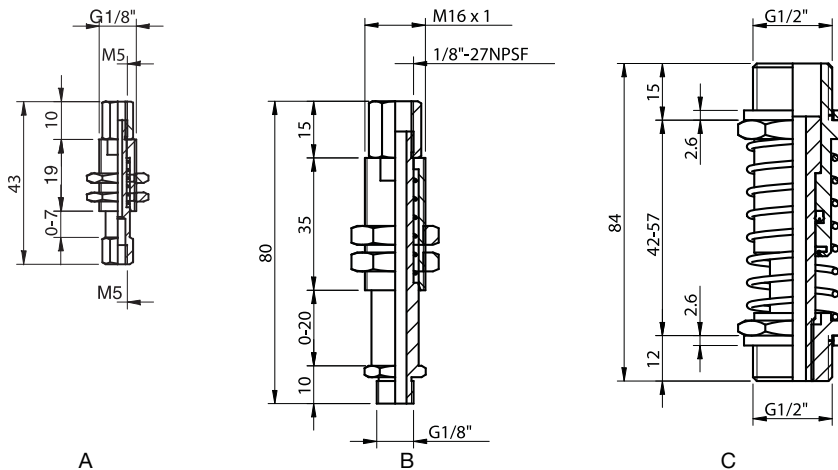
- ▶ Adjust differences in levels, for example on lifting devices with several suction cups on a frame.
- ▶ A level compensator is often advantageous since it places less demand on exact vertical positioning, for example on a handling robot.
- ▶ The level compensator provides a certain degree of shock absorption.
- ▶ Level Compensator G1/2" with stiffer spring is identical to standard level compensator G1/2" except for thicker spring material. Suits e.g. robot vision systems in applications such as auto-racking.

Technical data

Description	Unit	Value			
		M5	G1/8"	G1/2"	G1/2" with stiffer spring
Weight	g	10	70	160	196
Temperature range	°C	-20-120	-20-120	-20-90	-20-90
Stroke	mm	0-7	0-20	0-15	0-15
Max. Load	kg	3.0	25	50	50
Material		SS/CuZn	SS/CuZn	SS	SS

Ordering information

	Description	Art. No.
A	Level compensator M5	3350068
B	Level compensator G1/8"	3350069
C	Level compensator G1/2"	3350071
C	Level compensator G1/2" with stiffer spring	0114291



Level compensator LC30



- ▶ Tailor made for the Vacuum Gripper System, VGS™, but can also be used together with other Piab products.
- ▶ Developed for use with standard profile systems.
- ▶ Easy installation with the option of fine adjustments and positioning of the suction cup.
- ▶ Non-rotational for use with, for example, oval suction cups. Can easily be made rotational.
- ▶ Quiet and reliable level compensation with load protection and shock absorption.

Accessories

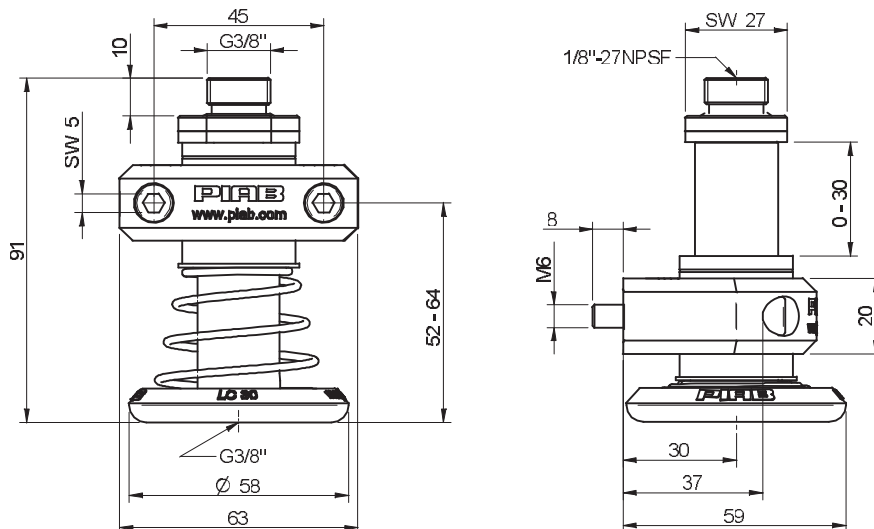
Technical data

Description	Unit	Value
Spring force	N	5-42
Stroke	mm	30
Weight	g	220
Volume, internal	cm ³	5
Maximum load, vertical	N	700
Temperature range	C°	10-50
Adjustable in height	mm	12
Adjustable in rotational direction	°	0-360
Material		Al, NBR, PA, POM, PUR, SS

Ordering information

Description	Art. No.
Level compensator LC30	0111552

LC 30 is delivered with two MC6S M6x45 fzb screws.



Ball joints



- ▶ Ball joint fittings could be used when lifting sheet metal with a device using several suction cups.
- ▶ To avoid bending stress a suction cup can be fitted with a balljoint.

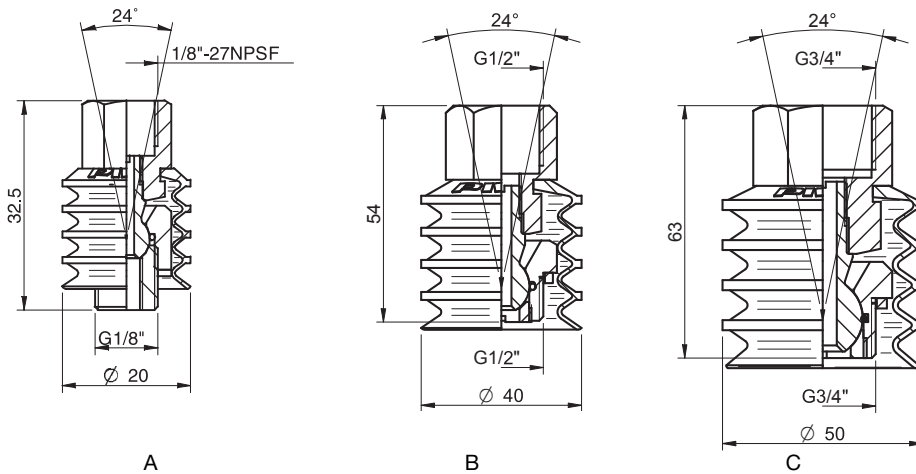
Technical data

Description	Unit	Value		
		G1/8"	G1/2"	G3/4"
Weight	g	20	110	200
Temperature range	°C	-40-110	-40-110	-40-110
Angle	°	±12	±12	±12
Max. Load	kg	25	50	150
Material		SS/CR/PA/NBR	SS/CR/PA/NBR	SS/CR/PA/NBR

Ordering information

	Description	Art. No.
A	Ball joint G1/8"	3350065
B	Ball joint G1/2"	3350066
C	Ball joint G3/4"	3350067

Ball joint G1/2" cannot be used directly with the Suction cup F75 G1/2" female with cone valve.



Angle adaptors



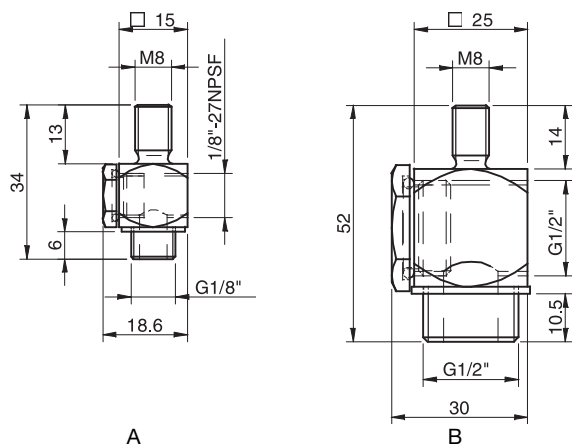
- ▶ Angle adaptors facilitate vacuum connections when space and headroom are limited.
- ▶ Can also be used as T-connectors.

Technical data

Description	Unit	Value	
		G1/8" – M8	G1/2" –M8
Weight	g	20	120
Temperature range	°C	-40-110	-40-110
Material		CuZn/NBR/PA	SS/NBR/PA

Ordering information

Description	Art. No.
A Angle adapter G1/8"–M8	3150053
B Angle adapter G1/2"–M8	3150054



T-slot adapters



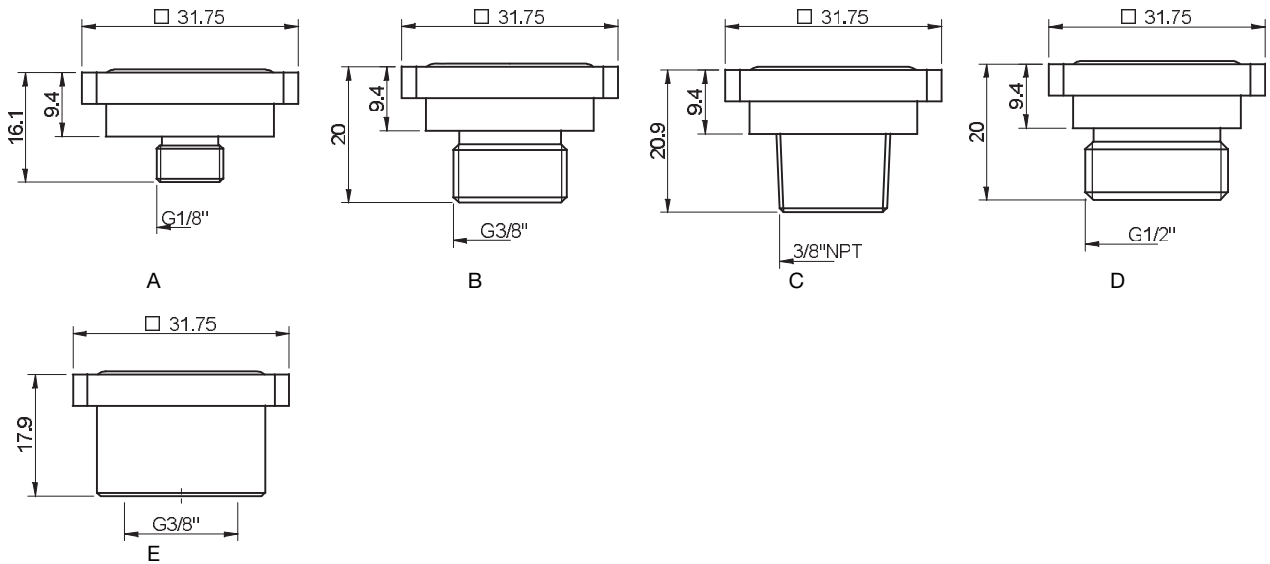
- ▶ The Piab T-slot adapter enables Piab suction cups to mount to existing boom assemblies and end-of-arm tooling used in the automotive industry. The T-slot adapter threads into the Piab cup fitting and can then be mounted accordingly.
- ▶ The suction cups can be changed quickly and with great ease.
- ▶ Non-rotating feature — good when using oval suction cups.

Technical data

Description	Unit	Value
Weight	g	17–22
Working temperature	°C	-20–90
Material		Al/NBR

Ordering information

	Description	Art. No.
A	T-slot adapter G1/8" male	0104108
B	T-slot adapter G3/8" male	0104110
C	T-slot adapter 3/8" NPT	0104111
D	T-slot adapter G1/2" male	0104112
E	T-slot adapter G3/8" female	0107942



Ball joint fitting



- ▶ Fitted to a suction cup to avoid bending stress.
- ▶ Non-leaking design to work with Vacuum Check Valve and Vacustat.
- ▶ Available in a loose-fit, a locking version or one with 5° movement.

Technical data

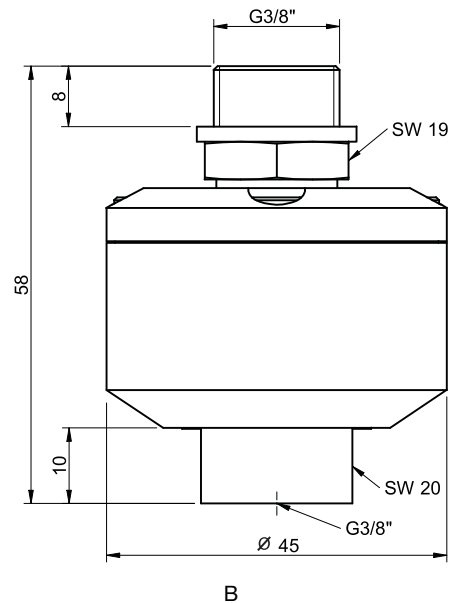
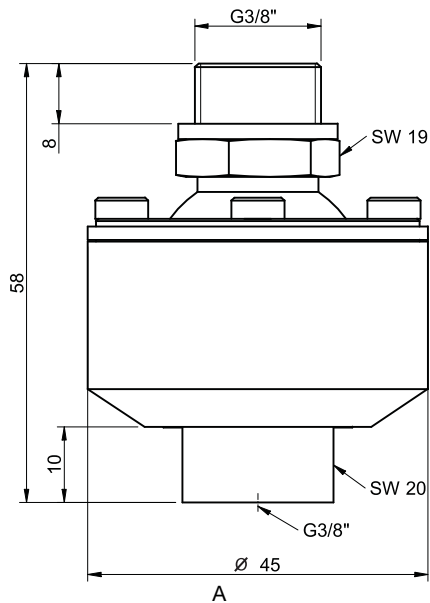
Description	Unit	Value
Material		SS, Zn, CuZn, NBR
Temperature range	°C	-30-70
Weight	g	348-393

Technical data, specific

Description	Unit	Value		
		0110636	0121177	0110635
Angular movement	°	±20	±5	±20

Ordering information

	Description	PMAT No.	Art. No.
A	Ball joint fitting G3/8"	X7016	0110635
A	Ball joint fitting G3/8", locking	X7018	0110636
B	Ball joint fitting G3/8", limited movement	X7026	0121177



Ordering information, accessories

Description	Art. No.
Adapter fitting G3/8" male x 3/8" NPT male	0121240

Height adjuster



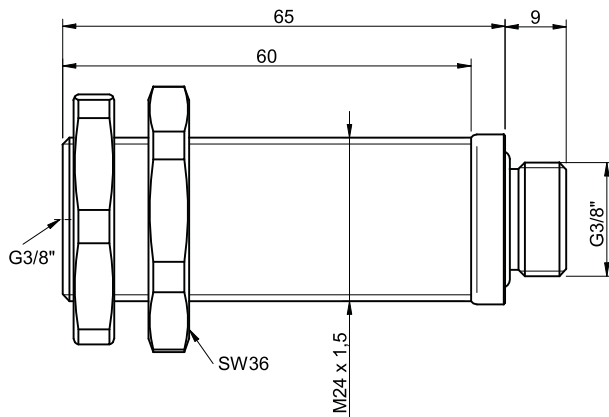
- ▶ Provides a height extension between the tooling and the suction cup.
- ▶ Adjustable in height.
- ▶ Can be used with Suction cup extension.

Technical data

Description	Unit	Value
Material		Al, NBR, SS
Temperature range	°C	-30-70
Weight	g	130
Volume, internal	cm ³	32
Action range, adjustable length	mm	48

Ordering information

Description	Art. No.
Height adjuster G3/8" male x G3/8" female	0121122



Ordering information, accessories

Description	Art. No.
Adapter fitting G3/8" male x 3/8" NPT male	0121240

Suction cup extension



- ▶ Solid extension for mounting a suction cup.
- ▶ Several heights available.
- ▶ Can be used with Height adjuster.

Technical data

Description	Unit	Value
Material		AL, NBR
Temperature range	°C	-30-70
Max. load, radial	N	400
Max. load, axial	N	700
Radial deflection at 400 N	mm	<1

Operational lifetime: 10,000,000 cycles at max. load

Technical data, specific - G threads

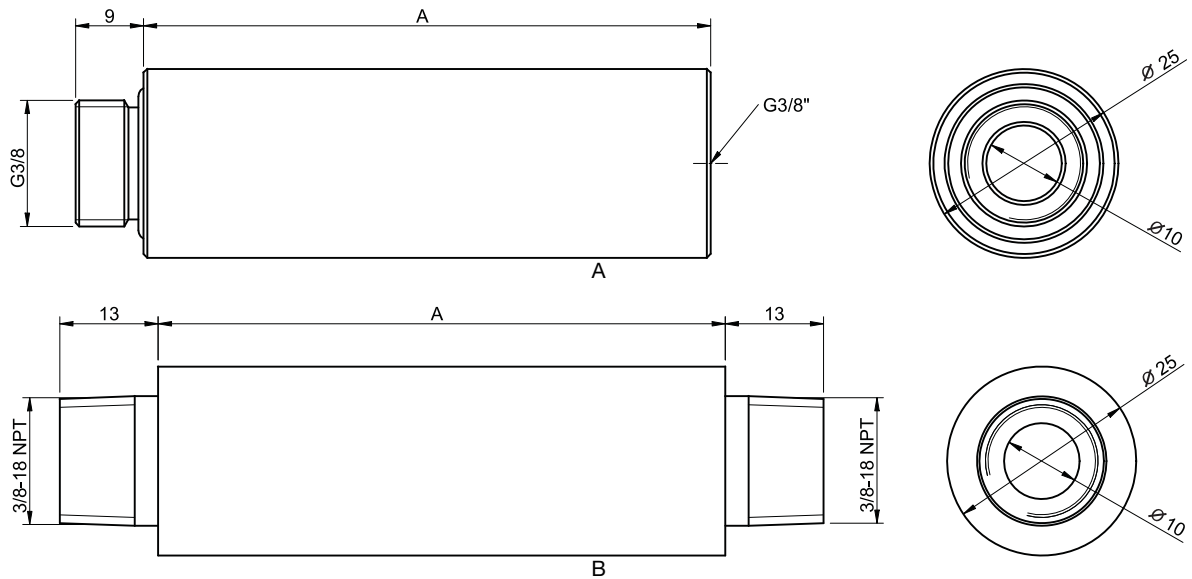
Description	Unit	Value					
		0110653	0110655	0110657	0110659	0110661	0110663
Weight	g	29	56	84	123	168	223
Volume, internal	cm ³	3	5	7	9	12	16

Technical data, specific - NPT threads

Description	Unit	Value					
		0121138	0121139	0121140	0121141	0121142	0121143
Weight	g	39	66	94	133	178	233
Volume, internal	cm ³	3	5	7	9	12	16

Ordering information

	Description	PMAT No.	Art. No.
A	Suction cup extension 25, G3/8" male x G3/8" female	X7044	0110653
A	Suction cup extension 50, G3/8" male x G3/8" female	X7046	0110655
A	Suction cup extension 75, G3/8" male x G3/8" female	X7051	0110657
A	Suction cup extension 110, G3/8" male x G3/8" female	X7054	0110659
A	Suction cup extension 150, G3/8" male x G3/8" female	X7058	0110661
A	Suction cup extension 200, G3/8" male x G3/8" female	X7062	0110663
B	Suction cup extension 25, 3/8" NPT male x 3/8" NPT male	--	0121138
B	Suction cup extension 50, 3/8" NPT male x 3/8" NPT male	--	0121139
B	Suction cup extension 75, 3/8" NPT male x 3/8" NPT male	--	0121140
B	Suction cup extension 110, 3/8" NPT male x 3/8" NPT male	--	0121141
B	Suction cup extension 150, 3/8" NPT male x 3/8" NPT male	--	0121142
B	Suction cup extension 200, 3/8" NPT male x 3/8" NPT male	--	0121143



Dimensions

Description	A mm
Suction cup extension 25	25
Suction cup extension 50	50
Suction cup extension 75	75
Suction cup extension 110	110
Suction cup extension 150	150
Suction cup extension 200	200

Ordering information, accessories

Description	Art. No.
Height adjuster G3/8" male x G3/8" female	0121122