

MA30 to MA900

Stepless adjustment

Adjustable

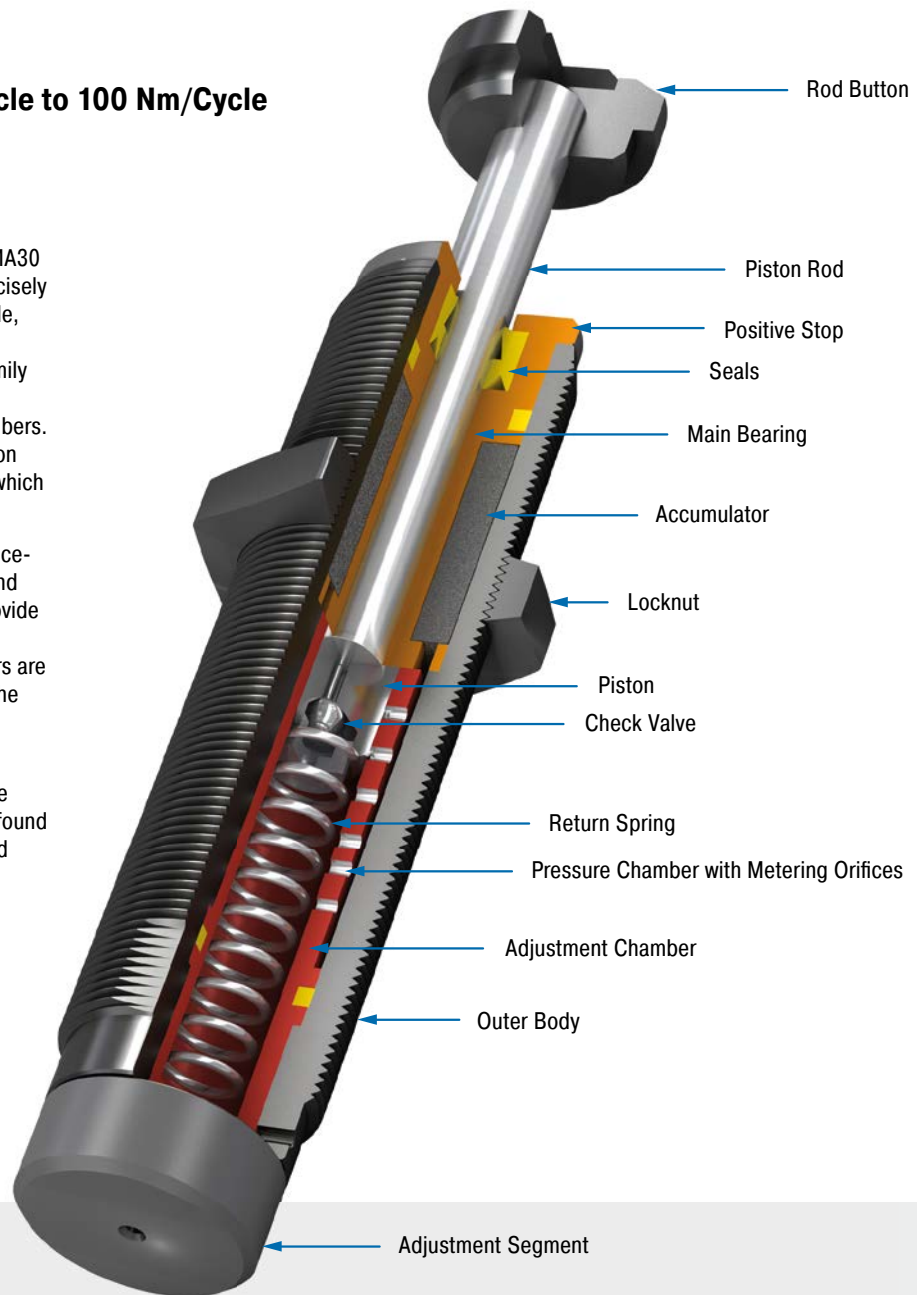
Energy capacity 3.5 Nm/Cycle to 100 Nm/Cycle

Stroke 8 mm to 40 mm

The miniature shock absorbers from the MA30 to MA900 series can be adjusted and precisely adapted to your requirements. For example, the MA150 displays the rolling diaphragm technology from the MC150 to MC600 family and offers all of the advantages of this technology, such as use in pressure chambers. Thanks to long strokes (including 40 mm on the MA900) lower reaction forces result, which provide a soft damping characteristic.

All variations of these units are maintenance-free, ready-to-install machine elements and have an integrated positive stop. They provide the best service where application data changes, where the calculation parameters are not clear or where maximum flexibility in the possible usage is required.

The adjustable miniature shock absorbers from ACE can be used to meet precisely the customer's application and are therefore found everywhere in mechanical engineering and many other applications.



Technical Data

Energy capacity: 3.5 Nm/Cycle to 100 Nm/Cycle

Impact velocity range: 0.15 m/s to 4.5 m/s. Other speeds on request.

Operating temperature range: 0 °C to 66 °C

Mounting: in any position

Positive stop: Integrated

Adjustment: Hard impact at the start of stroke, adjust the ring towards 9 or PLUS. Hard impact at the end of stroke, adjust the ring towards 0 or MINUS.

Material: Outer body, Accessories: steel corrosion-resistant coating; Piston rod: hardened stainless steel

Damping medium: oil, temperature stable

Application field: linear slides, pneumatic cylinders, swivel units, handling modules, machines and plants, finishing and processing centres, automatic machinery, tool machines, locking systems

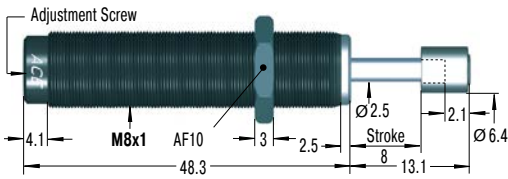
Note: If precise end position datum is required consider use of the stop collar type AH. Shock absorber is preset at delivery in a neutral position between hard and soft.

Safety instructions: External materials in the surrounding area can attack the seal components and lead to a shorter service life. Please contact ACE for appropriate solution sugges-

tions. Do not paint the shock absorbers due to heat emission.

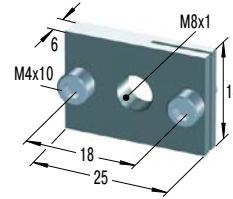
On request: Nickel-plated or other special options available to special order. Models without rod end button.

MA30EUM



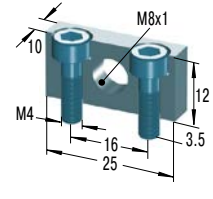
RF8

Rectangular Flange

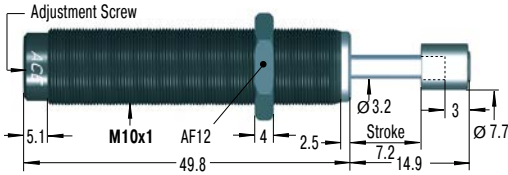


MB8SC2

Mounting Block

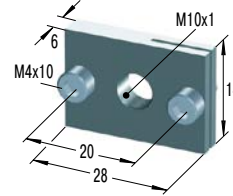


MA50EUM-B



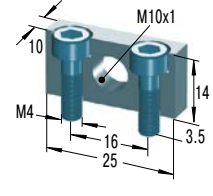
RF10

Rectangular Flange

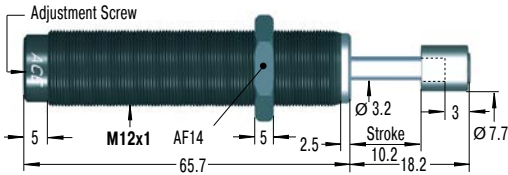


MB10SC2

Mounting Block

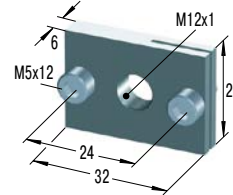


MA35EUM



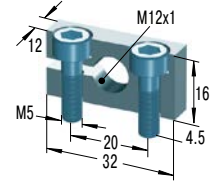
RF12

Rectangular Flange

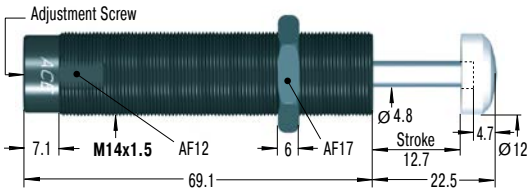


MB12

Clamp Mount



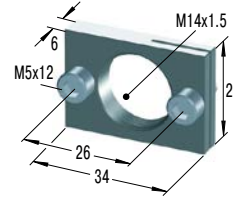
MA150EUM



M14x1 also available to special order

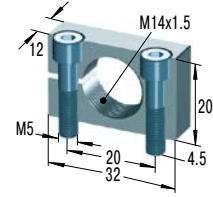
RF14

Rectangular Flange

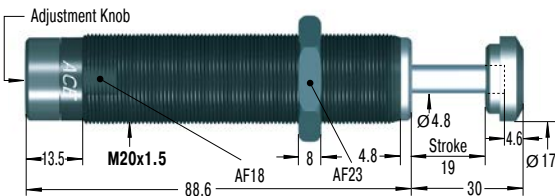


MB14

Clamp Mount

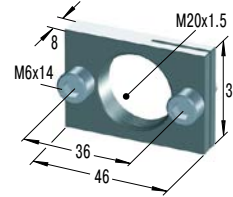


MA225EUM



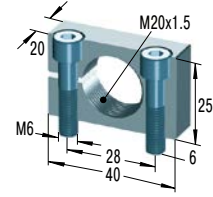
RF20

Rectangular Flange

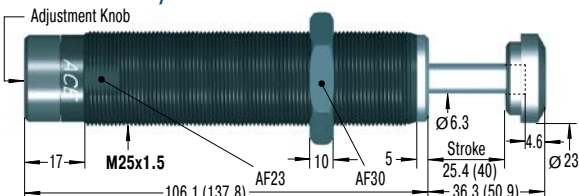


MB20

Clamp Mount



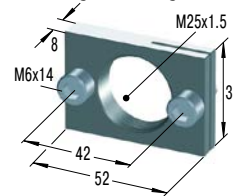
MA600EUM / MA900EUM



Dimensions for MA900EUM in (). MA600EUM with M27x3 available to special order

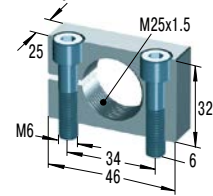
RF25

Rectangular Flange



MB25

Clamp Mount



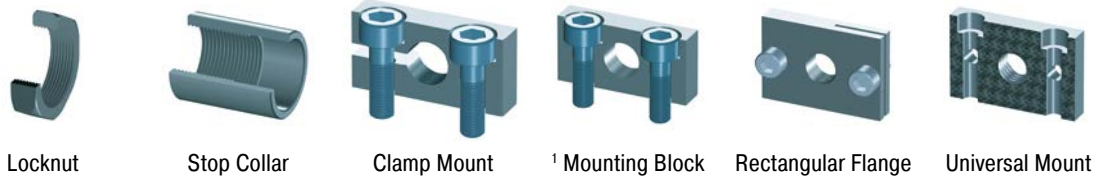
Additional accessories, mounting, installation ... see from page 36.

Performance

TYPES	Max. Energy Capacity		Effective Weight		Return Force min. N	Return Force max. N	Return Time s	Side Load Angle max. °	Weight kg
	W ₃ Nm/cycle	W ₄ Nm/h	me min. kg	me max. kg					
MA30EUM	3.5	5,650	0.23	15	1.7	5.3	0.3	2.0	0.011
MA50EUM-B	5.5	13,550	4.50	20	3.0	6.0	0.3	2.0	0.025
MA35EUM	4.0	6,000	6.00	57	5.0	11.0	0.2	2.0	0.045
MA150EUM	22.0	35,000	1.00	109	3.0	5.0	0.4	2.0	0.061
MA225EUM	25.0	45,000	2.30	226	5.0	10.0	0.1	2.0	0.173
MA600EUM	68.0	68,000	9.00	1,360	10.0	30.0	0.2	2.0	0.352
MA900EUM	100.0	90,000	14.00	2,040	10.0	35.0	0.4	1.0	0.414

¹ For applications with higher side load angles consider using the side load adaptor (BV) pages 38 to 45.

Selection Chart

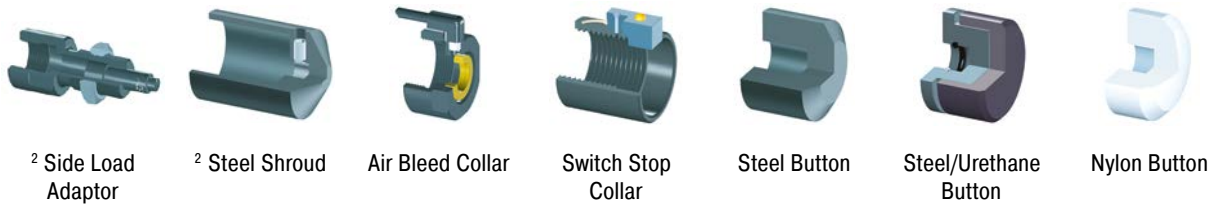


Shock Absorber Type	KM	AH	MB	MBSC2	RF	UM
Thread M5x0.5						
MC5EUM	KM5	AH5	–	MB5SC2	–	–
Thread M6x0.5						
MC9EUM	KM6	AH6	–	MB6SC2	RF6	–
Thread M8x1						
MA30EUM	KM8	AH8	–	MB8SC2	RF8	–
MC10EUM	KM8	AH8	–	MB8SC2	RF8	–
MC30EUM	KM8	AH8	–	MB8SC2	RF8	–
Thread M10x1						
MA50EUM-B	KM10	AH10	–	MB10SC2	RF10	UM10
MC25EUM	KM10	AH10	–	MB10SC2	RF10	UM10
SC25EUM; 5 to 7	KM10	AH10	–	MB10SC2	RF10	UM10
Thread M12x1						
MA35EUM	KM12	AH12	MB12	–	RF12	UM12
MC75EUM	KM12	AH12	MB12	–	RF12	UM12
SC75EUM; 5 to 7	KM12	AH12	–	MB12SC2	RF12	UM12
Thread M14x1.5						
MA150EUM	KM14	AH14	MB14	–	RF14	UM14
MC150EUM	KM14	AH14	MB14	–	RF14	UM14
MC150EUM-V4A	KM14-V4A	AH14-V4A	–	MB14SC2-V4A	–	–
PMCN150EUM	KM14	–	MB14	–	RF14	UM14
PMCN150EUM-V4A	KM14-V4A	–	–	MB14SC2-V4A	–	–
SC190EUM; 0 to 4	KM14	AH14	MB14	–	RF14	UM14
SC190EUM; 5 to 7	KM14	AH14	–	MB14SC2	RF14	UM14
Thread M20x1.5						
MA225EUM	KM20	AH20	MB20	–	RF20	UM20
MC225EUM	KM20	AH20	MB20	–	RF20	UM20
MC225EUM-V4A	KM20-V4A	AH20-V4A	–	MB20SC2-V4A	–	–
PMCN225EUM	KM20	–	MB20	–	RF20	UM20
PMCN225EUM-V4A	KM20-V4A	–	–	MB20SC2-V4A	–	–
SC300EUM; 0 to 4	KM20	AH20	MB20	–	RF20	UM20
SC300EUM; 5 to 9	KM20	AH20	–	MB20SC2	RF20	UM20
Thread M25x1.5						
MA600EUM	KM25	AH25	MB25	–	RF25	UM25
MA900EUM	KM25	AH25	MB25	–	RF25	UM25
MC600EUM	KM25	AH25	MB25	–	RF25	UM25
MC600EUM-V4A	KM25-V4A	AH25-V4A	–	MB25SC2-V4A	–	–
PMCN600EUM	KM25	–	MB25	–	RF25	UM25
PMCN600EUM-V4A	KM25-V4A	–	–	MB25SC2-V4A	–	–
SC650EUM; 0 to 4	KM25	AH25	MB25	–	RF25	UM25
SC650EUM; 5 to 9	KM25	AH25	–	MB25SC2	RF25	UM25
SC925EUM; 0 to 4	KM25	AH25	MB25	–	RF25	UM25

¹ Use a locknut for protection if a clamp mount MB...SC2 is installed.

² Only mountable on units without button.
Remove the button from the shock absorber, if there's one fitted!

Dimensions can be found on the corresponding accessories pages.

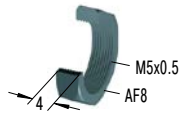


	BV	PB	SP	AS	PS	BP	PP	Page
Thread M5x0.5								
-	-	-	-	-	-	-	-	38
Thread M6x0.5								
-	-	-	-	-	-	-	-	38
Thread M8x1								
BV8	PB8	-	-	-	-	-	-	38
BV8A	PB8-A	-	-	-	-	-	-	38
BV8	PB8	-	-	-	-	-	-	38
Thread M10x1								
BV10	PB10	-	AS10	PS10	-	-	-	39
BV10	PB10	-	AS10	PS10	-	-	-	39
BV10SC	PB10SC	-	-	PS10SC	-	-	-	39
Thread M12x1								
BV12	PB12	-	AS12	PS12	-	-	-	39
BV12	PB12	-	AS12	PS12	-	-	-	39
BV12SC	PB12SC	SP12	AS12	PS12SC	-	-	-	39
Thread M14x1.5								
BV14	PB14	SP14	AS14	PS14	-	included	-	40
BV14	PB14	SP14	AS14	PS14	-	PP150	-	40
-	-	-	-	-	-	PP150	-	40
-	-	-	-	-	-	-	-	40
-	-	-	-	-	-	-	-	40
BV14SC	PB14SC	-	AS14	included	BP14	-	-	40
BV14	PB14	SP14	AS14	PS14	-	-	-	40
Thread M20x1.5								
BV20SC	PB20SC	-	AS20	included	BP20	-	-	41
BV20	PB20	SP20	AS20	PS20	-	PP225	-	41
-	-	-	-	-	-	PP225	-	41
-	-	-	-	-	-	-	-	41
-	-	-	-	-	-	-	-	41
BV20SC	PB20SC	-	AS20	included	BP20	-	-	41
BV20SC	PB20SC	-	AS20	included	-	-	-	41
Thread M25x1.5								
BV25SC	PB25SC	-	AS25	included	BP25	-	-	42
-	-	-	AS25	included	BP25	-	-	42
BV25	PB25	SP25	AS25	PS25	-	PP600	-	42
-	-	-	-	-	-	PP600	-	42
-	-	-	-	-	-	-	-	42
-	-	-	-	-	-	-	-	42
BV25SC	PB25SC	-	AS25	included	BP25	-	-	42
BV25SC	PB25	-	AS25	included	-	-	-	42
-	-	-	AS25	included	BP25	-	-	42

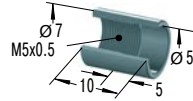
For selection chart, see pages 36 to 37

M5x0.5

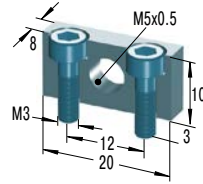
KM5
Locknut



AH5
Stop Collar

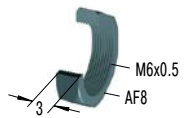


MB5SC2
Mounting Block

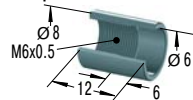


M6x0,5

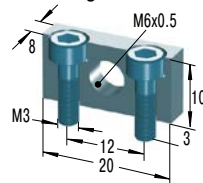
KM6
Locknut



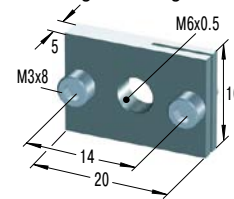
AH6
Stop Collar



MB6SC2
Mounting Block

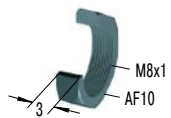


RF6
Rectangular Flange

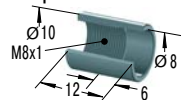


M8x1

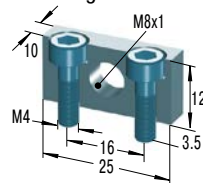
KM8
Locknut



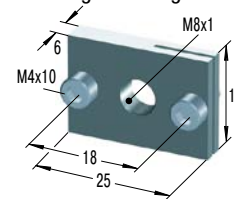
AH8
Stop Collar



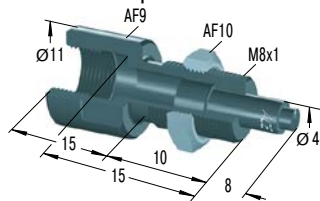
MB8SC2
Mounting Block



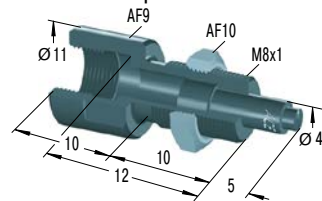
RF8
Rectangular Flange



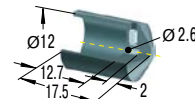
BV8
Side Load Adaptor



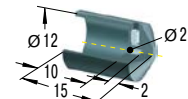
BV8A
Side Load Adaptor



PB8
Steel Shroud



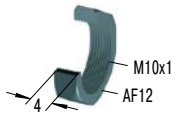
PB8-A
Steel Shroud



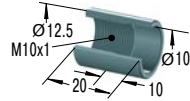
For mounting, installation, ..., see pages 43 to 46.

M10x1

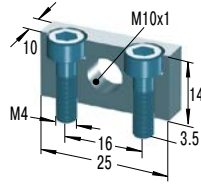
KM10
Locknut



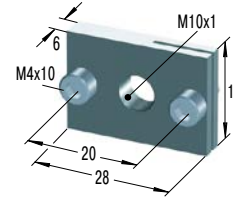
AH10
Stop Collar



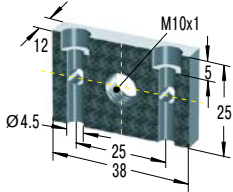
MB10SC2
Mounting Block



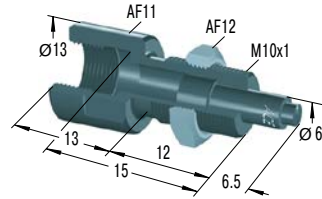
RF10
Rectangular Flange



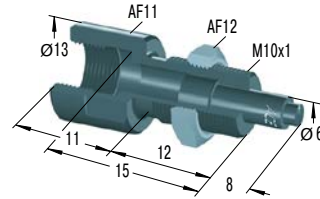
UM10
Universal Mount



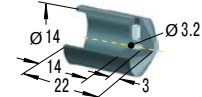
BV10
Side Load Adaptor



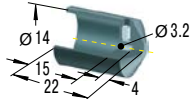
BV10SC
Side Load Adaptor



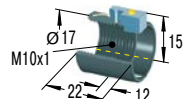
PB10
Steel Shroud



PB10SC
Steel Shroud

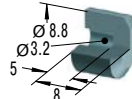


AS10
Switch Stop Collar

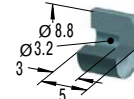


inc. Proximity Switch

PS10
Steel Button

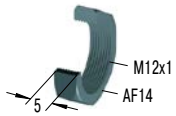


PS10SC
Steel Button

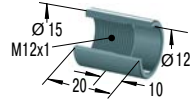


M12x1

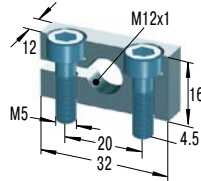
KM12
Locknut



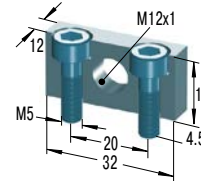
AH12
Stop Collar



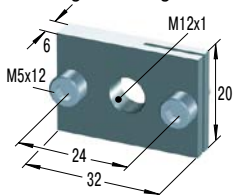
MB12
Clamp Mount



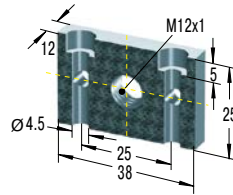
MB12SC2
Mounting Block



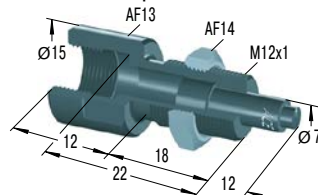
RF12
Rectangular Flange



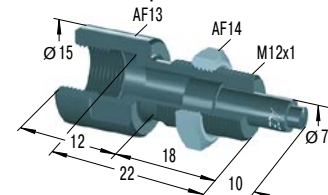
UM12
Universal Mount



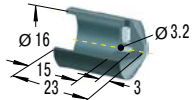
BV12
Side Load Adaptor



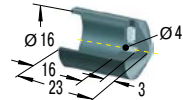
BV12SC
Side Load Adaptor



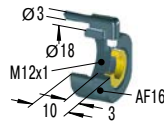
PB12
Steel Shroud



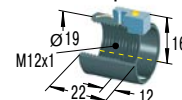
PB12SC
Steel Shroud



SP12
Air Bleed Collar

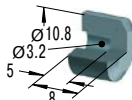


AS12
Switch Stop Collar

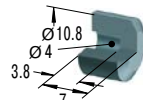


inc. Proximity Switch

PS12
Steel Button



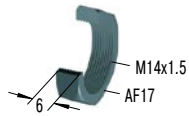
PS12SC
Steel Button



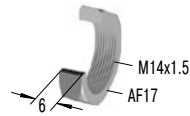
For selection chart, see pages 36 to 37

M14x1,5

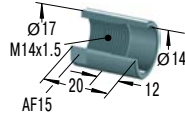
KM14
Locknut



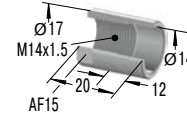
KM14-V4A
Locknut



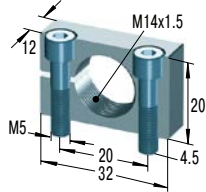
AH14
Stop Collar



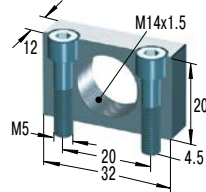
AH14-V4A
Stop Collar



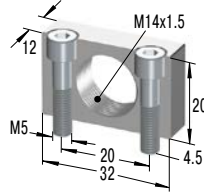
MB14
Clamp Mount



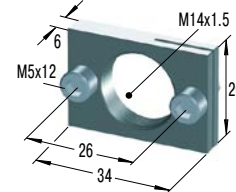
MB14SC2
Mounting Block



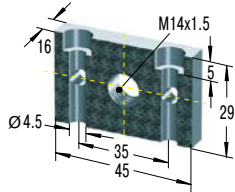
MB14SC2-V4A
Mounting Block



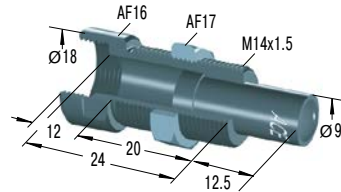
RF14
Rectangular Flange



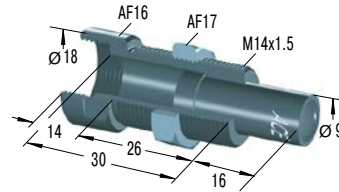
UM14
Universal Mount



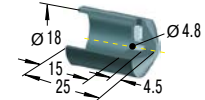
BV14
Side Load Adaptor



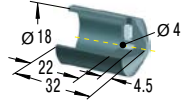
BV14SC
Side Load Adaptor



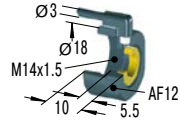
PB14
Steel Shroud



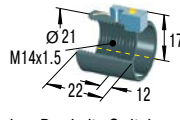
PB14SC
Steel Shroud



SP14
Air Bleed Collar

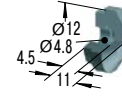


AS14
Switch Stop Collar

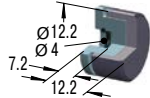


inc. Proximity Switch

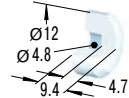
PS14
Steel Button



BP14
Steel/Urethane Button



PP150
Nylon Button

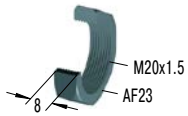


W₃ max = 14 Nm

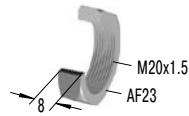
For mounting, installation, ..., see pages 43 to 46.

M20x1.5

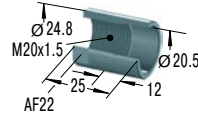
KM20
Locknut



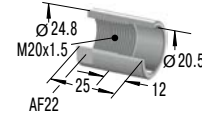
KM20-V4A
Locknut



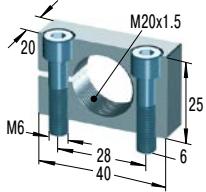
AH20
Stop Collar



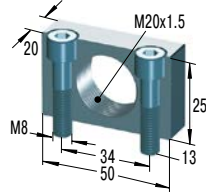
AH20-V4A
Stop Collar



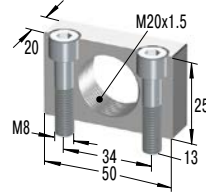
MB20
Clamp Mount



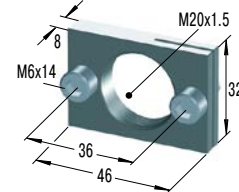
MB20SC2
Mounting Block



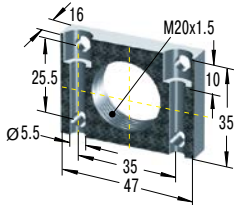
MB20SC2-V4A
Montageblock



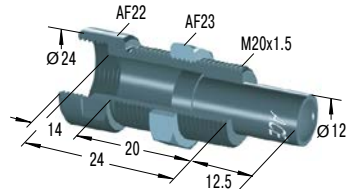
RF20
Rectangular Flange



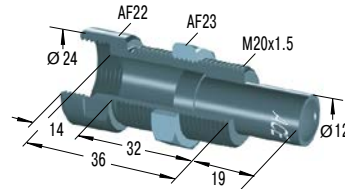
UM20
Universal Mount



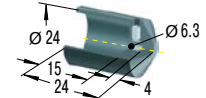
BV20
Side Load Adaptor



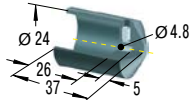
BV20SC
Side Load Adaptor



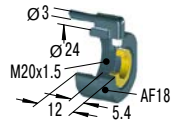
PB20
Steel Shroud



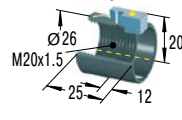
PB20SC
Steel Shroud



SP20
Air Bleed Collar

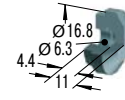


AS20
Switch Stop Collar

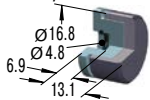


inc. Proximity Switch

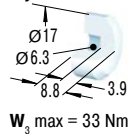
PS20
Steel Button



BP20
Steel/Urethane Button



PP225
Nylon Button

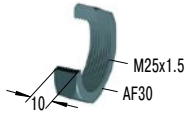


$W_3 \text{ max} = 33 \text{ Nm}$

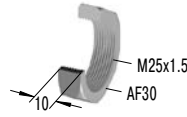
For selection chart, see pages 36 to 37

M25x1.5

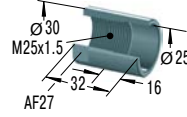
KM25
Locknut



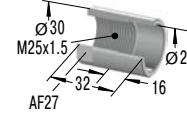
KM25-V4A
Locknut



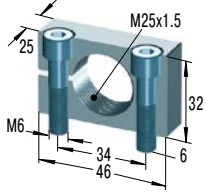
AH25
Stop Collar



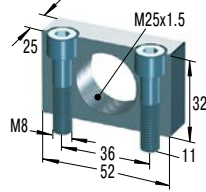
AH25-V4A
Stop Collar



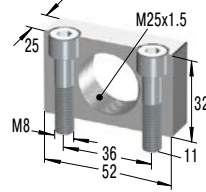
MB25
Clamp Mount



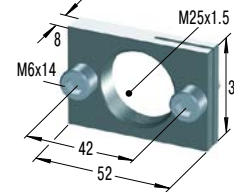
MB25SC2
Mounting Block



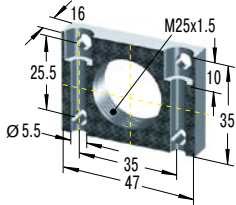
MB25SC2-V4A
Mounting Block



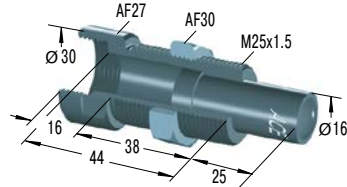
RF25
Rectangular Flange



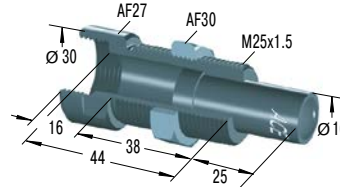
UM25
Universal Mount



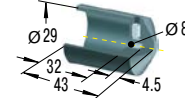
BV25
Side Load Adaptor



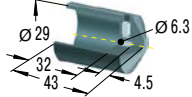
BV25SC
Side Load Adaptor



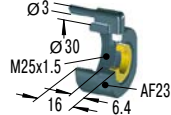
PB25
Steel Shroud



PB25SC
Steel Shroud

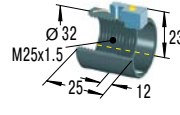


SP25
Air Bleed Collar



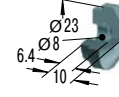
For VC2515FT to VC2555FT
reduction of the stroke 6.4 mm

AS25
Switch Stop Collar

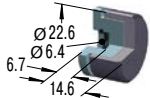


inc. Proximity Switch

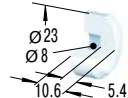
PS25
Steel Button



BP25
Steel/Urethane Button



PP600
Nylon Button



W_3 max = 68 Nm

For mounting, installation, ..., see pages 43 to 46.