

Shock Absorbers

Hydraulic Industrial Shock Absorbers

- Type:**
- Adjustable

Series SA
SA 1/4 x 1/2N

- Basic Version with:**
- Integral stop collar
 - 1 mounting nut

- Accessories:**
- Soft pad
 - Universal flange

Energy Capacity

Type	Stroke (mm)	Effective Mass (kg)		Max. Energy Capacity (Nm)	
		Min.	Max.	per stroke W_3	per hour W_4
SA 1/4 x 1/2N	12.7	1	190	20	35000

Technical Data

Characteristic	Unit	Comments
Impact velocity	m/s	0.3 - 3.6
Operating temperature range	°C	0 to 65
Installation		in any position
Force of internal return spring	N	3 - 5
Max. deviation of impacting force from centre axis of shock absorber		±3°
Weight (mass)	kg	0.176
Min. mounting strength required	N	3900 ¹⁾
Materials		
Body		Steel, black oxide finish
Piston rod		Steel, hardened, ground, hard-chrome plated
Accessories		Steel, black oxide finish or aluminium, anodized

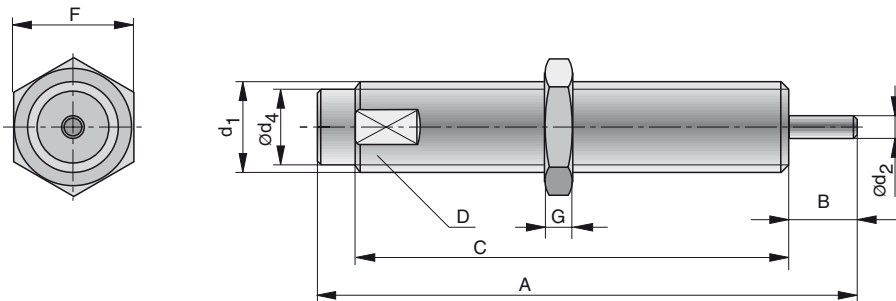
¹⁾ based on $\frac{2.5 \cdot W_3}{\text{stroke}}$



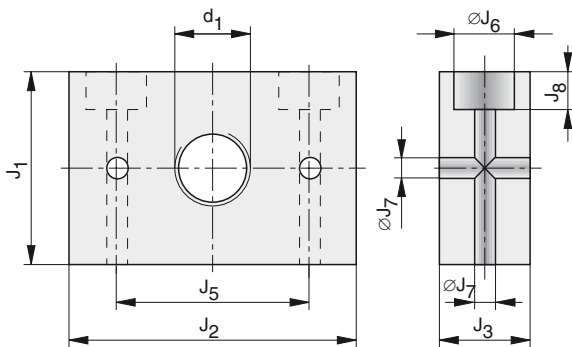
For product group overview see page 16 + 17
For design and installation notes see from page 4

Dimensions (mm) – Shock Absorbers

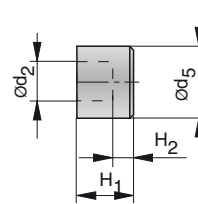
Type: SA 1/4 x 1/2



Dimensions (mm) – Universal Flange



Dimensions (mm) – Soft Pad



Dimensions Table (mm)

A	B	C	D	d_1	$\varnothing d_2$	$\varnothing d_4$	$\varnothing d_5$	F	G	H_1	H_2	J_1	J_2	J_3	J_4	J_5	$\varnothing J_6$	$\varnothing J_7$	J_8
86.7	17.7	62	17	M20x1.5	4.8	16.2	12	23	8	9.4	6	35	47	16	25.5	35	10	5.5	10

Order Instructions

Product	Order Instructions	
	Type	Order No.
Shock absorber	SA 1/4 x 1/2N	7720
Additional mounting nut	LN 20	7939
Universal flange	UM 20	7932
Soft pad	SP 1/4 x 1/2N	7724

Shock Absorbers

Hydraulic Industrial Shock Absorbers

- Type:**
- Adjustable

Series SA SA 3/8 x 1D

- Basic Version with:**
- 1 mounting nut
 - Front and rear adjustment

- Accessories:**
- Stop collar
 - Soft pad
 - Universal flange

Energy Capacity

Type	Stroke (mm)	Effective Mass (kg)		Max. Energy Capacity (Nm)	
		Min.	Max.	per stroke W_3	per hour W_4
SA 3/8 x 1D	25.4	4.5	546	70	68000

Technical Data

Characteristic	Unit	Comments
Impact velocity	m/s	0.3 - 4.5
Operating temperature range	°C	-12 to 65
Installation		in any position
Force of internal return spring	N	19 - 37
Max. deviation of impacting force from centre axis of shock absorber		±3°
Weight (mass)	kg	0.243
Min. mounting strength required	N	6900 ¹⁾
Materials		
Body		Steel, black oxide finish
Piston rod		Steel, hardened, ground, hard-chrome plated
Accessories		Steel, black oxide finish or aluminium, anodized

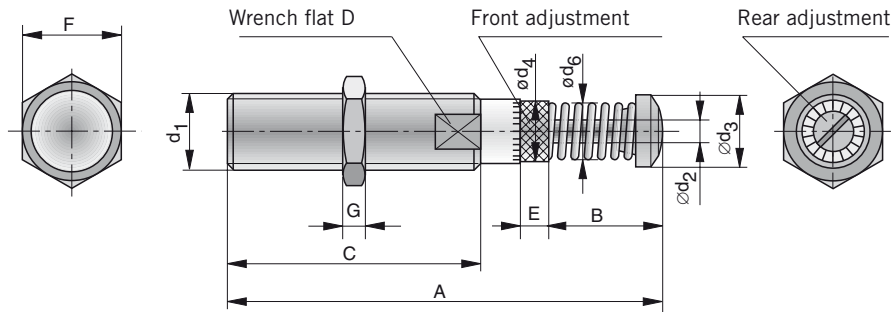
¹⁾ based on $\frac{2.5 \cdot W_3}{\text{stroke}}$



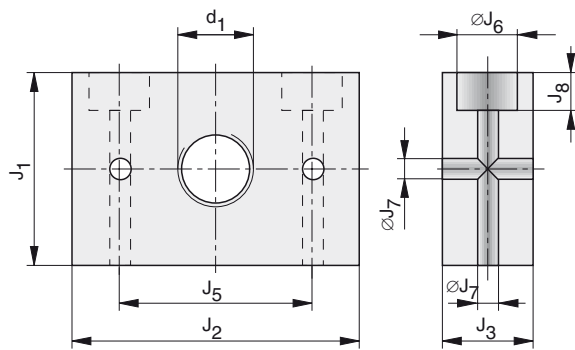
For product group overview see page 16 + 17
For design and installation notes see from page 4

Dimensions (mm) – Shock Absorbers

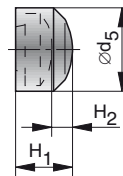
Type: SA 3/8 x 1D



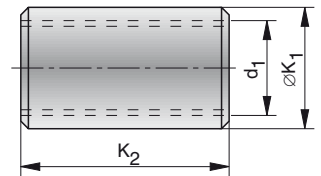
Dimensions (mm) – Universal Flange



Dimensions (mm) Soft Pad



Dimensions (mm) Stop Collar



Dimensions Table (mm)

A	B	C	D	d ₁	ød ₂	ød ₃	ød ₄	ød ₅	ød ₆	E	F	G	H ₁	H ₂	J ₁	J ₂	J ₃	J ₄	J ₅	øJ ₆	øJ ₇	J ₈	øK ₁	K ₂
121.2	35.5	61.5	22	M25x1.5 ²⁾	7.9	19.9	22.7	22.1	18.5	12.7	30	8	12.2	6.4	35	47	16	25.5	35	10	5.5	10	31.8	55.6

²⁾ Option: M27x3 thread (d₁)

Order Instructions

Product	Order Instructions	
	Type	Order No.
Shock absorber	SA 3/8 x 1D	7840
Stop collar	SC 25 B	7951
Soft pad	SP 25	7954
Additional mounting nut	LN 25	7959
Universal flange	UM 25	7952

Shock Absorbers

Hydraulic Industrial Shock Absorbers

Type:

- Adjustable

**Series SALD
SALD 1/2 x 1M**

- Stroke 25.4 mm

SALD 1/2 x 2M

- Stroke 50.8 mm

Basic Version with:

- Integral stop collar
- 1 mounting nut

Accessories:

- Rectangular flange

Energy Capacity

Type	Stroke (mm)	Effective Mass (kg)		Max. Energy Capacity (Nm)	
		Min.	Max.	per stroke W_3	per hour W_4
SALD 1/2 x 1M	25.4	4.5	1360	170	85000
SALD 1/2 x 2M	50.8	9.5	2720	340	98000

Technical Data

Characteristic	Unit	Comments
Impact velocity	m/s	0.3 - 4.5
Operating temperature range	°C	-12 to 80
Installation		in any position
Force of return spring	N	SALD 1/2 x 1M: 36 - 82 SALD 1/2 x 2M: 36 - 128
Max. deviation of impacting force from centre axis of shock absorber		±3°
Weight (mass)	kg	SALD 1/2 x 1M: 0,751 SALD 1/2 x 2M: 0,922
Min. mounting strength required	N	13400 ¹⁾
Materials		
Body		Steel, black oxide finish
Piston rod		Steel, hardened, ground, hard-chrome plated
Accessories		Steel, black oxide finish or aluminium, anodized

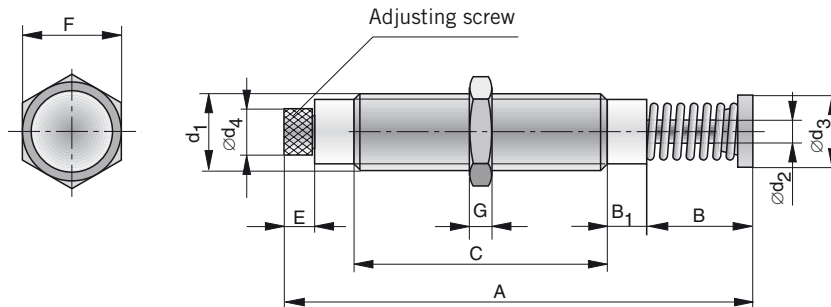
¹⁾ based on $\frac{2.5 \cdot W_3}{\text{stroke}}$



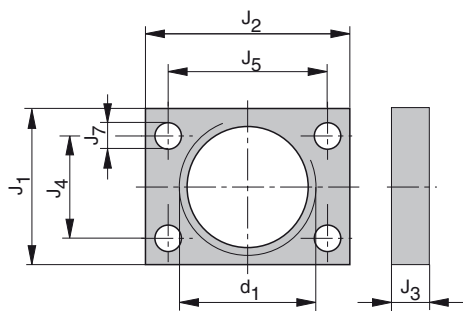
For product group overview see page 16 + 17
For design and installation notes see from page 4

Dimensions (mm) – Shock Absorbers

Type: SALD 1/2 x 1M, SALD 1/2 x 2M



Dimensions (mm) – Rectangular Flange



Dimensions Table (mm)

Serie	A	B	B ₁	C	d ₁	ød ₂	ød ₃	ød ₄	E	F	G	J ₁	J ₂	J ₃	J ₄	J ₅	J ₇
SALD 1/2 x 1M	165.1	23.8	6	110	M36x1.5	9.5	25.4	22.5	14.7	41.3	6.7	41	54	9.5	28	42	7
SALD 1/2 x 2M	215.9	49.2	6	134	M36x1.5	9.5	25.4	22.5	14.7	41.3	6.7	41	54	9.5	28	42	7

Order Instructions

Product	Order Instructions	
	Type	Order No.
Shock absorber; stroke 25.4 mm	SALD 1/2 x 1M	7841
Shock absorber, stroke 50.8 mm	SALD 1/2 x 2M	7842
Rectangular flange	RF 1/2-M	7843
Additional mounting nut	LN 1/2-M	7838

Energy Capacity

Type	Stroke (mm)	Effective Mass (kg)		Max. Energy Capacity (Nm)	
		Min.	Max.	per stroke W_3	per hour W_4
SA 1/2 x 1	25.4	4.5	1225	153	84700
SA 1/2 x 2	50.8	9.5	2450	305	98300

Technical Data

Characteristic	Unit	Comments
Impact velocity	m/s	0.3 - 4.5
Operating temperature range	°C	-12 to 80
Installation		in any position
Force of return spring	N	SA 1/2 x 1: 36 - 82 SA 1/2 x 2: 36 - 128
Max. deviation of impacting force from centre axis of shock absorber		±5°
Weight (mass)	kg	SA 1/2 x 1: 0,627 SA 1/2 x 2: 0,8
Min. mounting strength required	N	13300 ¹⁾
Materials		
Body		Steel, black oxide finished
Piston rod		Steel, hardened, ground, hard-chrome plated
Accessories		Steel, black oxide finish or aluminium, anodized

¹⁾ based on $\frac{2.5 \cdot W_3}{\text{stroke}}$

Shock Absorbers

Hydraulic Industrial Shock Absorbers

Type:

- Adjustable

Series SA

SA 1/2 x 1

- Stroke 25.4 mm

SA 1/2 x 2

- Stroke 50.8 mm

Basic Version with:

- 1 mounting nut

Accessories:

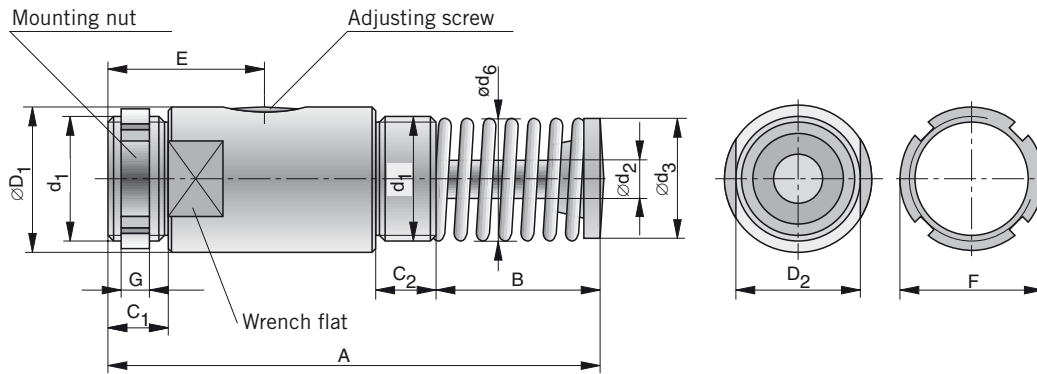
- Stop collar
- Rectangular flange
- Soft pad
- Foot mounting



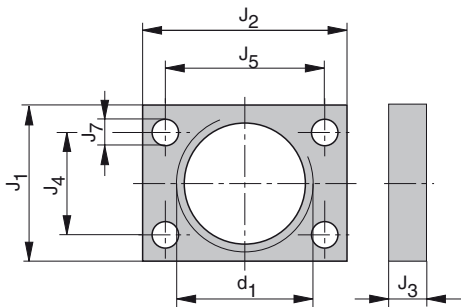
For product overview group see page 16 + 17
For design and installation notes see from page 4

Dimensions (mm) – Shock Absorbers

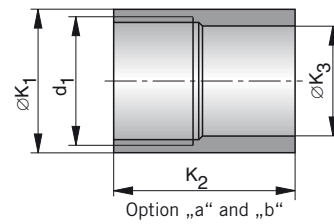
Type: SA 1/2 x 1, SA 1/2 x 2



Dimensions (mm) – Rectangular Flange

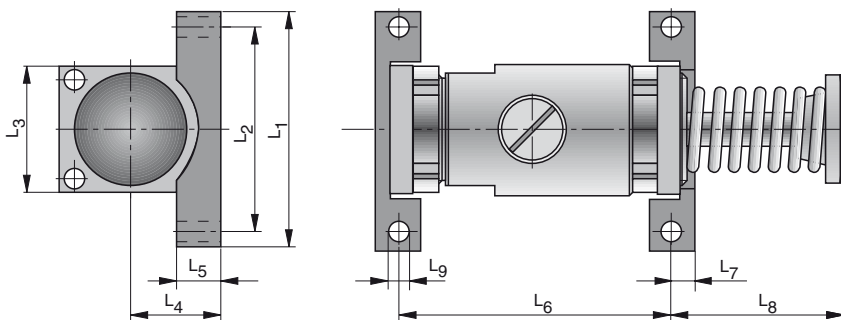


Dimensions (mm) – Stop Collar

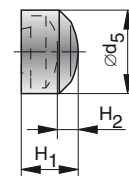


Option „a“ - for rear mounting
Option „b“ - for front mounting

Dimensions (mm) – Foot Mounting



**Dimensions (mm)
Soft Pad**



Note:
Cannot be used with stop collar.

Dimensions Table (mm)

Type	A	B	C ₁	C ₂	∅D ₁	D ₂	d ₁	∅d ₂	∅d ₃	∅d ₅	∅d ₆	E	F	G	H ₁	H ₂	J ₁	J ₂
SA 1/2 x 1	138.1	55.5	16	16	38	35	M33x1.5	9.5	25.4	31.8	25.4	41.3	38	6.4	19.1	11.2	41	54
SA 1/2 x 2	189	81	16	16	38	35	M33x1.5	9.5	25.4	31.8	25.4	41.3	38	6.4	19.1	11.2	41	54

Type	J ₃	J ₄	J ₅	J ₇	∅K ₁	K _{2a}	K _{2b}	∅K ₃	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉
SA 1/2 x 1	9.5	28	42	7	38.1	47.6	41.3	28.6	69.9	60.3	54	27	12.7	95.3	6.4	49.2	6
SA 1/2 x 2	9.5	28	42	7	38.1	47.6	41.3	28.6	69.9	60.3	54	27	12.7	120.7	6.4	74.6	6

Order Instructions

Product	Order Instructions	
	Type	Order No.
Shock absorber; stroke 25.4 mm	SA 1/2 x 1	7970
Shock absorber; stroke 50.8 mm	SA 1/2 x 2	7975
Soft pad	SP 1/2	7974
Stop collar option a – for rear mounting	SC 1/2A	7971
Stop collar option b – for front mounting	SC 1/2B	7977
Rectangular flange	RF 1/2	7972
Foot mounting	FM 1/2	7973
Additional mounting nut	LN 1/2	7979

Energy Capacity

Typ	Stroke (mm)	Effective Mass (kg)		Max. Energy Capacity (Nm)	
		Min.	Max.	per stroke W_3	per hour W_4
SA 3/4 x 1	25.4	9	8163	339	124300
SA 3/4 x 2	50.8	16	14500	678	146800
SA 3/4 x 3	76	23	20866	1017	180776

Technical Data

Characteristic	Unit	Comments
Impact velocity	m/s	0.3 - 4.5
Operating temperature range	°C	-12 to 80
Installation		in any position
Force of return spring	N	Type: SA 3/4 x 1: 68 - 92 Type: SA 3/4 x 2: 44 - 92 Type: SA 3/4 x 3: 33 - 105
Max. deviation of impacting force from centre axis of shock absorber		±3°
Weight (mass)	kg	Type: SA 3/4 x 1: 1.44 Type: SA 3/4 x 2: 1.8 Type: SA 3/4 x 3: 2.24
Min. mounting strength required	N	29600 ¹⁾
Materials		
Body		Steel, black oxide finish
Piston rod		Steel, hardened, ground, hard-chrome plated
Accessories		Steel, black oxide finish or aluminium, anodized

¹⁾ based on $\frac{2.5 \cdot W_3}{\text{stroke}}$

Shock Absorbers

Hydraulic Industrial Shock Absorbers

Type:

- Adjustable

Series SA
SA 3/4 x 1

- Stroke 25.4 mm

SA 3/4 x 2

- Stroke 50.8 mm

SA 3/4 x 3

- Stroke 76 mm

Basic Version with:

- 1 mounting nut

Accessories:

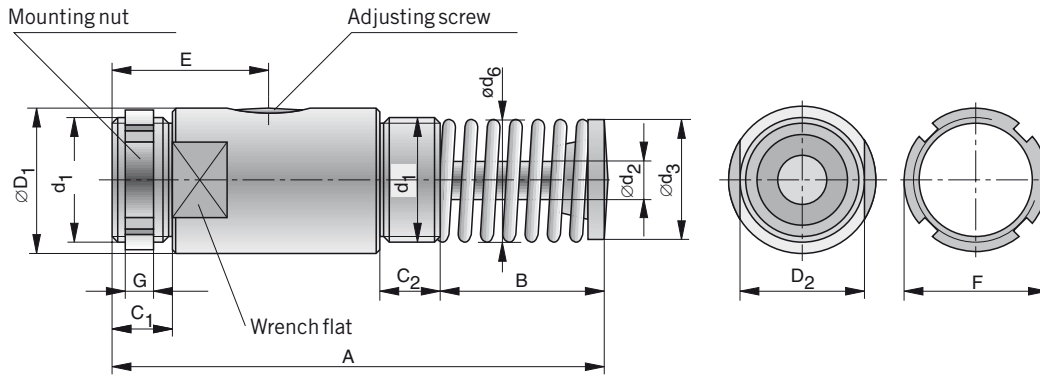
- Stop collar
- Rectangular flange
- Square flange
- Soft pad
- Foot mounting



For product group overview see page 16 + 17
For design and installation notes see from page 4

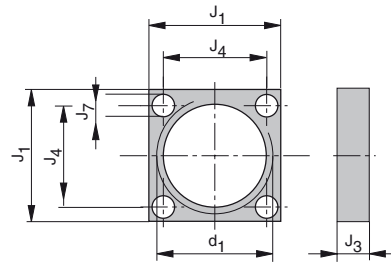
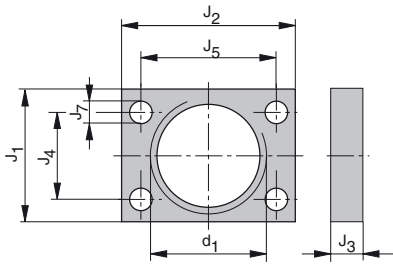
Dimensions (mm) – Shock Absorbers

Type: SA 3/4 x 1, SA 3/4 x 2, SA 3/4 x 3



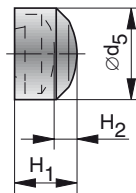
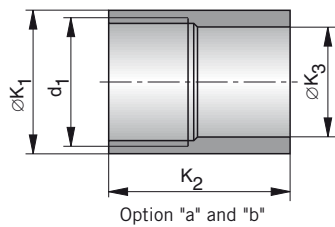
Dimensions (mm) – Rectangular Flange

Dimensions (mm) – Square Flange



Dimensions (mm) – Stop Collar

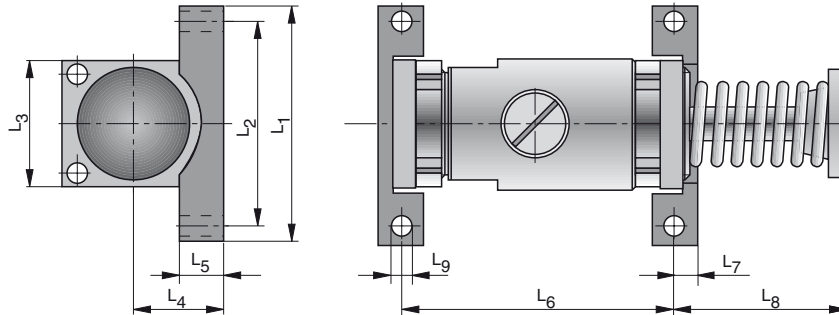
Dimensions (mm) – Soft Pad



Option „a“ - for rear mounting
Option „b“ - for front mounting

Note:
Cannot be used with stop collar.

Dimensions (mm) – Foot Mounting



Dimensions Table (mm)

Type	A	B	C ₁	C ₂	∅D ₁	D ₂	d ₁	∅d ₂	∅d ₃	∅d ₅	∅d ₆	E	F	G	H ₁	H ₂	J ₁	J ₂
SA 3/4 x 1	144.4	50	22.9	23	57.2	50	M42x1.5	14.3	38	44.5	34.7	47.2	57.2	9.5	25.4	17.5	57.2	76.2
SA 3/4 x 2	195.2	75.4	22.9	23	57.2	50	M42x1.5	14.3	38	44.5	34.7	59.5	57.2	9.5	25.4	17.5	57.2	76.2
SA 3/4 x 3	246	100.8	22.9	23	57.2	50	M42x1.5	14.3	38	44.5	38.1	72.6	57.2	9.5	25.4	17.5	57.2	76.2

Type	J ₃	J ₄	J ₅	J ₇	∅K ₁	K _{2a}	K _{2b}	∅K ₃	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉
SA 3/4 x 1	12.7	41.3	60.3	8.7	57.2	49.2	39.7	41.2	95.3	76.2	57.2	28.6	14.3	85.7	9.5	52.3	8.7
SA 3/4 x 2	12.7	41.3	60.3	8.7	57.2	49.2	39.7	41.2	95.3	76.2	57.2	28.6	14.3	111.1	9.5	77.6	8.7
SA 3/4 x 3	12.7	41.3	60.3	8.7	57.2	49.2	39.7	41.2	95.3	76.2	57.2	28.6	14.3	136.5	9.5	103.2	8.7

Order Instructions

Product	Order Instructions	
	Type	Order No.
Shock absorber; stroke 25.4 mm	SA 3/4 x 1	7980
Shock absorber; stroke 50.8 mm	SA 3/4 x 2	7985
Shock absorber; stroke 76 mm	SA 3/4 x 3	7986
Soft pad	SP 3/4	7984
Stop collar option a – for rear mounting	SC 3/4 A	7981
Stop collar option b – for front mounting	SA 3/4 B	7987
Rectangular flange	RF 3/4	7982
Square flange	SF 3/4	7988
Foot mounting	FM 3/4	7983
Additional mounting nut	LN 3/4	7989

Energy Capacity

Type	Stroke (mm)	Effective Mass (kg)		Max. Energy Capacity (Nm)	
		Min.	Max.	per stroke W_3	per hour W_4
SA 1-1/8 x 2	50.8	54	22680	1808	169478
SA 1-1/8 x 4	102	73	45360	3616	225970
SA 1-1/8 x 6	152	91	68040	5423	282463

Technical Data

Characteristic	Unit	Comments
Impact velocity	m/s	0.3 - 4.5
Operating temperature range	°C	-12 to 80
Installation		in any position
Force of return spring	N	Type: SA 1-1/8 x 2: 80 - 151 Type: SA 1-1/8 x 4: 80 - 200 Type: SA 1-1/8 x 6: 80 - 187
Max. deviation of impacting force from centre axis of shock absorber		±5°
Weight (mass)	kg	Type: SA 1-1/8 x 2: 3.719 Type: SA 1-1/8 x 4: 5.035 Type: SA 1-1/8 x 6: 6.622
Min. mounting strength required	N	68000 ¹⁾
Materials		
Body		Steel, black oxide finish
Piston rod		Steel, hardened, ground, hard-chrome plated
Accessories		Steel, black oxide finish or aluminium, anodized

¹⁾ based on $\frac{2.5 \cdot W_3}{\text{stroke}}$

Shock Absorbers

Hydraulic Industrial Shock Absorbers

Type:
Adjustable

Series SA
SA 1-1/8 x 2

- Stroke 50.8 mm

SA 1-1/8 x 4

- Stroke 102 mm

SA 1-1/8 x 6

- Stroke 152 mm

Basic Version with:

- 1 mounting nut

Accessories:

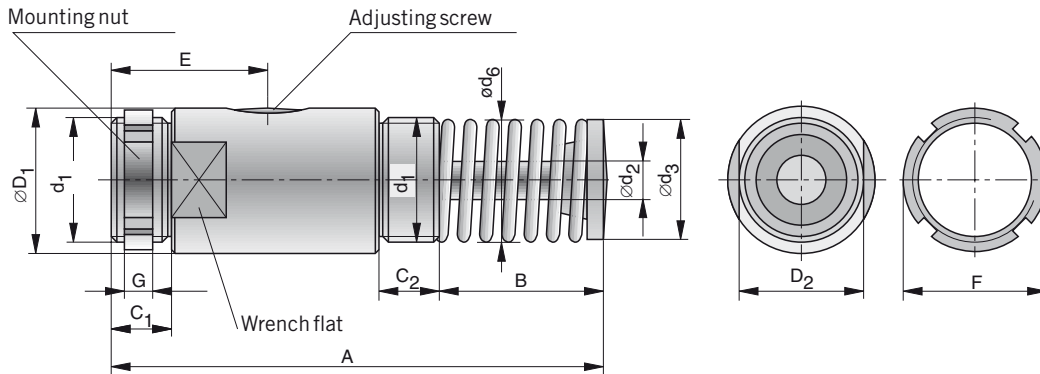
- Stop collar
- Square flange
- Soft pad
- Foot mounting



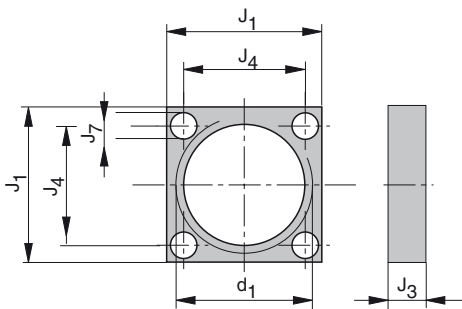
For product group overview see page 16 + 17
For design and installation notes see from page 4

Dimensions (mm) – Shock Absorbers

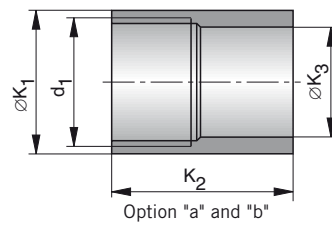
Type: SA 1-1/8 x 2, SA 1-1/8 x 4, SA 1-1/8 x 6



Dimensions (mm) – Square Flange

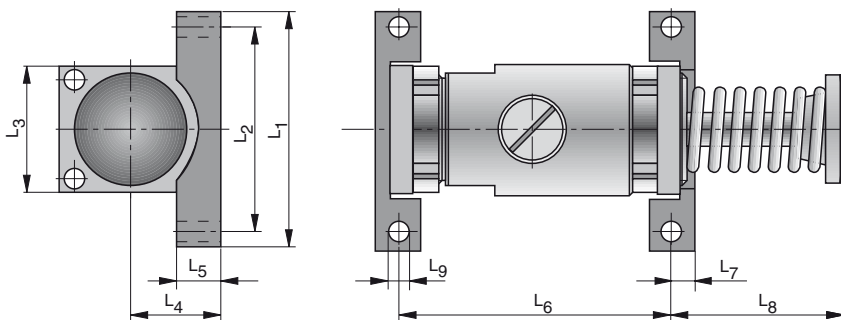


Dimensions (mm) – Stop Collar

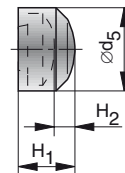


Option „a“ - for rear mounting
Option „b“ - for front mounting

Dimensions (mm) – Foot Mounting



**Dimensions (mm)
Soft Pad**



Note:
Cannot be used with stop collar.

Dimensions Table (mm)

Type	A	B	C ₁	C ₂	∅D ₁	D ₂	d ₁	∅d ₂	∅d ₃	∅d ₅	∅d ₆	E	F	G	H ₁	H ₂	J ₁
SA 1-1/8 x 2	225.6	85.9	26.2	26.2	76.2	69.9	M64x2	20.6	50.8	57.2	47.9	69.9	76.2	9.5	25.4	17.5	88.9
SA 1-1/8 x 4	327.2	136.7	26.2	26.2	76.2	69.9	M64x2	20.6	50.8	57.2	50.8	95.3	76.2	9.5	25.4	17.5	88.9
SA 1-1/8 x 6	450.9	209.6	26.2	26.2	76.2	69.9	M64x2	20.6	50.8	57.2	48.3	120.7	76.2	9.5	25.4	17.5	88.9

Type	J ₃	J ₄	J ₇	∅K ₁	K ₂ a	K ₂ b	∅K ₃	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉
SA 1-1/8 x 2	15.9	69.9	10.3	76.2	62.7	50	60.3	142.9	123.8	88.9	44.5	19	127	14.3	90.5	10.3
SA 1-1/8 x 4	15.9	69.9	10.3	76.2	62.7	50	60.3	142.9	123.8	88.9	44.5	19	177.8	14.3	141.3	10.3
SA 1-1/8 x 6	15.9	69.9	10.3	76.2	84.9	72.2	60.3	142.9	123.8	88.9	44.5	19	228.5	14.3	214.3	10.3

Order Instructions

Product	Order Instructions	
	Type	Order No.
Shock absorber; stroke 50.8 mm	SA 1-1/8 x 2	7990
Shock absorber; stroke 102 mm	SA 1-1/8 x 4	7995
Shock absorber; stroke 152 mm	SA 1-1/8 x 6	7996
Soft pad	SP 1-1/8	7994
Square flange	SF 1-1/8	7998
Foot mounting	FM 1-1/8	7993
Additional mounting nut	LN 1-1/8	7999
Stop collar option a – for SA 1-1/8 x 2, SA 1-1/8 x 4	SC 1-1/8 A	7991
Stop collar option b – for SA 1-1/8 x 2, SA 1-1/8 x 4	SC 1-1/8 B	7997
Stop collar option a – for SA 1-1/8 x 6	SC 1-1/8 A	7891
Stop collar option b – for SA 1-1/8 x 6	SC 1-1/8 B	7897

Energy Capacity

Type	Stroke (mm)	Effective Mass (kg)		Max. Energy Capacity (Nm)	
		Min.	Max.	per stroke W_3	per hour W_4
SA-A 3/4 x 1	25.4	27	3600	290	184000
SA-A 3/4 x 2	50.8	43	6350	600	230000
SA-A 3/4 x 3	76	55	9500	890	276000

Technical Data

Characteristic	Unit	Comments
Impact velocity	m/s	0.3 - 4.5
Operating temperature range	°C	-12 to 80
Installation		in any position
Max. deviation of impacting force from centre axis of shock absorber		$\pm 5^\circ$
Weight (mass)	kg	Type: SA-A 3/4 x 1: 1.43 Type: SA-A 3/4 x 2: 1.79 Type: SA-A 3/4 x 3: 2.23
Min. mounting strength required	N	29600 ¹⁾
Materials		
Body		Steel, black oxide finish
Piston rod		Steel, hardened, ground, hard-chrome plated
Accessories		Steel, black oxide finish or aluminium, anodized

¹⁾ based on $\frac{2.5 \cdot W_3}{\text{stroke}}$

Shock Absorbers

Hydraulic Industrial Shock Absorbers

Type:

- Adjustable, without return spring, for use with external air-oil tank

Series SA-A
SA-A 3/4 x 1

- Stroke 25.4 mm

SA-A 3/4 x 2

- Stroke 50.8 mm

SA-A 3/4 x 3

- Stroke 76 mm

Basic Version with:

- 1 mounting nut

Accessories:

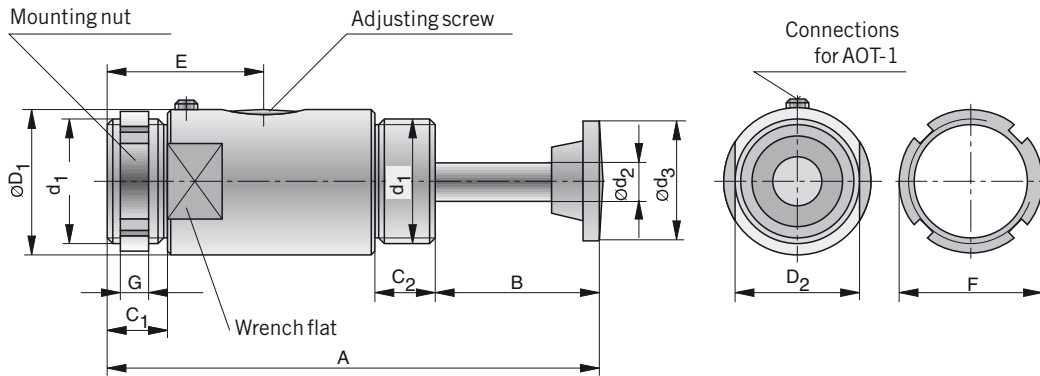
- Air-oil tank, Type AOT-1
- Stop collar
- Rectangular flange
- Square flange
- Soft pad
- Foot mounting



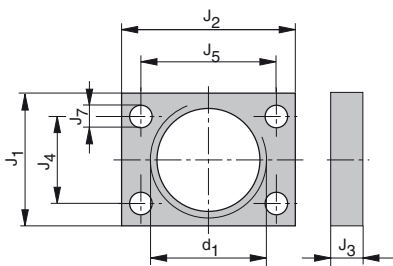
For product group overview see page 16 + 17
For design and installation notes see from page 4

Dimensions (mm) – Shock Absorber for Connection to Air-Oil Tank

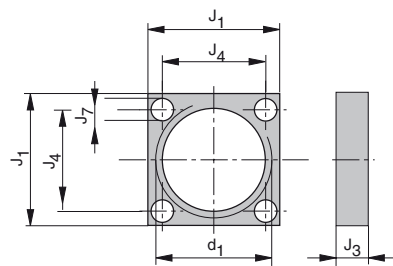
Type: SA-A 3/4 x 1, SA-A 3/4 x 2, SA-A 3/4 x 3



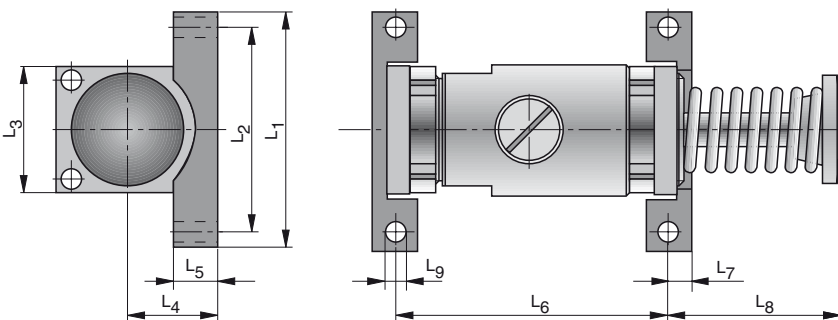
Dimensions (mm) – Rectangular Flange



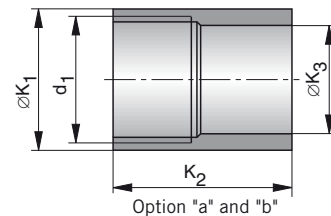
Dimensions (mm) – Square Flange



Dimensions (mm) – Foot Mounting

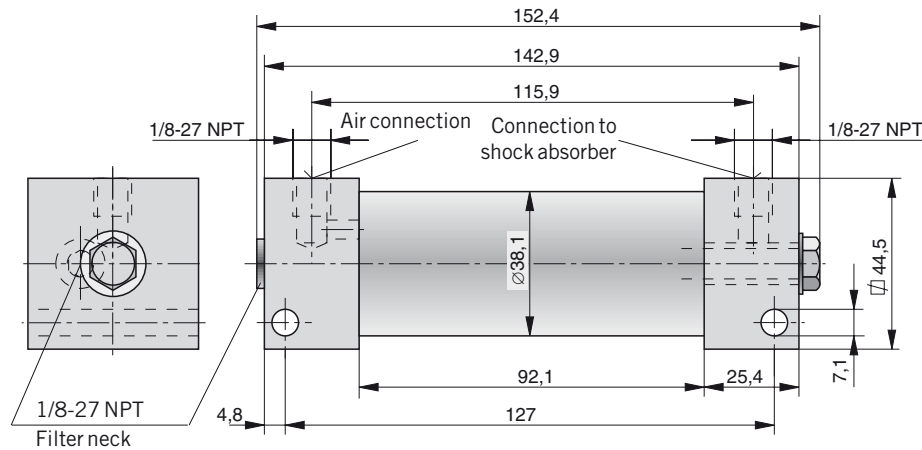


Dimensions (mm) – Stop Collar

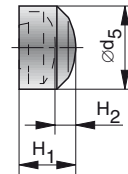


Option „a“ - for rear mounting
Option „b“ - for front mounting

Dimensions (mm) – Air-Oil-Tank Type AOT-1



Dimensions (mm) Soft Pad



Note:
Cannot be used with stop collar.

Dimensions Table (mm)

Type	A	B	C ₁	C ₂	$\varnothing D_1$	D ₂	d ₁	$\varnothing d_2$	$\varnothing d_3$	$\varnothing d_5$	E	F	G	H ₁	H ₂	J ₁	J ₂
SA-A 3/4 x 1	144.4	50	22.9	23	57.2	50	M42x1.5	14.3	38	44.5	47.2	57.2	9.5	25.4	17.5	57.2	76.2
SA-A 3/4 x 2	195.2	75.4	22.9	23	57.2	50	M42x1.5	14.3	38	44.5	59.5	57.2	9.5	25.4	17.5	57.2	76.2
SA-A 3/4 x 3	246	100.8	22.9	23	57.2	50	M42x1.5	14.3	38	44.5	72.6	57.2	9.5	25.4	17.5	57.2	76.2

Type	J ₃	J ₄	J ₅	J ₇	$\varnothing K_1$	K _{2a}	K _{2b}	$\varnothing K_3$	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉
SA-A 3/4 x 1	12.7	41.3	60.3	8.7	57.2	49.2	39.7	41.2	95.3	76.2	57.2	28.6	14.3	85.7	9.5	52.3	8.7
SA-A 3/4 x 2	12.7	41.3	60.3	8.7	57.2	49.2	39.7	41.2	95.3	76.2	57.2	28.6	14.3	111.1	9.5	77.6	8.7
SA-A 3/4 x 3	12.7	41.3	60.3	8.7	57.2	49.2	39.7	41.2	95.3	76.2	57.2	28.6	14.3	136.5	9.5	103.2	8.7

Order Instructions

Product	Order Instructions	
	Type	Order Nol
Shock absorber; stroke 25.4 mm	SA-A 3/4 x 1	7887
Shock absorber; stroke 50.8 mm	SA-A 3/4 x 2	7888
Shock absorber; stroke 76 mm	SA-A 3/4 x 3	7889
Soft pad	SP-3/4	7984
Square flange	SF-3/4	7988
Rectangular flange	RF-3/4	7982
Foot mounting	FM-3/4	7983
Additional mounting nut	LN-3/4	7989
Stop collar option a – for SA-A 3/4 x 1, SA-A 3/4 x 2, SA-A 3/4 x 3	SC-A 3/4	7981
Stop collar option b – for SA-A 3/4 x 1, SA-A 3/4 x 2, SA-A 3/4 x 3	SC-B 3/4	7987
Air-oil tank	AOT-1	7898

Energy Capacity

Type	Stroke (mm)	Effective Mass (kg)		Max. Energy Capacity (Nm)	
		Min.	Max.	per stroke W_3	per hour W_4
SA-A 1-1/8 x 2	50.8	72	13000	1380	345000
SA-A 1-1/8 x 4	102	118	18200	2700	460000
SA-A 1-1/8 x 6	152	200	32000	4150	575000

Technical Data

Characteristic	Unit	Comments
Impact velocity	m/s	0.3 - 4.5
Operating temperature range	°C	-12 to 80
Installation		in any position
Max. deviation of impacting force from centre axis of shock absorber		±5°
Weight (mass)	kg	Type: SA-A 1-1/8 x 2: 3.709 Type: SA-A 1-1/8 x 4: 5.025 Type: SA-A 1-1/8 x 6: 6.612
Min. mounting strength required	N	68000 ¹⁾
Materials		
Body		Steel, black oxide finish
Piston rod		Steel, hardened, ground, hard-chrome plated
Accessories		Steel, black oxide finish or aluminium, anodized Air-oil tank: high-tensile steel

¹⁾ based on $\frac{2.5 \cdot W_3}{\text{stroke}}$

Shock Absorbers

Hydraulic Industrial Shock Absorbers

Type:

- Adjustable, without return spring, for use with external air-oil tank

Series SA-A
SA-A 1-1/8 x 2

- Stroke 50.8 mm

SA-A 1-1/8 x 4

- Stroke 102 mm

SA-A 1-1/8 x 6

- Stroke 152 mm

Basic Version with:

- 1 mounting nut

Accessories:

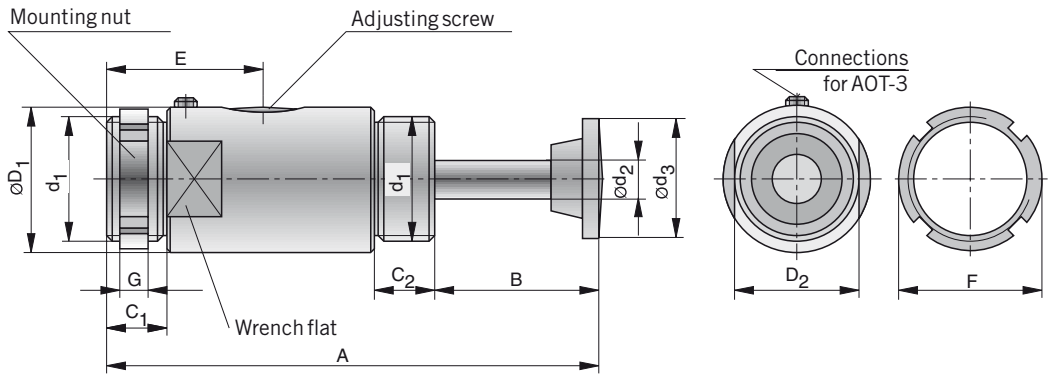
- Air-oil tank, Type AOT-3
- Stop collar
- Square flange
- Soft pad
- Foot mounting



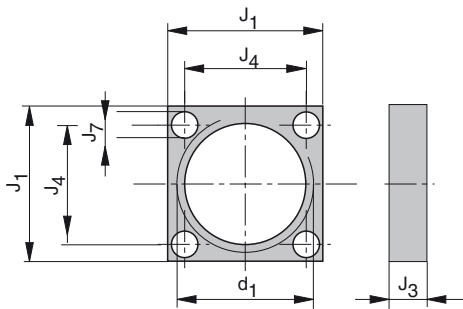
For product group overview see page 16 + 17
For design and installation notes see from page 4

Dimensions (mm) – Shock Absorbers

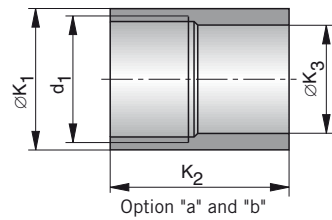
Type: SA-A 1-1/8 x 2, SA-A 1-1/8 x 4, SA-A 1-1/8 x 6



Dimensions (mm) – Square Flange

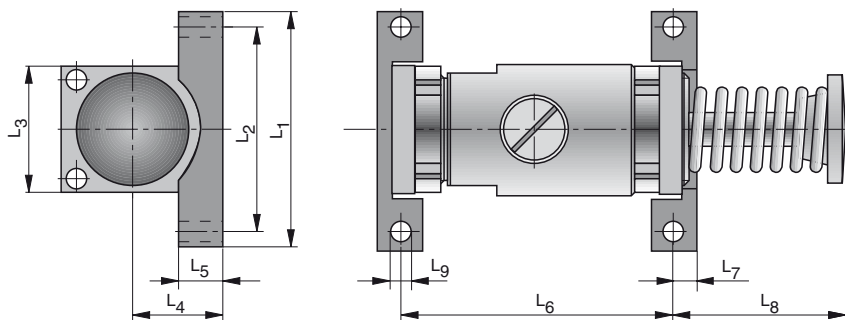


Dimensions (mm) – Stop Collar

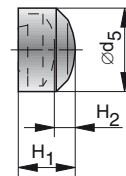


Option „a“ - for rear mounting
Option „b“ - for front mounting

Dimensions (mm) – Food mounting

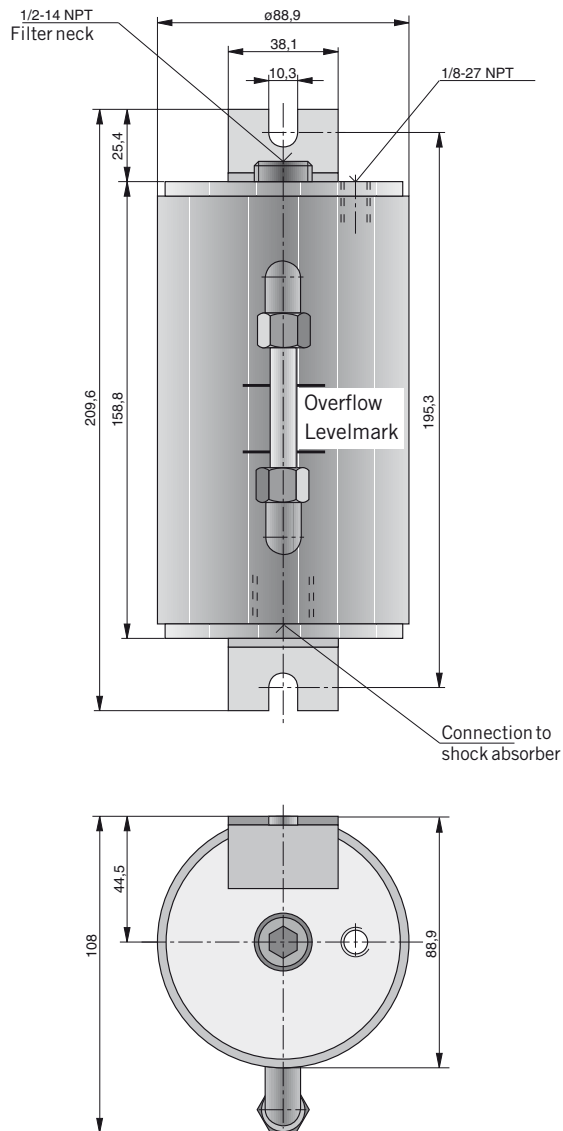


Dimensions (mm) Soft Pad



Note:
Cannot be used with stop collar.

Dimensions (mm) – Air-Oil Tank AOT3



Dimensions Table (mm)

Type	A	B	C ₁	C ₂	ϕD_1	D ₂	d ₁	ϕd_2	ϕd_3	ϕd_5	E	F	G	H ₁	H ₂	J ₁
SA-A 1-1/8 x 2	225.6	85.9	26.2	26.2	76.2	69.9	M64x2	20.6	50.8	57.2	69.9	76.2	9.5	25.4	17.5	88.9
SA-A 1-1/8 x 4	327.2	136.7	26.2	26.2	76.2	69.9	M64x2	20.6	50.8	57.2	95.3	76.2	9.5	25.4	17.5	88.9
SA-A 1-1/8 x 6	450.9	209.6	26.2	26.2	76.2	69.9	M64x2	20.6	50.8	57.2	120.7	76.2	9.5	25.4	17.5	88.9

Type	J ₃	J ₄	J ₇	ϕK_1	K _{2a}	K _{2b}	ϕK_3	L ₁	L ₂	L ₃	L ₄	L ₅	L ₆	L ₇	L ₈	L ₉
SA-A 1-1/8 x 2	15.9	69.9	10.3	76.2	62.7	50	60.3	142.9	123.8	88.9	44.5	19	127	14.3	90.5	10.3
SA-A 1-1/8 x 4	15.9	69.9	10.3	76.2	62.7	50	60.3	142.9	123.8	88.9	44.5	19	177.8	14.3	141.3	10.3
SA-A 1-1/8 x 6	15.9	69.9	10.3	76.2	84.9	72.2	60.3	142.9	123.8	88.9	44.5	19	228.5	14.3	214.3	10.3

Order Instructions

Product	Order Instructions	
	Type	Order No.
Shock absorber; stroke 50.8 mm	SA-A 1-1/8 x 2	7880
Shock absorber; stroke 102 mm	SA-A 1-1/8 x 4	7885
Shock absorber; stroke 152 mm	SA-A 1-1/8 x 6	7886
Soft pad	SP 1-1/8	7994
Square flange	SF 1-1/8	7998
Foot mounting	FM 1-1/8	7993
Additional mounting nut	LN 1-1/8	7999
Stop collar option a – SA-A 1-1/8 x 2, SA-A 1-1/8 x 4	SC 1-1/8 A	7991
Stop collar option b – SA-A 1-1/8 x 2, SA-A 1-1/8 x 4	SC 1-1/8 B	7997
Stop collar option a – SA-A 1-1/8 x 6	SC 1-1/8 A	7891
Stop collar option b – SA-A 1-1/8 x 6	SC 1-1/8 B	7897
Air-oil tank	AOT-3	7899

