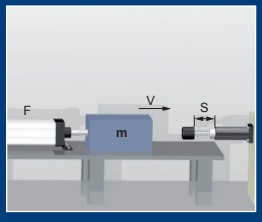
Weforma

Shock Absorbers

Mega-Line WE-M 2,0

ONLINE
Calculation +
2D / 3D CAD Download



www.weforma.com

Deceleration Technology

15.4.2016

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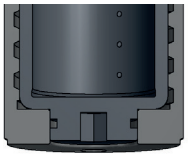
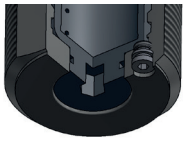
Benefits

Helix-Principle:
- Max. +300% Energy
- Max. -50% Costs / Nm



Pro Adjust:
- Protected adjustment

ProTec:
- Solid body without retaining ring



Piston:
- Hardened, Aluminium-Titanium-Nitride coated
- Special seals + oils

Extended life cycle:
- Nitrated guidance system

Integrated end stop:
- Max. security

Models:
- Black finish

Temperature:
Standard: -20°C-...+80°C
Low temperature: -50°C-...+60°C
High temperature: 0°C-...+120°C

Special edition :
- ProSurf
- V4A(/DIN1.440/AISL 316L)
- For pressure chambers up to 7 bar
- USDA-H 1 compliant for food industry
- Cleanroom

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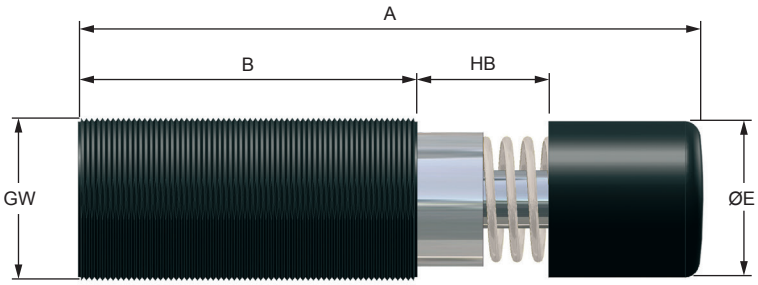

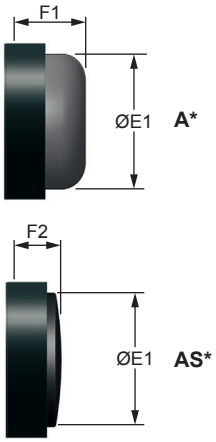

***A:** PU / **AS:** Steel*
Add "A / AS" after the part no.

DIMENSIONS

	GW*	A	B	ø E	ø E1	F1	F2	SW
		mm	mm	mm	mm	mm	mm	mm
WE-M 2,0 x 1	M 62 x 2	186	104	59	49	25	14	60
WE-M 2,0 x 2	M 62 x 2	236	129	59	49	25	14	60
WE-M 2,0 x 4	M 62 x 2	336	179	59	49	25	14	60
WE-M 2,0 x 6	M 62 x 2	453	246	59	49	25	14	60

SPECIAL THREAD - from stock

Series	Code	Threads	Example
2,0	L	M 64x2	WS-M 2,0x1-1 L
2,0	U	2 1/2-12 UNF	WP-M 2,0x1-1 U

STAINLESS STEEL - from stock

Series	Code	Threads	Example
2,0X1		M 62x2	WE-M 2,0X1-1-VA
2,0X1	L	M 64x2	WE-M 2,0X1-1L-VA
2,0X1	U	2 1/2-12 UNF	WE-M 2,0X1-1U-VA
2,0X2		M 62x2	WE-M 2,0X2-1-VA
2,0X2	L	M 64x2	WE-M 2,0X2-1L-VA
2,0X2	U	2 1/2-12 UNF	WE-M 2,0X2-1U-VA
2,0X4		M 62x2	WE-M 2,0X4-1-VA
2,0X4	L	M 64x2	WE-M 2,0X4-1L-VA
2,0X4	U	2 1/2-12 UNF	WE-M 2,0X4-1U-VA
2,0x6		M 62x2	WE-M 2,0X6-1-VA
2,0x6	L	M 64x2	WE-M 2,0X6-1L-VA
2,0x6	U	2 1/2-12 UNF	WE-M 2,0X6-1U-VA

PERFOMANCE

	Stroke	Energy absorption			Effective mass				
		Constant load*		External tank**	-0 (very soft)	-1 (soft)	-2 (medium)	-3 (hard)	-4 (very hard)
	mm	Nm/HB (max.)	Nm/h (max.)	Nm/h	min. - max. kg	min. - max.kg	min. - max.kg	min. - max.kg	min. - max. kg
WE-M 2,0 x 1	25	1.500	150.000	240.000	60 - 480	300 - 41.150	12.000 - 470.000	-	-
WE-M 2,0 x 2	50	2.500	250.000	400.000	80 - 800	500 - 63.700	14.000 - 600.000	-	-
WE-M 2,0 x 4	100	5.000	350.000	525.000	160 - 1.600	1.000 - 62.500	40.000 - 1.000.000	-	-
WE-M 2,0 x 6	150	8.000	400.000	650.000	250 - 2.400	1.250 - 105.000	64.000 - 1.000.000	-	-

Technical data at + 20°C

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Technical Data

Weight	**2,0 x 1**:	2,0 kg
	2,0 x 2:	3,0 kg
	2,0 x 4:	3,9 kg
	2,0 x 6:	4,8 kg
Impact speed	**WE-M**:	0,02 - 6,0 m/s
Return spring force	**2,0 x 1** : 50 N/min - 130 N/max **2,0 x 2** : 40 N/min - 130 N/max **2,0 x 4** : 45 N/min - 130 N/max **2,0 x 6** : 35 N/min - 130 N/max	
Torque: **Max. force by using the flats**	**2,0** :	40 Nm
Housing	Black finish	
Piston rod	Hardened stainless steel	
RoHS - compliant	Directive 2002/95/EG	

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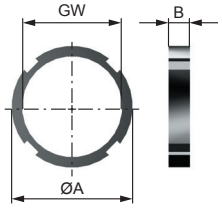
Accessories

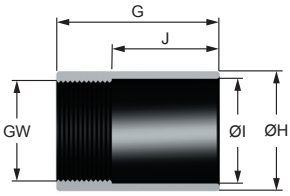
Lock nut



Code.: S25012

GW	ØA mm	B mm	Code
M62x2	74	10	S25012
M64x2	74	10	S25012L
2 1/2-12UNF	74	10	S25012U
stainless steel			
M62x2	74	10	S25012VA
M64x2	74	10	S25012L-VA

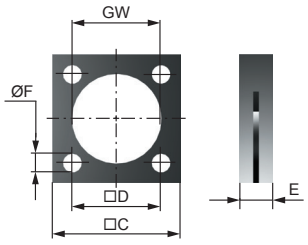
Stop limit nut



Code.: S25018

GW	ØI mm	ØH mm	G mm	J mm	Code
M62x2	65	74	100	60	S25018
M64x2	65	74	100	60	S25018L
2 1/2-12UNF	65	74	100	60	S25018U

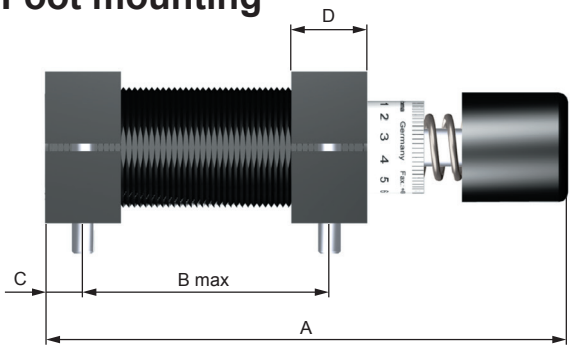
Square flange

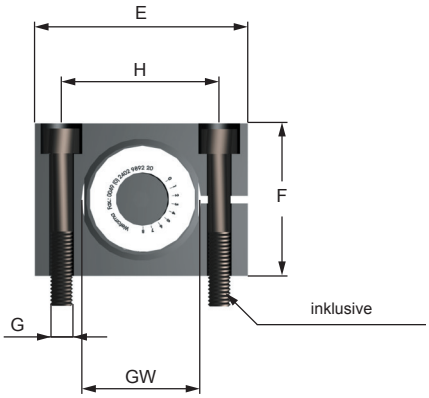


Code.: S25014

GW	ØF mm	E mm	D mm	C mm	Code
M62x2	11	20	60	80	S25014
M64x2	11	16	58	80	S25014L
2 1/2-12UNF	11	20	58	80	S25014U
stainless steel					
M62x2	11	20	60	80	S25014VA

Foot mounting





	GW*	A	B max	C	D	E	F	G	H	Code
	Standard	mm	mm	mm	mm	mm	mm	mm	mm	
2,0 x 1	M62 x 2	186	79	12,5	25	100	80	M10x80	76	S25015
2,0 x 2	M62 x 2	236	104	12,5	25	100	80	M10x80	76	S25015
2,0 x 4	M62 x 2	336	154	12,5	25	100	80	M10x80	76	S25015
2,0 x 6	M62 x 2	453	221	12,5	25	100	80	M10x80	76	S25015
2,0 x 1L	M64 x 2	186	79	12,5	25	100	80	M10x80	78	S25015L
2,0 x 2L	M64 x 2	236	104	12,5	25	100	80	M10x80	78	S25015L
2,0 x 4L	M64 x 2	336	154	12,5	25	100	80	M10x80	78	S25015L
2,0 x 6L	M64 x 2	453	221	12,5	25	100	80	M10x80	78	S25015L

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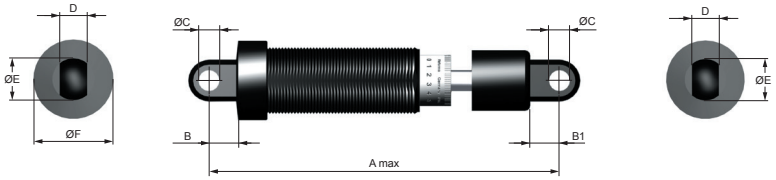
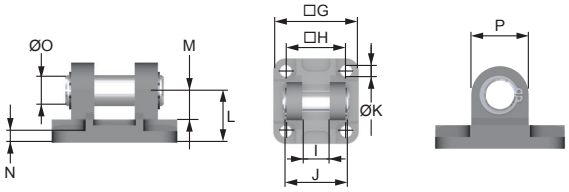
Clevis mounting



Code.: S25016

Clevis flange



Pull: End stop required 1 mm before the stroke ends

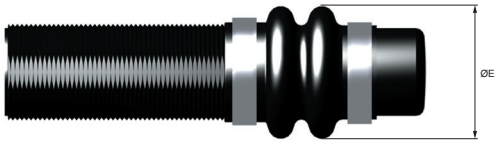
Standard: Shock absorber with clevis mounting is delivered without return spring.
Return spring is available on request.

Code.: S25016-1

	GW*	A max	B	B1	ø C	D	ø E	ø F	G	H	I	J	ø K	L	M	N	ø O	P
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
2,0 x 1	M62 x 2	272	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 2	M62 x 2	322	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 4	M62 x 2	422	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 6	M62 x 2	539	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 1L	M64 x 2	272	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 2L	M64 x 2	322	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 4L	M64 x 2	422	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 6L	M64 x 2	539	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 1U	2 1/2-12UNF	272	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 2U	2 1/2-12UNF	322	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 4U	2 1/2-12UNF	422	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42
2,0 x 6U	2 1/2-12UNF	539	35	35	20	24	40	74	95	72	25	65	11	36	22	10	20	42

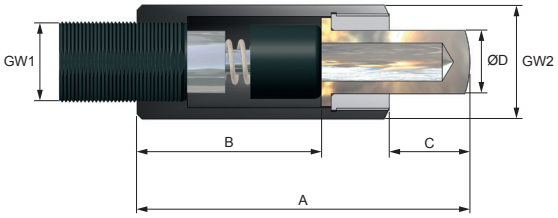
Accessories

Protection bellow



	ø E mm	Code
2,0 x 1	90	S25517
2,0 x 2	90	S25017
2,0 x 4	90	S25117
2,0 x 6	90	S25217

AK 1



	GW1	GW2	A	B	C	ø D	Code
			mm	mm	mm	mm	
2,0 x 1	M62x2	M85x2	158,5	102	29,5	55	S25019
2,0 x 2	M62x2	M85x2	208,5	127	54,5	55	S25119
2,0 x 1L	M64x2	M85x2	158,5	102	29,5	55	S25119L
2,0 x 2L	M64x2	M85x2	208,5	127	54,5	55	S25119L

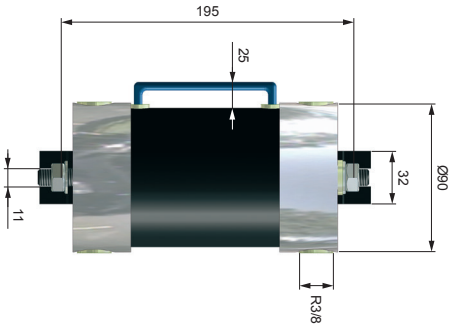
WE-M 2,0 x 2 - 1AT
For shock absorbers without return spring

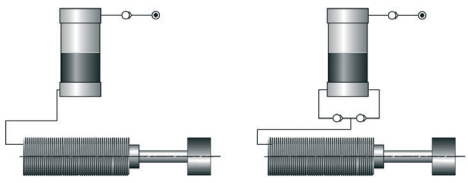
WE-M 2,0 x 2 - 1 ATF
For shock absorbers with return spring

WM-AT 1
For external Tanks

External Tanks

AT 2





Code.: 23820

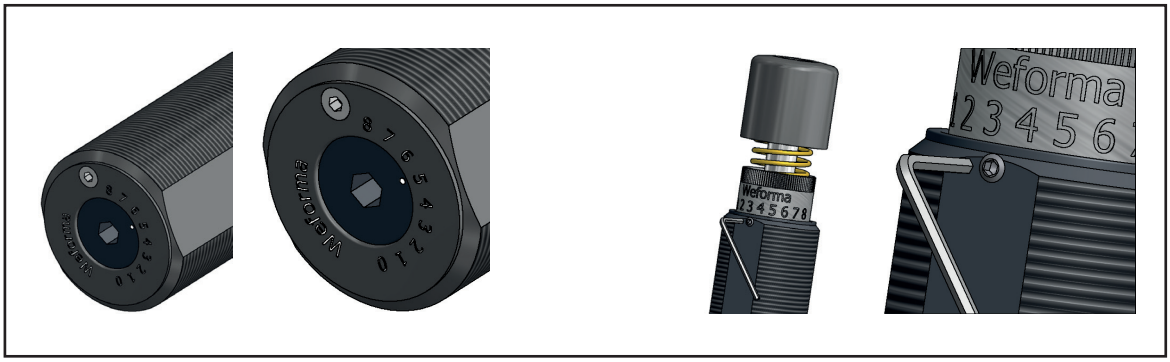
WE-M 2,0

Benefits:

Optimum cooling and therefore higher energy absorption per hour“

Adjustment:

The adjustment cann be done with the hexagonal recess in the bottom of the housing or with the adjustment ring at the piston rod side.



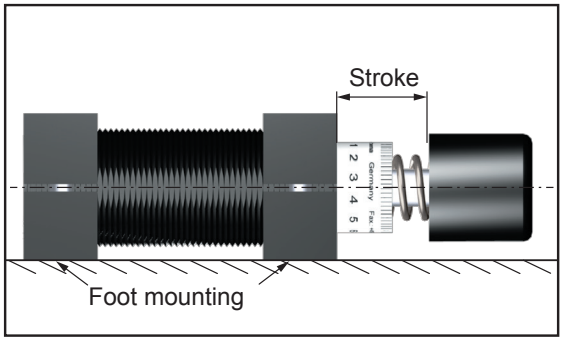
Adjustment: It is not allowed to adjust the shock absorber in operation conditions or during the operation.

0 = low damping
8 = high damping

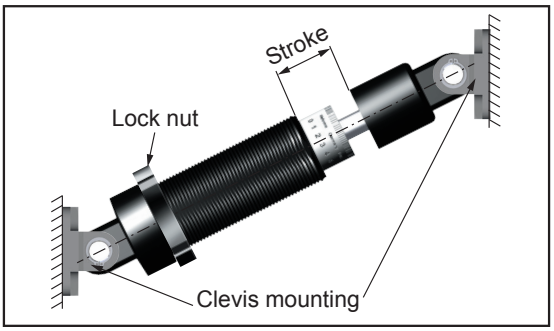
In order to adjust the shock absorber set the adjustment screw to „6“ if the velocity is <1,3 m/s or to „4“ if the velocity is >1,3 m/s. Internal damage to the shock absorber can occur, if not adjusted in gradual increments. Do not drive in the final position under full load. If the damping is not sufficient, increase continously by rotating the adjustment to the next higher number. Maximum damping is achieved, when the highest number on the scale is reached.If the mass impacts exessively hard on the shock absorber (stop cap) the damping should be reduced by rotation of the adjustment to the next smaller number. Minimum damping is at „0“ setting. Secure the adjustment with the threaded pin. A hexagonal key is supplied for this purpose.
For sizes 1,25 and bigger the threaded pin is on the flats in the region of the front adjustment.

Installation

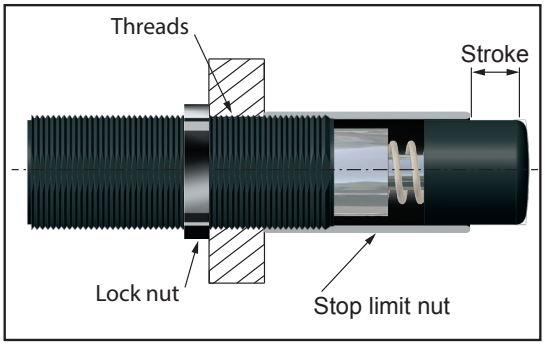
Foot mounting



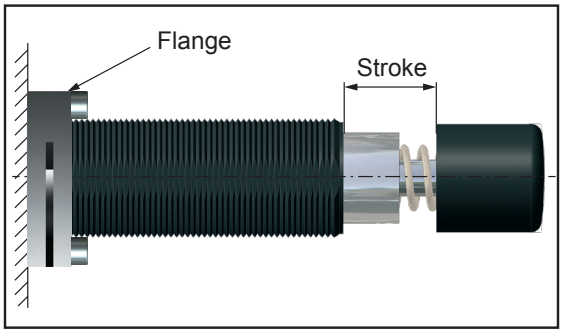
Clevis mounting



Installation with stop limit nut



Installation with flange



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Safety Instructions

Before installation, commissioning, servicing and repair the data sheet is to be noticed. This work may only be performed by trained, introduced staff.

Electric connections according to the suitable national regulation. For Germany: VDE regulation VD E0100

Before all repair and servicing works the energy supplies (main switch, etc.) have to be switched off! Moreover, measures are necessary to prevent an unintential reconnect. For example, a warning sign “service works“ or “maintenance work“, applied to the switch.

Designated use

Check before installation and make sure the type name on the shock absorber or on the packaging is corresponding with delivery note. Industrial shock absorbers are maintenance-free and ready for installation.

- Temperature influence: at higher temperatures the shock absorber characteristic will change.
- Movable loads have to be protected during the installation and maintenance against unintentional processes.
- In operation outside the allowed temperature range, the shock absorber can lose his function. Due to heat radiation don’t paint the shock absorber.
- Fluids, gases and a dirty environment can affect or destroy the sealing system of the shock absorber. The result could be a failure malfunction. Piston rod and sealing system has to be protected against fluids, gases and a dirty environment.
- Damages at the piston rod can destroy the sealing system. Don’t grease or oil the piston rod.
- Avoid traction forces on the piston rod to present internal damages.
- The shock absorber can be pulled out of the construction during the impact.The construction needs to be able to resist the max counterforce. Sufficient security must be calculated.
  The maximum counterforces performed in the calculation program can vary from the really appearing counter forces, because these are based on theoretical values.

Fundamentals

Shock absorbers may under no circumstances be:

-painted

-welded

-held with clamps

-used on pull*

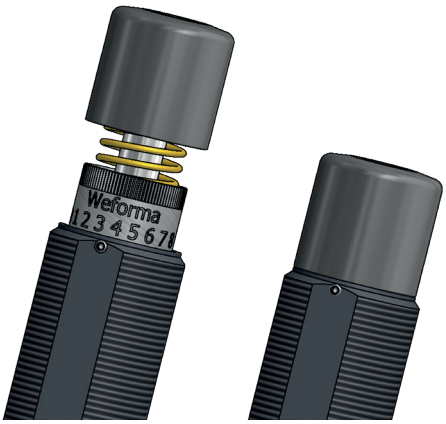
(exception: clevis mounting)

In hazardous environments (dirt, humidity, oil) shock absorbers must be protected against damage and failure with the necessary accessory. If several shock absorbers are used on the same application, the deceleration has to be distributed equally. The “Torque” (PERFORMANCE) indicates the maximum force by using the flats. The Weforma catalogue shows technical data with both minimum and maximum values. If a product is to be used in continuous operation and within a range of 20% from the minimum and maximum values shown, then written confirmation of suitability of use from Weforma is necessary.

Important information

Integrated end-stop

Up to the Mega-Line series 2,0 the shock absorbers are provided with an integrated end-stop. If the integrated end-stop is used the remaining energy before end of stroke must not be higher than 10% of the total energy. For all models which are used as an emergency stop an external fixed stop is necessary.



Installation situation

The installation situation is any, however always in such a way that the complete shock absorber stroke can be used. The shock absorbers must be mounted like that the forces in centerinke about the piston rod are initiated. The maximum angle out of centre amounts to 2 °.

Liability

Due to the number of possible uses of our products and the conditions of use that lie outside of our scope of influence, we accept no liability as to whether the purchase object is suitable for the Client‘s intended purpose. The verification to this effect, in particular the verification as to whether the purchase object is suitable for the planned use, is the responsibility of the Client alone, unless expressly agreed otherwise in writing.

For the reasons we accept no liability for the suitability of the purchase object for the purpose intended by the Client, except in cases of intent or gross negligence.

With damages, the not designated use and from high-handed, in these instructions do not originate to intended interventions, any guarantee and liability claim goes out towards the manufacturer.

Guarantee

By non-use of the original spare parts the guarantee claim goes out.

Environment protection

By the exchange from damaged parts is to be respected to a proper disposal.