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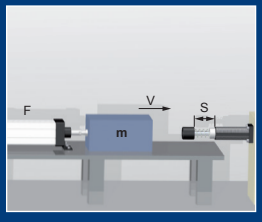
Shock Absorbers

Mega-Line WS-M 5,0

ONLINE
Calculation +
2D / 3D CAD Download



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Deceleration Technology

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Benefits

Self-compensating

Extended life cycle:
- Piston rod: hard-chrome plated
- Housing zinc plated
- Robust design type

High performance range
- Energy absorption up to 19000 Nm / Stoke

Spring return

Maintenance-free

Ready for Installation

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

Deceleration characteristics:
- can be customized

Special models:
- Outdoor: Housing and seal bushing painted conforming to DIN ISO 12944-C5L
  Piston rod: nickel (30 µm) and hardchrome (20 µm) plated

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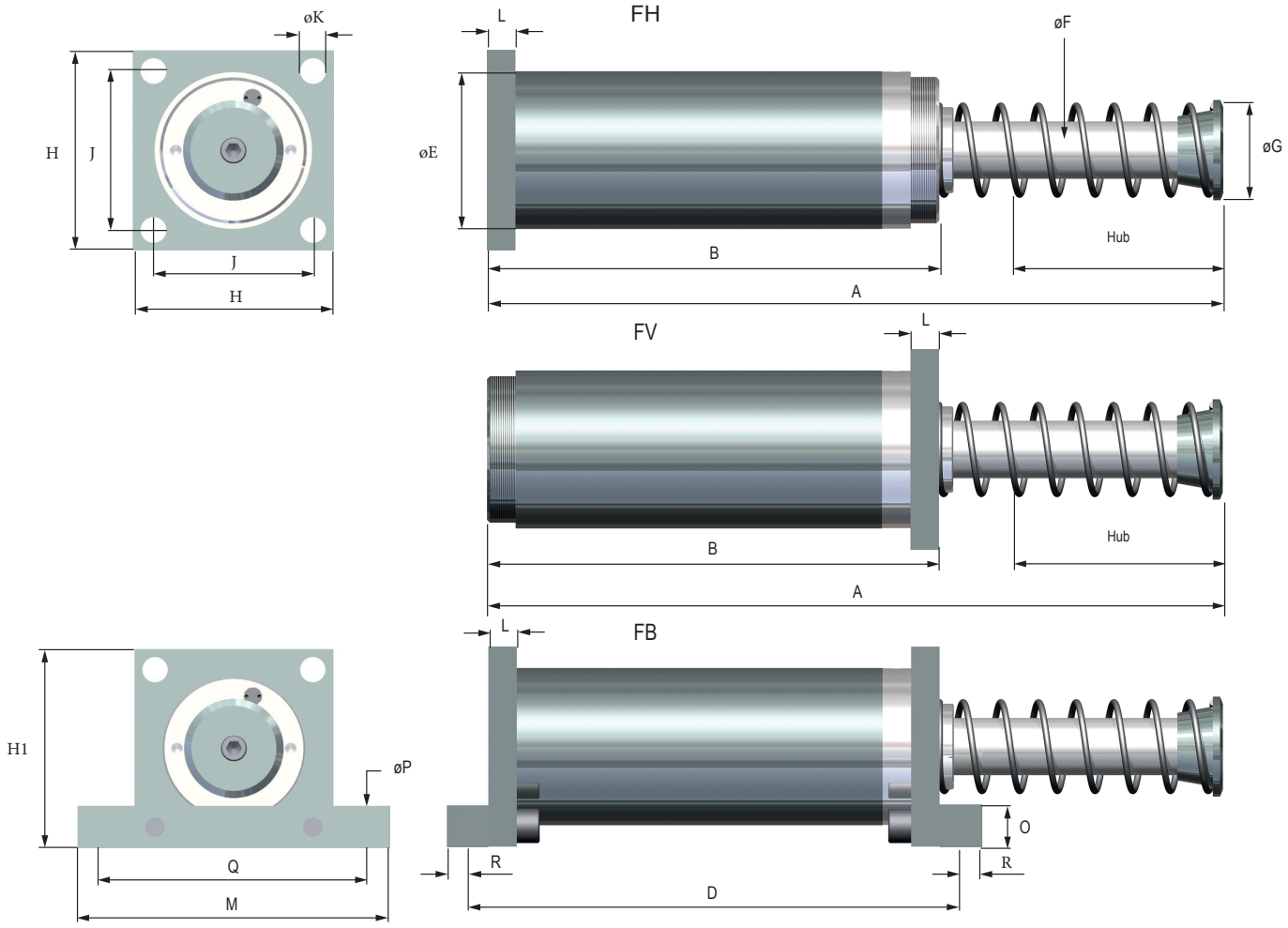

End stop required 2 - 3 mm before the stroke ends

DIMENSIONS

	A	B	D	øE	øF	øG	H	J	øK	L	M	H1	O	øP	Q	R	Weight
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
WS-M 5,0-050	313	214	244	110	40	70	140	111	18	20	220	140	30	18	178	15	14
WS-M 5,0-100	414	262	292	110	40	70	140	111	18	20	220	140	30	18	178	15	16
WS-M 5,0-150	516	317	347	110	40	70	140	111	18	20	220	140	30	18	178	15	18
WS-M 5,0-200	648	361	391	110	40	70	140	111	18	20	220	140	30	18	178	15	20
WS-M 5,0-250	750	413	443	110	40	70	140	111	18	20	220	140	30	18	178	15	24

PERFOMANCE

	Stroke	Energy absorption		Effective mass								Impact Speed	Return spring force
				-1 (soft)		-2 (medium)		-3 (hard)		-4 (very hard)			
	mm	Nm / HB (max.)	Nm/h (max.)	min. kg	max. kg	min. kg	max. kg	min. kg	max. kg	min. kg	max. kg	m/s	N
WS-M 5,0-050	50	4000	1200000	690	2470	2000	5555	4730	14220	12500	39500	0,3 - 3,4	100 - 400
WS-M 5,0-100	100	8000	1520000	1380	4930	4000	11110	9460	28440	25000	79000	0,3 - 3,4	100 - 400
WS-M 5,0-150	150	11000	1650000	1900	6790	5500	15280	13000	39110	34375	108640	0,3 - 3,4	100 - 400
WS-M 5,0-200	200	15000	1950000	2595	9260	7500	20830	17750	53330	46875	148150	0,3 - 3,4	100 - 400
WS-M 5,0-250	250	19000	2280000	3290	11730	9500	26390	22485	67555	59375	187650	0,3 - 3,4	100 - 400

Technical data at + 20°C

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Technichal Data

Weight	**5,0 - 050**:	13,0 kg
	5,0 - 100:	15,0 kg
	5,0 - 150:	17,0 kg
	5,0 - 200:	19,5 kg
	5,0 - 250:	23,0 kg
Impact speed	**WS-M**:	0,3 - 3,4 m/s
Return spring force	**5,0 - 050**: 100 N/min - 400 N/max **5,0 - 100**: 100 N/min - 400 N/max **5,0 - 150**: 100 N/min - 400 N/max **5,0 - 200**: 100 N/min - 400 N/max **5,0 - 250**: 100 N/min - 400 N/max	
Housing	Zinc plated	
Piston rod	Hard - chrome plated	
RoHS - compliant	Directive 2002/95/EG	

Adjustment

The shock absorbers Mega-Line 5,0 are self-adjusting.
Damping characteristics:
WS-M - self-adjusting, linear
WP-M - self-adjusting, progressively
The attenuation factor are available by default:
- 0 - very soft
- 1 - soft
- 2 - medium
- 3 - hard
- 4 - very hard

The damping level is calculated with the formula for the effective mass. (see calculation in the catalog)
If the mass in a trial run impacts excessively hard on the fixed stop select the next harder model. If the mass impacts too hard on the shock absorber choose a softer version.

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.

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Important information

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.