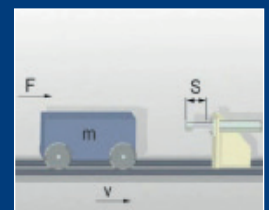


Elasto-Fluid Shock Absorbers

WES 6



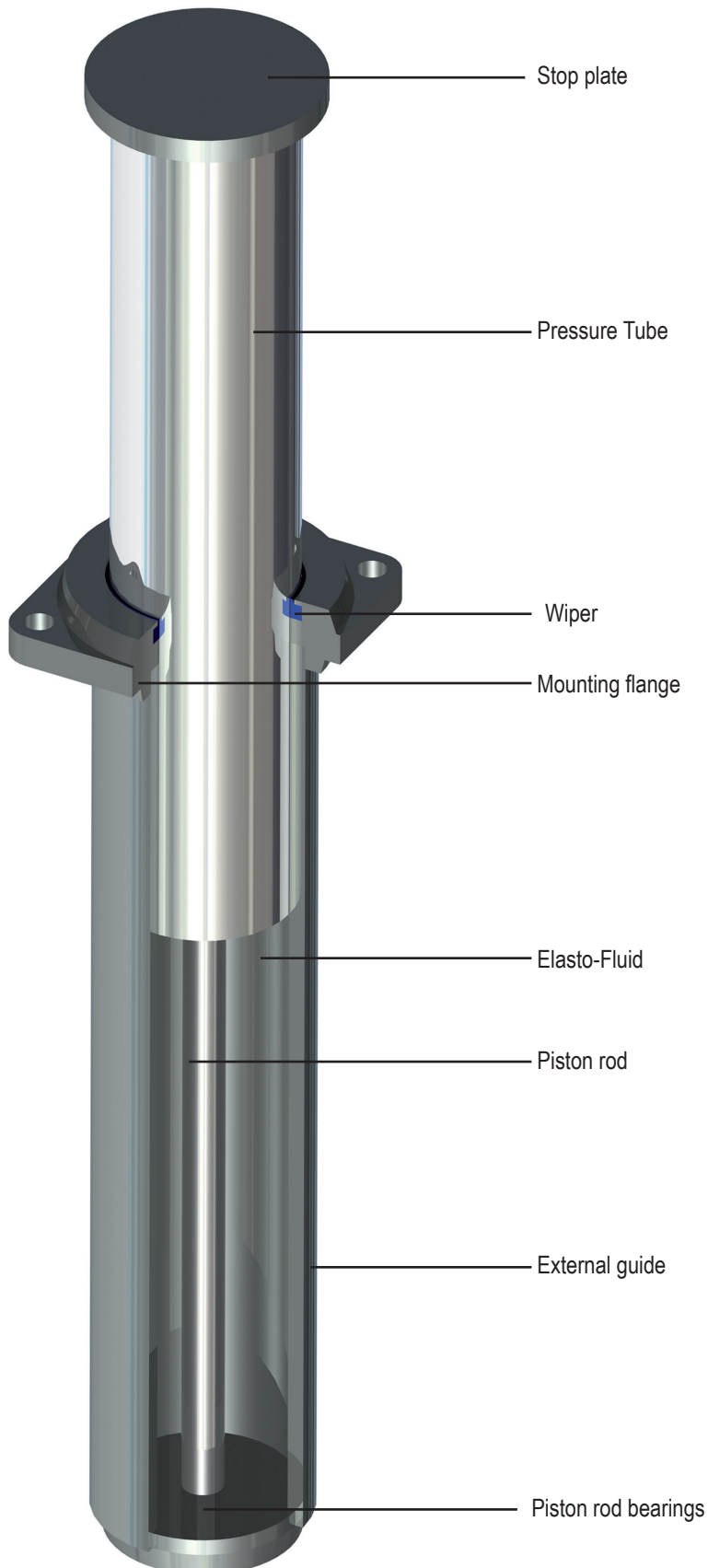
ONLINE
Calculation and
2D / 3D CAD Download



Benefits

Damping medium	High-viscosity elastomer
Energy absorption	Max. 1.000.000 Nm
Surface protection	Pressure tube zinc plated / Housing painted
Deceleration	Progressive, customer specific
Temperature	-10°C - +60°C
RoHS compliant	Directive 2002/95/EG
Applications	Sluices, Flight simulators, Metal industry

Operating Principle



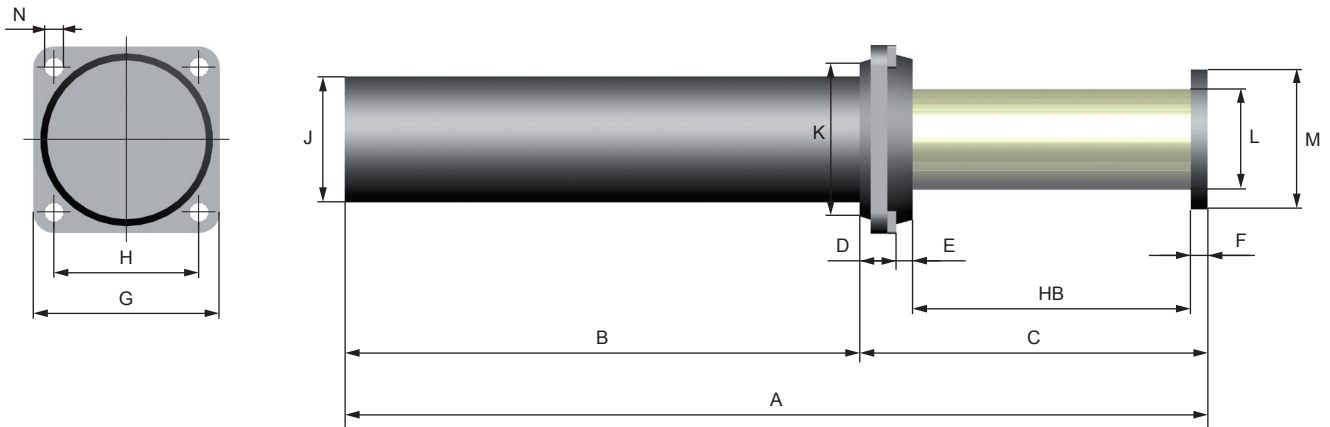
Function

Shock absorbers of series WES have been developed based on the principle of the hydrostatic compression of visco-elastic fluids. Two characteristics are taken advantage of: compressibility and viscosity - this means that in a product the dual function of a shock absorber and a spring can be used or each function can be used separately.

Shock absorber:

The weight is cushioned by the fluid friction in the throttling port of the piston head and/or in the annular clearance between piston and reservoir.

Resetting of the piston rod is effected by the slackening of the compressed visco-elastic fluid.



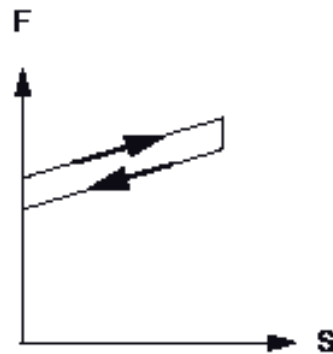
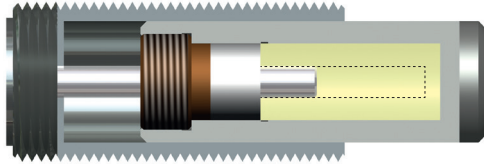
DIMENSIONS

	A	B	C	D	E	F	G	H	Ø J	Ø K	Ø L	Ø M	N
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
WES-6-6-150	410	231	179	19	0	10	90	70	50	90	38	50	9
WES-6-12-150	480	285	195	18	15	12	110	85	75	90	57	80	11
WES-6-12-200	530	285	245	18	15	12	110	85	75	90	57	80	11
WES-6-25-200	620	370	250	20	18	12	135	105	90	110	72	100	14
WES-6-25-270	690	370	320	20	18	12	175	105	90	110	72	100	14
WES-6-50-275	855	520	335	25	20	15	175	140	110	150	87	120	18
WES-6-50-400	980	520	460	25	20	15	175	140	110	150	87	120	18
WES-6-100-400	1370	910	460	25	20	15	175	140	110	150	87	120	18
WES-6-100-600	1570	910	660	25	20	15	175	140	110	150	87	120	18
WES-6-150-800	2640	1780	860	25	20	15	175	140	110	150	87	120	18

PERFORMANCE

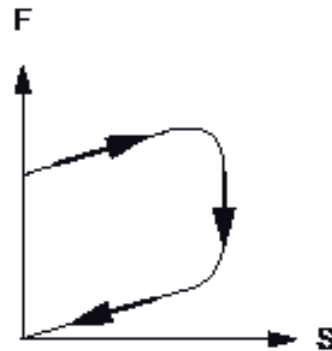
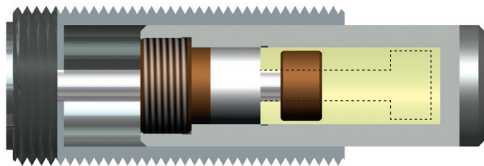
	Stoke	Energy absorption		Counterforce		V	Weight
	mm	kNm	kNm / h	FG min kN	FG max kN	max m/s	kg
WES-6-6-150	150	6	60	2,9	20,5	3	4,2
WES-6-12-150	150	12	120	8,3	38,5	3	11
WES-6-12-200	200	12	120	5,6	30,0	3	11
WES-6-25-200	200	25	250	13,4	74,4	3	20
WES-6-25-270	270	25	250	11,1	51,4	3	25
WES-6-50-275	275	50	500	19,7	130	3	40
WES-6-50-400	400	50	500	12,9	83,8	3	40
WES-6-100-400	400	100	1000	25,0	162,5	3	65
WES-6-100-600	600	100	1000	11,6	132,4	3	65
WES-6-150-800	800	150	1500	23,2	152,2	3	115

Pre-stressed elasto-fluid spring



$$F = F_0 + KS$$

Pre-stressed elasto-fluid damper and spring



$$F = F_0 + KS + CV^x$$

$$x: 0,1 < x < 0,2$$

Shock absorber without resetting

$$F = CV^x$$

$$x: 0,1 < x < 0,4$$

F0	Static prestrain
K	Static rigidity
S	Stroke
C: kN (m/s) ^x	Velocity coefficient
V	Velocity
X	0,1 to 0,4

