

Industrial Shock Absorbers

M4 - M12

3/8-32 - 1/2-20 UNEF

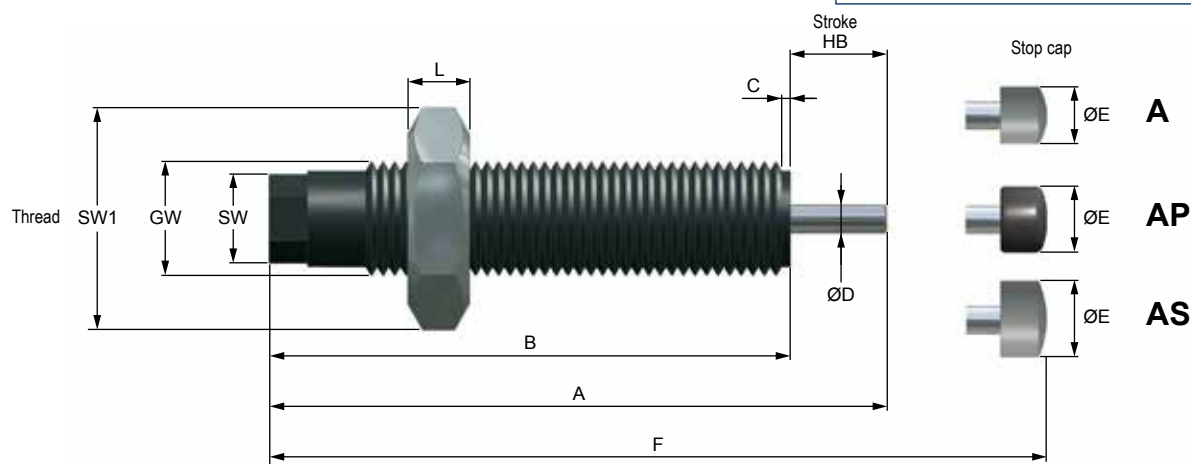


FEATURES

Enlarged Piston	High energy absorption
Extended Life Time	Piston: nitrated guidance system
.....	Special seals + oils
Material	Housing: ProSurf
Piston rod:	hardened stainless steel
Temperature	-20°C - +80°C / option: -50°C - +120°C (-4°F - +176°F / option: -58°F - +248°F)
Integrated End Stop	Max. security
Flats	Cost effective mounting
Special models available from stock	Stainless steel (Page 62,63)
.....	for pressure chambers up to 7 bar
.....	USDA-H1-compliant for food industry

SPECIFICATIONS

Weight	M4x4 / M5x4 / M6x5: 3 g (0.003 lbs); M8x5: 7 g (0.015 lbs) M10x6: 11 g (0.025 lbs) ; M10x8: 14 g (0.03 lbs) M12x10: 30 g (0.067 lbs)
Torque: max. force by using the flats	M 4 x 4: 0,8 Nm (7 lbs); M 5 x 4: 1,0 Nm (9 lbs) M 6 x 5: 1,2 Nm (10 lbs); M 8 x 5: 2 Nm (17 lbs) M 10 x X: 4 Nm (35 lbs); M 12 x 10: 8 Nm (70 lbs)
RoHS - conform	Directive 2002/95/EC
Included	1 Lock nut
Accessories	Page 21



*A: Plastic / AP: Soft Touch / AS: Steel

DIMENSIONS

	GW		GW	A	B	C	Ø D	ØE (A)	ØE (AP)	ØE (AS)	F (A)	F (AP)	F (AS)	L	SW	SW1-U	SW1-M
				mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)	mm (inch)
WS-M 4 x 4	M 4 x 0,35	-	-	29 (1.14)	25 (0.98)	2 (0.08)	1,5 (0.06)	3 (0.12)	4,3 (0.17)	-	33 (1.3)	33 (1.3)	-	3 (0.12)	3 (0.12)	7 (0.28)	7 (0.28)
WS-M 5 x 4	M 5 x 0,5	-	-	29 (1.14)	25 (0.98)	2 (0.08)	1,5 (0.06)	3 (0.12)	4,3 (0.17)	-	33 (1.3)	33 (1.3)	-	3 (0.12)	4 (0.16)	8 (0.31)	8 (0.31)
WS-M 6 x 5	M 6 x 0,5	-	-	32 (1.26)	27 (1.06)	2 (0.08)	2 (0.08)	5 (0.2)	5,3 (0.21)	-	37 (1.46)	37 (1.46)	-	3 (0.12)	4 (0.16)	8 (0.31)	8 (0.31)
WS-M 8 x 5	M 8 x 1	-	-	35 (1.38)	30 (1.18)	2,5 (0.1)	2,3 (0.09)	6 (0.24)	6,5 (0.26)	-	41 (1.61)	41,5 (1.61)	-	3 (0.12)	5,5 (0.22)	11 (0.43)	11 (0.43)
WS-M 10 x 6	M 10 x 1	WS-M 10 x 6U	3/8-32 UNEF	37 (1.46)	31 (1.22)	2,5 (0.1)	3 (0.12)	6 (0.24)	8,5 (0.33)	8,5 (0.33)	43,5 (1.71)	43,5 (1.71)	43,5 (1.71)	3 (0.12)	7 (0.28)	13 (0.5)	13 (0.5)
WS-M 10 x 8	M 10 x 1	WS-M 10 x 8U	3/8-32 UNEF	48 (1.89)	40 (1.57)	2,5 (0.1)	3 (0.12)	6 (0.24)	8,5 (0.33)	8,5 (0.33)	54,5 (2.15)	54,5 (2.15)	54,5 (2.15)	3 (0.12)	7 (0.28)	13 (0.5)	13 (0.5)
-	-	WS-M 10 x 6UF	7/16-28 UNEF	37 (1.46)	31 (1.22)	2,5 (0.1)	3 (0.12)	6 (0.24)	8,5 (0.33)	8,5 (0.33)	43,5 (1.71)	43,5 (1.71)	43,5 (1.71)	4 (0.16)	7 (0.28)	-	14 (0.55)
-	-	WS-M 10 x 8UF	7/16-28 UNEF	48 (1.89)	40 (1.57)	2,5 (0.1)	3 (0.12)	6 (0.24)	8,5 (0.33)	8,5 (0.33)	54,5 (2.15)	54,5 (2.15)	54,5 (2.15)	4 (0.16)	7 (0.28)	-	14 (0.55)
WS-M 12 x 10	M 12 x 1	WS-M 12 x 10UH	1/2-20 UNF	61 (2.4)	51 (2.01)	2,5 (0.1)	4 (0.16)	10 (0.39)	10 (0.39)	10 (0.39)	69 (2.72)	69,5 (2.74)	69 (2.72)	4 (0.16)	9 (0.35)	14 (0.55)	14 (0.55)

PERFORMANCE

	Stroke	Energy absorption			Effective mass						Impact Speed		Return spring force	
		Constant load	Emergency		-1 (soft)		-2 (medium)		-3 (hard)					
	mm (inch)	Nm/HB (max. lbs)	Nm/HB (max. lbs)	Nm/h (max.) (lbs)	min. kg (lbs)	max. kg (lbs)	min. kg (lbs)	max. kg (lbs)	min. kg (lbs)	max. kg (lbs)	min m/s (ft/s)	max m/s (ft/s)	min. N (lbs)	max. N (LBS)
WS-M 4 x 4	4 (0.16)	0,4 (3.6)	0,7 (6.2)	1500 (13.3)	0,1 (0.22)	1 (2.2)	0,9 (2)	3,2 (7.1)	-	-	0,2 (0.66)	1,5 (4.9)	2 (0.45)	7 (1.58)
WS-M 5 x 4	4 (0.16)	0,6 (5.4)	1 (8.9)	1800 (16)	0,1 (0.22)	1,2 (2.7)	1 (2.2)	5 (11.1)	-	-	0,2 (0.66)	2 (6.6)	2 (0.45)	7 (1.58)
WS-M 6 x 5	5 (0.2)	1 (8.9)	1,5 (13.3)	3000 (26.6)	0,05 (0.11)	1 (2.2)	0,8 (1.8)	2,8 (13.7)	1,5 (3.3)	4 (8.9)	0,2 (0.66)	2,5 (8.2)	2 (0.45)	5 (1.13)
WS-M 8 x 5	5 (0.2)	1,5 (13.3)	2 (17.7)	4000 (35.4)	0,25 (0.55)	3 (6.6)	0,7 (1.6)	6 (6.2)	3 (6.6)	9 (19.9)	0,2 (0.66)	2,5 (8.2)	2 (0.45)	5 (1.13)
WS-M 10 x 6 WS-M 10 x 6U WS-M 10 x 6UF	6 (0.24)	2,2 (19.5)	3 (26.6)	12000 (110)	0,7 (1.55)	3 (6.6)	3 (6.6)	10 (22)	8 (17.7)	18 (39.7)	0,2 (0.66)	2,5 (8.2)	3 (0.68)	6 (1.35)
WS-M 10 x 8 WS-M 10 x 8U WS-M 10 x 8UF	8 (0.32)	3 (26.6)	4 (35.5)	24000 (215)	0,9 (2)	9 (19.9)	2 (4.4)	12 (26.5)	9 (19.9)	23 (50.7)	0,2 (0.66)	3 (9.9)	3 (0.68)	6 (1.35)
WS-M 12 x 10 WS-M 12 x 10UH	10 (0.39)	9 (79.7)	12 (106.2)	27450 (245)	1 (2.2)	15 (33)	10 (22)	42 (92.6)	25 (55.1)	61 (134.5)	0,2 (0.66)	3 (9.9)	4 (0.9)	10 (2.25)