

MODEL	CHARGING PRESSURE (BAR)	FORCE (daN) @20° C		COLOUR
		INITIAL	END	
MS12-045-XXX	45	13	18.2	Green
MS12-090-XXX	90	25	36.4	Blue
MS12-135-XXX	135	38	54.6	Red
MS12-180-XXX	180	50	72.7	Yellow

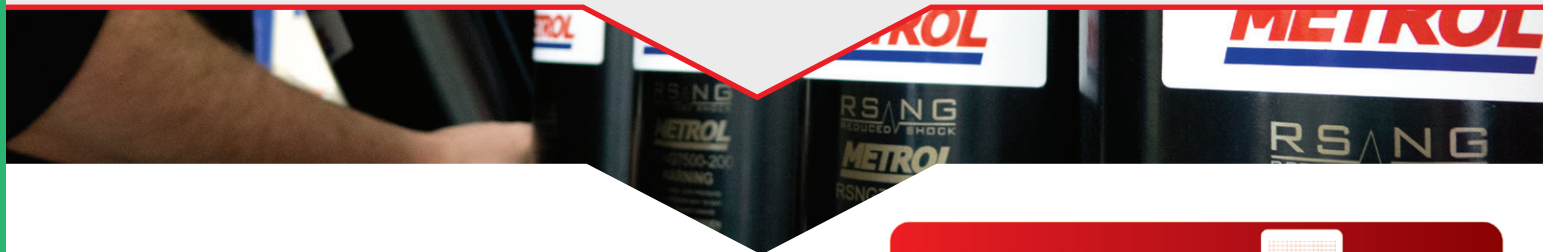
SPECIAL STROKE SIZES AVAILABLE UPON REQUEST

TYPE	STROKE	L MIN	L
MS12	7	49	56
	10	52	62
	13	54.7	67.4
	15	57	72
	19	61	80
	25	67	92
	38	80	118
	50	92	142
	63	108.5	172
	75	120	195
	80	125	205
	100	145	245
125	170	295	

ORDERING EXAMPLE: **MS12-045-007**

USE ONLY NITROGEN

MAX. PRESSURE: 180 BAR	MIN. PRESSURE: 20 BAR	MAX. PISTON VELOCITY: 1.6M/SEC
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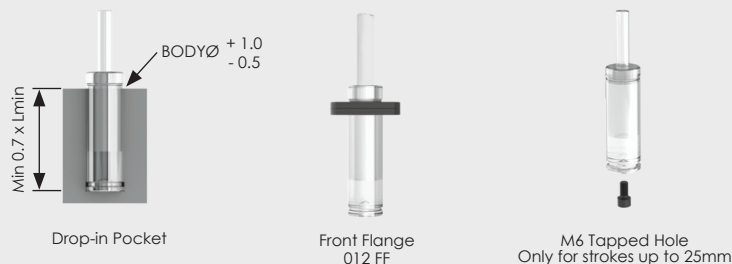


**GAS SPRING FORCE CALCULATOR**

[www.metrol.com/gas-spring-force-calculator](http://www.metrol.com/gas-spring-force-calculator)

**MOUNTING EXAMPLES**

(all dimensions are mm, unless otherwise stated) for other possible mounting options see pages 84 - 88



Please note: gas springs should always be positively retained where possible. How to order: Spring Type x Stroke + Mounting Type ie: MS12 x 7 + FF