NORGREN

OBSOLETE DOCUMENT Technical Reference Only

M/59610, M/59612

Miniature Shock Absorbers
Self-Adjusting
Cushioned Mass
0,9 to 16 kg

- **Small, highly efficient units ideal for a wide variety of applications**
- **Reduce installation vibration**
- **Enable high cycling rates to be used**

Technical Data

Operation:
Self-adjusting hydraulic units

Operating Temperature:
+80˚C max.

Impact Velocity:
0,15 m/s minimum
4,3 m/s maximum

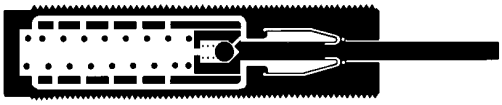
Formulae and Calculations:
See page N 1.11.003.01

Materials:
Burnished steel body, hardened stainless steel (Martensitic) piston rod, synthetic rubber seal.
Note: For optimum heat dissipation do not paint or spray shock absorber

Ordering Information

To order a shock absorber capable of damping a mass of up to 16 kg at up to 28200 Nm/h quote: M/59612/AZ

To order mountings and accessories refer to appropriate tables.



Capacity Chart ● Weights of shock absorbers

Model	Cushioned mass (kg) **me** min. max.	Maximum energy input ** **W3** per stroke (Nm)	**W4** per hour (Nm/h)	Resetting force min. (N) max.	Resetting time (s)	Maximum angle of deflection	Weight (kg)
M/59610/AZ	0,9 to 6,8	2,8	22600	3,6 to 7,6	0,2	3°	0,03
M/59610/BZ	3,6 to 13,6	2,8	22600	3,6 to 7,6	0,2	3°	0,03
M/59612/AZ	0,9 to 16	8,5	28200	4,5 to 11	0,3	3°	0,04

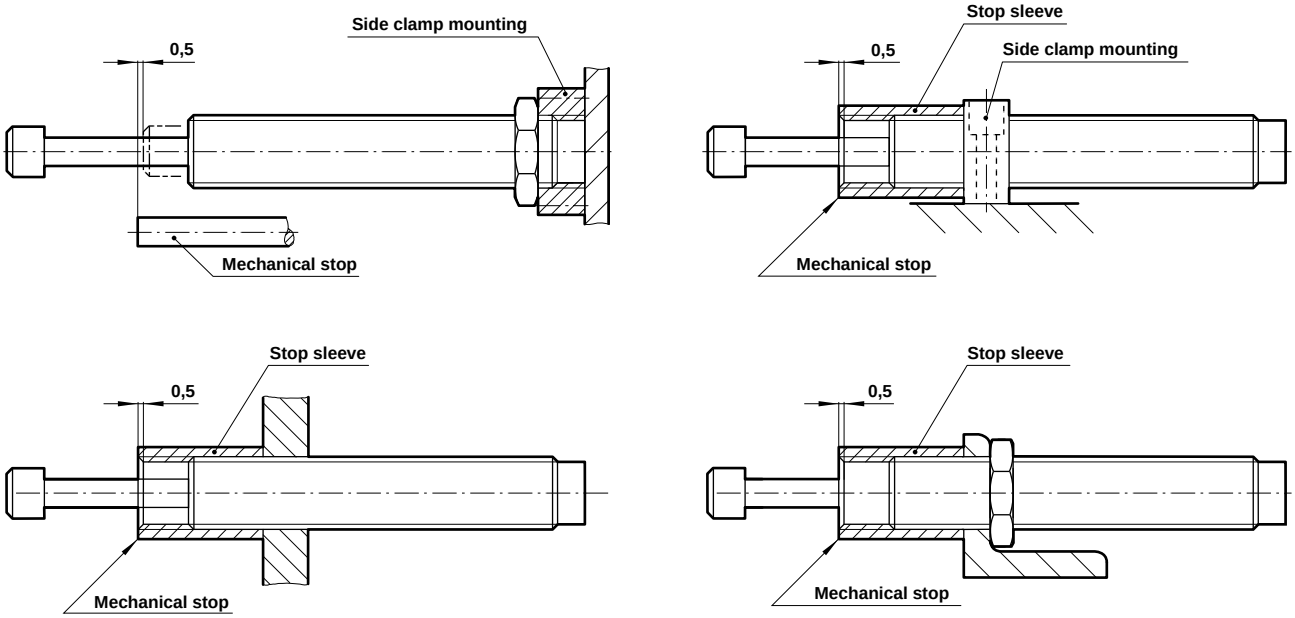
** The ratings per hour of these units may be exceeded if they are switched off periodically or cooled by exhaust air (up to +80°C)

Formulae and Calculations: See page N 1.11.003.01

Weight of Accessories and Mountings (kg)

Model	Style 'N'	Stop Sleeve	Style 'T'
M/59610/AZ, ../BZ	0,001	0,008	0,026
M/59612/AZ	0,002	0,010	0,026

Mounting Examples



Warning

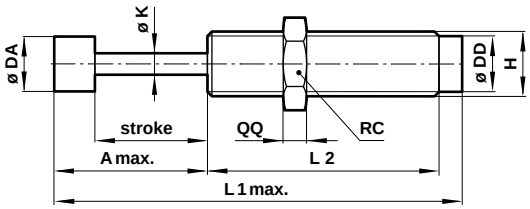
These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under **'Technical Data'**.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.
System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

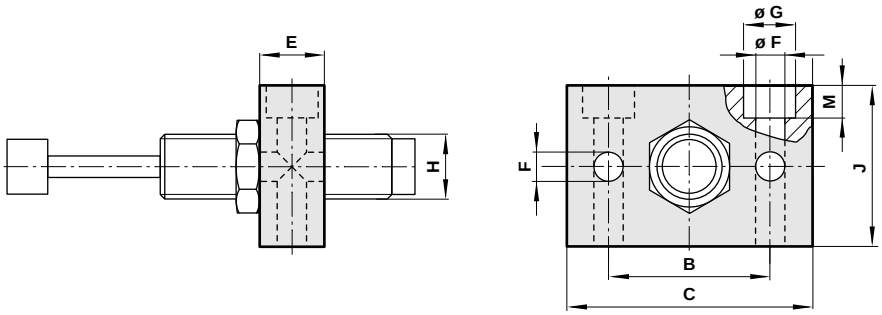
Basic Dimensions



Model	Stroke	A	∅ DA	∅ DD	H	∅ K	L 1	L2	QQ	RC
M/59610/AZ	6,4	14,5	7,5	8,5	M 10 x 1	3,3	57,5	37,5	3	13
M/59610/BZ	6,4	14,5	7,5	8,5	M 10 x 1	3,3	57,5	37,5	3	13
M/59612/AZ	10	18	7,5	10	M 12 x 1	3,3	69,5	46	4	14

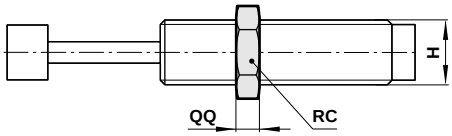
Shock absorbers are supplied with one locknut as standard.

Side Clamp Mounting Style 'T'



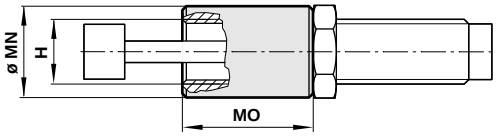
Model	Shock absorber	B	C	E	∅ F	∅ G	H	J	M	
M/P34718	59610	25,5	38	12	4,5	8	M 10 x 1	25,5	5	
M/P34719	59612	25,5	38	12	4,5	8	M 12 x 1	25,5	5	

Locknut Style 'N'



Model	Shock absorber	H	QQ	RC (A/F)
M/P1501/111	59610	M 10 x 1	3	13
M/P1501/112	59612	M 12 x 1	4	14

Stop Sleeve



Model	Shock absorber	H	∅ MN	MO
M/P34721	59610	M 10 x 1	14,5	20
M/P34722	59612	M 12 x 1	16	20