

**Industrial Shock Absorbers
Self Adjustable
Cushioned Mass
2,5 to 27200 kg**

- **Reduced installation vibration gives increased reliability and reduced maintenance**
- **Enable high cycling rates to be used**
- **Can be used to boost the cushioning capacity of existing actuators**

**Technical Data****Operation:**

Self adjustable hydraulic units

Operating Temperature:

+65°C max.

Duty Class:

Version A = very soft

Version B = soft

Version C = medium

Version D = hard

Impact Velocity:

0,15 m/s minimum

4,5 m/s maximum

Formulae and Calculation:

See page N 1.11.003.01

Materials:

Burnished steel body, chrome plated steel (Martensitic)

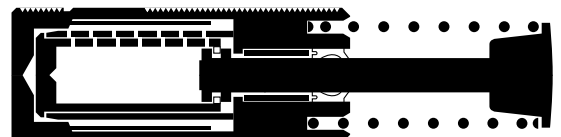
piston rod , synthetic rubber seals

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 300 kg at up to 85900 Nm/h quote: M/59833/D/2

To order mountings and accessories refer to appropriate tables.












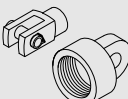
Alternative Shock Absorber • Capacity Chart • Weights

Model	Cushioned mass (kg) me min. max.	Maximum energy input **		Resetting force min. (N) max.	Resetting time (s)	Maximum angle of deflection	Weight (kg)
		W1/W3 per stroke (Nm)	W4 per hour (Nm/h)				
M/59833/A/1	2,5 to 11	102	75700	37-71	0,03	5°	0,5
M/59833/B/1	7 to 34						
M/59833/C/1	23 to 113						
M/59833/D/1	91 to 450						
M/59833/A/2	5 to 22	204	85900	37 to 106	0,06	4°	0,6
M/59833/B/2	13 to 68						
M/59833/C/2	45 to 230						
M/59833/D/2	180 to 900						
M/59845/A/1	11 to 56	226	107000	62 to 89	0,03	5°	1,1
M/59845/B/1	45 to 230						
M/59845/C/1	160 to 770						
M/59845/D/1	545 to 2720						
M/59845/A/2	23 to 113	452	124000	62 to 122	0,08	4°	1,2
M/59845/B/2	90 to 450						
M/59845/C/2	320 to 1550						
M/59845/D/2	1090 to 5450						
M/59845/A/3	34 to 170	678	147000	50 to 148	0,11	3°	1,5
M/59845/B/3	136 to 680						
M/59845/C/3	450 to 2260						
M/59845/D/3	1630 to 8160						
M/59864/A/2	35 to 170	1130	147000	67 to 125	0,12	5°	2,8
M/59864/B/2	136 to 680						
M/59864/C/2	450 to 2270						
M/59864/D/2	1800 to 9070						
M/59864/A/4	68 to 340	2260	192000	73 to 178	0,34	4°	3,5
M/59864/B/4	270 to 1360						
M/59864/C/4	900 to 4540						
M/59864/D/4	3630 to 18100						
M/59864/A/6	102 to 510	3390	249000	73 to 301	0,48	3°	4,7
M/59864/B/6	410 to 2840						
M/59864/C/6	1360 to 6800						
M/59864/D/6	5450 to 27200						

** For emergency stop operation, the rating per stroke may be exceeded up to a maximum of 50%.
The ratings per hour may be exceeded by up to a maximum of 40% if the units are switched off periodically or are cooled by exhaust air.

Formulae and Calculations: See page N 1.11.003.01

Weights of Accessories and Mountings (kg)

Model								
59833	0,009	0,019	0,099	0,110	-	0,093	0,364	0,158
59845	0,002	0,065	0,314	0,326	0,124	0,251	0,576	0,578
59864	0,004	0,095	0,534	0,751	0,548	-	1,835	1,542

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.

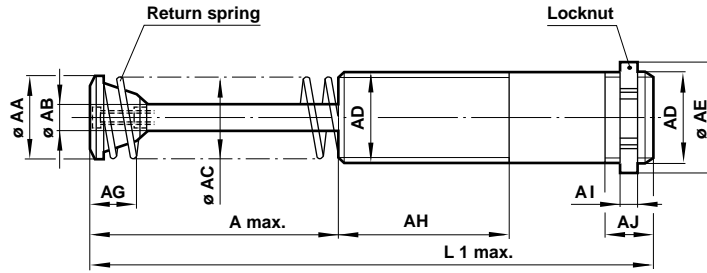
The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

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

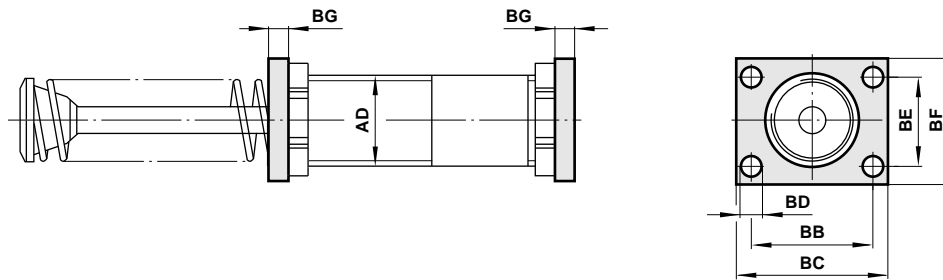


Model	Stroke	A	$\varnothing AA$	$\varnothing AB$	$\varnothing AC$	AD	$\varnothing AE$	AG	AH	AI	AJ	L1
M/59833/*1	25,4	55,5	25,5	7	25,5	M 33 x 1,5	40	12	38	6,5	25	138
M/59833/*2	50,8	81	25,5	7	25,5	M 33 x 1,5	40	12	54	6,5	25	189
M/59845/*1	25,4	50	38	9	35	M 45 x 1,5	57	15	40	9,5	35	145
M/59845/*2	50,8	75,5	38	9	35	M 45 x 1,5	57	15	60	9,5	35	195
M/59845/*3	76	101	38	9	35	M 45 x 1,5	57	15	73	9,5	35	246
M/59864/*2	50,8	84	51	10,7	48	M 64 x 2	76	17,5	70	9,5	38	224
M/59864/*4	102	135	51	10,7	48	M 64 x 2	76	17,5	95	9,5	38	326
M/59864/*6	152	208	60	10,7	59,5	M 64 x 2	76	20,5	121	9,5	38	450

* Version A, B, C or D; Shock absorbers are supplied with one locknut are standard.

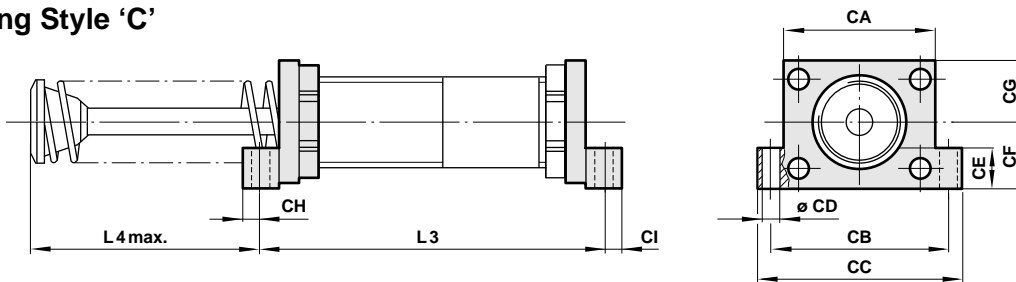
Note: Install mechanical stop 1 to 1,5 mm before end stroke.

Rear Flange Mounting Style 'B' Front Flange Mounting Style 'G'



Model	Shock absorber	AD	BB	BC	$\varnothing BD$	BE	BF	BG
M/P70079	59833	M 33 x 1,5	42	54	7	28	41	9,5
M/P70080	59845	M 45 x 1,5	60	76	9	41,5	57	12,5
M/P70081	59845	M 45 x 1,5	41,5	57	9	41,5	57	12,5
M/P70082	59864	M 64 x 2	70	89	10,5	70	89	16

Foot Mounting Style 'C'



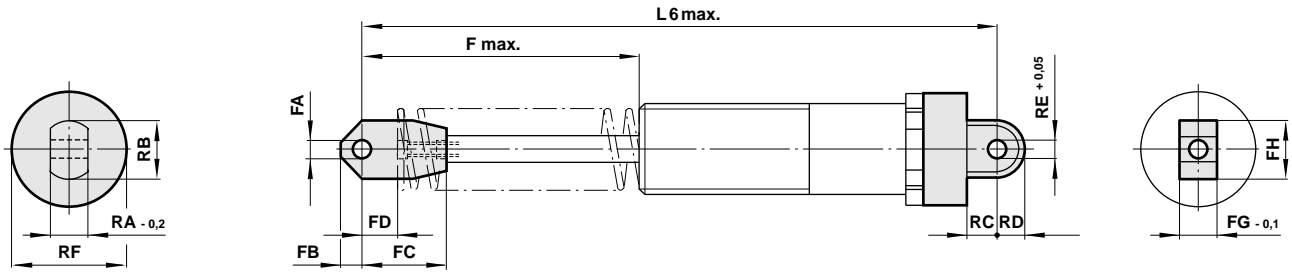
Model	Shock absorber	L3	L4	CA	CB	CC	$\varnothing CD$	CE	CF	CG	CH	CI
QM/59833/21	M/59833/*1	97	49	54	60	70	7	13	22	20,5	6,5	6,5
	M/59833/*2	122	74,5									
QM/59845/21	M/59845/*1	89	49	57	76	95	9	14	29,5	28,5	10	13
	M/59845/*2	111	78,5									
	M/59845/*3	136	104									
QM/59864/21	M/59864/*2	127	90	89	124	143	10,7	19	45	44,5	17,5	17,5
	M/59864/*4	178	141									
	M/59864/*6	229	214									

* Version A, B, C or D

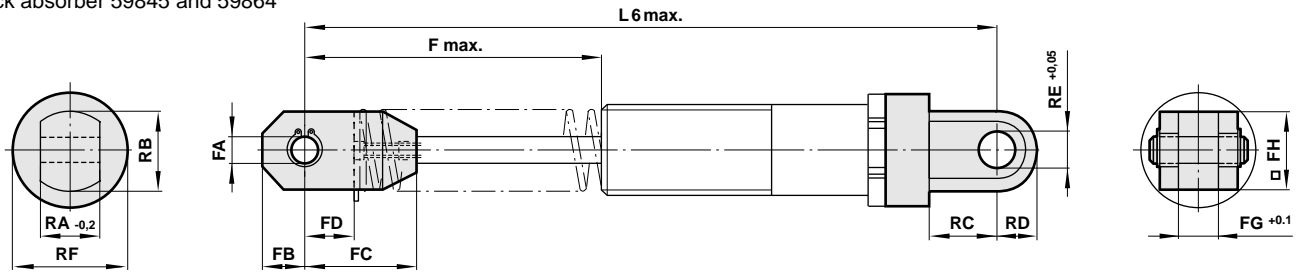


Piston Rod Clevis Mounting Style 'F' and Rear Eye Mounting Style 'R'

Shock absorber 59833



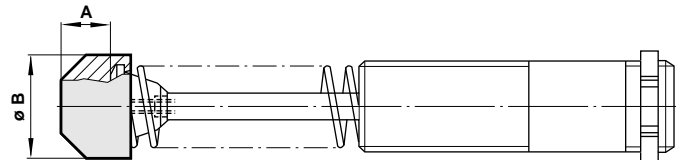
Shock absorber 59845 and 59864



Model	Shock absorber	F	∅ FA	FB	FC	FD	FG -0.1	FH	L6	RA -0.2	RB	RC	RD	∅ RE +0.05	∅ RF
QM/59833/22	M/59833/*1	67	6,36	6,5	28,5	13	12,7 -0.1	19	167	12,7	19	12	8	6,36	40
	M/59833/*2	92							218						
QM/59845/22	M/59845/*1	65	9,5	13	30	17,5	13 +0.1	25,5	200	19	26	27	13	12,7	57
	M/59845/*2	91							250						
	M/59845/*3	116							301						
QM/59864/22	M/59864/*2	120	19,04	16	53	35	16	32	304	32	38	33	19	19,1	76
	M/59864/*4	171							410						
	M/59864/*6	241							530						

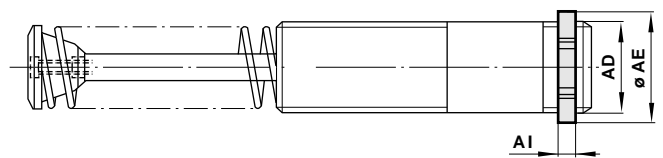
* Version A, B, C or D

Polypad



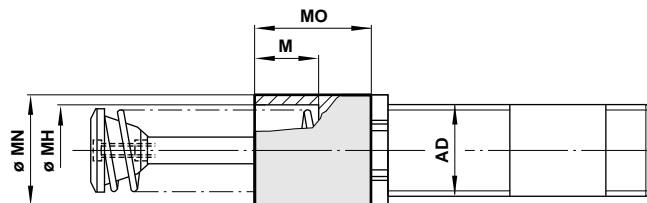
Model	Shock absorber	A	∅ B
M/P70076	59833	12	31
M/P70077	59845	17,5	45
M/P70078	59864	17,5	57

Locknut Style 'N'



Model	Shock absorber	AD	AI	∅ AE
M/P2035/1	59833	M 33 x 1,5	6,5	40
M/P2035/2	59845	M 45 x 1,5	9,5	57
M/P2035/3	59864	M 64 x 2	9,5	76

Stop Sleeve



Shock sleeve						
Model	Shock absorber	AD	M	∅ MH	∅ MN	MO
M/P70070	59833	M 33 x 1,5	21	31	38	37
M/P70071	59845	M 45 x 1,5	19	43	57	38
M/P70072	59864	M 64 x 2	22	62	76	47
Stop sleeve for shock absorber with polypad						
Model	Shock absorber	AD	M	∅ MH	∅ MN	MO
M/P70073	59833	M 33 x 1,5	33	33	38	49
M/P70074	59845	M 45 x 1,5	36,5	50	57	55,5
M/P70075	59864	M 64 x 2	40	62	76	65