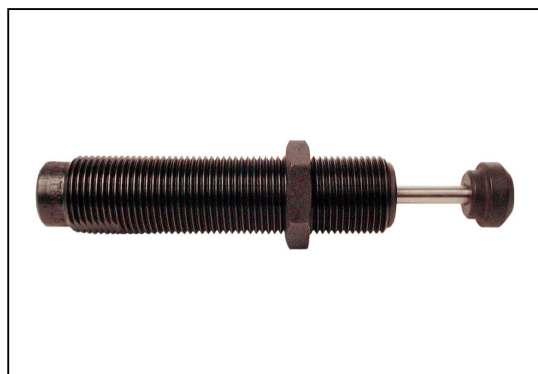


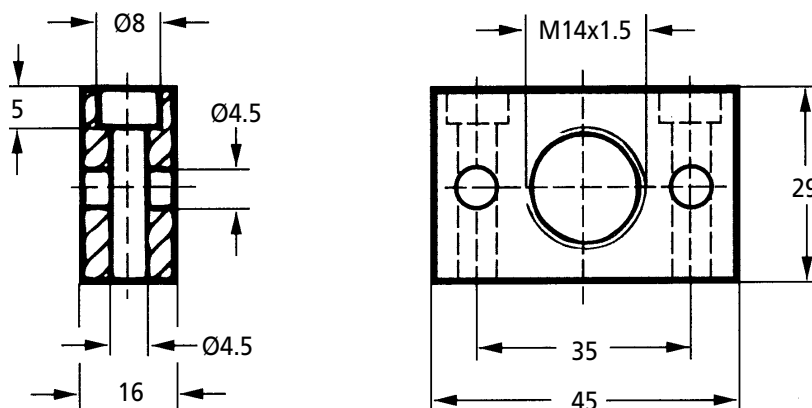
ANTI-VIBRATION & SPRINGS

SC190

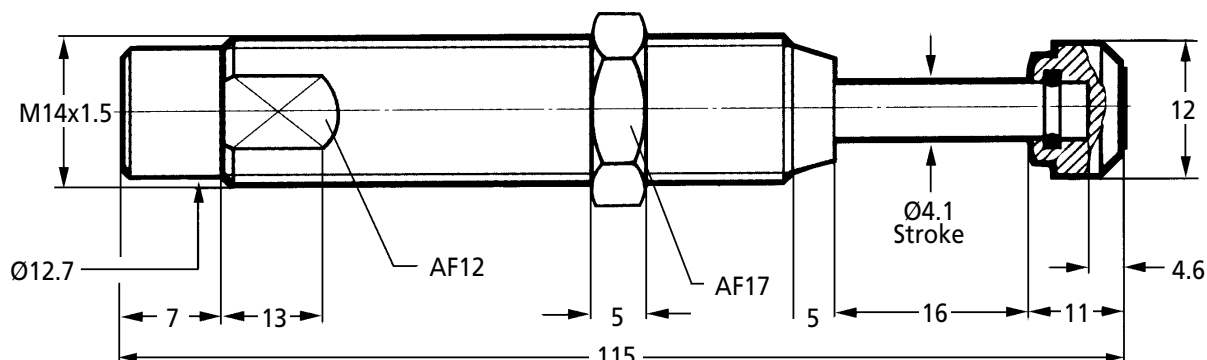
Linear Decelerators Soft Contact & Self-Compensating



Universal Mount



Standard Unit
Includes 1 Locknut & button



Capacity Chart

| Part Number | Effective Weight me | | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Rod Reset Time Sec | Max. Side Load Angle | Weight kg |
|-------------|----------------------|---------------------------|--------------------------|-------------------------|----------------|--------------------|----------------------|-----------|
| | Soft Contact min. kg | Self-Compensating max. kg | | | | | | |
| SC190-HDM-1 | 2.3 - 7 | 1.4 - 7 | 21 | 34000 | 4 - 9 | 0.25 | 5° | 0.08 |
| SC190-HDM-2 | 5.5 - 16 | 3.6 - 18 | 21 | 34000 | 4 - 9 | 0.25 | 5° | 0.08 |
| SC190-HDM-3 | 14.0 - 41 | 9.0 - 45 | 21 | 34000 | 4 - 9 | 0.25 | 5° | 0.08 |
| SC190-HDM-4 | 34.0 - 91 | 23.0 - 102 | 21 | 34000 | 4 - 9 | 0.25 | 5° | 0.08 |

Standard Unit

Accessories

Discounts: 6+ -10% 10+ -20%

| Part Number | Thread | Price Each 1 - 5 | Locknut 250-0233 | Stop Collar* 250-0272 | Price Each 1 - 5 Universal Mount 250-0352 | Rear Clevis | Front Clevis |
|-------------|-----------|------------------|------------------|-----------------------|---|-------------|--------------|
| SC190-HDM | M14 x 1.5 | £101.30 | £2.73 | £11.45 | £29.26 | N/A | N/A |

Material

Body: Steel with Black Oxide Finish
Piston Rod: Hardened Stainless Steel
End Button: Hardened Steel with Elastomeric Insert for Noise Suppression

Features

- Operating temperature range is 0°C to +65°C
- Integral mechanical stop
- Interchangeable with type MA units
- Stop collar can be installed if desired.

Other Info.

* Stop Collar not required when using built in mechanical stop. These miniature units have the advantage of soft contact and deceleration, and cater for changing energy conditions without device adjustment. M14 x 1 & M16 x 1 also available to special order. Available without rod end button on request. Contact sales for details.

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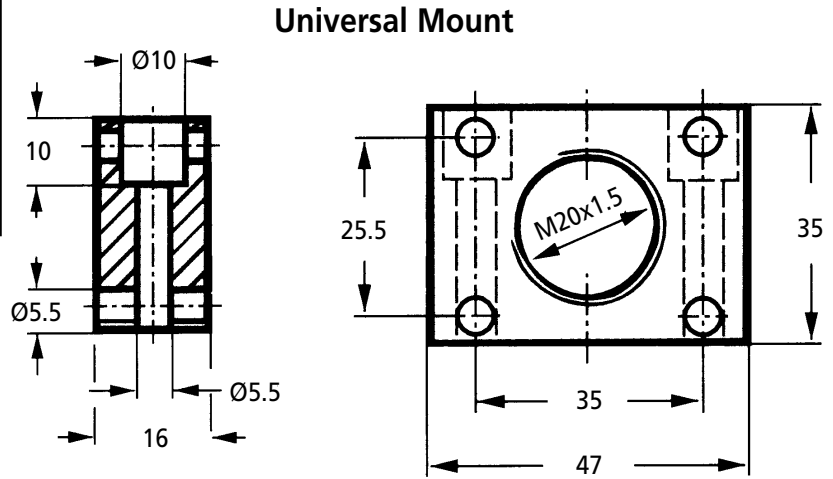
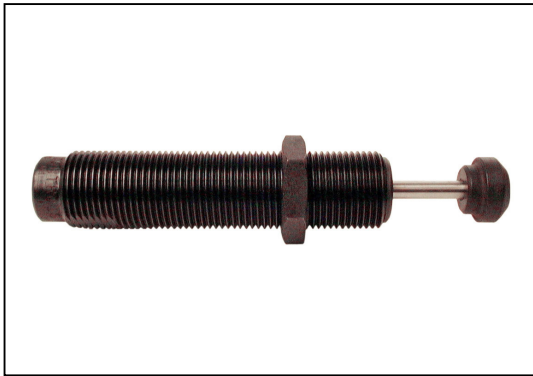
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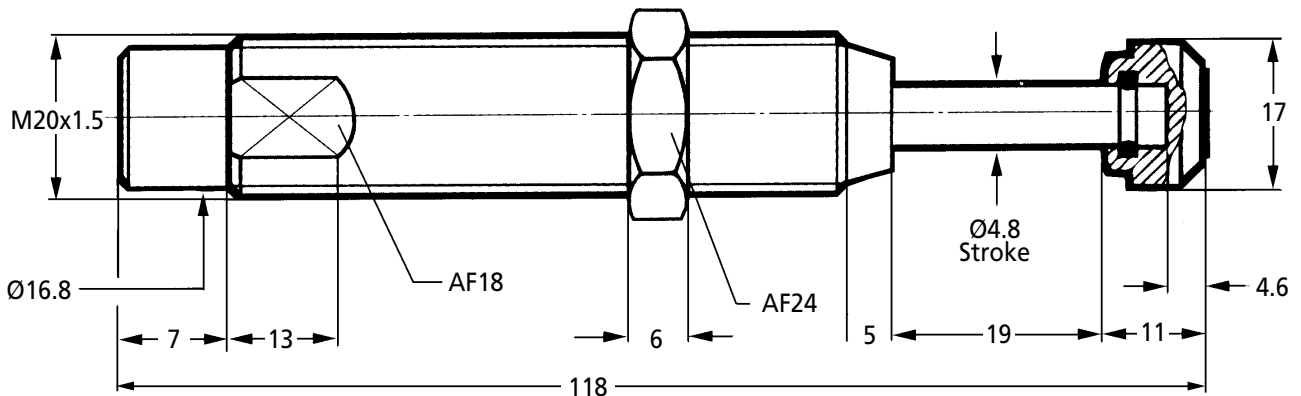
ANTI-VIBRATION & SPRINGS

SC300

Linear Decelerators Soft Contact & Self-Compensating



Standard Unit
Includes 1 Locknut & button



Capacity Chart

| Part Number | Effective Weight me | | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Rod Reset Time Sec | Max. Side Load Angle | Weight kg | | |
|-------------|----------------------|---------------------------|--------------------------|-------------------------|----------------|--------------------|----------------------|-----------|----|------|
| | Soft Contact min. kg | Self-Compensating max. kg | | | | | | | | |
| SC300-HDM-1 | 2.3 | 7 | 1.4 | 8 | 34 | 45000 | 5 - 10 | 0.10 | 5° | 0.11 |
| SC300-HDM-2 | 7.0 | 23 | 4.5 | 27 | 34 | 45000 | 5 - 10 | 0.10 | 5° | 0.11 |
| SC300-HDM-3 | 23.0 | 68 | 14.0 | 82 | 34 | 45000 | 5 - 10 | 0.10 | 5° | 0.11 |
| SC300-HDM-4 | 68.0 | 181 | 32.0 | 204 | 34 | 45000 | 5 - 10 | 0.10 | 5° | 0.11 |

Standard Unit

Accessories

Discounts: 6+ -10% 10+ -20%

| Part Number | Thread | Price Each 1 - 5 | Locknut 250-0207 | *Stop Collar 250-0410 | Price Each 1 - 5 Universal Mount 250-0353 | Rear Clevis | Front Clevis |
|-------------|-----------|------------------|------------------|-----------------------|---|-------------|--------------|
| SC300-HDM-1 | M20 x 1.5 | £105.90 | £6.81 | £16.94 | £31.81 | N/A | N/A |

Material

Body: Steel with Black Oxide Finish
Piston Rod: Hardened Stainless Steel
End Button: Hardened Steel with Elastomeric Insert for Noise Suppression

Other Info.

* Stop Collar not required when using built in mechanical stop. These miniature units have the advantage of soft contact and deceleration, and cater for changing energy conditions without device adjustment. M22 x 1.5 also available to special order. Available without rod end button on request. Contact sales for details.

Features

- Operating temperature range is 0°C to +65°C
- Integral mechanical stop
- Interchangeable with type MA units
- Stop collar can be installed if desired.

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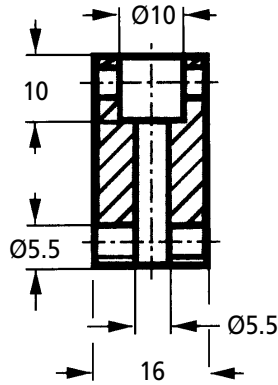
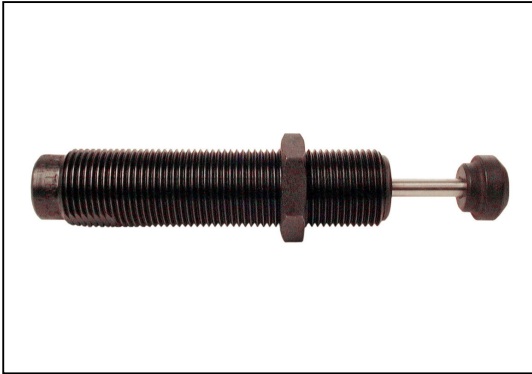
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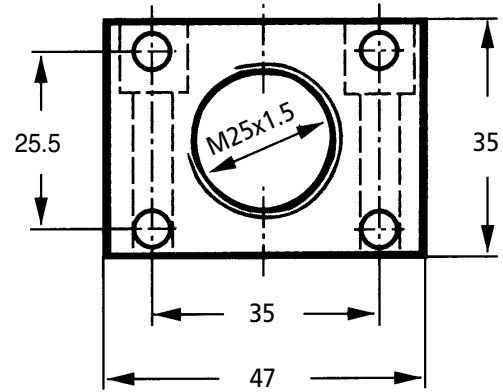
SC650

ANTI-VIBRATION & SPRINGS

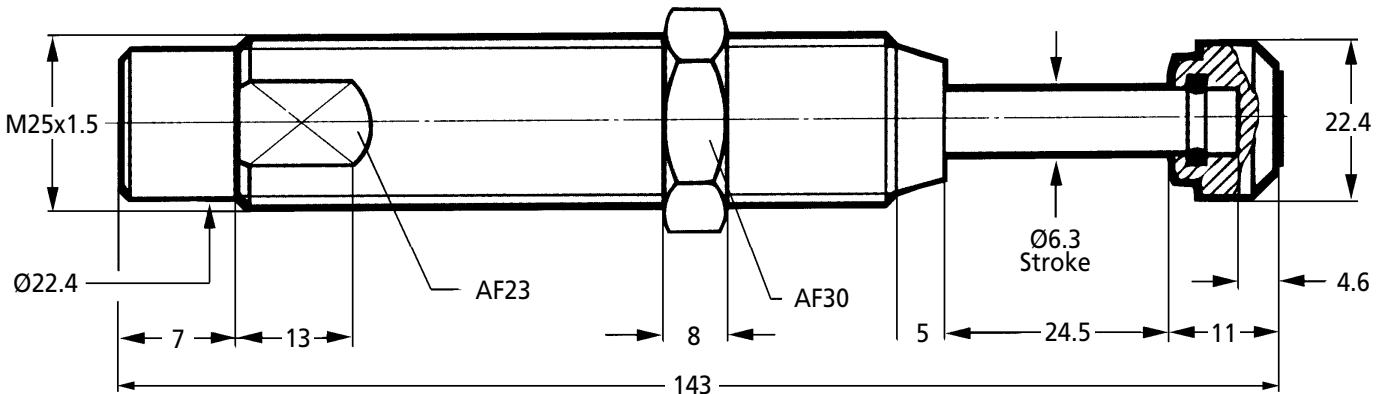
Linear Decelerators Soft Contact & Self-Compensating



Universal Mount



Standard Unit Includes 1 Locknut & button



Capacity Chart

| Part Number | Effective Soft Contact min. kg | Weight me Self-Compensating min. kg | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Rod Reset Time Sec | Max. Side Load Angle | Weight kg |
|-------------|--------------------------------|-------------------------------------|--------------------------|-------------------------|----------------|--------------------|----------------------|-----------|
| SC650-HDM-1 | 11.0 - 36 | 8.0 - 45 | 73 | 68000 | 11 - 32 | 0.20 | 5° | 0.31 |
| SC650-HDM-2 | 34.0 - 113 | 23.0 - 136 | 73 | 68000 | 11 - 32 | 0.20 | 5° | 0.31 |
| SC650-HDM-3 | 109.0 - 363 | 68.0 - 408 | 73 | 68000 | 11 - 32 | 0.20 | 5° | 0.31 |
| SC650-HDM-4 | 363.0 - 1089 | 204.0 - 1180 | 73 | 68000 | 11 - 32 | 0.20 | 5° | 0.31 |

Standard Unit

Accessories

Discounts: 6+ -10% 10+ -20%

| Part Number | Thread | Price Each 1 - 5 | Locknut 250-0040 | Stop Collar* 250-0276 | Price Each 1 - 5 Universal Mount 250-0044 | Rear Clevis 250-MARC | Front Clevis 250-MAFC |
|-------------|-----------|------------------|------------------|-----------------------|---|----------------------|-----------------------|
| SC650-HDM-1 | M25 x 1.5 | £157.37 | £4.42 | £24.18 | £35.21 | £P.O.A | £P.O.A |

Material

Body: Steel with Black Oxide Finish
Piston Rod: Hardened Stainless Steel
End Button: Hardened Steel with Elastomeric Insert for Noise Suppression

Other Info.

* Stop Collar not required when using built in mechanical stop. These miniature units have the advantage of soft contact and deceleration, and cater for changing energy conditions without device adjustment. M26 x 1.5 also available to special order. Available without rod end button on request. Contact sales for details.

Features

- Operating temperature range is 0°C to +65°C
- Integral mechanical stop
- Interchangeable with type MA units
- Stop collar can be installed if desired.

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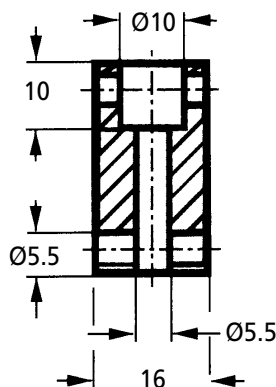
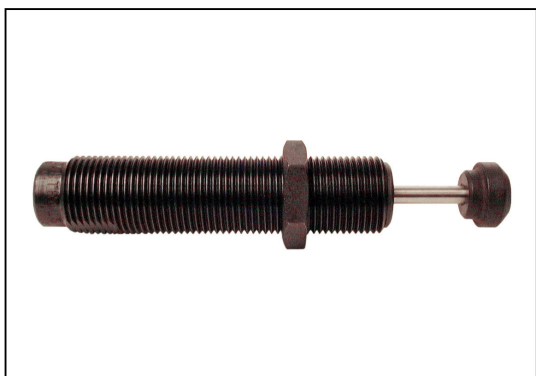
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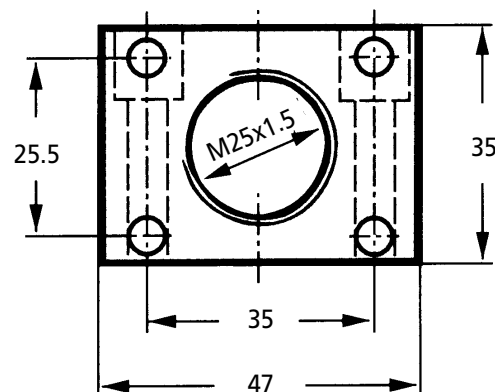
ANTI-VIBRATION & SPRINGS

SC925

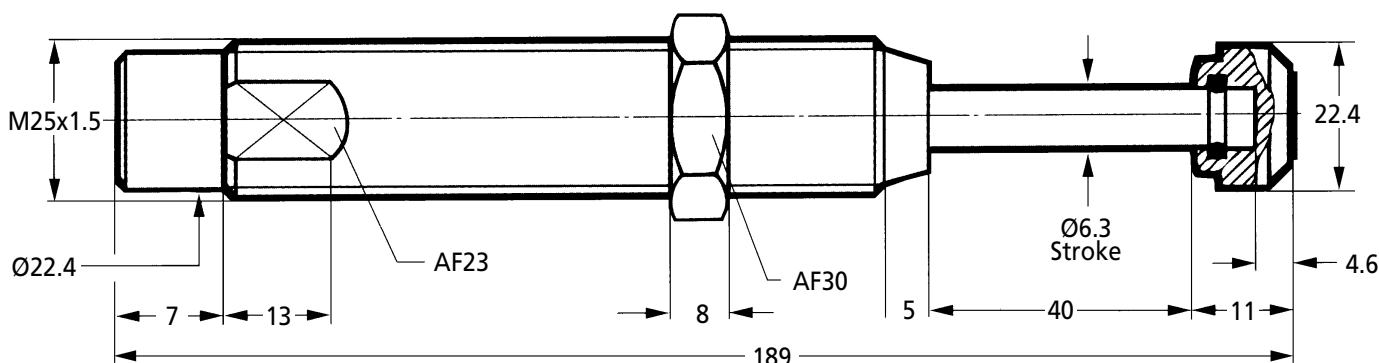
Linear Decelerators Soft Contact & Self-Compensating



Universal Mount



Standard Unit Includes 1 Locknut & button



Capacity Chart

| Part Number | Effective Weight me | | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Rod Reset Time Sec | Max. Side Load Angle | Weight kg |
|-------------|----------------------|---------------------------|--------------------------|-------------------------|----------------|--------------------|----------------------|-----------|
| | Soft Contact min. kg | Self-Compensating max. kg | | | | | | |
| SC925-HDM-1 | 22 - 72 | 14 - 90 | 110 | 90000 | 11 - 32 | 0.40 | 5° | 0.40 |
| SC925-HDM-2 | 59 - 208 | 40 - 272 | 110 | 90000 | 11 - 32 | 0.40 | 5° | 0.40 |
| SC925-HDM-3 | 181 - 612 | 113 - 726 | 110 | 90000 | 11 - 32 | 0.40 | 5° | 0.40 |
| SC925-HDM-4 | 544 - 1952 | 340 - 2088 | 110 | 90000 | 11 - 32 | 0.40 | 5° | 0.40 |

Standard Unit

Accessories

Discounts: 6+ -10% 10+ -20%

| Part Number | Thread | Price Each 1 - 5 | Locknut 250-0040 | Stop Collar* 250-0276 | Price Each 1 - 5 Universal Mount 250-0044 | Rear Clevis 250-MARC | Front Clevis 250-MAFC |
|-------------|-----------|------------------|------------------|-----------------------|---|----------------------|-----------------------|
| SC925-HDM-1 | M25 x 1.5 | £278.72 | £4.42 | £24.18 | £35.21 | £P.O.A | £P.O.A |

Material

Body: Steel with Black Oxide Finish
Piston Rod: Hardened Stainless Steel
End Button: Hardened Steel with Elastomeric Insert for Noise Suppression

Other Info.

- * Stop Collar not required when using built in mechanical stop.
- These miniature units have the advantage of soft contact and deceleration, and cater for changing energy conditions without device adjustment.
- Available without rod end button on request. Contact sales for details.

Features

- Operating temperature range is 0°C to +65°C
- Integral mechanical stop
- Interchangeable with type MA units
- Stop collar can be installed if desired.

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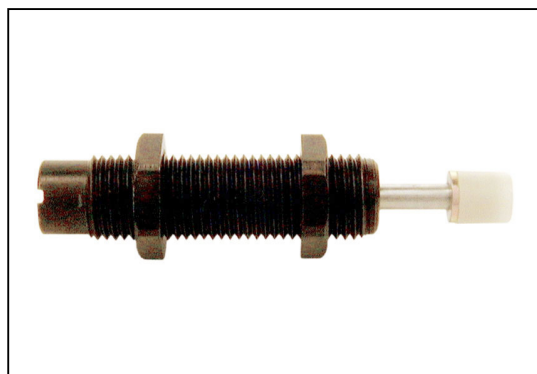
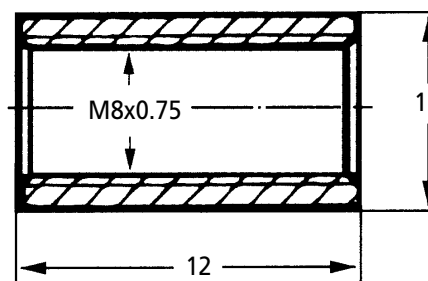
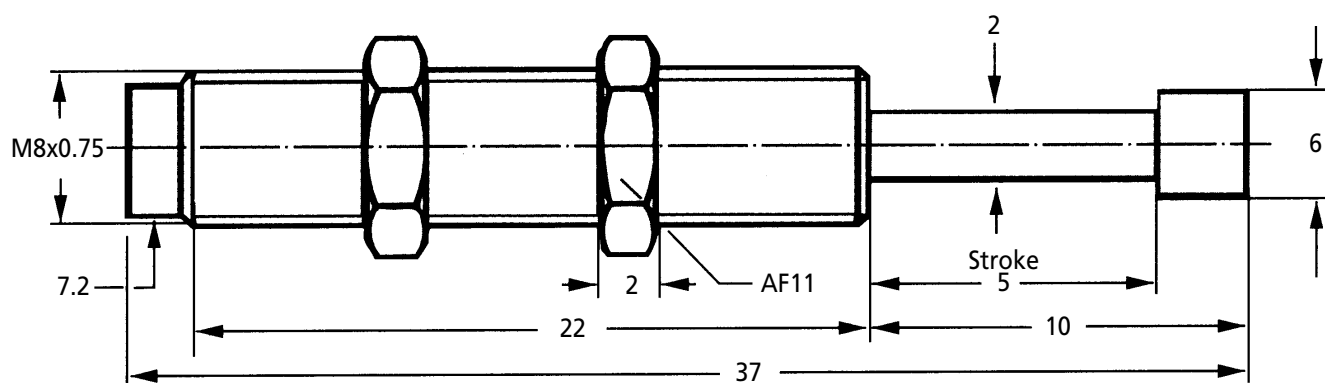
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FA0805

ANTI-VIBRATION & SPRINGS

Linear Decelerators

Self-Compensating

**Stop Collar****Standard Unit
Includes 2 Locknuts**

Capacity Chart

| Part Number | Effective Weight me min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Return Time Sec | Max. Side Load Angle* | Weight kg |
|-------------|------------------------------------|--------------------------------|-------------------------------|----------------------|-----------------------|-----------------------------|--------------|
| FA0805-S1-B | 0.3 - 3 | 0.4 | 1000 | 2 - 5 | 0.3 | 2.5° | 0.012 |
| FA0805-S2-B | 0.6 - 5 | 0.7 | 1400 | 2 - 5 | 0.3 | 2.5° | 0.012 |

Standard Unit

| Part Number | Thread | Version | Price Each 1 - 5 |
|-------------|-----------|----------|---------------------|
| FA0805-S1-B | M8 x 0.75 | Standard | £44.55 |
| FA0805-S2-B | M8 x 0.75 | Medium | £44.55 |

Accessories

| Locknut 250-0362 | Price Each 1 - 5 Stop Collar 250-0447 | Universal Mount |
|---------------------|---|--------------------|
| £1.91 | £8.28 | N/A |

Discounts: 6+ -10% 10+ -20%

Material

Body: Steel with black oxide finish
Piston Rod: Stainless Steel or Chrome Plated

Other Info.

*Maximum side load depends upon application.
Important: Install mechanical stop approx. 0.5mm before end of absorber stroke.
Note: If unit selected is too hard or soft choose corresponding lower or higher effective weight version.

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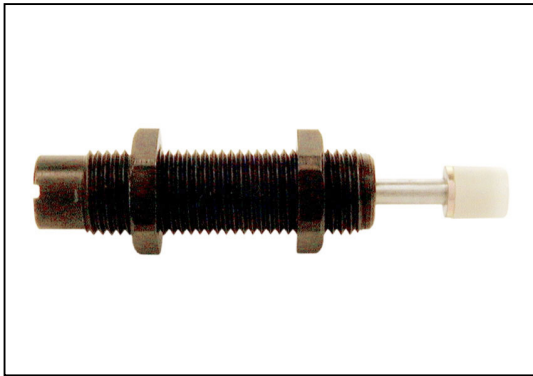
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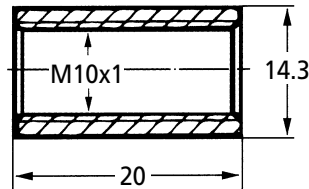
ANTI-VIBRATION & SPRINGS

FA1005

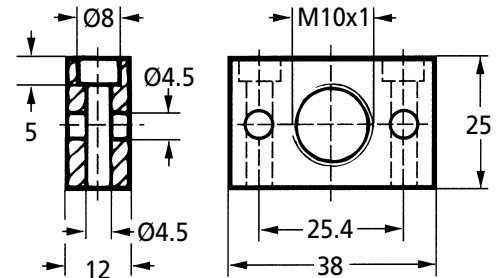
Linear Decelerators Self-Compensating



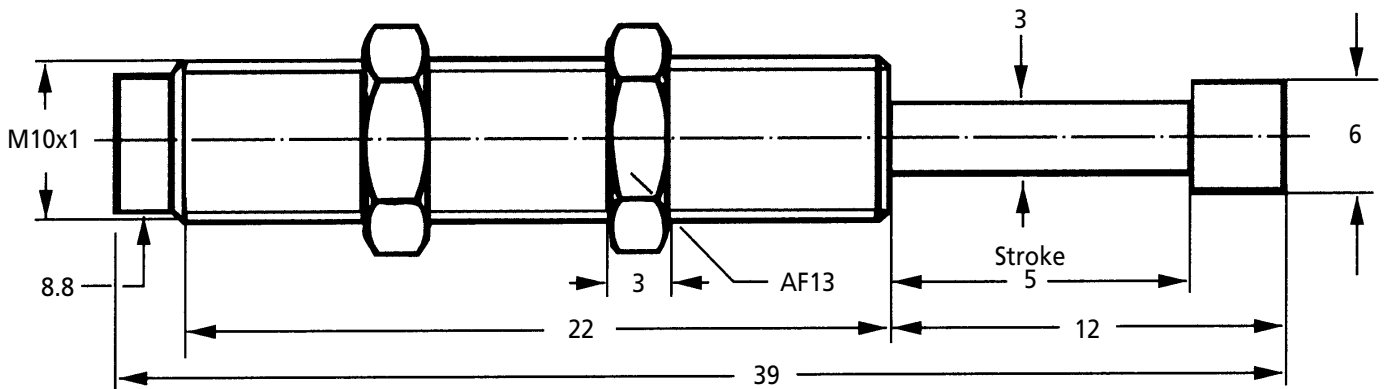
Stop Collar



Universal Mount



Standard Unit
Includes 2 Locknuts



Capacity Chart

| Part Number | Effective Weight me min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Return Time Sec | Max. Side Load Angle* | Weight kg |
|--------------|---------------------------------|--------------------------|-------------------------|----------------|-----------------|-----------------------|-----------|
| FA1005-PM1-B | 0.6 - 5 | 0.7 | 2400 | 3 - 6 | 0.4 | 2.5° | 0.015 |
| FA1005-PM2-B | 1.0 - 8 | 1.0 | 3600 | 3 - 6 | 0.4 | 2.5° | 0.015 |

Standard Unit

| Part Number | Thread | Version | Price Each 1 - 5 |
|--------------|---------|----------|------------------|
| FA1005-PM1-B | M10 x 1 | Standard | £53.46 |
| FA1005-PM2-B | M10 x 1 | Medium | £53.46 |

Accessories

| Locknut 250-0315 | Price Each 1 - 5 Stop Collar 250-0408 | Universal Mount 250-0307 |
|------------------|---------------------------------------|--------------------------|
| £2.71 | £8.88 | £26.71 |

Discounts: 6+ -10% | 10+ -20%

Material

Body: Steel with black oxide finish
Piston Rod: Stainless Steel or Chrome Plated

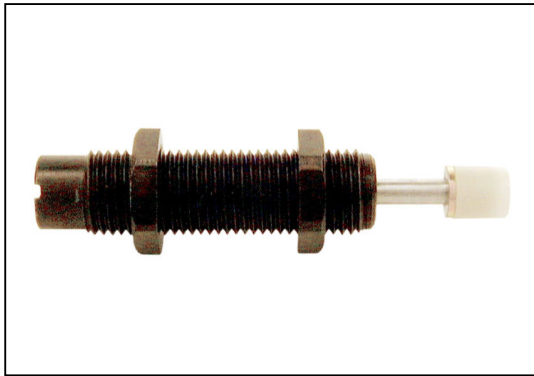
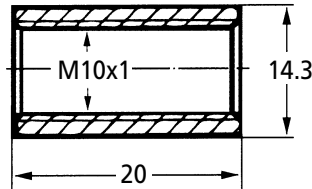
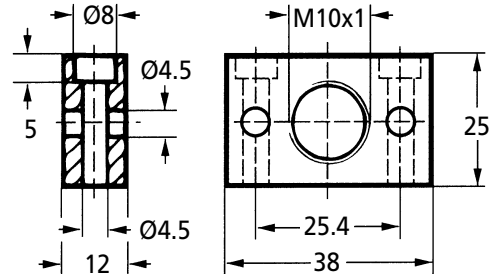
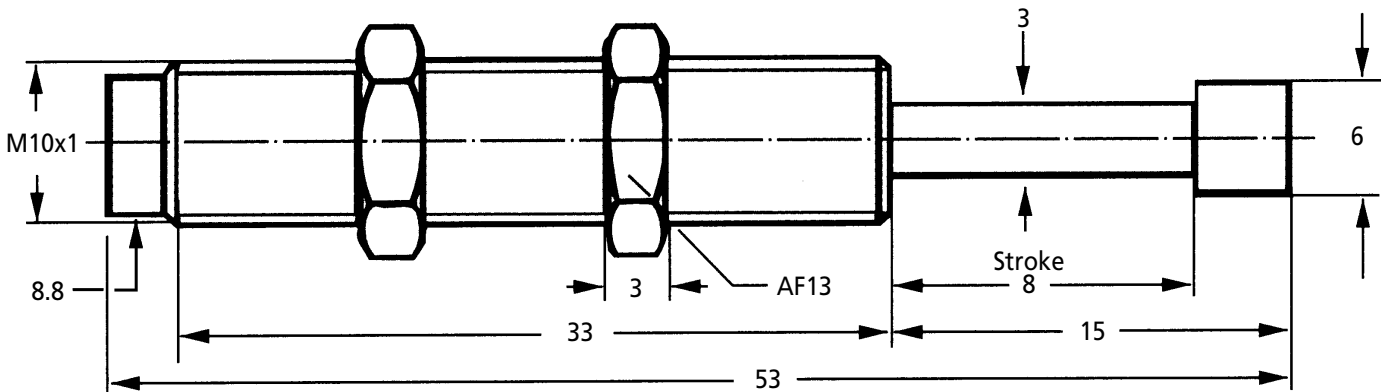
Other Info.

*Maximum side load depends upon application.
Important: Install mechanical stop approx. 0.5mm before end of absorber stroke.
Note: If unit selected is too hard or soft choose corresponding lower or higher effective weight version.

FA1008P

ANTI-VIBRATION & SPRINGS

Linear Decelerators Self-Compensating

**Stop Collar****Universal Mount****Standard Unit
Includes 2 Locknuts**

Capacity Chart

| Part Number | Effective Weight me min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Return Time Sec | Max. Side Load Angle* | Weight kg |
|-------------|---------------------------------|--------------------------|-------------------------|----------------|-----------------|-----------------------|-----------|
| FA1008-P1-B | 0.8 - 7 | 1.0 | 3600 | 3 - 6 | 0.4 | 2.5° | 0.018 |
| FA1008-P2-B | 1.4 - 10 | 1.5 | 3600 | 3 - 6 | 0.4 | 2.5° | 0.018 |

Standard Unit

| Part Number | Thread | Version | Price Each 1 - 5 |
|-------------|---------|----------|------------------|
| FA1008-P1-B | M10 x 1 | Standard | £55.77 |
| FA1008-P2-B | M10 x 1 | Medium | £55.77 |

Accessories

| Locknut 250-0315 | Price Each 1 - 5 Stop Collar 250-0408 | Universal Mount 250-0307 |
|------------------|---------------------------------------|--------------------------|
| £2.71 | £8.88 | £26.71 |

Discounts: 6+ -10% 10+ -20%

Material

Body: Steel with black oxide finish
Piston Rod: Stainless Steel or Chrome Plated

Other Info.

*Maximum side load depends upon application.
Important: Install mechanical stop approx. 0.5mm before end of absorber stroke.
Note: If unit selected is too hard or soft choose corresponding lower or higher effective weight version.

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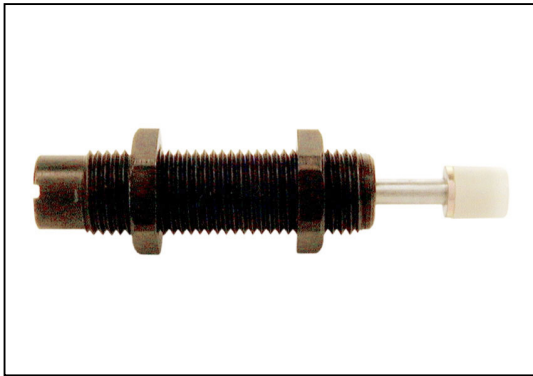
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ANTI-VIBRATION & SPRINGS

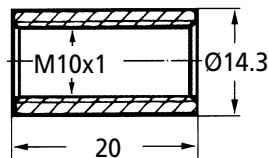
FA1008V

Linear Decelerators

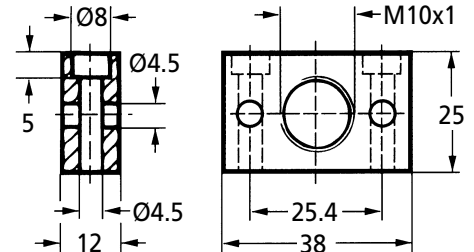
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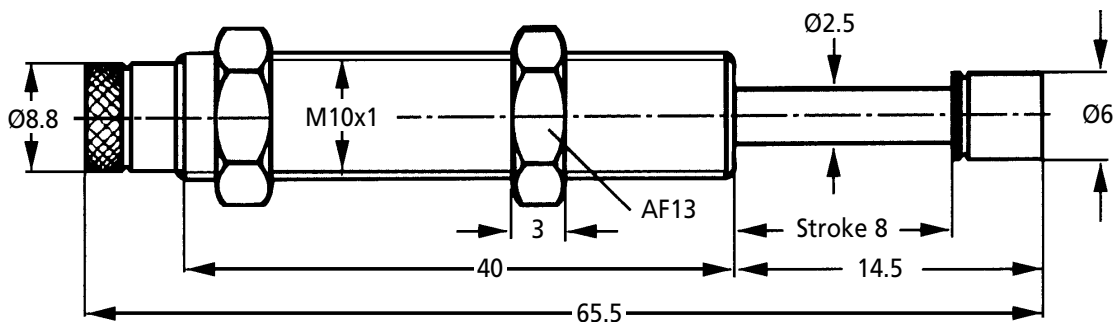
Stop Collar



Universal Mount



**Standard Unit
Includes 2 Locknuts**



Capacity Chart

| Part Number | Effective Weight me min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Rod Reset Time N | Return Time Sec | Max. impact velocity | Max. Side Load Angle* | Weight kg |
|-------------|---------------------------------|--------------------------|-------------------------|------------------|-----------------|----------------------|-----------------------|-----------|
| FA1008-V-B | 0.6 - 10 | 1.5 | 3600 | 3 - 6 | 0.3 | 1m/s | 2.5° | 0.026 |
| FA1008-VD-B | 0.2 - 10 | 1.8 | 3600 | 3 - 6 | 0.3 | 2m/s | 2.5° | 0.026 |

Standard Unit

| Part Number | Thread | Version | Price Each 1 - 5 |
|-------------|---------|----------|------------------|
| FA1008-V-B | M10 x 1 | Standard | £85.35 |
| FA1008-VD-B | M10 x 1 | Medium | £85.35 |

Accessories

| Locknut 250-0315 | Price Each 1 - 5 Stop Collar 250-0408 | Universal Mount 250-0307 |
|------------------|---------------------------------------|--------------------------|
| £2.71 | £8.88 | £26.71 |

Discounts: 6+ -10% 10+ -20%

Material

Body: Steel with black oxide finish

Piston Rod: Stainless Steel or Chrome Plated

Performance

Operating Temperature Range: -5°C to +70°C

Features

- Adjustable deceleration rate by rotation of calibrated end bezel
- Self-contained
- Units may be mounted in any position.

Other Info.

* Maximum side load depends upon application.

Available without rod end button on request. Contact sales for details.

Important: Install mechanical stop approx. 0.5 - 1mm before end of absorber stroke.

Note: If unit selected is too hard or soft choose corresponding lower or higher effective weight version.

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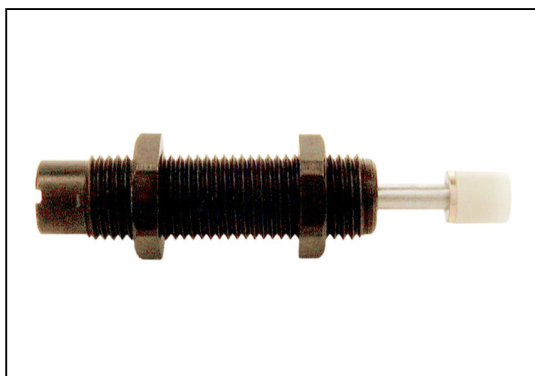
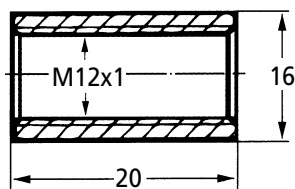
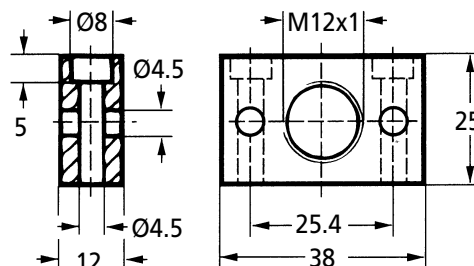
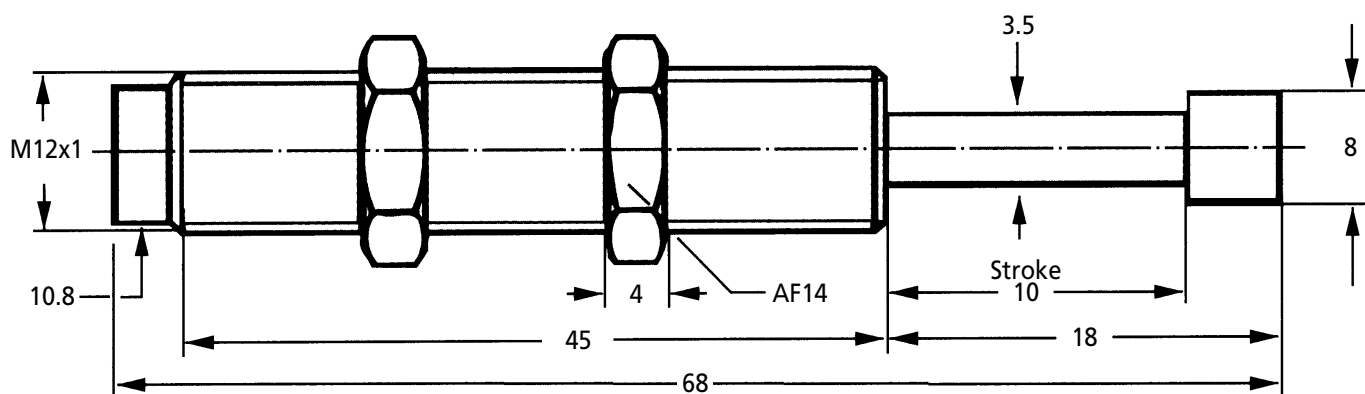
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FA1010

ANTI-VIBRATION & SPRINGS

Linear Decelerators

Self-Compensating

**Stop Collar****Universal Mount****Standard Unit
Includes 2 Locknuts**

Capacity Chart

| Part Number | Effective Weight me min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Return Time Sec | Max. Side Load Angle* | Weight kg |
|-------------|------------------------------------|--------------------------------|-------------------------------|----------------------|-----------------------|-----------------------------|--------------|
| FA1010-K1-B | 1.6 - 15 | 2.0 | 6000 | 5 - 10 | 0.5 | 2.5° | 0.031 |
| FA1010-K2-B | 2.0 - 30 | 2.5 | 6000 | 5 - 10 | 0.5 | 2.5° | 0.031 |

Standard Unit

| Part Number | Thread | Version | Price Each 1 - 5 |
|-------------|---------|----------|---------------------|
| FA1010-K1-B | M12 x 1 | Standard | £64.24 |
| FA1010-K2-B | M12 x 1 | Medium | £64.24 |

Accessories

| Locknut 250-0317 | Price Each 1 - 5 Stop Collar 250-0409 | Universal Mount 250-0309 |
|---------------------|---|--------------------------------|
| £2.88 | £8.88 | £26.71 |

Discounts: 6+ -10% 10+ -20%

Material

Body: Steel with black oxide finish
Piston Rod: Stainless Steel or Chrome Plated

Other Info.

*Maximum side load depends upon application.
Important: Install mechanical stop approx. 0.5mm before end of absorber stroke.
Note: If unit selected is too hard or soft choose corresponding lower or higher effective weight version.

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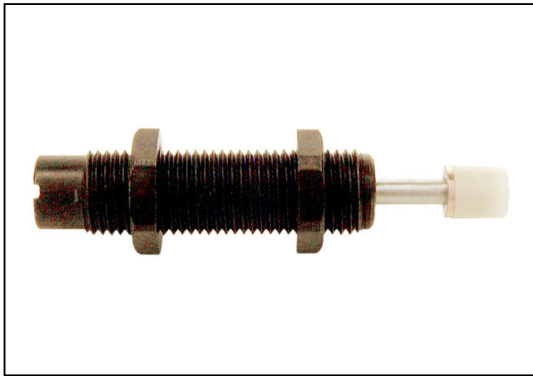
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ANTI-VIBRATION & SPRINGS

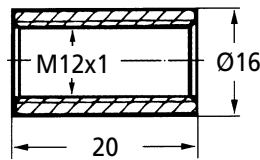
FA1210

Linear Decelerators

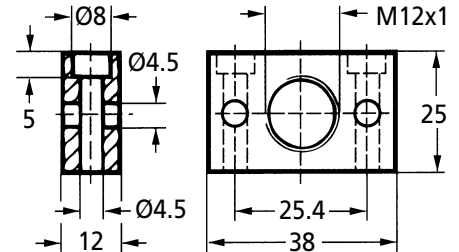
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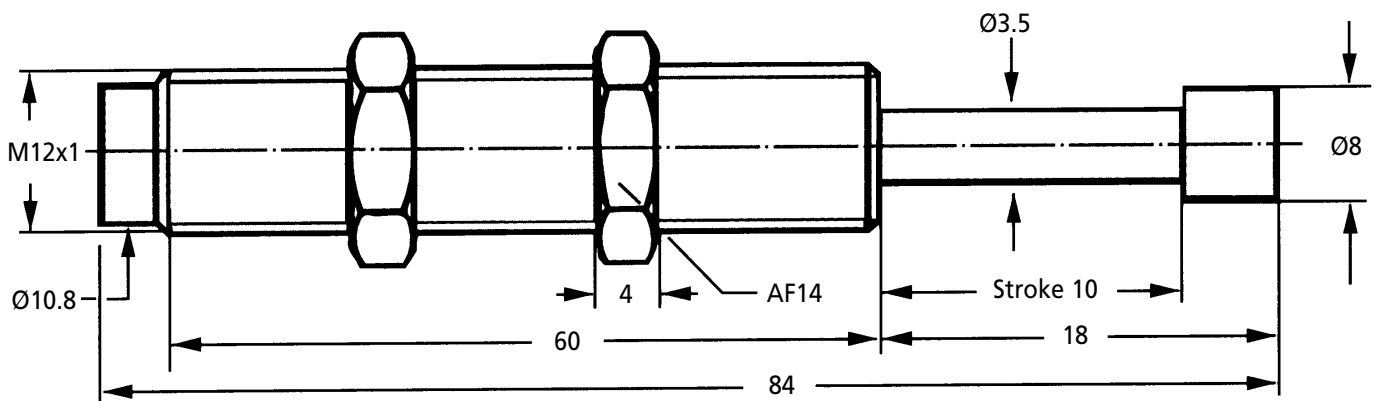
Stop Collar



Universal Mount



Standard Unit
Includes 2 Locknuts



Capacity Chart

| Part Number | Effective Weight min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Rod Reset Time N | Return Time Sec | Max. impact velocity | Max. Side Load Angle* | Weight kg |
|-------------|---------------------------------|--------------------------------|-------------------------------|------------------------|-----------------------|-------------------------|-----------------------------|--------------|
| FA1210-M-B | 0.5 - 30 | 3 | 6000 | 5 - 10 | 0.4 | 1m/s | 2.5° | 0.044 |
| FA1210-MD-B | 0.5 - 30 | 5 | 6000 | 5 - 10 | 0.4 | 2m/s | 2.5° | 0.044 |

Standard Unit

| Part Number | Thread | Price Each 1 - 5 |
|-------------|---------|---------------------|
| FA1210-M-B | M12 x 1 | £87.60 |
| FA1210-MD-B | M12 x 1 | £87.60 |

Accessories

| Locknut 250-0317 | Price Each 1 - 5 Stop Collar 250-0409 | Universal Mount 250-0309 |
|---------------------|---|--------------------------------|
| £2.88 | £8.88 | £26.71 |

Discounts: 6+ -10% 10+ -20%

Material

Body: Steel with black oxide finish
Piston Rod: Stainless Steel or Chrome Plated

Performance

Operating Temperature Range: -5°C to +70°C

Features

- Adjustable deceleration rate by rotation of calibrated end bezel
- Self-contained
- Units may be mounted in any position.

Other Info.

* Maximum side load depends upon application.
Available without rod end button on request. Contact sales for details.
Important: Install mechanical stop approx. 0.5 - 1mm before end of absorber stroke.
Note: If unit selected is too hard or soft choose corresponding lower or higher effective weight version.

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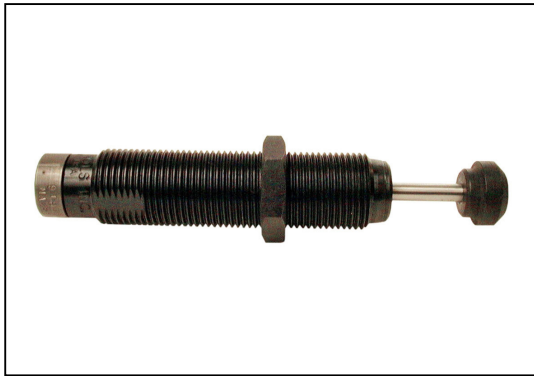
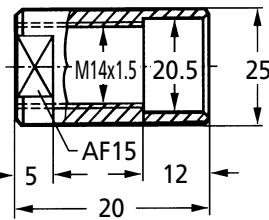
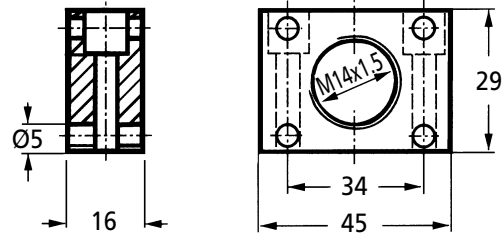
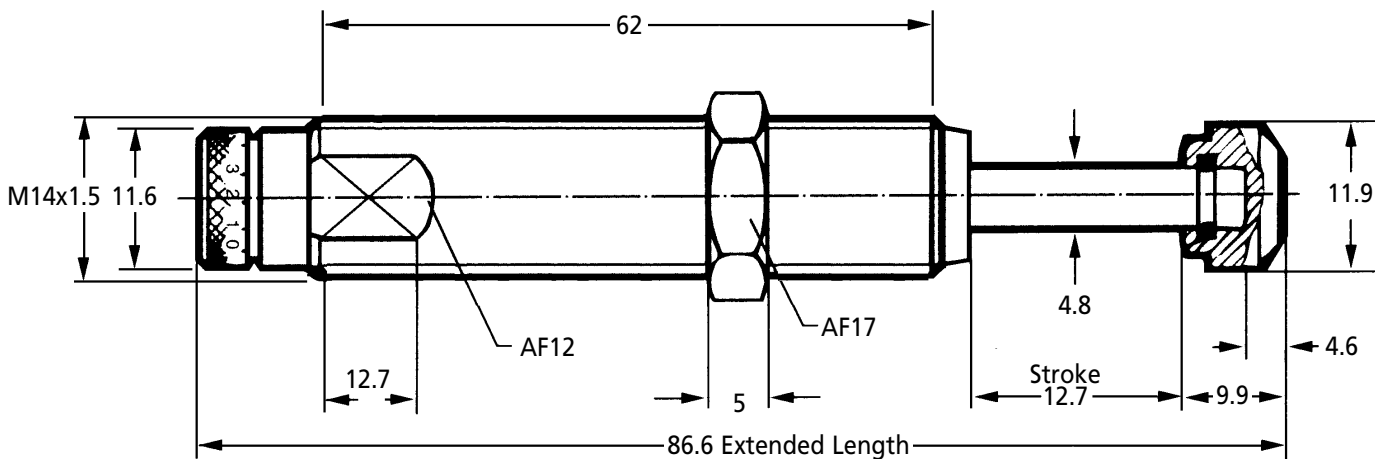
Product information updated 1st April 2011 and subject to change. Please contact Sales for the latest prices and availability.

MA150

ANTI-VIBRATION & SPRINGS

Linear Decelerators

Adjustable

**Stop Collar****Universal Mount****Standard Unit**
Includes 1 Locknut & button

Capacity Chart

| Part Number | Effective Weight me min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Rod Reset Time Sec | Max. Side Load Angle [†] | Weight kg |
|-------------|------------------------------------|--------------------------------|-------------------------------|----------------------|--------------------------|---|--------------|
| MA150-M | 0.9 - 91 | 17 | 34000 | 3 - 5 | 0.4 | 5° | 0.05 |

Standard Unit

| Part Number | Thread | Price Each 1 - 5 |
|-------------|-----------|---------------------|
| MA150-M | M14 x 1.5 | £103.12 |

Accessories

| Locknut 250-0233 | Mounting Block 250-0380 | Stop Collar 250-0410* | Universal Mount 250-0353 | Rear & Rear Clevis |
|---------------------|----------------------------|--------------------------|-----------------------------|-----------------------|
| £2.73 | £55.13 | £16.94 | £31.81 | N/A |

Discounts: 6+ -10% 10+ -20%

Material

Body: Steel with black oxide finish

Piston Rod: Stainless Steel

Performance

Operating Temperature Range: -0°C to +66°C

Velocity Range: 0.15 to 3.66m/sec

† Maximum side load depends upon application.

Options

* Stop collar available but not required when used with built in mechanical stop.

Other Info.

Mechanical stop must be provided 1.6mm before end of stroke.

Install mechanical stop approx. 0.5 to 1mm before end of absorber stroke.

After installation of the decelerator in the machine, slacken the locking grub screw in the end cap and rotate between the 0 and 9 scale on the bezel (initial hard impact towards 9, and hard impact at end of stroke towards 0). Optimise stroke action and finally retighten locking screw.

Features

- Self-contained
- Units may be mounted in any position.

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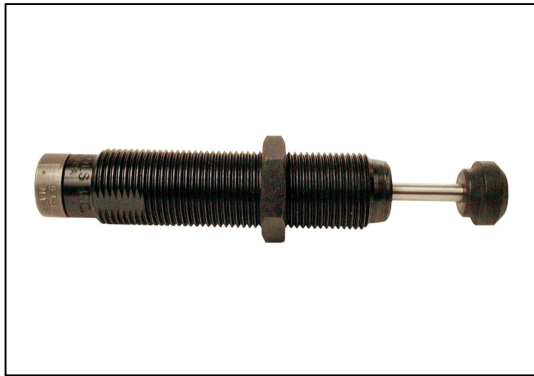
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ANTI-VIBRATION & SPRINGS

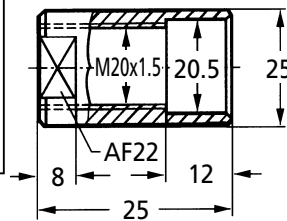
MA225

Linear Decelerators

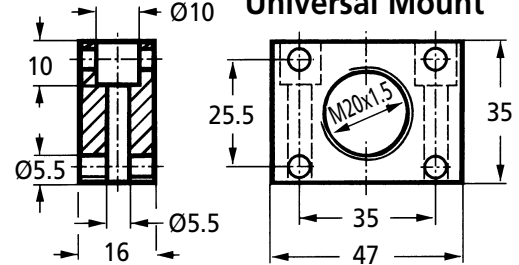
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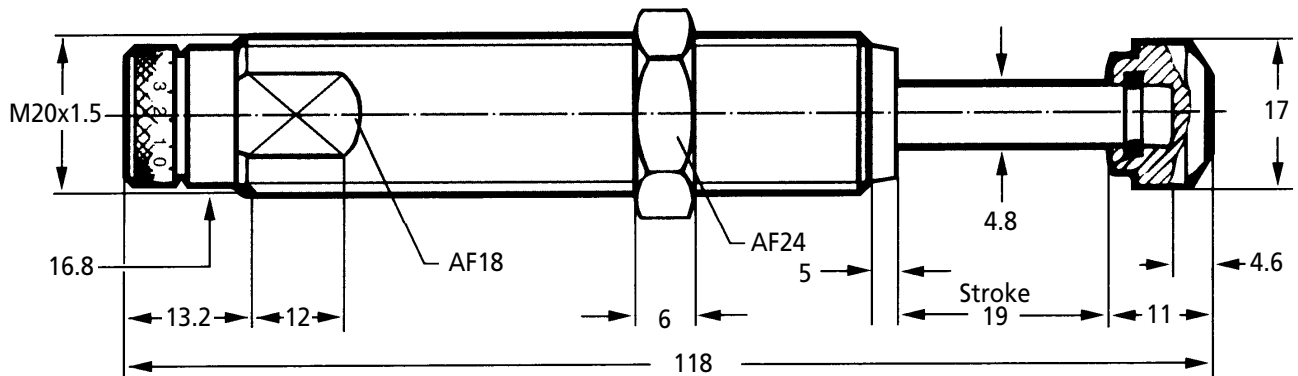
Stop Collar



Universal Mount



Standard Unit
Includes 1 Locknut & button



Capacity Chart

| Part Number | Effective Weight me min. kg max | Max. Energy Capacity Nm per cycle W3 | Capacity Nm per hour W4 | Return Force N | Rod Reset Time Sec | Max. Side Load Angle ¹ | Weight kg |
|-------------|---------------------------------|--------------------------------------|-------------------------|----------------|--------------------|-----------------------------------|-----------|
| MA225-M | 2.3 - 226 | 25 | 45000 | 5 - 10 | 0.1 | 2° | 0.13 |

Standard Unit

| Part Number | Thread | Price Each 1 - 5 |
|-------------|-----------|------------------|
| MA225-M | M20 x 1.5 | £111.73 |

Accessories

| Locknut 250-0207 | Mounting Block 250-0380 | Stop Collar 250-0410* | Universal Mount 250-0353 | Front & Rear Clevis |
|------------------|-------------------------|-----------------------|--------------------------|---------------------|
| £6.81 | £55.13 | £16.94 | £31.81 | N/A |

Discounts: 6+ -10% 10+ -20%

Material

Body: Steel with black oxide finish
Piston Rod: Stainless Steel or Chrome Plated

Performance

Operating Temperature Range: -12°C to +90°C

Options

Supplied with Integral mechanical stop. Stop collar can be installed if desired.

Other Info.

Install mechanical stop approx. 0.5 to 1mm before end of absorber stroke. After installation of the decelerator in the machine, slacken the locking grub screw in the end cap and rotate between the 0 and 9 scale on the bezel (initial hard impact towards 9, and hard impact at end of stroke towards 0). Optimise stroke action and finally retighten locking screw.

Features

- Self-contained
- Units may be mounted in any position.

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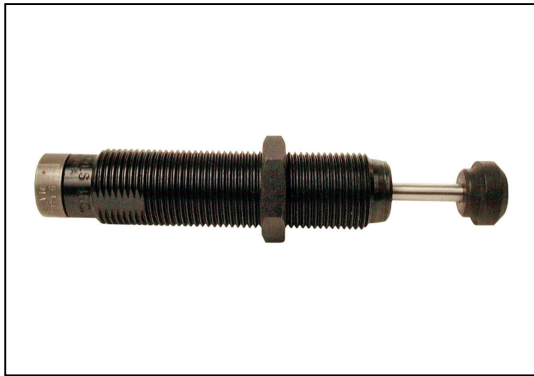
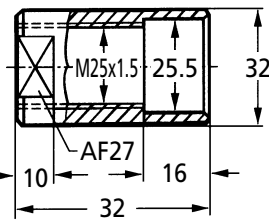
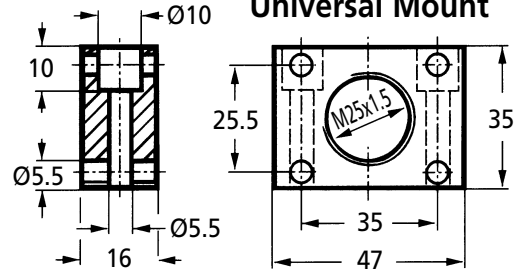
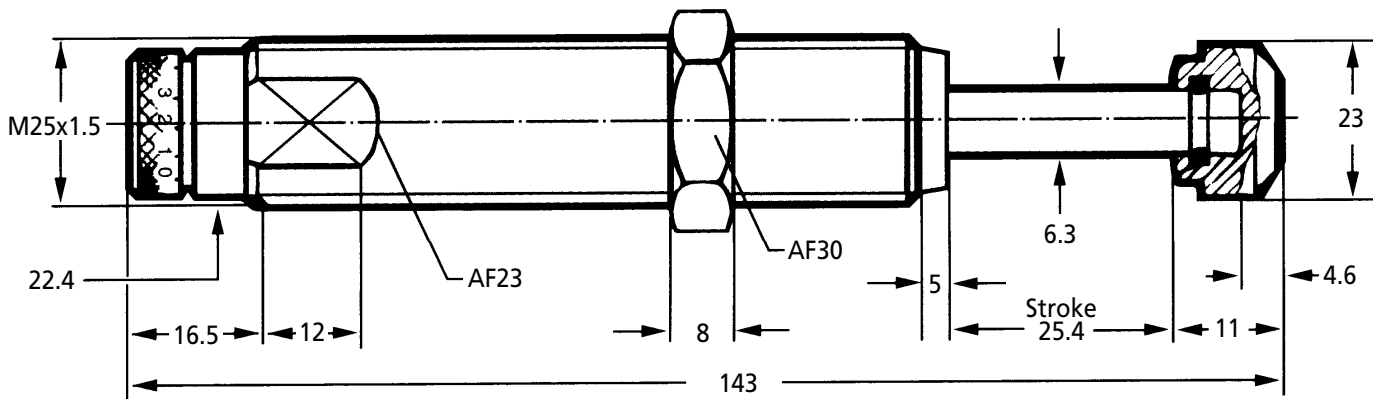
Product information updated 1st April 2011 and subject to change. Please contact Sales for the latest prices and availability.

MA600

ANTI-VIBRATION & SPRINGS

Linear Decelerators

Adjustable

**Stop Collar****Universal Mount****Standard Unit
Includes 1 Locknut & button**

Capacity Chart

| Part Number | Effective Weight me min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Rod Reset Time Sec | Max. Side Load Angle [†] | Weight kg |
|-------------|------------------------------------|--------------------------------|-------------------------------|----------------------|--------------------------|---|--------------|
| MA600-M | 9.0 - 1360 | 68 | 68000 | 10 - 30 | 0.2 | 2° | 0.31 |

Standard Unit

Discounts: 6+ -10% 10+ -20%

| Part Number | Thread | Price Each 1 - 5 | Locknut 250-0040 | *Stop Collar 250-0276 | Mounting Block 250-0382 | Universal Mount 250-0044 | Rear Clevis 250-MARC | Front Clevis 250-MAFC |
|-------------|-----------|---------------------|---------------------|--------------------------|----------------------------|-----------------------------|-------------------------|--------------------------|
| MA600-M | M25 x 1.5 | £162.47 | £4.42 | £24.18 | £60.22 | £35.21 | £P.O.A | £P.O.A |

Material

Body: Steel with black oxide finish
Piston Rod: Stainless Steel

Performance

Operating Temperature Range: -12°C to +90°C
[†] Maximum side load depends upon application.

Options

- * Stop collar available but not required when used with built in mechanical stop.
- M27 x 3 also available to special order.
- Available without rod end button on request. Contact sales for details.
- Available with clevis mounting. Contact sales for details.

Features

- Integral mechanical stop
- Self-contained
- Units may be mounted in any position.

Other Info.

Important: Check effective weight of application falls within range of unit.
Adjustment: After installation of the decelerator in the machine, slacken the locking grub screw in the end cap and rotate between the 0 and 9 scale on the bezel (initial hard impact towards 9, and hard impact at end of stroke towards 0). Optimise stroke action and finally retighten locking screw.

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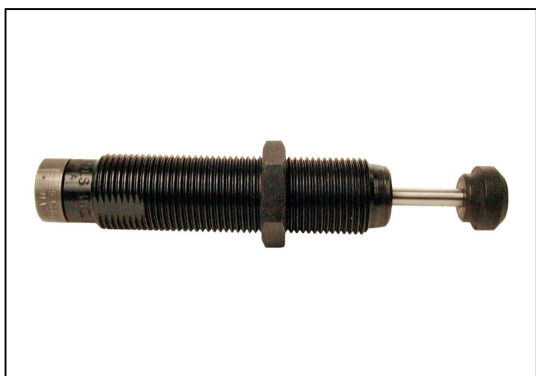
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ANTI-VIBRATION & SPRINGS

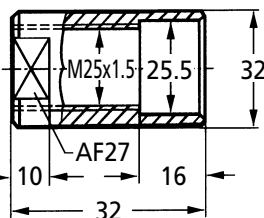
MA900

Linear Decelerators

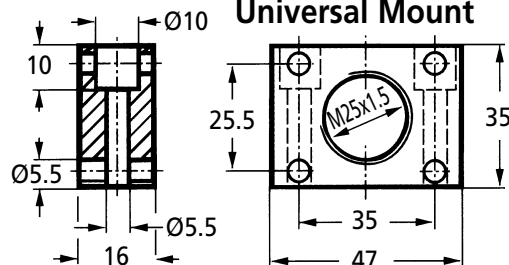
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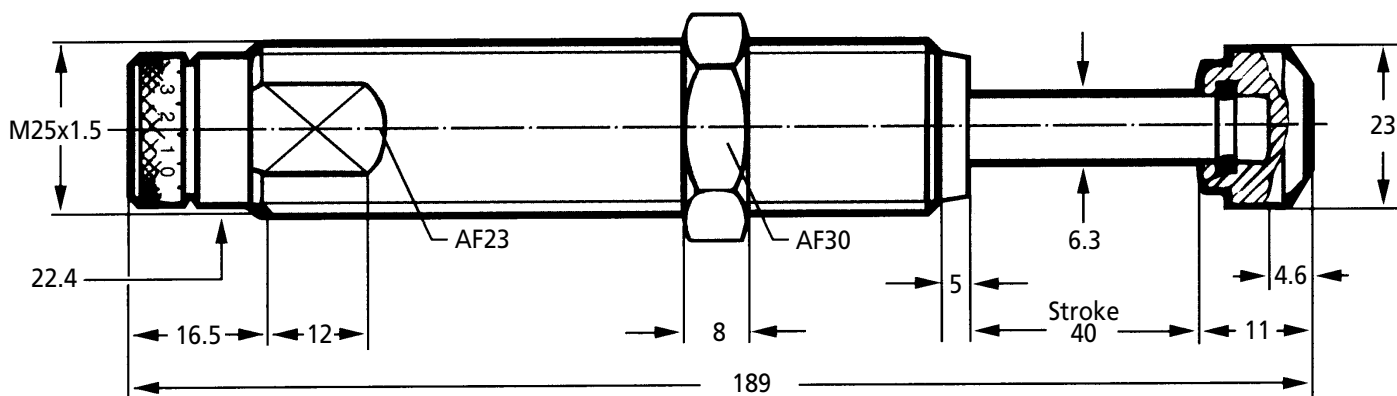
Stop Collar



Universal Mount



Standard Unit
Includes 1 Locknut & button



Capacity Chart

| Part Number | Effective Weight min. kg max | Max. Energy per cycle W3 | Capacity Nm per hour W4 | Return Force N | Rod Reset Time Sec | Max. Side Load Angle† | Weight kg |
|-------------|------------------------------|--------------------------|-------------------------|----------------|--------------------|-----------------------|-----------|
| MA900-M | 14.0 - 2040 | 100 | 90000 | 10 - 35 | 0.4 | 1° | 0.40 |

Standard Unit

Discounts: 6+ -10% 10+ -20%

| Part Number | Thread | Price Each 1 - 5 | Locknut 250-0040 | *Stop Collar 250-0276 | Mounting Block 250-0382 | Universal Mount 250-0044 | Rear Clevis 250-MARC | Front Clevis 250-MAFC |
|-------------|-----------|------------------|------------------|-----------------------|-------------------------|--------------------------|----------------------|-----------------------|
| MA900-M | M25 x 1.5 | £240.41 | £4.42 | £24.18 | £60.22 | £35.21 | £P.O.A | £P.O.A |

Material

Body: Steel with black oxide finish
Piston Rod: Stainless Steel or Chrome Plated

Performance

Operating Temperature Range: -12°C to +90°C
† Maximum side load depends upon application.

Options

- * Stop collar available but not required when used with built in mechanical stop.
- Available without rod end button on request. Contact sales for details.
- Available with clevis mounting. Contact sales for details.

Features

- Integral mechanical stop
- Self-contained
- Units may be mounted in any position.

Other Info.

Important: Install mechanical stop approx. 0.5 to 1mm before end of absorber stroke.

Adjustment: After installation of the decelerator in the machine, slacken the locking grub screw in the end cap and rotate between the 0 and 9 scale on the bezel (initial hard impact towards 9, and hard impact at end of stroke towards 0). Optimise stroke action and finally retighten locking screw.

ANTI-VIBRATION & SPRINGS

Linear Decelerators

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Deceleration Principles

Controlled linear deceleration provides:

- Increased operating speeds
- Higher equipment productivity
- Reduced maintenance
- Reduced noise pollution

Any moving object possesses kinetic energy as a result of its motion and if the object changes direction or is brought to rest, the dissipation of this kinetic energy can result in destructive shock forces within the structural and operating members of the machine.

Formulae & Calculations

Key to symbols used:

| | | | | | |
|-------|---|---------|-----------------|-----------------------------------|-------|
| W_1 | Kinetic energy per cycle | (Nm) | *v | Velocity of moving mass | (m/s) |
| W_2 | Propelling force energy per cycle | (Nm) | *v _D | Impact velocity at shock absorber | (m/s) |
| W_3 | Total energy per cycle ($W_1 + W_2$) | (Nm) | F | Propelling force | (N) |
| W_4 | Total energy per hour ($W_3 \cdot C$) | (Nm/hr) | c | Cycles per hour | (/hr) |
| me | Effective weight | (kg) | s | Shock absorber stroke | (m) |
| m | Mass to be decelerated | (kg) | | | |

Mass without propelling force

| | |
|-------------------------------|---------------------|
| Formulae | Example 1 |
| $W_1 = m \cdot v^2 \cdot 0.5$ | m = 100kg |
| $W_2 = 0$ | v = 1.5m/s |
| $W_3 = W_1 + W_2$ | c = 500/h |
| $W_4 = W_3 \cdot c$ | s = 0.05 m (chosen) |
| v _D = v | |
| me = m | |

$$W_1 = 100 \cdot 1.5^2 \cdot 0.5 = 113\text{Nm}$$

$$W_2 = \text{zero}$$

$$W_3 = 113 + 0 = 113\text{Nm}$$

$$W_4 = 113 \cdot 500 = 56500\text{Nm/hr}$$

$$me = m = 100\text{kg}$$

Choose from capacity chart:

Model MC 1202 M-2 self-compensating
alternative: Model A1/2 X 2 adjustable
(Available on request)

Mass with propelling force

| | |
|---------------------------------|----------------------|
| Formulae | Example 1 |
| $W_1 = m \cdot v^2 \cdot 0.5$ | m = 36kg |
| $W_2 = F \cdot s$ | *v = 1.5m/s |
| $W_3 = W_1 + W_2$ | F = 400N |
| $W_4 = W_3 \cdot c$ | c = 1000/h |
| v _D = v | s = 0.025 m (chosen) |
| $me = \frac{2 \cdot W_3}{vD^2}$ | |
| $W_2 = (F - m \cdot g) \cdot s$ | |
| $W_2 = (F + m \cdot g) \cdot s$ | |

$$W_1 = 36 \cdot 1.5^2 \cdot 0.5 = 41\text{Nm}$$

$$W_2 = 400 \cdot 0.025 = 10\text{Nm}$$

$$W_3 = 41 + 10 = 51\text{Nm}$$

$$W_4 = 51 \cdot 1000 = 51000\text{Nm/hr}$$

$$me = 2 \cdot 51 / 1.5^2 = 45\text{kg}$$

Choose from capacity chart:

Model MC 600 M self-compensating

*v is the final impact velocity of the mass: with pneumatically propelled systems this can be 1.5 to 2 times the average velocity. Please take this into account when calculating energy.

SMALLER SHOCK ABSORBERS HAVE HIGH ENERGY CAPACITY



Ondrives' range of innovative shock absorbers, branded Magnum, that are said to have a higher energy capacity in a smaller body size than competing units. This has been achieved by increasing the size of the inner and metering-tube diameters which also increases the operating range of effective weights. The units have a threaded outer body for easy mounting and are available in both adjustable and self-compensating versions. An integral stop collar mechanically seals around the wiper-seal and rod, and they are said to have a superior length-to-diameter ratio for the rod bearing.

Adjustment of the shock absorber has been made easier by offering two methods of adjustment. The stop collar doubles as an adjuster with a second adjuster at the back of the unit for increased access. A new rod-and-seal design with unsymmetrical U-cups protects the shock absorbers in dirty environments, and the latest seal technology is said to extend operating life. Design Engineers can now select smaller shock absorbers for the same energy capacity with reductions in required space and cost.