

## Hydraulic Feed Controls

### Regulate feed rates in the best way

**ACE Hydraulic feed controls are recommended as the perfect solution when sawing, cutting, drilling and in order to prevent the stick-slip effect on pneumatic cylinders. They can be precisely adjusted and provide speeds from 12 mm/min. (1/2"/min.) with a very low feed force or up to 38 m/min. (1.5"/min.) with a high feed rate.**

These maintenance-free, ready-to-install hydraulic feed controls are self-contained hydraulic elements regulated by a precision throttle. The feed rate is set from the outside by turning the setting adjuster. The tried-and-tested rolling diaphragms used in many ACE shock absorbers also serve as a dynamic sealing element for a hermetic seal as well as volume compensation for the piston rod and provide the resetting of the piston when the force is removed.



## Hydraulic Feed Controls



### VC25

Page 228

Adjustable  
**For precision adjustment of feed rates**  
 Handling modules, Linear slides, Automatic machinery,  
 Conveyor equipment



### MA, MVC

Page 230

Adjustable  
**Designed for applications with low precision requirements**  
 Handling modules, Linear slides, Automatic machinery,  
 Conveyor equipment

Shorter processing times

Different feed rates

Adjustment segment at the lower end of the feed control

Most accurate calibrations

Available immediately

Easy to mount



## VC25

For precision adjustment of feed rates

### Adjustable

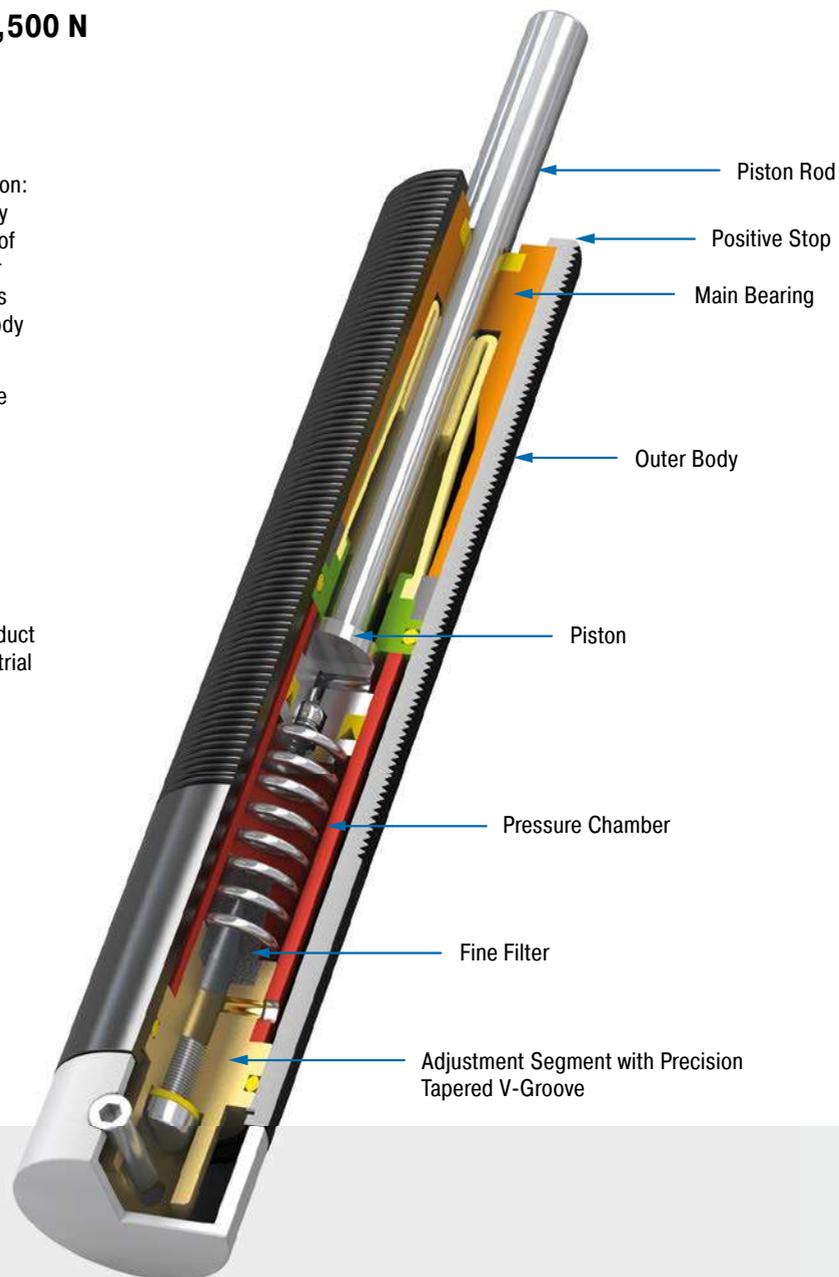
**Compression force 30 N to 3,500 N**

**Stroke 15 mm to 125 mm**

Precise adjustment for any type of application: Hydraulic feed controls of the product family VC are ideally suited for the precise tuning of constant feed rates. The thread of the outer body of this closed hydraulic element allows simple assembly. Designs with a smooth body can also be supplied.

As the hydraulic oil is forced out through the throttle opening, a constant feed rate is achieved on the stroke. In the models up to 55 mm (2.17") stroke, the tried and tested rolling diaphragm, known from ACE shock absorbers, serves as a dynamic seal, as volume compensation of the piston rod and as a reset element.

Precision hydraulic feed controls of the product family VC are used in automotive and industrial applications as well as in mechanical engineering and the electronics industry.



### Technical Data

**Compression force:** 30 N to 3,500 N

**Execution:** F =  $\varnothing$  23.8 mm without thread  
FT = M25x1.5 threaded body

**Piston rod diameter:**  $\varnothing$  8 mm

**Feed rate/Compression force:**  
Min. 0.013 m/min. at 400 N; Max. 38 m/min.  
at 3,500 N

**Impact velocity range:** At speeds of 0.3 m/s the maximum allowed energy is approx. 1 Nm for units up to 55 mm stroke and approx. 2 Nm for units 75 mm to 125 mm stroke. Where higher energies occur use a shock absorber for the initial impact. Avoid high impact velocities.

**Adjustment:** Infinitely adjustable

**Positive stop:** External positive stops 1 mm to 1.5 mm before the end of stroke provided by the customer.

**Damping medium:** Oil, temperature stable

**Material:** Outer body: Black anodized aluminium; Piston rod: Hard chrome plated steel; Accessories: Steel with black oxide finish or nitride hardened

**Mounting:** In any position

**Operating temperature range:** 0 °C to 60 °C

**Application field:** Handling modules, Linear slides, Automatic machinery, Conveyor equipment, Absorption control

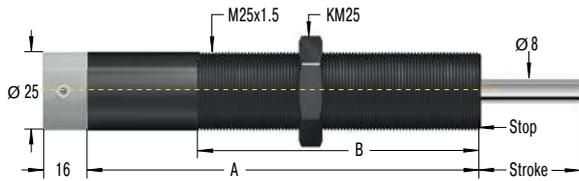
**Note:** Nylon button can be fitted onto piston rod. Unit may be mounted in any position.

**Safety information:** Do not rotate piston rod, if excessive rotation force is applied rolling seal may rupture. External materials in the surrounding area can attack the seal components and lead to a shorter service life. Please contact ACE for appropriate solution suggestions.

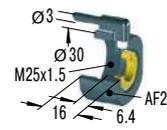
**On request:** Special oil and other special options available on request.

Adjustable

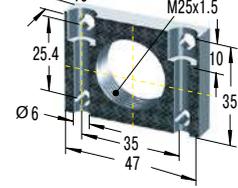
### VC25FT



### SP25 Air Bleed Collar

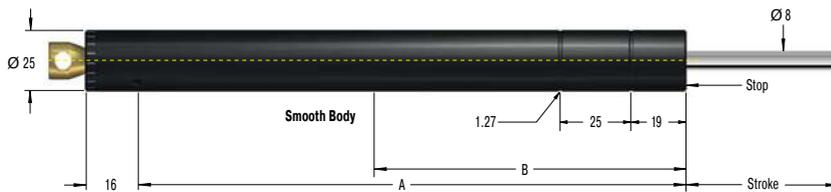


### 250-0044 Mounting Block

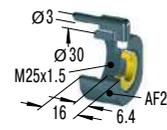


For VC2515FT to VC2555FT  
reduction of the stroke 6.4 mm

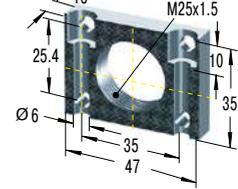
### VC25F



### SP25 Air Bleed Collar



### 250-0044 Mounting Block



For VC2515FT to VC2555FT  
reduction of the stroke 6.4 mm

Additional accessories, mounting, installation ... see from page 47.

### Complete details required when ordering

- Load to be decelerated: m (kg)
- Impact velocity: v (m/s)
- Propelling force: F (N)
- Operating cycles per hour: c (/hr)
- Number of absorbers in parallel: n
- Ambient temperature: °C

### Ordering Example

Type (Feed Control) \_\_\_\_\_  
 25 for Thread Size M25 \_\_\_\_\_  
 Stroke 2.16" (55 mm) \_\_\_\_\_  
 FT = with thread M25x1.5 \_\_\_\_\_  
 F = without thread, plain body (Ø 0.94" / 23.8 mm) \_\_\_\_\_

VC2555FT

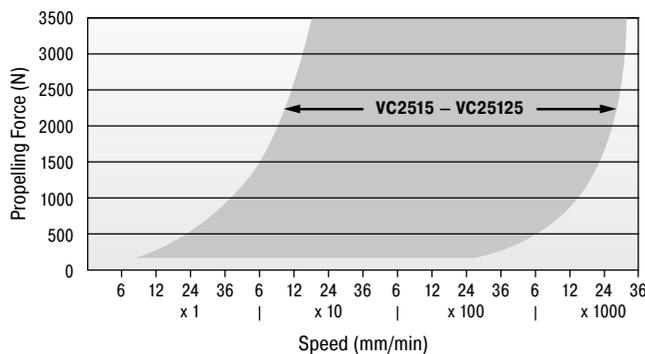
### Performance and Dimensions

TYPES	Stroke mm	A mm	B mm	Compression force		Return Force		Return Time s	Side Load Angle		Weight kg
				min. N	max. N	min. N	max. N		max. °		
VC2515FT	15	128	80	30	3,500	15	30	0.2	3	0.240	
VC2530FT	30	161	110	30	3,500	5	30	0.4	2	0.280	
VC2555FT	55	209	130	35	3,500	5	40	1.2	2	0.420	
VC2575FT	75	283	150	50	3,500	10	50	1.7	2	0.480	
VC25100FT	100	308	150	60	3,500	10	50	2.3	1	0.500	
VC25125FT	125	333.5	150	70	3,500	10	60	2.8	1	0.540	
VC2515F	15	128	80	30	3,500	15	30	0.2	3	0.240	
VC2530F	30	161	110	30	3,500	5	30	0.2	2	0.280	
VC2555F	55	209	130	35	3,500	5	40	1.2	2	0.420	
VC2575F	75	283	150	50	3,500	10	50	1.7	2	0.480	
VC25100F	100	308	150	60	3,500	10	50	2.3	1	0.500	
VC25125F	125	333.5	150	70	3,500	10	60	2.8	1	0.540	

Suffix FT: M25x1.5 threaded body.

Suffix F: plain body 23.8 mm dia. (without thread), with optional clamp type mounting block.

### Operating range VC



### Accessories with Mounting Example



Mounting with clamp mount



Installed with air bleed collar SP25 (part no. 10783-000)

Products for  
UNF and metric thread  
available

## MA, MVC

Designed for applications with low precision requirements

### Adjustable

**Compression force 8 N to 3,500 N**

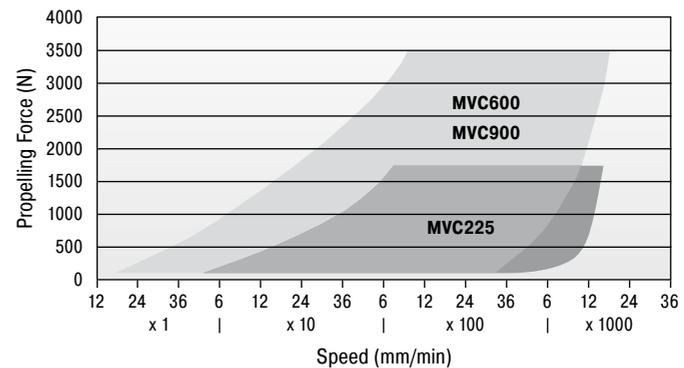
**Stroke 7 mm to 40 mm**

Many application options: the hydraulic feed controls in models MA and MVC are similar to that of the VC model. However, these hydraulic controls have been designed for applications that require less precision.

There are also plenty of accessories for the MA and MVC models. All products are ready-to-install, maintenance-free, stable in temperature and avoid stick-slip effect. Speeds from 0.47"/min. (12 mm/min.) can be driven at a low thrust force using the adjustment screw on the base of the hydraulic control.

Hydraulic feed controls with the designations MA and MVC are especially used in handling modules or linear carriages and also for applications with changing usage data.

### Operating Range MVC225 to MVC900



### Performance and Dimensions

TYPES	Stroke mm	Compression force min. N	Compression force max. N	Return Force min. N	Return Force max. N	Return Time s	<sup>1</sup> Side Load Angle max. °	M	Weight kg
MA30M	8	8	80	1.7	5.3	0.3	2	M8x1	0.013
MA50M	7.2	40	160	3	6	0.3	2	M10x1	0.025
MA35	10.2	15	200	5	11	0.2	2	1/2-20 UNF / M12x1	0.043
MA150	12.7	20	300	3	5	0.4	2	9/16-18 UNF / M14x1.5	0.061
MVC225	19	25	1,750	5	10	0.65	2	3/4-16 UNF / M20x1.5	0.173
MVC600	25	65	3,500	10	30	0.85	2	1-12 UNF / M25x1.5	0.352
MVC900	40	70	3,500	10	35	0.95	2	1-12 UNF / M25x1.5	0.414

<sup>1</sup> For applications with higher side load angles consider using the side load adaptor, pages 44 to 51.

### Technical Data

**Compression force:** 8 N to 3,500 N

**Execution:** Thread M8 to M25

**Impact velocity range:** At speeds of 0.3 m/s the maximum allowed energy is approx. 2 Nm.

Where higher energies occur use a shock absorber for the initial impact. Avoid high impact velocities.

**Adjustment:** Hard impact at the start of stroke, turn towards 9 or PLUS. Hard impact at the end of stroke, turn towards 0 or MINUS.

**Positive stop:** Integrated

**Damping medium:** Oil, temperature stable

**Material:** Outer body: Nitride hardened steel; Piston rod: Steel with black oxide finish or nitride hardened

**Mounting:** In any position

**Operating temperature range:** 0 °C to 66 °C

**Application field:** Handling modules, Linear slides, Automatic machinery, Conveyor equipment, Absorption control

**Note:** Damper is preset at delivery in a neutral position between hard and soft.

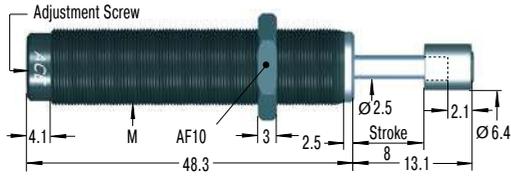
**Safety information:** External materials in the surrounding area can attack the seal components and lead to a shorter service life. Please contact ACE for appropriate solution suggestions.

**On request:** Nickel-plated, weartec finish (seawater resistant) or other special options available on request.

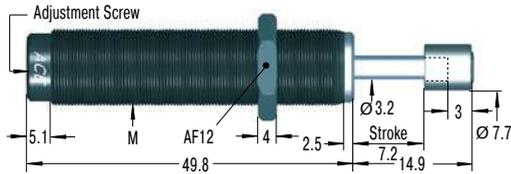
Products for  
UNF and metric thread  
available

Adjustable

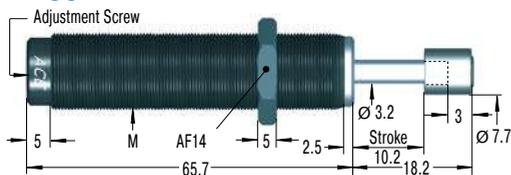
### MA30M



### MA50M

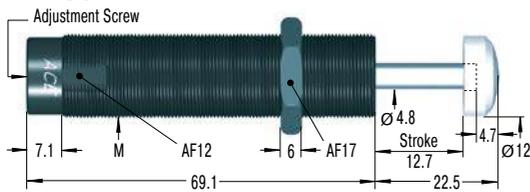


### MA35



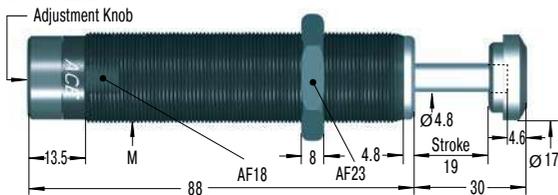
Product available for UNF and metric thread (for metric add suffix -M from part number)

### MA150



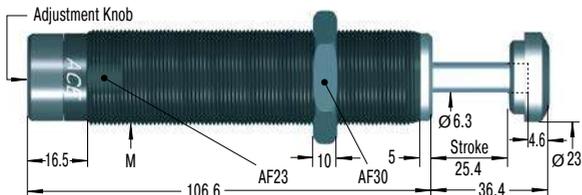
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### MVC225



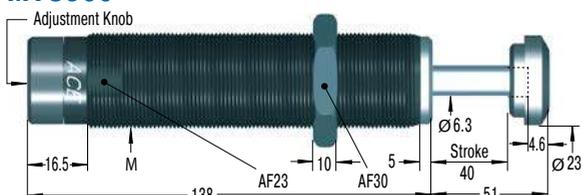
Product available for UNF and metric thread (for metric add suffix -M from part number)

### MVC600



Product available for UNF and metric thread (for metric add suffix -M from part number)

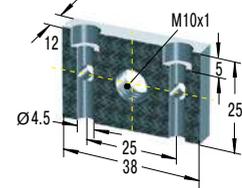
### MVC900



Product available for UNF and metric thread (for metric add suffix -M from part number)

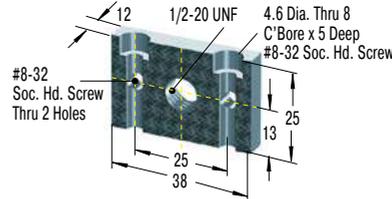
### 250-0307

Mounting Block



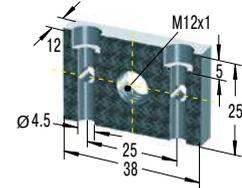
### 250-0308

Mounting Block



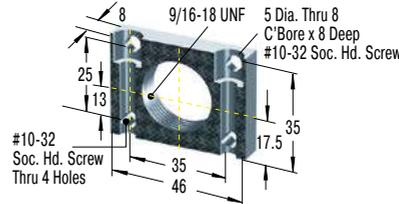
### 250-0309

Mounting Block



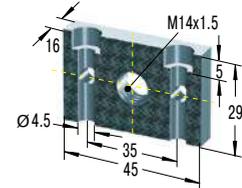
### 250-0318

Mounting Block



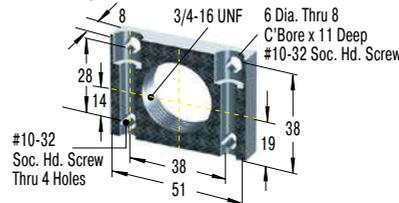
### 250-0352

Mounting Block



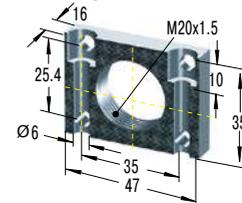
### 250-0401

Mounting Block



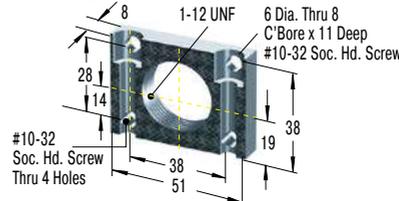
### 250-0353

Mounting Block



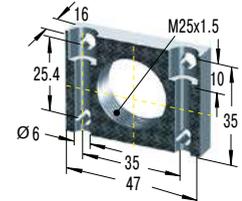
### 250-0402

Mounting Block



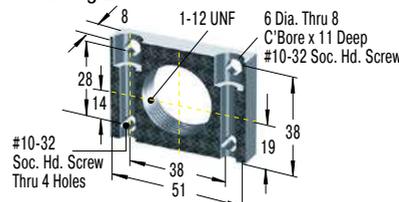
### 250-0044

Mounting Block



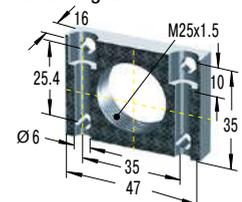
### 250-0402

Mounting Block

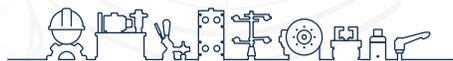


### 250-0044

Mounting Block



Additional accessories, mounting, installation ... see from page 44.



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