# Precision Hydraulic Feed Controls

Adjustable

VC precision feed controls are sealed hydraulic units fitted with a high precision metering element. When the piston rod is depressed the hydraulic oil is forced through the adjustable precision metering orifice. This provides a constant and precise feed control throughout the stroke length. The feed rate can be adjusted over a wide range by turning the external adjuster knob at the rear end of the unit. The threaded outer body makes installation and the adjustment of feed control travel limits very simple. FA, MA and MVC are similar feed control units intended for applications where the higher precision of the VC series is not required. Precision feed controls are self-contained, maintenance-free, temperature stable and stick-slip free. The rolling diaphragm seal provides a leakproof sealed unit and also provides an integral accumulator for the oil displaced during operation. The high precision, adjustable metering system can provide accurate feed rates from as low as 12 mm/min with light propelling forces. Applications include saws, cutters, drill feeds, grinding and boring machines in the plastics, metal, wood and glass industries.

> "For precise adjustment of the feed rate!"

Piston Rod

**Positive Stop** 

Main Bearing

**Rolling Diaphragm Seal** 

Feed Rate Adjustment

**Impact velocity range:** Avoid high impact velocities. 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 74 mm to 125 mm stroke. Where higher energies occur use a shock absorber for the initial impact. **Material:** Body heavy duty steel tube with black oxide. Piston rod with hard chrome plating.

Piston

**Outer Body** 

**Return Spring** 

**Pressure Chamber** 

**Fine Filter** 

Nylon button PP600 can be fitted onto piston rod. Unit may be mounted in any position.

When mounting: Take care not to damage the adjuster knob.

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

**Only VC2515 to VC2555:** Do not rotate piston rod, if excessive rotation force is applied rolling seal may rupture. In contact with petroleum base oils or cutting fluids specify optional neoprene rolling seal or install air bleed adaptor type SP.

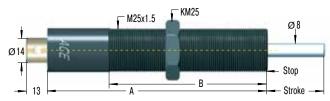


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# **Precision Hydraulic Feed Controls VC2515 to VC25125**Adjustable

#### **VC25**







Air Bleed Collar for VC2515FT to VC2555FT reduction of the stroke 6.4 mm

Accessories, mounting, installation ... see pages 38 to 41.

Capacity Chart												
<b>Type</b> Part Number	Stroke mm	A	В	Min. Propelling Force <b>N</b>	Max. Propelling Force <b>N</b>	Min. Return Force <b>N</b>	Max. Return Force <b>N</b>	Rod Reset Time <b>s</b>	Max. Side Load Angle °	Weight <b>kg</b>		
VC2515EUFT	15	128	80	30	3 500	5	10	0.2	3	0.35		
VC2530EUFT	30	161	110	30	3 500	5	15	0.4	2	0.45		
VC2555EUFT	55	209	130	35	3 500	5	20	1.2	2	0.6		
VC2575EUFT	75	283	150	50	3 500	10	30	1.7	2	0.681		
VC25100EUFT	100	308	150	60	3 500	10	35	2.3	1	0.794		
VC25125EUFT	125	333.5	150	70	3 500	10	40	2.8	1	0.908		

Suffix "FT" signifies a M25x1.5 threaded body.

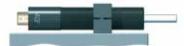
Suffix "F" signifies a plain body 23.8 mm dia. (without thread) also available, with optional clamp type mounting block.

#### **Technical Data**

Outer body: Plain body 23.8 mm dia. (without thread) is also available.

**Feed rate range:** Min. 0.013 m/min with 400 N propelling force, max. 38 m/min with 3500 N propelling force.

#### **Mounting Examples**



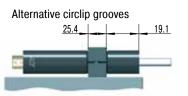
Mounting with clamp mount MB25



Installed with air bleed collar SP25



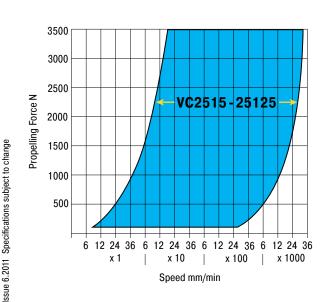
Installed with switch stop collar inc. proximity switch and steel button AS25 plus PS25



Bulkhead mounting for VC25...F with mounting block KB... (23.8 mm plain body option)

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#### **Operating Range VC**

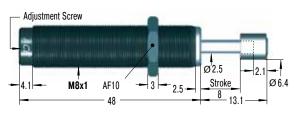




### Feed Controls FA/MA/MVC

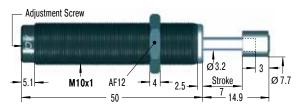
Adjustable

#### MA30EUM



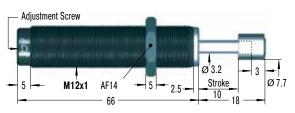
Accessories, mounting, installation ... see pages 36 to 41.

#### MA50EUM for use on new installations



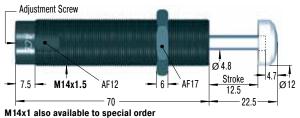
Accessories, mounting, installation  $\dots$  see pages 36 to 41.

#### MA35EUM



Accessories, mounting, installation ... see pages 37 to 41.

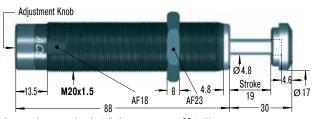
#### MA150EUM



Accessories, mounting, installation ... see pages 37 to 41.

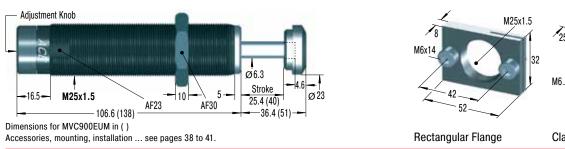
#### MVC225EUM

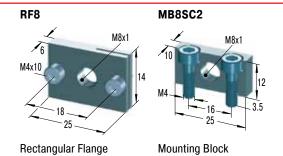
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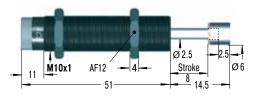
Accessories, mounting, installation ... see pages 38 to 41.



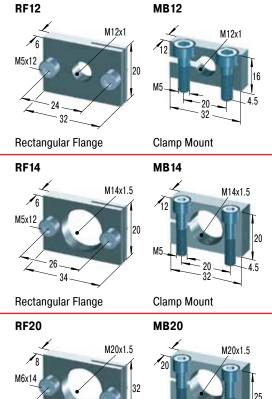




FA1008V-B still available in future



Accessories, mounting, installation ... see pages 36 to 41.

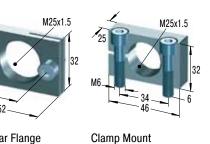


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Rectangular Flange

**RF25** 





## Feed Controls FA/MA/MVC

Adjustable

#### **Capacity Chart**

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		Propelling Force N						
Туре	Hub <b>mm</b>	min. N	max. N	Min. Return Force <b>N</b>	Max. Return Force <b>N</b>	Rod Reset Time <b>s</b>	<sup>1</sup> Max. Side Load Angle °	Weight <b>kg</b>
MA30EUM	8	8	80	1.7	5.3	0.3	2	0.013
MA50EUM	7	40	160	3	6	0.3	2	0.025
FA1008V-B	8	10	180	3	6	0.3	2.5	0.024
MA35EUM	10	15	200	5	11	0.2	2	0.043
MA150EUM	12	20	300	3	5	0.4	2	0.06
MVC225EUM	19	25	1 750	5	10	0.65	2	0.15
MVC600EUM	25	65	3 500	10	30	0.85	2	0.3
MVC900EUM	40	70	3 500	10	35	0.95	2	0.4

<sup>1</sup> For applications with higher side load angles consider using the side load adaptor (BV) page 40.

#### **Technical Data**

**Impact velocity range:** Avoid high impact velocities. 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.

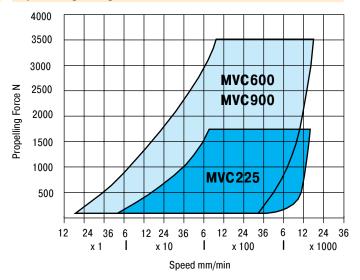
Mounting: In any position

**Positive stop:** Install mechanical stop 0.5 to 1 mm before end of stroke on model FA1008V-B.

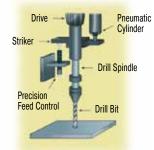
Material: Body: Steel with black oxide finish. Piston rod: Stainless steel.

Operating temperature range: 0 °C to 66 °C

#### **Operating Range MVC225 to 900**



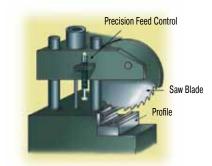
#### **Application Examples**



A high force is necessary at the start of drilling when the drill first contacts the sheet. After the initial cut this high force causes the drill to break through. This results in jagged edges rather than a smooth clean hole and also causes tool breakage.

By installing an **ACE VC feed control** it is possible to precisely control the rate of drill advance. As a result the drilled holes are clean and consistent and drill breakage is considerably reduced.

**Drilling sheet metal** 



Sawing aluminium and plastic profiles

Varying material types, hardness and wear on the saw blade causes the cutting pressure to vary greatly. However the saw advance speed should remain constant as changes cause breakage of the material being cut or of the saw blade.

An **ACE VC feed control** fitted directly to the cutting head provides a simple and low cost solution. The cutting speed remains constant and can be easily preset.

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