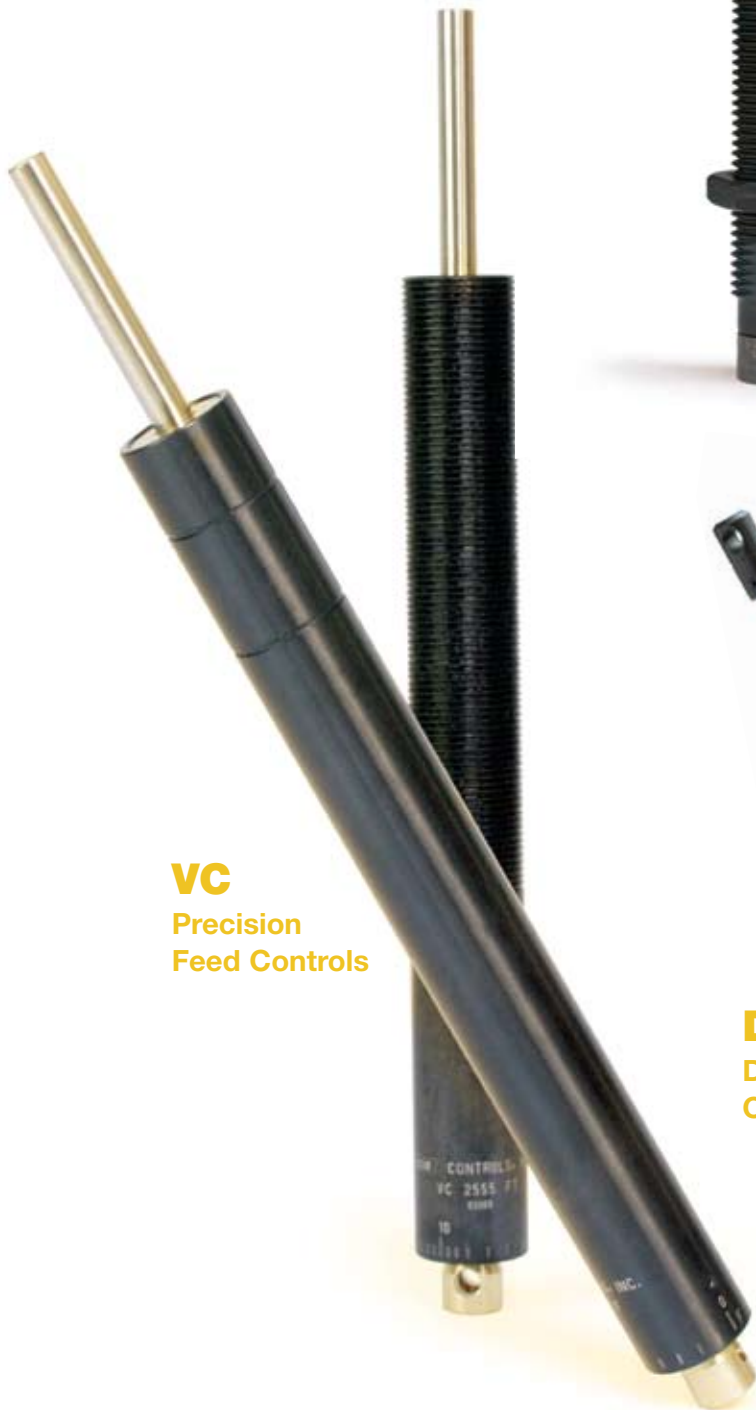




MVC
Feed Controls



VC
Precision
Feed Controls



DVC
Dual Velocity
Controls



ACE 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 optional threaded outer body helps to simplify installation and the adjustment of feed control travel limits.

MA and MVC are similar feed control units intended for applications where the higher precision of the VC series is not required.

ACE Precision Feed Controls provide exact speed control for machine motion. They are self-contained, maintenance free, leakproof, temperature stable and stick-slip free. The rolling diaphragm seal, on models 2515 to 2555, provides a hermetically 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 little as 0.47 in/min (12 mm/min) with low propelling forces.

Applications include: saws, cutters, drill feeds, grinding and boring machines in the plastics, metal, wood and glass industries.

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Technical Data

Feed rate range: min. 0.51 in/min with 90 lbs. (0.013 m/min with 400 N) propelling force. Maximum 1500 in/min with 787 lbs. (38 m/min with 3500 N) propelling force.

Do not rotate piston rod. If excessive rotation force is applied, rolling seal may rupture (only applies to VC 2515 to VC 2555).

Outer body: Smooth body standard 0.94 inch (23.8 mm) dia., threaded body optional.

When mounting take care not to damage the adjuster knob.

Temperature range: 32° to 140°F (0° to 60°C).

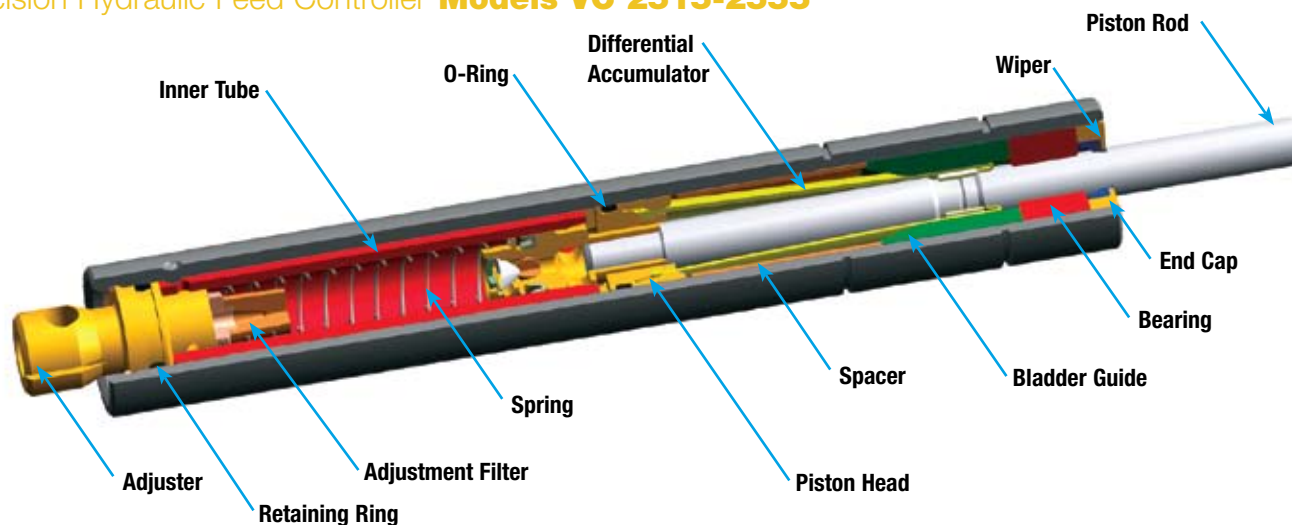
Material: Body heavy-duty steel tube with black oxide. Piston rod with hard chrome plating on models: VC2575, 25100 & 25125

Stainless steel piston rod on models: VC2515, 2530 & 2555.

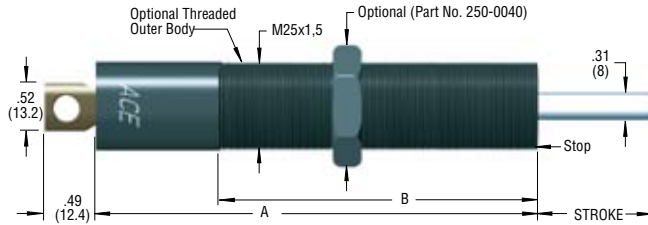
Adjustment: Adjust VC unit by turning adjustment knob at rear. Zero is full open (fast) and 20 is fully closed (slow).

Note: If the VC feed control will be in contact with petroleum based oils or cutting fluids, specify optional neoprene rolling seal or install Air Bleed Collar model SP 25 (only applies to VC 2515 to VC 2555).

Precision Hydraulic Feed Controller Models VC 2515-2555



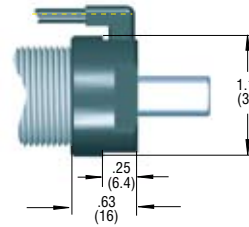
Model VC 25..



Smooth body - standard

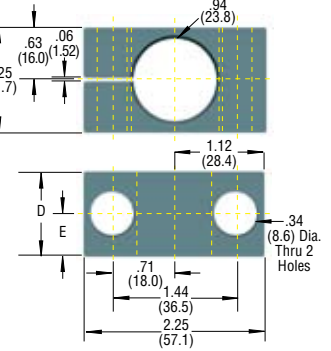
Threaded body - optional

Model SP-25 Part No. 10783-000



Air Bleed Collar
for VC 2515 to 2555

Clamp Mount for Smooth Body



See chart below for D & E dimensions

Dimensions in inches (millimeters)

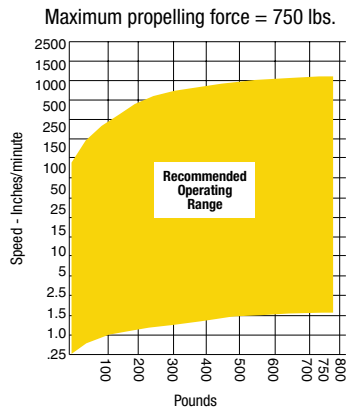
Standard Model	Threaded Model	Stroke	A	B	Weight lbs. kg
VC 2515-F	VC 2515-FT	0.59 (15)	5.04 (128)	3.15 (80)	0.88 (0.4)
VC 2530-F	VC 2530-FT	1.18 (30)	6.34 (161)	4.33 (110)	1.10 (0.5)
VC 2555-F	VC 2555-FT	2.16 (55)	8.23 (209)	5.19 (130)	1.32 (0.6)
VC 2575-F	VC 2575-FT	2.95 (75)	11.14 (283)	5.90 (150)	1.76 (0.8)
VC 25100-F	VC 25100-FT	3.94 (100)	12.13 (308)	5.90 (150)	1.98 (0.9)
VC 25125-F	VC 25125-FT	4.92 (125)	13.13 (333.5)	5.90 (150)	2.20 (1.0)

F = fine adjuster/smooth body FT = fine adjuster/threaded body

Specifications

Standard Model	Threaded Model	Propelling Force N		Return Force N		Reset Time seconds
		lbs.	(N)	lbs.	(N)	
VC 2515-F	VC 2515-FT	6.74 - 787	(30 - 3,500)	1.12 - 2.25	(5 - 10)	0.2
VC 2530-F	VC 2530-FT	6.74 - 787	(30 - 3,500)	1.12 - 3.37	(5 - 15)	0.4
VC 2555-F	VC 2555-FT	7.87 - 787	(35 - 3,500)	1.12 - 4.50	(5 - 20)	1.2
VC 2575-F	VC 2575-FT	11.24 - 787	(50 - 3,500)	7.39 - 11.56	(33 - 51)	1.7
VC 25100-F	VC 25100-FT	13.49 - 787	(60 - 3,500)	6.00 - 11.56	(27 - 51)	2.3
VC 25125-F	VC 25125-FT	15.74 - 787	(70 - 3,500)	5.23 - 11.23	(23 - 50)	2.8

Speed Control Chart



Dimensional Chart for Smooth Body Clamp

Model	D	E	Clamp Part No.
VC 2515-F	1.25	.63	250-0465
VC 2530-F	(31.7)	(16.0)	
VC 2555-F			
VC 2575-F	2.00	1.00	250-0466
VC 25100-F	(50.8)	(25.4)	
VC 25125-F			

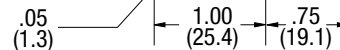


Mounting with Clamp Mount

Installed with Air Bleed Collar SP 25



Smooth Body



Mounting Examples



The MVC Series feed controls offer a compact design, and are adjustable over a wide range of conditions. This dependable series is a low cost speed/feed control, ideal for applications that do not require the sophistication of more expensive devices.

The MVC Series features fully threaded bodies, integral positive stops and standard rod end buttons. They can be utilized with a wide variety of mounting accessories. See page 42 for accessories.

Technical Data

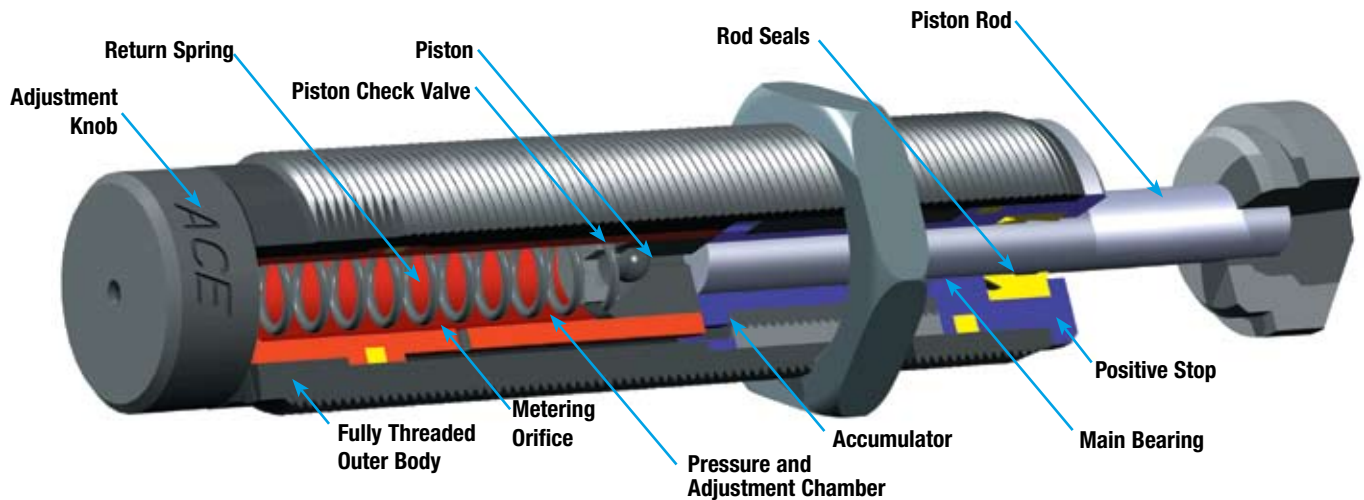
Impact velocity range: 0.5 to 12 ft/sec (0.15 to 3.66 m/sec).

Operating temperature: 32° to 150°F (0° to 66°C).

Mechanical stop: Integral mechanical stop built into the front of units.

Oil type: Silicone

Material: Steel body with Weartec Plus finish. Stainless steel piston rod.



Ordering Information

MVC 225 -

Return Method and Accumulator Style

MVC = Velocity/feed control

Note: All MVC units are spring return, internal accumulator.

Model Number

225
600
900

Mounting Thread

Standard (UNF)
M Metric

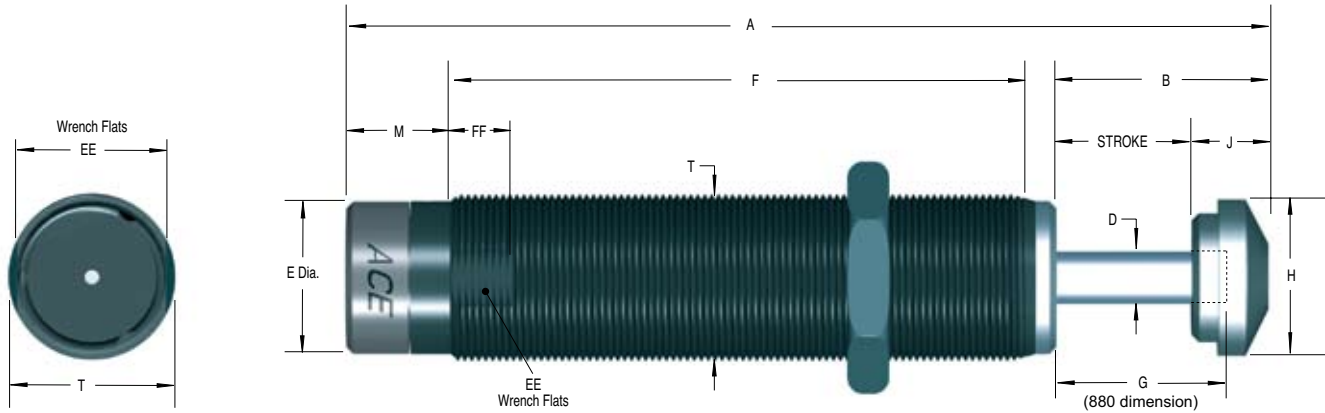
Button Options

Standard Steel Button
-NB No Button, Short Rod
-880 No Button, Standard Rod
-BP Steel Button/Urethane Cap Assembly

Note: MA 35 and MA 150 can be utilized as feed controls.

Button Option:

The ACE steel button/urethane cap assembly (-BP) is available if more quiet equipment operation is desired.



See page 45 for steel button/urethane cap assembly (-BP) dimensions.

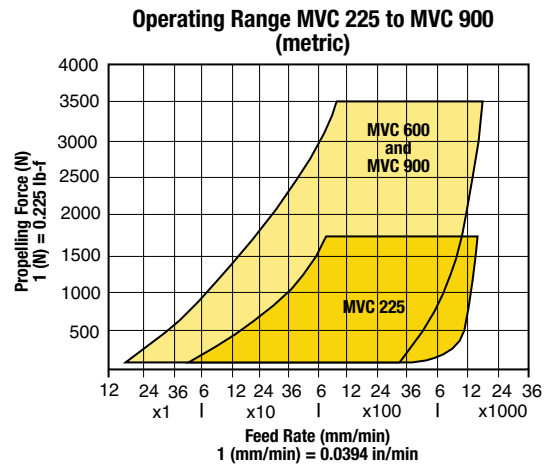
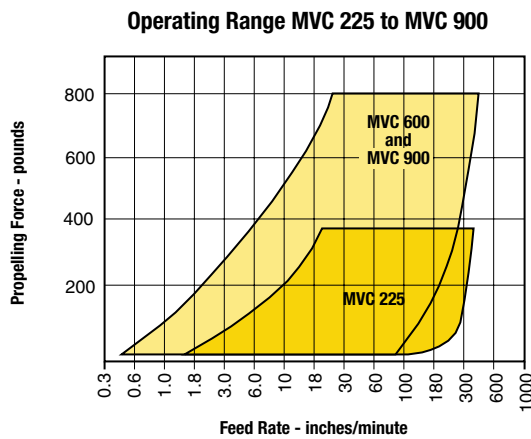
Dimensions in inches (millimeters)

Model	Stroke	A	B	D	E	F	G	H	J	M	T	EE	FF
MVC 225	.75	4.67	1.18	.19	.66	2.75	1.00	.66	.43	.55	3/4-16 UNF	11/16	.50
MVC 225M	(19.1)	(118.6)	(30.0)	(4.8)	(16.8)	(69.9)	(25.3)	(16.8)	(11.0)	(14.0)	M20x1.5	(18.0)	(12.7)
MVC 600	1.00	5.62	1.43	.25	.88	3.33	1.25	.90	.43	.67	1-12 UNF	7/8	.50
MVC 600M	(25.4)	(142.6)	(36.3)	(6.3)	(22.4)	(84.6)	(31.8)	(22.9)	(11.0)	(17.0)	M25x1.5	(23.0)	(12.7)
MVC 900	1.58	7.44	2.01	.25	.88	4.58	1.85	.90	.43	.67	1-12 UNF	7/8	.50
MVC 900M	(40.0)	(189.0)	(51.1)	(6.3)	(22.4)	(116.3)	(46.4)	(22.9)	(11.0)	(17.0)	M25x1.5	(23.0)	(12.7)

Specifications

Model	Propelling Force lbs (N) Min-Max	Time Through Stroke At Slowest Setting With Max. Force	Energy per Hour in lbs/hour (Nm/hour)	Return Force lbs (N)	Return Time sec	Shipping Weight lbs.(kg)
MVC 225	5 (22) - 400 (1,779)	1.21 sec	400,000 (45,194)	1.05 (4.69) - 2.15 (9.56)	.65	.28 (0.13)
MVC 600	14 (62) - 800 (3,559)	1.33 sec	600,000 (67,791)	2.40 (10.67) - 6.87 (30.56)	.85	.67 (0.30)
MVC 900	15 (67) - 800 (3,559)	2.11 sec	800,000 (90,388)	2.40 (10.67) - 7.40 (32.92)	.95	.87 (0.39)

Operating Range



See pages 42, 43 and 44 for accessory information.

Lock nut included with each MVC unit.



Hydraulic Speed/Feed Controllers from ACE are self-contained sealed units designed for precise control of speed in both directions of travel. The travel speed can be adjusted independently in each direction of travel.

These dependable, dual velocity controls (DVC's) are designed to solve automated control and velocity damping problems. DVC models regulate the speed of moving machinery parts and equipment. They are ideal for applications requiring self-contained units that are simple to install and operate.

Features include: adjustable or fixed orifices, single or dual controls and heavy-duty construction.

Applications include: pick and place automation equipment, drill and tapping equipment, machine slides and guards, lids, swinging loads and tooling fixtures.

Technical Data

Maximum operating temperature: 150°F (66°C).

Mechanical stop: Provide mechanical stop .04 to .06 inch (1 to 1.5 mm) before end of each stroke direction.

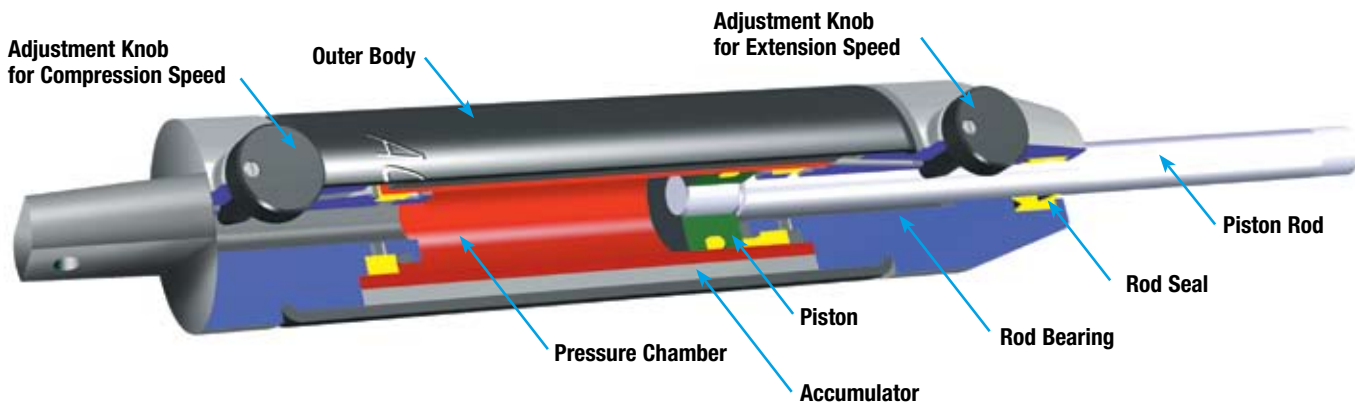
Operating fluid: Automatic Transmission Fluid (ATF) at 104°F (40°C).

Material: Black anodized, aluminum body. Hard chrome plated, steel piston rod. Zinc plated, steel end fittings.

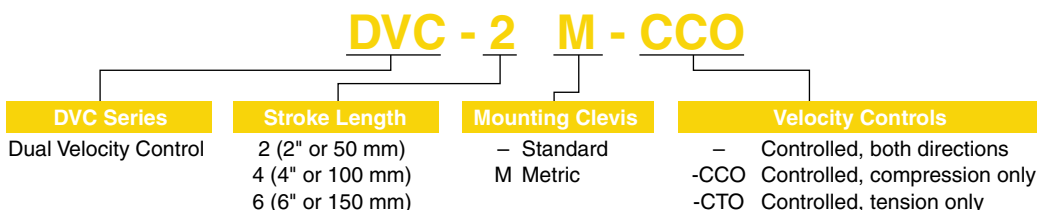
To special order: Special oils and external finishes. Uni-directional damping (free flow in reverse direction).

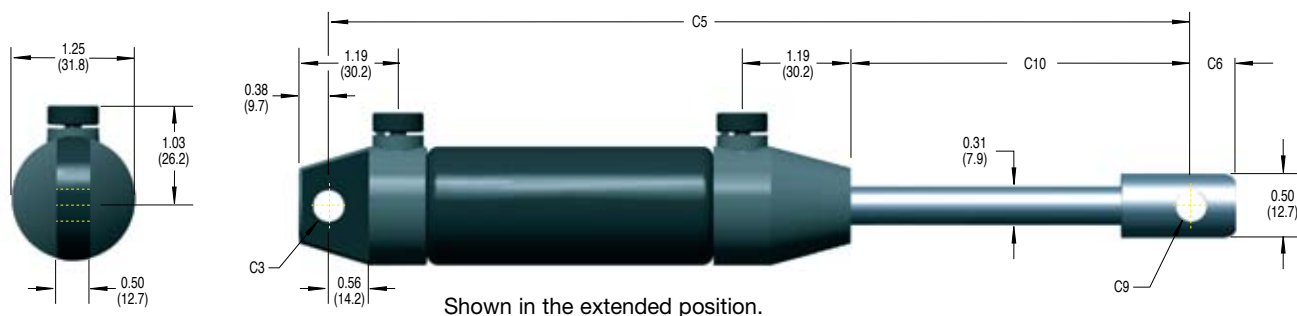
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Hydraulic Speed/Feed Controllers DVC



Ordering Information





Dimensions in inches (millimeters)

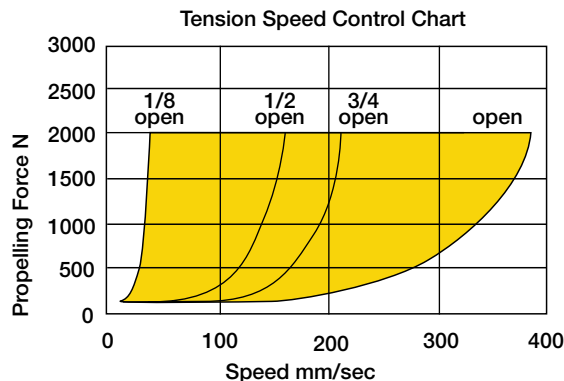
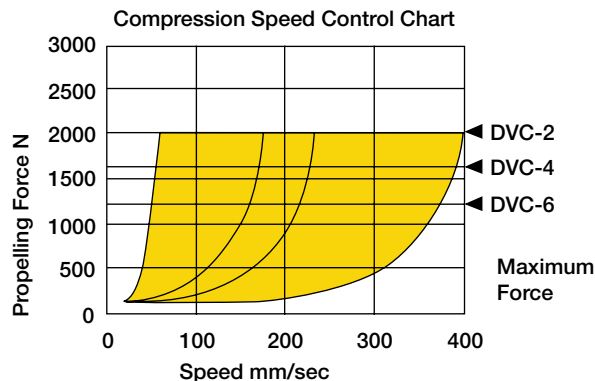
Model	Stroke	C3	C5	C6	C9	C10
DVC-2	2.00	0.25	9.81	0.25	0.25	2.93
DVC-2M	(50.0)	(6.0)	(250.0)	(6.4)	(6.0)	(75.2)
DVC-4	4.00	0.25	13.81	0.25	0.25	4.93
DVC-4M	(100.0)	(6.0)	(350.0)	(6.4)	(6.0)	(124.4)
DVC-6	6.00	0.25	17.81	0.25	0.25	6.93
DVC-6M	(150.0)	(6.0)	(450.0)	(6.4)	(6.0)	(173.6)

DVC-8 & DVC-10 models available, consult your distributor or ACE Controls

Specifications

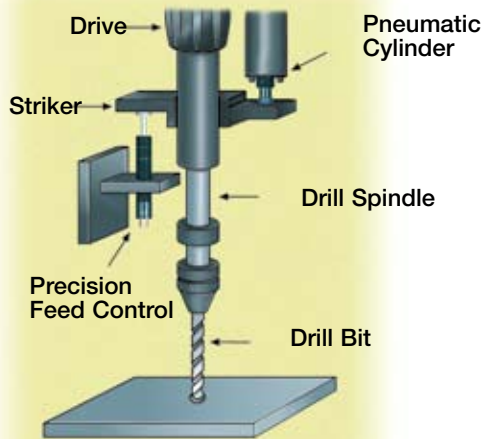
Model	Tension		Compression		Shipping Weight lbs (kg)
	Maximum Propelling Force	Minimum Force to Operate Through Full Stroke	Maximum Propelling Force	Minimum Force to Operate Through Full Stroke	
DVC-2	450 lb s	9.5 lb s	450 lb s	9.5 lb s	0.75 lb s
DVC-2M	2,000 N	(42 N)	2,000 N	(42 N)	0.34 kgs
DVC-4	450 lb s	(External Mechanical Stops Required)	375 lb s	(External Mechanical Stops Required)	0.90 lb s
DVC-4M	2,000 N		1,670 N		0.41 kgs
DVC-6	450 lb s		300 lb s		1.06 lb s
DVC-6M	2,000 N		1,335 N		0.48 kgs

Speed Controls



ACE Controls reserves the right to change models, dimensions or specifications without notice or obligation. Please refer to the online catalog for the latest information.

Drilling Sheet Metal

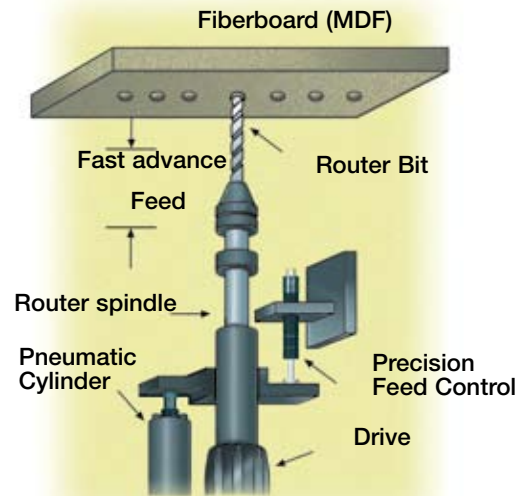


A high force is necessary at the start of drilling when the drill first contacts the sheet.

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.

Cutting Holes in MDF Furniture Panels

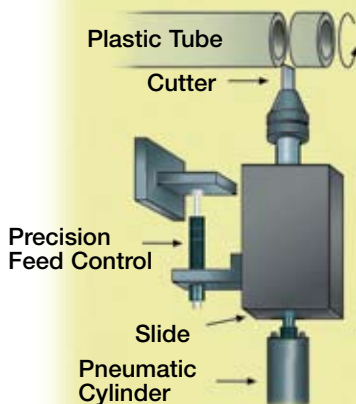


Originally a pneumatic tandem cylinder was used to provide the initial fast advance. This was then slowed to cutting speed by a complicated regulating device. Despite this the control and adjustability was unsatisfactory.

After installing the ACE VC Feed Control the feed rate could be adjusted precisely. The expensive and special tandem cylinder could be replaced by a standard one and the complicated regulating device was no longer required.

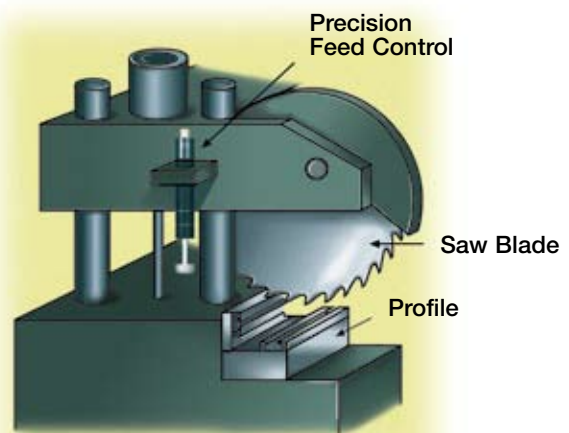
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Cutting and Chamfering of Plastic Tubes



Precisely adjustable cutting and feed speeds are required depending on the particular material being processed. A standard ACE VC Feed Control with its fine adjustment enables the cutter to be controlled exactly for different materials.

Sawing Aluminum and Plastic Profiles



Varying material types, as well as 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.