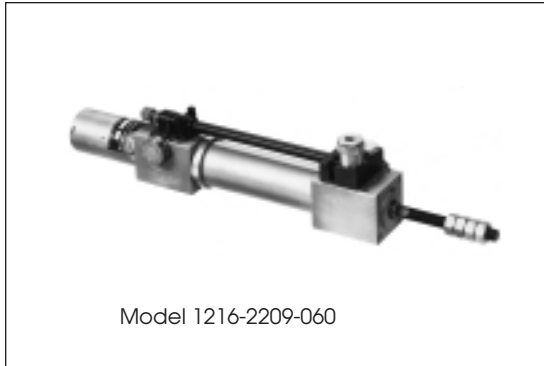




Series 12 Veritrol Hydraulic Checking Cylinder



Model 1216-2209-060

Application Information

- Provides uniformly controlled stroke speed essential to tool or work piece feeding on drilling, milling, cut-off and grinding. Smooths out stroke variations caused by compression of air under irregular loads.
- Can be connected to feed table or other driven machine part, or any arrangement where checking stroke opposes air-cylinder work stroke.
- Available in single or double acting models, providing up to 2,000 lbs. checking capacity in either or both directions.
- Dial set speed control permits cylinder travel from 3" to 300" per minute.
- Oil reservoir indicating stem gives visual refill cue.

Specifications

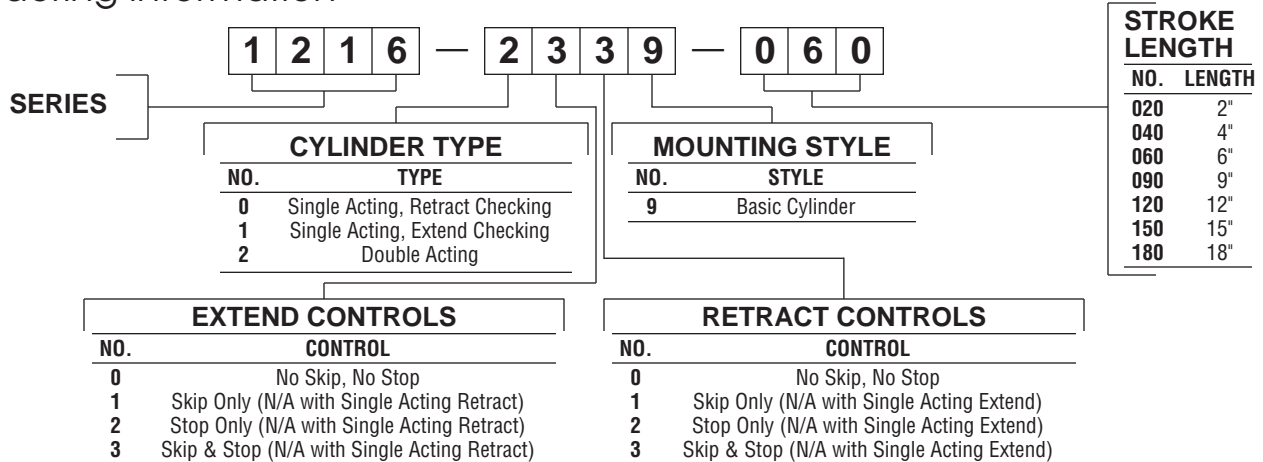
Operating Air Pressure: 60 p.s.i. minimum, 150 p.s.i. maximum.

Skip Control: Valve is normally open. To obtain speed control, skip valve must be actuated by applying a 60 p.s.i. minimum air pilot signal to the 1/8-27 NPTF port.

Stop Control: Valve is normally open. To stop piston rod movement, stop valve must be actuated by applying a 60 p.s.i. minimum air pilot signal to the 1/8-27 NPTF port.

NOTE: On cylinders equipped with skip & stop control valves, both skip & stop valves must be actuated to stop piston rod travel.

Ordering Information



ROD PROJECTION OPTION For additional Rod Projection specify total length of Rod Thread desired as an "E = _____" dimension after the Model No.

EXAMPLE: Where 6" additional Rod Thread is desired: 1216-1009-020, E = 9-3/8" (std. E of 3-3/8" + 6" = 9-3/8").

Model 1579 Hydraulic Oil Fill Kit



Recommended for use in filling oil reservoir in Series 12 cylinders.



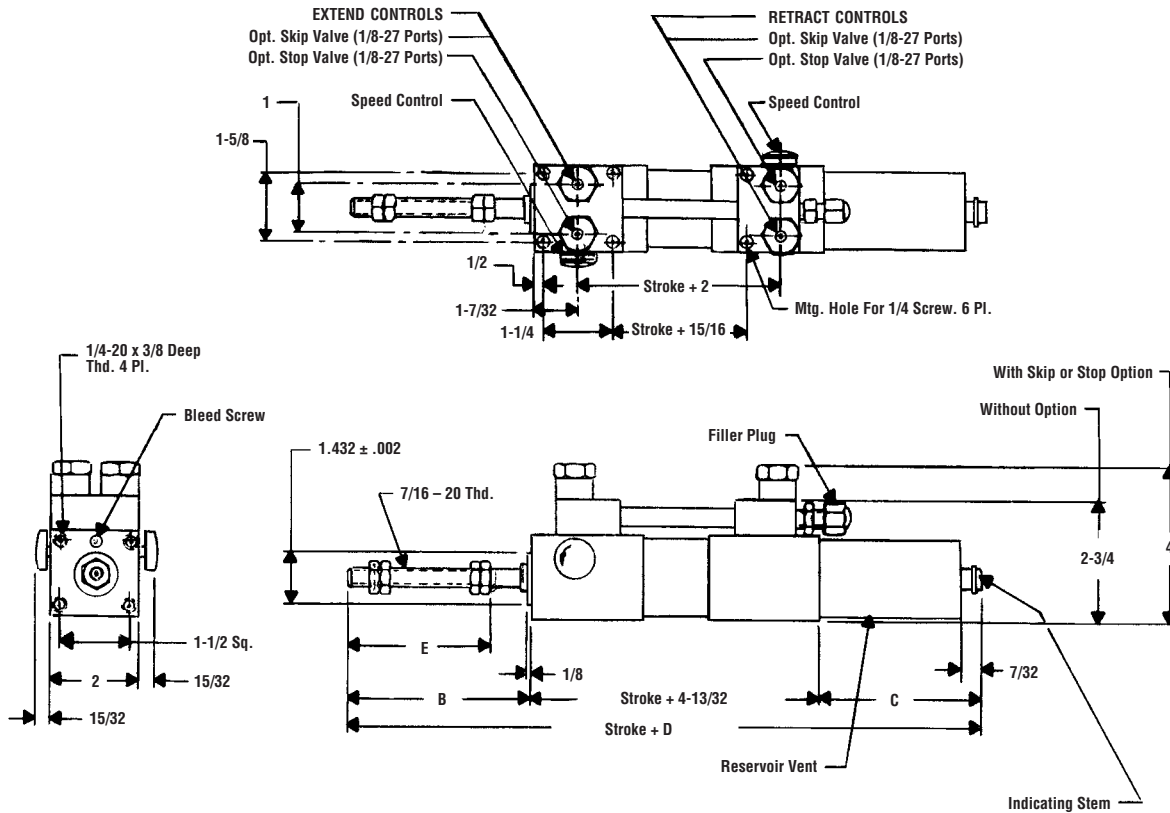
CONTROL LINE Hydraulic Oil

Recommended especially for use in Control Line Series 12 Veritrol hydraulic checking cylinders.

QUANTITY	PART NO.
1 Gallon	1626



Series 12 Veritrol Dimensional Information



Model 1216-2XX9-XXX (shown)
 Model 1216-1X09-XXX (same dimensions less retract controls)
 Model 1216-00X9-XXX (same dimensions less extended controls)

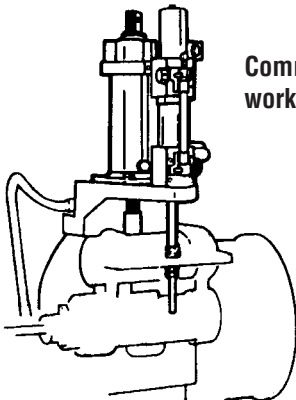
Repair Kit

SERIES 12	NO.
All Models	115808

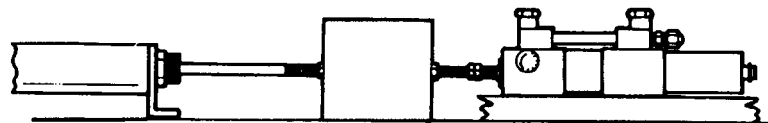
Dimensions

REF.	Stroke Length - Inches					
	2	4	6	9	12	15 - 18
B	4				4	
C	3-15/32				5-27/32	
D	Stroke + 11-7/8				Stroke + 14-1/4	
E	3-3/8				3-3/8	

Mounting Capabilities



Common front flange mount with checking cylinder working in tandem with air cylinder.



Flush mounted with checking cylinder opposing air cylinder.

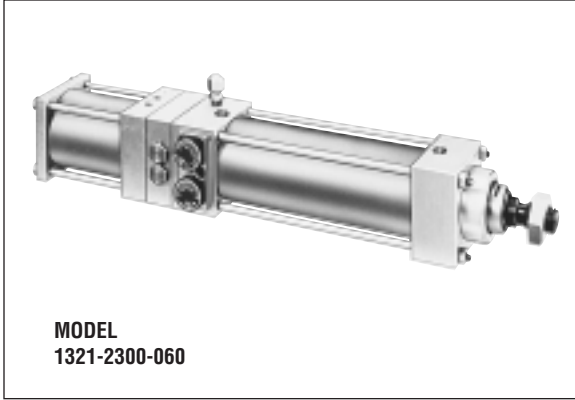
CONTROL LINE EQUIPMENT, INC.

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CONTROL LINE EQUIPMENT, INC.
 14750 Industrial Parkway • Cleveland, Ohio 44135
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Series 13 Coaxial Air / Hydraulic Cylinder



Application Information

- Unique combination cylinder provides smooth, precise hydraulic control, but requires only a shop air supply. Oil cylinder concentric with air cylinder, results in unit about one-half the length of an in-line unit, and easier to install than side-by-side cylinder combination.
- These cylinders recommended for machine tool applications or work-piece feeding, and where precise speed control and smoothness are required.
- The compactness of the Series 13 is beneficial where long stroke length, with controlled and uniform speed throughout the stroke, is desirable.
- Dial-set, stepless, load-compensated, speed control in both directions assures smooth, uniform piston travel regardless of load fluctuations.
- Oil reservoir automatically compensates for volume changes with visual low-oil signal.
- Optional built-in skip-stop control for selection of rapid traverse or stop in either direction.

Specifications

Operating Air Pressure	30 p.s.i. minimum, 150 p.s.i. maximum.
Controlled Speed Either Direction	3 inches per minute minimum, 300 inches plus 60 inches or minus 40 inches maximum.
Effective Piston Area	4.6 square inches extending 3.14 square inches retracting.
Skip & Stop Valve Operation	A 60 p.s.i. minimum air pressure is required on coaxial cylinder operating at from 30 to 70 p.s.i. Cylinder pressures above 70 p.s.i. require a skip or stop valve pressure equal to 85% of operating pressure.
Skip Operation	Pressurizing Skip Port opens Skip Valve allowing speed control to be bypassed, either direction.
Stop Operation	Pressurizing Stop Port closes Stop Valve causing cylinder to immediately stop, in either controlled or skip feed modes.

HOW TO ORDER:

Refer to the table below and specify Series-And-Bore Number. Select suffix number indicating Cylinder Type, Control Option and Mounting Option. Add Stroke Length. This will produce a 4-digit prefix, 4-digit suffix and a dimension in inches. See typical model number beneath illustration above.

Series & Bore No.		Control Option		Rod Thread		Mounting Styles		Available Stroke Lengths	
No.	Bore	No.	Type	No.	Type	No.	Style	No.	Stroke
1321	2-1/2"	20	No Skip or Stop	0	3/4-10 UNC	0	Flush Mount	030	3"
		21	Skip Only	2	3/4-16 UNF	1	Low L	060	6"
		22	Stop Only	3	No Thread	3	Front Flange	090	9"
		23	Skip & Stop			4	Rear Flange	120	12"
								150	15"
								180	18"
								210	21"
								240	24"
								270	27"

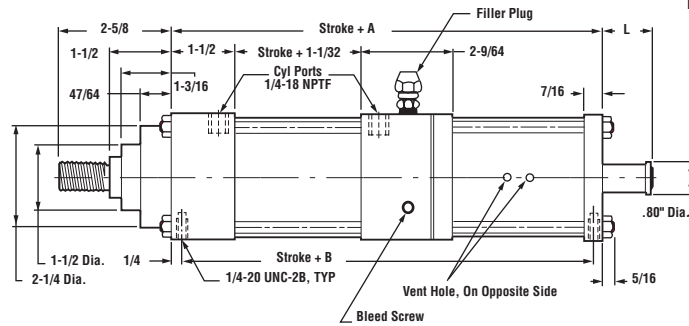
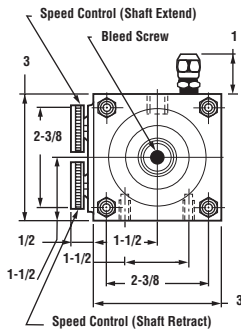
FORM COAX 398



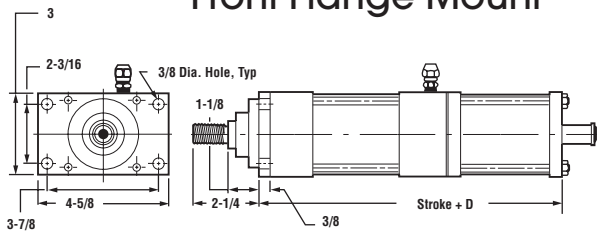
**National
FLUID POWER
Association**
MEMBER

Series 13 Coaxial Cylinder

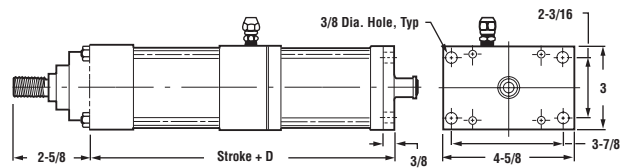
Flush Mount



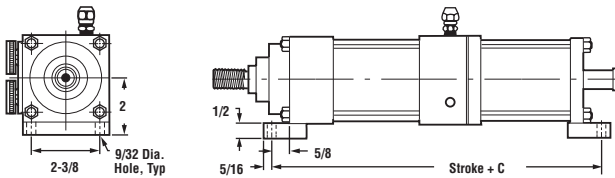
Front Flange Mount



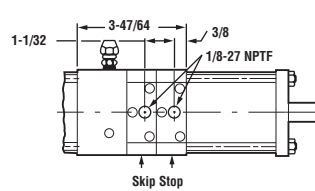
Rear Flange Mount



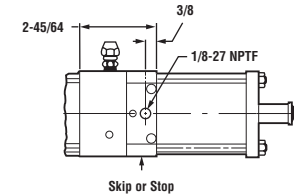
L Mounts



Skip And Stop



Skip Or Stop



Dimensions

Model	Stroke Range	A	B	C	D	L
No Skip Or Stop	Up to 9"	8-1/4	7-25/32	9-17/32	8-5/8	1-9/32
	Over 9" to 18"	9-3/4	9-9/32	11-1/32	10-1/8	2-1/32
	Over 18" to 27"	11-1/4	10-25/32	12-17/32	11-5/8	2-25/32
With Skip Or Stop	Up to 9"	8-13/16	8-11/32	10-3/32	9-3/16	1-9/32
	Over 9" to 18"	10-5/16	9-27/32	11-19/32	10-11/16	2-1/32
	Over 18" to 27"	11-13/16	11-11/32	13-3/32	12-3/16	2-25/32
With Skip And Stop	Up to 9"	9-27/32	9-3/8	11-1/8	10-7/32	1-9/32
	Over 9" to 18"	11-11/32	10-7/8	12-5/8	11-23/32	2-1/32
	Over 18" to 27"	12-27/32	12-3/8	14-1/8	13-7/32	2-25/32

Stroke Force Information

Air Line Pressure PSI (bar)	Extending Force Lbs.	Retracting Force Lbs.
60	250	155
80	345	215
100	435	280
120	525	340
140	620	405
150	665	435

Repair Kit

SERIES 13	NO.
All Units	7153

Model 1579 Hydraulic Oil Fill Kit



Recommended for use in filling oil reservoir in Series 12 and Series 13 cylinders.



Hydraulic Oil

Recommended especially for use in Control Line Series 12 Veritrol hydraulic checking cylinders and Series 13 Coaxial air-hydraulic cylinders.

QUANTITY	PART NO.
1 Gallon	1626

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