

**Cylinder Materials**

**Heads:** Machined from solid aluminum; black anodized

**Tubes:** Aluminum hard anodized to 60 Rc (16 RMS finish)

**Piston:** Solid high alloy aluminum

**Rod:** Hard chrome plated ground and polished steel

**Bearing:** Long wearing oil impregnated porous bronze

**Piston and Rod Seals:** Wear compensating Buna N vee rings

**Rod Wiper:** PTFE

**Tie Rods:** High tensile steel torqued to allow for flexure

**Double-Rod Cylinders**

Cylinders having a common piston rod that protrudes from both ends are available in all bore sizes. In addition to providing a dual power source, double rod cylinders serve to minimize rod deflection and to facilitate the control and adjustment of rod travel.

**Specify Cushions for Shock Absorption**

Model DM-112 is available with adjustable cushions that decelerate the piston rod over the last 11/16" of stroke. They allow the user to set the degree of cushioning needed for each specific application.

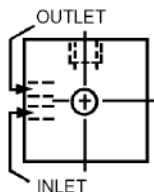
Note: Cushions are not recommended for hydraulic use.

**Pneumatic End-of-Stroke Sensors (Inter-Pilots®)**



A miniature 3-way valve built into the cylinder head is actuated by the cylinder piston as it reaches the end of its stroke. Once contacted, the 3-way Inter-Pilot® valve emits an air signal. In this manner, sequencing is achieved without external limit switches and electric wiring.

Inter-Pilots® may be built (10-32 Ports) into either or both cylinder heads. They are not for hydraulic use. Cylinder operating pressure must not exceed pressure used to feed the Inter-Pilot®. Inter-Pilots® are not available on DM-075.



**Operating Parameters**

Bore Diam.	Thrust*	Thrust Mult.**	Rod Diam. (In.)	Max. Oper. Pressure	
				Air	Oil†
3/4"	44	.44	5/16	250	1000
1 1/8"	100	1.00	5/16	250	1000

\*Pushing force of cylinder at 100 PSI inlet pressure. Pulling force will be about 10% less due to the displacement of the piston rod. Note: Actual realizable thrust could be somewhat lower due to side loading and internal friction. It is best to oversize your cylinder by about 25% to assure smooth operation.

\*\* To determine thrust at other inlet pressures, multiply factor by the desired pressure.

† DM cylinders are not rated or approved for use in hydraulic circuit where an impulse or pressure spike may occur.

**Operating Specifications**

**Temp. Range:** -40 to +250°F (to +400°F on request)

**Lubrication:** Not necessary, but will extend cylinder life when operated with dry air.

**Filtration:** Not essential, but a standard 40 micron filter placed upstream will prolong seal life.

**Pneumatic Stroke Completion Sensors (SCS)**



Port mounted SCS valves emit an air signal when the cylinder rod has stopped even if the piston has not contacted the end cap. SCS valves are ideal for use in situations where the full cylinder stroke is not used. See pg. 60.

**Accessories**

	Bore Diameter	3/4"	1 1/8"
	Flex Rod Couplers	DMA-312	DMA-312
	Forged Rod Clevis	DMC-5	DMC-5
	Pivot Bracket	NA	DMP-7
	Clevis Bracket (with Pin)	NA	DMR-7

**Self Aligning Rod Couplers**

Rod couplers simplify cylinder alignment problems by compensating for 2° angular error and 1/16" lateral misalignment on both extension and retraction strokes. Greater reliability is achieved by reducing cylinder and component wear. Order model # DMA-312 for these small bore cylinders. For other models, see page 47 for dimensions.



Part #	Rod Thread	Cylinder Type
DMA-312	5/16-24	C-112, DM-075, DM-112
DMA-375	3/8-24	No Standard
DMA-437	7/16-20	DM-150, DM2-150, HD1-150, DM-200, DM2-200, HD1-200, DM-250, DM2-250, HD1-250
DMA-500	1/2-20	C-150
DMA-625	5/8-18	C-250
DMA-750	3/4-16	DM-325, DM2-325, HD1-325, DM-400, DM2-400, HD1-400
DMA-875	7/8-14	No Standard
DMA-1000	1-14	C-300, DM-600, HD1-600
DMA-1250	1 1/4-12	No Standard

Reference

Control Valves

Cylinders

Specialty Valves

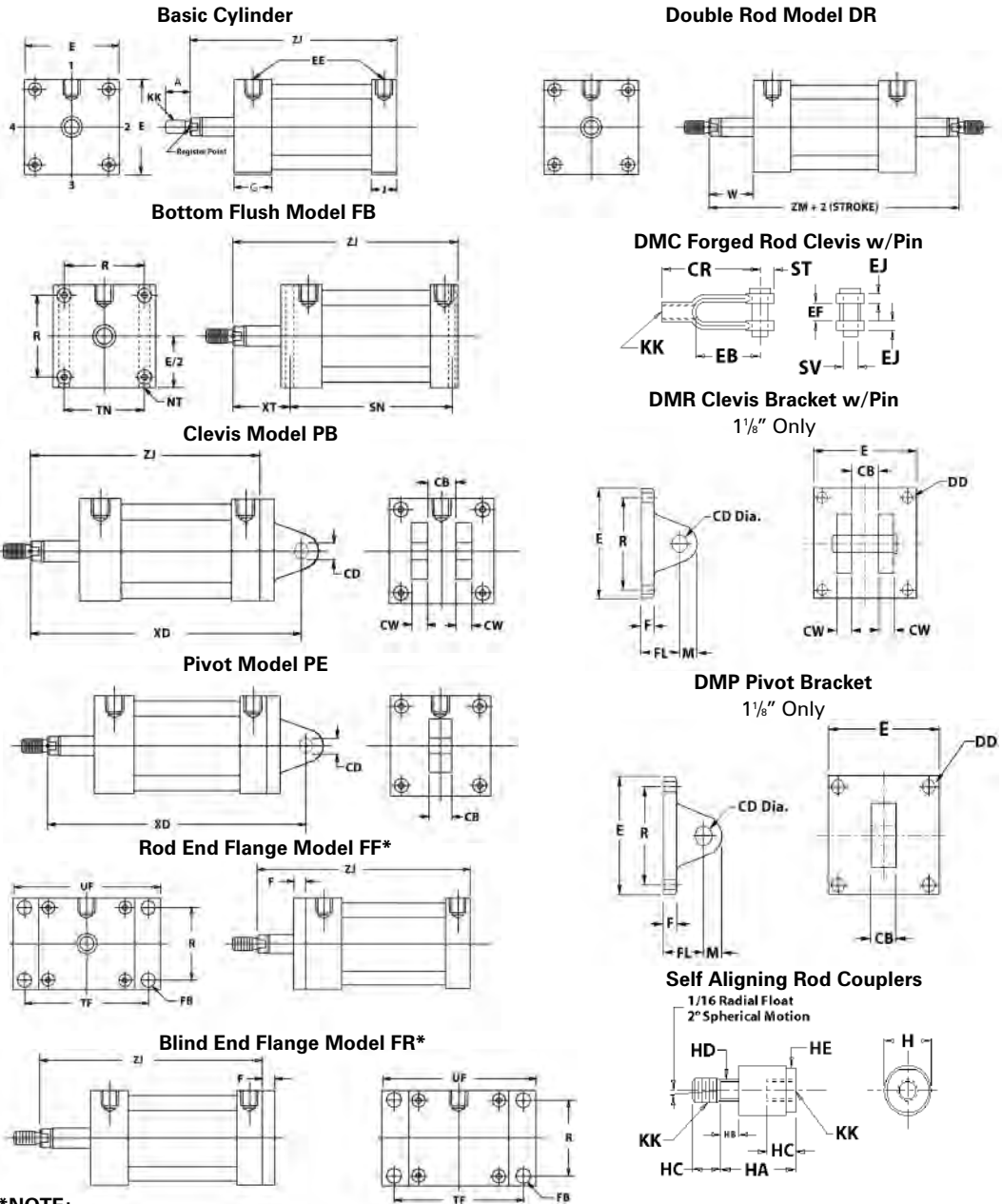
Production Devices

Accessories

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Bore	3/4	1 1/8
A	1/2	1/2
CB	-	5/8
CD	25/64	25/64
CR	2 1/4	2 1/4
CW	-	1/2
DD	13/64	13/64
E	1 1/4	1 5/8
EB	1 7/16	1 7/16
EE(NPTF)	1/8	1/8
EF	11/32	11/32
EJ	13/64	13/64
F	-	1/8
FB	7/32	7/32
G	3/4	3/4
J	3/4	3/4
KK	5/16-24	5/16-24
FL	1 1/8	5/8 Clevis 1 1/4 Pivot
M	-	3/8
MM	5/16	5/16
NT	13/64-Thru	13/64-Thru
R	13/16	1 1/8
RT	10-32	10-32
ST	9/32	9/32
SV	5/16	5/16
TF	2 13/32	2 25/32
TN	13/16	1 1/8
UF	2 29/32	3 9/32
W	1/2	1/2
XT	11/16	11/16
H	7/8	7/8
HA	1 1/4	1 1/4
HB	1/4	1/4
HC	5/8	5/8
HD	5/16	5/16
HE	3/4	3/4
SN*	1 3/4	1 3/4
XD*	3 3/4	3 3/8 Pivot 3 3/4 Clevis
ZJ*	2 5/8	2 5/8
ZM**	3 1/8	3 1/8

\* Add Stroke Length to Dimension  
 \*\* Add 2 x Stroke Length to Dimension



**\*NOTE:**

- (1) 1 1/8" bore cylinders use two angle brackets for flange mounting. (no flange plate)
- (2) On 1 1/8" bore models with ram end cushions and/or Inter-Pilots, 9/16" must be added to G, ZB, SN, and XD dimensions. For blind end cushions and/or Inter-Pilots, 5/8" must be added to J, ZJ, SN, and XD dimensions.
- (3) 3/4" and 1 1/8" bore cylinders use spacers for fractional strokes. For dimensioning, use the next even inch stroke. For true fractional stroke cylinders, specify CL (cut to length).
- (4) 3/4" and 1 1/8" bore models have (4) 10-32 threaded holes for rear flush mounting.

## How To Order

**DM-112 x 10 - FB - DR**

**Base Model**

DM-075 (3/4" Bore)  
 DM-112 (1 - 1/8" Bore)

**Stroke**

State Fractional Strokes as decimals (i.e. 10.5)  
**Note:** These cylinders use spacers for fractional stroke. For dimensioning, use the next even stroke. For true fractional stroke cylinders specify CT (i.e., 10.5 CT)

**Mounting**

**NOTE:** DM-075 only available with FB Mount.  
 In addition to Models shown above the DM-112 is available in a Nose Mount (NS). Consult the factory for dimensional information.

**FF Option**

Front Flange - Plate extends beyond the front head. \* On 1 1/8" bore cylinder, two flange bars replace the flange plate.

**Options**

- DR Double Rod
- VI Viton Seals
- HY Hydraulic Use

Options below are only available on DM-112

- CF Front Cushions
- CR Rear Cushions
- CB Cushions Both Ends
- IPF Interpilots - Front Head
- IPR Interpilots - Rear Head
- IPB Interpilots - Both Heads