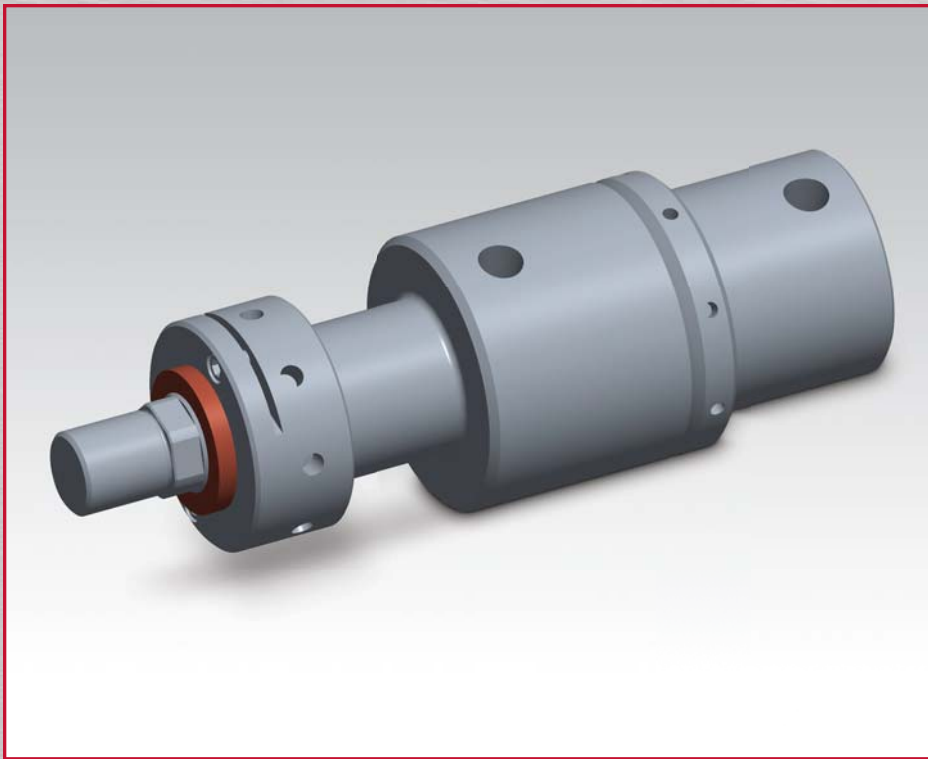


**milwaukee**  
*Cylinder*

Specials are Our Standard



# Series HD Hydraulic Cylinders



**Designed for Severe  
Side Load Applications**

**Heavy Duty  
5,000 psi**

**17½ to 100  
Ton Ratings**

**Perfect for  
Piercing and  
Punching  
Operations**

**Specials are our  
standard—design  
is adaptable to  
your needs**



**National  
FLUID POWER  
Association**

# Series HD Hydraulic Cylinders



The Series HD is a heavy-duty, non tie-rod cylinder that operates continuously at 5,000 psi. It has been designed specifically for punching and piercing operations in thick metal requiring tonnage ratings from 17½ to 100 tons. These cylinders have been successfully used for gang punching of automobile

frames where 8 cylinders are mounted in line. Series HD cylinders are made for neck mounting through a hole in a heavy duty frame. A locking type, split ring collar holds the cylinder in position. HD cylinders will accommodate severe side loads.

## FEATURES

### Cylinder Body

- Solid Construction
- Medium Carbon Alloy Heat Treated Steel

### Cylinder Throat and Mounting Collar

- Solid Construction
- High Tensile Strength
- Medium Carbon Steel

### Rod

- Case Hardened
- Chrome Plated Medium Carbon Steel
- Urethane Cup Rod Seals and Buna Rod Wiper

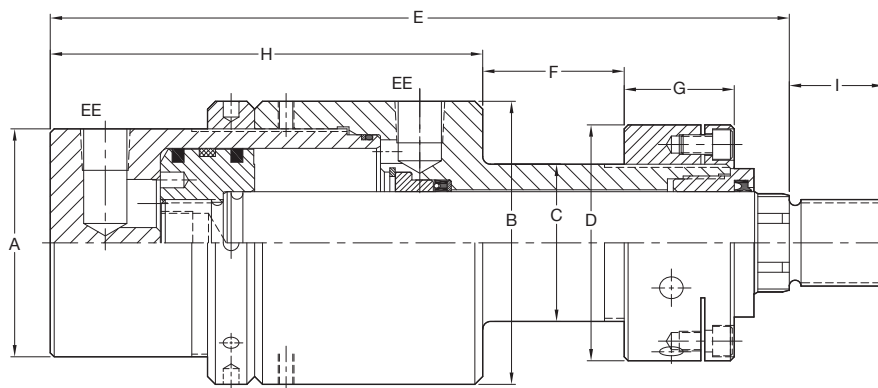
### Rod Bearings

- Two, Separate Bronze Bearings Pressed in Place to Accommodate Severe Side Loads

### Body & Throat Attachment

- Threaded Together and Locked with Threaded Ring Nut
- Additionally Locked with Two Set Screws

## DIMENSIONS AND RATINGS



TON RATING	BORE	STROKE	ROD DIA.	ROD END N.F. Thd.	A	B	C +.000 -.001	D	E Plus Stroke	F	G	H	I	EE
17½	3	4	1¾	1¾-12	3.62	4.50	2.499	3.75	9.50	2.25	1.75	4.62	1.50	½
25	3¾	6	1¾	1¾-12	4.25	5.00	2.499	3.75	9.75	2.25	1.75	4.87	1.50	½
25	3¾	8	1¾	1¾-12	4.25	5.00	2.499	3.75	9.75	2.25	1.75	4.87	1.50	½
35	4¼	6	2½	1½-12	5.00	5.75	2.874	4.00	11.62	3.00	2.00	5.25	1.62	½
35	4¼	13	2½	1¾-12	5.25	6.88	3.499	5.25	14.81	4.00	2.50	7.06	1.88	½
50	5	6	2½	1¾-12	6.12	6.88	3.499	5.25	14.75	4.00	2.50	7.00	1.88	¾
50	5	8	2½	1¾-12	6.12	6.88	3.499	5.25	14.75	4.00	2.50	7.00	1.88	¾
50	5	11	3	1¾-12	6.12	6.88	3.999	5.75	14.75	4.00	2.50	7.00	1.88	¾
50	5	15	3¼	2¼-12	6.12	6.88	4.499	6.50	16.75	5.00	3.25	7.00	3.00	¾
75	6¼	6	3¼	2¼-12	7.25	8.62	4.499	6.50	17.50	5.00	3.25	5.75	3.00	¾
75	6¼	12	3½	2½-12	7.50	9.12	4.499	7.50	20.62	5.75	3.50	9.62	3.25	¾
100	7¼	6	3½	2½-12	8.50	10.12	4.999	7.50	20.62	5.75	3.50	9.62	3.25	¾
100	7¼	10	3½	2½-12	8.50	10.12	4.999	7.50	20.62	5.75	3.50	9.62	3.25	¾

Series HD Cylinders can be blocked for shorter stroke lengths. Detailed prints are available on all Series HD Cylinders.