

# SENTINEL SERIES STEERING CYLINDERS



## *Durable, Dependable*

Kobelt's newest line of steering cylinders are designed for the toughest of applications. Available in both balanced and unbalanced models, the critical structural components of the Sentinel Series cylinders are machined from solid steel and then put through a nitriding process for corrosion resistance.

Spherical bearings are incorporated on each end of the cylinder for self-alignment and ease of installation. In addition, the cylinders are designed with dual ports for main connection, as well as drain and bleed ports for ease of commissioning and service.

All Sentinel Series cylinders are designed to meet IMO requirements and are Type Approved by the major Classification Societies including the American Bureau of Shipping, Bureau Veritas and Lloyd's Register.

## Key Benefits

- Available in balanced and unbalanced configurations
- Structural components (feet, end caps and rod ends) CNC machined from solid material
- Nitride coated steel for corrosion resistance
- Tie rod construction for ease of maintenance
- Chrome plated piston rod for smooth sealing surface and corrosion resistance
- Spherical bearings for ease of alignment
- Grease nipples for spherical bearings
- Dual ports for main connections providing installation options
- Drain and bleed ports for ease of commissioning and service
- Type Approved by all major Classification Societies

# SPECIFICATIONS

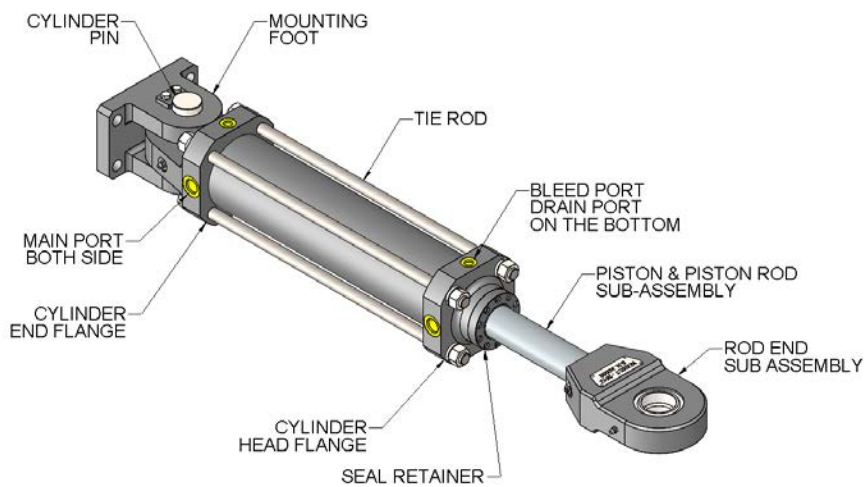
## Model Code and Part Numbers

<b>25</b>	<b>10</b>	<b>B</b>
		<b>B</b> Balanced
		Omit for Unbalanced
Stroke		
25	<b>10</b>	10 inches (254 mm)
	<b>12</b>	12 inches (305 mm)
	<b>14</b>	14 inches (356 mm)
35	<b>12</b>	12 inches (305 mm)
	<b>15</b>	15 inches (381 mm)
	<b>18</b>	18 inches (457 mm)
45	<b>16</b>	16 inches (406 mm)
	<b>20</b>	20 inches (508 mm)
	<b>24</b>	24 inches (610 mm)
Bore Diameter		
<b>25</b>	2.5 Inch (63.5 mm)	
<b>35</b>	3.5 Inch (88.9 mm)	
<b>45</b>	4.5 Inch (114.3 mm)	

Standard Model	Part number	Seal Kit
2510	7800-0028	7800-0033
2512	7800-0030	
2514	7800-0032	
2510B	7800-0054	7800-0062
2512B	7800-0056	
2514B	7800-0058	
3512	7800-0006	7800-0011
3515	7800-0008	
3518	7800-0010	
3512B	7800-0048	7800-0039
3515B	7800-0050	
3518B	7800-0052	
4516	7800-0017	7800-0022
4520	7800-0019	
4524	7800-0021	

# SPECIFICATIONS

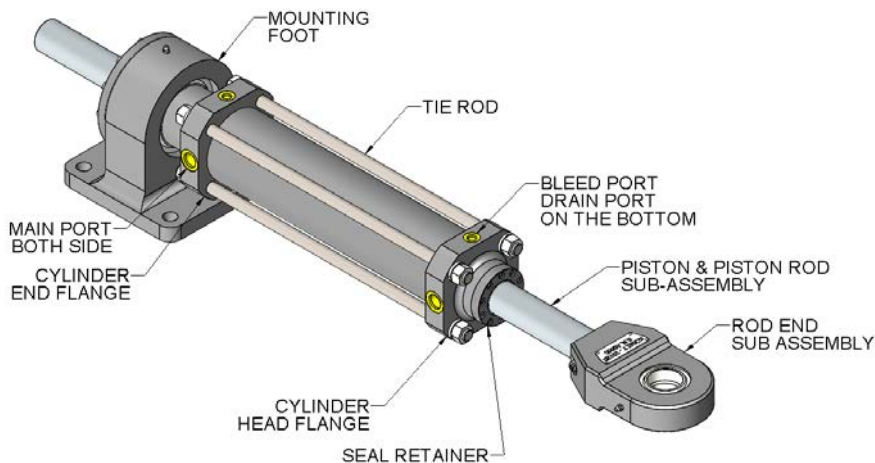
## Unbalanced Model



	25 Series	35 Series	45 Series
Design Pressure	2000 psi (138 Bar)		
Working Pressure	1600 psi (110 Bar)		
Bore Diameter	2.50 in (63.5 mm)	3.50 in (88.9 mm)	4.50 in (114.3)
Rod Diameter	1.25 in (31.8 mm)	1.75 in (44.4 mm)	2.25 in (57.1 mm)
Pin Diameter	1.25 in (31.8 mm)	1.75 in (44.4 mm)	2.00 in (50.8 mm)
Main Port (x4)*	9/16-18 (-06)	3/4-16 (-08)	1-1/16-12 (-12)
Drain Port (x2)	7/16-20 (-04)		
Bleed Port (x2)	7/16-20 (-04)		
Temperature Range	0 °C to 50 °C (32 °F to 122 °F)		

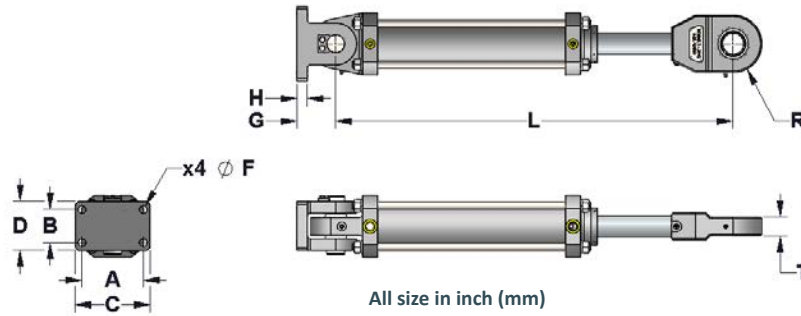
\*All ports are straight thread O-ring boss (ISO J-1926-1)

## Balanced Model



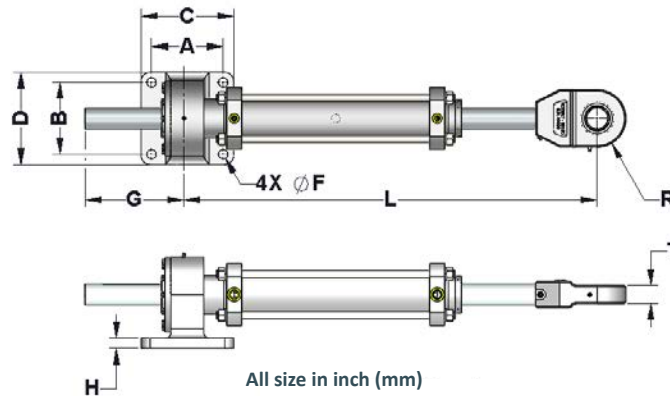
# MODEL INSTALLATIONS

## Unbalanced Model Installation



	A	B	C	D	F	G	H	L	R	T
2510								27.19 (690.6)		
2512	3.56 (90.4)	1.88 (47.7)	4.5 (114.3)	2.88 (73.1)	0.53 (13.5)	2.25 (57.1)	0.63 (16.0)	30.19 (766.8)	1.75 (44.4)	1.13 (28.6)
2514								33.19 (843.0)		
3512								33.28 (845.3)		
3515	5.12 (130.2)	2.75 (69.9)	6.25 (158.8)	4.13 (104.8)	0.66 (16.7)	3.25 (82.6)	0.88 (22.2)	37.78 (959.6)	2.41 (61.2)	1.56 (39.6)
3518								42.28 (1073.9)		
4516								42.38 (1076.4)		
4520	6.00 (152.4)	3.50 (88.9)	7.38 (187.3)	5.19 (131.8)	0.78 (19.8)	3.94 (100.0)	1.00 (25.4)	48.38 (1228.8)	2.72 (69.0)	2.00 (50.8)
4524								54.38 (1381.2)		

## Balanced Model Installation



	A	B	C	D	F	G	H	L	R	T
2510B						6.73 (170.9)		28.15 (715.0)		
2512B	4.5 (114.3)	5.00 (127)	5.75 (146.0)	6.38 (161.9)	0.66 (16.7)	7.73 (196.3)	0.75 (19.0)	31.15 (791.2)	1.75 (44.4)	1.13 (28.6)
2514B						8.73 (221.7)		34.15 (867.4)		
3512B						8.30 (210.8)		34.6 (878.8)		
3515B	6.00 (152.4)	6.00 (152.4)	7.75 (196.8)	7.75 (196.8)	0.78 (19.8)	9.80 (248.9)	0.88 (22.2)	39.1 (993.1)	2.41 (61.2)	1.56 (39.6)
3518B						11.30 (287.0)		43.6 (1107.4)		