

## General Description

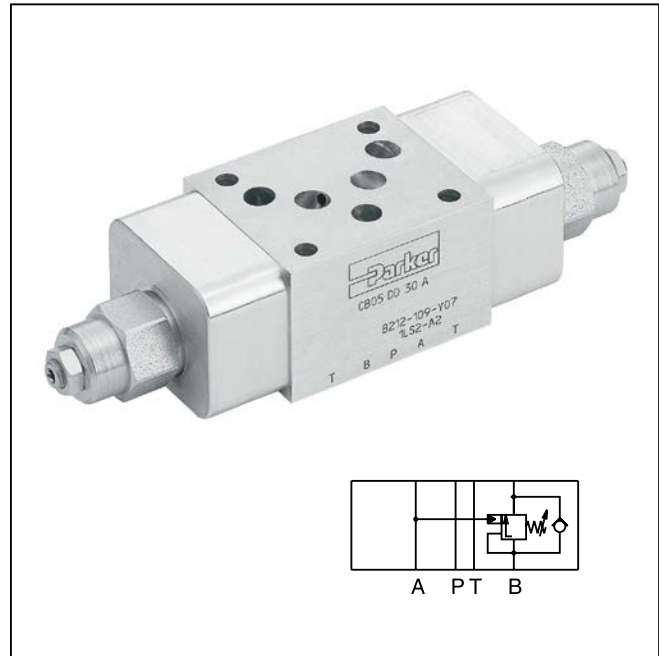
Series CB counterbalance valve controls the actuator movement with overrunning loads.

The return flow from the actuator is piloted and controlled by the inlet flow to the actuator, ensuring a cavitation-free lowering of the load.

The counterbalance valve operates as a pressure relief valve. The setting pressure is lowered by the pressure in the inlet line. To ensure safe load holding the setting pressure should be approximately 30% higher than the max. load pressure.

## Features

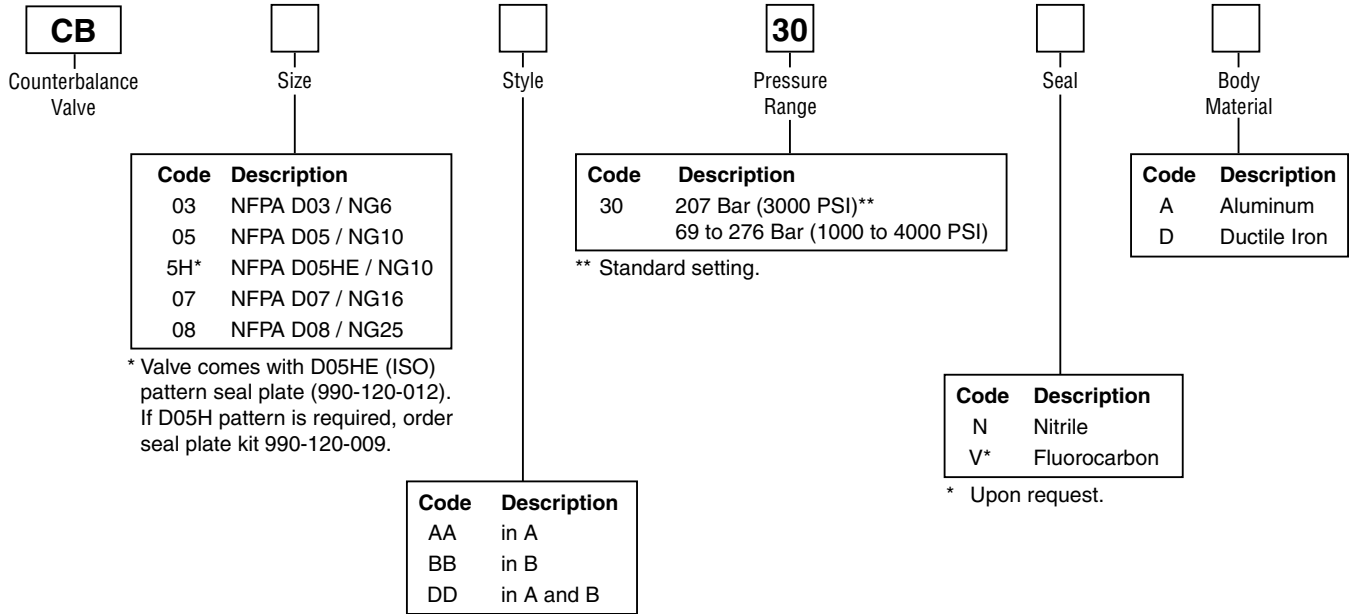
- Controlled movement loads.
- Load holding via leak-free poppet valve.
- Secondary relief protection for the actuator.
- Sizes:
  - CB03 – NFPA D03 / NG6 / CETOP 3
  - CB05 – NFPA D05 / NG10 / CETOP 5
  - CB5H – NFPA D05HE / NG10 / CETOP 5H
  - CB07 – NFPA D07 / NG16 / CETOP 7
  - CB08 – NFPA D08 / NG25 / CETOP 8



## Specifications

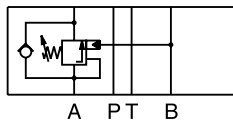
General					
<b>Size</b>	<b>D03 / NG6</b>	<b>D05 / NG10</b>	<b>D05HE / NG10</b>	<b>D07 / NG16</b>	<b>D08 / NG25</b>
<b>Mounting Position</b>	Unrestricted				
<b>Ambient Temperature Range</b>	-20°C to +50°C (-4°F to +122°F)				
Hydraulic					
<b>Maximum Operating Pressure*</b>	Aluminum Body – up to 207 Bar (3000 PSI); Ductile Iron Body – up to 345 Bar (5000 PSI)				
<b>Nominal Flow</b>	57 LPM (15 GPM)	114 LPM (30 GPM)	114 LPM (30 GPM)	227 LPM (60 GPM)	454 LPM (120 GPM)
<b>Leakage</b>	5 DPM	5 DPM	5 DPM	5 DPM	5 DPM
<b>Reseat Pressure</b>	85% of set pressure				
<b>Pilot Ratio</b>	3:1	3:1	3:1	3:1	3:1
<b>Adjustment Screw Hex Size</b>	5/32	5/32	5/32	5/32	5/32
<b>Fluid Temperature</b>	-20°C to +80°C (-4°F to +176°F)				
<b>Viscosity</b>	<b>Permitted</b>	10 to 650 cSt / mm <sup>2</sup> /s (46 to 3013 SSU)			
	<b>Recommended</b>	30 cSt / mm <sup>2</sup> /s (139 SSU)			
<b>Filtration</b>	ISO Class 4406 (1999) 18/16/13 (acc. NAS 1638: 7)				

\* Counterbalance valves should be set at least 1.3 times the maximum load induced pressure.



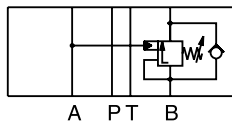
**CB\*\*AA**

Counterbalance in A



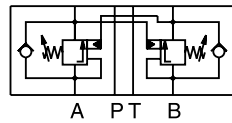
**CB\*\*BB**

Counterbalance in B



**CB\*\*DD**

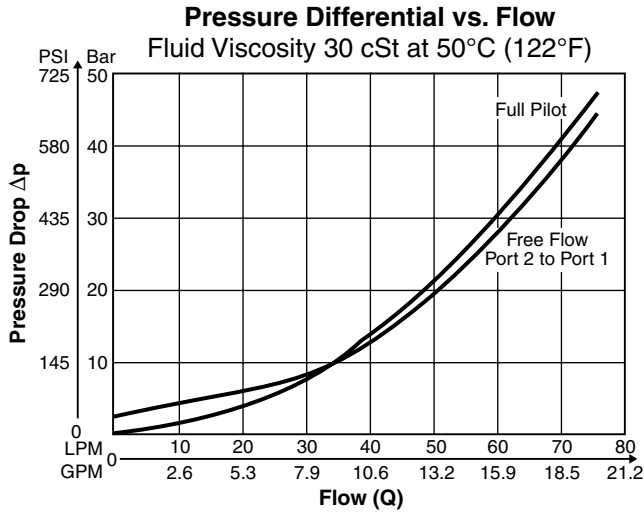
Counterbalance in A and B



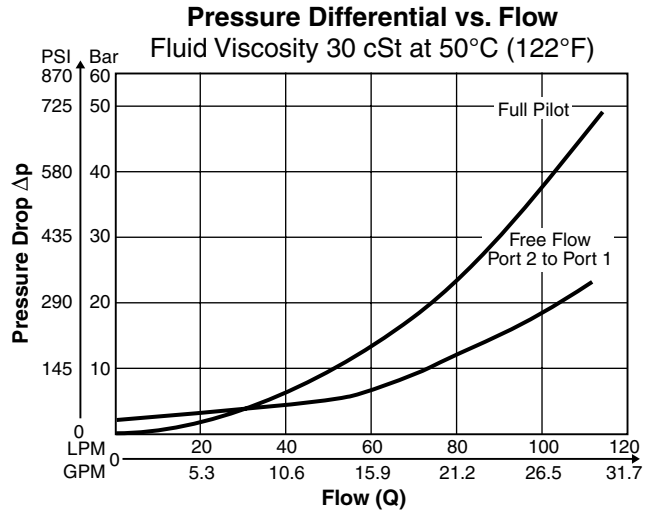
**Weight:**

Size	CB**AA30NA	CB**AA30ND	CB**BB30NA	CB**BB30ND	CB**DD30NA	CB**DD30ND
CB03	0.3 kg (0.8 lbs.)	1.1 kg (2.4 lbs.)	0.5 kg (1.1 lbs.)	1.1 kg (2.4 lbs.)	0.8 kg (1.7 lbs.)	1.5 kg (3.2 lbs.)
CB05, CB5H	1.0 kg (2.3 lbs.)	2.2 kg (4.9 lbs.)	1.0 kg (2.3 lbs.)	2.2 kg (4.9 lbs.)	1.5 kg (3.2 lbs.)	2.9 kg (6.4 lbs.)
CB07	2.5 kg (5.6 lbs.)	4.8 kg (10.6 lbs.)	2.5 kg (5.5 lbs.)	5.3 kg (11.8 lbs.)	3.6 kg (8 lbs.)	7.3 kg (16.2 lbs.)
CB08	5.3 kg (11.7 lbs.)	11.8 kg (25.9 lbs.)	5.9 kg (13.1 lbs.)	13.3 kg (29.3 lbs.)	7.9 kg (17.4 lbs.)	16.2 kg (35.8 lbs.)

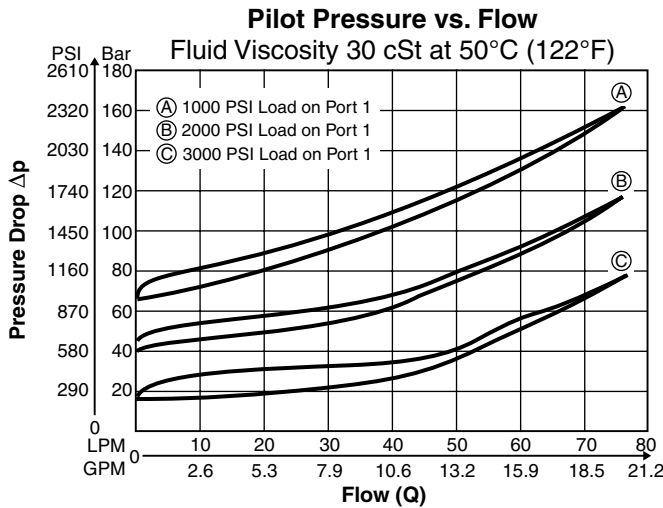
**CB03\***



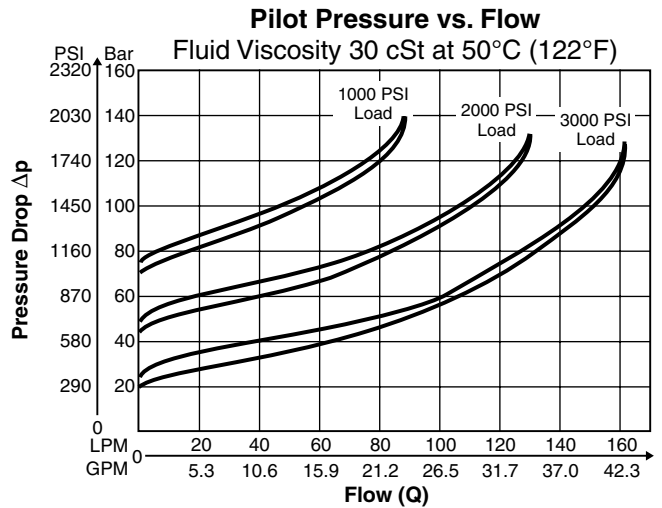
**CB05/CB5H**



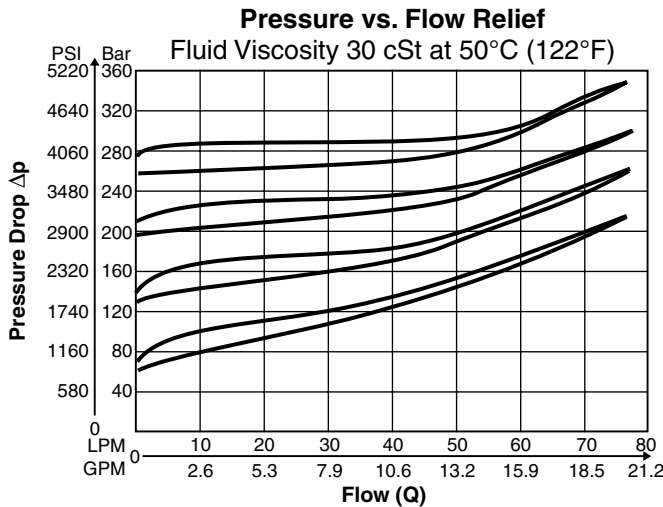
**CB03\***



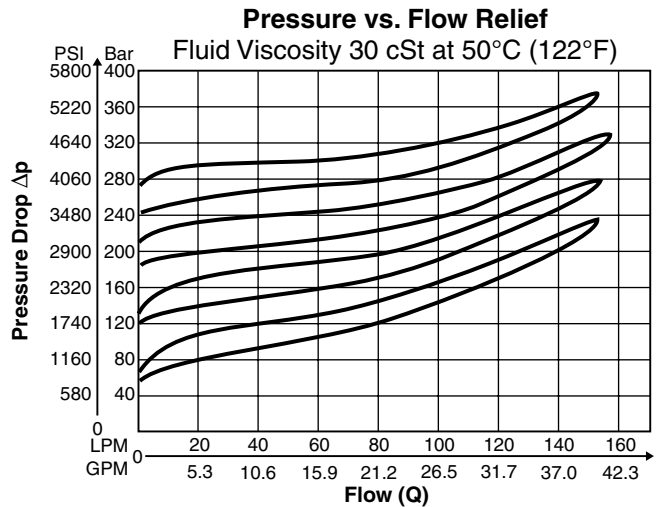
**CB05/CB5H**



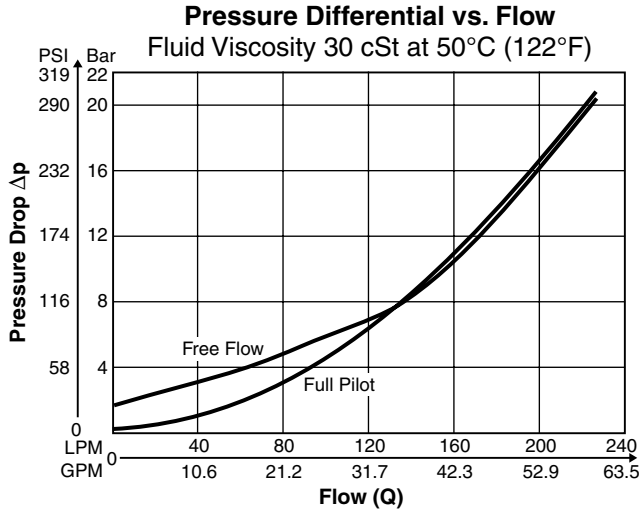
**CB03\***



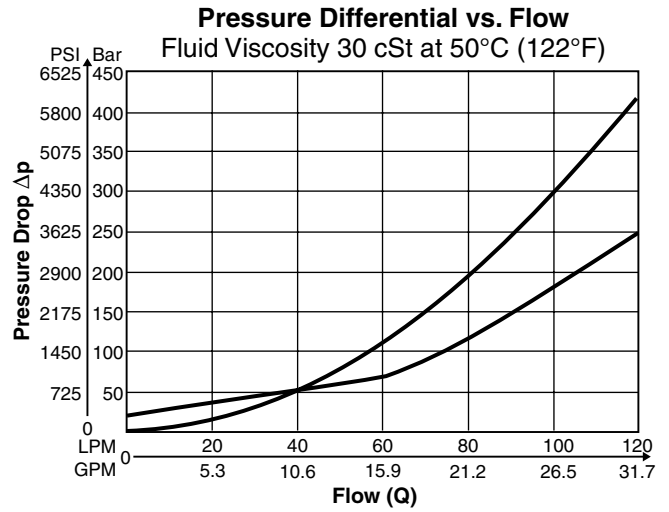
**CB05/CB5H**



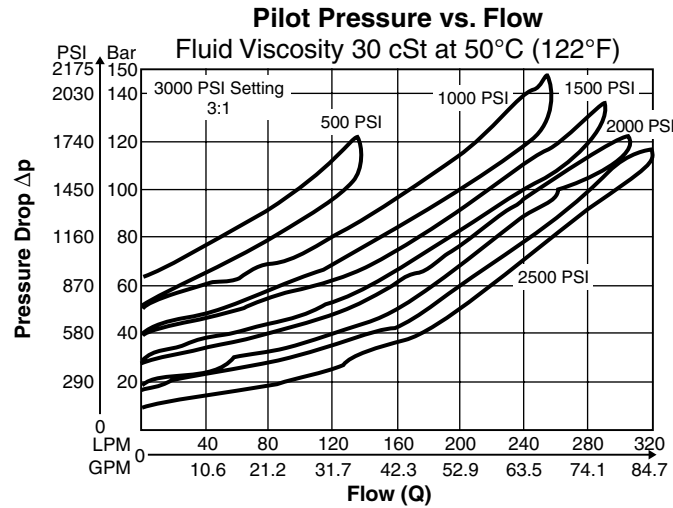
**CB07\***



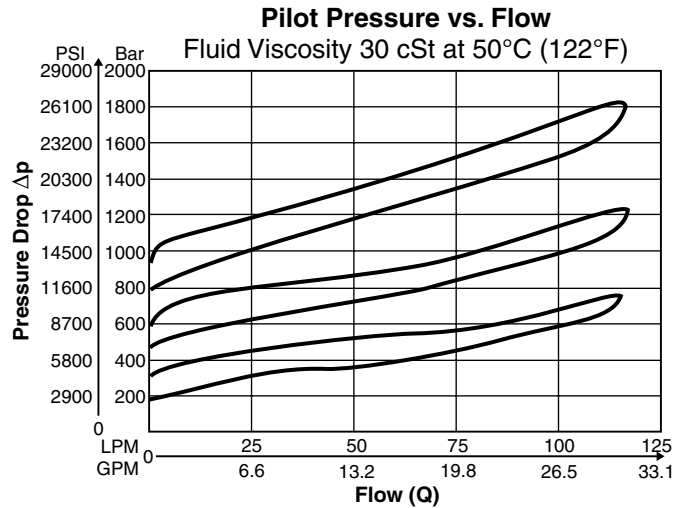
**CB08\***



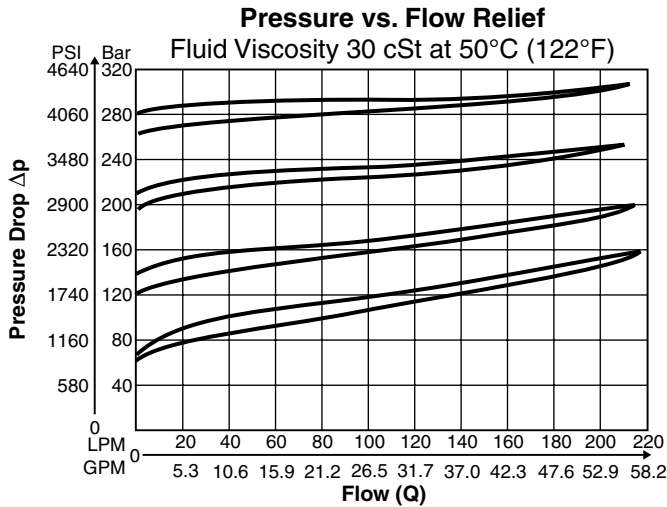
**CB07\***



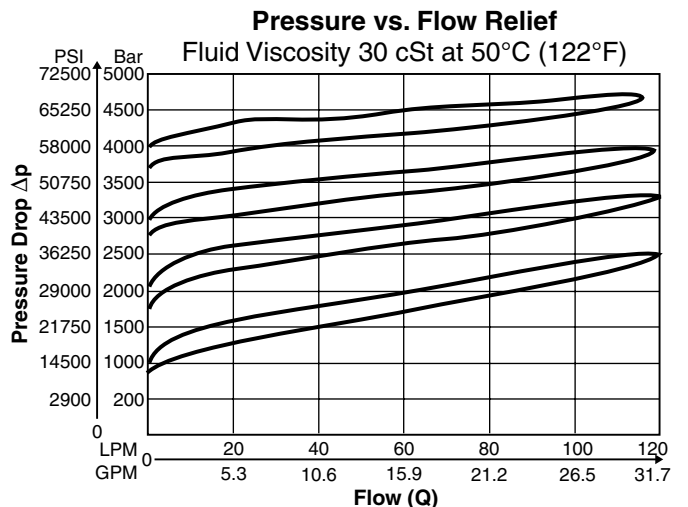
**CB08\***



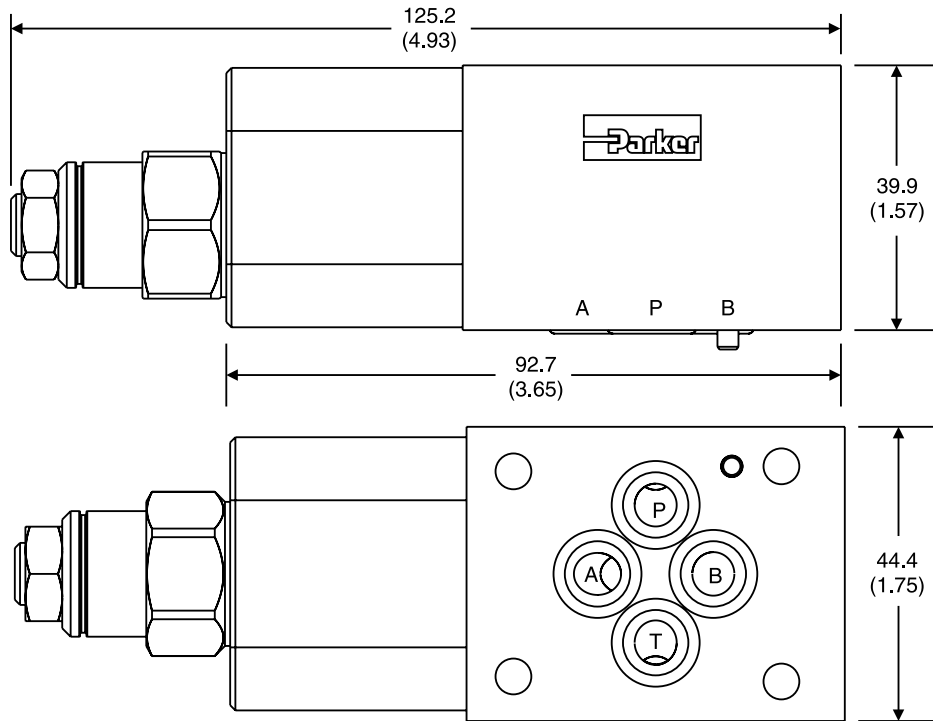
**CB07\***



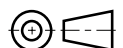
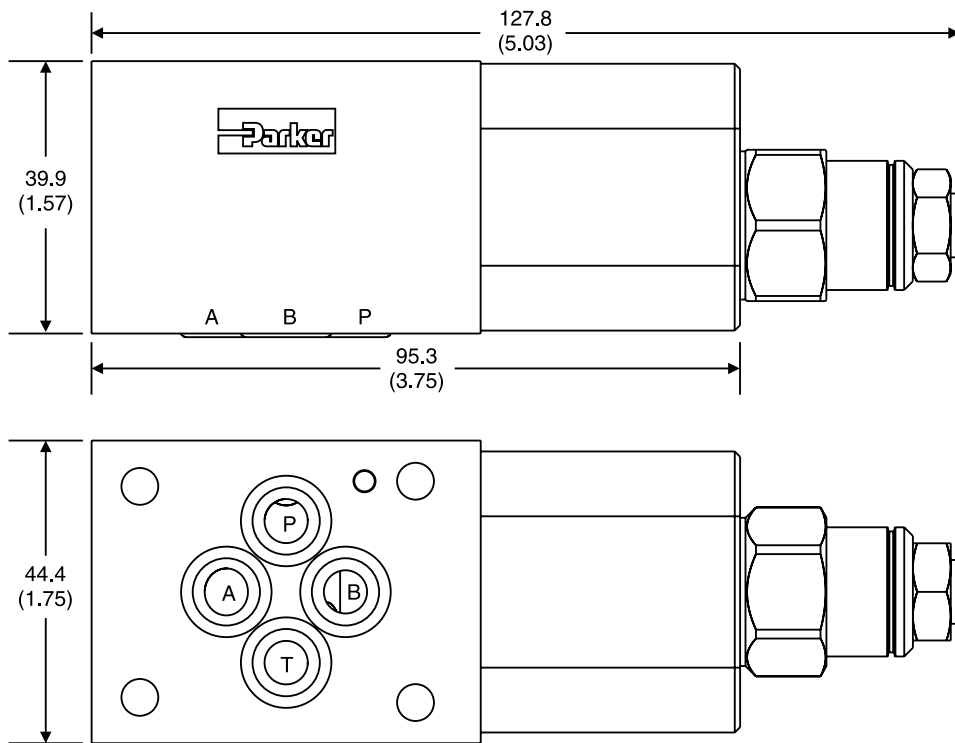
**CB08\***



**CB03AA** – Inch equivalents for millimeter dimensions are shown in (\*\*)

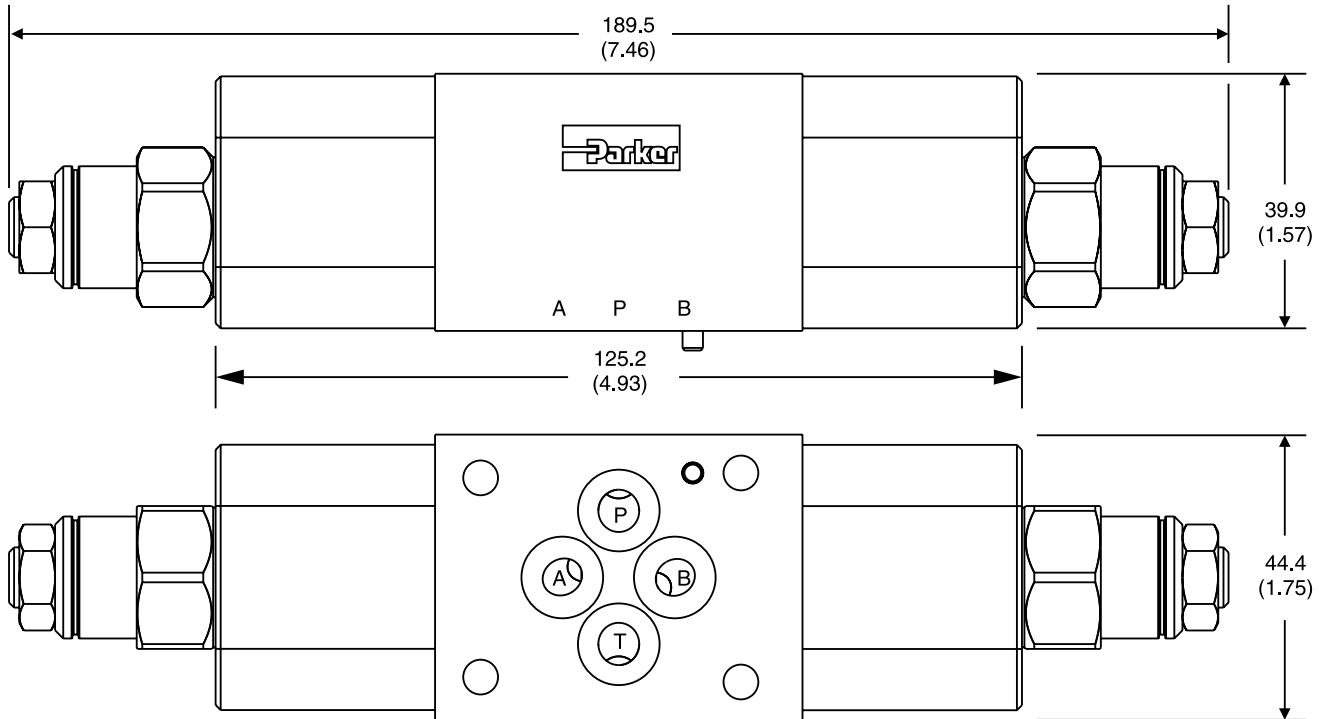


**CB03BB** – Inch equivalents for millimeter dimensions are shown in (\*\*)

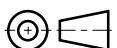
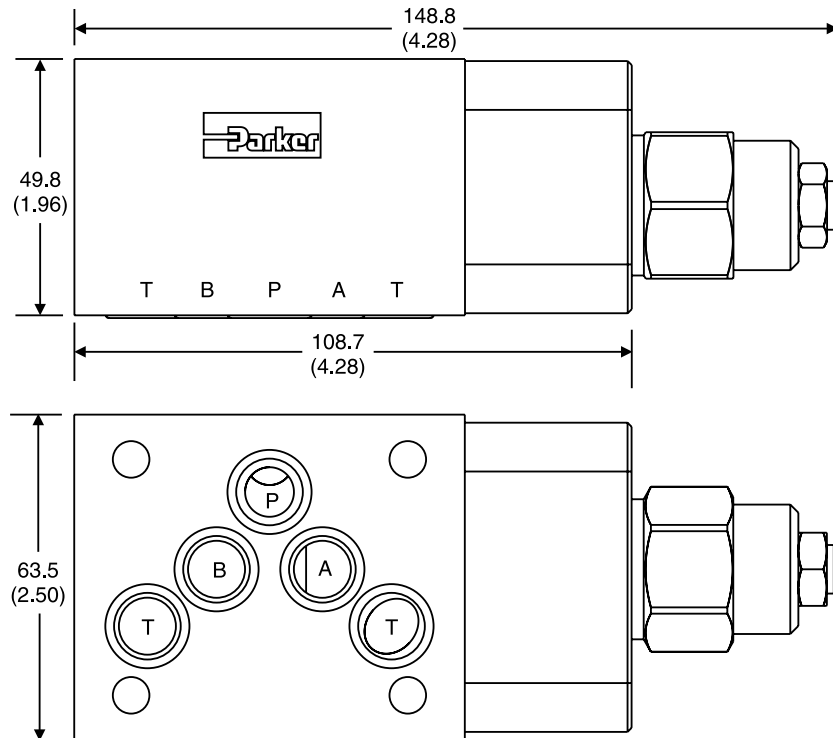


**Dimensions**

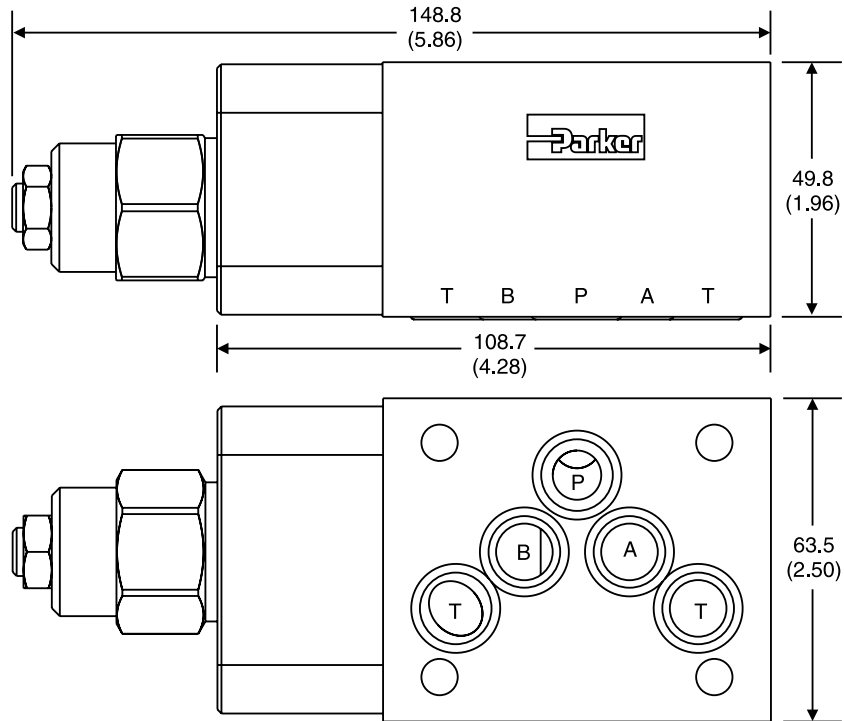
**CB03DD** – Inch equivalents for millimeter dimensions are shown in (\*\*)



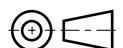
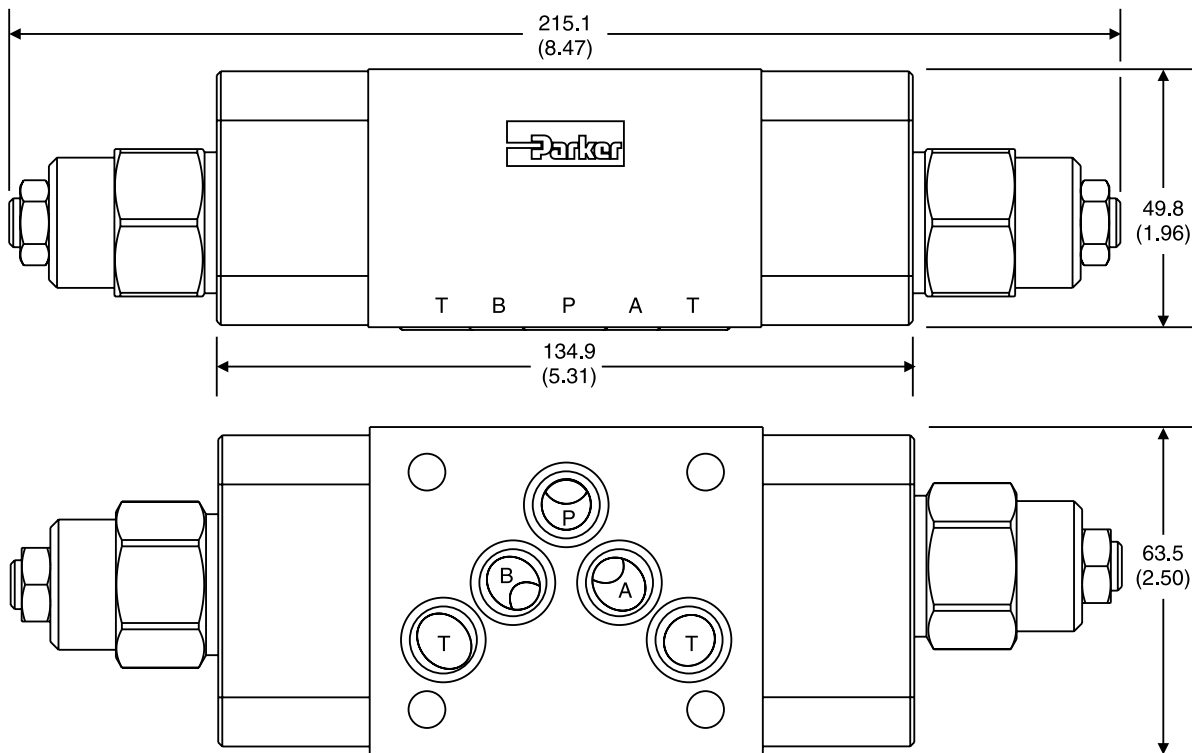
**CB05AA** – Inch equivalents for millimeter dimensions are shown in (\*\*)



**CB05BB** – Inch equivalents for millimeter dimensions are shown in (\*\*)

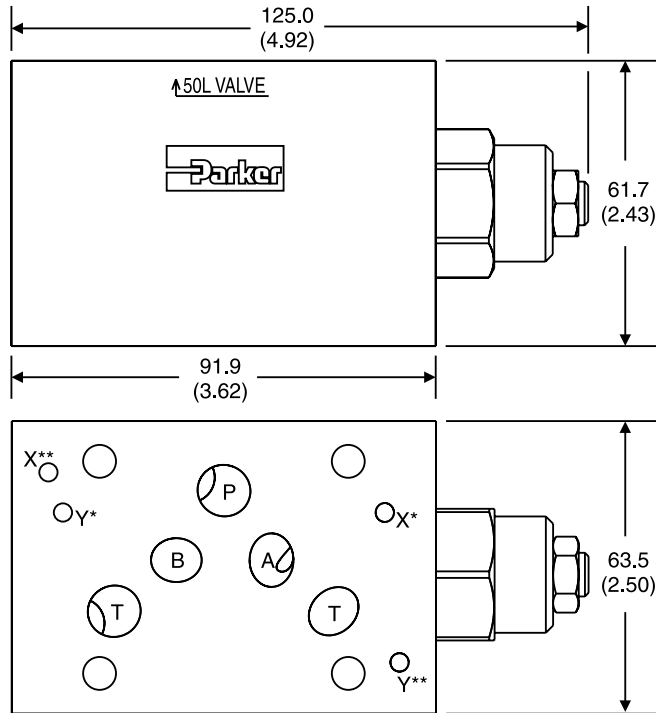


**CB05DD** – Inch equivalents for millimeter dimensions are shown in (\*\*)



**Dimensions**

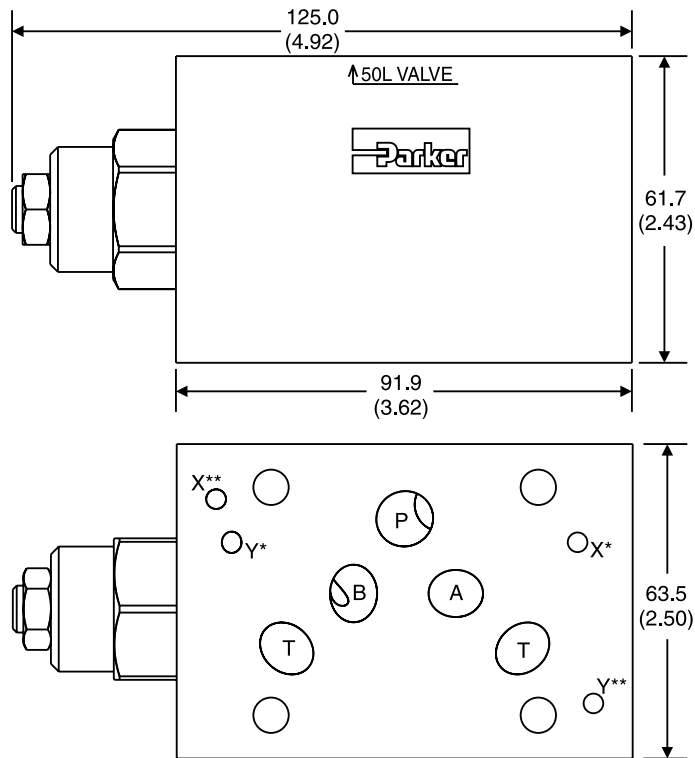
**CB5HAA** – Inch equivalents for millimeter dimensions are shown in (\*\*)



Valve comes with D05HE (ISO) Pattern seal plate (990-120-012). If D05H pattern is required, order seal plate kit 990-120-009.

- \* D05HE (Standard)
- \*\* D05H

**CB5HBB** – Inch equivalents for millimeter dimensions are shown in (\*\*)



Valve comes with D05HE (ISO) Pattern seal plate (990-120-012). If D05H pattern is required, order seal plate kit 990-120-009.

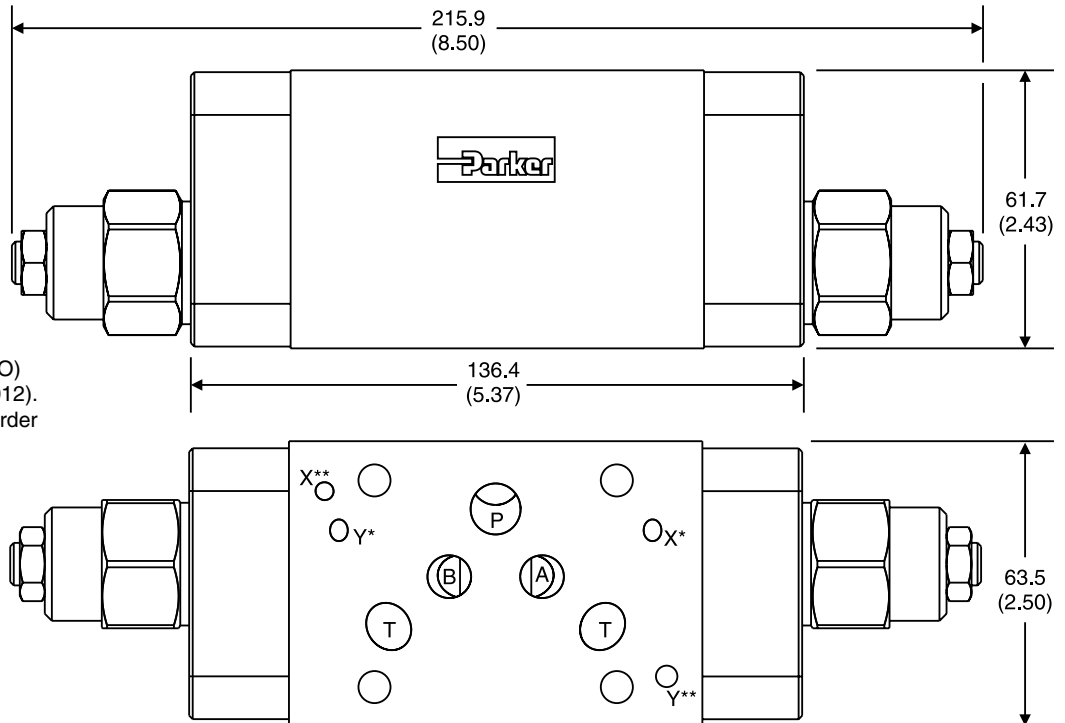
- \* D05HE (Standard)
- \*\* D05H





**Dimensions**

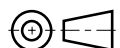
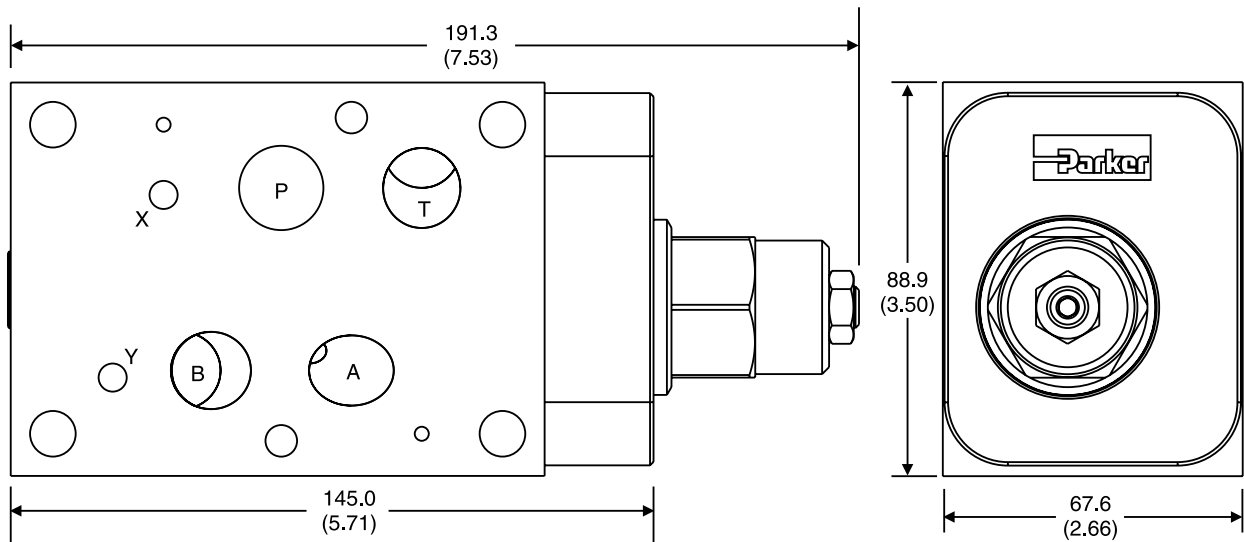
**CB5HDD** – Inch equivalents for millimeter dimensions are shown in (\*\*)



Valve comes with D05HE (ISO) Pattern seal plate (990-120-012). If D05H pattern is required, order seal plate kit 990-120-009.

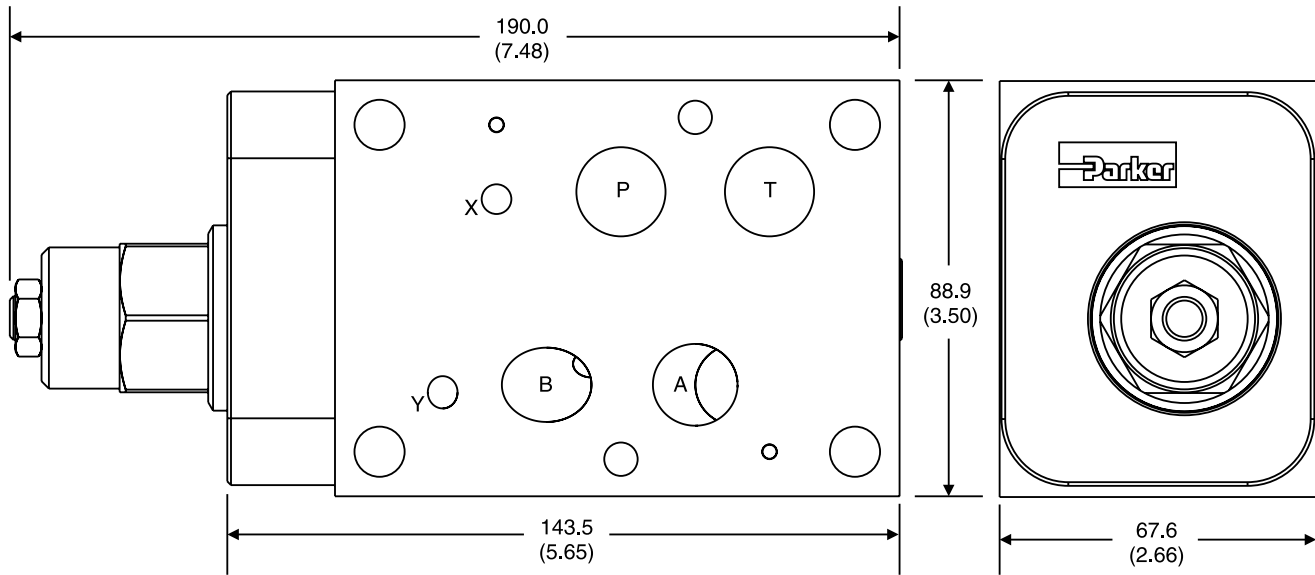
- \* D05HE (Standard)
- \*\* D05H

**CB07AA** – Inch equivalents for millimeter dimensions are shown in (\*\*)

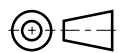
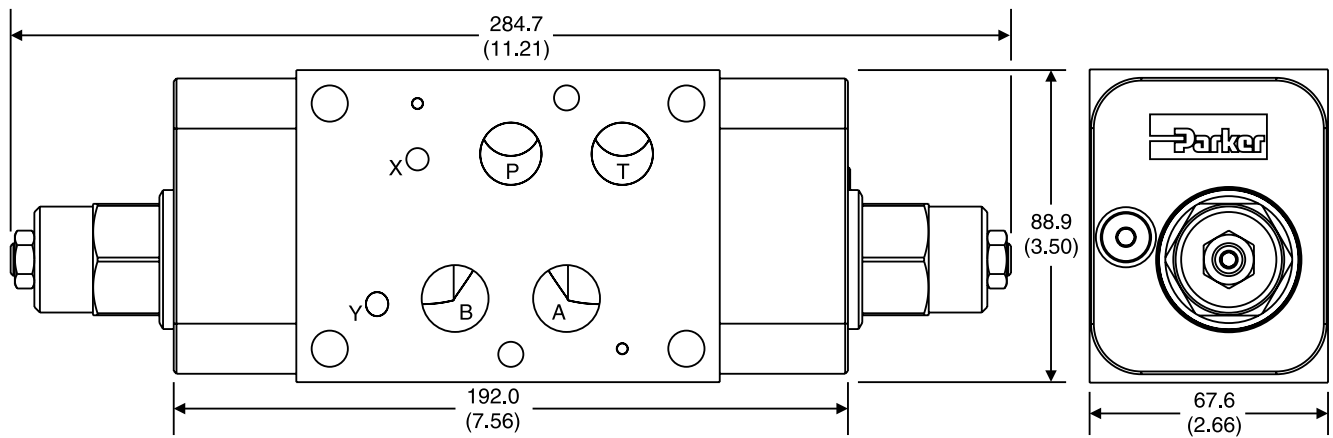


**Dimensions**

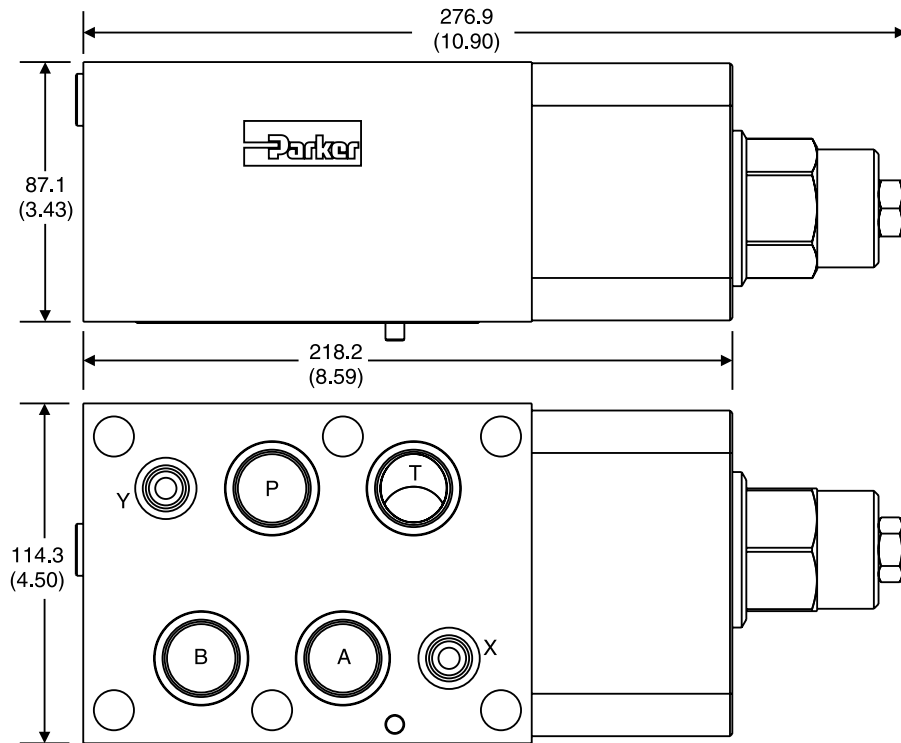
**CB07BB** – Inch equivalents for millimeter dimensions are shown in (\*\*)



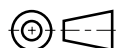
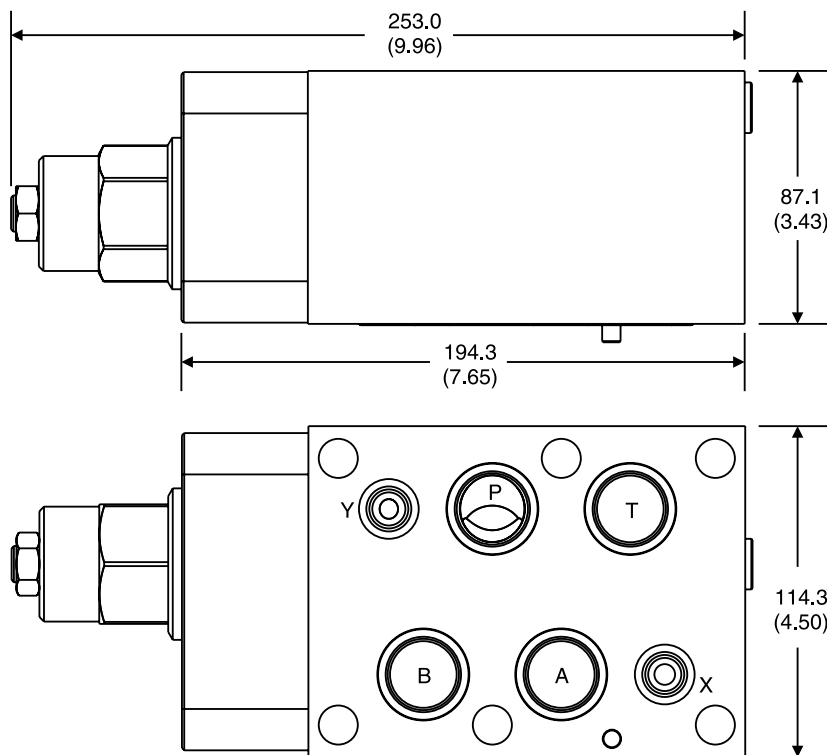
**CB07DD** – Inch equivalents for millimeter dimensions are shown in (\*\*)



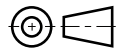
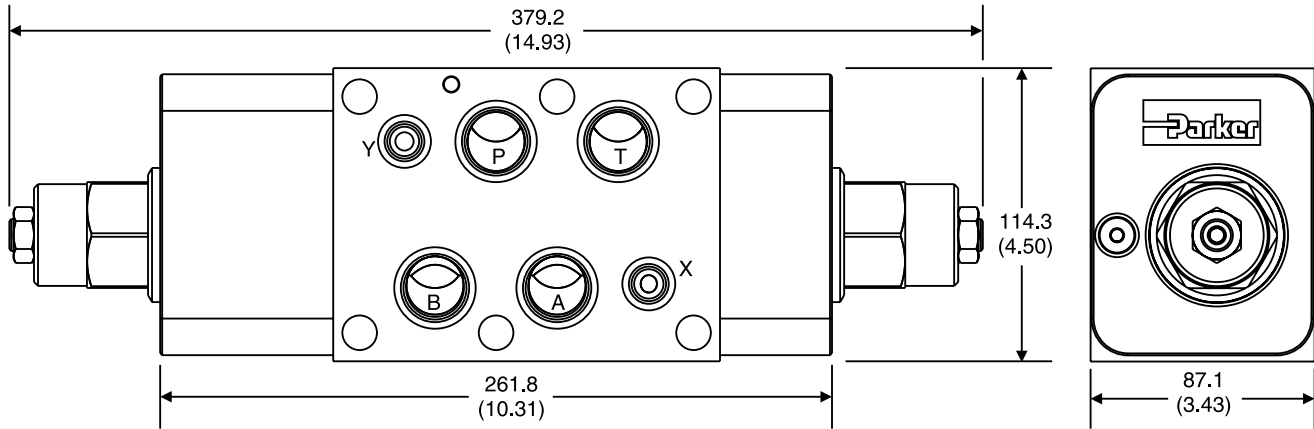
**CB08AA** – Inch equivalents for millimeter dimensions are shown in (\*\*)



**CB08BB** – Inch equivalents for millimeter dimensions are shown in (\*\*)



**CB08DD** – Inch equivalents for millimeter dimensions are shown in (\*\*)



**⚠ WARNING – USER RESPONSIBILITY**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

**OFFER OF SALE**

The items described in this document are hereby offered for sale by Parker-Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the detailed "Offer of Sale" elsewhere in this document or available at [www.parker.com/hydraulicvalve](http://www.parker.com/hydraulicvalve).

**SAFETY GUIDE**

For safety information, see Safety Guide SG HY14-1000 at [www.parker.com/safety](http://www.parker.com/safety) or call 1-800-CParker.



Parker Hannifin Corporation  
**Hydraulic Valve Division**  
 520 Ternes Avenue  
 Elyria, Ohio 44035 USA  
 Tel: 440 366 5100  
 Fax: 440 366 5253  
[www.parker.com/hydraulicvalve](http://www.parker.com/hydraulicvalve)

