

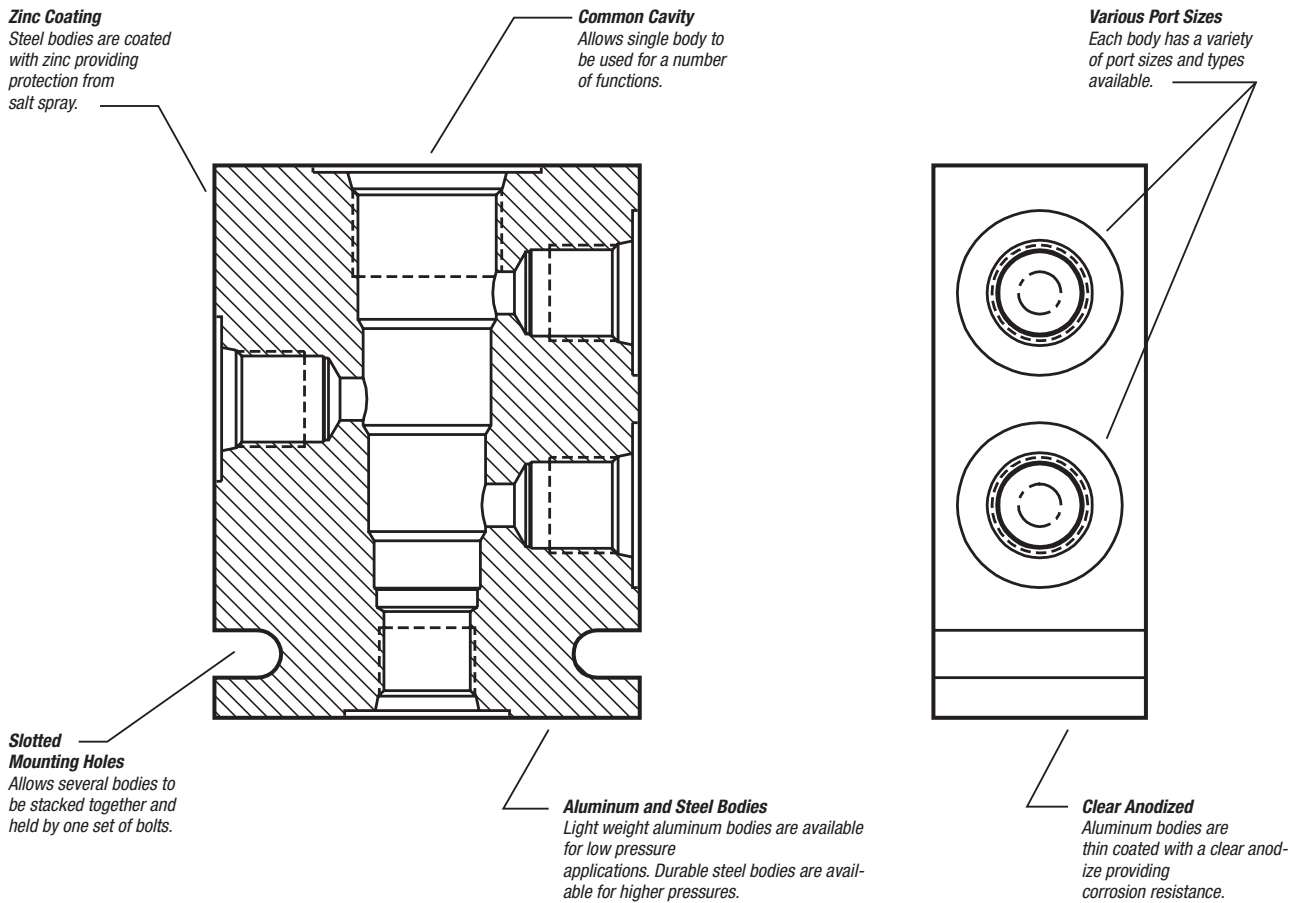
**INTRODUCTION**

This Technical Tips section is split into two parts; Standard Line Bodies and Cavities. In the standard line bodies section, we highlight the features and options of our standard offering of line bodies. In the cavity section we discuss “common” cavities.

The Technical Tips are provided to help you become more familiar with Parker Hannifin’s line of product and assist you in applying our product.

**STANDARD LINE BODIES**

Parker offers standard line bodies for each valve and cavity size. Below are some of the features of Parker’s standard line bodies.



**COMMON OPTIONS & FEATURES**

**Aluminum vs. Steel:** Parker offers standard line bodies in both aluminum and steel. Aluminum bodies are most often used for general applications. Parker’s aluminum bodies are coated with a clear anodize to provide a corrosion resistant protection. Aluminum bodies should never be used in applications above 210 bar (3000 psi.) Steel bodies are more durable and

heavier than aluminum bodies. They are ideal for applications with elevated pressures or where rugged construction is desired. Steel bodies are suitable for applications up to 350 bar (5000 psi.) Parker’s steel bodies are coated with zinc providing corrosion resistance. Zinc even provides the steel body many hours of protection from salt spray.

CV	Check Valves
SH	Shuttle Valves
LM	Load/Motor Controls
FC	Flow Controls
PC	Pressure Controls
LE	Logic Elements
DC	Directional Controls
SV	Solenoid Valves
PV	Proportional Valves
CE	Coils & Electronics
BC	Bodies & Cavities
TD	Technical Data

## Technical Tips

### COMMON OPTIONS & FEATURES (Cont.)

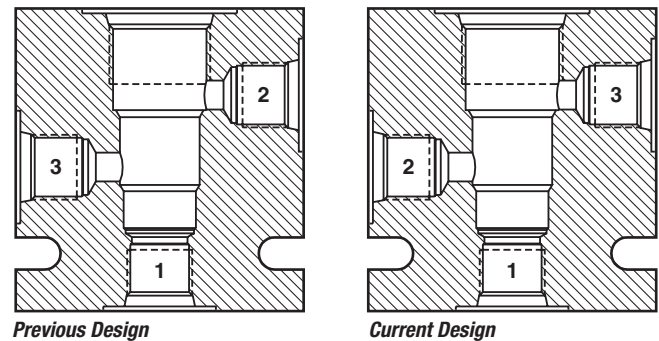
**Pressure Drop:** The pressure drop through a line body is fairly minimal. Each catalog page shows a pressure drop curve. This should be added to the pressure drop through the cartridge when trying to estimate total pressure drop for a function.

**Porting:** Parker offers a variety of port sizes and types for each line body. While NPT or pipe ports were once very popular and are still offered, we recommend SAE ports for new applications. SAE ports and fittings provide a more secure connection than pipe ports.

“If using an HY15-3502 or an older catalog, note we have re-numbered the ports on our 3-way line bodies” In the past, three way bodies were numbered with the nose being port 1, the middle port labeled (3), and the

## Bodies and Cavities

top port labeled (2). Over the years, this has caused some confusion, so we have relabeled the ports sequentially from the bottom. For identification, the current design will be marked with a Parker symbol like the one shown.



### CAVITIES

The hole that the cartridge valve is screwed into is called a cavity. Many cartridge producers manufacture valves that fit a “common” cavity. With a “common” cavity, a valve theoretically could be removed from a cavity and replaced by another manufacturer’s product. One should be careful though to check cross drill ports and thread depths when pursuing this activity. While it is true that many manufacturer’s products fit inside another’s cavity, the cross drills sometimes expose an o-ring to pressure, causing the o-ring to be extruded.

**Valve / Cavity Compatibility Chart:** Through acquisition, Parker Hannifin has accumulated a number of manufacturers with “common” cavities. To accommodate all of our product lines, you will find a chart like the one shown on this page on each catalog page. The purpose of this chart is to help identify if a valve from one acquisition can be replaced by a Parker valve, or another acquisition valve. The valves are designated by the columns of the chart and the cavities by the rows. If you have an existing cavity, you find it on the chart and follow across to see which valves you may put in the cavity. For instance, using the chart below, let’s say you have an existing manifold in which you had manufactured a FPS cavity (maybe you were using a SV2A-10). By finding the row labeled FPS and following across, you find that you could use the FPS product, or a CEC product of the same size in this cavity. A Parker or Waterman valve will not fit in this cavity without modifying the cavity.

		VALVE			
		Parker	Waterman	FPS	CEC
CAVITY	Parker	X	X		
	Waterman	X	X		
	FPS				
	CEC				

- CV  
Check Valves
- SH  
Shuttle Valves
- LM  
Load/Motor Controls
- FC  
Flow Controls
- PC  
Pressure Controls
- LE  
Logic Elements
- DC  
Directional Controls
- SV  
Solenoid Valves
- PV  
Proportional Valves
- CE  
Coils & Electronics
- BC  
Bodies & Cavities
- TD  
Technical Data