



Hydraulic Cartridge Systems

Core Products Catalog



ENGINEERING YOUR SUCCESS.

Hydraulic Cartridge Systems – Core Products Guide

The HCS Core Products Guide is a selection of the most functionally versatile and readily available valves from the complete range of the HCS product offering. The valves included in this catalog are locally stocked or manufactured for maximum support and availability.

Every valve offered in the Core Products Guide has been field proven in multiple applications with an excellent track record of performance. These are the preferred products for new applications given their availability and ability to meet the majority of customer needs. All products in this catalog are offered at 10 working day lead time for reasonable order quantities, based on current stocking guidelines. For larger quantities, lead times may vary.

For applications requiring functionality beyond this offering, products may be selected from HCS catalog HY15-3502, although availability may be subject to longer manufacturing lead times.

The Core Products Guide is organized by valve function, flow and pressure capabilities. As such, a basic understanding of the HCS product nomenclature greatly facilitates proper valve selection. For full technical specifications, available options, etc please consult HCS catalog HY15-3502 which is available from your local Parker Hydraulics distributor or on our website at www.parker.com/hcs.



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 distributor. This offer and its acceptance are governed by the provisions stated in the detailed "Offer of Sale" elsewhere in this document.

Check Valves

- Poppet Type 2
- Pilot Operated..... 3
- Pilot Piston Assembly 4
- Single Pilot Piston..... 5
- Dual Pilot Piston 5

Shuttle Valves

- Ball Type 6
- Spool Type 6
- In-Line Assembly 7

Load and Motor Control Valves

- Adjustable (Non-Vented) 8
- Adjustable (Vented) 9

Flow Control Valves

- Needle Valve..... 10
- Needle Valve with Reverse Check 10
- Pressure Compensated Flow Control (Tuneable)..... 11
- Pressure Compensated Flow Control (Adjustable) 11
- Priority Flow Control (Adjustable) 12
- Flow Divider/Combiner 12

Pressure Control Valves

- Direct Acting 13
- Differential Area..... 14
- Pilot Operated..... 15
- Unloading Valves 16
- Solenoid Operated - Unloading/Relieving 16
- Crossover Relief 17
- Direct Acting 18-19
- Direct Acting - Reducing/Relieving 20
- Pilot Operated - Reducing 21
- Pilot Operated - Reducing/Relieving 22

Logic Elements

- Poppet Type - Normally Closed 23
- Spool Type - Normally Closed, Pilot to Close 24
- Spool Type - Normally Open, Vent to Close..... 25

Directional Control Valves

- Spool Type - Normally Open, 3-Way/2 Position, External Pilot..... 26
- Spool Type - 3-Way/2 Position, External Pilot, External Drain, Open Transition 26
- Spool Type - 3-Way/2 Position, External Pilot, External Drain, Closed Transition 27

Manual Valves

- Manual Valves 28

Solenoid Valves

- 2-Way Poppet Type..... 29-30
- 2-Way Bi-Directional Poppet..... 31
- 2-Way Spool Type..... 32
- 3-Way Spool Type..... 33
- 4-Way, 2 Position Spool Type..... 34
- 4-Way, 3 Position Spool Type..... 35-36

Proportional Valves

- Pressure Relieving 37
- Normally Closed Flow Control..... 38
- Directional Control..... 39

Coils and Electronics

- SuperCoil CC Type 40
- SuperCoil CA Type 41

Bodies and Cavities

- CETOP 3 Cartpak..... 42-46
- Common Cavity - Steel..... 47-48
- Specialty 49-51

CV
Check Valves

SH
Shuttle Valves

LM
Load/Motor Controls

FC
Flow Controls

PC
Pressure Controls

LE
Logic Elements

DC
Directional Controls

MV
Manual Valves

SV
Solenoid Valves

PV
Proportional Valves

CE
Coils & Electronics

BC
Bodies & Cavities



CV

Check Valves

SH

Shuttle Valves

LM

Load/Motor Controls

FC

Flow Controls

PC

Pressure Controls

LE

Logic Elements

DC

Directional Controls

MV

Manual Valves

SV

Solenoid Valves

PV

Proportional Valves

CE

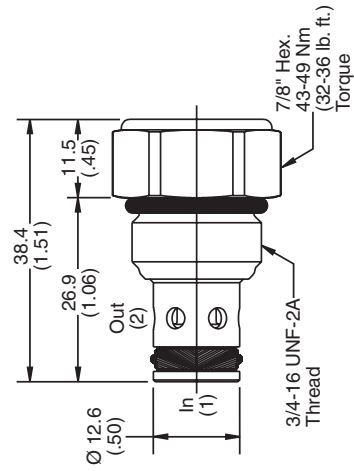
Coils & Electronics

BC

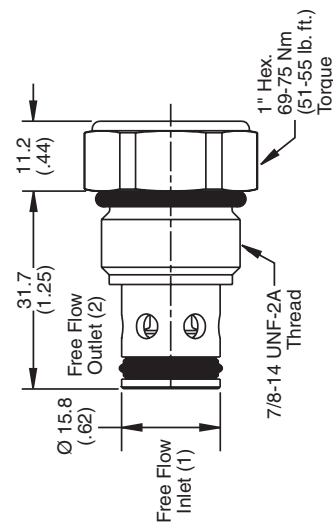
Bodies & Cavities

Poppet Type

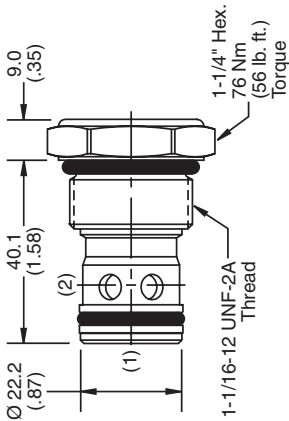
Dimensions Millimeters (Inches)



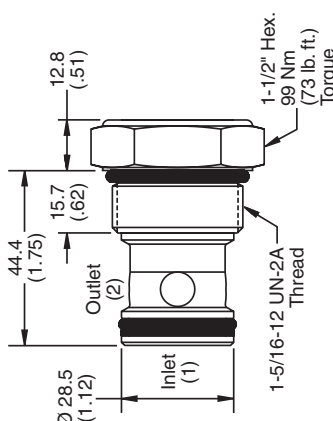
CVH081P



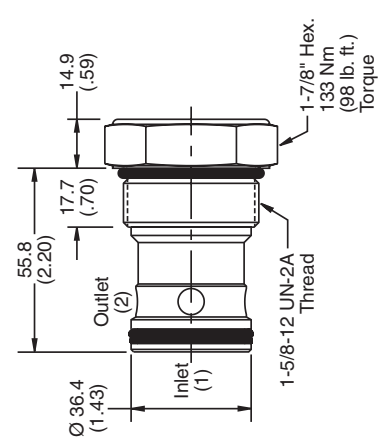
CVH103P



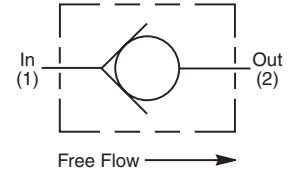
CVH121P



CVH161P



CVH201P

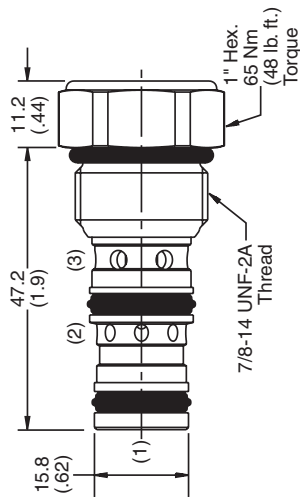


Model	Body	Flow (GPM)	Pressure (PSI)	Crack Pressure (PSI)
CVH081P	B08-2-6T	10	5000	5
CVH103P	B10-2-8T	16	5000	5
CVH103P20	B10-2-8T	16	5000	20
CVH121P	B12-2-12T	32	5000	25
CVH161P	B16-2-16T	60	5000	5
CVH201P	B20-2-20T	80	5000	5

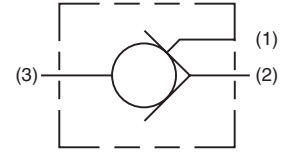


Pilot Operated

Dimensions Millimeters (Inches)



CPH104P



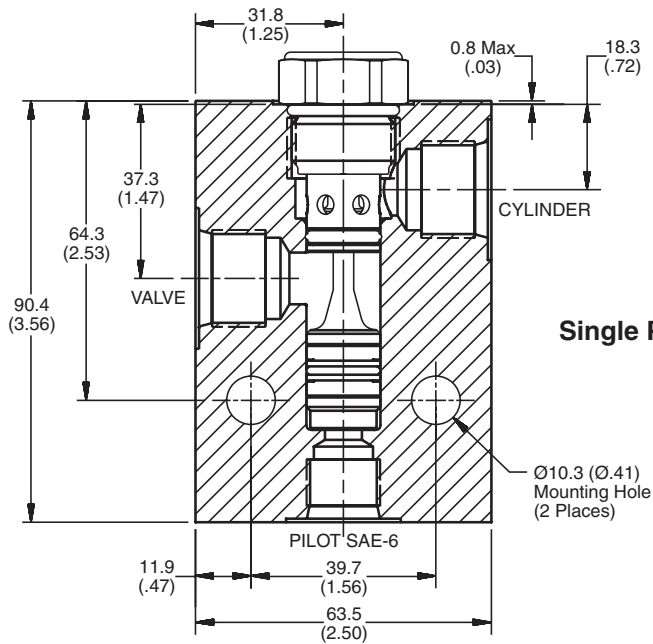
Model	Body	Flow (GPM)	Pressure (PSI)	Crack Pressure (PSI)
CPH104P	B10-3-8T	8	5000	15

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

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- BC** Bodies & Cavities

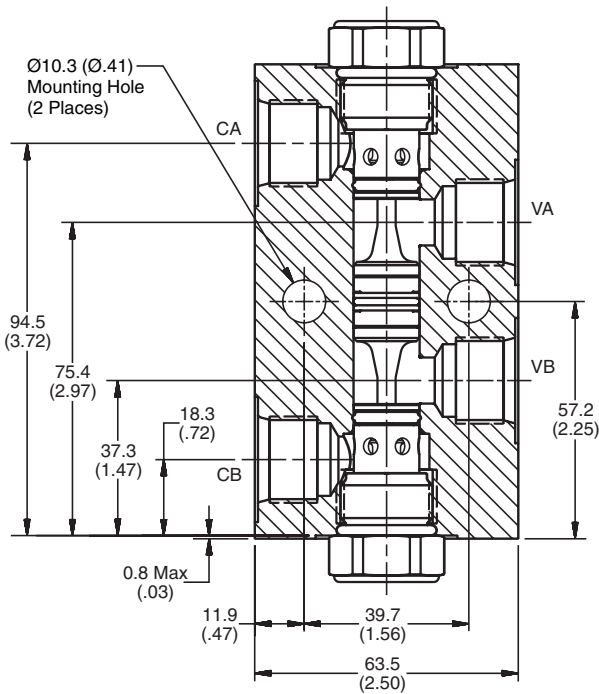
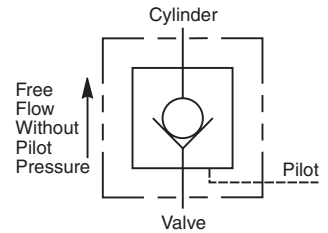
Pilot Piston Assembly

Dimensions Millimeters (Inches)



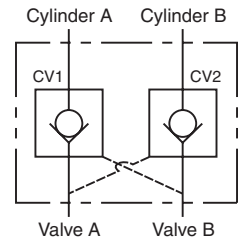
Single Pilot Piston Assembly

Porting	
Pilot Port	SAE-6
Work Ports	SAE-8



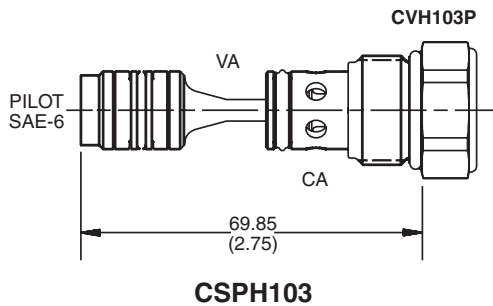
Dual Pilot Piston Assembly

Porting	
Work Ports	SAE-8

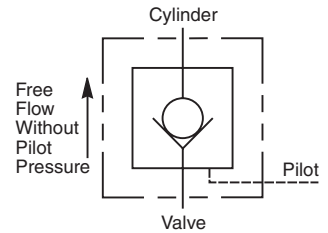


Model	Pilot Ratio	Flow (GPM)	Max Inlet Pressure (PSI)	Crack Pressure (PSI)	Porting	Assembly
CSPH103P-8T	4:1	16	5000	5	SAE-8	Complete Single Pilot Operated Assembly
CSPH103P20-8T	4:1	16	5000	20	SAE-8	
CDPH103P-8T	4:1	16	5000	5	SAE-8	Complete Dual Pilot Operated Assembly
CDPH103A20-8T	4:1	16	5000	20	SAE-8	

Single Pilot Piston

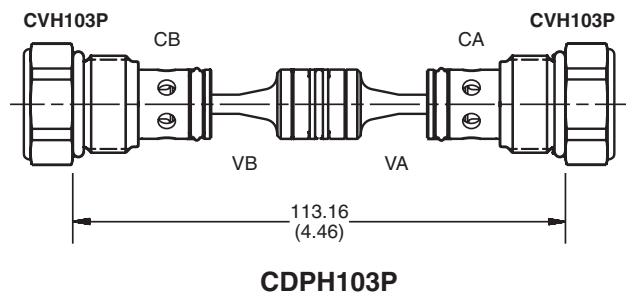


Dimensions Millimeters (Inches)

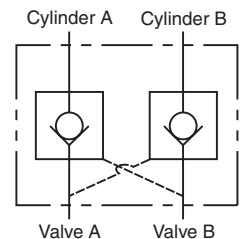


Model	Valve Size	Flow (GPM)	Pressure (PSI)	Pilot Ratio	Body	Seals	Assembly
717909	-10	16	5000	4:1	830679	None	Combine with CVH103P20 and Body (830679) to make CSPH103
717909N	-10	16	5000	4:1	830679	Nitrile	
717909V	-10	16	5000	4:1	830679	Viton	

Dual Pilot Piston



Dimensions Millimeters (Inches)



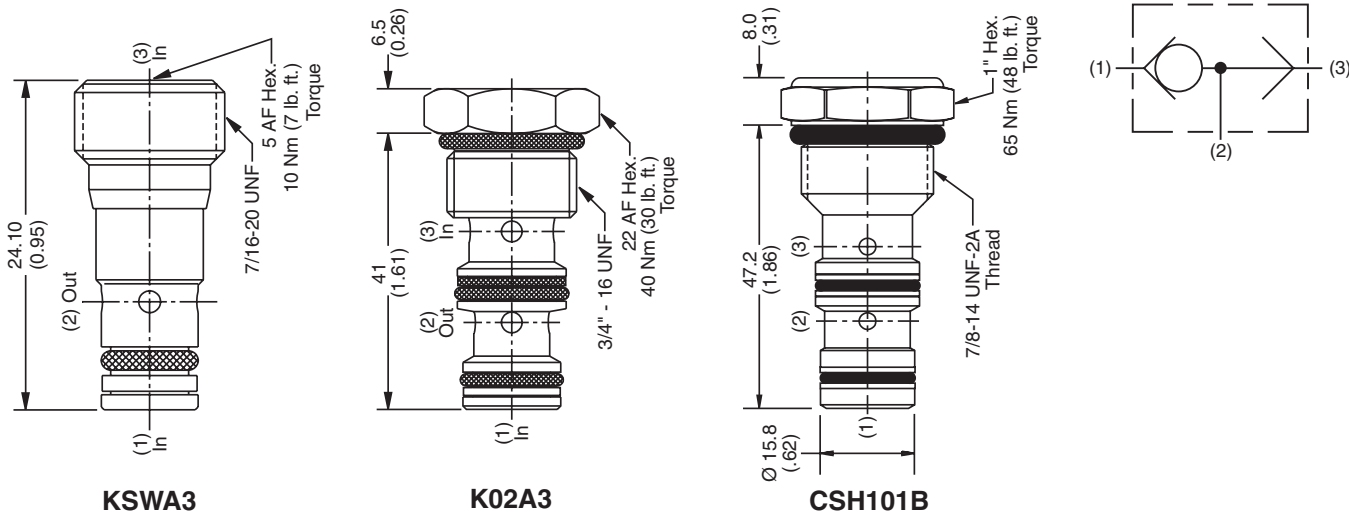
Model	Valve Size	Flow (GPM)	Pressure (PSI)	Pilot Ratio	Body	Seals	Assembly
717917	-10	16	5000	4:1	830683	None	Combine with two CVH103P and Body (830683) to make CDPH103P
717917N	-10	16	5000	4:1	830683	Nitrile	
717917V	-10	16	5000	4:1	830683	Viton	

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Check Valves
- SH
Shuttle Valves
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Load/Motor Controls
- FC
Flow Controls
- PC
Pressure Controls
- LE
Logic Elements
- DC
Directional Controls
- MV
Manual Valves
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Ball Type

Dimensions Millimeters (Inches)



Model	Body	Flow (GPM)	Pressure (PSI)	Features
KSWA3N	Insert	2.5	6000	Insert shuttle for custom manifold
K02A3N	B08-3-6T	7	5000	
CSH101B	B10-3-A8T	10	5000	

Spool Type

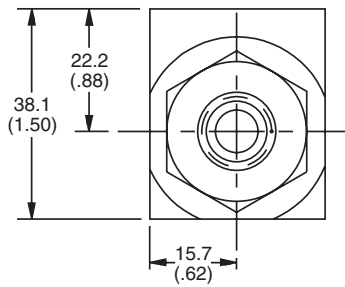
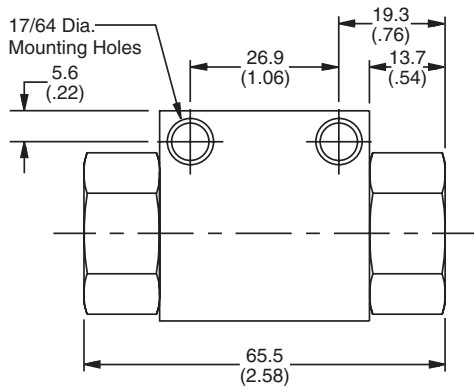
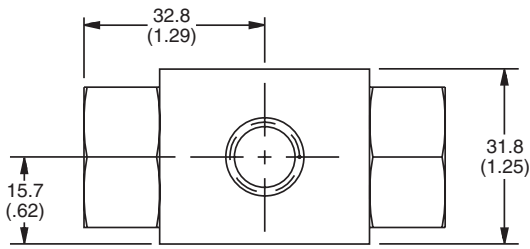
Dimensions Millimeters (Inches)



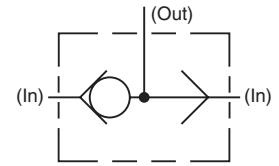
Model	Body	Flow (GPM)	Pressure (PSI)	Switching Pressure (PSI)
K04C3-10.0N	B10-3-A8T	10	5000	145



In-Line Assembly



Dimensions Millimeters (Inches)



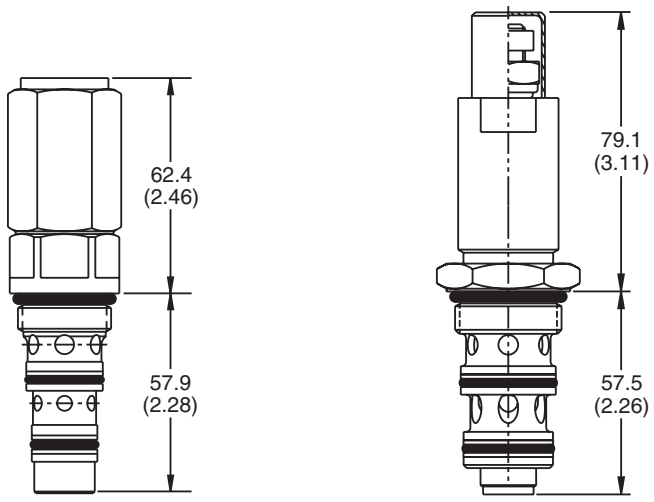
Model	Flow (GPM)	Pressure (PSI)	Porting
ASH-06-2	6	3000	SAE-6

- CV**
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Shuttle Valves
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Load/Motor Controls
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Flow Controls
- PC**
Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- MV**
Manual Valves
- SV**
Solenoid Valves
- PV**
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- BC**
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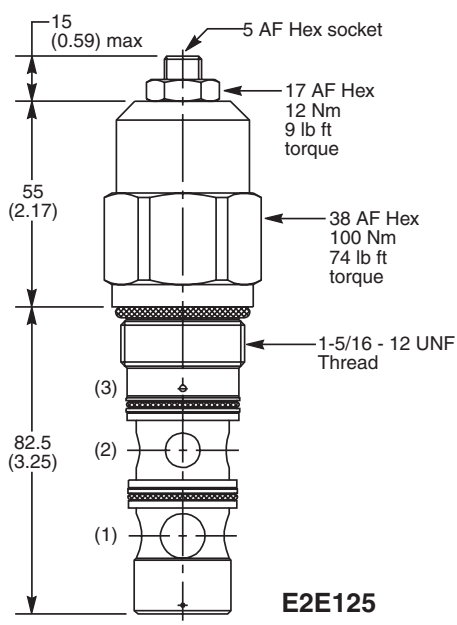
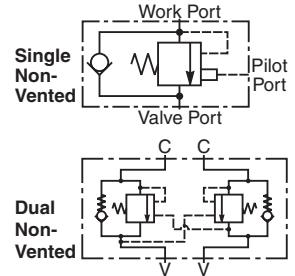
Adjustable (Internal Drain)

Dimensions Millimeters (Inches)

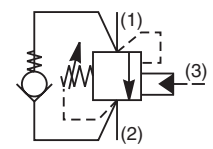


MHC-010

MHC-022



E2E125



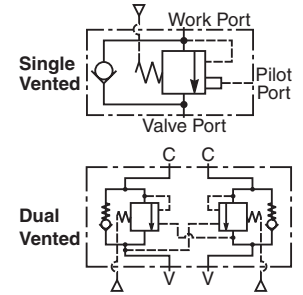
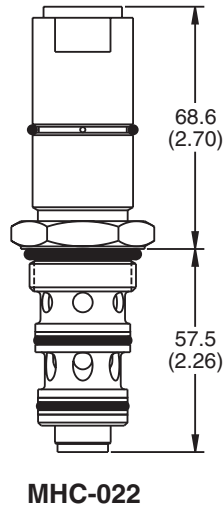
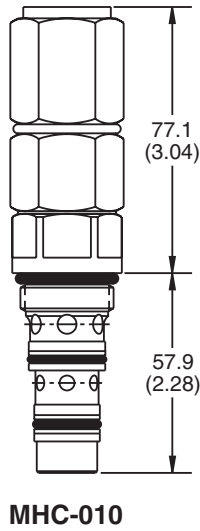
Model	Single Body	Dual Body	Flow (GPM)	Max Inlet Pressure (PSI)	Pilot Ratio	Holding Pressure (PSI)	Features
MHC-010-SFSH-00B	MHC-010-A-53	MHC-010-D-53	10	5000	7:1	3000	See Note 1
MHC-022-SCSH-00B	MHC-022-A-53	MHC-022-D-53	25	5000	5:1	3000	See Note 2
MHC-022-SJSJ-00B	MHC-022-A-53	MHC-022-D-53	25	5000	10:1	3500	See Note 3
E2E125ZNMK2	LB10078S*	LB10105S*	50	6000	3:1	4000	See Note 2

* Not a part of the Core Products 10 day lead time. Consult factory for standard lead time.
 Note 1: Ratio good for cylinder and motor applications.
 Note 2: Ratio best for cylinder applications.
 Note 3: Ratio best for motor applications.



Adjustable (Vented)

Dimensions Millimeters (Inches)



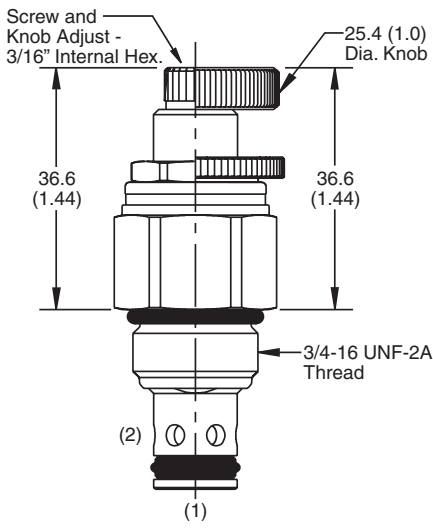
Model	Single Body	Dual Body	Flow (GPM)	Max Inlet Pressure (PSI)	Pilot Ratio	Holding Pressure (PSI)	Features
MHC-010-VBSH-00B	MHC-010-A-53	MHC-010-D-53	10	5000	4:1	3000	See Note 1
MHC-022-VCSSH-00B	MHC-022-A-53	MHC-022-D-53	25	5000	5:1	3000	See Note 1

Note 1: Ratio best for cylinder applications.

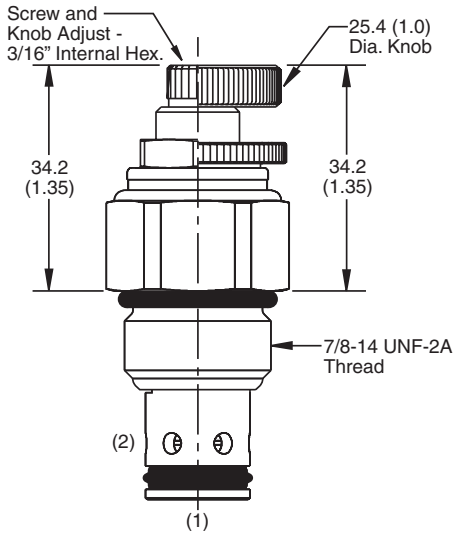
- CV**
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Needle Valve

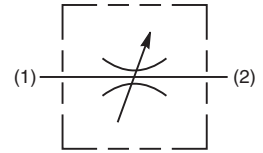


NVH081



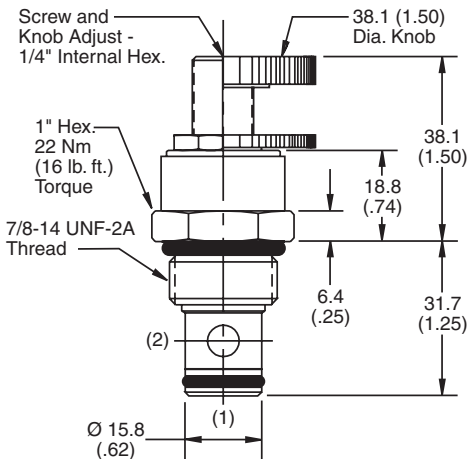
NVH101

Dimensions Millimeters (Inches)



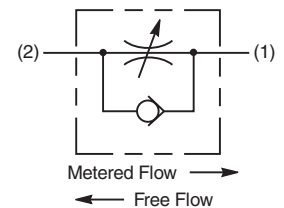
Model	Body	Max Inlet Pressure (PSI)	Flow Rating (GPM)
NVH081S	B08-2-6T	5500	10
NVH101S	B10-2-8T	5500	16

Needle Valve with Reverse Check



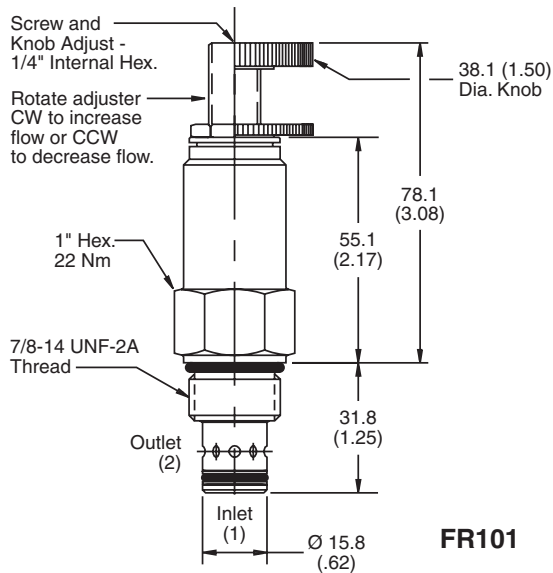
FV101

Dimensions Millimeters (Inches)



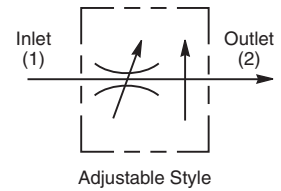
Model	Body	Max Inlet Pressure (PSI)	Flow Rating (GPM)
FV101S	B10-2-8T	3000	12

Pressure Comp. Flow Control (Tuneable)



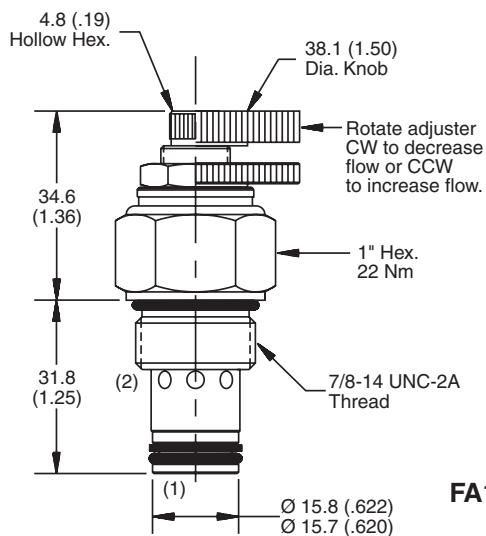
FR101

Dimensions Millimeters (Inches)



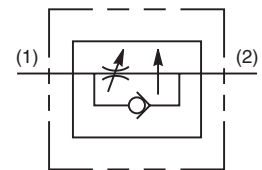
Model	Body	Max Inlet Pressure (PSI)	Flow Rating (GPM)	Adjustment Range (GPM)	Notes
FR101S095	B10-2-8T	3500	7	0.8 to 1.2	<ul style="list-style-type: none"> • Tuneable within these Ranges. • Other Flow Adjustment Ranges available. Consult Catalog.
FR101S135	B10-2-8T	3500	7	1.1 to 1.7	
FR101S185	B10-2-8T	3500	7	1.6 to 2.2	

Pressure Comp. Flow Control (Adjust.)



FA101

Dimensions Millimeters (Inches)



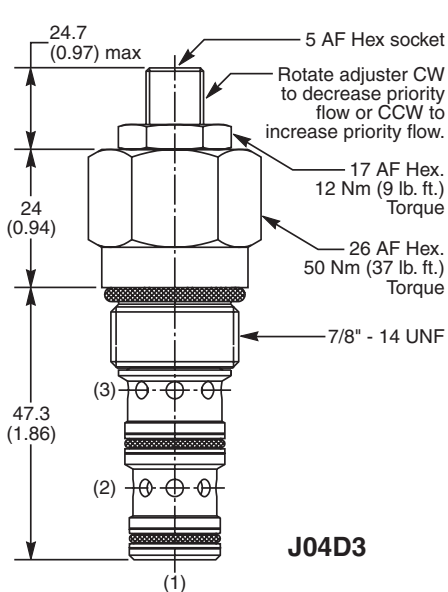
Model	Body	Max Inlet Pressure (PSI)	Flow Rating (GPM)	Adjustment Range (GPM)
FA101S	B10-2-8T	3000	5.5	0.2 to 5.5

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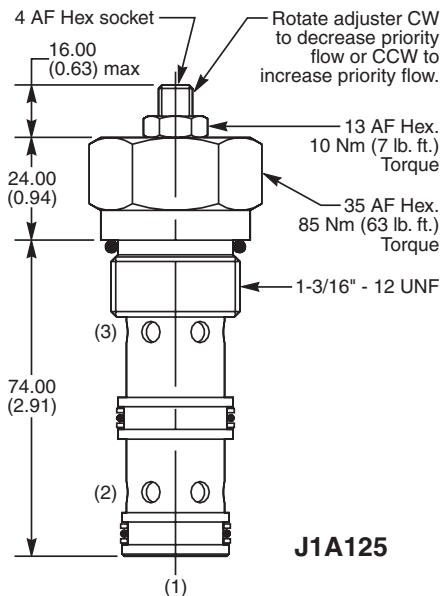
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Priority Flow Control (Adjustable)

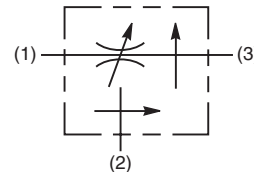
Dimensions Millimeters (Inches)



J04D3



J1A125

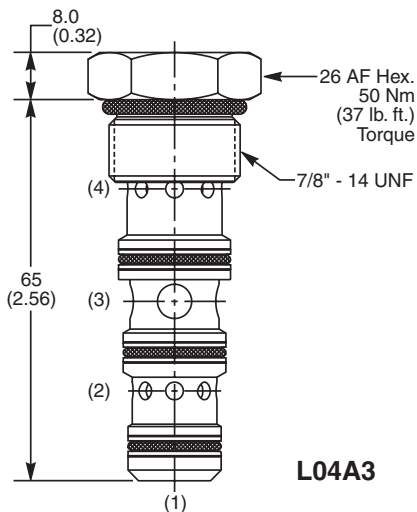


Model	Body	Max Inlet Pressure (PSI)	Flow Rating (GPM)	Adjustment Range (GPM)	Notes
J04D3ZN	B10-2-8T	6000	12	0.5 to 12	
J1A125ZN	LB10066S*	6000	24	0.5 to 24	3A Cavity

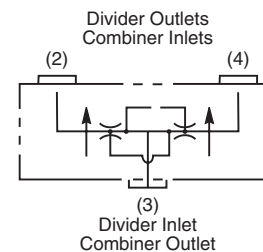
* Not a part of the Core Products 10 Day Lead Time. Consult Factory for Standard Lead Time.

Flow Divider/Combiner

Dimensions Millimeters (Inches)



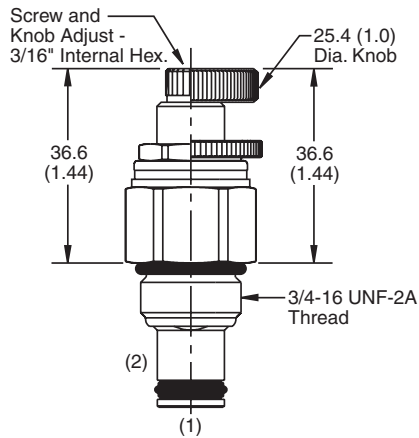
L04A3



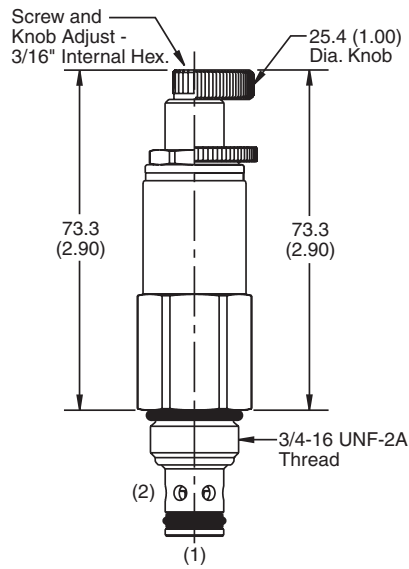
Model	Body	Max Inlet Pressure (PSI)	Flow Rating (GPM)	Adjustment Range (GPM)
L04A3-30-30N	B10-4-8T	6000	16	3.7 to 15.9

Direct Acting

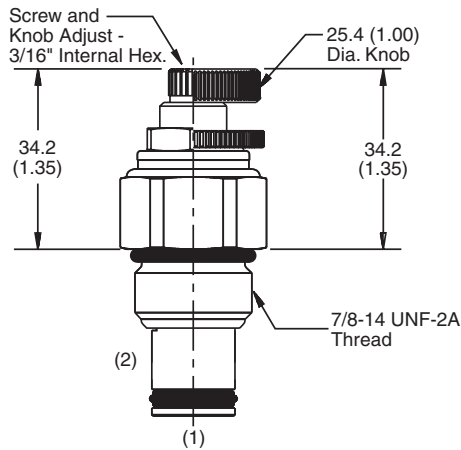
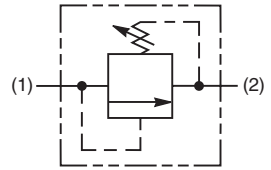
Dimensions Millimeters (Inches)



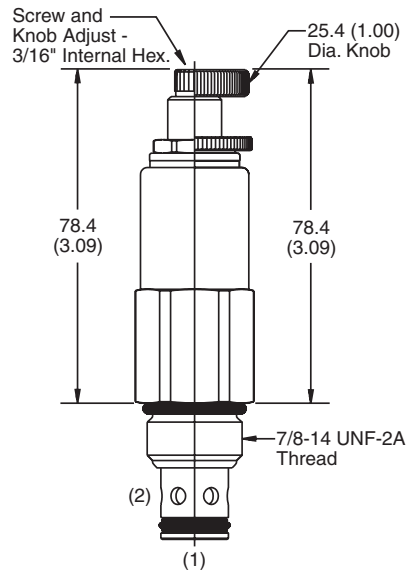
RDH081



RDH082



RDH101



RD102

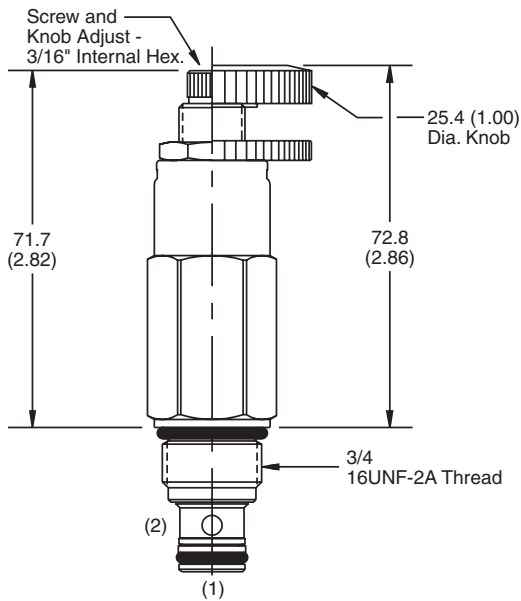
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)
RDH081S50	B08-2-6T	0.5	5000	200-1500
RDH082S50	B08-2-6T	8	5000	500-5000
RDH101S50	B10-2-8T	0.5	5000	200-5000
RD102S30	B10-2-8T	8	3000	600-3000

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

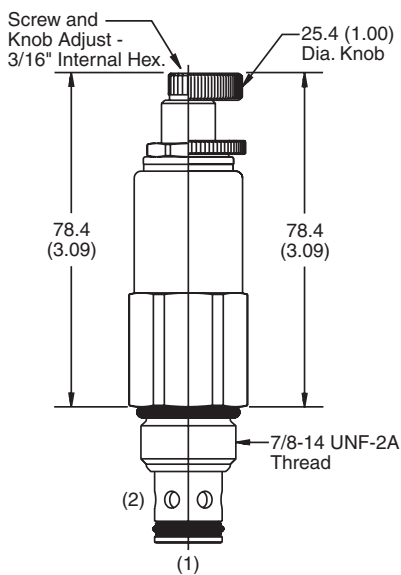
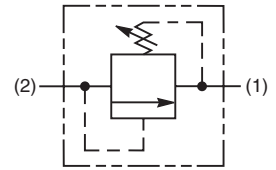
- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
- PC** Pressure Controls
- LE** Logic Elements
- DC** Directional Controls
- MV** Manual Valves
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities

Differential Area

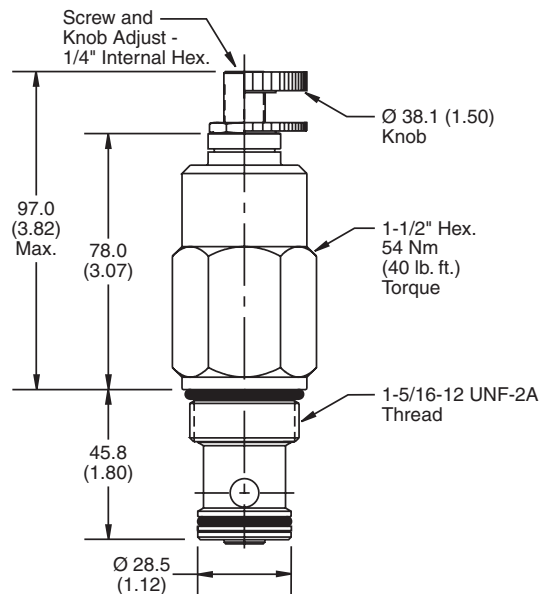
Dimensions Millimeters (Inches)



RDH083



RDH103

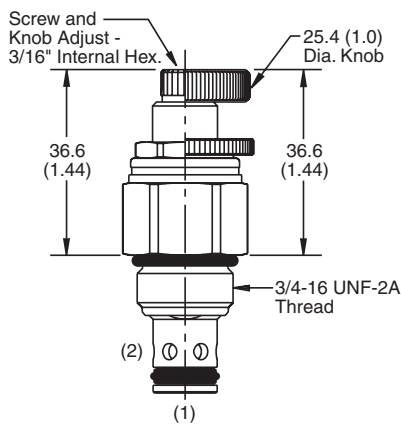
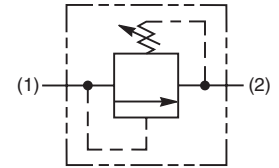


RD163

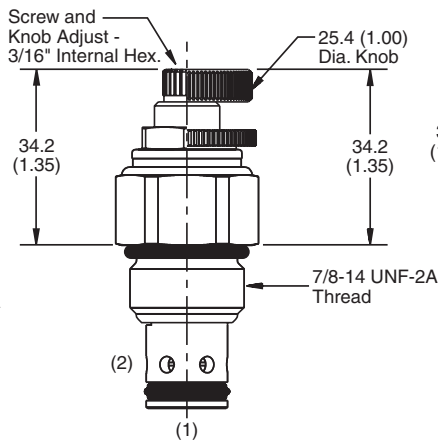
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)
RDH083S15	B08-2-6T	12	5000	100-1500
RDH083S30	B08-2-6T	12	5000	1000-3000
RDH083S50	B08-2-6T	12	5000	2000-5000
RDH103S50	B10-2-8T	20	5000	500-5000
RD163S30	B16-2-16T	40	3000	600-3000

Pilot Operated

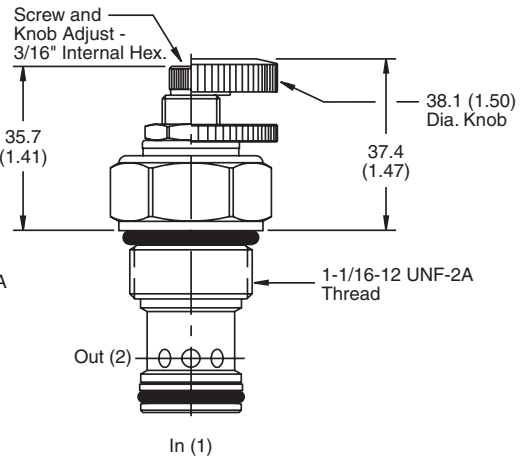
Dimensions Millimeters (Inches)



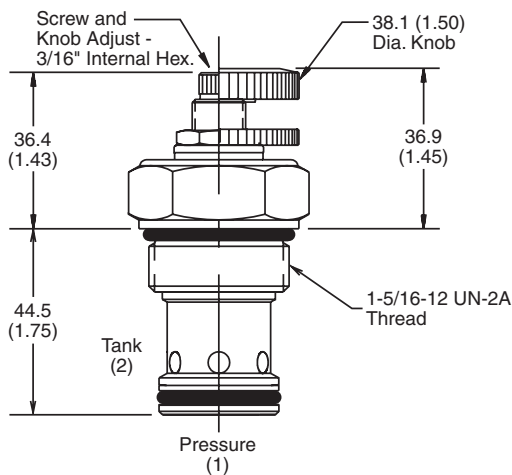
RAH081



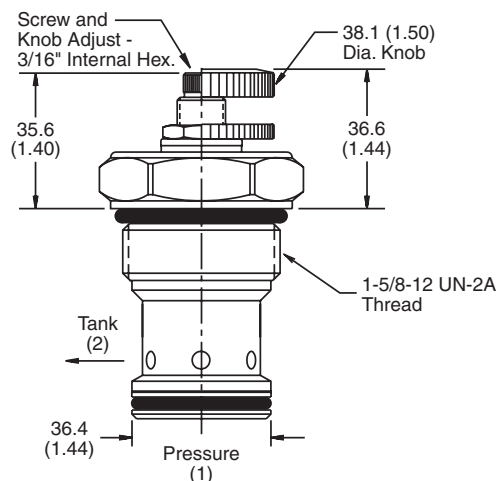
RAH101



RAH121



RAH161



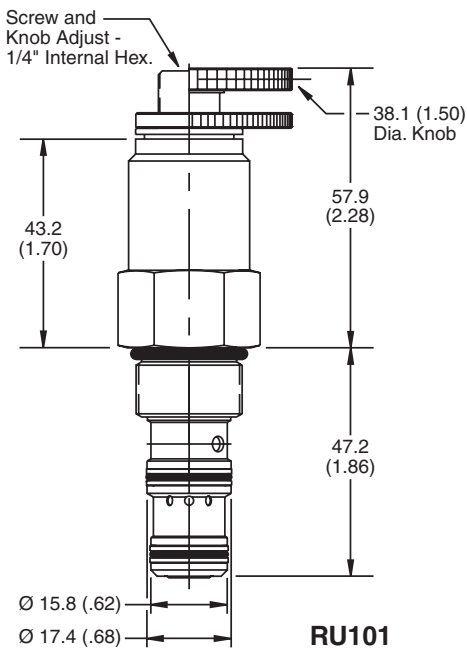
RAH201

Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)
RAH081S50	B08-2-6T	20	5000	200-5000
RAH101S50	B10-2-8T	30	5000	200-5000
RAH121S50	B12-2-12T	50	5000	500-5000
RAH161S50	B16-2-16T	80	5000	500-5000
RAH201S50	B20-2-20T	100	5000	500-5000

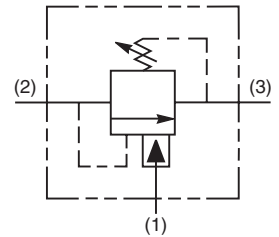
- CV**
- Check Valves
- SH**
- Shuttle Valves
- LM**
- Load/Motor Controls
- FC**
- Flow Controls
- PC**
- Pressure Controls
- LE**
- Logic Elements
- DC**
- Directional Controls
- MV**
- Manual Valves
- SV**
- Solenoid Valves
- PV**
- Proportional Valves
- CE**
- Coils & Electronics
- BC**
- Bodies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

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

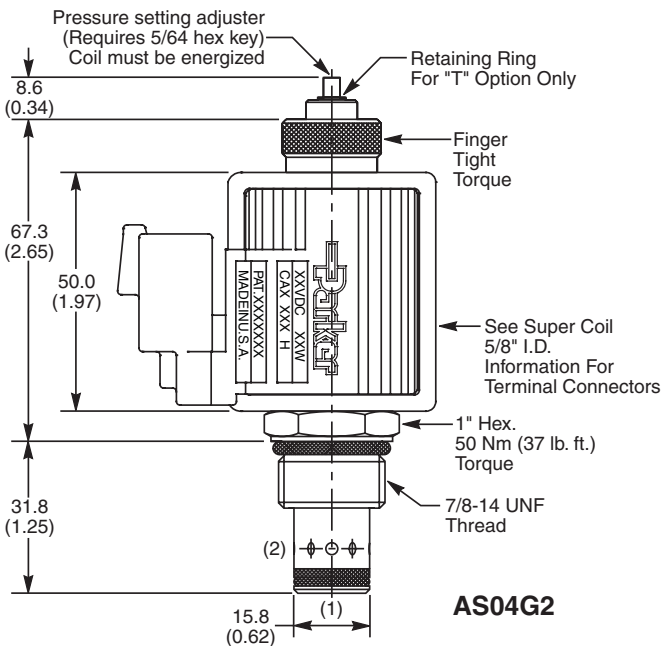
Unloading Valves



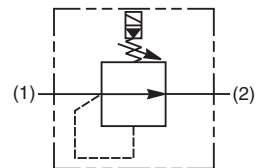
Dimensions Millimeters (Inches)



Solenoid Operated - Unloading/Relieving

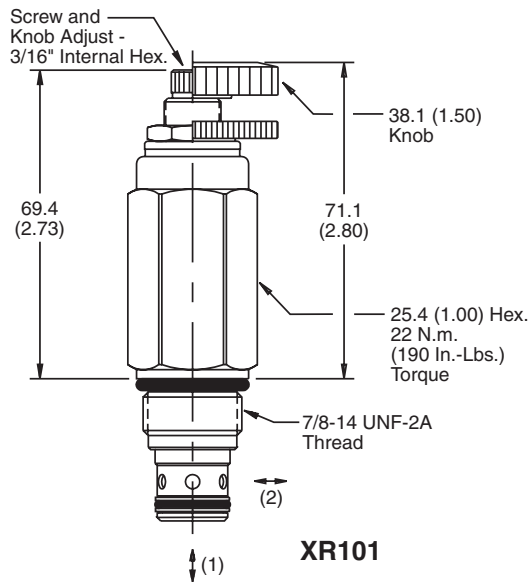


Dimensions Millimeters (Inches)

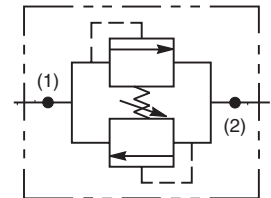
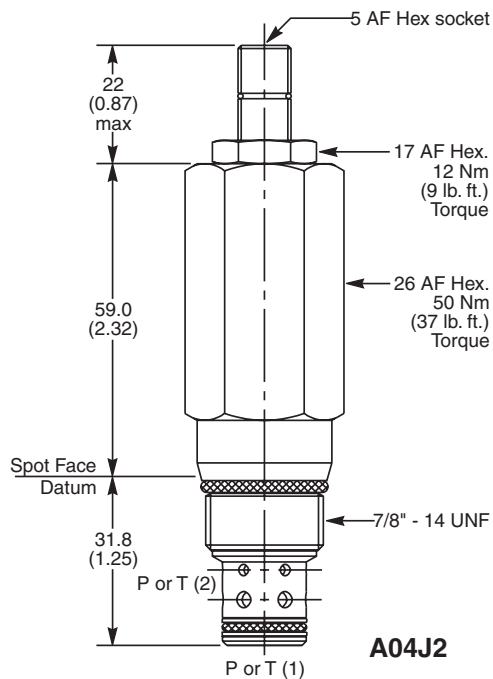
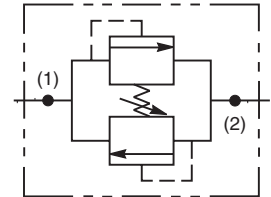


Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)	Features
RU101S30C	B10-3-8T	1	3000	200-3000	
AS04G2Z27	B10-2-8T	16	4000	100-4000	Sol. Operated Unloading/Relieving

Crossover Relief



Dimensions Millimeters (Inches)

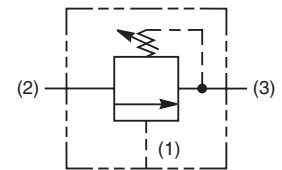
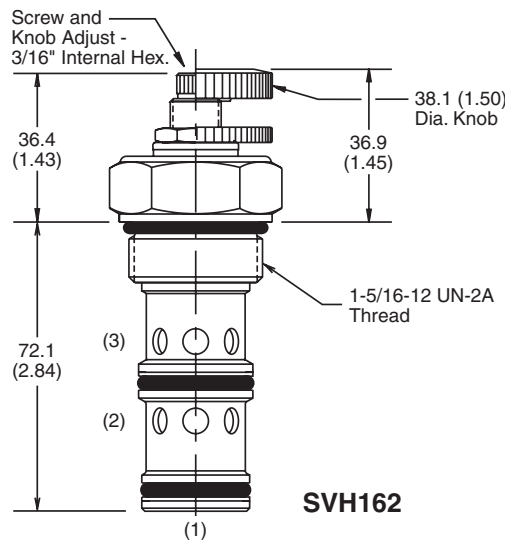
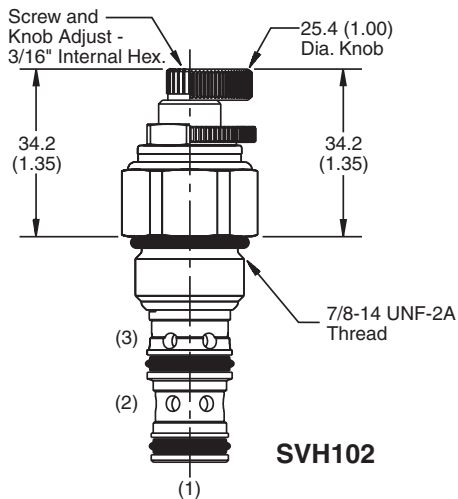
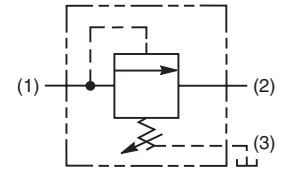
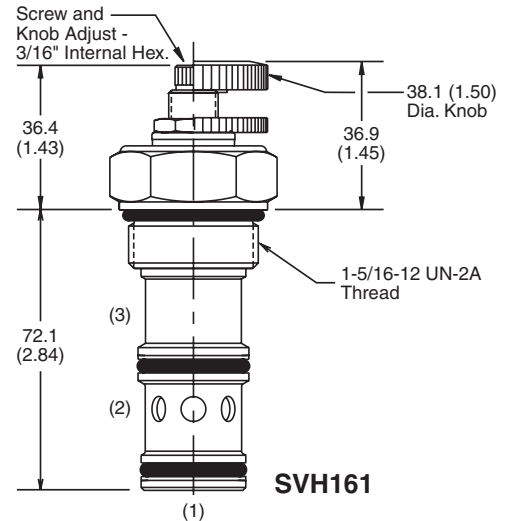
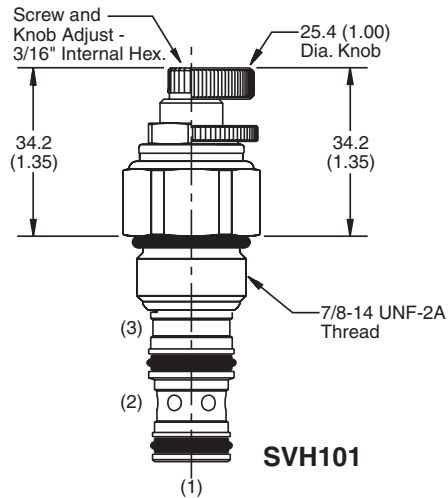
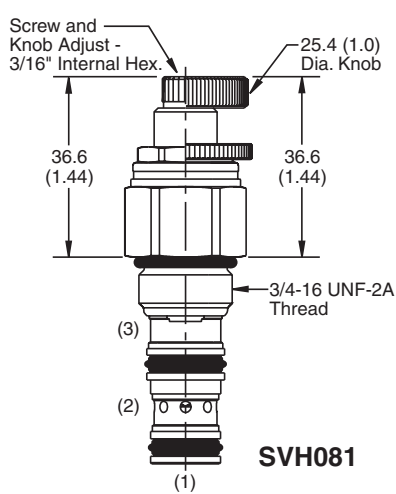


Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)
XR101S30	B10-2-8T	16	3500	1500-3000
A04J2MZN	B10-2-8T	30	6000	144-5000

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

Direct Acting

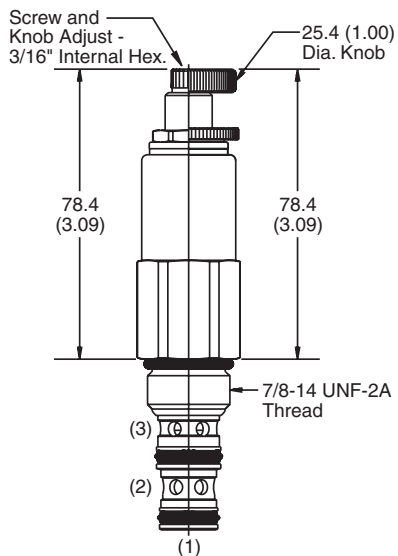
Dimensions Millimeters (Inches)



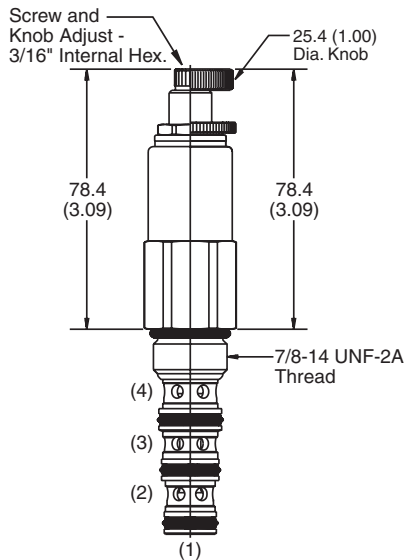
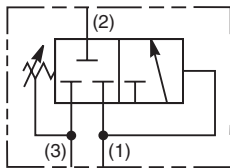
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)	Pilot Signal	Features
SVH081S50	B08-3-6T	12	5000	200-5000	Internal	External Vent
SVH101S50	B10-3-8T	15	5000	200-5000	Internal	External Vent
SVH161S50	B16-3-16T	40	5000	500-5000	Internal	External Vent
SVH102S50	B10-3-8T	15	5000	200-5000	External	Internal Vent
SVH162S50	B16-3-16T	40	5000	500-5000	External	Internal Vent

Direct Acting

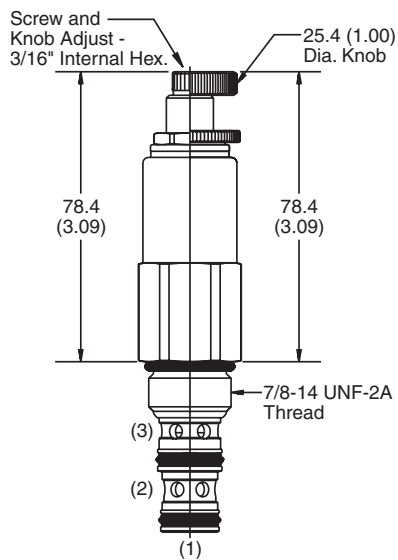
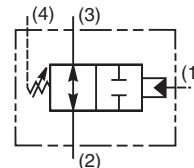
Dimensions Millimeters (Inches)



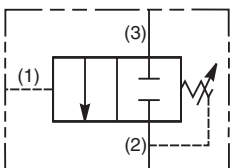
SV103



SV104



SV105



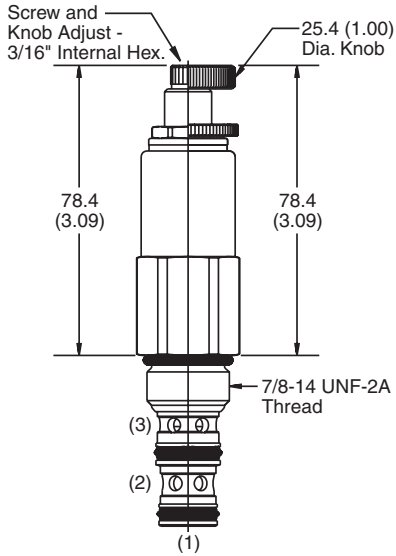
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)	Normal Position	Features
SV103S20	B10-3-8T	15	2000	400-2000	Closed	Internal Pilot, External Drain
SV104S20	B10-4-8T	8	2000	400-2000	Open	External Pilot, External Drain
SV105S20	B10-3-8T	10	2000	400-2000	Closed	External Pilot, External Drain

- CV**
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- Shuttle Valves
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- Load/Motor Controls
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- Flow Controls
- PC**
- Pressure Controls
- LE**
- Logic Elements
- DC**
- Directional Controls
- MV**
- Manual Valves
- SV**
- Solenoid Valves
- PV**
- Proportional Valves
- CE**
- Coils & Electronics
- BC**
- Bodies & Cavities

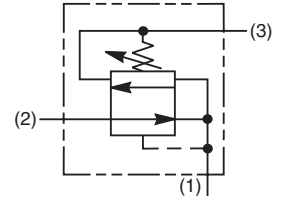
- CV**
Check Valves
- SH**
Shuttle Valves
- LM**
Load/Motor Controls
- FC**
Flow Controls
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Pressure Controls
- LE**
Logic Elements
- DC**
Directional Controls
- MV**
Manual Valves
- SV**
Solenoid Valves
- PV**
Proportional Valves
- CE**
Coils & Electronics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

Direct Acting - Reducing/Relieving

Dimensions Millimeters (Inches)



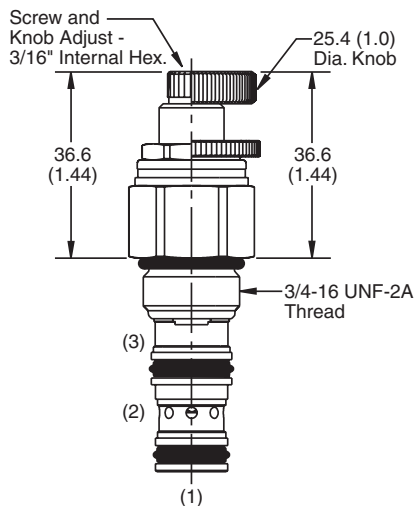
PR103



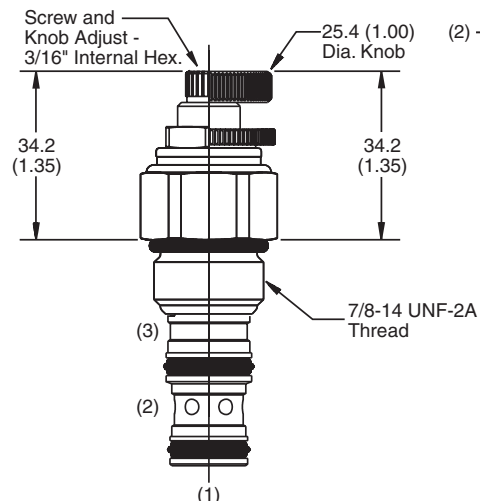
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)
PR103S21	B10-3-8T	15	3000	600-1800

Pilot Operated - Reducing

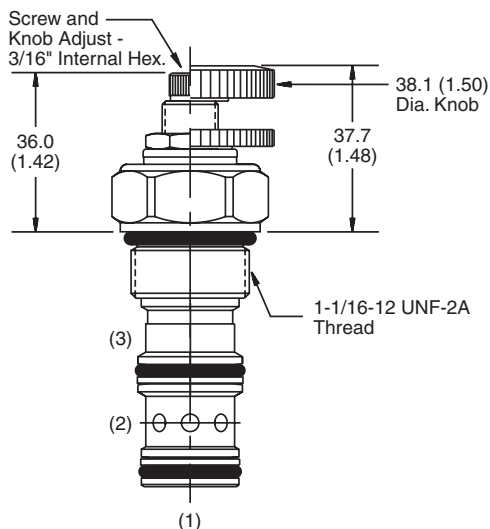
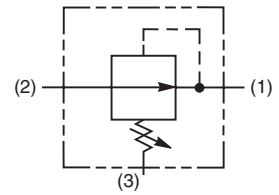
Dimensions Millimeters (Inches)



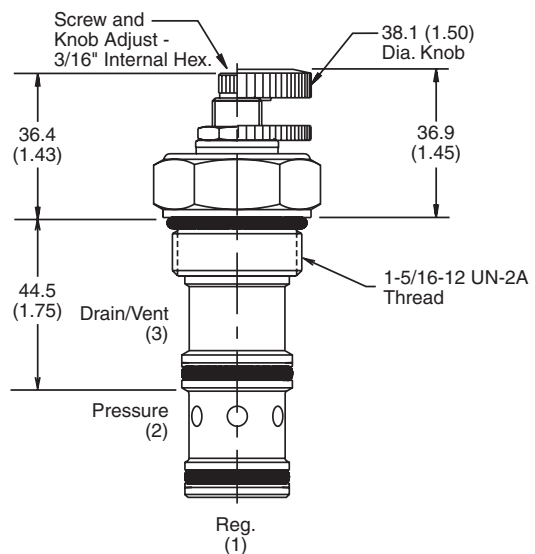
PRH082



PRH102



PRH122



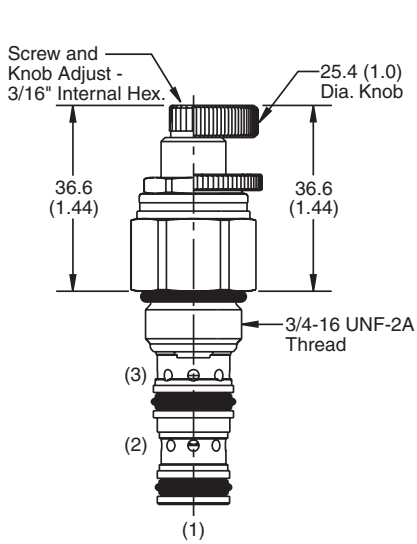
PRH162

Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)
PRH082S50	B08-3-8T	8	5500	200-5000
PRH102S30	B10-3-8T	15	5500	600-3000
PRH102S50	B10-3-8T	15	5500	1200-5000
PRH122S50	B12-3-12T	30	5000	500-5000
PRH162S50	B16-3-16T	40	5000	500-5000

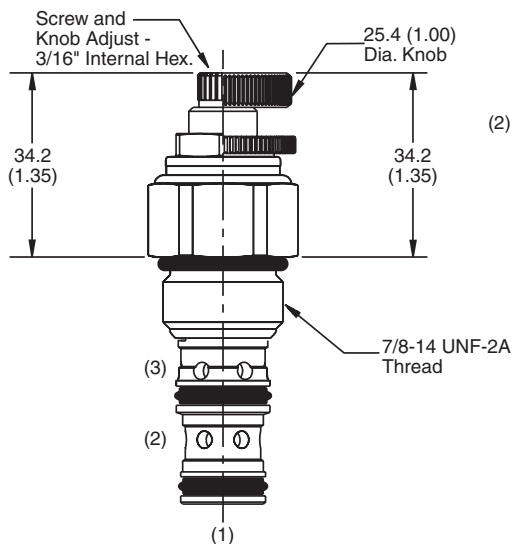
- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
- PC** Pressure Controls
- LE** Logic Elements
- DC** Directional Controls
- MV** Manual Valves
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities

Pilot Operated - Reducing/Relieving

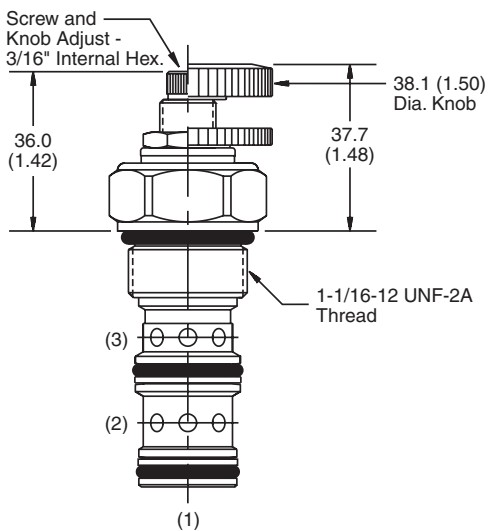
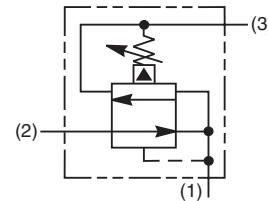
Dimensions Millimeters (Inches)



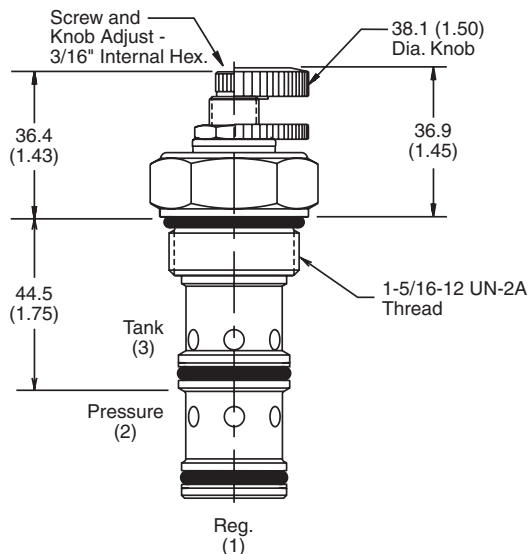
PRH081



PRH101



PRH121

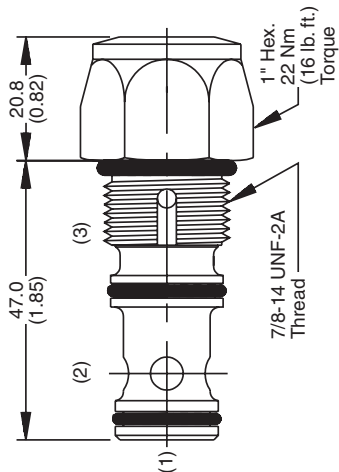


PRH161

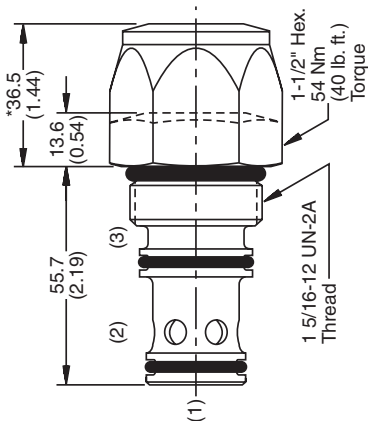
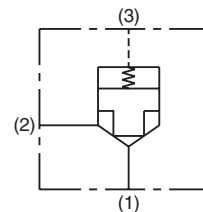
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Adjustment Range (PSI)
PRH081S50	B08-3-8T	8	5500	200-5000
PRH101S30	B10-3-8T	15	5500	600-3000
PRH101S50	B10-3-8T	15	5500	1200-5000
PRH121S50	B12-3-12T	30	5000	500-5000
PRH161S50	B16-3-16T	40	5000	500-5000

Poppet Type - Normally Closed

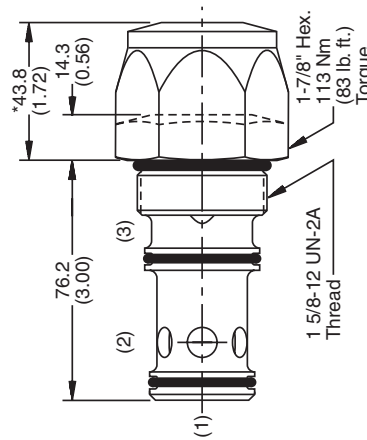
Dimensions Millimeters (Inches)



10SLC1-A



16SLC1-A



20SLC1-A

Model	Cavity*	Flow (GPM)	Max Inlet Pressure (PSI)	Bias Spring (PSI)	Uses in Applications
10SLC1-A-25	C10-3S	15	3500	25	• Directional Control
16SLC1-A-25	C16-3S	50	3500	25	
20SLC1-A-25	C20-3S	80	3500	25	

* These logic elements utilize a 3S Cavity. Body information available in the catalog at standard lead time.

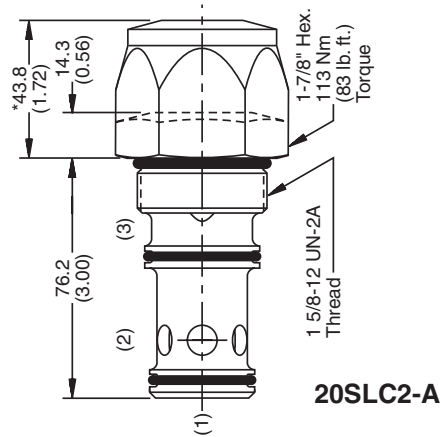
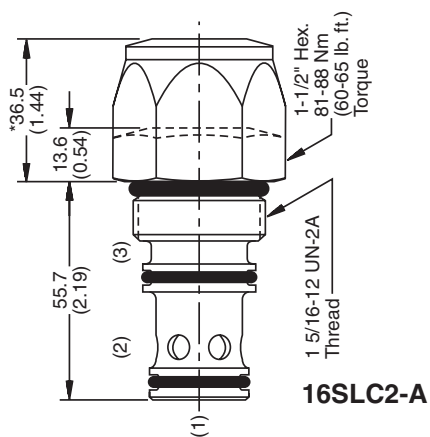
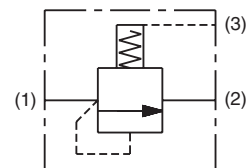
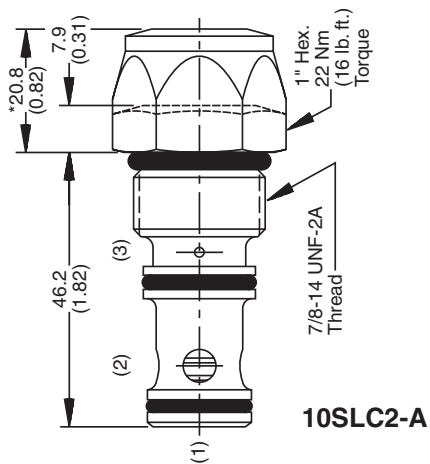


- CV
- Check Valves
- SH
- Shuttle Valves
- LM
- Load/Motor Controls
- FC
- Flow Controls
- PC
- Pressure Controls
- LE
- Logic Elements
- DC
- Directional Controls
- MV
- Manual Valves
- SV
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- PV
- Proportional Valves
- CE
- Coils & Electronics
- BC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

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

Spool Type - Normally Closed, Pilot to Close

Dimensions Millimeters (Inches)

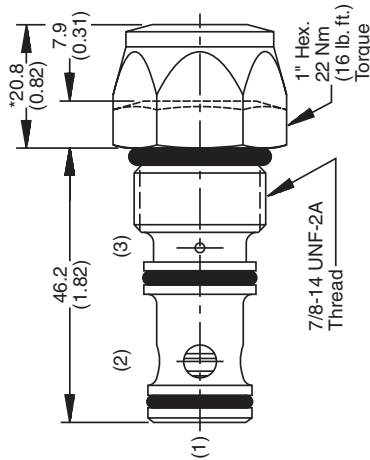


Model	Cavity*	Flow (GPM)	Max Inlet Pressure (PSI)	Bias Spring (PSI)	Uses in Applications
10SLC2-A-75	C10-3S	15	3500	75	<ul style="list-style-type: none"> • Pressure Control • Bypass Compensator
10SLC2-A-100	C10-3S	15	3500	100	
10SLC2-A-150	C10-3S	15	3500	150	
16SLC2-A-50	C16-3S	50	3500	50	
16SLC2-A-100	C16-3S	50	3500	100	
16SLC2-A-150	C16-3S	50	3500	150	
20SLC2-A-50	C20-3S	80	3500	50	
20SLC2-A-75	C20-3S	80	3500	75	
20SLC2-A-100	C20-3S	80	3500	100	

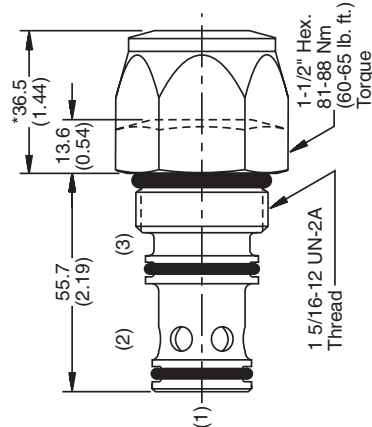
* These logic elements utilize a 3S Cavity. Body information available in the catalog at standard lead time.

**Spool Type -
Normally Open, Vent to Close**

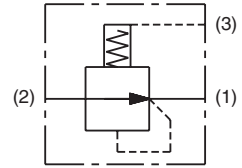
Dimensions Millimeters (Inches)



10SLC3-A



16SLC3-A



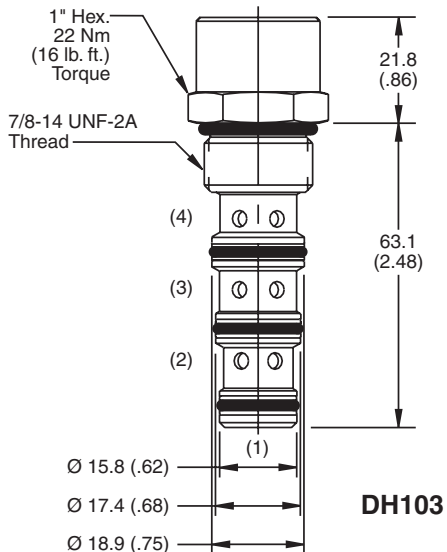
Model	Cavity*	Flow (GPM)	Max Inlet Pressure (PSI)	Bias Spring (PSI)	Uses in Applications
10SLC3-A-100	C10-3S	15	3500	100	<ul style="list-style-type: none"> Restrictive Flow Control Restrictive Compensator Reducing Valve Priority Valve
16SLC3-A-100	C16-3S	50	3500	100	

* These logic elements utilize a 3S Cavity. Body information available in the catalog at standard lead time.

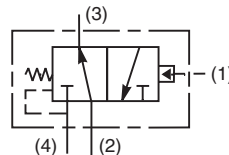
- CV
- Check Valves
- SH
- Shuttle Valves
- LM
- Load/Motor Controls
- FC
- Flow Controls
- PC
- Pressure Controls
- LE
- Logic Elements
- DC
- Directional Controls
- MV
- Manual Valves
- SV
- Solenoid Valves
- PV
- Proportional Valves
- CE
- Coils & Electronics
- BC
- Bodies & Cavities

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

Spool Type - Normally Open, 3-Way/2 Position, External Pilot

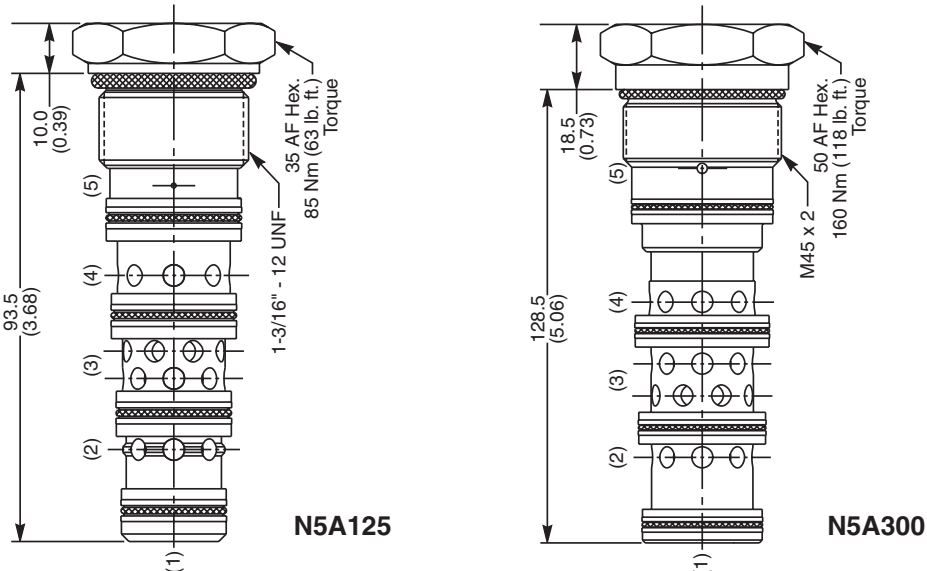


Dimensions Millimeters (Inches)

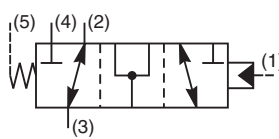


Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Bias Spring (PSI)	Uses in Applications
DH103C16	B10-4-8T	10	3500	160	• Directional Control

Spool Type - 3-Way/2 Position, External Pilot, External Drain, Open Transition



Dimensions Millimeters (Inches)



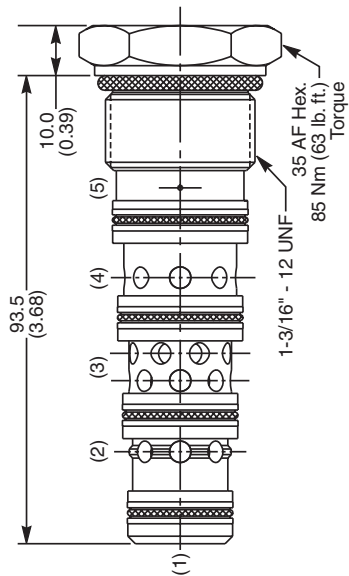
Model	Cavity*	Flow (GPM)	Max Inlet Pressure (PSI)	Bias Spring (PSI)	Uses in Applications
N5A125-10.0N	5A	24	6000	145	• Directional Control, Compensator, Priority Valve, Sequence Valve
N5A300-10.0N	100-1	71	6000	145	

* Non-standard cavity body information available in the catalog at standard lead time.

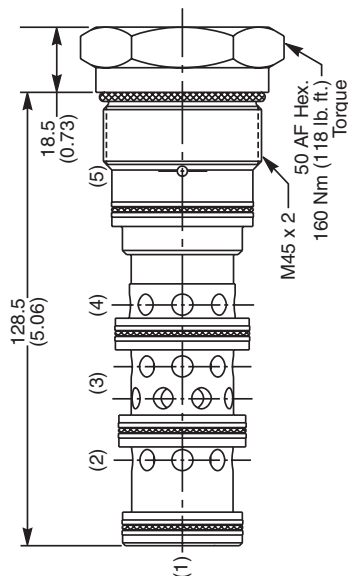


Spool Type - 3-Way/2 Position, External Pilot, External Drain, Closed Transition

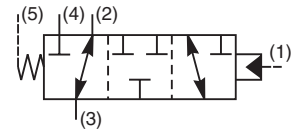
Dimensions Millimeters (Inches)



N5B125



N5B300



Model	Cavity*	Flow (GPM)	Max Inlet Pressure (PSI)	Bias Spring (PSI)	Uses in Applications
N5B125-10.0N	5A	24	6000	145	<ul style="list-style-type: none"> Directional Control, Compensator, Priority Valve, Sequence Valve
N5B300-10.0N	100-1	71	6000	145	

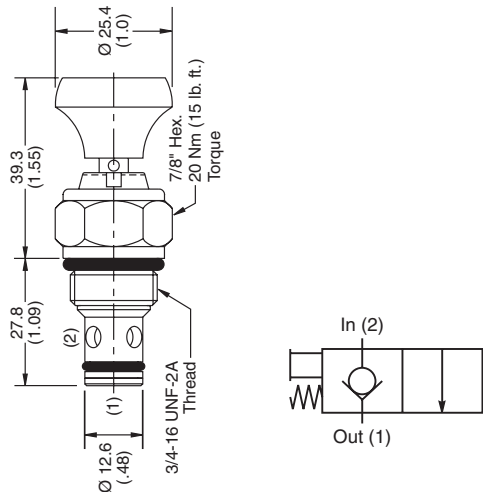
* Non-standard cavity body information available in the catalog at standard lead time.

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

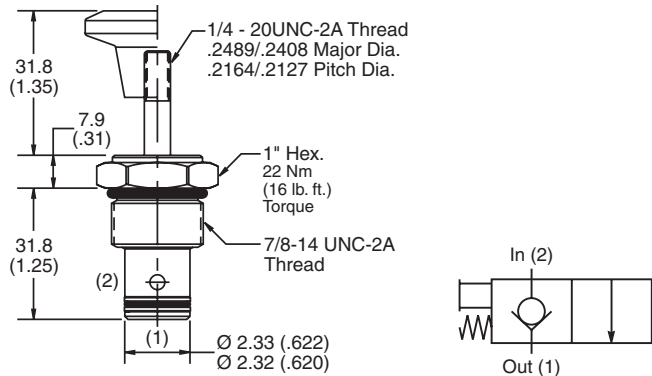
- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
- PC** Pressure Controls
- LE** Logic Elements
- DC** Directional Controls
- MV** Manual Valves
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities

Manual Valves

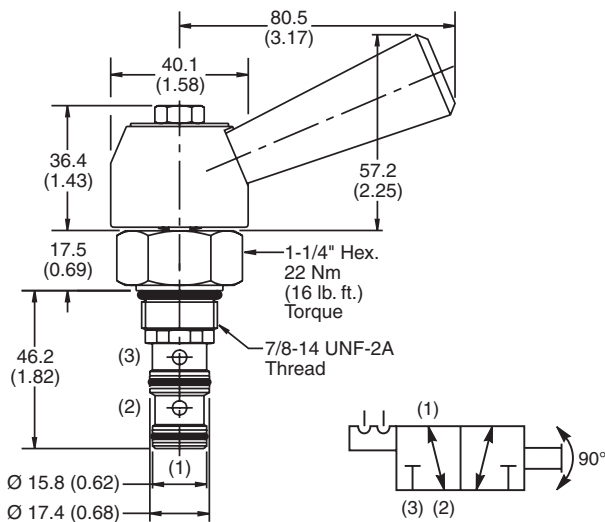
Dimensions Millimeters (Inches)



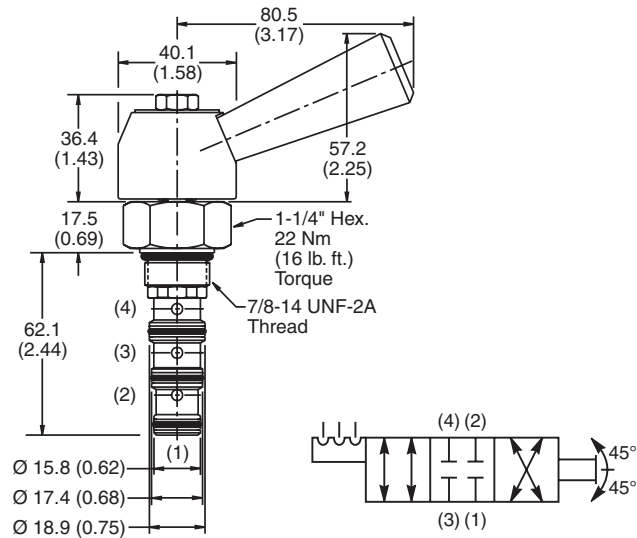
DL081K



DL101K



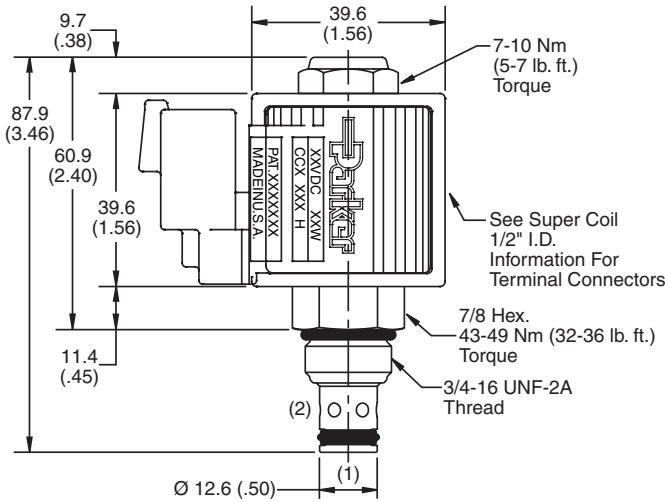
DM103LD



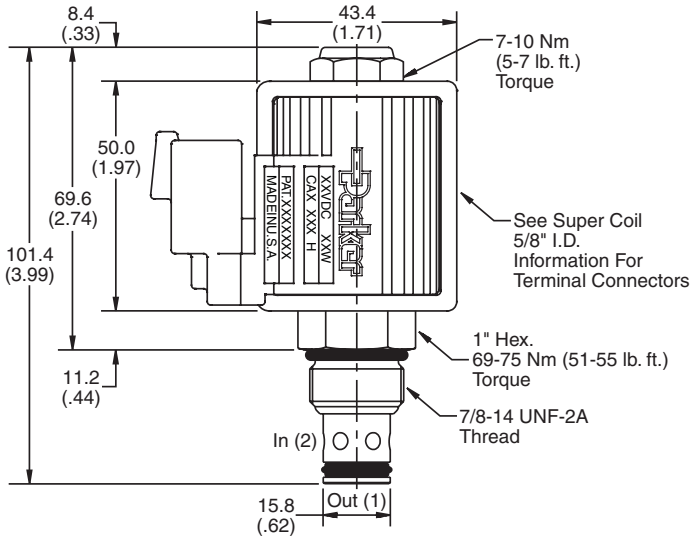
DM104LN1

Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Normal Condition
DL081K	B08-2-6T	8	3000	Closed
DL101K	B10-2-8T	13	3500	Closed
DM103LD	B10-3-6T	6	3500	Closed
DM104LN1	B10-4-6T	2	3500	Closed

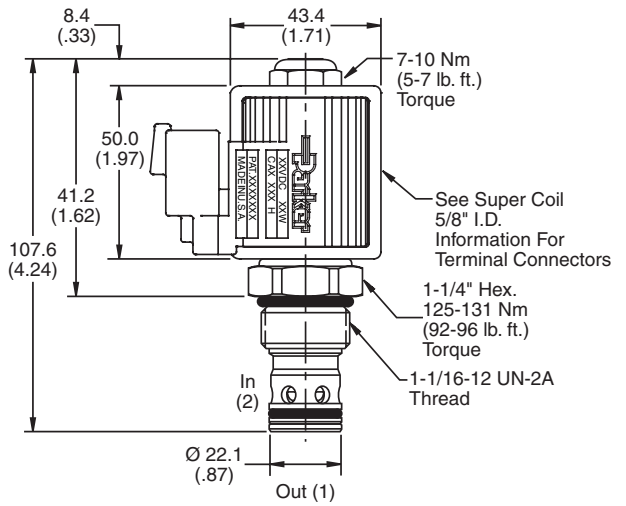
2-Way Poppet Type



DSH081

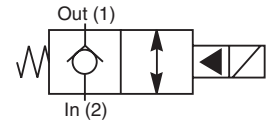


DSH101

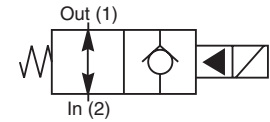


DSH121

Dimensions Millimeters (Inches)



Normally Closed (CR)



Normally Open (NR)

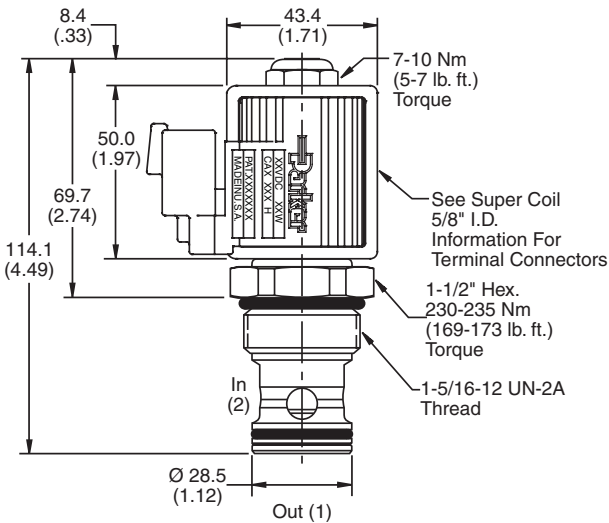
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	De-Energized Position
DSH081CR	B08-2-6T	8	5000	CC	Closed
DSH081NR	B08-2-6T	8	5000	CC	Open
DSH101CR	B10-2-8T	15	5000	CA	Closed
DSH101NR	B10-2-8T	15	5000	CA	Open
DSH121CR	B12-2-12T	24	5000	CA	Closed
DSH121NR	B12-2-12T	24	5000	CA	Open

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

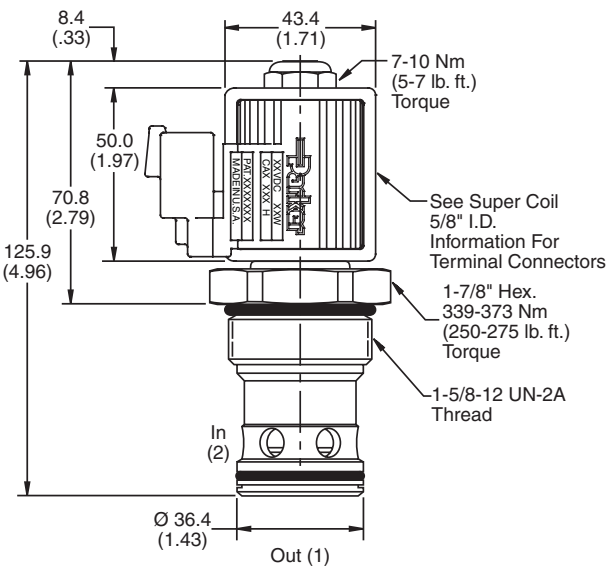
- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
- PC** Pressure Controls
- LE** Logic Elements
- DC** Directional Controls
- MV** Manual Valves
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities

2-Way Poppet Type

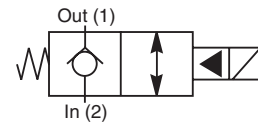
Dimensions Millimeters (Inches)



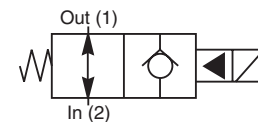
DSH161



DSL201



Normally Closed (CR)

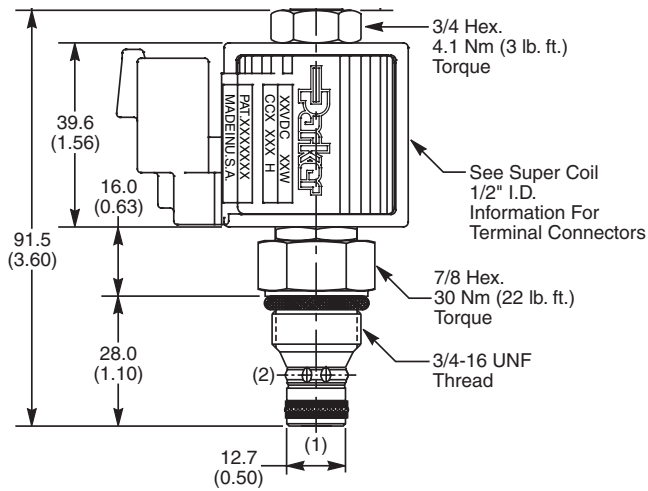


Normally Open (NR)

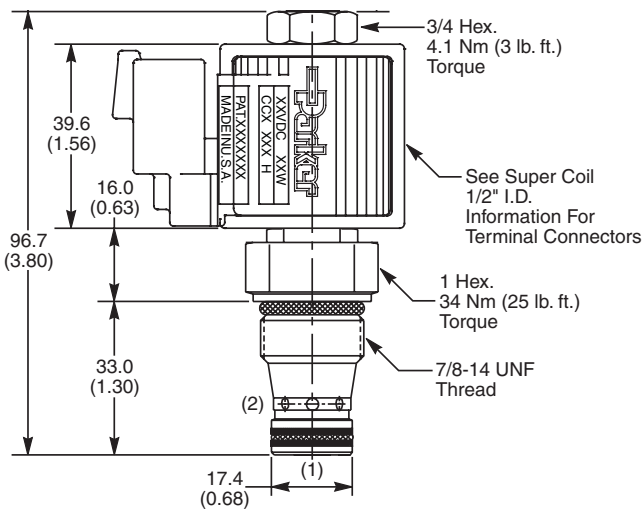
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	De-Energized Position
DSH161CR	B16-2-16T	40	5000	CA	Closed
DSH161NR	B16-2-16T	40	5000	CA	Open
DSL201CR	B20-2-20T	70	3600	CA	Closed
DSL201NR	B20-2-20T	70	3600	CA	Open

2-Way Bi-Directional Poppet

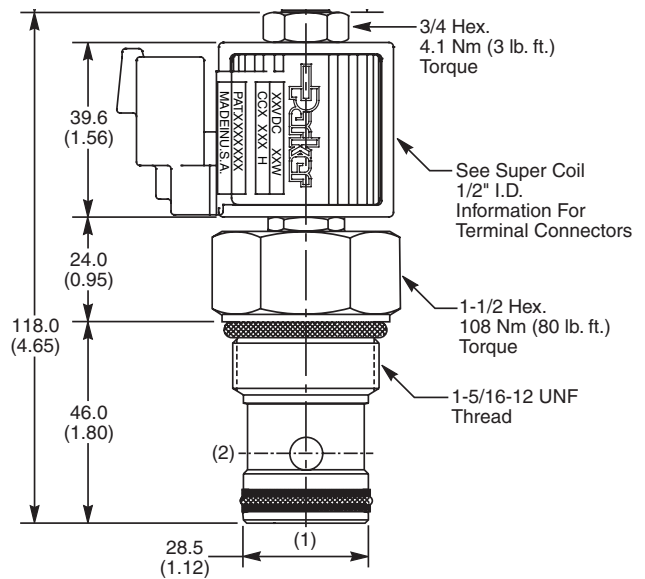
Dimensions Millimeters (Inches)



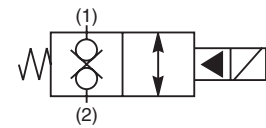
GS0281/86



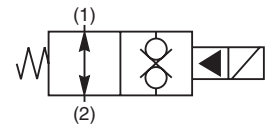
GS0481/86



GS0681/86



Normally Closed



Normally Open

Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	De-Energized Position
GS028100N	B08-2-6T	5	5000	CC	Closed
GS028600N	B08-2-6T	5	5000	CC	Open
GS048100N	LB10543S*	12	5000	CC	Closed
GS048600N	LB10543S*	12	5000	CC	Open
GS068100N	B16-2-16T	50	5000	CC	Closed
GS068600N	B16-2-16T	50	5000	CC	Open

*Non-Standard Cavity Body. Consult Factory for lead time and availability.

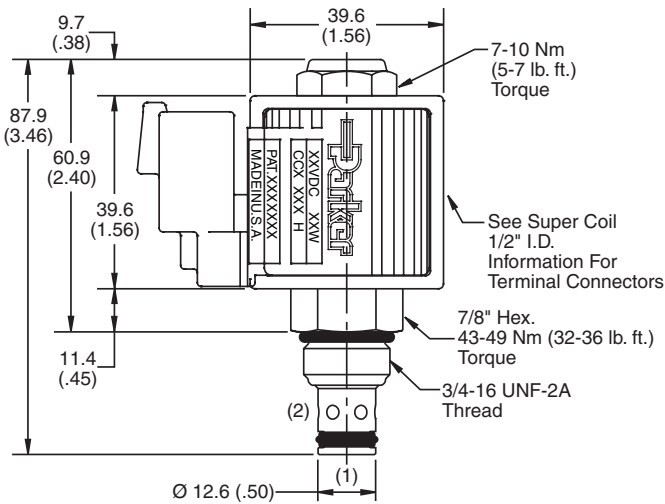


- CV**
- Check Valves
- SH**
- Shuttle Valves
- LM**
- Load/Motor Controls
- FC**
- Flow Controls
- PC**
- Pressure Controls
- LE**
- Logic Elements
- DC**
- Directional Controls
- MV**
- Manual Valves
- SV**
- Solenoid Valves
- PV**
- Proportional Valves
- CE**
- Coils & Electronics
- BC**
- Bodies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

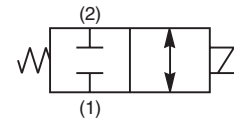
- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
- PC** Pressure Controls
- LE** Logic Elements
- DC** Directional Controls
- MV** Manual Valves
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities

2-Way Spool Type

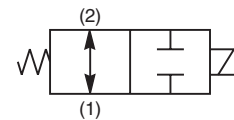
Dimensions Millimeters (Inches)



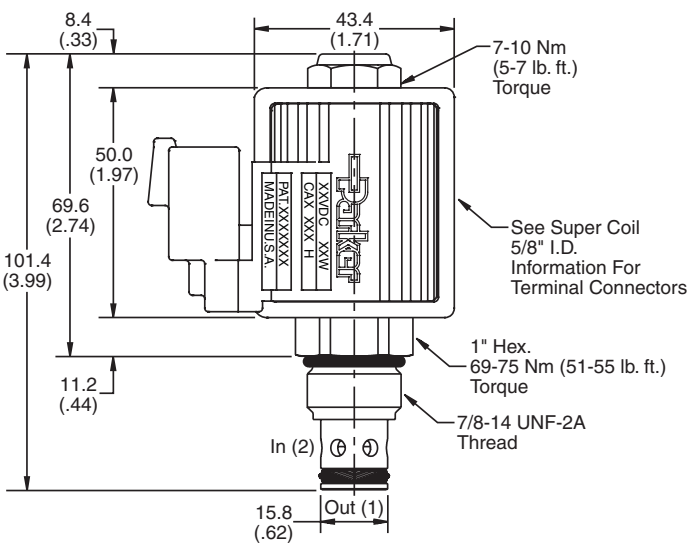
DSH082



Normally Closed



Normally Open

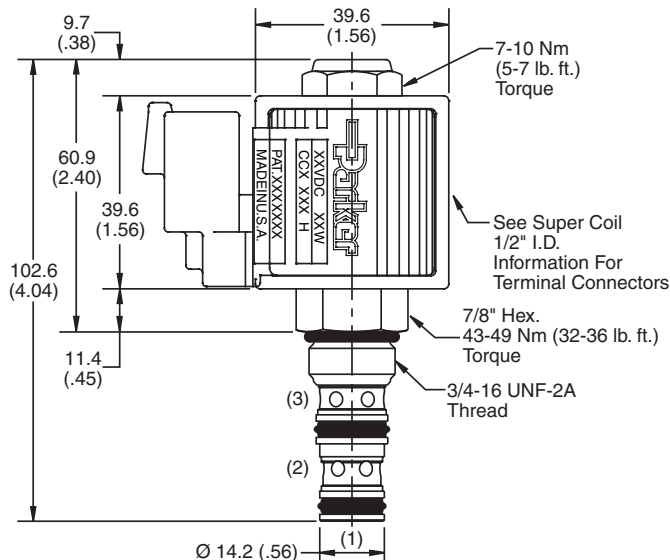


DSH102

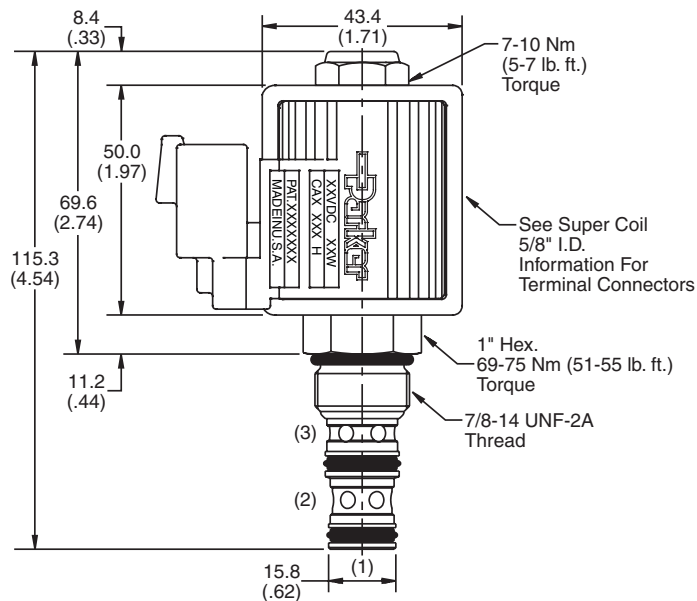
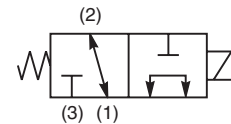
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	De-Energized Position
DSH082C	B08-2-6T	4	5000	CC	Closed
DSH082N	B08-2-6T	2.8	5000	CC	Open
DSH102C	B10-2-8T	8	5000	CA	Closed
DSH102N	B10-2-8T	5	5000	CA	Open

3-Way Spool Type

Dimensions Millimeters (Inches)



DSH083



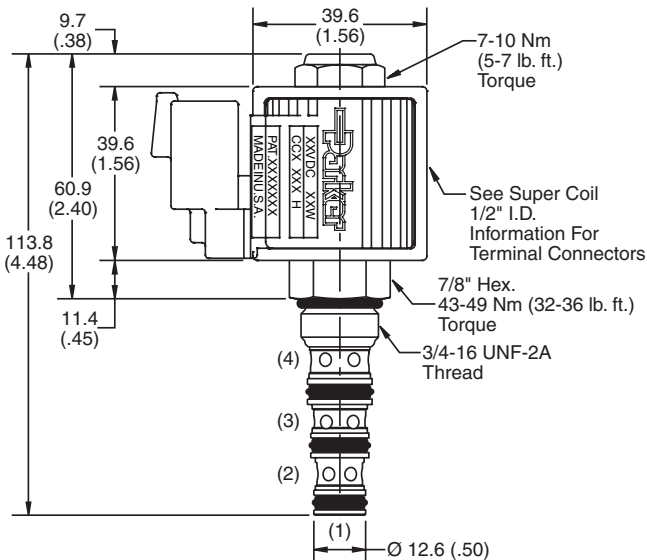
DSH103

Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	De-Energized Position	Energized Position
DSH083B	B08-3-6T	4	5000	CC	1 -> 2	2 -> 3
DSH103B	B10-3-8T	8	5000	CA	1 -> 2	2 -> 3

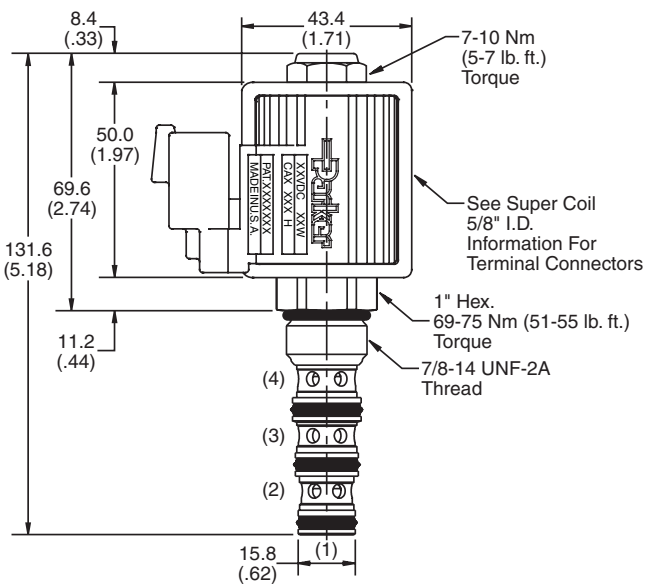
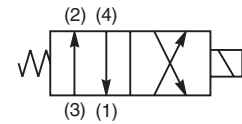
- CV
- Check Valves
- SH
- Shuttle Valves
- LM
- Load/Motor Controls
- FC
- Flow Controls
- PC
- Pressure Controls
- LE
- Logic Elements
- DC
- Directional Controls
- MV
- Manual Valves
- SV
- Solenoid Valves
- PV
- Proportional Valves
- CE
- Coils & Electronics
- BC
- Bodies & Cavities

4-Way, 2 Position Spool Type

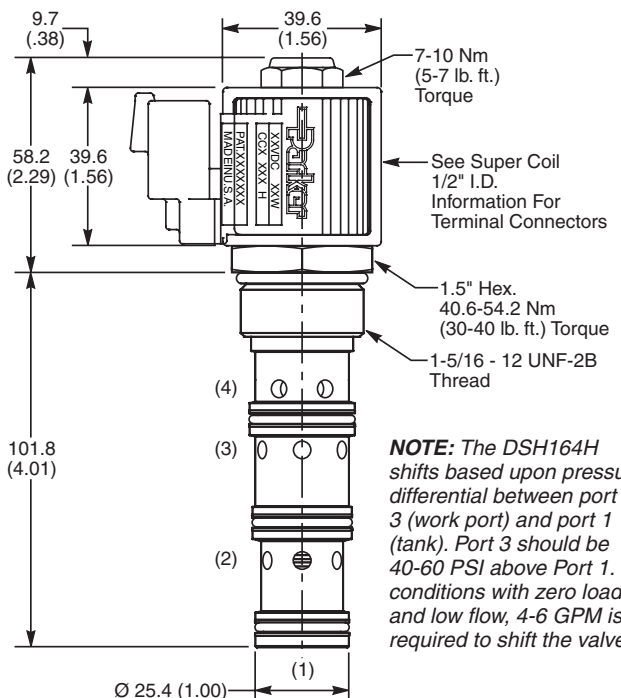
Dimensions Millimeters (Inches)



DSH084



DSH104



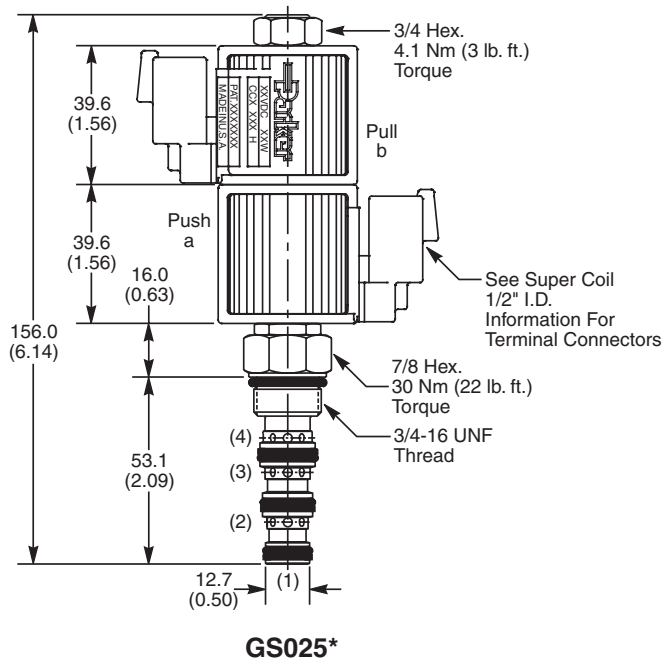
DSH164

NOTE: The DSH164H shifts based upon pressure differential between port 3 (work port) and port 1 (tank). Port 3 should be 40-60 PSI above Port 1. In conditions with zero load and low flow, 4-6 GPM is required to shift the valve.

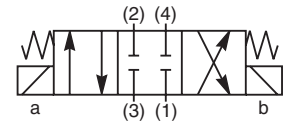
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	De-Energized Position		Technical Notes
DSH084B	B08-3-6T	3 - 4	5000	CC	3 -> 2	4 -> 1	• See HCS Catalog for shift limit curves vs. operating pressure for exact flow rating.
DSH104B	B10-4-8T	6.5 - 10	5000	CA	3 -> 2	4 -> 1	
DSH164H	B16-4-16T	30	5000	CC	3 -> 4	2 -> 1	

4-Way, 3 Position Spool Type

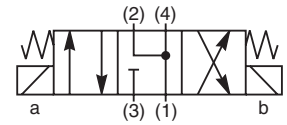
Dimensions Millimeters (Inches)



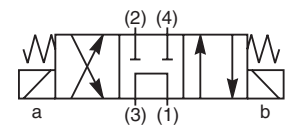
GS0251



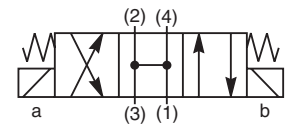
GS0253



GS0257



GS0259



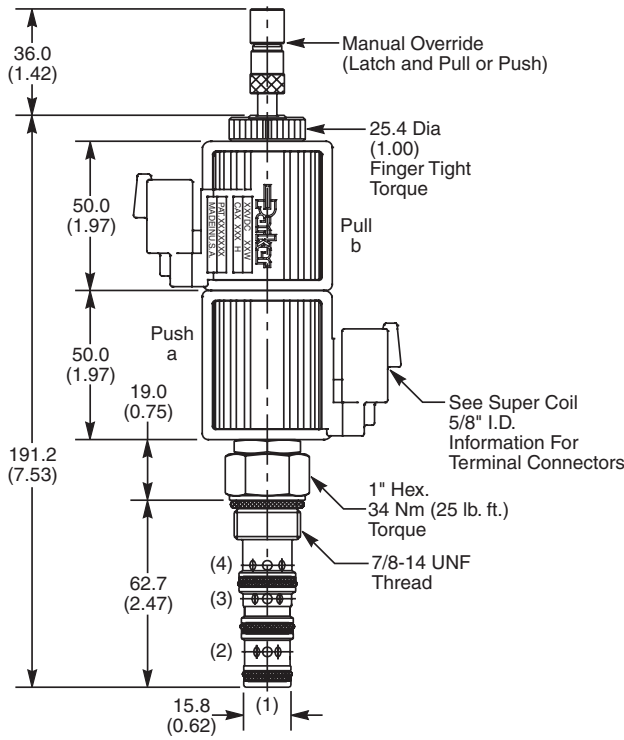
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	Center Position	Features
GS025100N	B08-4-6T	4.5	5000	CC	Closed	• Double Acting Cylinder and Motor Applications
GS025300N	B08-4-6T	4	5000	CC	Float	
GS025700N	B08-4-6T	3.5	5000	CC	Tandem	
GS025900N	B08-4-6T	3.5	5000	CC	Open	

NOTE: Two coils required per valve for proper function.

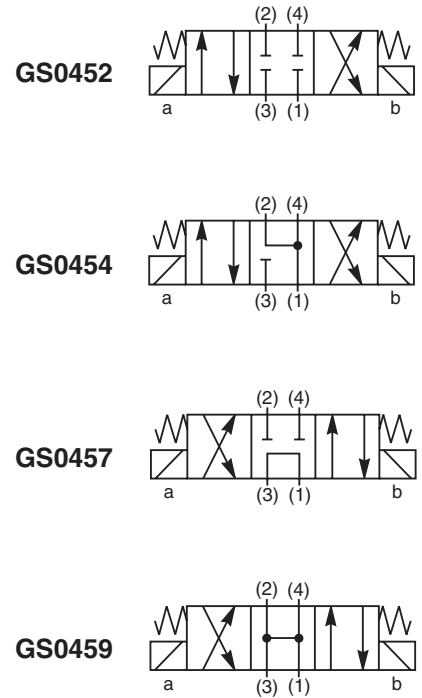
- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
- PC** Pressure Controls
- LE** Logic Elements
- DC** Directional Controls
- MV** Manual Valves
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities

4-Way, 3 Position Spool Type

Dimensions Millimeters (Inches)



GS045*



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

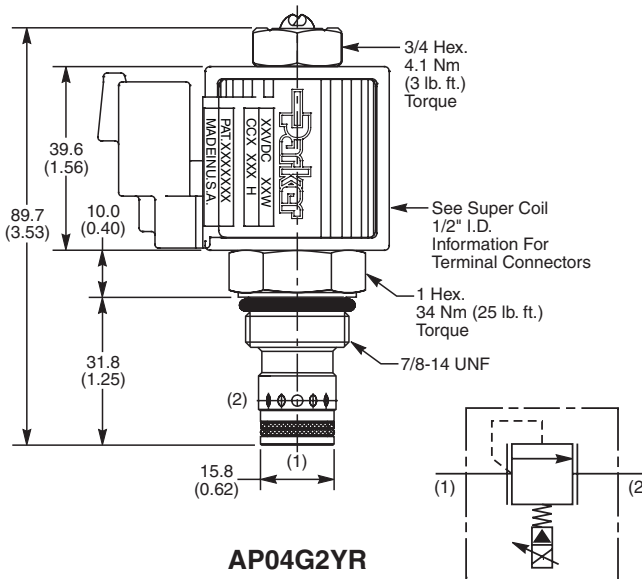
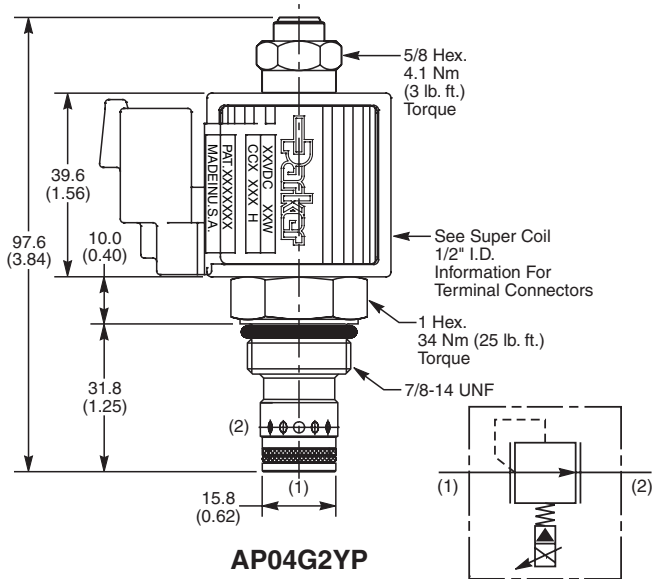
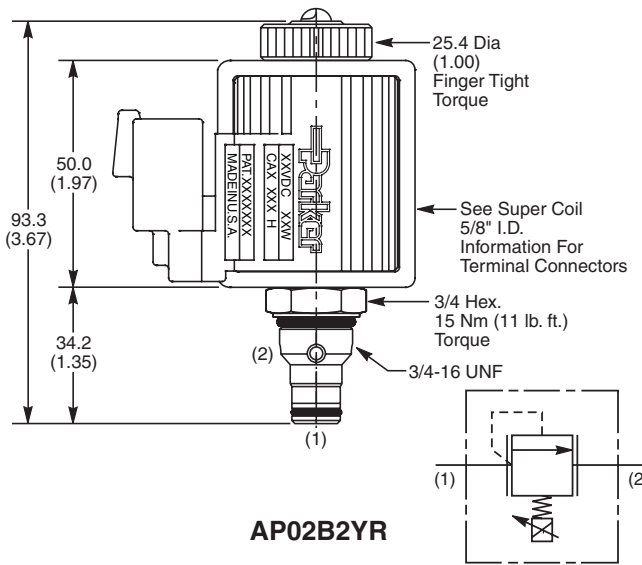
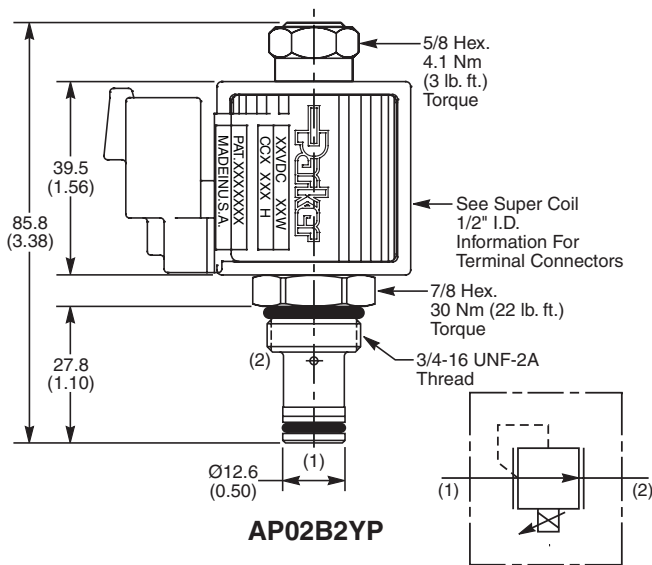
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	Center Position	Features
GS045200ND	B10-4-8T	11	5000	CA	Closed	<ul style="list-style-type: none"> • High Flow • Double Acting Cylinder and Motor Applications
GS045400ND	B10-4-8T	11	5000	CA	Float	
GS045700ND	B10-4-8T	11	5000	CA	Tandem	
GS045900ND	B10-4-8T	11	5000	CA	Open	
GS045250ND	B10-4-8T	11	5000	CA	Closed	<ul style="list-style-type: none"> • High Flow • Manual Override • Double Acting Cylinder and Motor Applications
GS045450ND	B10-4-8T	11	5000	CA	Float	
GS045750ND	B10-4-8T	11	5000	CA	Tandem	
GS045950ND	B10-4-8T	11	5000	CA	Open	

NOTE: Two coils required per valve for proper function.



Pressure Relieving

Dimensions Millimeters (Inches)

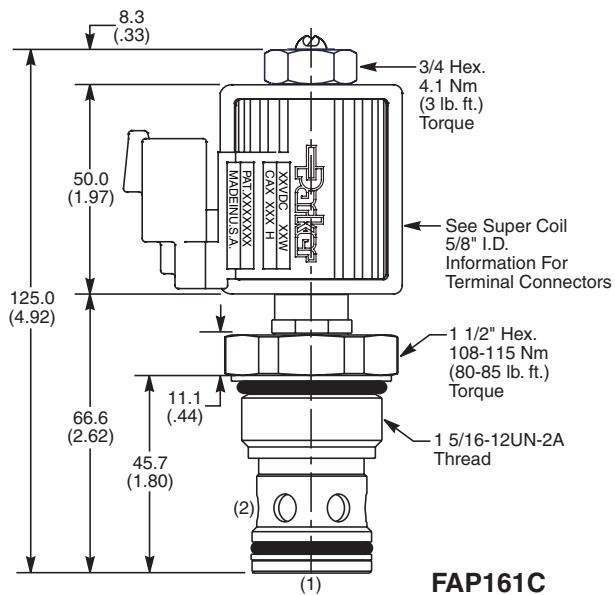
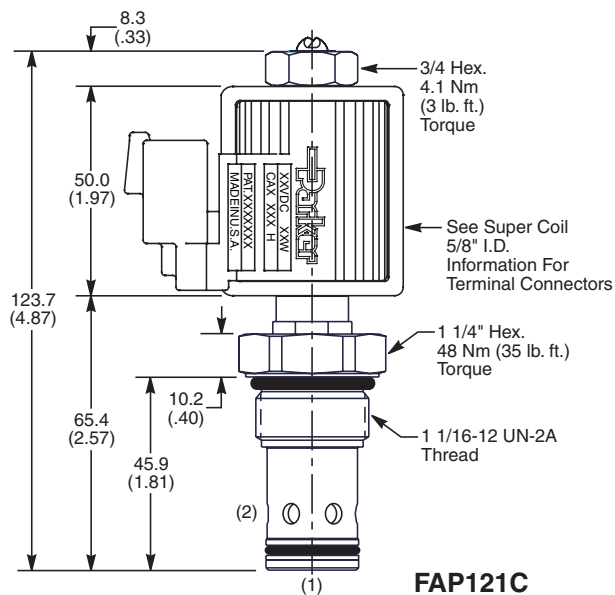
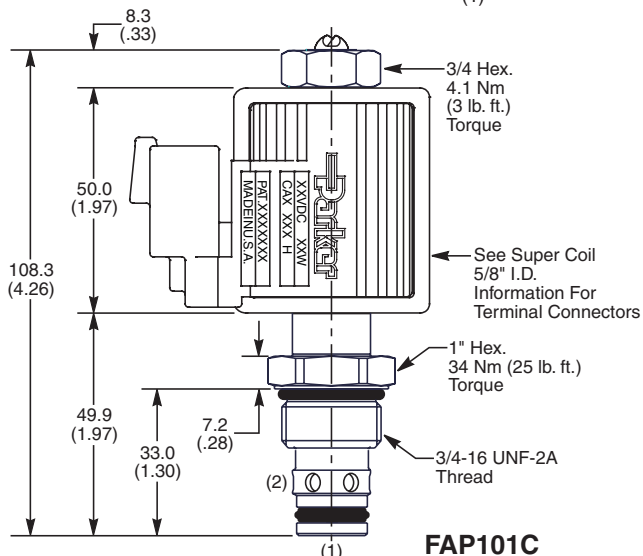
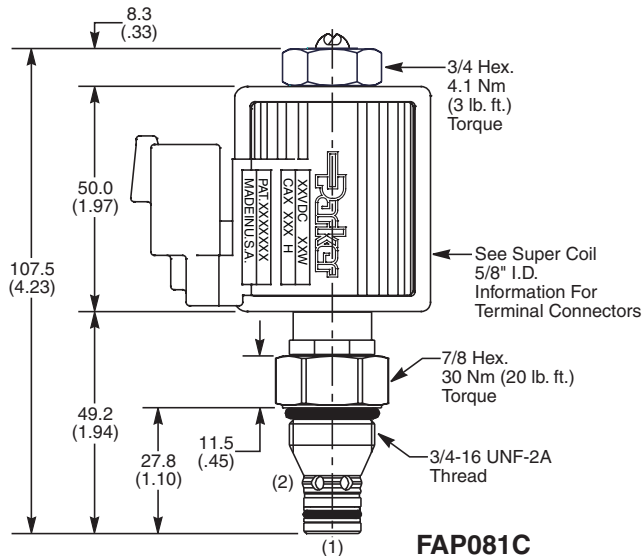
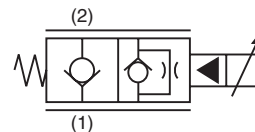


Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Regulating Range (PSI)	De-Energized Condition	Coil Type
AP02B2YP35C	B08-2-6T	0.35	5000	5000	Open	CC
AP02B2YP21C	B08-2-6T	0.35	5000	3000	Open	CC
AP04G2YP35CN	B10-2-8T	25	5000	5000	Open	CC
AP04G2YP21CN	B10-2-8T	25	5000	3000	Open	CC
AP02B2YR35ANL	B08-2-6T	0.5	5000	5000	Closed	CA
AP02B2YR21ANL	B08-2-6T	0.5	5000	3000	Closed	CA
AP04G2YR35CN	B10-2-8T	25	5000	5000	Closed	CC
AP04G2YR21CN	B10-2-8T	25	5000	3000	Closed	CC

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- Coils & Electronics
- BC**
- Bodies & Cavities

Normally Closed Flow Control

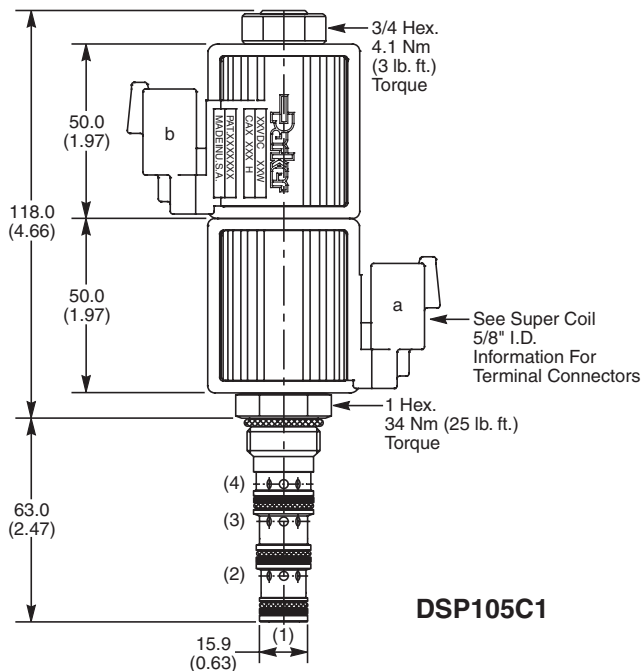
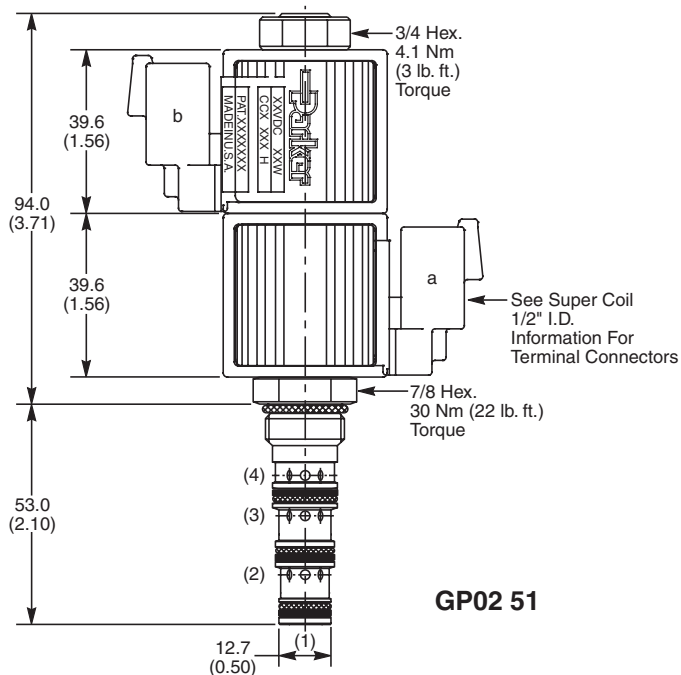
Dimensions Millimeters (Inches)



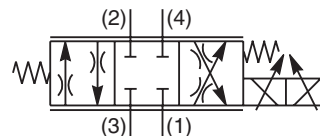
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	Coil Type	Notes
FAP081C	B08-2-6T	7	3000	CCS	
FAP101C	B10-2-8T	12	3000	CAS	
FAP121CN	Consult Factory*	22	3000	CAS	C12-2F Cavity
FAP161CN	B16-2-8T	28	3000	CAS	

*Non-Standard Cavity Body. Consult Factory for lead time and availability.

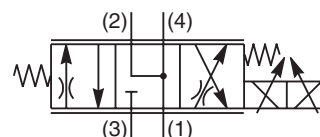
Directional Control



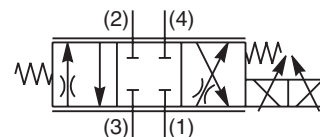
Dimensions Millimeters (Inches)



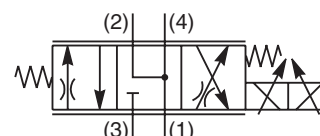
GP02 51



GP02 53



DSP105C1



DSP105C4

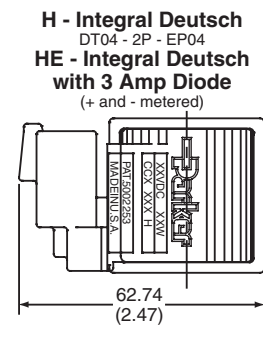
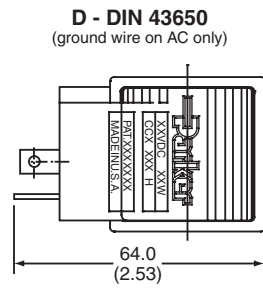
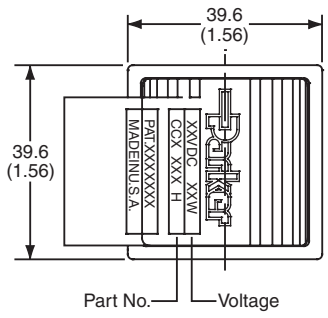
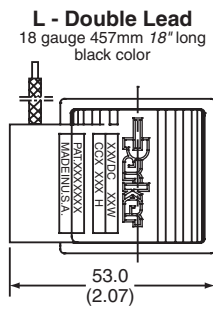
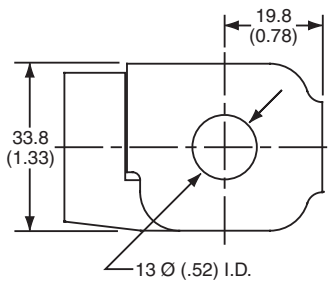
Model	Body	Flow (GPM)	Max Inlet Pressure (PSI)	De-Energized Condition	Coil Type
GP02511N	B08-4-6T	3.0	5000	Closed	CC
GP02531N	B08-4-6T	3.0	5000	Float	CC
DSP105C1	B10-4-8T	6.5	3000	Closed	CA
DSP105C4	B10-4-8T	6.5	3000	Float	CA

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- BC Bodies & Cavities

SuperCoil CC Type

Dimensions Millimeters (Inches)

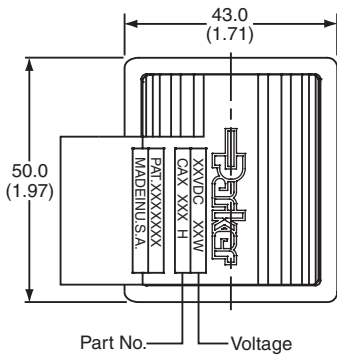
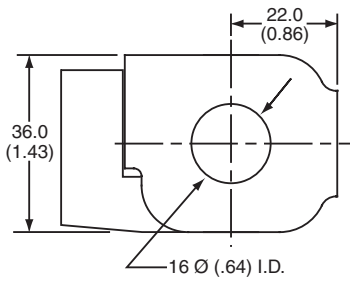


Series	Termination	Watts	Volts	Amps	Ohms	Tube Diameter
CCP012L	Dual Lead Wire	19	12 VDC	1.58	7.58	1/2 Inch
CCP012D	DIN 43650 DC	19	12 VDC	1.58	7.58	1/2 Inch
CCP012H	Integral Deutsch	19	12 VDC	1.58	7.58	1/2 Inch
CCP024L	Dual Lead Wire	19	24 VDC	0.79	30.30	1/2 Inch
CCP024D	DIN 43650 DC	19	24 VDC	0.79	30.30	1/2 Inch
CCP024H	Integral Deutsch	19	24 VDC	0.79	30.30	1/2 Inch
CCP115D	DIN 43650 AC	19	115 VAC	0.20	576	1/2 Inch

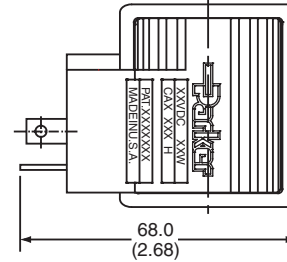


SuperCoil CA Type

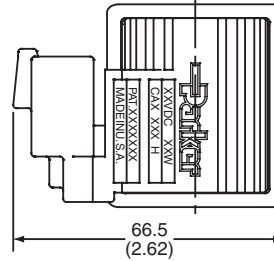
Dimensions Millimeters (Inches)



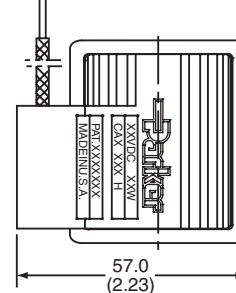
D - DIN 43650
 (ground wire on AC only)



H - Integral Deutsch
 DT04 - 2P - EP04
HE - Integral Deutsch
 with 3 Amp Diode
 (+ and - metered)



L - Double Lead
 18 gauge 457mm 18" long
 black color



Series	Termination	Watts	Volts	Amps	Ohms	Tube Diameter
CAP012D	DIN 43650 DC	28	12 VDC	2.33	5.14	5/8 Inch
CAP012H	Integral Deutsch	28	12 VDC	2.33	5.14	5/8 Inch
CAP012L	Dual Lead Wire	28	12 VDC	2.33	5.14	5/8 Inch
CAP024D	DIN 43650 DC	28	24 VDC	1.17	20.60	5/8 Inch
CAP024H	Integral Deutsch	28	24 VDC	1.17	20.60	5/8 Inch
CAP024L	Dual Lead Wire	28	24 VDC	1.17	20.60	5/8 Inch
CAP115D	DIN 43650 AC	28	115 VAC	0.26	417	5/8 Inch

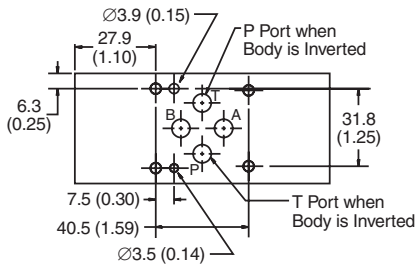
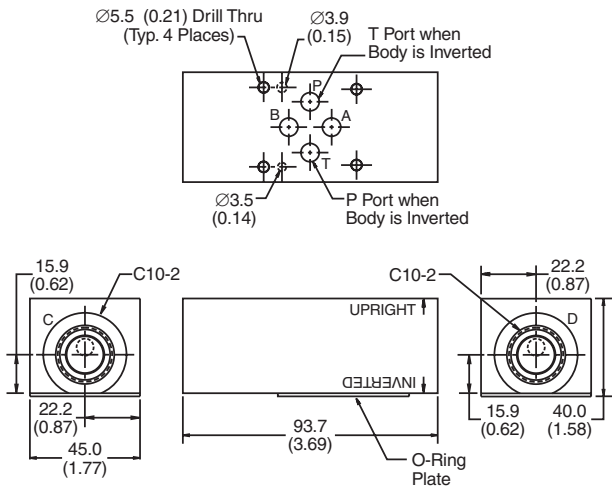
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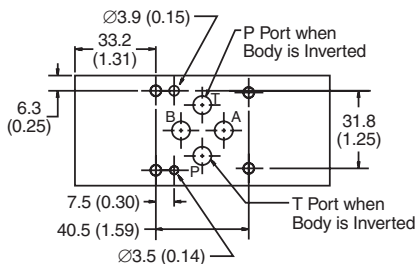
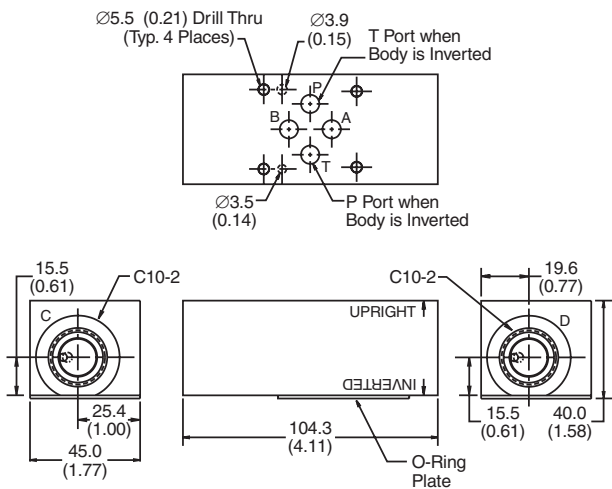
CETOP 3, Cartpak

Dimensions Millimeters (Inches)

NOTE: All Cartpaks are shipped with O-Ring Plate, Location Pin and O-Rings.



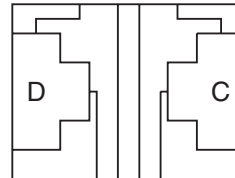
BD03-ABN-A



BD03-ABX-A

UPRIGHT

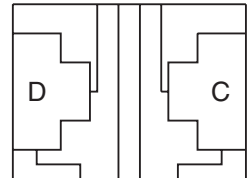
VALVE SIDE
A P T B



A P T B
SUBPLATE SIDE

INVERTED

VALVE SIDE
A P T B

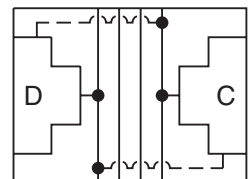


A P T B
SUBPLATE SIDE

Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-ABN-A	3000	Aluminum	Meter In/Out Flow Control

UPRIGHT

VALVE SIDE
A P T B



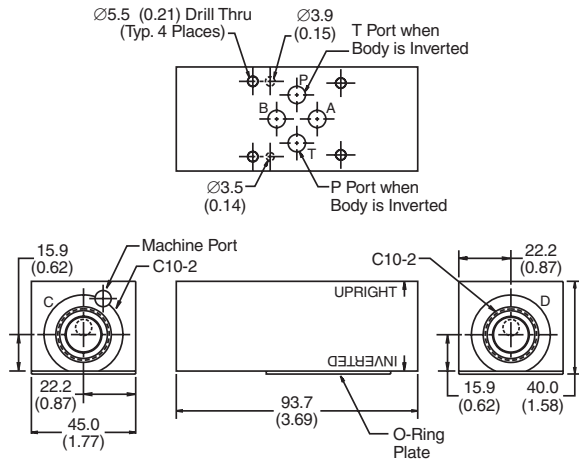
A P T B
SUBPLATE SIDE

Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-ABX-A	3000	Aluminum	Crossover Relief

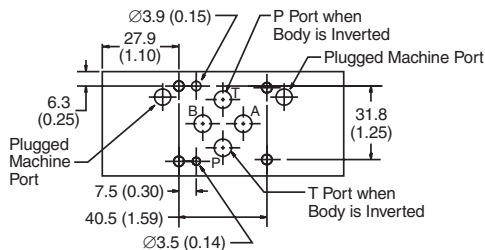
CETOP 3, Cartpak

Dimensions Millimeters (Inches)

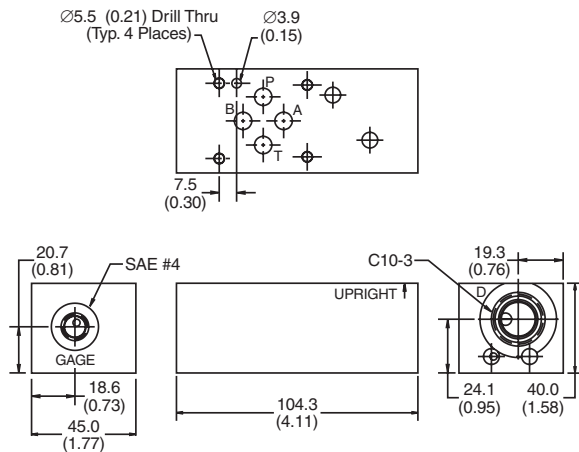
NOTE: All Cartpaks are shipped with O-Ring Plate, Location Pin and O-Rings.



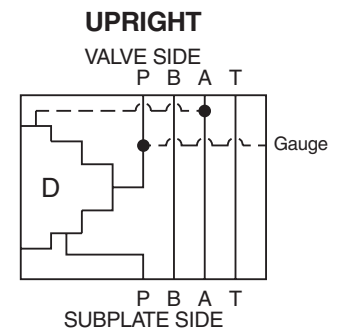
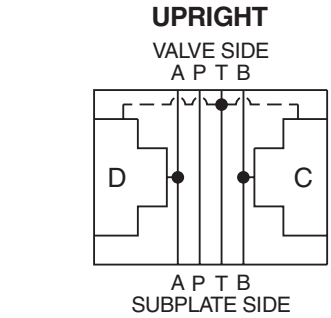
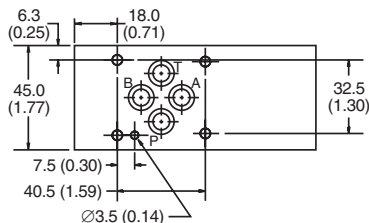
BD03-ABT-A



Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-ABT-A	3000	Aluminum	A & B Port Relief or Make Up Check



BD03-BDA-A



Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-BDA-A	3000	Aluminum	Press. Regulation on B Port

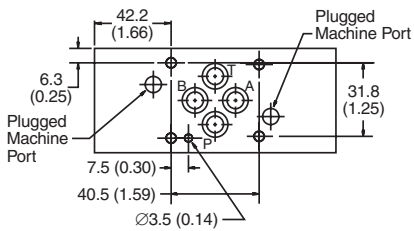
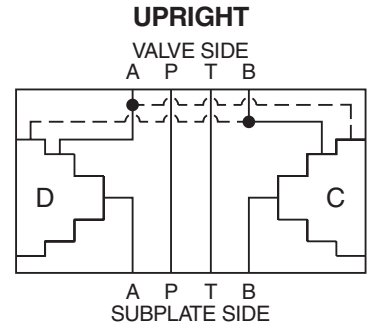
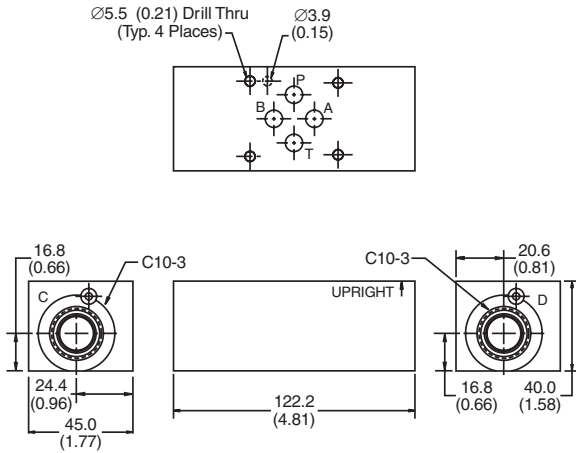
- CV** Check Valves
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- DC** Directional Controls
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- BC** Bodies & Cavities

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CETOP 3, Cartpak

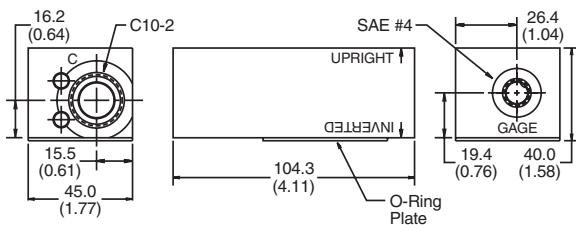
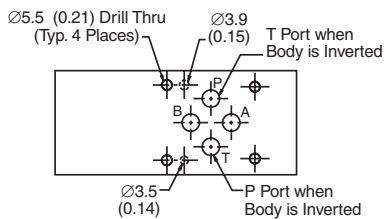
Dimensions Millimeters (Inches)

NOTE: All Cartpaks are shipped with O-Ring Plate, Location Pin and O-Rings.

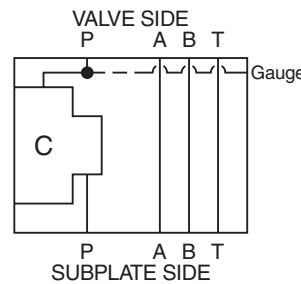


BD03-DDX-A

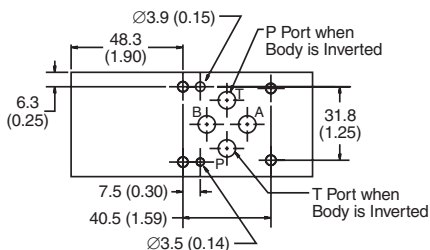
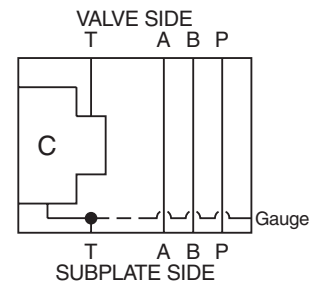
Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-DDX-A	3000	Aluminum	A & B Port Press. Regulation/CBV



UPRIGHT



INVERTED



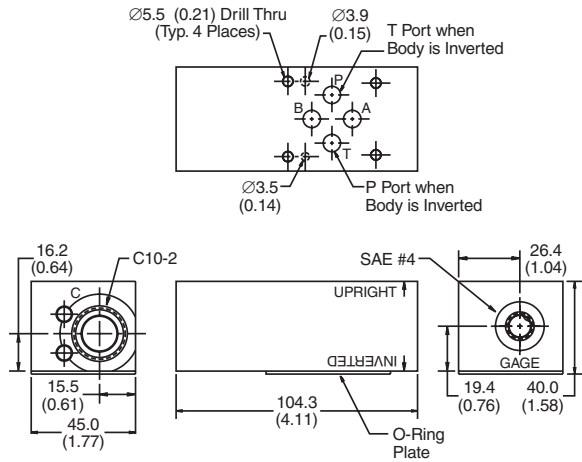
BD03-PN-A

Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-PN-A	3000	Aluminum	Flow Regulation/ Check on P Port

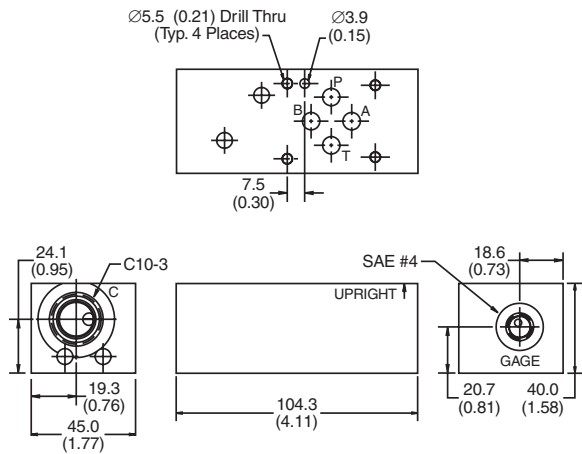
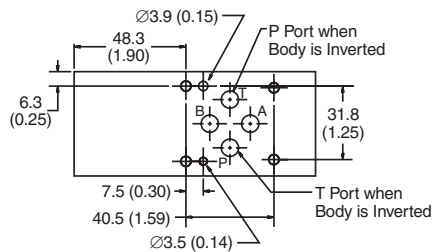
CETOP 3, Cartpak

Dimensions Millimeters (Inches)

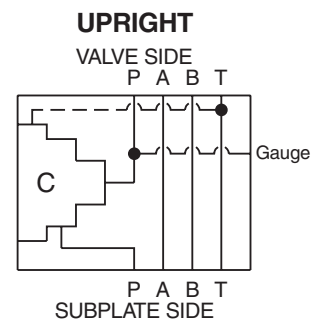
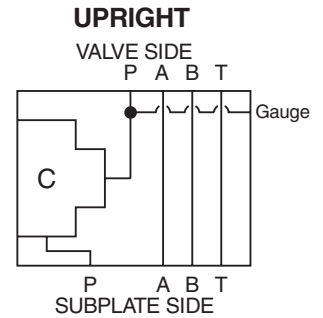
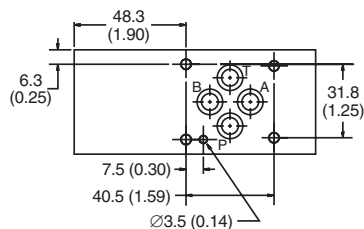
NOTE: All Cartpaks are shipped with O-Ring Plate, Location Pin and O-Rings.



BD03-PN2-A



BD03-PNR-A



Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-PN2-A	3000	Aluminum	Needle Valve on P Port

Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-PNR-A	3000	Aluminum	Press. Regulation on P Port

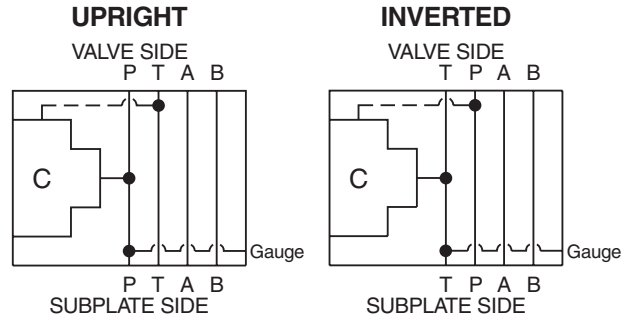
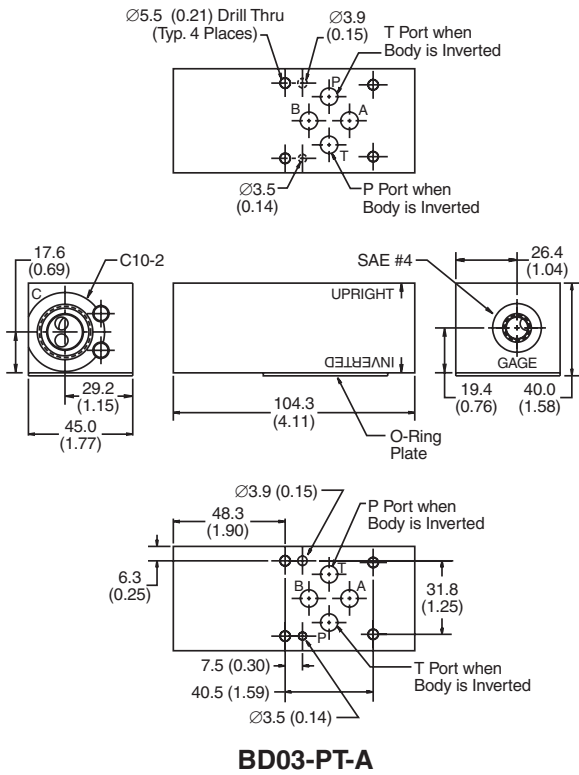
- CV** Check Valves
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- FC** Flow Controls
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- FC Flow Controls
- PC Pressure Controls
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- DC Directional Controls
- MV Manual Valves
- SV Solenoid Valves
- PV Proportional Valves
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- BC Bodies & Cavities

CETOP 3, Cartpak

Dimensions Millimeters (Inches)

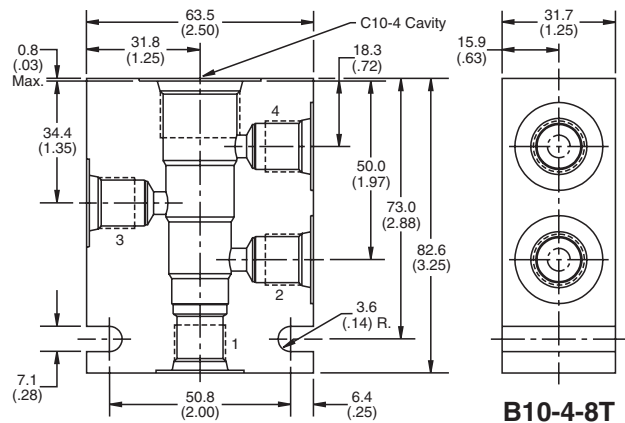
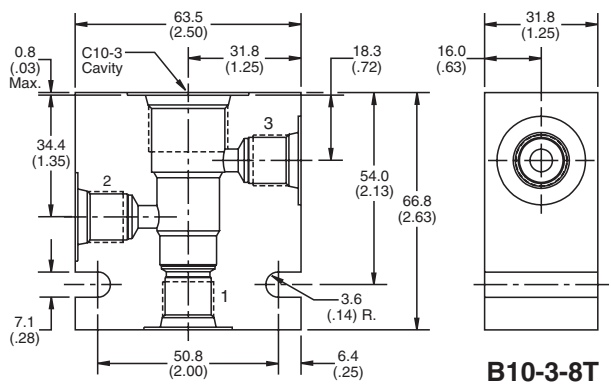
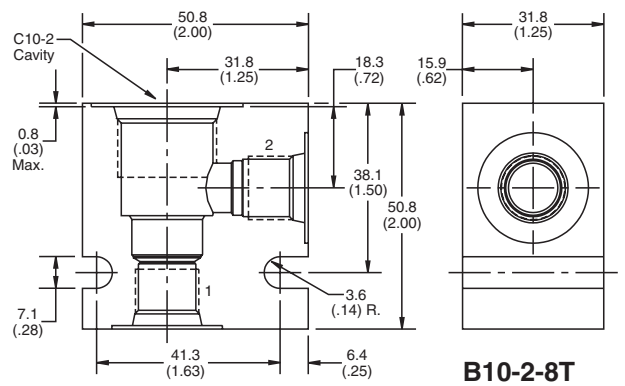
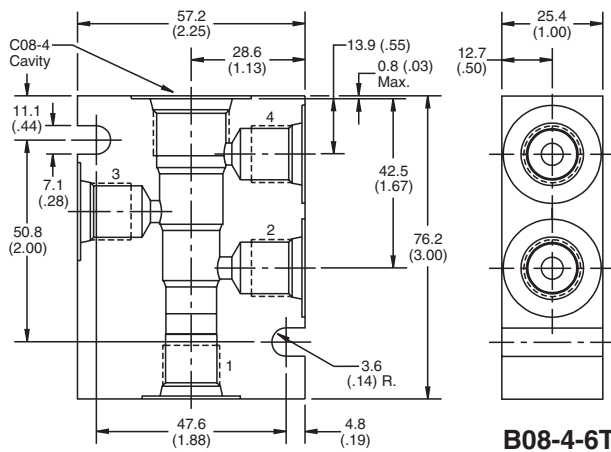
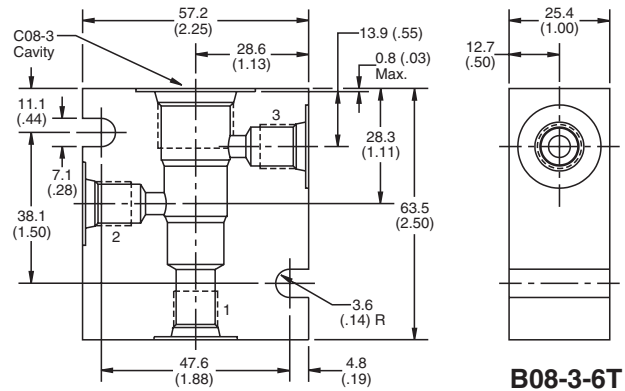
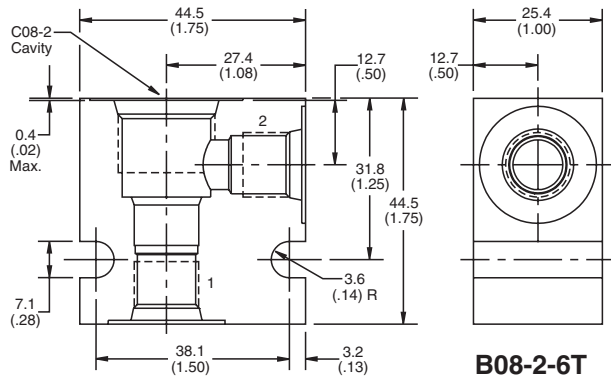
NOTE: All Cartpaks are shipped with O-Ring Plate, Location Pin and O-Rings.



Model	Pressure Rating (PSI)	Body Material	Typical Usage
BD03-PT-A	3000	Aluminum	P to T Relieving Valve

Common Cavity - Steel

Dimensions Millimeters (Inches)



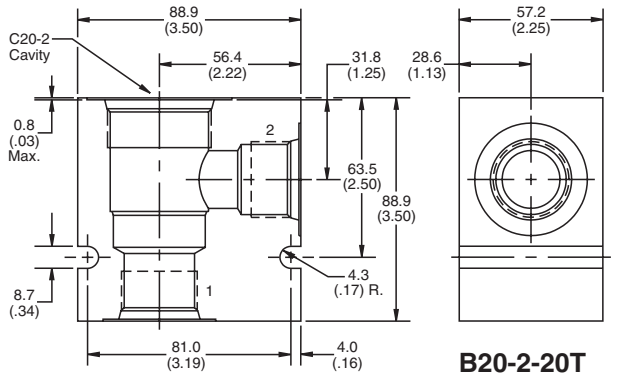
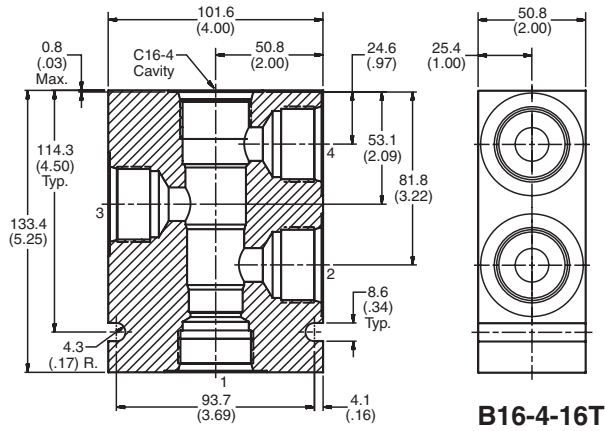
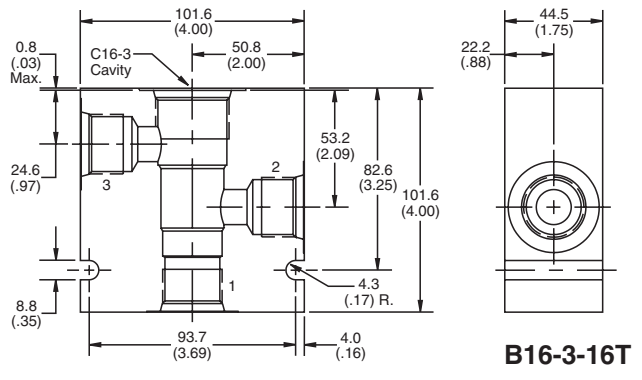
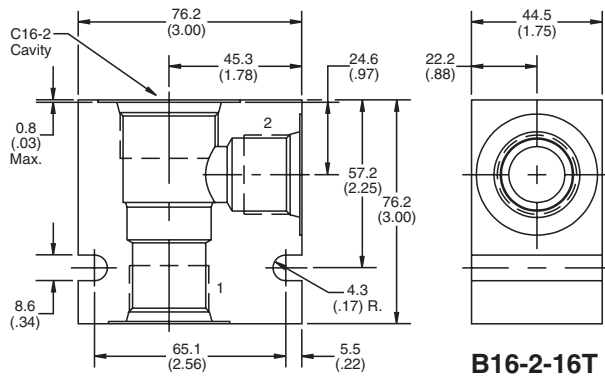
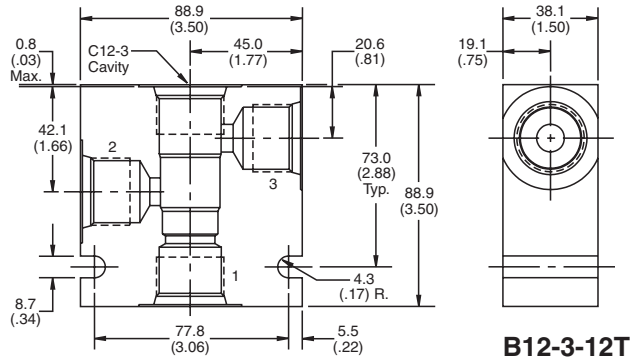
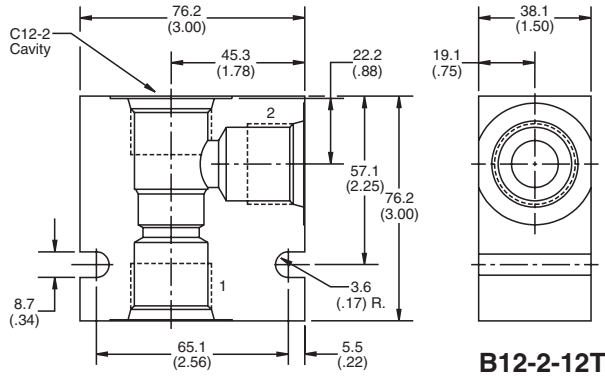
Model	Cavity	Pressure Rating (PSI)	Port Size	Porting	Body Material
B08-2-6T	C08-2	5000	SAE-6	2-Way	Ductile
B08-3-6T	C08-3	5000	SAE-6	3-Way	Ductile
B08-4-6T	C08-4	5000	SAE-6	4-Way	Ductile
B10-2-8T	C10-2	5000	SAE-8	2-Way	Ductile
B10-3-8T	C10-3	5000	SAE-8	3-Way	Ductile
B10-4-8T	C10-4	5000	SAE-8	4-Way	Ductile

- CV** Check Valves
- SH** Shuttle Valves
- LM** Load/Motor Controls
- FC** Flow Controls
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- LE** Logic Elements
- DC** Directional Controls
- MV** Manual Valves
- SV** Solenoid Valves
- PV** Proportional Valves
- CE** Coils & Electronics
- BC** Bodies & Cavities



Common Cavity - Steel

Dimensions Millimeters (Inches)

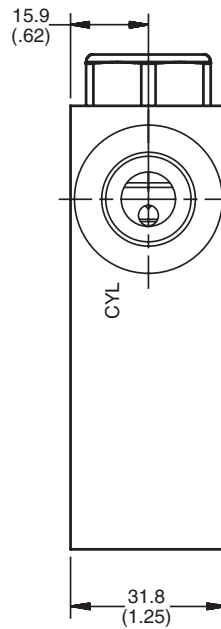
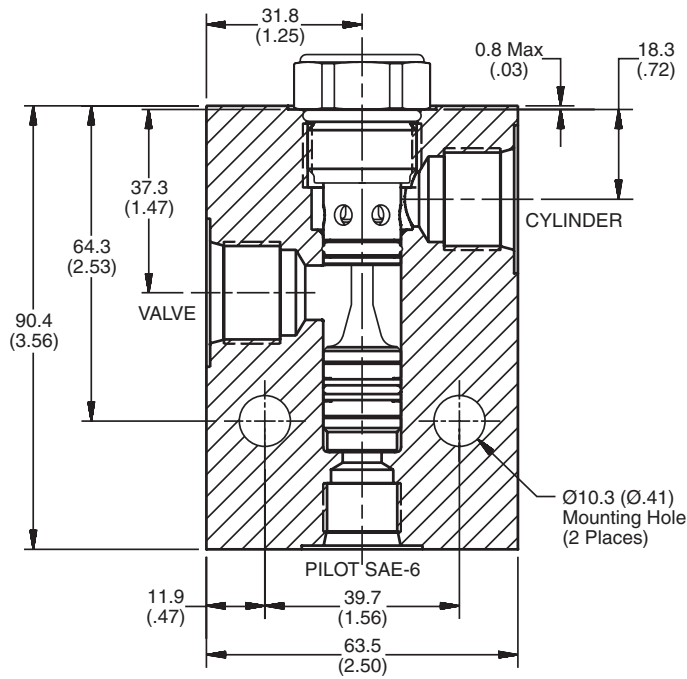


Model	Cavity	Pressure Rating (PSI)	Port Size	Porting	Body Material
B12-2-12T	C12-2	5000	SAE-12	2-Way	Ductile
B12-3-12T	C12-3	5000	SAE-12	3-Way	Ductile
B16-2-16T	C16-2	5000	SAE-16	2-Way	Ductile
B16-3-16T	C16-3	5000	SAE-16	3-Way	Ductile
B16-4-16T	C16-4	5000	SAE-16	4-Way	Ductile
B20-2-20T	C20-2	5000	SAE-20	2-Way	Ductile

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

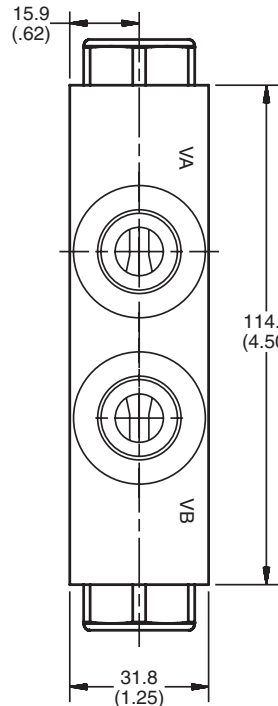
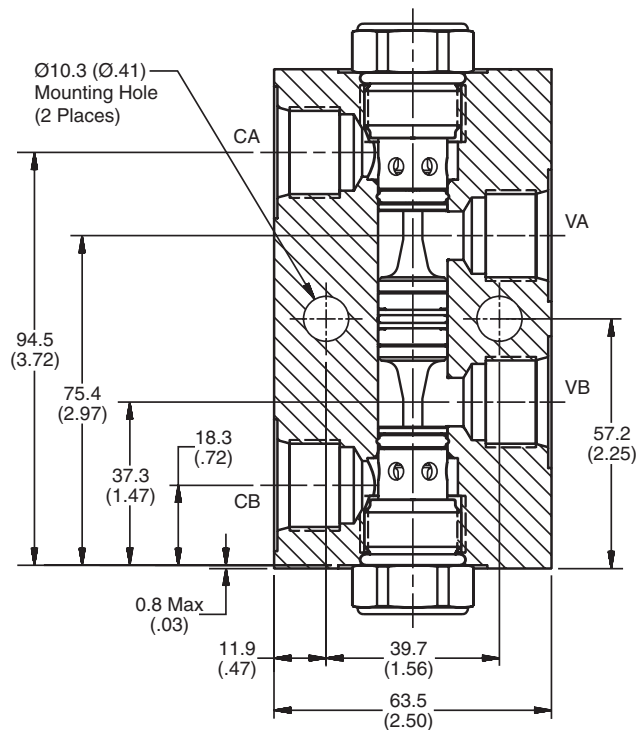
Specialty

Dimensions Millimeters (Inches)



830679
(Body Only)

Porting	
Pilot Port	SAE-6
Work Ports	SAE-8



830683
(Body Only)

Porting	
Work Ports	SAE-8

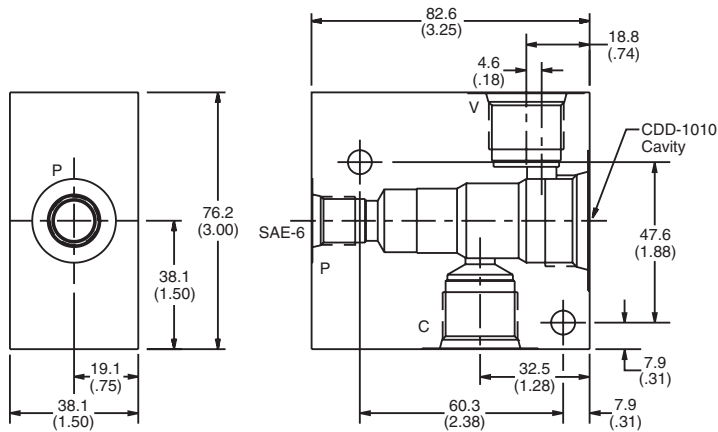
Model	Cavity	Pressure Rating (PSI)	Port Size	Valve Function	Specific Valves	Body Material
830679	C10-2	5500	SAE-8	Single -10 P.O. Check	CVH103P	Ductile
830683	C10-2	5500	SAE-8	Dual -10 P.O. Check	CVH103P	Ductile

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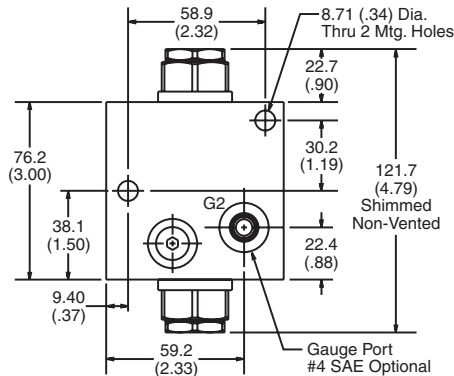
Specialty

Dimensions Millimeters (Inches)

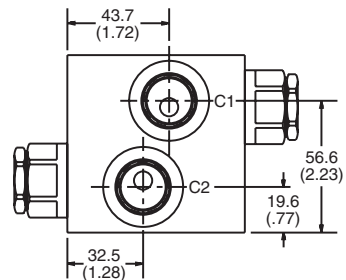
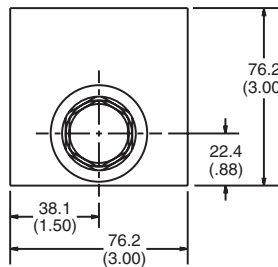
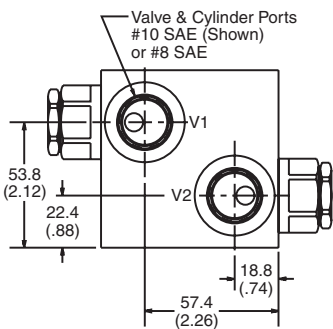


Porting	
Pilot Port	SAE-6
Work Ports	SAE-10

MHC-010 Single



Porting	
Work Ports	SAE-10

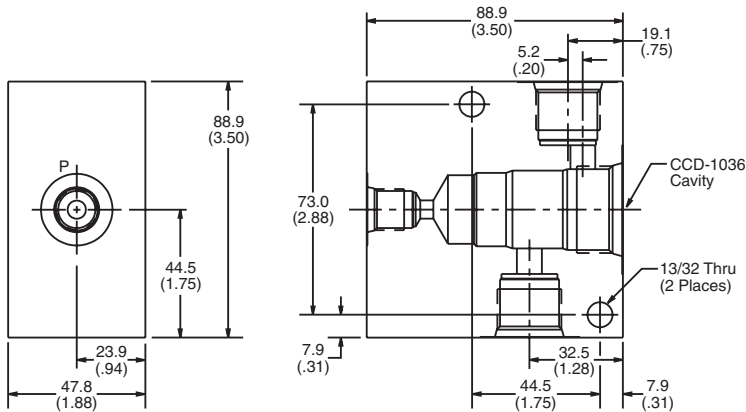


MHC-010 Dual

Model	Cavity	Pressure Rating (PSI)	Port Size	Valve Function	Specific Valves	Body Material
MHC-010-A-53	CDD-1010	5500	SAE-10	Single 10 GPM CBV	MHC-010	Ductile
MHC-010-D-53	CDD-1010	5500	SAE-10	Dual 10 GPM CBV	MHC-010	Ductile

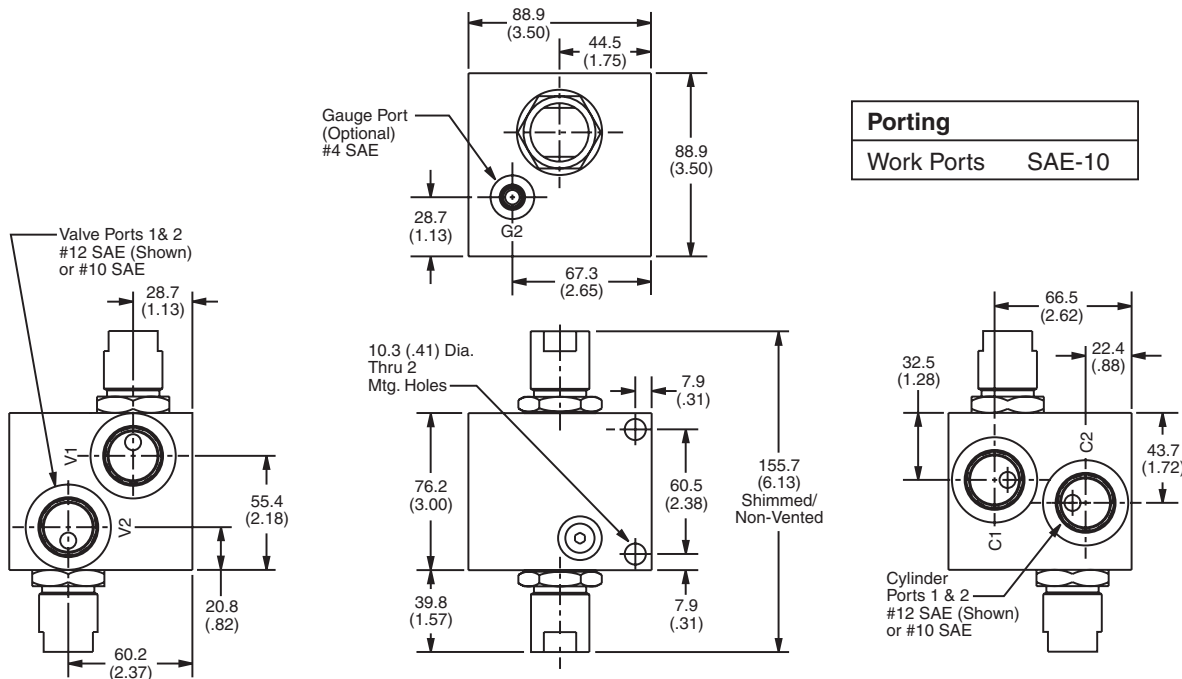
Specialty

Dimensions Millimeters (Inches)



Porting	
Pilot Port	SAE-6
Work Ports	SAE-10

MHC-022 Single



Porting	
Work Ports	SAE-10

MHC-022 Dual

Model	Cavity	Pressure Rating (PSI)	Port Size	Valve Function	Specific Valves	Body Material
MHC-022-A-53	CDD-1036	5500	SAE-10	Single 25 GPM CBV	MHC-022	Ductile
MHC-022-D-53	CDD-1036	5500	SAE-10	Dual 25 GPM CBV	MHC-022	Ductile

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Parker Hannifin Corporation
Hydraulic Cartridge Systems
595 Schelter Road
Lincolnshire, IL 60069
USA
phone 847 955 5000
fax 847 383 8905
www.parker.com/hcs

Parker Hannifin Ltd.
Hydraulic Cartridge Systems Europe
Blacknell Lane
Crewkerne, Somerset
TA18 8LL, UK
phone +44 (0) 1460 271800
fax +44 (0) 1460 271801

Parker Hannifin Corporation
Corporate Headquarters
6035 Parkland Blvd
Cleveland, OH 44124
USA
Tel: 216-896-3000
Fax: 216-896-4000

For information, please contact Parker toll free at 1-800-C-PARKER (1-800-272-7537). Outside of North America contact us via Freephone at 00800 27 27 5374.



Parker Hannifin Corporation
Hydraulic Cartridge Systems Division
595 Schelter Road
Lincolnshire, IL 60069
phone 847 955 5000
fax 847 383 8900
www.parker.com/hcs
hcsinfo@parker.com