

C Series Valves

- Accurate, repeatable
- Minimal pressure surge
- Smooth, chatter-free bypass
- Adjustable
- Easy to service
- No external springs or moving parts
- Various seal material
- Stainless steel or brass bodies
- Used with any positive displacement pump



Hydra-Cell[®]
SIMPLY BUILT TO LAST

C Series Valves

C Series Hydra-Cell Valves bypass system fluid to prevent excess system pressure. When a system discharge is completely closed – such as a closed spray gun, closed valve or plugged nozzle – the Hydra-Cell Valve bypasses the total system fluid flow. They also balance system pressure for multiple-gun operations.

The Hydra-Cell Valve design is simple: a tapered plunger with a valve seat. When excess pressure overcomes the adjustable spring pressure on the plunger, the plunger lifts off the seat, allowing fluid to bypass and reduce system pressure. When a Hydra-Cell Valve is mounted in the discharge line, its modified flow-through design reduces wear on the plunger and seat. Baffles on either side of the plunger and seat extend life by directing the flow around these internal components.

For service, simply remove the top of the body and replace the worn internal components. Hydra-Cell Valves can be serviced in place without removing any fittings or plumbing.



C22/C23/C24 Series (See page 88)

C22, C23, and C24 Series Hydra-Cell Regulating Valves are available in a choice of stainless steel, nickel alloy or solid brass materials and accommodate 3/4" to 1-1/4" NPT/BSPT plumbing.

- Heavy-duty construction
- Flow-through design
- Immediate response



C46 Series (See page 92)

C46 Series Valves are available in a choice of stainless steel or solid brass materials and accommodate 3/8" NPT plumbing.

- Heavy-duty construction
- Flow-through or off-line design
- Quick response

C62/C63/C64 Series Sealless Diaphragm Valves (See page 94)

C62 Series Hydra-Cell Sealless Diaphragm Valves bypass system fluid to prevent excess system pressure. When a system discharge is completely closed – such as a closed spray gun, closed valve or plugged nozzle – the Hydra-Cell Valve bypasses the total system fluid flow. They also balance system pressure for multiple-gun operations.

- Ideal for high pressure, dirty fluids
- Sealless, flow-through design
- Heavy-duty construction
- Immediate response



C22/23/24 Series Valves



C22 with 3/4" NPT/BSPT Ports

Capacity	Maximum		Minimum	
	gpm	l/min	gpm	l/min
C22-A/D	10	37.8	3	11.3
C23-A/D	20	75.7	3	11.3
C24-A/D	40	151.4	5	18.9

Pressure Range	Model Configuration			
	AA	AB	AC	AE
psi				
C22-A	75-500	500-1000	1000-1500	1500-2500
C23-A	75-500	500-1000	1000-1500	—
C24-A	75-500	500-1000	1000-1500	—
bar				
C22-D	5-34.5	34.5-69	69-103	103-172
C23-D	5-34.5	34.5-69	69-103	—
C24-D	5-34.5	34.5-69	69-103	—

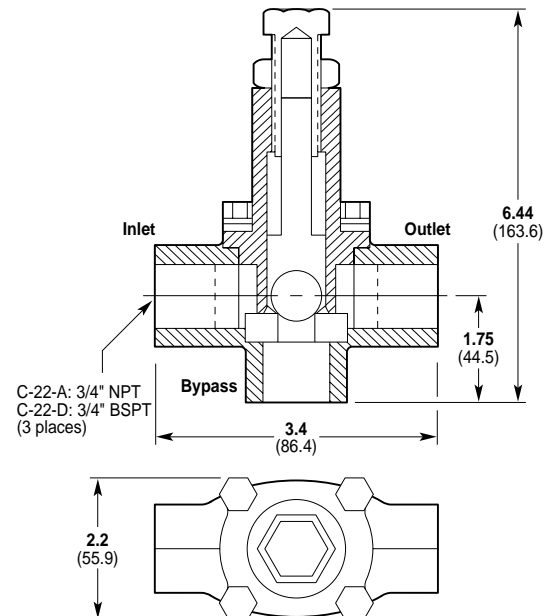
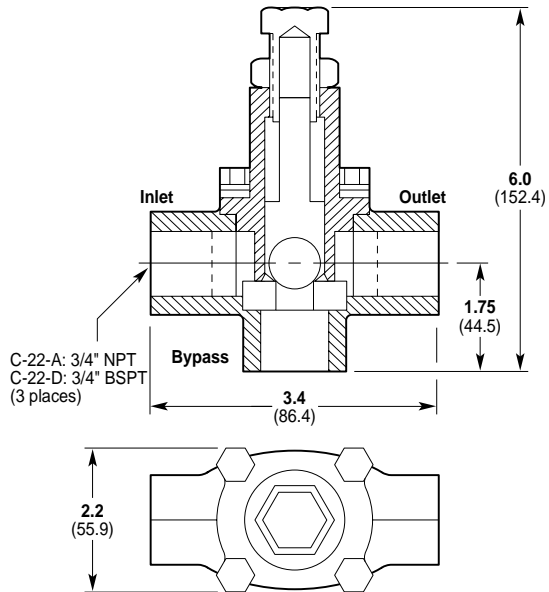
Max Temperature 200°F

Inlet and Outlet Ports

C22-A	3/4" NPT
C23-A	1" NPT
C24-A	1-1/4" NPT
C22-D	3/4" BSPT
C23-D	1" BSPT
C24-D	1-1/4" BSPT

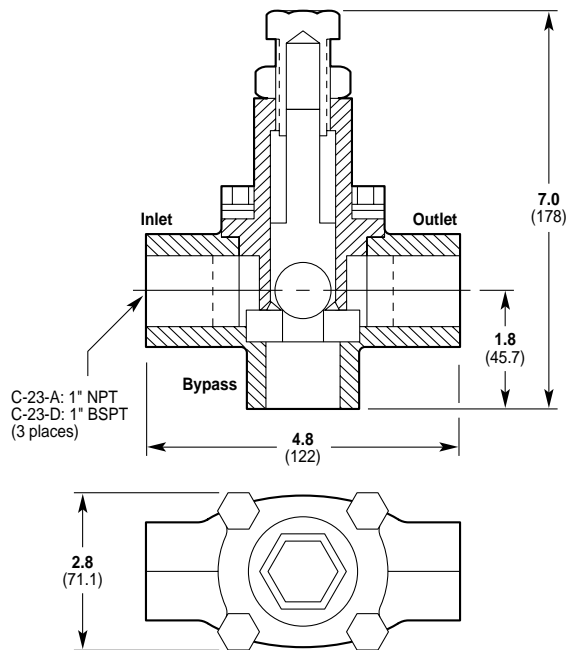
Weight

C22-A/D	3 lbs (1.3 kg)
C23-A/D	6 lbs (2.7 kg)
C24-A/D	10 lbs (4.5 kg)

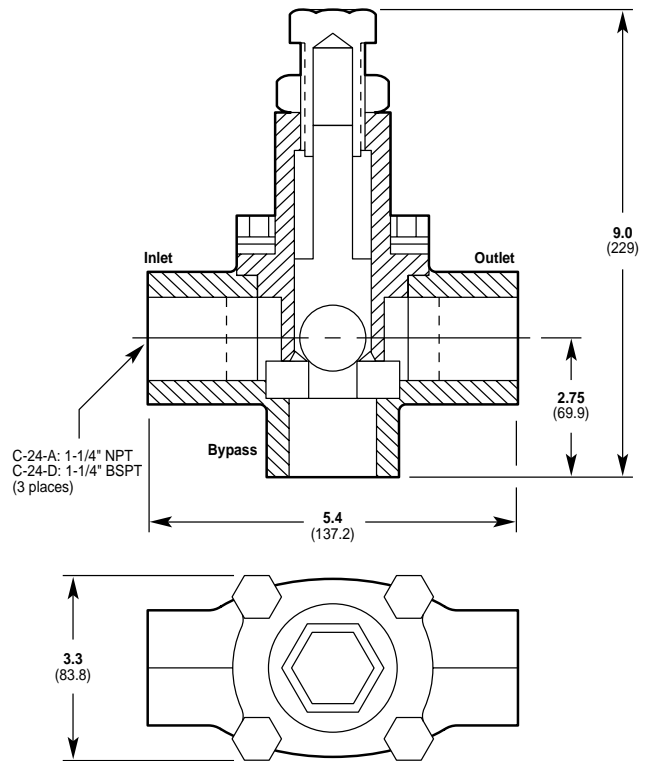


C22/23/24 Series Valves

C23 with 1" NPT/BSPT Ports



C24 with 1-1/4" NPT/BSPT Ports



Installation Guidelines

C Series Valves are installed in the discharge line of the pump between the pump and any shut-off device, valve or spray gun. Bypassed fluid should return to the tank or inlet plumbing. Do not install a shut-off device of any kind in the bypass line.

When operating as a pressure-regulating relief valve, 10% of the valve's rated flow should be bypassed at all times. Check the system periodically to ensure this requirement is met. Failure to do so may result in pressure spikes and premature system wear.

When used as a pressure regulator, system pressure will increase approximately 10% when the system is fully bypassed. Consult operating manual for specific ratings.

C22/23/24 Series Valves

Materials of Construction

C22, C23 and C24 Series Valves are manufactured in a choice of heavy-duty materials to meet specific plumbing needs.



Valve Bodies/Tops

Brass
Nickel Alloy (Hastelloy
CW12MW)
316 Stainless Steel



Valve Seats

316 Stainless Steel
17-4 Stainless Steel
Hastelloy® C
Tungsten carbide



O-Rings/Seals

EPDM/Teflon
Buna-N/Buna-N
Viton® /Teflon
Urethane/UHMW Polyethylene
Viton®/UHMW Polyethylene



Plungers

316 Stainless Steel
17-4 Stainless Steel
Hastelloy® C
Tungsten carbide

C22/23/24 Series Valves

Ordering Information

A complete C22/23/24 Series Model Number contains 11 digits of customer-specified design options: for example C22AABNSSEF.



75-1500 psi (5-103 bar)

Digit	Order Code	Description
1-3		Valve Configuration
	C22	3-10 gpm (11.3-37.8 l/min)
	C23	3-20 gpm (11.3-75.7 l/min)
	C24	5-40 gpm (18.9-151.4 l/min)
4		Valve Ports
	A	NPT
	D	BSPT
5		Pressure Range
	A	75-500 psi (5-34.5 bar)
	B	500-1000 psi (34.5-69 bar)
	C	1000-1500 psi (69-103 bar)
6		Body/Top Material
	B	Brass
	H	Nickel Alloy (Hastelloy® CW12MW)
	K	Brass w/Stainless Steel Sleeve
	S	316 Stainless Steel
7		Seals/Back-up Seals
	A	Urethane/UHMW polyethylene
	B	Viton®/UHMW polyethylene
	E	EPDM/Teflon
	N	Buna-N/Buna-N
	V	Viton®/Teflon
8		Valve Seats
	H	Hastelloy® C
	R	316 Stainless Steel
	S	17-4 HT Stainless Steel
	T	Tungsten Carbide
9		Plungers
	H	Hastelloy® C
	R	316 Stainless Steel
	S	17-4 HT Stainless Steel
	T	Tungsten Carbide
10		Seat Size
	E	For C22A Models
	J	For C23A Models
	N	For C24A Models
11		Port Size
	F	For C22A Models (3/4" NPT)
	G	For C23A Models (1" NPT)
	H	For C24A Models (1-1/4" NPT)

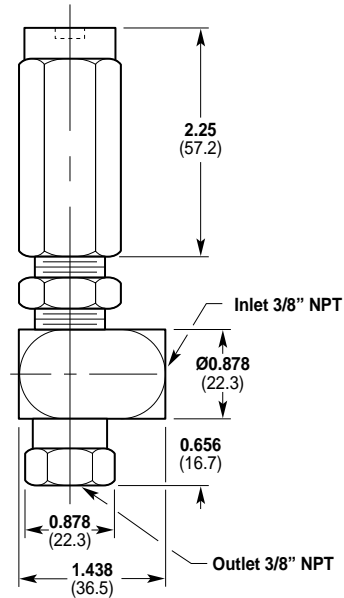
1500-2500 psi (103-172 bar)

Digit	Order Code	Description
1-3		Valve Configuration
	C22	3-10 gpm (11.3-37.8 l/min)
4		Valve Ports
	A	NPT
	D	BSPT
5		Pressure Range
	E	1500-2500 psi (103-172 bar)
6		Body/Top Material
	C	High Pressure Brass
	T	High Pressure Nickel Alloy (Hastelloy® CW12MW)
	R	High Pressure 316 Stainless Steel
7		O-rings/Seals
	A	Urethane/UHMW polyethylene
	B	Viton®/UHMW polyethylene
	E	EPDM/Teflon
	N	Buna-N/Buna-N
	V	Viton®/Teflon
8		Valve Seats
	H	Hastelloy® C
	R	316 Stainless Steel
	S	17-4 HT Stainless Steel
	T	Tungsten Carbide
9		Plungers
	H	Hastelloy® C
	R	316 Stainless Steel
	S	17-4 HT Stainless Steel
	T	Tungsten Carbide
10		Seat Size
	E	For C22A Models
	J	For C23A Models
11		Port Size
	F	For C22A Models (3/4" NPT)
	G	For C23A Models (1" NPT)

C46 Series Valves



C46 for Off-Line Mount



Capacity	Maximum		Minimum	
	gpm	l/min	gpm	l/min
C46 (Off-Line)	10	37.8	0.2	1
C46 (In-Line)	7	26.5	0.2	1

Pressure Range

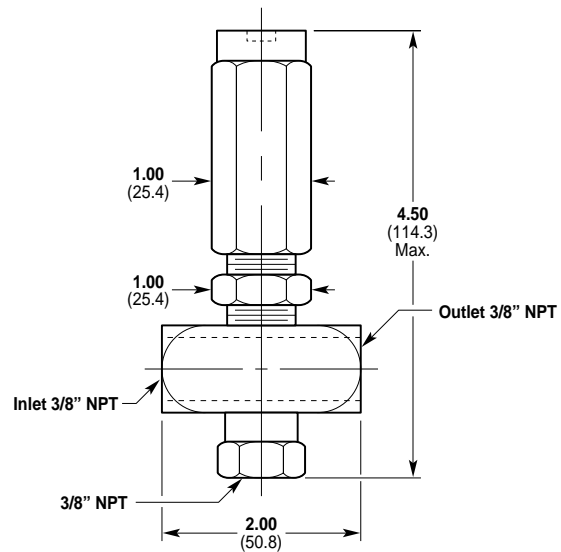
Low Spring	50-500 psi (3.5-34.5 bar)
Medium Spring	100-900 psi (6.9-62 bar)
Standard Spring	200-1500 psi (13.8-103 bar)

Max Temperature 180°F

Inlet and Outlet Ports 3/8" NPT

Weight 12 oz (0.33 kg)

C46 for In-Line Mount



Materials of Construction

C46 Series Valves are manufactured in a choice of heavy-duty materials to meet specific pumping needs.

Bodies

Brass (available in-line or off-line)
316 Stainless Steel (available off-line only)

O-Rings

EPDM
Buna-N
Viton®

Piston

316 Stainless Steel

Piston Seal

EPDM
Buna-N
Viton®

Valve Seat

316 Stainless Steel

Spring

Low, Medium or Standard Chrome Vanadium-plated

C46 Series Valves

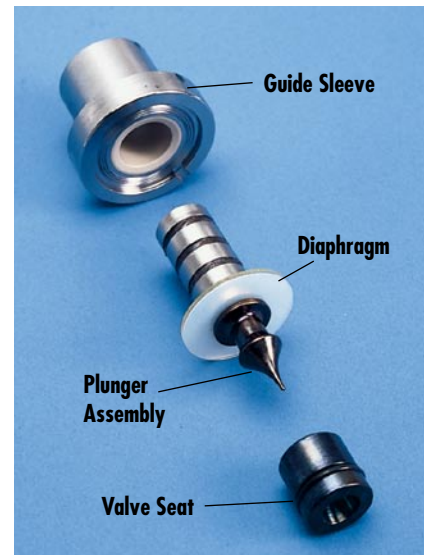
Ordering Information

A complete C46 Series Model Number contains 11 digits of customer-specified design options: for example C46AABESSEE.



Digit	Order Code	Description
1-3		Valve Configuration
	C46	0.2-10 gpm (1-37.8 l/min)
4		Mounting Design
	A	In-Line (brass only)
	B	Off-Line (brass or stainless steel)
5		Pressure Range (Spring Selection)
	A	Low Spring: 50-500 psi (3.5-34.5 bar)
	B	Medium Spring: 100-900 psi (6.9-62 bar)
	C	Standard Spring: 200-1500 psi (13.8-103 bar)
6		Body Material
	B	Brass
	S	316 Stainless Steel (Available Off-Line models only)
7		O-rings
	E	EPDM
	N	Buna-N
	V	Viton®
8		Piston
	S	316 Stainless Steel
9		Seat
	S	316 Stainless Steel
10		Seat Size
	E	For C46 Models
11		Port Size
	E	For C46 Models (3/8" NPT)

C62/63/64 Series Valves



Materials of Construction

Attention to detail... Wanner Engineering doesn't stop with a great design. We will custom fit your valve with the materials best suited for your specific application.

Bodies/Tops Material

- Brass
- Nickel Alloy (Hastelloy CW12MW)
- 316 Stainless Steel

Valve Seats

- Hastelloy® C
- 17-4 Stainless Steel
- 316 Stainless Steel

O-Rings/Diaphragms

- PTFE/PTFE
- Viton® /PTFE

Plungers

- Hastelloy® C
- 17-4 Stainless Steel
- 316 Stainless Steel

Superior Sealless Diaphragm Design.

The Hydra-Cell C62/63/64 Valve design is simple: a tapered plunger with an attached diaphragm. When excess pressure overcomes the adjustable spring pressure on the plunger, the plunger lifts off the valve seat, allowing fluid to bypass and reduce system pressure. When a Hydra-Cell Valve is mounted in the discharge line, its modified flow-through design reduces wear on the plunger and seat.

For service, simply remove the top of the valve and replace the worn internal components. Hydra-Cell Valves can be serviced in place without removing any fittings or plumbing.

Features

- Various materials available: stainless or brass bodies, PTFE diaphragm, etc.
- Made in America
- Heavy-duty industrial construction
- Accurate, repeatable
- Flow-through design
- Minimal pressure surge
- Smooth, chatter-free bypass
- No external springs or moving parts
- Use with any positive displacement pump
- Immediate response
- Adjustable, easy to service

C62/63/64 Series Specifications

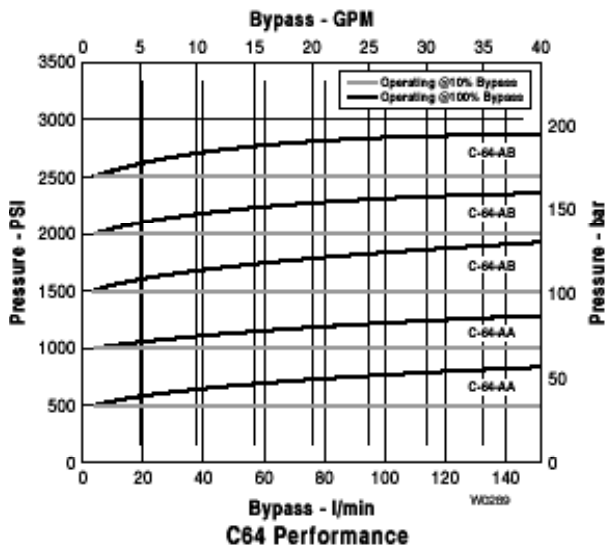
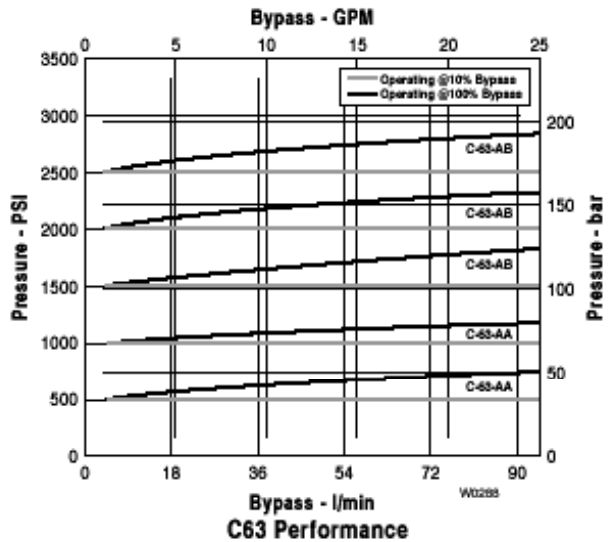
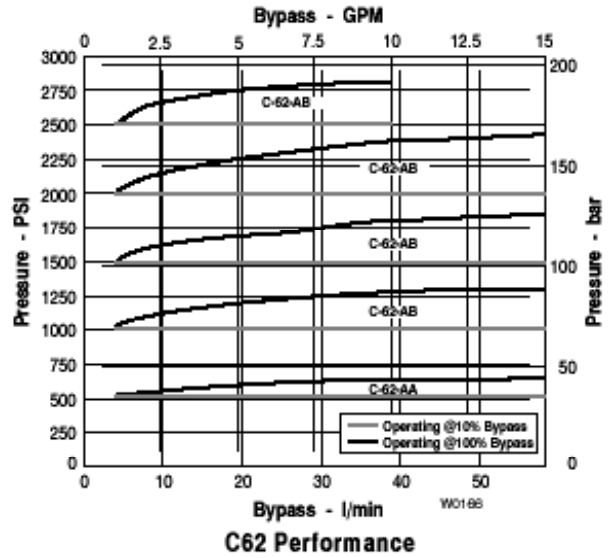
Capacity	Maximum		Minimum	
	gpm	l/min	gpm	l/min
C62-A/D	14	53	1	3.8
C63-A/D	25	94	1	3.8
C64-A/D	40	151	1	3.8

Pressure Range	Model Configuration Suffix	
	A	B
psi		
C62-A	75-500	500-2500
C63-A	75-1000	1000-2500
C64-A	75-1000	1000-2500
bar		
C62-D	5-35	35-172
C63-D	5-69	69-172
C64-D	5-69	69-172

Max Temperature	200°F
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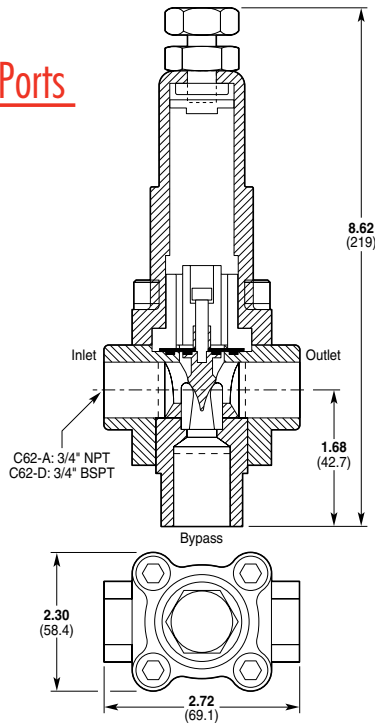
Inlet and Outlet Ports	
C62-A	3/4" NPT
C63-A	1" NPT
C64-A	1-1/4" NPT
C62-D	3/4" BSPT
C63-D	1" BSPT
C64-D	1-1/4" BSPT

Weight	
C62-A/D	4 lbs (1.8 kg)
C63-A/D	6.2 lbs (2.8 kg)
C64-A/D	7.2 lbs (3.3 kg)

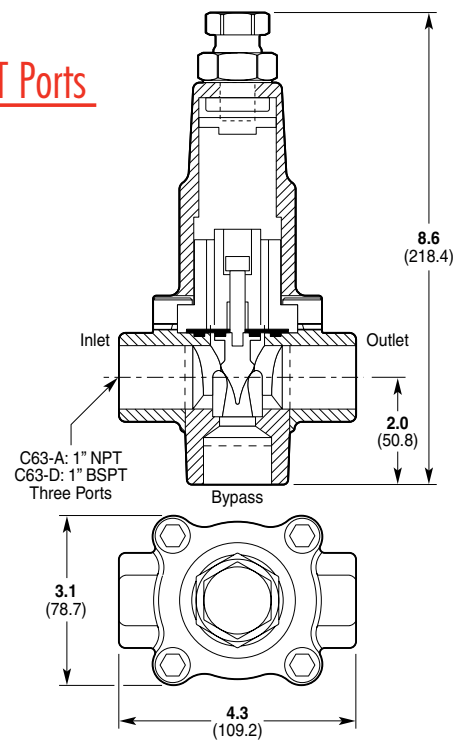


C62/63/64 Series Dimensions

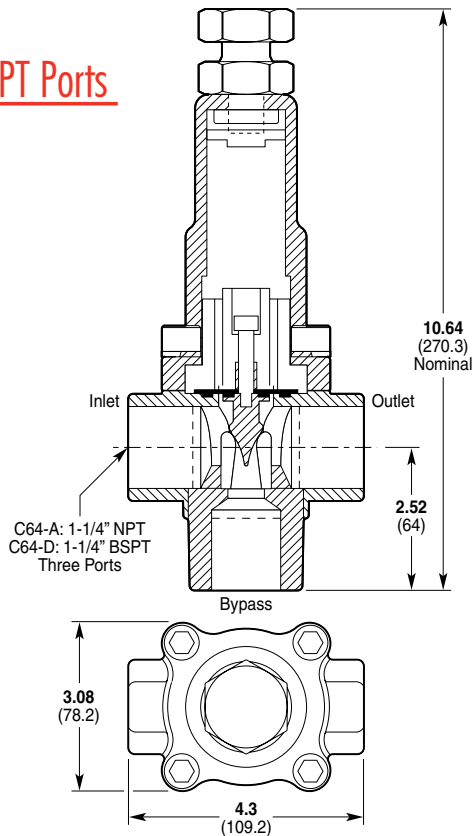
C62 with
3/4" NPT/BSPT Ports



C63 with
1" NPT/BSPT Ports



C64 with
1-1/4" NPT/BSPT Ports



C62/63/64 Series How to Order

Ordering Information

A complete C62/63/64 Series Model Number contains 11 digits of customer-specified design options: for example C62ABVVSSEF.



Digit	Order Code	Description
1-3		Valve Configuration
	C62	1-14 gpm (4-53 l/min)
	C63	1-25 gpm (4-94 l/min)
	C64	1-40 gpm (4-151 l/min)
4		Inlet/Outlet Ports
	A	NPT Threaded Ports
	D	BSPT Threaded Ports
5		Pressure Range
	A	C62 Models: 75-500 psi (5-35 bar) C63/C64 Models: 75-1000 psi (5-69 bar)
	B	C62 Models: 500-2500 psi (35-172 bar) C63/C64 Models: 1000-2500 psi (69-172 bar)
6		Body Material
	B	Brass
	H	Nickel Alloy (Hastelloy® CW12MW)
	S	316 Stainless Steel
7		O-rings/Diaphragm
	J	Teflon/Teflon
	V	Viton®/Teflon
8		Valve Seats
	H	Hastelloy® C
	R	316 Stainless Steel
	S	17-4 HT Stainless Steel
9		Plungers
	H	Hastelloy® C
	R	316 Stainless Steel
	S	17-4 HT Stainless Steel
10		Seat Size
	E	For C62 Models
	J	For C63 Models
	N	For C64 Models
11		Port Size
	F	For C62 Models (3/4")
	G	For C63 Models (1")
	H	For C64 Models (1-1/4")