

G-Series Valves

Shutoff, Needle & Check



Up to 6000 psi – gases or liquids

The G-Series

Reliable, Heavy Duty, Long Life



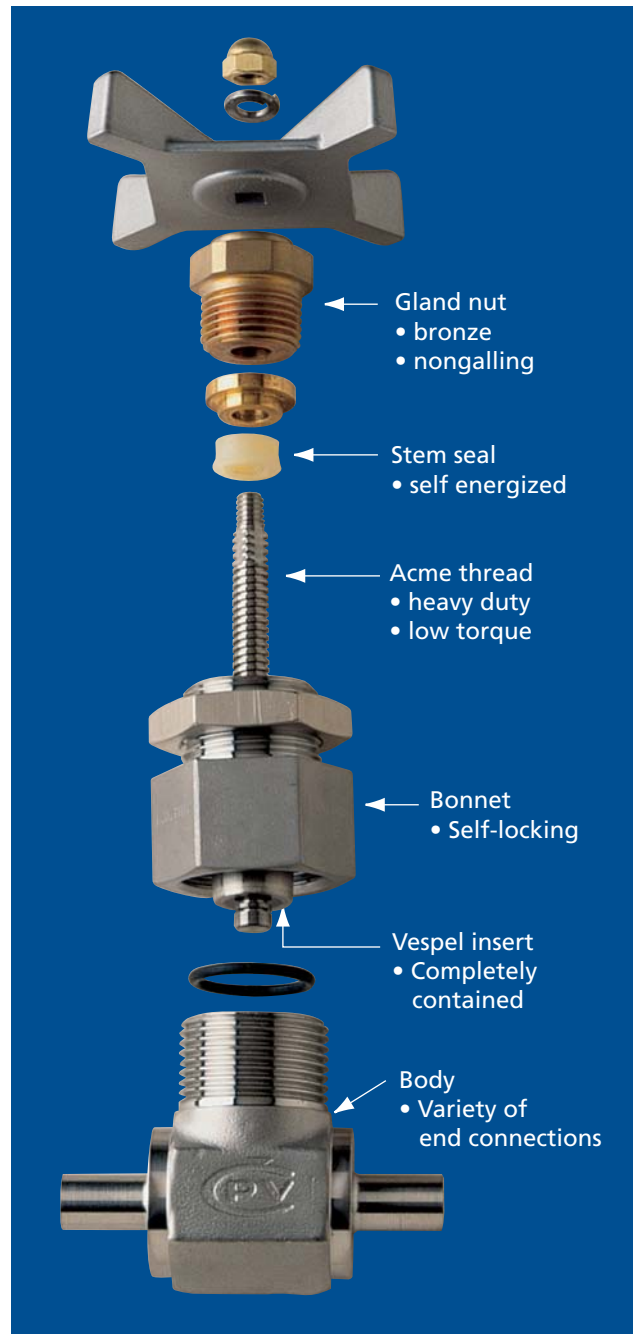
- Soft seated for bubble tight shutoff
- All wetted parts 316 stainless steel
- Large flow areas
- 100% factory tested
- Panel nut standard

Concept

CPV has selected rugged, proven valve components from many years of experience and engineered them into a line of valves which offers six orifice sizes and a variety of standard and custom end connections.

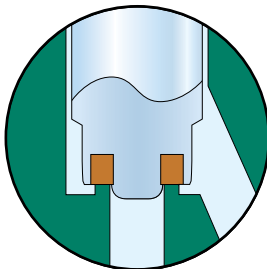
The G-Series Valves are manufactured with permanent soft seats (stem inserts) to provide years of bubble tight shutoff for applications requiring long term dependability.

G-Series Valves are rated for up to 6,000 psi (413 BAR) – liquid or gas, and depending on the seal material selected, will function from -65°F (-54°C) to 400°F (204°C).



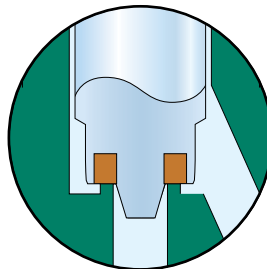
3 ways to control flow

SHUTOFF



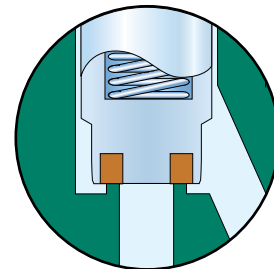
- Fully contained soft seat
- Flat seated for extended wear
- Bubble tight performance

NEEDLE



- Soft seated – bubble tight
- Tapered plug for excellent flow control
- Full flow capability

CHECK



- Fully ported
- Soft seated
- Spring actuated



Ordering Information

EXAMPLE



VALVE SERIES	VALVE ORIFICE SIZE		VALVE TYPE	BODY TYPE	* END CONNECTION		** SEAL MATERIAL	AIR OPERATOR	
	INCH	MM			TYPE	SIZE			
G	0	.218	5.5	S SHUTOFF N NEEDLE C CHECK	G INLINE A ANGLE	OS UNION O-SEAL THD.	-02 .13	-B POLYURETHANE & BUNA-N -C VITON -D ETHYLENE PROPYLENE -E POLYURETHANE -G POLYURETHANE & VITON -K ETHYLENE PROPYLENE & VITON -N POLYURETHANE & ETHYLENE PROPYLENE -V VITON W/ EXPANDER O-RING	-NC NORMALLY CLOSED -NO NORMALLY OPEN
	1	.313	8.0			M8 MARK 8 UNION THD.	-04 .25		
	2	.438	11.1			TS TUBE SOC. WELD	-06 .38		
	3	.500	12.7			TB TUBE BUTT WELD	-08 .50		
	4	.625	15.9			TA TUBE AUTO WELD	-10 .63		
	5	.813	20.7	PS PIPE SOC. WELD	-12 .75				
				PB PIPE BUTT WELD	-16 1.00				
				PF PIPE FEMALE THD.	-20 1.25				
				PM PIPE MALE THD.	-24 1.50				
				MS METRIC SOC. WELD					
				MB METRIC BUTT WELD					
				MA METRIC AUTO WELD					

* See page 9 for metric sizes.

** Where two materials are listed the first material is the stem seal and the second material is the body O-ring.

How to select G-Series Valves

1. Determine the minimum C_v needed to meet system requirements. See page 11, Engineering Data.
2. Select orifice size.
3. Determine valve type, body type and end connections.
4. Select the compatible seal material.
5. For air operated valves specify "NC" (Normally Closed) or "NO" (Normally Open). Indicate system and pilot (actuation) pressure.

Options (consult factory)

- Other materials available
- Can be modified for high vacuum service
- Open-closed indicators for air operated valves
- Gauge ports available
- Can be modified for oxygen service
- End connections not listed can be furnished

Standard materials

Body	.316L Stainless Steel
Bonnet	.316 Stainless Steel
Stem	.316 Stainless Steel
Stem insert (soft seat)	Vespel
Gland nut	Bronze
Packing retainer	Bronze
Handle	Aluminum
Panel nut	Bronze



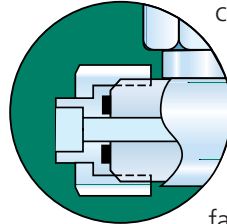
G-Series Shutoff, Needle & Check Valves



O-Seal Union Connection (Pipe Systems)

G-Series valves are supplied complete with CPV O-Seal stainless steel union nuts and socket weld fittings (tailpieces).

The flat face connection provides easy slip-in, slip-out access. This makes it possible to install, remove, rotate or reposition any piping section or component without springing or cutting the line.



Each end fitting (tailpiece) has a resilient O-ring recessed in a close tolerance groove that provides sealing between the two mating faces. Only light wrenching is required to accomplish a perfect leakproof seal. The higher the pressure, the tighter the seal.

Other materials, end fittings and types of connections are available. See CPV O-SEAL SYSTEM Catalog 68 for details or contact CPV to discuss your requirements.

PIPE SIZE UNION END CONNECTIONS (OS)

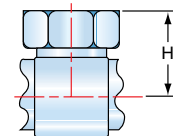
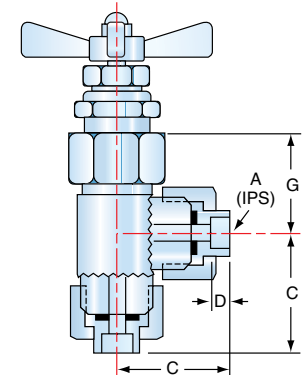
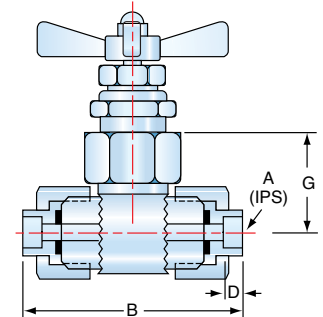
PART NUMBER	ORIFICE		A (IPS)		B		C		D		G		H									
	SIZE	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM							
G0SGOS	-02-*	0	.218	5.5	1/8	10.3	4.13	104.9	2.06	52.3	.375	9.5	1.69	42.9	1.19	30.2						
	-04-*				1/4	13.7	5.25	133.4	2.63	66.8			1.81	46.0	1.31	33.3						
	-06-*				3/8	17.1	6.13	155.7	3.06	77.7			1.94	49.3	1.44	36.6						
G1SGOS	-04-*	1	.313	8.0	1/4	13.7	5.00	127.0	2.50	63.5	.375	9.5	1.81	46.0	2.06	52.3						
	-06-*				3/8	17.1	6.13	155.7	3.06	77.7			2.00	50.8	2.25	57.2						
	-08-*				1/2	21.3	6.25	158.8	3.13	79.5			2.19	55.6	2.44	62.0						
G2SGOS	-06-*	2	.438	11.1	3/8	17.1	5.63	143.0	2.81	71.4	.375	9.5	2.59	65.8	2.66	67.6						
	-08-*				1/2	21.3	5.63	143.0	2.81	71.4			.375	9.5	2.59	65.8	2.66	67.6				
	-12-*				3/4	26.7	6.88	174.8	3.44	87.4			.500	12.7	2.63	66.8	2.69	68.3				
G3SGOS	-08-*	3	.500	12.7	1/2	21.3	6.50	165.1	3.25	82.6	.375	9.5										
	-12-*				3/4	26.7	6.88	174.8	3.44	87.4							.500	12.7	2.81	71.4	2.88	73.2
	-16-*				1	33.4	7.25	184.2	3.63	92.2							.500	12.7				
G4SGOS	-12-*	4	.625	15.9	3/4	26.7	6.88	174.8	3.44	87.4	.500	12.7	3.00	76.2	3.06	77.7						
	-16-*				1	33.4	7.13	181.1	3.56	90.4												
G5SGOS	-16-*	5	.813	20.7	1	33.4	7.25	184.2	3.63	92.2	.500	12.7	3.38	85.6	3.31	84.1						
	-20-*				1 1/4	42.2	8.00	203.2	4.00	101.6												

* Add seal material letter designation, example: **G2SGOS-06-B** (See page 3)

For angle valve change letter "G" to "A" example: **G2SAOS-06-***

For needle valve change letter "S" to "N" example: **G2NGOS-06-***

For check valve change letter "S" to "C" example: **G2CGOS-06-***



CHECK VALVE

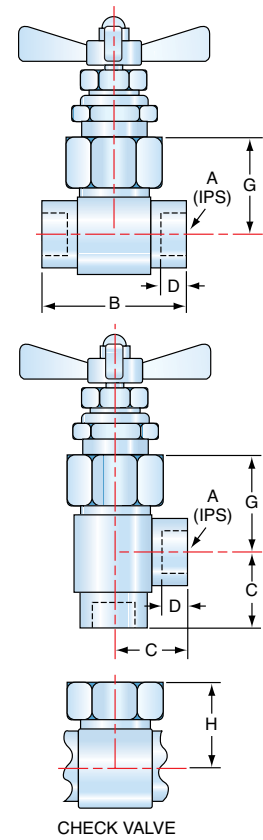


G-Series Shutoff, Needle & Check Valves

PIPE SIZE SOCKET WELD END CONNECTIONS (PS)

PART NUMBER	ORIFICE		A (IPS)		B		C		D		G		H	
	SIZE	INCH MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
-02-*			1/8	10.3							1.69	42.9	1.19	30.2
G0SGPS	0	.218 5.5	1/4	13.7	2.38	60.3	1.19	30.2	.375	9.5	1.69	42.9	1.19	30.2
-06-*			3/8	17.1							1.81	46.0	1.31	33.3
-04-*			1/4	13.7	2.50	63.5	1.25	31.8			1.81	46.0	2.06	52.3
G1SGPS	1	.313 8.0	3/8	17.1	2.50	63.5	1.25	31.8	.375	9.5	1.81	46.0	2.06	52.3
-08-*			1/2	21.3	2.75	70.0	1.38	35.1			2.00	50.8	2.25	57.2
-06-*			3/8	17.1	3.13	79.5	1.56	39.6	.375	9.5				
G2SGPS	2	.438 11.1	1/2	21.3	3.13	79.5	1.56	39.6	.375	9.5	2.59	65.8	2.66	67.6
-12-*			3/4	26.7	3.50	88.9	1.75	44.5	.500	12.7				
-08-*			1/2	21.3	3.75	95.3	1.88	47.8	.375	9.5				
G3SGPS	3	.500 12.7	3/4	26.7	3.88	98.6	1.94	49.3	.500	12.7	2.81	71.4	2.88	73.2
-16-*			1	33.4	3.88	98.6	1.94	49.3	.500	12.7				
-12-*			3/4	26.7							3.00	76.2	3.06	77.7
G4SGPS	4	.625 15.9	1	33.4	3.88	98.6	1.94	49.3	.500	12.7	3.00	76.2	3.06	77.7
-16-*			1	33.4										
G5SGPS	5	.813 20.7	1 1/4	42.2	4.75	120.7	2.38	60.5	.500	12.7	3.38	85.6	3.31	84.1

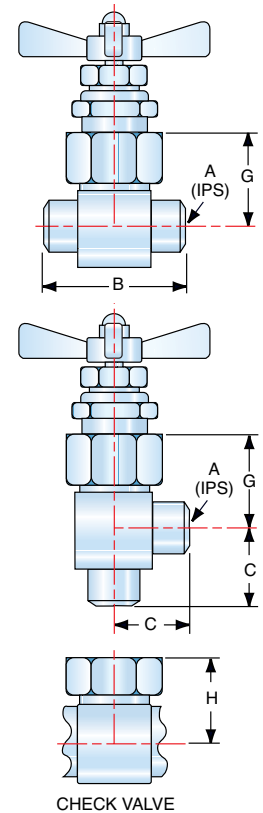
* Add seal material letter designation, example: **G2SGPS-06-B** (See page 3)
 For angle valve change letter "G" to "A" example: **G2SAPS-06-***
 For needle valve change letter "S" to "N" example: **G2NGPS-06-***
 For check valve change letter "S" to "C" example: **G2CGPS-06-***



PIPE SIZE BUTTWELD END CONNECTIONS (PB)**

PART NUMBER	ORIFICE		A (IPS)		B		C		G		H			
	SIZE	INCH MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		
-02-*			1/8	10.3										
G0SGPB	0	.218 5.5	1/4	13.7	2.94	74.7	1.47	37.3	1.69	42.9	1.19	30.2		
-06-*			3/8	17.1										
-04-*			1/4	13.7	3.13	79.5	1.56	39.6			1.81	46.0	2.06	52.3
G1SGPB	1	.313 8.0	3/8	17.1	3.13	79.5	1.56	39.6	1.81	46.0	2.06	52.3		
-08-*			1/2	21.3										
-06-*			3/8	17.1	3.88	98.6	1.94	49.3	2.59	65.8	2.66	67.6		
G2SGPB	2	.438 11.1	1/2	21.3	3.88	98.6	1.94	49.3	2.59	65.8	2.66	67.6		
-12-*			3/4	26.7										
-08-*			1/2	21.3	4.31	109.5	2.16	54.9	2.81	71.4	2.88	73.2		
G3SGPB	3	.500 12.7	3/4	26.7	4.31	109.5	2.16	54.9	2.81	71.4	2.88	73.2		
-16-*			1	33.4										
-12-*			3/4	26.7	4.38	111.3	2.19	55.6	3.00	76.2	3.06	77.7		
G4SGPB	4	.625 15.9	1	33.4	4.38	111.3	2.19	55.6	3.00	76.2	3.06	77.7		
-16-*			1	33.4										
G5SGPB	5	.813 20.7	1 1/4	42.2	4.75	120.7	2.38	60.5	3.38	85.6	3.31	84.1		

* Add seal material letter designation, example: **G2SGPB-06-B** (See page 3)
 For angle valve change letter "G" to "A" example: **G2SAPB-06-***
 For needle valve change letter "S" to "N" example: **G2NGPB-06-***
 For check valve change letter "S" to "C" example: **G2CGPB-06-***



** When ordering butt weld (PB) valves, specify pipe schedule.

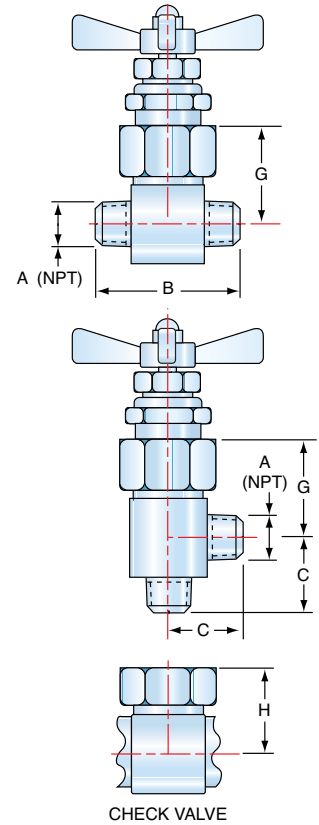


G-Series Shutoff, Needle & Check Valves

PIPE SIZE MALE NPT END CONNECTIONS (PM)

PART NUMBER	ORIFICE		A (NPT)		B		C		G		H			
	SIZE	INCH	MM	INCH	INCH	MM	INCH	MM	INCH	MM	INCH	MM		
-02-*	G0SGPM-04-*	0	.218	5.5	1/8-	27	2.88	73.2	1.44	36.6	1.69	42.9	1.19	30.2
1/4-					18									
3/8-					18									
-04-*	G1SGPM-06-*	1	.313	8.0	1/4-	18	3.13	79.5	1.56	39.6	1.81	46.0	2.06	52.3
3/8-					18									
1/2-					14									
-06-*	G2SGPM-08-*	2	.438	11.1	3/8-	18	3.88	98.6	1.94	49.3	2.59	65.8	2.66	67.6
1/2-					14									
3/4-					14									
-08-*	G3SGPM-12-*	3	.500	12.7	1/2-	14	4.38	111.3	2.19	55.6	2.81	71.4	2.88	73.2
3/4-					14									
1-					11 1/2									
-12-*	G4SGPM-16-*	4	.625	15.9	3/4-	14	4.38	111.3	2.19	55.6	3.00	76.2	3.06	77.7
1-					11 1/2									
-16-*	G5SGPM-20-*	5	.813	20.7	1-	11 1/2	4.75	120.7	2.38	60.5	3.38	85.6	3.31	84.1
1 1/4-					11 1/2									

- * Add seal material letter designation, example: **G2SGPM-06-B** (See page 3)
- For angle valve change letter "G" to "A" example: **G2SAPM-06-***
- For needle valve change letter "S" to "N" example: **G2NPGM-06-***
- For check valve change letter "S" to "C" example: **G2CGPM-06-***

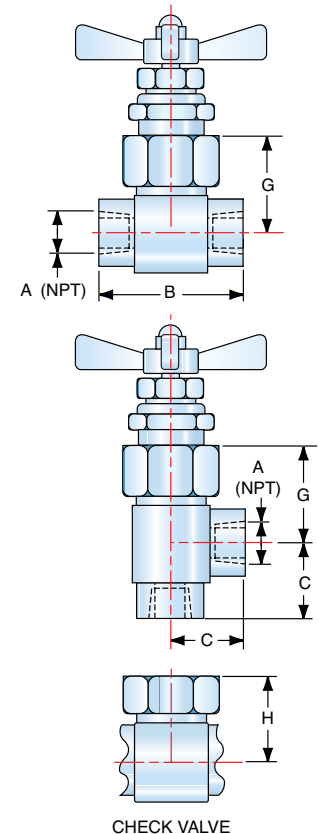


PIPE SIZE FEMALE NPT END CONNECTIONS (PF)

PART NUMBER	ORIFICE		A (NPT)		B		C		G		H			
	SIZE	INCH	MM	INCH	INCH	MM	INCH	MM	INCH	MM	INCH	MM		
-02-*	G0SGPF-04-*	0	.218	5.5	1/8-	27	2.00	50.8	1.00	25.4	1.69	42.9	1.19	30.2
1/4-					18									
**06-*					3/8-	18								
-04-*	G1SGPF-06-*	1	.313	8.0	1/4-	18	2.75	70.0	1.38	35.1	1.81	46.0	2.06	52.3
**08-*					3/8-	18								
					1/2-	14								
-06-*	G2SGPF-08-*	2	.438	11.1	3/8-	18	3.13	79.5	1.56	39.6	2.59	65.8	2.66	67.6
**12-*					1/2-	14								
					3/4-	14								
-08-*	G3SGPF-12-*	3	.500	12.7	1/2-	14	3.88	98.6	1.94	49.3	2.81	71.4	2.88	73.2
**16-*					3/4-	14								
					1-	11 1/2								
-12-*	G4SGPF-16-*	4	.625	15.9	3/4-	14	4.00	101.6	2.00	50.8	3.00	76.2	3.06	77.7
**16-*					1-	11 1/2								
-16-*	G5SGPF-20-*	5	.813	20.7	1-	11 1/2	4.75	120.7	2.38	60.5	3.38	85.6	3.31	84.1
**20-*					1 1/4-	11 1/2								

- * Add seal material letter designation, example: **G2SGPF-06-B** (See page 3)
- For angle valve change letter "G" to "A" example: **G2SAPF-06-***
- For needle valve change letter "S" to "N" example: **G2NPGF-06-***
- For check valve change letter "S" to "C" example: **G2CGPF-06-***

** Consult factory for pressure rating





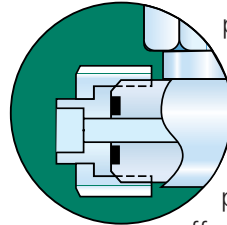
G-Series Shutoff, Needle & Check Valves



Mark VIII Union Connection (Tube Systems)

G-Series valves coupled with the integrity of Mark VIII O-Seal tube fittings give a whole new meaning to the phrase "total leakproof reliability".

The design incorporates an O-ring recessed into a precision groove located in each end of the valve body that seals against mating flat faced fittings (tailpieces). The flat face connection provides easy slip-in, slip-out access. Light wrenching completes the installation to assure a leakproof connection that will not vibrate loose. Internal line pressure actually contributes to sealing effectiveness.

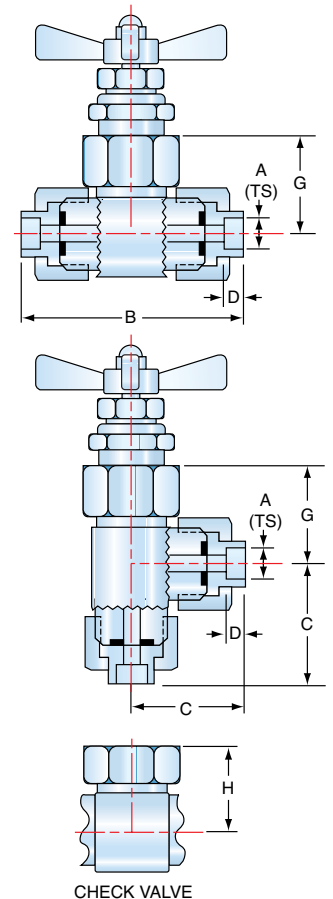


Each valve is supplied with stainless steel union nuts and tailpieces for socket welding or brazing. Other materials and types of end fittings are available. Consult CPV for further assistance.

Request Mark VIII O-SEAL Catalog 74 for a complete selection of tube fitting components.

TUBE SIZE UNION END CONNECTIONS (M8)

PART NUMBER	ORIFICE		A (TS)		B		C		D		G		H			
	SIZE	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	
G0SGM8	-04*			.250	6.4	3.00	76.2	1.50	38.1	.19	4.8					
	-06*	0	.218	5.5	.375	9.5	3.13	79.5	1.56	39.6	.25	6.4	1.69	42.9	1.19	30.2
	-08*			.500	12.7	3.38	85.9	1.69	42.9	.31	7.9					
G1SGM8	-08*			.500	12.7	3.63	92.2	1.81	46.0	.31	7.9					
	-10*	1	.313	8.0	.625	15.9	4.13	104.9	2.06	52.3	.38	9.7	1.81	46.0	2.06	52.3
	-12*			.750	19.1	4.50	114.3	2.25	57.2	.44	11.2					
G2SGM8	-8*			.500	12.7	4.88	124.0	2.44	62.0	.31	7.9					
	-10*			.625	15.9	5.13	130.3	2.56	65.0	.38	9.7					
	-12*	2	.438	11.1	.750	19.1	4.50	114.3	2.25	57.2	.44	11.2	2.59	65.8	2.66	67.6
	** -16*			1.000	25.4	5.50	139.7	2.75	69.9	.50	12.7					
G3SGM8	-12*			.750	19.1	5.13	130.3	2.56	65.0	.44	11.2					
	** -16*	3	.500	12.7	1.000	25.4	5.50	139.7	2.75	69.9	.50	12.7	2.81	71.4	2.88	73.2
	** -20*			1.250	31.8	6.13	155.7	3.06	77.7	.56	14.2					
G4SGM8	** -16*			1.000	25.4	5.50	139.7	2.75	69.9	.50	12.7					
	** -20*	4	.625	15.9	1.250	31.8	6.13	155.7	3.06	77.7	.56	14.2	3.00	76.2	3.06	77.7
G5SGM8	** -20*			1.250	31.8	6.13	155.7	3.06	77.7	.56	14.2					
	** -24*	5	.813	20.7	1.500	38.1	6.63	168.4	3.31	84.1	.63	16.0	3.38	85.6	3.31	84.1



* Add seal material letter designation, example: **G2SGM8-06-B** (See page 3)

For angle valve change letter "G" to "A" example: **G2SAM8-06***

For needle valve change letter "S" to "N" example: **G2NGM8-06***

For check valve change letter "S" to "C" example: **G2CGM8-06***

** Pressure rating for -16 size is 5,500 (379 BAR)

Pressure rating for -20 & -24 size is 4,000 psi (276 BAR)



G-Series Shutoff, Needle & Check Valves

TUBE SIZE SOCKET WELD END (TS) / MALE WELD END (TB) / AUTO WELD END (TA) CONNECTIONS

PART NUMBER			ORIFICE SIZE INCH MM	A (TS)		B		C		D		E		F		G		H	
SOC. WELD	MALE WELD	AUTO WELD		INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
-04-*	-04-*	-04-*	0 .218 5.5	.250	6.4	1.88	47.8	.94	23.9	3.00	76.2	1.50	38.1	.19	4.8	1.69	42.9	1.19	30.2
G0SGTS-06-*	G0SGTB-06-*	G0SGTA-06-*		.375	9.5	2.00	50.8	1.00	25.4					.25	6.4				
-08-*	-08-*	-08-*		.500	12.7	2.25	57.2	1.13	28.7					.31	7.9				
-08-*	-08-*	-08-*	1 .313 8.0	.500	12.7	2.25	57.2	1.13	28.7	3.13	79.5	1.56	39.6	.31	7.9	1.81	46.0	2.06	52.3
G1SGTS-10-*	G1SGTB-10-*	G1SGTA-10-*		.625	15.9	2.38	60.5	1.19	30.2					.38	9.7				
-12-*	-12-*	-12-*		.750	19.1	2.88	73.2	1.44	36.6					.44	11.2				
-8-*	-8-*	-8-*	2 .438 11.1	.500	12.7	3.00	76.2	1.50	38.1	3.88	98.6	1.94	49.3	.31	7.9	2.59	65.8	2.66	67.6
-10-*	-10-*	-10-*		.625	15.9	3.00	76.2	1.50	38.1					.38	9.7				
G2SGTS-12-*	G2SGTB-12-*	G2SGTA-12-*		.750	19.1	3.00	76.2	1.50	38.1					.44	11.2				
-16-*	-16-*	-16-*		1.000	25.4	3.25	82.6	1.63	41.4					.50	12.7				
-12-*	-12-*	-12-*	3 .500 12.7	.750	19.1	3.63	92.2	1.81	46.0	4.38	111.3	2.19	55.6	.44	11.2	2.81	71.4	2.88	73.2
G3SGTS-16-*	G3SGTB-16-*	G3SGTA-16-*		1.000	25.4	3.75	95.3	1.88	47.8					.50	12.7				
-20-*	-20-*	-20-*		1.250	31.8	3.88	98.6	1.94	49.3					.56	14.2				
-16-*	-16-*	-16-*	4 .625 15.9	1.000	25.4	3.88	98.6	1.94	49.3	4.38	11.3	2.19	55.6	.50	12.7	3.00	76.2	3.06	77.7
G4SGTS-20-*	G4SGTB-20-*	G4SGTA-20-*		1.250	31.8	1.94	49.3	.56	14.2										
-20-*	-20-*	-20-*	5 .813 20.7	1.250	31.8	4.38	111.3	2.19	55.6	4.75	120.7	2.38	60.5	.56	14.2	3.38	85.6	3.31	84.1
G5SGTS-24-*	G5SGTB-24-*	G5SGTA-24-*		1.500	38.1	1.94	49.3	.63	16.0										

*Add seal material letter designation, example: **G2SGTS-06-B** (See page 3)

For angle valve change letter "G" to "A" example: **G2SATS-06-***

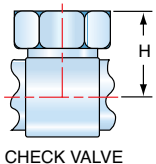
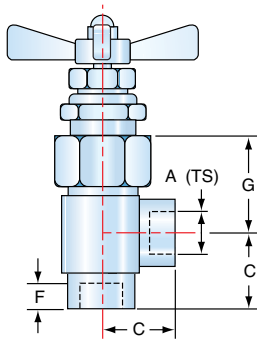
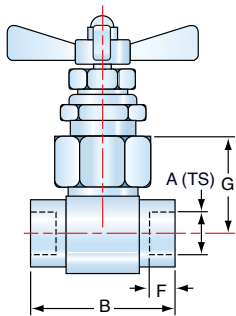
For needle valve change letter "S" to "N" example: **G2NGTS-06-***

For check valve change letter "S" to "C" example: **G2CGTS-06-***

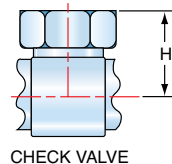
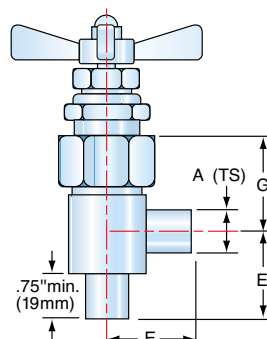
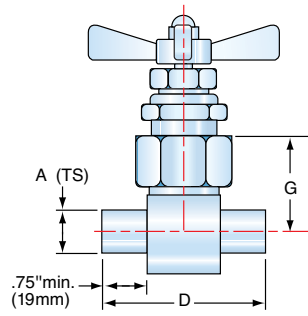
NOTE:

When ordering, specify tube wall thickness.

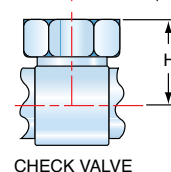
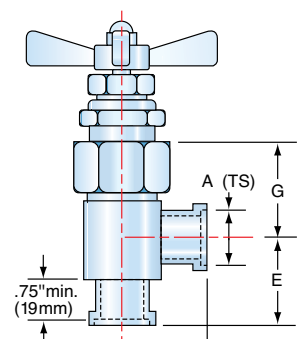
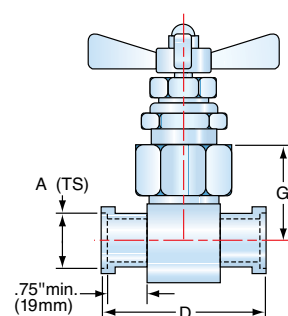
SOCKET WELD END (TS)



MALE WELD END (TB)



AUTO WELD END (TA)





G-Series Shutoff, Needle & Check Valves

METRIC TUBE SOCKET WELD END (MS) / MALE WELD END (MB) / AUTO WELD END (MA) CONNECTIONS

SOC. WELD	PART NUMBER		ORIFICE			A (TS)	B	C	D	E	F	G	H
	MALE WELD	AUTO WELD	SIZE	MM	INCH	MM	MM	MM	MM	MM	MM	MM	MM
-10M-* G0SGMS	-10M-* G0SGMB	-10M-* G0SGMA	0	5.5	.218	10	50.8	25.4	76.2	38.1	6.4	42.9	30.2
-12M-* G1SGMS	-12M-* G1SGMB	-12M-* G1SGMA	1	8.0	.313	12	57.2	28.7	79.5	39.6	7.9	46.0	52.3
-16M-* G2SGMS	-16M-* G2SGMB	-16M-* G2SGMA	2	11.1	.438	16	76.2	38.1	98.6	49.3	9.7	65.8	67.6
-20M-* G3SGMS	-20M-* G3SGMB	-20M-* G3SGMA	3	12.7	.500	20	92.2	46.0	111.3	55.6	11.2	71.4	73.2
-25M-* G4SGMS	-25M-* G4SGMB	-25M-* G4SGMA	4	15.9	.625	25	98.6	49.3	111.3	55.6	12.7	76.2	77.7

* Add seal material letter designation, example: **G2SGMS-16M-B** (See page 3)

For angle valve change letter "G" to "A" example: **G2SAMS-16M-***

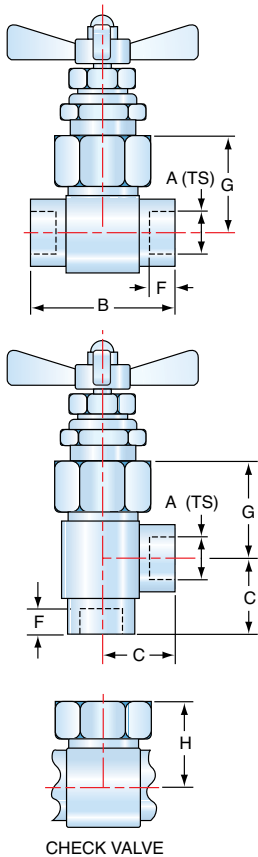
For needle valve change letter "S" to "N" example: **G2NGMS-16M-***

For check valve change letter "S" to "C" example: **G2CGMS-16M-***

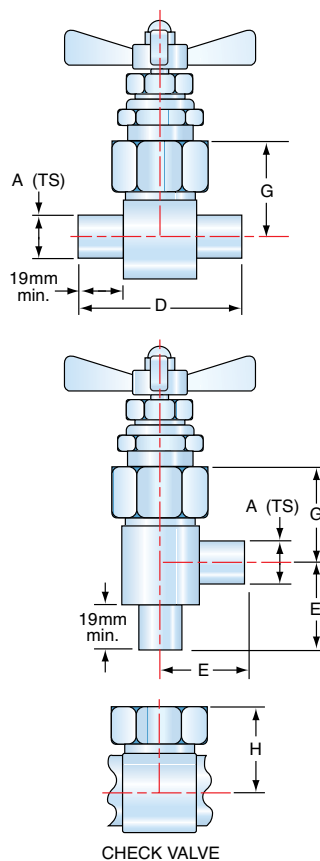
NOTE:

*When ordering, specify tube wall thickness.
Other metric sizes available.*

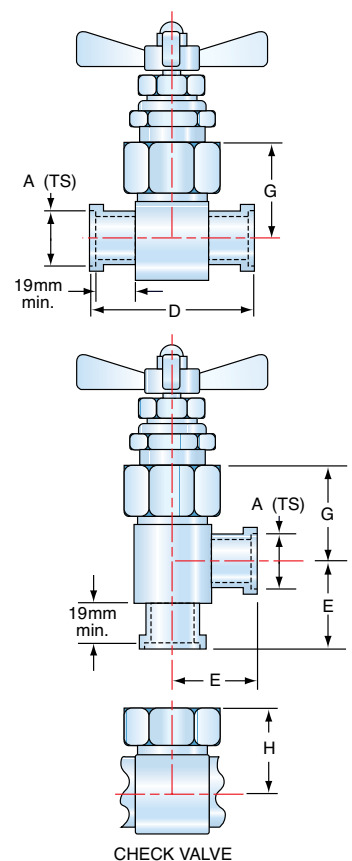
SOCKET WELD END (MS)



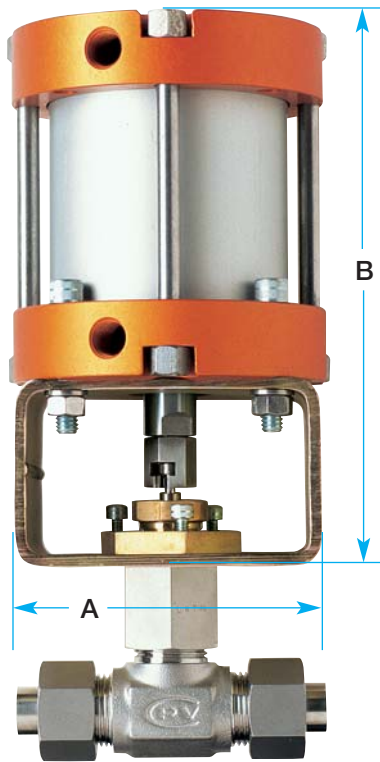
MALE WELD END (MB)



AUTO WELD END (MA)

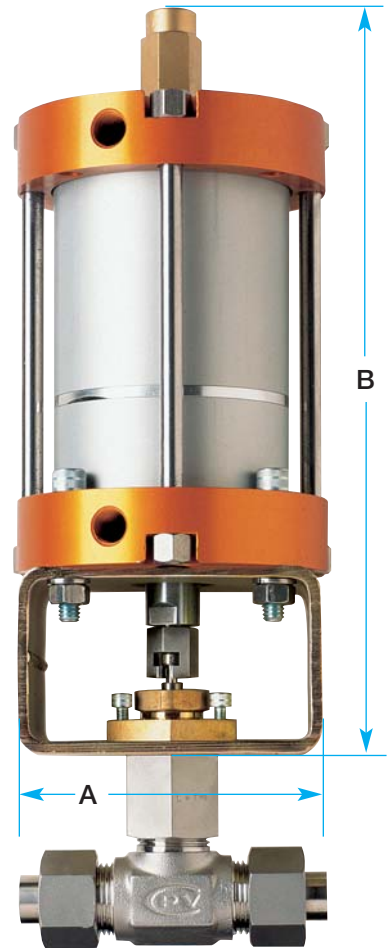


CPV G-Series Air Operated Valves



Normally Open (NO)

- **Applications**
Gases and liquids
- **Pressure rating**
6,000 psi (413 BAR)
- **Low actuation pressure**
under 100 psi (7 BAR)
- **100% Factory tested**
- **Easy installation**
- **High performance actuator**
with proven piston design
provides long life
- **Precision machined**
mounting bracket



Normally Closed (NC)

Your system can be easily setup for remote operation from a console or by computerized controls. The labor savings and improved repeatability generated by this valve control will quickly prove its cost-effectiveness.

CPV has developed a highly responsive, totally reliable, air actuator. Any G-Series shutoff or needle valve shown in this catalog can be purchased as an air actuated valve. All specifications and dimensions for G-Series air actuated valves are identical to the manually operated G-Series valves shown on pages 4 through 9 in this catalog.

The actuators are of a proven piston design, engineered to provide long life and function at less than 100 psi. They are available in Normally Opened (air to close) –**NO**, or Normally Closed (air to open) –**NC**, configurations.

ORIFICE SIZE	INCH		A (NO)		B (NO)		A (NC)		B (NC)	
	MM	INCH	INCH	MM	INCH	MM	INCH	MM	INCH	MM
0	.218	5.5	4.00	101.6	4.50	114.3	4.00	101.6	8.94	227.1
1	.313	8.0	4.00	101.6	8.04	204.2	4.00	101.6	11.42	290.1
2	.438	11.1	5.00	127.0	8.54	217.0	5.00	127.0	12.42	315.5
3	.500	12.7	6.00	152.4	9.54	242.3	6.00	152.4	15.42	391.7
4	.625	15.9	6.00	152.4	9.02	229.1	8.00	203.2	10.73	272.5
5	.813	20.7	8.00	203.2	9.45	240.0	8.00	203.2	12.65	321.3

To order

Follow steps 1 through 5 on page 3. Specify the operation by adding to the part number –**NC** for normally closed (air to open) or –**NO** for normally open (air to close). Indicate system and pilot (actuation) pressure.

Open-closed indicators are available as an accessory.

Engineering Data

CPV has conducted extensive flow tests and has established flow constants as C_v factors for each size valve. The C_v is defined as the gallons of water in a one minute period that will flow thru a valve in the full open position creating a pressure drop of 1 psi.

The pressure drop or ΔP for liquids can be calculated by using formula #1 and inserting the proper specific gravity.

The pressure drop for gases can be calculated by using formula #2 and inserting the proper specific gravity of the gas.

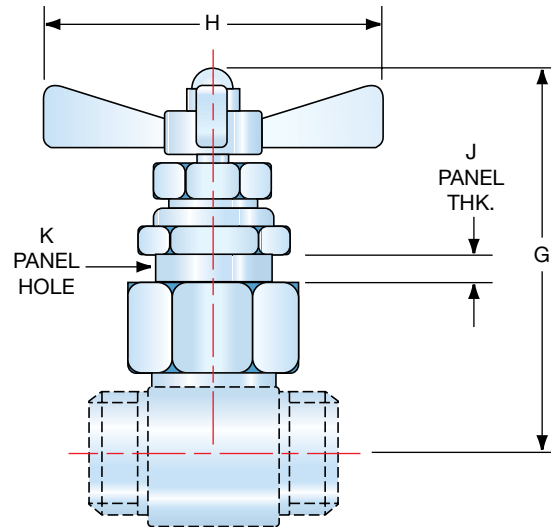
Formula #1 (liquids)	
$\Delta P = \frac{Q^2 \text{ S.G.}}{C_v^2}$	
Formula #2 (gases)	
$\Delta P = P_u - \sqrt{P_u^2 - \text{S.G.} \frac{2.34 Q^2}{C_v^2}}$	
Q (liquid)	= GPM
Q (gases)	= SCFM
ΔP	= Pressure Drop
P_u	= Pressure Upstream (PSIA)
S.G.	= Specific Gravity

C _v Factors				
SIZE	ORIFICE		GLOBE C _v	ANGLE C _v
	INCH	MM		
0	.218	5.5	.9	1.3
1	.313	8.0	2.0	2.8
2	.438	11.1	4.3	6.0
3	.500	12.7	6.1	8.5
4	.625	15.9	9.2	12.9
5	.813	20.7	16.2	22.7

Specific Gravity			
GAS	S.G.	LIQUID	S.G.
AIR*	1.0	WATER*	1.0
ARGON	1.377	ACETONE	0.79
CO ₂	1.516	ALCOHOL	0.79
HELIUM	0.138	BENZENE	0.902
HYDROGEN	0.069	KEROSENE	0.815
NITROGEN	0.966		
OXYGEN	1.103		

* @ 68°F/20°C

Panel Mount Information



ORIFICE SIZE	INCH		MM		H		J MAX.		K	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
0	.218	5.5	4.53	115.1	3.50	88.9	.25	6.4	1.20	30.5
1	.313	8.0	4.80	122.0	3.50	88.9	.44	11.2	1.20	30.5
2	.438	11.1	5.41	137.4	3.50	88.9	.44	11.2	1.53	38.9
3	.500	12.7	6.50	165.1	4.50	114.3	.69	12.1	1.78	45.2
4	.625	15.9	6.38	162.1	5.25	133.4	.56	14.2	1.78	45.2
5	.813	20.7	7.72	196.1	7.25	184.2	.88	22.4	2.16	54.9



Standard and custom fittings

CPV... the single source for leakproof valves & fittings to 10,000 psi.

Since 1915 CPV has provided leadership in the development of leakproof valves and fittings. Our leading edge engineering, in-line testing, and rigorous quality control assures a level of performance that far exceeds rated specifications. The dependability of CPV valves and fittings in gas and liquid service around the world is helping companies solve problems and improve efficiency.

Specifications of all CPV products are available in our catalogs



**FLOMASTER Air operated
shutoff valves**
CATALOG 96

**O-SEAL SYSTEM
VALVES AND FITTINGS**
CATALOG 68

**MARK VIII Shutoff &
Regulating Valves**
CATALOG 82

**MARK VIII O-SEAL
easy connect/disconnect
hose fittings**
CATALOG 75

**MARK VIII TUBE FITTINGS
for direct braze or weld
installation**
CATALOG 77

**MARK VIII O-SEAL
TUBE FITTINGS**
CATALOG 74

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