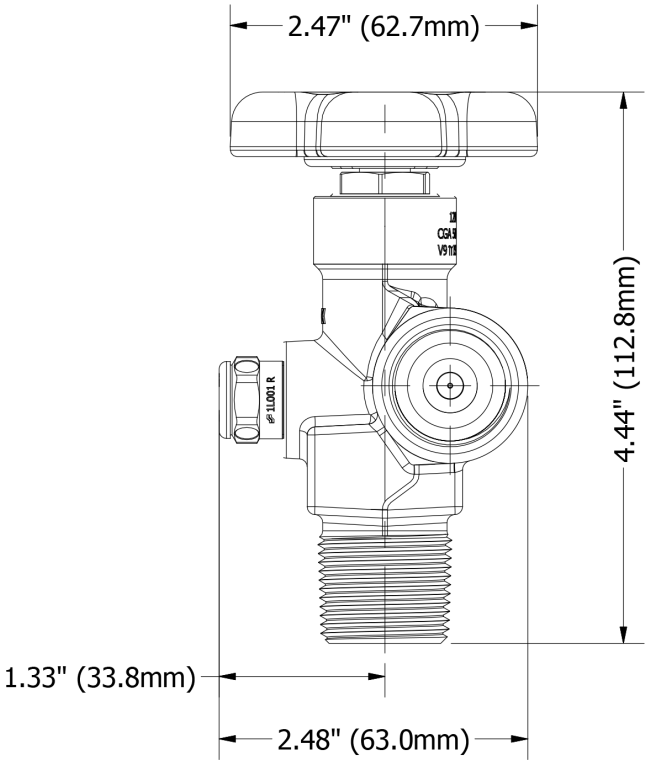
GSRPV Series

Residual Pressure Valves

GSRPV58061-XX



Residual pressure valve designed to protect cylinder and contents.

Key Features & Benefits

- Prevents backflow of impurities and foreign substances
- Automated assembly and testing processes ensure exceptional quality
- 100% helium leak tested
- Durable forged brass body, precisely machined internal components and design elements meet the most stringent international valve performance standards
- Innovative design and quality construction offer protection of cylinder contents without the expense of a time-consuming purge-and-clean cycle
- Retains approximately 55 to 85 PSI pressure, maintaining the integrity of the cylinder contents against contaminants, even if the valve is left open
- Protects and extends life of cylinder by preventing ingress of moisture
- Pressure Relief Device (PRD) is a unitized plug design that provides excellent flow characteristics, ensures proper assembly and tamper resistance
- Dynamic front piston seal design is not in direct contact with the flow passage during filling
- Inlet and outlet thread configurations are available for a broad spectrum of customer, country and code specifications
- Optical Character Recognition technology utilized to verify appropriate burst disc pressure rating
- Exclusive “webbed washer” design protects burst disc during handling and bulk shipment
- Inlets tapped (1/4" NPT) for dip tube as required

GSRPV Series

Residual Pressure Valves

For further ordering information, refer to the Selection of Pressure Relief Devices, the Pressure Relief Device Numbering Matrix, the Product Markings Reference and the Valve Part Numbering Matrix.

Ordering Information

Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	Outlet Thread Size	Inlet Thread Size
Air				
GSRPV34641-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	½" NGT
GSRPV34661-XX	0 PSI–3000 PSI	346	.825–14 NGO RH Ext.	¾" NGT
Argon				
GSRPV58041-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	½" NGT
GSRPV58061-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	¾" NGT
GSRPV58025E1-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	25E
Carbon Dioxide				
GSRPV32041-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	½" NGT
GSRPV32061-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	¾" NGT
GSRPV32051-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	1.125"–12 UNF
GSRPV32025E1-XX	0 PSI–3000 PSI	320	.825–14 NGO RH Ext.	25E
Helium				
GSRPV58041-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	½" NGT
GSRPV58061-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	¾" NGT
GSRPV58025E1-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	25E
Hydrogen				
GSRPV35045-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	½" NGT
GSRPV35065-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	¾" NGT
GSRPV35025E5-XX	0 PSI–3000 PSI	350	.825–14 NGO LH Ext.	25E
Nitrogen				
GSRPV58041-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	½" NGT
GSRPV58061-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	¾" NGT
GSRPV58025E1-XX	0 PSI–3000 PSI	580	.965–14 NGO RH Int.	25E
Oxygen				
GSRPV54041-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	½" NGT
GSRPV54061-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	¾" NGT
GSRPV54025E1-XX	0 PSI–3000 PSI	540	.903–14 NGO RH Ext.	25E
Sulfur Hexafluoride				
GSRPV59041-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	½" NGT
GSRPV59061-XX	0 PSI–3000 PSI	590	.965–14 NGO LH Int.	¾" NGT

Options

To order 7 threads oversize inlets, add -7 to the end of the Part Number (e.g. GSRPV58061-XX becomes GSRPV58061-XX-7).

To order chrome plating, add letter "A" after letters GSRPV in the Part Number (e.g. GSRPV58061-XX becomes GSRPVA58061-XX).

To order fusible backed Pressure Relief devices in 165° F or 212° F nominal melting temperatures, change 1 in the Part Number to 4 (165° F) or to 5 (212° F) (e.g. GSRPV35061-XX becomes GSRPV35064-XX for 165° F, or GSRPV35065-XX for 212° F).

NOTE: GSRPV valves are not approved for CNG service. For CNG Service, see NGSRPV Series. Not all valves are available in all configurations. Contact factory for availability. Orders may be subject to minimum quantities.

For Product Markings Reference, see (B) on the following page

GSRPV Series
Residual Pressure Valves

Design Specifications	English	Metric
Maximum Working Pressure	3500 PSI	241 Bar
Operating Temperature Range	-50° F → +149° F	-45° C → +65° C
Storage Temperature Range	-65° F → +155° F	-54° C → +68° C
Leak Rate Internal/External	$1x10^{-3}$ atm cc/sec.	$1x10^{-3}$ Bar mL/sec.
Minimum Cycle Life	2000 Cycles	
Cv Flow Factor	.26	
Closing Torque	20–30 in.-lbs.	2.2–3.3 N-m
Operating Torque	10–20 in.-lbs.	1.1–2.2 N-m
Bonnet Installation Torque	50–60 ft.-lbs.	68–81 N-m
Handwheel Nut Installation Torque	15–35 in.-lbs.	1.7–3.9 N-m
PRD Installation Torque	25–35 ft.-lbs.	34–47 N-m
PRD Flow Capacity	60 cfm @ 100 PSI	1700 L/min. @ 6.9 Bar

Standards Conformance	
CGA V-9	Standard for Gas Cylinder Valves
CGA S1.1	Standard for Pressure Relief Devices
CGA V-1	Compressed Gas Cylinder Valve Outlet and Inlet Specifications
ISO 10297	International Standard for Cylinder Valves Design Specifications
ISO 11363-1	25E Inlet Thread Specifications
ISO 15996	International Standard for Residual Pressure Valves Design Specifications
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Materials of Construction	
Part Description	**Materials of Construction**
Body	Brass C37700/Chrome Plating When Applicable
Bonnet	Brass C36000/Chrome Plating When Applicable
Handwheel	Aluminum A380
Handwheel Nut	Steel Class 8, Zinc Plating
Lower Plug	Brass C48500
Lower Plug Seat	Nylon Zytel 101
PRD	**Plug:** Brass C36000/Chrome Plating When Applicable **Rupture Disc:** Nickel Alloy 201; Copper C22000 **Webbed Seal Gasket:** Copper Dead Soft C11000
Stem	Brass C36000
O-Ring	Ethylene Propylene (EPDM)
Back-up O-Ring	PTFE
Thrust Washer	Delrin® 500 AF
RPV Piston	Brass C3600
RPV Plug	Brass C36000/Chrome Plating When Applicable
RPV Spring	Beryllium Copper
Piston O-Ring	Ethylene Propylene (EPDM)
Piston O-Ring	Ethylene Propylene (EPDM)
RPV Plug O-Ring	Ethylene Propylene (EPDM)

Inlet O-Ring for Straight Threaded GSRPV Series Residual Pressure Valves			
Sherwood Part Number	**Size**	**Material**	**Quantity**
G216BPK	1.125 UNF	Buna-N	100

Lubricants	
Christo-Lube	Used in Valves for All Industrial Gas Applications

Replacement Parts	
Sherwood Part Number	**Description**
1251-6PK	Handwheel Nut (pack of 100)
1919APK	Handwheel (pack of 200)
P625-19X9-XXPK	Pressure Relief Device Unitized Assembly Includes: Plug, Rupture Disc and Webbed Seal Washer (pack of 100)

NOTE: GSRPV Series valves are not for use with CNG applications. For CNG Service, see NGSRPV Series. No mechanical addition of force is to be used with handwheel-style valves without the use of controlled torque.

Fill Adapters for GSRPV Series

Ordering Information		
Sherwood Part Number	**Inlet**	**Outlet**
*Nipples **with Retractable Pin** (includes brass nut as shown)*		
TLG580SLW*	1/4" NPT	CGA 580
TLG590SLW*	1/4" NPT	CGA 590

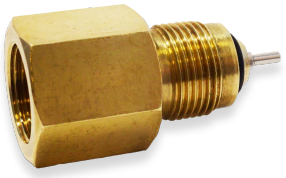
Retractable Pin Adapters provide maximum operating flexibility to fill or evacuate a cylinder with either a conventional valve or a GSRPV. Engage the Pin Locking Tool (see below) and rotate the tool clockwise to depress the pin for use with a conventional valve. Or rotate the tool counterclockwise to release the pin for use with a GSRPV valve. The adapters incorporate an O-ring seal for a hand-tight connection.

TLG580SLW

Ordering Information		
Sherwood Part Number	**Inlet**	**Outlet**
*Nipples with **Fixed Pin** (includes brass nut as shown)*		
TLG320W	1/4" NPT	CGA 320
TLG346S	1/4" NPT	CGA 346
TLG350S	1/4" NPT	CGA 350
TLG540S	1/4" NPT	CGA 540

TLG346S

Ordering Information		
Sherwood Part Number	**Inlet**	**Outlet**
Matching CGA Outlet and Inlet Adapter		
TL580D*	CGA 580 Female	CGA 580 Male
TL590D*	CGA 590 Female	CGA 590 Male



TL580D

TLG580, TLG580SLW Rebuild Kit	
Sherwood Part Number	**Description**
TL580A-30-R	Each kit includes 25 Plunger & Pin Assemblies
TL580SP	Nose Bushing Torque Spanner sold separately

Ordering Information	
Sherwood Part Number	**Description**
TL580B	Pin Locking Tool

TL580B

Used with Retractable Pin Adapter.

Ordering Information	
Sherwood Part Number	**Description**
TL580C	Checking Rod

TL580C

Understanding Fill Adapter Part Numbers	
S	Stainless Steel
L	Retractable Pin
W	Washer or O-Ring Seal
D	Matching CGA Outlet and Inlet

**Adapters can be used with TV RPV and GRPV also.*

Gas cylinders can be checked for content integrity by simply inserting the Checking Rod and pushing against the resistance of the check valve. The sound of escaping gas indicates residual cylinder pressure.

Valve Part Numbering Matrix: Global Valves

GSV	A	X	0	6	1	-	38	B

Valve Category		
GSV	=	Global Valve
GSRPV	=	Global Residual Pressure Valve
GSHV	=	Global High-Pressure Valve
NGSV	=	Global Valve for Hydrocarbon-Based Gases
NGSHV	=	Global Valve for High-Pressure Hydrocarbon-Based Gases

Outlet Designation
Letter or Number from the Associated Specification

Plating		
(BLANK)	=	Unplated
A	=	Chrome Plated

Safety Type		
0	=	No Safety
1	=	Unbacked Frangible Disc
2	=	165˚ Fuse Plug
3	=	212˚ Fuse Plug
4	=	Backed Frangible Disc with 165˚ Fusible Metal
5	=	Backed Frangible Disc with 212˚ Fusible Metal
H	=	Backed Frangible Disc with 255˚ Fusible Metal

Safety Pressure		
28	=	3000 Max. PSI
32	=	3360 Max. PSI
35	=	3775 Max. PSI
38	=	4000 Max. PSI
39	=	4351 Max. PSI
43	=	4450 Max. PSI
46	=	4833 Max. PSI
47	=	4917 Max. PSI
48	=	5000 Max. PSI
55	=	5833 Max. PSI
63	=	6665 Max. PSI
65	=	6750 Max. PSI
71	=	7500 Max. PSI
78	=	8333 Max. PSI
85	=	9000 Max. PSI
95	=	10,000 Max. PSI
190	=	190 Bar
216	=	216 Bar
250	=	250 Bar
270	=	270 Bar
300	=	300 Bar

Special Features		
00	=	Safety Port Machined Safety Not Installed
B	=	Cleaned for O_2 Service and Bagged
CC	=	Cap and Chain
FT	=	Filter
GH	=	Gauge Hole
HC	=	Rubber Handwheel Cover
LX	=	Lexan® Handwheel
MA	=	Stamped: Argon
MB	=	Stamped: Air Breathing
MC	=	Stamped: Carbon Dioxide
MD	=	Stamped: CO_2 Med.
MG	=	Stamped: Acetylene
MM	=	Stamped: Carbon Monoxide
MN	=	Stamped: Nitrogen O.F.
MO	=	Stamped: Oxygen
MQ	=	Stamped: Oxygen-Hel. Med.
MR	=	Stamped: Air Industrial
MS	=	Stamped: Sulphur Hexafluoride
MY	=	Stamped: Hydrogen
M1	=	Stamped: Inert O.F.
M2	=	Stamped: Inert O.T.
M3	=	Stamped: Nitrous Oxide Med.
M4	=	Stamped: Oxygen Med.
M7	=	Stamped: 6000 PSI
T	=	¼" NPT Tapped Inlet
VS	=	Vented Flare Safety (Hydrogen)
-3	=	3 Threads Oversize
-4	=	4 Threads Oversize
-7	=	7 Threads Oversize
-24	=	24 Threads Oversize
When Inlet Designation is 5		
-50	=	.500–20 UNF Inlet Thread
-62	=	.625–18 UNF Inlet Thread
-75	=	.750–16 UNF Inlet Thread
-87	=	.875–14 UNF Inlet Thread

Outlet Code		
(NONE)	=	CGA Outlet
ABN	=	Brazil, ABNT
AS	=	Australia, AS2473
BS	=	British Standard
DIN	=	Germany
IND	=	Chile, INDURA
INF	=	Mexico, INFRA
IRA	=	Argentina, IRAM
JIS	=	Japan
NF	=	France
SMS	=	Sweden

Inlet Designation		
3	=	⅜"–18 NGT
4	=	½"–NGT
4FPT	=	¼"–18 NPT Female
5	=	Straight Thread, 1⅛"–12 UNF (Unless Changed by Special Feature)
6	=	¾"–14 NGT
7	=	¾"–14 SGT
8	=	1"–11½NGT
8MPT	=	½"–14 NPT
12FRT	=	¾"–14 NPT Female
17E	=	17,4 ISO/DIS 11116
25E	=	25,8 ISO/DIS & DIN 28,8
25P	=	M25 x 2
198	=	DIN W19,8
313	=	DIN W31,3
SP12	=	¾"–14 NPSM
V1	=	JIS 20 x 14
V2	=	JIS 28 x 14
V3	=	JIS 28 x 14 Reduced Length
W1	=	1-14 AS2473
W6	=	0.06-14 AS2473
W71	=	0.715-14 AS2473

New Part Number Cross Reference

Previous PN Prefix	New PN Prefix	New PN Example
GV	GSV	GSV58061-32
GVHM	GSHV	GSHV70261-85
GVT	GSVT	GSVT30060
GRPV	GSRPV	GSRPV32061-28
NGV	NGSV	NGSV35065-32
NGVHM	NGSHV	NGSHV69565-55
NGRPV	NGSRPV	NGSRPV35061-38

Pressure Relief Device Numbering Matrix: Unitized Plug Series

1 - P625 X - 19 X X 9 XX - XX X X

Surface Finish	
(BLANK) =	No Plating
1 =	Chrome Plating

Material	
(BLANK) =	Brass

Thread Diameter
.625

Pitch
19

Country	
(BLANK) =	None
E =	European

Safety Disc	
(BLANK) =	None
C =	Copper
N =	Nickel

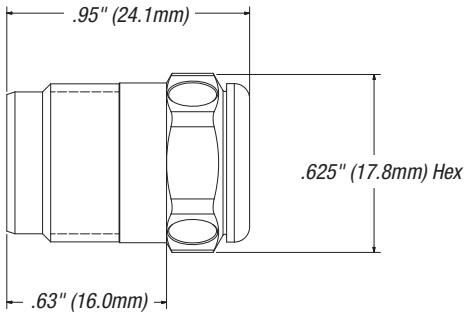
Type	
(BLANK) =	None
FL =	Flare
H =	High Pressure -46 Burst Pressure and Higher

Burst Pressure	
28 =	3000 Max. PSI
32 =	3360 Max. PSI
35 =	3775 Max. PSI
38 =	4000 Max. PSI
39 =	4351 Max. PSI
43 =	4450 Max. PSI
46 =	4833 Max. PSI
47 =	4917 Max. PSI
48 =	5000 Max. PSI
55 =	5833 Max. PSI
63 =	6665 Max. PSI
65 =	6750 Max. PSI
71 =	7500 Max. PSI
78 =	8333 Max. PSI
85 =	9000 Max. PSI
95 =	10,000 Max. PSI
190 =	190 Bar
216 =	216 Bar
250 =	250 Bar
270 =	270 Bar
300 =	300 Bar

Fuse Metal	
(BLANK) =	None
M =	165˚ F
W =	212˚ F

Cleaned for Oxygen Service	
(BLANK) =	None
B =	Cleaned and Bagged

Pressure Relief Devices



P625-19X9-XXX

Ordering Information

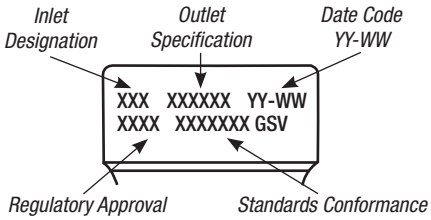
Pressure Relief Device				Cylinder Working Pressure			Disc Rupture Range PSI @ 160° F	
CG-1 Frangible Disc No Fuse Metal	CG-4 * Frangible Disc 165° F Fuse Metal	CG-5 * Frangible Disc 212° F Fuse Metal	-XX	D.O.T. Spec 3A 3AA 3AL Cylinders PSI	D.O.T. Exemption Cylinders PSI	International Cylinders Bar	Min.	Max.
GSV Low Pressure								
P625-19N9-28	P625-19C9-28M	P625-19C9-28W	-28	1800	—	—	2700	3000
P625-19N9-32	P625-19C9-32M	P625-19C9-32W	-32	2015	—	—	3025	3360
P625-19N9-35	P625-19C9-35M	P625-19C9-35W	-35	2265	—	—	3400	3775
P625-19N9-38	P625-19C9-38M	P625-19C9-38W	-38	2400	—	—	3600	4000
P625-19N9-39	P625-19C9-39M	P625-19C9-39W	-39	—	—	200	3915	4350
P625-19N9-43	P625-19C9-43M	P625-19C9-43W	-43	2670	—	—	4005	4450
P625-19N9-46	P625-19C9-46M	P625-19C9-46W	-46	2900	—	—	4350	4833
P625-19N9-47	P625-19C9-47M	P625-19C9-47W	-47	2950	—	—	4425	4917
GSHV High Pressure								
P625-19N9H-48	—	P625-19C9H-48W	-48	3000	—	230	4500	5000
P625-19N9H-55	—	P625-19C9H-55W	-55	3500/3600	—	—	5250	5833
P625-19N9H-63	—	P625-19C9H-63W	-63	4000	—	—	6000	6665
P625-19N9H-65	—	P625-19C9H-65W	-65	—	4500	300	6075	6750
P625-19N9H-71	—	P625-19C9H-71W	-71	—	5000	—	6750	7500
P625-19N9H-78	—	P625-19C9H-78W	-78	5000	—	—	7500	8333
P625-19N9H-85	—	P625-19C9H-85W	-85	—	6000	—	8100	9000
P625-19N9H-95	—	P625-19C9H-95W	-95	6000	—	—	9000	10,000

** Copper disc must be used for hydrogen service.*

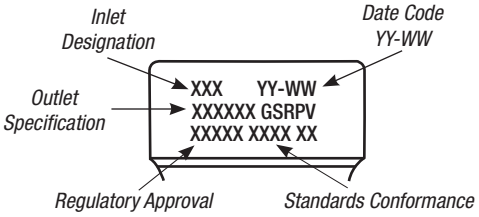
Pressure relief devices come standard with a nickel disc. For copper disc option with CG-4 and CG-5, use an "C" in place of the "N" in the part number. For chrome-plated CG1 PRDs, add "1" before Part Number. For example, P625-19N9H-XX becomes 1-P625-19N9H-XX.

Product Markings Reference

A GSV, GSHV, GSV Acetylene, GSVT and NGSV Series



B GSRPV and NGSRPV Series



Inlet Code	
Inlet Code	**Inlet Thread Designation**
4FPT	¼"–18 NPT Female
06N	⅜"–18 NGT
8MPT	½"–14 NPT
08N	½"–14 NGT
12FPT	¾"–14 NPT Female
12N	¾"–14 NGT
12S	¾"–14 SGT
16N	1"–11½ NGT
U8	½"–20 UNF
U10	⅝"–18 UNF
SP12	¾"–14 NPSM
U12	¾"–16 UNF
U14	⅞"–14 UNF
U18	1⅛"–12 UNF
17E	17,4 ISO/DIS 11116
198	DIN 477 W18,8 x 1/14
25E	25,8 ICO/DSI 10920.2 & DIN 477 28.8 x 1/14
313	DIN 477 W31,3 x 1/14
V1	20 X 14 JIS B 8246
V2	28 X 14 JIS B 8246
V3	28 X 14 JIS B 8246 (Reduced Length)
W6	0.06–14 AS2473
W71	0.715–14 AS2473
W1	1–14 AS2473
18P	M18 x 1,5
25P	M25 x 2

Outlet Codes	
Code	**Description**
CGA	CGA Outlet
ABN	Brazil, ABNT
AS	Australia, AS2473
BS	British Standard
DIN	Germany
IND	Chile, Indura
INF	Mexico, INFRA
IRA	Argentina, IRAM
JIS	Japan
NF	France
SMS	Sweden

NOTE: Date codes include the last two digits of the year manufactured and two digits to represent the week manufactured. For example, the year is represented as "08" for 2008 or "10" for 2010. For example, the week is represented as "01" for first week of the year manufactured and "10" for tenth week of the year manufactured. In some standards the year comes first, and in some standards the week comes first.