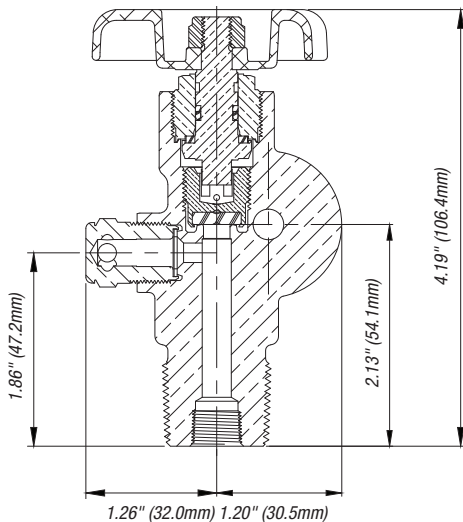
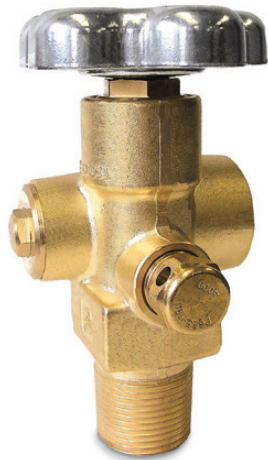


GRPV Series Residual Pressure Valves



GRPV

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 30 to 50 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) unitized plug design provides excellent flow characteristics
- 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
- Maximizes optimum fill flow rate and provides high flow for delivery of product with Cv factor of .43

For Product Markings Reference, see **B** on page 66.

SHERWOOD VALVE COMPRESSED GAS PRODUCTS

Industrial Gas Valves

GRPV Series Residual Pressure Valves

For further ordering information, refer to the Selection of Pressure Relief Devices on page 62, the Pressure Relief Device Numbering Matrix on page 65, the Product Markings Reference on page 66 and the Valve Part Numbering Matrix on page 70.

Design Specifications		
	English	Metric
Maximum Working Pressure	3500 PSI	413 Bar
Burst Pressure	10,000 PSI	1035 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	Standard: .28 CO ₂ /Manifold: .50	
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

Materials of Construction		
Sherwood Part Number	Part Description	Materials of Construction
N/A	Body	Brass C37700/Chrome Plating When Applicable
N/A	Bonnet	Brass C36000/Chrome Plating When Applicable
1919A	Handwheel	Aluminum A380
1251-6	Handwheel Nut	Steel Class 8, Zinc Plating
N/A	Lower Plug	Brass C48500
N/A	Lower Plug Seat	Nylon Zytel 101
See Chart on Page 62	PRD	Plug: Brass C36000/Chrome Plating When Applicable Rupture Disc: Nickel Alloy 201; Copper C22000 Webbed Seal Gasket: Copper Dead Soft C11000
N/A	Stem	Brass C36000
G011EP	O-Ring	Ethylene Propylene (EPDM)
N/A	Back-up O-Ring	Ethylene Propylene (EPDM)
N/A	Thrust Washer	Delrin® 500 AF
N/A	RPV Piston	Brass C37700
N/A	RPV Plug	Brass C36000/Chrome Plating When Applicable
N/A	RPV Spring	Beryllium Copper
N/A	Piston O-Ring	Ethylene Propylene (EPDM)
N/A	Piston O-Ring	Ethylene Propylene (EPDM)
N/A	RPV Plug O-Ring	Ethylene Propylene (EPDM)

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
AS2473	Australian Standard for Compressed Gas Cylinder Valves
TPED/ADR	Transportable Pressure Equipment Directive
A-A-59860	U.S. General Services Administration Standards for Gas Cylinder Valves

Inlet O-Ring for Straight Threaded GRPV Series Residual Pressure Valves		
Sherwood Part Number	Size	Material
G216A	1.125 UNF	Buna-N

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

GRPV Series Residual Pressure Valves

For further ordering information, refer to the Selection of Pressure Relief Devices on **page 62**, the Pressure Relief Device Numbering Matrix on **page 65**, the Product Markings Reference on **page 66** and the Valve Part Numbering Matrix on **page 70**.

Ordering Information				
Sherwood Part Number	Gas Service @ 70° F	CGA Outlet	Outlet Thread Size	Inlet Thread Size
<i>Air</i>				
GRPV34641-XX	0 PSI-3000 PSI	346	.825-14 NGO RH Ext.	½"-14 NGT
GRPV34661-XX	0 PSI-3000 PSI	346	.825-14 NGO RH Ext.	¾"-14 NGT
GRPV34625E1-XX	0 PSI-3000 PSI	346	.825-14 NGO RH Ext.	25E
GRPV34761-XX	0 PSI-3000 PSI	347	.825-14 NGO RH Ext.	¾"-14 NGT
GV34725E1-XX	0 PSI-3000 PSI	347	.825-14 NGO RH Ext.	25E
<i>Argon</i>				
GRPV58041-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	½"-14 NGT
GRPV58061-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	¾"-14 NGT
GRPV58025E1-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	25E
GRPV68061-XX	3001 PSI-4700 PSI	680	1.045-14 NGO RH Int.	¾"-14 NGT
GRPV68025E1-XX	3001 PSI-4700 PSI	680	1.045-14 NGO RH Int.	25E
<i>Carbon Dioxide</i>				
GRPV32041-XX	0 PSI-3000 PSI	320	.825-14 NGO RH Ext.	½"-14 NGT
GRPV32061-XX	0 PSI-3000 PSI	320	.825-14 NGO RH Ext.	¾"-14 NGT
GRPV32051-XX	0 PSI-3000 PSI	320	.825-14 NGO RH Ext.	1.125"-12 UNF
GRPV32025E1-XX	0 PSI-3000 PSI	320	.825-14 NGO RH Ext.	25E
<i>Helium</i>				
GRPV58041-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	½"-14 NGT
GRPV58061-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	¾"-14 NGT
GRPV58025E1-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	25E
GRPV68061-XX	3001 PSI-4700 PSI	680	1.045-14 NGO RH Int.	¾"-14 NGT
GRPV68025E1-XX	3001 PSI-4700 PSI	680	1.045-14 NGO RH Int.	25E
<i>Hydrogen</i>				
GRPV35045-XX	0 PSI-3000 PSI	350	.825-14 NGO LH Ext.	½"-14 NGT
GRPV35065-XX	0 PSI-3000 PSI	350	.825-14 NGO LH Ext.	¾"-14 NGT
GRPV35025E5-XX	0 PSI-3000 PSI	350	.825-14 NGO LH Ext.	25E
<i>Nitrogen</i>				
GRPV58041-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	½"-14 NGT
GRPV58061-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	¾"-14 NGT
GRPV58025E1-XX	0 PSI-3000 PSI	580	.965-14 NGO RH Int.	25E
GRPV68061-XX	3001 PSI-4700 PSI	680	1.045-14 NGO RH Int.	¾"-14 NGT
GRPV68025E1-XX	3001 PSI-4700 PSI	680	1.045-14 NGO RH Int.	25E
<i>Oxygen</i>				
GRPV54041-XX	0 PSI-3000 PSI	540	.903-14 NGO RH Ext.	½"-14 NGT
GRPV54061-XX	0 PSI-3000 PSI	540	.903-14 NGO RH Ext.	¾"-14 NGT
GRPV54025E1-XX	0 PSI-3000 PSI	540	.903-14 NGO RH Ext.	25E
GRPV57725E1-XX	0 PSI-3000 PSI	577	.903-14 NGO RH Ext.	25E
GRPV57761-XX	0 PSI-3000 PSI	577	.960-14 NGO-RH-Ext.	¾"-14 NGT
<i>Sulfur Hexafluoride</i>				
GRPV59041-XX	0 PSI-3000 PSI	590	.965-14 NGO LH Int.	½"-14 NGT
GRPV59061-XX	0 PSI-3000 PSI	590	.965-14 NGO LH Int.	¾"-14 NGT
GRPV59025E1-XX	0 PSI-3000 PSI	590	.965-14 NGO LH Int.	25E

Options

To order 4, 7 or 24 threads oversize inlets, add -4, -7 or -24 to the end of the Part Number (e.g. GRPV58061-XX becomes GRPV58061-XX-7).

To order chrome plating, add letter "A" after letters GV in the Part Number (e.g. GRPV58061-XX becomes GRPVA58061-XX).

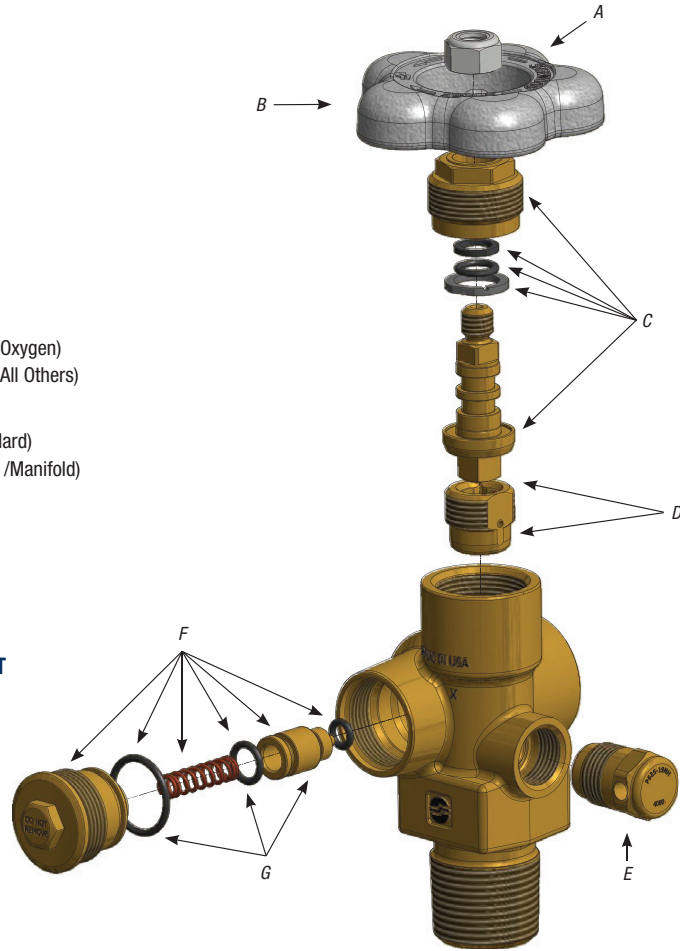
To order fusible backed Pressure Relief devices in 165° F or 212° F nominal melting temperatures, change 1 in the Part Number to 4 (165° F) or to 5 (212° F) (e.g. GRPV35061-XX becomes GRPV35064-XX for 165° F, or GRPV35065-XX for 212° F).

NOTE: GRPV valves are not approved for CNG service. For CNG Service, see NGRPV Series on pages 45-47. Not all valves are available in all configurations. Contact factory for availability. Orders may be subject to minimum quantities.

GRPV Series Residual Pressure Valves

Parts Breakdown for GRPV Series Residual Pressure Valves

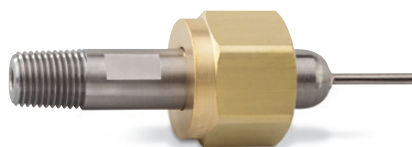
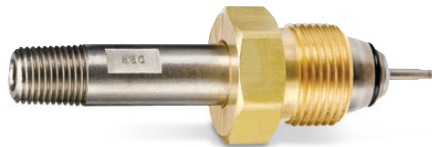
- A. Handwheel Nut **1251-6**
- B. Handwheel **1919A**
- C. Bonnet and Stem Assembly Includes: **1400-30-100** (Oxygen)
1400-30-101 (All Others)
Bonnet, Back-Up O-Ring, O-Ring,
Thrust Washer and Stem
- D. Lower Plug and Seat Assembly **1400-40** (Standard)
1400-40A (CO₂ /Manifold)
Includes: Lower Plug and Seat
- E. Pressure Relief Device Includes: Plug, **P625-19X-XX**
Rupture Disc and Webbed Seal Washer
- F. Includes RPV Assembly,
Plug, O-Rings, Spring and Piston **GRPV-KIT**
- G. Includes O-Rings
and Piston Assembly **GRPV-NVA-KIT**



For further ordering information, refer to the Selection of Pressure Relief Devices on **page 62**, the Pressure Relief Device Numbering Matrix on **page 65**, the Product Markings Reference on **page 66** and the Valve Part Numbering Matrix on **page 70**.

GRPV Key Replacement Parts	
Sherwood Part Number	Description
GRPV-KIT	Total RPV Assembly Kit, 50 Each
GRPV-NVA-KIT	Piston Assembly Kit Only, 25 Each

Fill Adapters for GRPV Series



Ordering Information	
Sherwood Part Number	Outlet
<i>Adapters with Retractable Pin</i>	
TLG580SLW*	CGA 580
TLG590SLW*	CGA 590

Retractable Pin Adapters provide maximum operating flexibility to fill or evacuate a cylinder with either a conventional valve or a GRPV. 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 GRPV valve. The adapters incorporate an O-ring seal for a hand-tight connection.

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

TLG580, TLG580SLW Rebuild Kit	
Sherwood Part Number	Description
TL580A-30-R	Each kit includes 25 Plunger & Pin Assemblies
TL580	Nose Bushing Torque Spanner sold separately



Ordering Information	
Sherwood Part Number	Description
TL580B	Pin Locking Tool

Used with Retractable Pin Adapter.

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

Ordering Information	
Sherwood Part Number	Outlet
<i>Fixed Pin Adapters, Spring-Loaded, Adjustable</i>	
TLG320W	CGA 320
TLG346S	CGA 346
TLG350S	CGA 350
TLG540S	CGA 540
TLG680S	CGA 680
TL580D*	CGA 580
TL590D*	CGA 590

Fixed Pin Adapters are for use on manifolds dedicated to filling cylinders with Sherwood GRPV valves.

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



Ordering Information	
Sherwood Part Number	Description
TL580C	Checking Rod

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.