



# Consolidated\* Products

## 1541-1543 Series Safety Valves

### Overview

GE's Consolidated\* 1541 and 1543 series safety valves are designed for steam and other compressible fluids. They are most commonly used in pharmaceutical, dyeing and process plants.

### Features and Benefits

Equipped with two adjusting rings to allow for sharp opening action and full lift at 3 percent overpressure

Low spindle bearing point between the spindle and disc for improved tightness

Self-aligning spring washer for reliability and long life

Precision wound spring,  $\pm 5$  percent tolerance on rate to ensure repeatability and maximum tightness. Manufactured and capacity-certified to ASME Code Sections I and VIII

Valves tested on steam

Seats checked for tightness on steam

The adjustable lifting mechanism can be positioned in any location with 300 degrees of rotation to facilitate ease of installation

### Options

- |                |  |
|----------------|--|
| 1543-3:        | A duplicate of the Consolidated 1543 valve, but supplied with a 304 stainless base and disc.                                       |
| 1541-3:        | A duplicate of the Consolidated 1541 valve, but supplied with a 304 stainless steel base and disc.                                 |
| Bronze Bonnet: | When cast iron bonnets are not permitted, a bronze bonnet option is available.   |
| Soft Seats:    | A PTFE soft seat option is available for improved tightness. This option is only available for ASME Code Section VIII application. |
| Low Pressures: | For low pressures, a special low pressure design is provided to ensure maximum flow capacities against atmospheric pressure.       |
| Spring:        | When chrome alloy springs are not permitted, a 17-7PHSS spring is available.   |



#### Note:

The discharged fluid may escape to the atmosphere through the bonnet vent and drain hole; therefore, toxic or hazardous applications must be avoided.

### Connections

GE's Consolidated 1541 valve is supplied with inlet sizes of .75" (19.1 mm) to 2.50" (63.5mm). The 1543 sizes are supplied with inlet connections of .50" (12.7mm) to 2.00" (50.8 mm). All inlet connections are male NPT with standard hex head on surfaces for easy wrenching

**1541 Standard Inlet and Outlet Connections**

Orifice	Discharge Area		Inlet Size Male NPT		Outlet Size Female NPT	
	in <sup>2</sup>	cm <sup>2</sup>	in	mm	in	mm
D	0.110	0.710	.75	19.1	.75	19.1
E	0.196	1.265	1.00	25.4	1.00	25.4
F	0.307	1.981	1.25	31.8	1.25	31.8
G	0.503	3.245	1.50	38.1	1.50	38.1
H	0.785	5.065	2.00	50.8	2.00	50.8
J	1.287	8.303	2.50	63.5	2.50	63.5

**1543 Standard Inlet and Outlet Connections**

Orifice	Discharge Area		Inlet Size Male NPT		Outlet Size Female NPT	
	in <sup>2</sup>	cm <sup>2</sup>	in	mm	in	mm
D	0.110	0.710	.50	12.7	.75	19.1
E	0.196	1.265	.75	19.1	1.00	25.4
F	0.307	1.981	1.00	25.4	1.25	31.8
G	0.503	3.245	1.25	31.8	1.50	38.1
H	0.785	5.065	1.50	38.1	2.00	50.8
J	1.287	8.303	2.00	50.8	2.50	63.5

**Pressure/Temperature Limits**

Valve Type	Media	Orifice	Temperature Range				Maximum Set Pressure	
			min.		max.		psig	barg
			°F	°C	°F	°C		
1541/43	Steam	All	-20	-28.9	406	207.8	250	17.24
1541/43	Air	All	-20	-28.9	406	207.8	300	20.68
1541-3/1543-3 <sup>1</sup>	Steam	D	-20	-28.9	420	215.6	350	24.13
1541-3/1543-3	Steam	E - J	-20	-28.9	420	215.6	300	20.68
1541-3/1543-3	Air	All	-20	-28.9	420	215.6	350	24.13

**Specifications**

**INLET SIZES**

.50" (12.7 mm) through  
2.50" (63.5 mm) threaded

**OUTLET SIZES**

.75" (19.1 mm) through  
2.50" (63.5 mm) threaded

**ORIFICE SIZES**

Six sizes: D through J

**PRESSURE RANGE**

5 psig (0.34 barg) to  
350 psig (24.13 barg)

**TEMPERATURE RANGE**

-20°F (-28.9°C) to  
420°F (215.6°C)

**MATERIALS**

Cast iron bonnet with brass base and trim is standard. Available with bronze bonnet. Stainless steel base and disc are also optional.

**CERTIFICATION**

ASME B&PVC Section I and VIII

**BLOWDOWN**

4 percent

**BACK PRESSURE LIMIT**

10 percent of Set Pressure

**Note:**

1. GE's current National Board Certification limits the 1541-3/1543-3 to 300 psig (20.68 barg) for code-stamped applications.