



# KINGSTON

*Manufacturing reliable industrial valves for industry since 1908.*



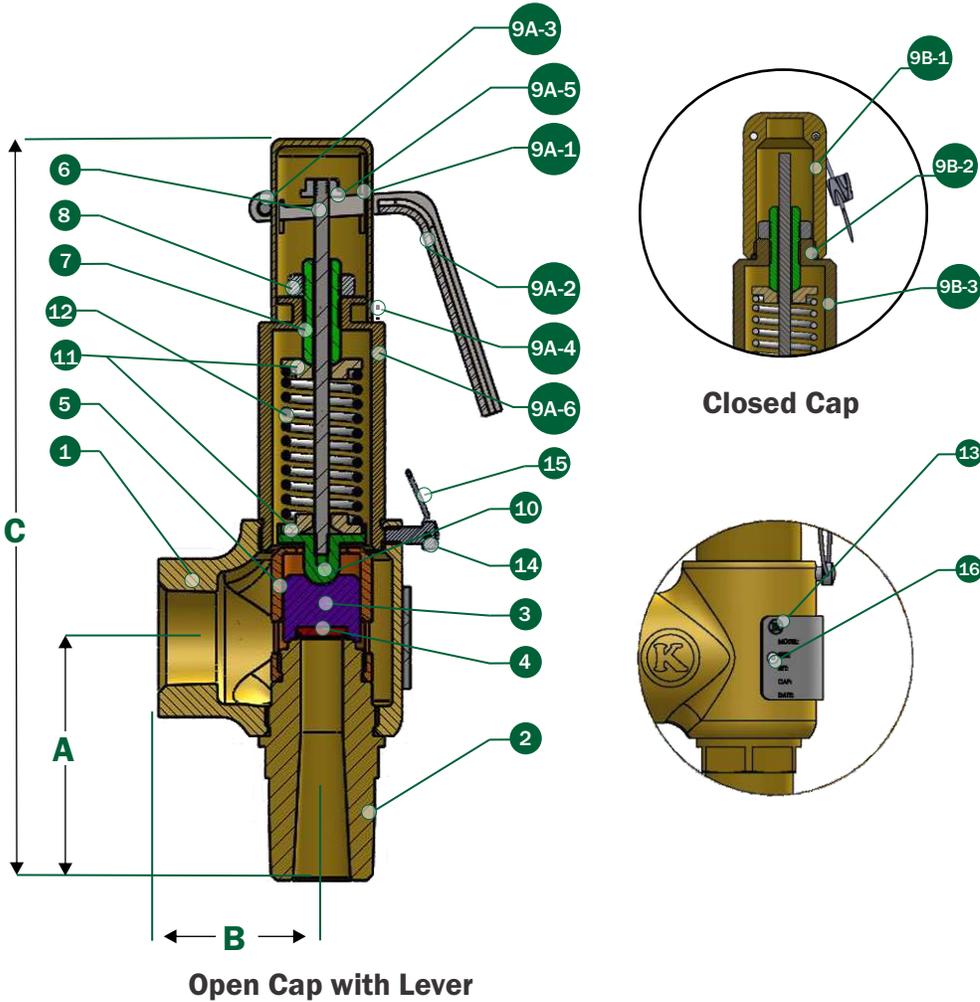
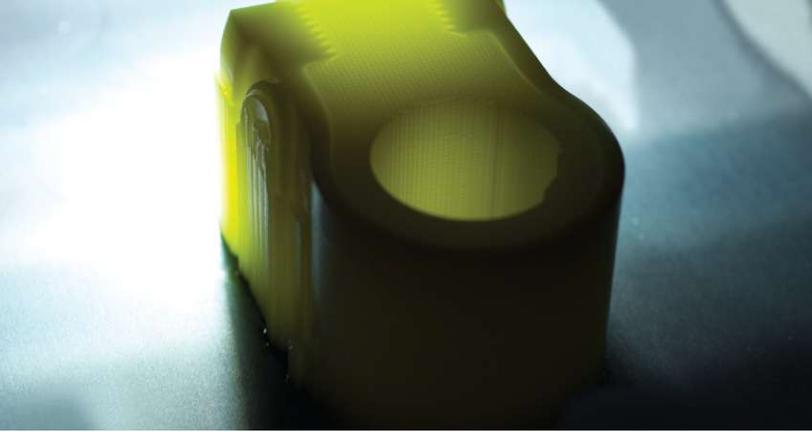
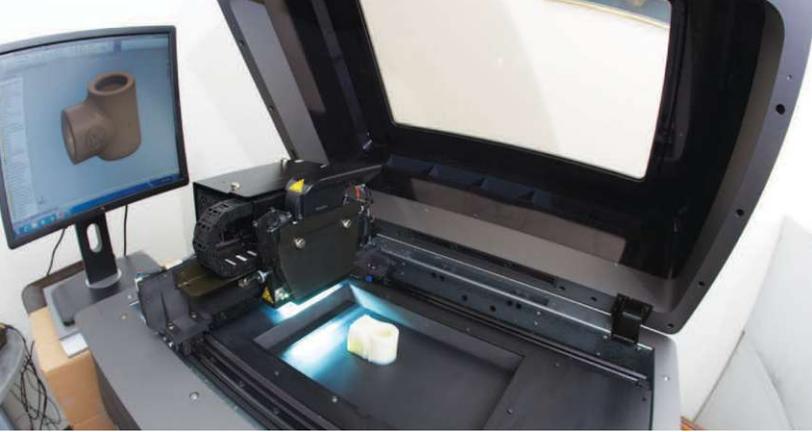
## Model 710

**Side Outlet Safety Relief Valve**



**Storm Manufacturing Group, Inc.**  
23201 Normandie Ave., Torrance, CA 90501-5050  
[www.KingstonValves.com](http://www.KingstonValves.com)

Ph: 310.326.8287  
Toll: 800.210.2525  
Email: [sales@KingstonValves.com](mailto:sales@KingstonValves.com)



## Parts and Materials

No.	Part Description	Materials/Standards
1	Outlet Body	C83600/ASTM B505/B62
2	Inlet Base	Brass C36000/ASTM B16
3	Disc Holder	Brass C36000/ASTM B16
4	Seat Disc	*See Material Options
5	Disc Guide	Brass C36000/ASTM B16
6	Stem	ASTM A479
7	Adj. Screw	Brass C36000/ASTM B16
8	Adj. Screw Locknut	Stainless Steel
9A-1	Open Cap	Brass C36000/ASTM B16
9A-2	Lever	Stainless Steel
9A-3	Lever Pin	Brass C36000/ASTM B16
9A-4	Cap Set Screw	Stainless Steel
9A-5	Stem Nut	Stainless Steel
9A-6	Open Cap Bonnet	Brass C36000/ASTM B16
9B-1	Closed Cap	Brass C36000/ASTM B16
9B-2	O-Ring	*See Material Options
9B-3	Closed Cap Bonnet	Brass C36000/ASTM B16
10	Stem Head	Brass C36000/ASTM B16
11	Spring Button	Brass C36000/ASTM B16
12	Spring	Stainless Steel
13	Tag	Aluminum
14	Lock Screw	Stainless Steel
15	Wire Seal	Aluminum
16	Micro Rivet	Aluminum

## Dimensions And Weights

Model	Inlet		Outlet		Valve Dimensions						Approximate Weight	
					A		B		C			
	in	[mm]	in	[mm]	in	[mm]	in	[mm]	in	[mm]	lb	[kg]
Closed Cap	1/2"	[12.7]	3/4"	[19.0]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Closed Cap	3/4"	[19.0]	3/4"	[19.0]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Closed Cap	1/2"	[12.7]	1"	[25.4]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Closed Cap	3/4"	[19.0]	1"	[25.4]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Closed Cap	1"	[25.4]	1"	[25.4]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Cap w/ Lever	1/2"	[12.7]	3/4"	[19.0]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Cap w/ Lever	3/4"	[19.0]	3/4"	[19.0]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Cap w/ Lever	1/2"	[12.7]	1"	[25.4]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Cap w/ Lever	3/4"	[19.0]	1"	[25.4]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]
Cap w/ Lever	1"	[25.4]	1"	[25.4]	2-3/8"	[60.3]	1-5/8"	[41.3]	7-1/4"	[184.15]	1.95	[0.88]



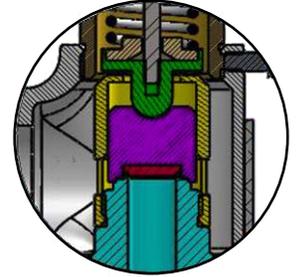
## API 527 Seat Tightness

A fully guided re-seating design allows for reliable seating characteristics that maintain a “Bubble Tight” seal as defined by the American Petroleum Institute. Kingston Model 710 valves achieve a “Bubble Tight” seal at up to 95% of set pressure for valves rated above 350 psig.

- Optimized operating efficiency
- Reduced loss of process media
- Lower maintenance costs

## Seat Tightness [Air]/[Gas]/[Steam]

Set Pressure				% of Set Pressure valve seat is “Bubble Tight”
psig		barg		
Min.	Max.	Min.	Max.	
5	50	0.34	3.45	90%
51	100	3.52	6.9	92%
101	350	6.96	24.1	93%
351	400	24.2	27.6	95%



## Material Options

Kingston Model 710 valves have a robust design and wide range of material options that allow use in various service applications including Compressed Air, Gas, and Steam.

- High capacity robust design
- Wide range of seat materials
- Various service applications

## Pressure And Temperature Limits

Material	Set Pressure				Temperature			
	psig*		barg		°F		°C	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Buna (NBR)	5	400	1.4	27.6	-40°F	260°F	-40°C	127°C
Neoprene	5	400	1.4	27.6	-50°F	260°F	-46°C	127°C
Silicone	5	400	1.4	27.6	-150°F	406°F	-102°C	208°C
Viton®	85	400	5.9	27.6	-40°F	406°F	-40°C	208°C
EPDM	5	400	1.4	27.6	-50°F	300°F	-46°C	149°C

\*15 to 250 psig for Service Code “L” (Div. I, Sec. VIII Steam)  
15 to 400 psig for ASME Div. I, Sec. VIII Air, Gas

## Ordering Information

7 1 0 D 4 5 S 1 K 1 X - 1 5 0

Orifice	Inlet/Outlet Size (NPT)	Seat Material	Cap	Service	Materials	Options*	Pressure Setting
<b>D</b> - Bore Area 0.110 in <sup>2</sup> / 0.71 cm <sup>2</sup>	<b>45</b> - 1/2" Inlet / 3/4" Outlet <b>55</b> - 3/4" Inlet / 3/4" Outlet <b>46</b> - 1/2" Inlet / 1" Outlet <b>56</b> - 3/4" Inlet / 1" Outlet <b>66</b> - 1" Inlet / 1" Outlet	<b>N</b> - Buna (NBR) <b>NP</b> - Neoprene <b>S</b> - Silicone <b>F</b> - Viton <b>E</b> - EPDM	<b>1</b> - Open Cap with Lever <b>2</b> - Closed Cap without Lever	<b>K</b> - Sec. VIII Air <b>L</b> - Sec. VIII Steam <b>N</b> - Non Code Air <b>P</b> - Non Code Steam	<b>1</b> - Brass	<b>X</b> - Oxygen Clean <b>Q</b> - Test Report	5 psi increments Examples: 25 psi = 025 150 psi = 150

\*Not all options available in all configurations  
Add-on pricing may apply

# Flow Capacity Information

## Capacities - ASME Section VIII Air/Gas

D Orifice - 0.110 in<sup>2</sup> / 0.71 cm<sup>2</sup>

Kd= 0.88

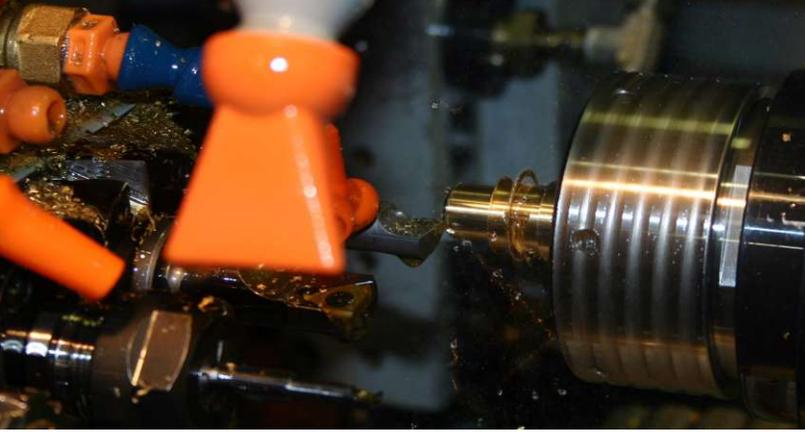
Set Pressure (psig)	D Orifice (SCFM)
15	71
20	82
30	104
40	129
50	153
60	177
70	201
80	225
90	250
100	274
110	298
120	322
130	346
140	371
150	395
160	419
170	443
180	467
190	492
200	516
210	540
220	564
230	588
240	613
250	637
260	661
270	685
280	709
290	734
300	758
310	782
320	806
330	830
340	855
350	879
360	903
370	927
380	951
390	976
400	1000

## Capacities - ASME Section VIII Steam\*

D Orifice - 0.110 in<sup>2</sup> / 0.71 cm<sup>2</sup>

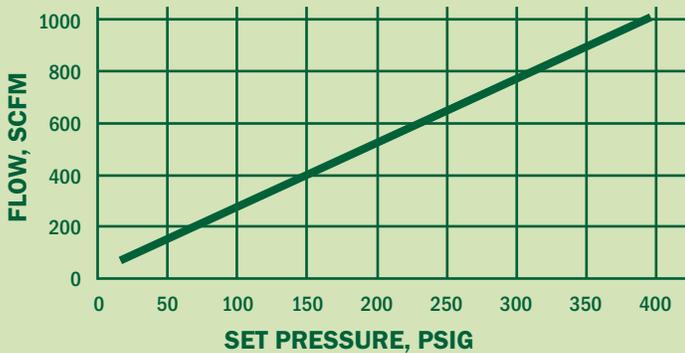
Kd= 0.88

Set Pressure (psig)	D Orifice (PPH)
15	202
20	233
25	263
30	294
35	328
40	362
45	396
50	430
55	464
60	498
65	532
70	566
75	600
80	634
85	668
90	702
95	736
100	770
105	804
110	838
115	872
120	906
125	940
130	974
135	1008
140	1042
145	1076
150	1110
155	1144
160	1178
165	1212
170	1246
180	1314
190	1382
200	1450
210	1518
220	1586
230	1654
240	1722
250	1790



## Flow Capacity Information

**FIG. 710D [AIR]/[GAS] - 1/2", 3/4", 1"**



"D" Orifice - 1/2" through 1" NPT Inlet  
Bore Area: 0.110 in<sup>2</sup> / 0.71 cm<sup>2</sup>

Kd=0.88

**FIG. 710D [STEAM] - 1/2", 3/4", 1"**



"D" Orifice - 1/2" through 1" NPT Inlet  
Bore Area: 0.110 in<sup>2</sup> / 0.71 cm<sup>2</sup>

Kd=0.88

## Product Notes

All Kingston Safety Valves are manufactured under a quality control system accepted by the National Board of Boiler and Pressure Vessel Inspectors. Code valves are capacity certified by the National Board, manufactured in accordance with ASME Code, set and sealed at the factory.

Max set pressure drift of  $\pm 2$  psig below set pressure of 70 psig and  $\pm 3\%$  psig above 70 psig. See valve installation Instructions for further detail.

Seat tightness for Model 710 Series soft seat safety relief valves conform to the guidelines set forth in API 527.

Fixed optimized blowdown for Model 710 is 20%

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**NEW!**

# Model 710

## Side Outlet Safety Relief Valve

### Quick Glance

ASME Division I, Section VIII - Air/Gas and Steam "UV"  
National Board Certified



#### Sizes

"D" Orifice

Bore Area: 0.110 in<sup>2</sup>/0.71 cm<sup>2</sup>

Inlet- 1/2", 3/4", 1" NPT

Outlet-3/4", 1" NPT

#### Air/Gas Ratings

#### Steam Ratings

15 to 250 psig [0.2 to 17.2 barg]

406 °F Max [208 °C Max]

15 to 400 psig [0.2 to 27.5 barg]

-150 to 406 °F [-102 to 208 °C]

## Introducing the Model 710

The Kingston Model 710 Safety Relief Valve is a versatile valve ideal for use in a wide range of industrial applications. Its high flow capacities are achieved through full-lift performance design giving the Model 710 a flow advantage against comparable valves.

The Model 710's fully guided stem design providing superior re-seating accuracy makes it a cost effective alternative. Its fixed, optimized blowdown gives the Model 710 consistency in the volume of media discharge on relief.

Features	Options	Applications
Integrated Hard Stop	Closed Cap & Open Cap/Lever	Compressors & Dryers
Fully Guided Re-Seating	Registered in all Canadian Provinces	Steam Systems
API 527 Seat Tightness	ASME Div. I Sec. VIII Code Air/Gas: 15 to 400 psig	Pressure Accumulation Tanks
Fixed Blowdown of 20%	ASME Div. I Sec. VIII Code Steam: 15 to 250 psig	Industrial, Chemical, & Power Plant Infrastructure
High Capacity Full Lift Design		Piping Systems & Auxiliary Support Skids