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# Steel Series 1 - 4 Ball Seat Safety Relief Valves

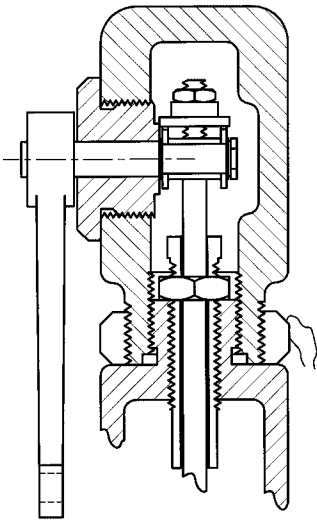
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- Manufactured in accordance with ASME Code Section VIII
- NBBI capacity certified for Air/Gas
- Pressures to 6000 psi
- Dependable “Ball & Seat” design
- 1/4” to 1” NPT inlet sizes

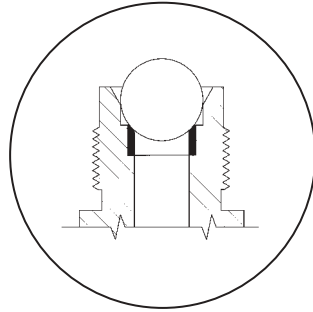
 **Hydroseal**  
*A Mallard Control Company*



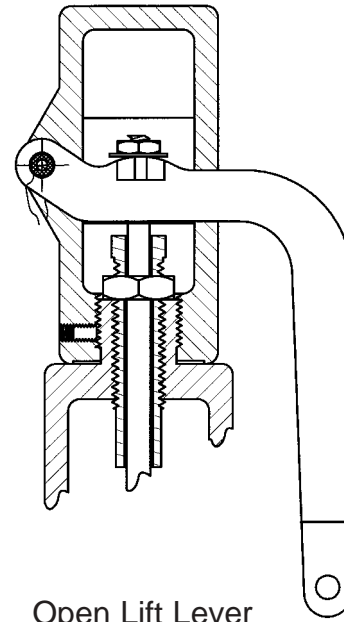
# Series 14, 38, 1, 2, 3, & 4 Steel Safety Relief Valves



Packed Lift Lever



**Soft Seat Detail**  
CRV & FRV Models  
Molded Viton® seal standard  
Optional materials available



Open Lift Lever

MATERIAL CODE	0	2	3	4	5	6	7
1. VALVE CAP	CS	CS	316 SS	316 SS	CS	CS	CS
2. ADJUSTING LOCKNUT	SS	SS	316 SS	316 SS	316 SS	316 SS	SS
3. CAP SEAL	Specify	Specify	Specify	Specify	Specify	Specify	Specify
4. ADJUSTING SCREW	CS	CS	316 SS	316 SS	316 SS	316 SS	CS
5. UPPER SPRING PLATE	SS	SS	316 SS	316 SS	316 SS	316 SS	SS
6. BODY	WCB	WCB	CF8M	CF8M	WCB	WCB	WCB
7. SPRING	SS	SS	316 SS	Inconel®	316 SS	Inconel®	Inconel®
8. GUIDE STEM	SS	SS	316 SS	316 SS	316 SS	316 SS	SS
9. LOWER SPRING PLATE	SS	SS	316 SS	316 SS	316 SS	316 SS	SS
10. BALL	440C SS	Stellite®	Stellite®	Stellite®	Stellite®	Stellite®	440C SS
11. SEAT	SS	SS	316 SS	316 SS	316 SS	316 SS	SS
12. BODY/SEAT SEAL	Specify	Specify	Specify	Specify	Specify	Specify	Specify
OPEN LEVER ASSEMBLY	CS	CS	SS	SS	CS	CS	CS
PACKED LEVER ASSEMBLY	CS	CS	SS	SS	CS	CS	CS

CS - CARBON STEEL  
SS - STAINLESS STEEL  
WCB - ASTM A 216  
CF8M - ASTM A 351

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# Model Selection



## 14AV INLET • ORIFICE • OUTLET

MODEL	INLET	ORIFICE [DIA]	OUTLET	SOFT SEAT	MAX. SET PRESS. [PSI]
14AV*	1/4" FNPT	1/4"	3/4" FNPT		6000
14BV*	1/4" FNPT	3/8"	3/4" FNPT		6000
14DV*	1/4" FNPT	1/4"	1" FNPT		6000
14EV*	1/4" FNPT	3/8"	1" FNPT		6000
38AV*	3/8" FNPT	1/4"	3/4" FNPT		6000
38BV*	3/8" FNPT	3/8"	3/4" FNPT		6000
38DV*	3/8" FNPT	1/4"	1" FNPT		6000
38EV*	3/8" FNPT	3/8"	1" FNPT		6000
1AV*	1/2" MNPT	1/4"	3/4" FNPT		3000
1BV	1/2" MNPT	3/8"	3/4" FNPT		2000
1CXV	1/2" MNPT	9/16"	3/4" FNPT		720
1CRV	1/2" MNPT	1/2"	3/4" FNPT	●	720
1DV*	1/2" MNPT	1/4"	1" FNPT		3000
1EV	1/2" MNPT	3/8"	1" FNPT		2000
1FXV	1/2" MNPT	9/16"	1" FNPT		720
1FRV	1/2" MNPT	1/2"	1" FNPT	●	720
2AV*	1/2" FNPT	1/4"	3/4" FNPT		6000
2BV	1/2" FNPT	3/8"	3/4" FNPT		6000
2CXV	1/2" FNPT	9/16"	3/4" FNPT		3500
2CRV	1/2" FNPT	1/2"	3/4" FNPT	●	2500
2DV*	1/2" FNPT	1/4"	1" FNPT		6000
2EV	1/2" FNPT	3/8"	1" FNPT		6000
2FXV	1/2" FNPT	9/16"	1" FNPT		3500
2FRV	1/2" FNPT	1/2"	1" FNPT	●	2500
3AV*	3/4" MNPT	1/4"	3/4" FNPT		6000
3BV	3/4" MNPT	3/8"	3/4" FNPT		6000
3CXV	3/4" MNPT	9/16"	3/4" FNPT		3500
3CRV	3/4" MNPT	1/2"	3/4" FNPT	●	2500
3DV*	3/4" MNPT	1/4"	1" FNPT		6000
3EV	3/4" MNPT	3/8"	1" FNPT		6000
3FXV	3/4" MNPT	9/16"	1" FNPT		3500
3FRV	3/4" MNPT	1/2"	1" FNPT	●	2500
4DV*	1" MNPT	1/4"	1" FNPT		6000
4EV	1" MNPT	3/8"	1" FNPT		6000
4FXV	1" MNPT	9/16"	1" FNPT		3500
4FRV	1" MNPT	1/2"	1" FNPT	●	2500

\* Models 14, 38 and 1/4" orifice are not ASME Code Stamped valves.

## O MATERIAL

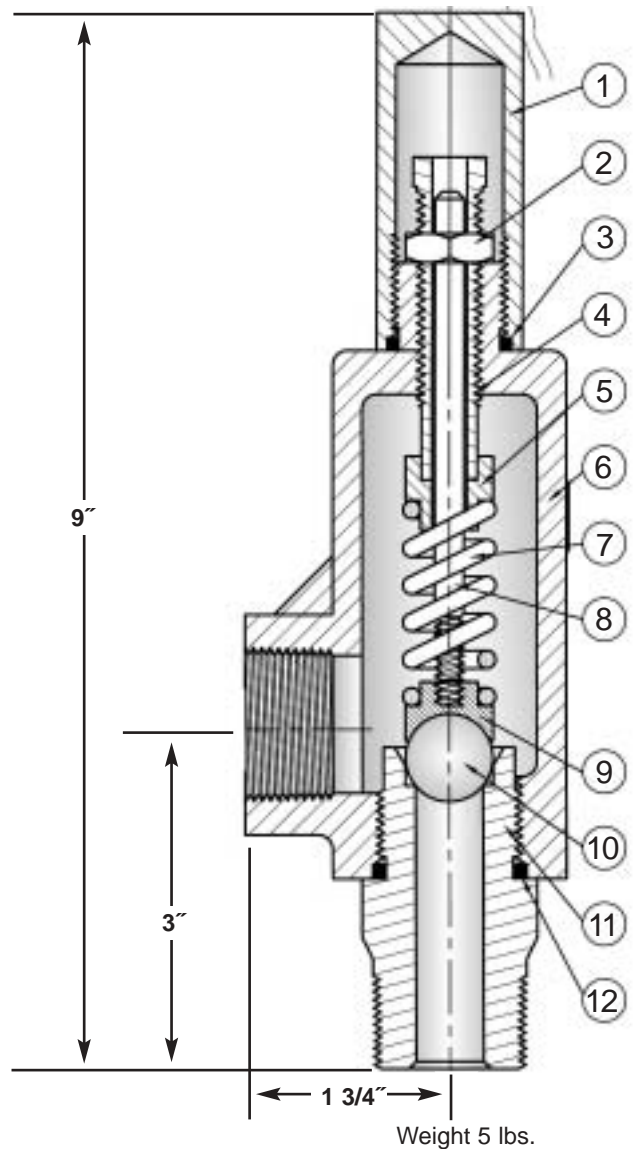
0	- Standard Trim
2	- Standard Trim w/ Stellite® Ball
3	- All 316 SS w/ Stellite® Ball
4	- All 316 SS w/ Inconel® Spring & Stellite® Ball
5	- 316 SS Trim w/ Stellite® Ball
6	- 316 Trim/ Inconel® Spring w/ Stellite® Ball
7	- Standard Material/ Inconel® Spring

## O CAP TYPE

0	- Closed Cap
L	- Open Lift Lever
P	- Packed Lift Lever
<b>Maximum Temperature 450 °F</b>	
ASME Code for air and gas only Requires lift lever on air service	

## N O RING / SOFT SEAT

O	- Nitrile [Buna-N] O-Ring with Viton® Soft Seat
N	- Nitrile [Buna-N]
F	- Fluorocarbon [Viton®]
C	- Neoprene
K	- Kalrez®
E	- EPDM
M	- Metal Gasket
<i>Polymer selection is media and temperature dependent</i>	



# Capacity Tables For Series 14, 38, 1, 2, 3, & 4



Set Pressure PSIG	AV/DV		BV/EV		CRV/FRV		CXV/FXV	
	Orifice: 1/4" Area = 0.049 sq. in.		Orifice: 3/8" Area = 0.110 sq. in.		Orifice: 1/2" soft seat Area = 0.196 sq. in.		Orifice: 9/16" Area = 0.248 sq. in.	
	Air SCFM	Water GPM	Air SCFM	Water GPM	Air SCFM	Water GPM	Air SCFM	Water GPM
25			28	1	47	5	49	7
50			47	2	77	7	80	11
75			66	3	108	9	112	13
100		2	84	3	138	10	143	15
125		2	103	3	169	11	175	17
150		2	122	4	199	13	207	19
200		3	160	4	261	15	270	22
250		3	197	5	322	16	333	24
300		3	234	6	383	18	396	27
350		4	272	6	444	19	460	29
400		4	309	6	505	21	523	31
450		4	346	7	566	22	586	33
500		5	384	7	627	23	649	35
600		5	458	8	749	26	776	38
700		5	533	9	871	28	902	41
800		6	608	9	993	30	1029	44
900		6	683	10	1115	31	1155	47
1000		7	758	11	1237	33	1282	49
1500		8	1132	13	1848	41	1914	60
2000		10	1506	15	2458	47	2547	70
2500		11	1880	17			3179	78
3000		12	2254	19			3812	85

ASME Section VIII "UV" Code Stamped for Air/Gas  
**AIR CAPACITIES** determined at 10% over set pressure.  
 To calculate air capacities in SCFM,  $Q = m[(1.1 \times \text{Set Pressure PSI}) + 14.7]$

**m [slope] VALUES**

ORIFICE	DIA.	SLOPE
BV/EV	3/8"	0.68
CRV/FRV	1/2"	1.11
CXV/FXV	9/16"	1.15

1/4" ORIFICE for liquid service only  
**WATER CAPACITIES** determined at 25% over set pressure  
**CANADIAN REGISTRATION NUMBER 0G0736.2C**  
 (Applies to ASME Code stamped valves only.)

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