

**MERCER
VALVE
CANADA**



**UNIFIED
VALVE
GROUP LTD®**

- Western Gauge
- Mercer Valve
- Superlok
- CheckPoint Pump

A Division of the Unified Valve Group Ltd.

The Ultimate in High Performance Valves

9100 - Flanged



When it comes to the ultimate in high performance, we meet the absolute toughest standards in most industrial applications. Far superior to conventional relief valve designs, Mercer Valves open, close, seat and seal.

Think... Mercer First™

• **Mercer Valve Canada 403.215.6961** •



9100 Series Product Overview

The Mercer Valve 9100 Series Pressure Relief Valve is "State of the Art" in soft seat, high flow rate, pressure relieving devices. The 9100 Series is a continuation of the 8100 Series incorporating our patented "Auto Seat Technology"® into its design. Mercer Valve's "Auto Seat Technology"® has made the 9100 Series an industry leader with its reliable, repeatable set pressures. The patented soft seat design and fully guided disk allow the valve to continually outlast the competition. The soft seat 9100 Series has a field-proven lip seal design, which allows for a tighter seal up to set pressure. This tight seal reduces leaks and limits product loss.

The 9100 Series is manufactured in accordance with the requirements of ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 for Air/Gas and Liquid service. The 9100 Series is well suited for specialty gases, compressors, separators, transmission, gathering lines and other production processes.



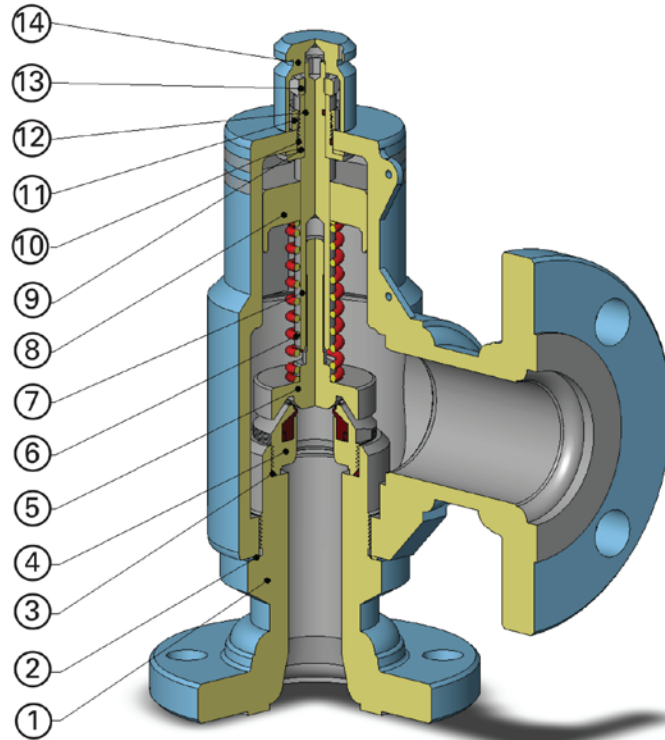
9100 Series Features

- **Designed with "Auto Seat Technology"®.**
- **Consistent Set Pressures allowing repeatable uses without repair or resetting.**
- **Open, Close, Seat and Seal™.**
- **Fully guided disk keeps the disk properly aligned, opening and closing, helping to reseal the valve.**
- **Mechanical Stop prevents wear on parts and controls valve lift.**
- **Low rated and fully guided spring allows for more consistent set pressures from pop to pop.**
- **Pop Action relief allows valve to go to full lift at set pressure. Helps with DOT regulated applications.**
- **Built in accordance with the requirements of ASME Boiler and Pressure Vessel Code. Sec. VIII Div 1.**
- **Non-rising stems allowing valves to be installed in small areas.**

9100 Series Flanged Specifications

Orifice Letter	C	D	E	F	G	H	J	K	L	M
Standard Inlet Sizes	3/4" 1"	3/4" 1" 1 1/2"	1" 1 1/2"	1" 1 1/2"	1 1/2" 2"	1 1/2" 2"	2" 3"	3"	3" 4"	4"
Inlet and Outlet Connection Types Available	RF x RF , RTJ x RF , RTJ x RTJ									
Actual Orifice Diameter (in)	.281	.394	.520	.655	.775	1.050	1.350	1.625	2.020	2.280
Actual Orifice Area (in²)	.062	.122	.212	.337	.472	.865	1.430	2.074	3.205	4.080
API Orifice Area (in²)	---	.110	.196	.307	.503	.785	1.287	1.838	2.853	3.600
Pressure Ranges (psi)	15 to 2999	15 to 2999	15 to 2400	15 to 2400	15 to 2000	15 to 2000	15 to 1800	15 to 1500	15 to 1250	15 to 1000
Standard Temperature Range (°F)	-20 to 400	-20 to 400	-20 to 400	-20 to 400	-20 to 400	-20 to 400	-20 to 400	-20 to 400	-20 to 400	-20 to 400
ASME Flow Coefficient, K_d (Gas)	.818	.818	.818	.818	.818	.818	.818	.818	.818	.818
ASME Flow Coefficient, K_d (Liquid)	.707	.707	.707	.707	.707	.707	.707	.707	.707	.707

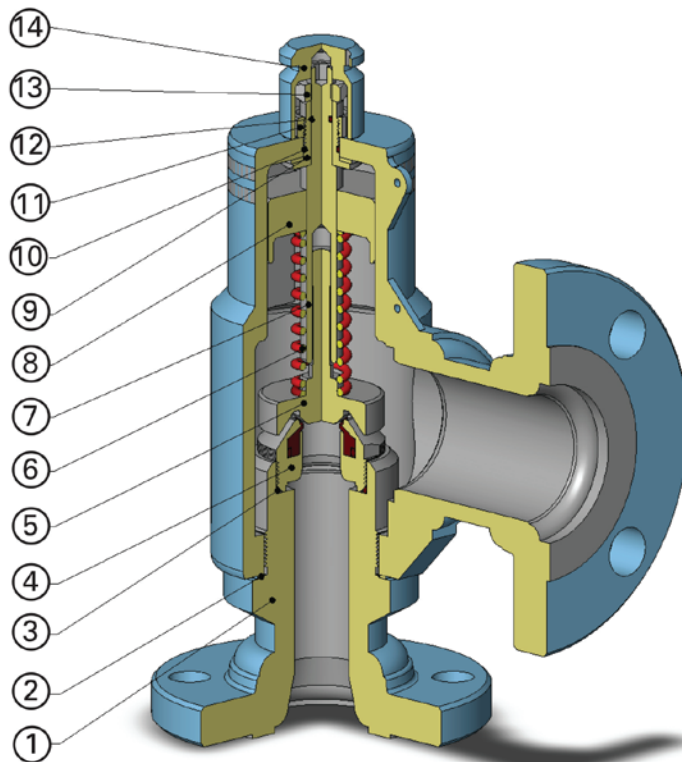
NOTE: Mercer Valve reserves the right to change product designs and specifications without notice.



9100 SERIES FLANGED F & G ORIFICES

ITEM NO	PART NAME	STANDARD MATERIALS
1	BODY SUBASSEMBLY	CARBON STEEL
2	BASE SEAL	SOFT STEEL
3	NOZZLE O-RING	VITON
4	NOZZLE SUBASSEMBLY	STAINLESS STEEL WITH SOFT SEAT
5	DISK SUBASSEMBLY	STAINLESS STEEL
6	SET SPRING	STAINLESS STEEL
7	ADJUSTMENT SCREW	STAINLESS STEEL
8	ADJUSTMENT BUSHING	STAINLESS STEEL
9	CENTER BUSHING	STAINLESS STEEL
10	CENTER BUSHING O-RING	BUNA N
11	CENTER NUT	CARBON STEEL
12	ADJUSTMENT SCREW O-RING	BUNA N
13	LOCKNUT	CARBON STEEL
14	CLOSED CAP	ALUMINUM ALLOY

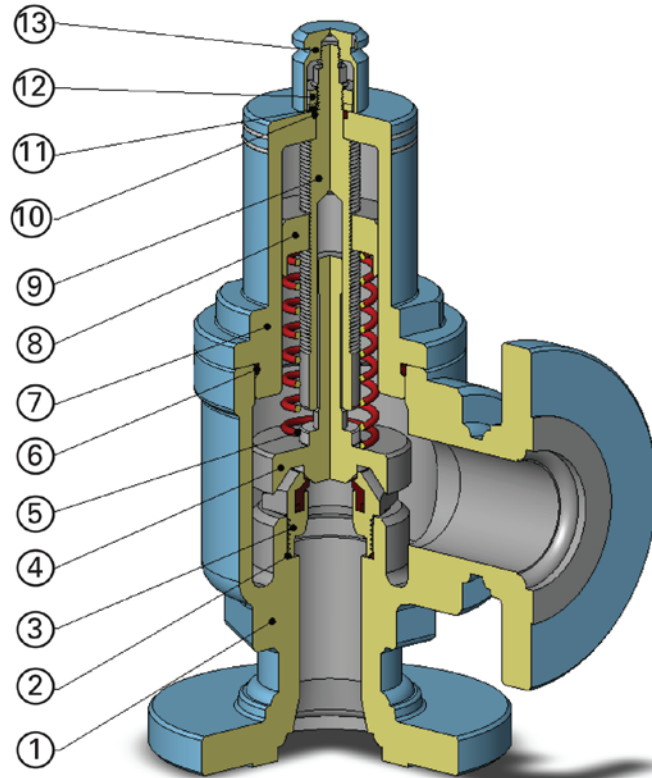
NOTE: Mercer Valve reserves the right to change product designs and specifications without notice.



9100 SERIES FLANGED F & G ORIFICES

ITEM NO	PART NAME	STANDARD MATERIALS
1	BODY SUBASSEMBLY	CARBON STEEL
2	BASE SEAL	SOFT STEEL
3	NOZZLE O-RING	VITON
4	NOZZLE SUBASSEMBLY	STAINLESS STEEL WITH SOFT SEAT
5	DISK SUBASSEMBLY	STAINLESS STEEL
6	SET SPRING	STAINLESS STEEL
7	ADJUSTMENT SCREW	STAINLESS STEEL
8	ADJUSTMENT BUSHING	STAINLESS STEEL
9	CENTER BUSHING	STAINLESS STEEL
10	CENTER BUSHING O-RING	BUNA N
11	CENTER NUT	CARBON STEEL
12	ADJUSTMENT SCREW O-RING	BUNA N
13	LOCKNUT	CARBON STEEL
14	CLOSED CAP	ALUMINUM ALLOY

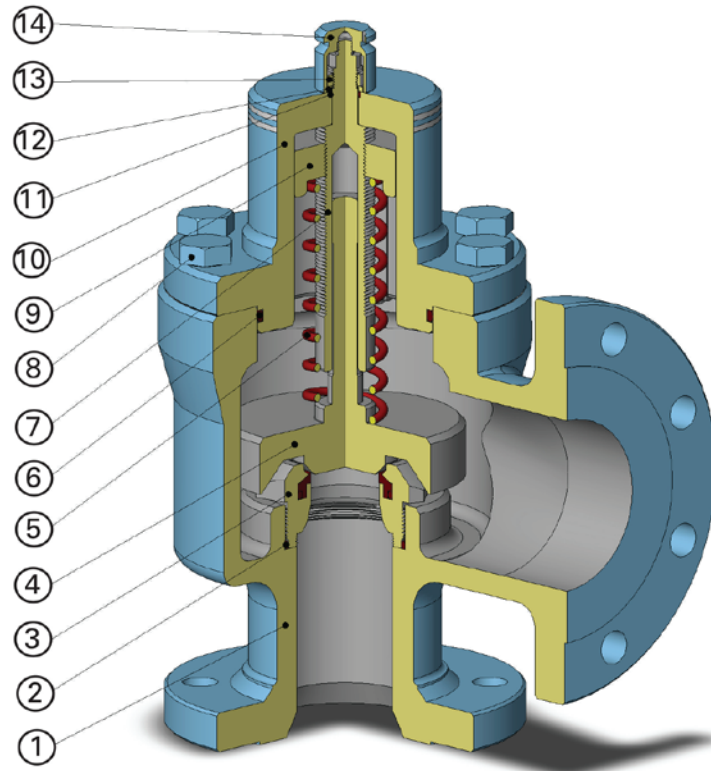
NOTE: Mercer Valve reserves the right to change product designs and specifications without notice.



9100 SERIES FLANGED H ORIFICE

ITEM NO	PART NAME	STANDARD MATERIALS
1	BODY SUBASSEMBLY	CARBON STEEL
2	NOZZLE O-RING	VITON
3	NOZZLE SUBASSEMBLY	STAINLESS STEEL WITH SOFT SEAT
4	DISK SUBASSEMBLY	STAINLESS STEEL
5	SET SPRING	STAINLESS STEEL
6	BONNET O-RING	BUNA N
7	BONNET	CARBON STEEL
8	ADJUSTMENT BUSHING	STAINLESS STEEL
9	ADJUSTMENT SCREW	STAINLESS STEEL
10	ADJUSTMENT SCREW O-RING	BUNA N
11	WASHER	CARBON STEEL
12	LOCKNUT	CARBON STEEL
13	CLOSED CAP	ALUMINUM ALLOY

NOTE: Mercer Valve reserves the right to change product designs and specifications without notice.



9100 SERIES FLANGED J, K, L, & M ORIFICES

ITEM NO	PART NAME	STANDARD MATERIALS
1	BODY SUBASSEMBLY	CARBON STEEL
2	NOZZLE O-RING	VITON
3	NOZZLE SUBASSEMBLY	STAINLESS STEEL WITH SOFT SEAT
4	DISK SUBASSEMBLY	STAINLESS STEEL
5	SET SPRING	STAINLESS STEEL
6	BONNET O-RING	BUNA N
7	ADJUSTMENT SCREW	STAINLESS STEEL
8	BONNET BOLTS	ALLOY STEEL
9	ADJUSTMENT BUSHING	STAINLESS STEEL
10	BONNET SUBASSEMBLY	CARBON STEEL
11	ADJUSTMENT SCREW O-RING	BUNA N
12	WASHER	CARBON STEEL
13	LOCKNUT	CARBON STEEL
14	CLOSED CAP	ALUMINUM ALLOY

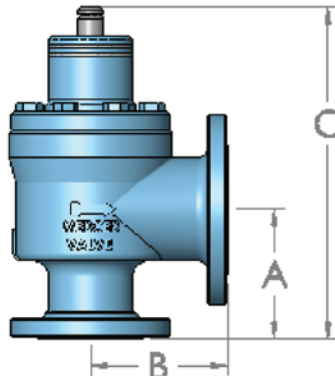
NOTE: Mercer Valve reserves the right to change product designs and specifications without notice.

INLET-OUTLET CODE	VALVE SIZE AND FLANGE RATING INLET X OUTLET	AVAILABLE ORIFICE SIZE	PRESSURE RANGE (psig) C.S. @100° F	CENTER TO FACE DIMENSIONS (IN.) + 1/16 INLET X OUTLET X HT. "A" X "B" X "C"	APPROX. WEIGHT (lbs.)
11	3/4" 150 X 1" 150	C,D	15-285	4 1/8 X 4 1/2 X 9	9
12	3/4" 300 X 1" 150	C,D	286-740	4 1/8 X 4 1/2 X 9	10
13	3/4" 600 X 1" 150	C,D	741-1480	4 1/8 X 4 1/2 X 9	11
14	3/4" 900 X 1" 300	C,D	1481-2220	4 1/8 X 4 1/2 X 9	14
15	3/4" 1500 X 1" 300	C,D	2221-2999	4 1/8 X 4 1/2 X 9	14
16	1" 150 X 1" 150	C,D,E	15-285	4 1/8 X 4 1/2 X 9	12
17	1" 300 X 1" 150	C,D,E	286-740	4 1/8 X 4 1/2 X 9	13
18	1" 600 X 1" 150	C,D,E	741-1480	4 1/8 X 4 1/2 X 9	14
19	1" 900 X 1" 300	C,D	1481-2220	4 1/8 X 4 1/2 X 9	18
21	1" 1500 X 1" 300	C,D	2221-2999	4 1/8 X 4 1/2 X 9	18
22	1" 150 X 1 1/2" 150	D,E	15-285	4 1/8 X 4 1/2 X 9	13
23	1" 300 X 1 1/2" 150	D,E	286-740	4 1/8 X 4 1/2 X 9	14
24	1" 600 X 1 1/2" 150	D,E	741-1480	4 7/8 X 4 1/2 X 10 1/2	15
25	1" 900 X 1 1/2" 300	D,E	1481-2220	5 7/8 X 5 1/2 X 11 1/2	19
26	1" 1500 X 1 1/2" 300	D,E	2221-2400	5 7/8 X 5 1/2 X 11 1/2	19
22	1" 150 X 1 1/2" 150	F	15-285	4 1/8 X 4 3/4 X 9 3/4	17
23	1" 300 X 1 1/2" 150	F	286-740	4 1/2 X 4 3/4 X 10 1/8	18
24	1" 600 X 1 1/2" 150	F	741-1480	5 1/4 X 4 3/4 X 10 7/8	19
27	1" 150 X 2" 150	D*,E*	15-285	4 1/8 X 4 1/2 X 9	14
28	1" 300 X 2" 150	D*,E*	286-740	4 1/8 X 4 1/2 X 9	15
29	1" 600 X 2" 150	D*	741-1480	4 1/8 X 4 1/2 X 9	16
29	1" 600 X 2" 150	E	741-1480	5 1/4 X 4 1/2 X 10 7/8	22
31	1" 900 X 2" 300	D,E	1481-2220	5 1/4 X 5 1/2 X 10 7/8	24
32	1" 1500 X 2" 300	D	2221-2999	5 1/4 X 5 1/2 X 10 7/8	24
32	1" 1500 X 2" 300	E	2221-2400	5 1/4 X 5 1/2 X 10 7/8	24
33	1 1/2" 150 X 2" 150	F*,G	15-285	4 7/8 X 4 3/4 X 10 1/2	22
34	1 1/2" 300 X 2" 150	F*,G	286-740	4 7/8 X 6 X 10 1/2	25
35	1 1/2" 600 X 2" 150	F*,G	741-1480	4 7/8 X 6 X 10 1/2	25
36	1 1/2" 900 X 2" 300	F,G	1481-2220	5 7/8 X 6 X 11 1/2	33
36	1 1/2" 900 X 2" 300	D*,E*	1481-2220	4 1/8 X 5 1/2 X 9 3/4	32
92	1 1/2" 1500 X 2" 300	D*	2221-2999	4 1/8 X 5 1/2 X 9 3/4	32
92	1 1/2" 1500 X 2" 300	E*	2221-2400	4 1/8 X 5 1/2 X 9 3/4	32
33	1 1/2" 150 X 2" 150	H	15-285	4 7/8 X 4 3/4 X 12 5/8	34
34	1 1/2" 300 X 2" 150	H	286-740	4 7/8 X 4 3/4 X 12 5/8	38
35	1 1/2" 600 X 2" 150	H	741-850	4 7/8 X 4 3/4 X 12 5/8	38
55	1 1/2" 150 X 3" 150	G*	15-285	4 7/8 X 4 3/4 X 10 1/2	35
56	1 1/2" 300 X 3" 150	G*	286-740	4 7/8 X 6 X 10 1/2	38
74	1 1/2" 600 X 3" 150	G*	741-1480	4 7/8 X 6 X 10 1/2	38
75	1 1/2" 900 X 3" 300	F*,G*	1481-2220	4 7/8 X 6 1/2 X 10 1/2	50
94	1 1/2" 1500 X 3" 300	F*	2221-2400	4 7/8 X 6 1/2 X 10 1/2	50
55	1 1/2" 150 X 3" 150	H*	15-285	5 1/8 X 4 7/8 X 12 7/8	38
56	1 1/2" 300 X 3" 150	H*	286-740	5 1/8 X 4 7/8 X 12 7/8	42
42	2" 150 X 2" 150	G	15-285	4 7/8 X 4 3/4 X 10 1/2	34
43	2" 300 X 2" 150	G	286-740	4 7/8 X 4 3/4 X 10 1/2	36
44	2" 600 X 2" 150	G	741-1480	5 3/8 X 6 X 11	38
45	2" 900 X 2" 300	G	1481-2000	6 1/16 X 6 X 11 11/16	55
42	2" 150 X 2" 150	H	15-285	4 7/8 X 4 3/4 X 12 5/8	36
43	2" 300 X 2" 150	H	286-740	4 7/8 X 4 3/4 X 12 5/8	38
44	2" 600 X 2" 150	H	741-850	4 7/8 X 6 X 12 5/8	40

NOTE: Mercer Valve reserves the right to change product designs and specifications without notice.

INLET-OUTLET CODE	VALVE SIZE AND FLANGE RATING INLET X OUTLET	AVAILABLE ORIFICE SIZE	PRESSURE RANGE (psig) C.S. @100° F	CENTER TO FACE DIMENSIONS (IN.) + 1/16 INLET X OUTLET X H "A" X "B" X "C"	APPROX. WEIGHT (lbs.)
46	2" 150 X 2 1/2" 150	H	15-285	4 7/8 X 4 3/4 X 12 5/8	39
47	2" 300 X 2 1/2" 150	H	286-740	4 7/8 X 4 3/4 X 12 5/8	40
48	2" 600 X 2 1/2" 150	H	741-850	4 7/8 X 6 X 12 5/8	42
48	2" 600 X 2 1/2" 150	H	851-1480	4 7/8 X 6 X 15 3/16	47
89	2" 900 X 2 1/2" 150	H	1481-2000	6 1/16 X 6 X 16 3/8	65
51	2" 150 X 3" 150	G	15-285	4 7/8 X 5 3/8 X 10 1/2	38
52	2" 300 X 3" 150	G	286-740	4 7/8 X 5 3/8 X 10 1/2	40
53	2" 600 X 3" 150	G	741-1480	6 1/16 X 6 3/8 X 11 11/16	42
54	2" 900 X 3" 300	G	1481-2000	6 1/16 X 6 3/8 X 11 11/16	60
52	2" 300 X 3" 150	H*	286-740	5 1/8 X 4 7/8 X 12 7/8	42
53	2" 600 X 3" 150	H*	741-850	6 1/16 X 6 3/8 X 13 13/16	44
53	2" 600 X 3" 150	H*	851-1480	6 1/16 X 6 3/8 X 16 3/8	48
91	2" 900 X 3" 150	H*	1481-2000	6 1/16 X 6 3/8 X 16 3/8	66
51	2" 150 X 3" 150	J*	15-285	5 3/8 X 4 7/8 X 13 3/8	54
52	2" 300 X 3" 150	J*	285-450	5 3/8 X 4 7/8 X 13 3/8	56
52	2" 300 X 3" 150	J*	451-740	5 3/8 X 4 7/8 X 17 1/16	65
62	3" 150 X 4" 150	J*,K*	15-285	6 1/8 X 6 3/8 X 14 3/16	73
84	3" 300 X 4" 150	J*	286-450	7 1/4 X 7 1/8 X 15 1/4	75
84	3" 300 X 4" 150	J*	451-740	7 1/4 X 7 1/8 X 19	85
64	3" 300 X 4" 150	K*	286-740	6 1/8 X 6 3/8 X 17 7/8	85
85	3" 600 X 4" 150	J*,K*	740-1480	7 1/4 X 7 1/8 X 19	90
86	3" 900 X 4" 150	J*	1481-1800	7 1/4 X 7 1/8 X 19	110
67	3" 150 X 4" 150	L*	15-285	6 1/8 X 6 1/2 X 15 3/4	92
68	3" 300 X 4" 150	L*	15-285	6 1/8 X 6 1/2 X 15 3/4	96
71	4" 300 X 6" 150	L*	286-300	7 1/16 X 7 1/8 X 17 1/4	145
71	4" 300 X 6" 150	L*	301-600	7 1/16 X 7 1/8 X 20 3/16	160
71	4" 300 X 6" 150	L*	601-740	7 1/16 X 7 1/8 X 24 13/16	180
72	4" 600 X 6" 150	L*	741-1250	7 1/16 X 8 X 24 5/8	195
70	4" 150 X 6" 150	M*	15-250	7 X 7 1/4 X 17 3/16	135
70	4" 150 X 6" 150	M*	251-285	7 X 7 1/4 X 20 1/8	150
71	4" 300 X 6" 150	M*	286-500	7 X 7 1/4 X 20 1/8	160
71	4" 300 X 6" 150	M*	501-740	7 X 7 1/4 X 24 3/4	180
72	4" 600 X 6" 150	M*	741-1000	7 X 8 X 24 3/4	195

NOTES: (1) * Indicates API Flange Size and Dimensions. (2) Consult factory for other size options. (3) Pressure Limit, Weight, & "C" dimension may vary with sour gas options.



NOTE: Mercer Valve reserves the right to change product designs and specifications without notice.

FLANGE RATINGS

ASME B16.5-2003

ANNEX F

Tables F2-1.1 & F2-2.2 Pressure-Temperature Ratings for Group 1.1 & 2.2 Materials

	Forging	Castings
Carbon Steel	A105	A216 Gr. WCB
Stainless Steel	A182 Gr. F316	A351 Gr. CF3M

Working Pressures by Classes, psig

Temp. Range (°F)		Material	150lb	300lb	600lb	900lb	1500lb	2500lb
-20	100	Carbon Steel	285	740	1480	2220	3705	6170
		Stainless Steel	275	720	1440	2160	3600	6000
101	200	Carbon Steel	260	680	1360	2035	3395	5655
		Stainless Steel	235	620	1240	1860	3095	5160
201	300	Carbon Steel	230	655	1310	1965	3270	5450
		Stainless Steel	215	560	1120	1680	2795	4660
301	400	Carbon Steel	200	635	1265	1900	3170	5280
		Stainless Steel	195	515	1025	1540	2570	4280
401	500	Carbon Steel	170	605	1205	1810	3015	5025
		Stainless Steel	170	480	955	1435	2390	3980
501	600	Carbon Steel	140	570	1135	1705	2840	4730
		Stainless Steel	140	450	900	1355	2255	3760

MERCER VALVE CANADA



A Division of the Unified Valve Group Ltd.



9500 SERIES CATALOG

CORPORATE HEADQUARTERS

9609 NW 4th STREET
OKLAHOMA CITY, OK 73127
1.800.955.2103

Visit our new web site at:
unifiedvalve.com

Email: **info@mercervalvecanada.com**

MVC91FL

REVISION DATE: 6/13

Mercer Valve Canada
403.215.6961
1, 12181 - 44 Street, SE
Calgary, AB T2Z 4H3

SUPERCEDES 11/10