RV10
RELIEF VALVE

Beaumont Manufacturing and Distribution Company

The RV10 safety relief valve is well-suited for overpressure protection of production equipment, including compressors, scrubbers, separators, pipelines or anywhere overpressure protection may be required.

The RV10 design incorporates a non-rising stem to give the disk full guidance while opening and closing. The non-rising stem coupled with the valve's soft-seat design ensures long lasting set pressure repeatability and bubble-tight shutoff. The shorter stem also makes the valve more compact, making it ideal for requirements where space may be an issue.

The RV10 is ASME certified for gas and liquid service and is available in NPT and flanged connections. Flanged sizes meet API 526 dimensions. The RV10 series covers set pressure ranges from 15-3000 psi (103-20684 kPa) with orifice sizes ranging from D to Q. Orifice sizes exceed API minimum areas for increased flow rates.

The RV10 is manufactured in accordance with the ASME Boiler and Pressure Vessel Code, capacity tested and certified by the National Board, and meet the requirements of Section VIII, Division 1 of the ASME Code.



VALVE SPECIFICATIONS

Set Pressure Range:
- 15 - 3000 psi (Varies by Model

Temperature Range:
- Standard:-20° F to 400° F
- Low Temp:-50° F to 300° F

Seat Tightness:
- Meet or exceed API 527

VALVE MATERIALS

Base:
- ASME SA105
- A350 LF2 (Low Temp Option)

Body:
- ASME SA216 WCB
- SA352 LCB (Low Temp Option)

Bonnet:
- ASME SA216 WCB
- SA352 LCB (Low Temp Option)

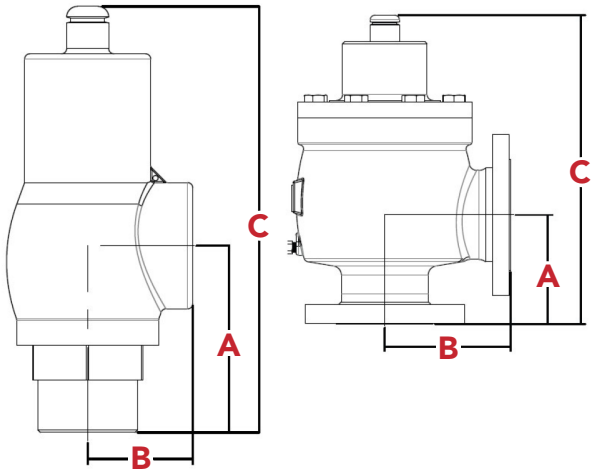
Bolts:
- ASME SA193 Gr B7

Trim:
- ASTM 304/316 Stainless

Soft Seat:
- Viton®
- Carbon-Filled PTFE®
- Low-Temp HNBR

DIMENSIONS

Dimensions are in inches



See Tables 2 and 3 for dimensions

TABLE 1 - AIR CAPACITIES IN SCFM (14.7 PSIA & 60° F)

SET PRESSURE	ORIFICE LETTER DESIGNATION										
	D	E	F	G	H	J	K	L	M	P	Q
	ORIFICE AREA (in^2)										
	0.130	0.220	0.357	0.478	0.913	1.440	2.100	3.300	4.100	7.070	12.700
15	59	100	162	217	414	653	952	1495	1858	3204	5755
20	68	115	187	250	477	752	1097	1724	2142	3694	6635
25	77	130	211	283	540	852	1243	1953	2426	4184	7515
30	86	145	236	316	604	952	1388	2181	2710	4674	8395
40	106	179	290	389	743	1171	1708	2684	3335	5751	10331
50	126	213	345	462	882	1391	2028	3188	3960	6829	12267
60	145	246	399	535	1021	1610	2349	3691	4585	7907	14203
75	175	296	481	644	1230	1940	2829	4445	5523	9523	17107
100	225	380	617	826	1578	2488	3629	5703	7085	12218	21947
125	274	464	753	1008	1926	3037	4429	6960	8648	14912	26787
150	324	548	889	1190	2274	3586	5230	8218	10210	17607	31627
175	373	632	1025	1373	2622	4135	6030	9476	11773	20301	36467
200	423	716	1161	1555	2970	4684	6830	10733	13335	22995	41307
250	522	883	1433	1919	3665	5781	8431	13249	16460	28384	50987
300	621	1051	1705	2283	4361	6879	10032	15764	19585	33773	60667
350	720	1219	1977	2648	5057	7976	11632	18279	22710	39162	70347
420	859	1453	2358	3158	6031	9513	13873	21801	27086	--	83899
450	918	1554	2522	3376	6449	10172	14833	23310	28961	--	89707
500	1017	1722	2794	3741	7145	11269	16434	25825	32086	--	99387
550	1116	1889	3066	4105	7841	12367	18035	28340	35211	--	109067
600	1216	2057	3338	4469	8537	13464	19635	30856	38336	--	118747
650	1315	2225	3610	4834	9233	14562	21236	33371	41461	--	--
700	1414	2392	3882	5198	9928	15659	22837	35886	44586	--	--
750	1513	2560	4154	5562	10624	16757	24437	38401	47711	--	--
800	1612	2728	4426	5927	11320	17855	26038	40917	50836	--	--
850	1711	2895	4699	6291	12016	18952	27638	43432	53961	--	--
900	1810	3063	4971	6655	12712	20050	29239	45947	57086	--	--
950	1909	3231	5243	7020	13408	21147	30840	48462	60211	--	--
1000	2008	3399	5515	7384	14104	22245	32440	50978	63336	--	--
1250	2504	4237	6875	9206	17583	27733	40443	63554	--	--	--
1300	2603	4405	7147	9570	18279	28830	42044	--	--	--	--
1500	2999	5075	8236	11027	21063	33221	48447	--	--	--	--
1800	3594	6081	9869	13213	25238	39806	--	--	--	--	--
2000	3990	6752	10957	14671	28022	--	--	--	--	--	--
2250	4485	7591	12318	--	--	--	--	--	--	--	--
2400	4783	8094	13134	--	--	--	--	--	--	--	--
2750	5476	--	--	--	--	--	--	--	--	--	--
3000	5972	--	--	--	--	--	--	--	--	--	--

Kd = .756

To convert capacities to another gas divide by the square root of the specific gravity of the desired gas.

To convert SCFM to m3 /hr multiply by 1.699

TABLE 1 - WATER CAPACITIES IN GPM (60° F)

SET PRESSURE	ORIFICE LETTER DESIGNATION										
	D	E	F	G	H	J	K	L	M	P	Q
	ORIFICE AREA (in²)										
	0.130	0.220	0.357	0.478	0.913	1.440	2.100	3.300	4.100	7.070	12.700
15	14	23	38	51	97	153	223	350	435	750	1347
20	16	26	43	57	109	173	252	396	492	848	1523
25	17	29	47	63	121	191	278	437	542	935	1680
30	19	32	51	69	131	207	302	474	589	1016	1824
40	22	36	59	79	151	239	348	547	680	1173	2106
50	24	41	66	89	169	267	389	612	760	1311	2355
60	26	45	73	97	185	293	427	670	833	1436	2580
75	30	50	81	109	207	327	477	749	931	1606	2884
100	34	58	94	125	239	378	551	865	1075	1854	3331
125	38	65	105	140	268	422	616	968	1202	2073	3724
150	42	71	115	154	293	463	674	1060	1317	2271	4079
175	45	76	124	166	317	500	729	1145	1422	2453	4406
200	48	82	132	177	339	534	779	1224	1521	2622	4710
250	54	91	148	198	379	597	871	1368	1700	2932	5266
300	59	100	162	217	415	654	954	1499	1862	3211	5769
350	64	108	175	235	448	706	1030	1619	2012	3469	6231
420	68	115	187	251	479	755	1101	1731	2150	3708	6661
450	70	118	192	257	491	774	1129	1774	2204	3800	6825
500	76	129	209	280	535	844	1231	1935	2404	--	7447
550	80	135	220	294	562	886	1292	2030	2522	--	7811
600	84	141	229	307	586	925	1349	2120	2634	--	8158
650	87	147	239	320	610	963	1404	2206	2741	--	--
700	90	153	248	332	633	999	1457	2290	2845	--	--
750	93	158	256	343	656	1034	1508	2370	2945	--	--
800	96	163	265	355	677	1068	1558	2448	3041	--	--
850	99	168	273	365	698	1101	1606	2523	3135	--	--
900	102	173	281	376	718	1133	1652	2596	3226	--	--
950	105	178	289	386	738	1164	1697	2667	3314	--	--
1000	108	182	296	396	757	1194	1742	2737	3400	--	--
1250	121	204	331	443	847	1335	1947	3060	--	--	--
1300	123	208	338	452	863	1362	1986	--	--	--	--
1500	132	223	363	485	927	1463	2133	--	--	--	--
1800	145	245	397	532	1016	1602	--	--	--	--	--
2000	152	258	419	561	1071	--	--	--	--	--	--
2250	162	274	444	--	--	--	--	--	--	--	--
2400	167	283	459	--	--	--	--	--	--	--	--
2750	179	--	--	--	--	--	--	--	--	--	--
3000	187	--	--	--	--	--	--	--	--	--	--

Kd = .658

To convert capacities to another liquid divide by the square root of the specific gravity of the desired liquid.

TABLE 2 – INLET/OUTLET CODES, DIMENSIONS & WEIGHTS (NPT)

Inlet/Outlet Code	Inlet/Outlet	A, B, C Dims (inches)	Orifice Sizes	Pressure Range (psi)	Approximate Weight (lbs)
N01	3/4" MNPT X 3/4" FNPT	3.25 X 1.88 X 8.13	D	15-3000	5
			E	15-2400	5
N02	3/4" MNPT X 1" FNPT	3.25 X 1.88 X 8.13	D	15-3000	5
			E	15-2400	5
N03	3/4" FNPT X 3/4" FNPT	2.25 X 1.88 X 7.25	D	15-3000	5
			E	15-2400	5
N04	3/4" FNPT X 1" FNPT	2.25 X 1.88 X 7.25	D	15-3000	5
			E	15-2400	5
N05	1" MNPT X 1" FNPT	3.25 X 1.88 X 8.13	D	15-3000	5.5
			E	15-2400	5.5
N06	1" FNPT X 1" FNPT	3.25 X 1.88 X 8.13	D	15-3000	5.5
			E	15-2400	5.5
N07	1" MNPT X 1 1/2" FNPT	4.50 X 2.38 X 10.12	D	15-3000	13
			E	15-2400	13
N08	1" FNPT X 1 1/2" FNPT	3.38 X 2.38 X 9.00	D	15-3000	13
			E	15-2400	13
N09	1" MNPT X 2" FNPT	4.50 X 2.38 X 10.12	D	15-3000	13
			E	15-2400	13
N10	1" FNPT X 2" FNPT	3.38 X 2.38 X 9.00	D	15-3000	13
			E	15-2400	13
N11	1 1/2" MNPT X 2" FNPT	4.50 X 2.38 X 10.12	D	15-3000	14
			E	15-2400	14
N12	2" MNPT X 2" FNPT	4.50 X 2.38 X 10.12	D	15-3000	14
			E	15-2400	14
N13	1 1/2" MNPT X 2" FNPT	4.44 X 2.38 X 10.13	F	15-2400	14
			G	15-2000	14
N14	1 1/2" FNPT X 2" FNPT	4.63 X 2.38 X 10.38	F	15-2400	14
			G	15-2000	14
N15	2" MNPT X 2" FNPT	4.44 X 2.38 X 10.13	F	15-2400	14
			G	15-2000	14
N16	2" FNPT X 2" FNPT	4.63 X 2.38 X 10.38	F	15-2400	14
			G	15-2000	14
N17	1 1/2" MNPT X 2" FNPT	4.25 X 3.00 X 12.31	H	15-850	26
N18	1 1/2" FNPT X 2" FNPT	3.00 X 3.00 X 11.06	H	15-850	25
N19	2" MNPT X 2" FNPT	4.25 X 3.00 X 12.31	H	15-725	26
N20	2" MNPT X 2" FNPT	4.25 X 3.00 X 14.38 (Tall Bonnet)	H	726-2000	31
N21	2" FNPT X 2" FNPT	3.00 X 3.00 X 11.06	H	15-725	24
N22	2" FNPT X 2" FNPT	3.00 X 3.00 X 13.13 (Tall Bonnet)	H	726-2000	30
N23	2" MNPT X 2 1/2" FNPT	4.25 X 3.00 X 12.31	H	15-725	25
N24	2" MNPT X 2 1/2" FNPT	4.25 X 3.00 X 14.38 (Tall Bonnet)	H	726-2000	30
N25	2" FNPT X 2 1/2" FNPT	3.00 X 3.00 X 11.06	H	15-725	24
N26	2" FNPT X 2 1/2" FNPT	3.00 X 3.00 X 13.13 (Tall Bonnet)	H	726-2000	29
N27	2" MNPT X 3" FNPT	5.50 X 4.25 X 13.75	J	15-450	48
N28	2" MNPT X 3" FNPT	5.50 X 4.25 X 16.95 (Tall Bonnet)	J	451-800	54
N29	2" FNPT X 3" FNPT	3.75 X 4.25 X 12.00	J	15-450	46
N30	2" FNPT X 3" FNPT	3.75 X 4.25 X 15.20 (Tall Bonnet)	J	451-800	52
N31	3" MNPT X 3" FNPT	5.50 X 4.25 X 13.75	J	15-450	50
			K	15-285	50
N32	3" MNPT X 3" FNPT	5.50 X 4.25 X 16.95 (Tall Bonnet)	J	451-800	56
			K	286-750	56

TABLE 3 – INLET/OUTLET CODES, DIMENSIONS & WEIGHTS (FLANGED)

Inlet/Outlet Code	Inlet/Outlet	A, B, C Dims (inches)	Orifice Sizes	Pressure Range (psi)	Approximate Weight (lbs)
F01	3/4" 150 X 1" 150	4.13 X 4.50 X 9.00	D	15-285	9
F02	3/4" 300 X 1" 150	4.13 X 4.50 X 9.00	D	15-740	10
F03	3/4" X 600 X 1" 150	4.13 X 4.50 X 9.00	D	15-1480	11
F04	3/4" 900/1500 X 1" 300	4.13 X 4.50 X 9.00	D	15-3000	14
F05	1" 150 X 1" 150	4.13 X 4.50 X 9.00	D, E	15-285	12
F06	1" 300 X 1" 150	4.13 X 4.50 X 9.00	D, E	15-740	13
F07	1" 600 X 1" 150	4.13 X 4.50 X 9.00	D, E	15-1480	14
F08	1" 900/1500 X 1" 300	4.13 X 4.50 X 9.00	D	15-3000	18
			E	15-2400	18
F09	1" 150 X 1 1/2" 150	4.13 X 4.50 X 9.00	D, E	15-285	13
F10	1" 300 X 1 1/2" 150	4.13 X 4.50 X 9.00	D, E	15-740	14
F11	1" 600 X 1 1/2" 150	4.88 X 4.50 X 10.50	D, E	15-1480	15
F12	1" 900/1500 X 1 1/2" 300	4.88 X 4.50 X 10.50	D	15-3000	19
F12	1" 900/1500 X 1 1/2" 300	4.88 X 4.50 X 10.50	E	15-2400	19
F13	1" 150 X 2" 150	4.13 X 4.50 X 9.00	D, E	15-285	14
F14	1" 300 X 2" 150	4.13 X 4.50 X 9.00	D, E	15-740	15
F15	1" 600 X 2" 150	4.75 X 4.50 X 9.00	D, E	15-1480	16
F16	1" 900/1500 X 2" 300	5.25 X 5.50 X 10.88	D	15-3000	24
			E	15-2400	24
F17	1 1/2" 150 X 2" 150	4.88 X 4.75 X 9.75	D, E	15-285	22
F18	1 1/2" 300 X 2" 150	4.88 X 4.75 X 9.75	D, E	15-740	23
F19	1 1/2" 600 X 2" 150	4.88 X 4.75 X 9.75	D, E	15-1480	24
F20	1 1/2" 900/1500 X 2" 300	4.13 X 5.50 X 9.00	D	15-3000	32
			E	15-2400	32
F21	1 1/2" 150 X 2" 150	4.88 X 4.75 X 10.50	F, G	15-285	22
F22	1 1/2" 300 X 2" 150	4.88 X 6.00 X 10.50	F, G	15-740	25
F23	1 1/2" 600 X 2" 150	4.88 X 6.00 X 10.50	F, G	15-1480	25
F24	1 1/2" 900/1500 X 2" 300	5.88 X 6.00 X 11.50	F	15-2400	33
			G	15-2000	33
F25	1 1/2" 150 X 3" 150	4.88 X 4.75 X 10.50	F, G	15-285	35
F26	1 1/2" 300 X 3" 150	4.88 X 6.00 X 10.50	F, G	15-740	38
F27	1 1/2" 600 X 3" 150	4.88 X 6.00 X 10.50	F, G	15-1480	38
F28	1 1/2" 900/1500 X 3" 300	4.88 X 6.50 X 10.50	F	15-2400	50
F28	1 1/2" 900/1500 X 3" 300	4.88 X 6.50 X 10.50	G	15-2000	50
F29	1 1/2" 150 X 2" 150	4.88 X 4.75 X 12.63	H	15-285	34
F30	1 1/2" 300 X 2" 150	4.88 X 4.75 X 12.63	H	15-725	38
F31	1 1/2" 600 X 2" 150	4.88 X 4.75 X 12.63	H	15-850	38
F85	1 1/2" 900/1500 X 2" 300	5.88 X 6.00 X 16.19 (Tall Bonnet)	H	726-2000	51
F32	1 1/2" 150 X 3" 150	5.13 X 4.88 X 12.88	H	15-285	38
F33	1 1/2" 300 X 3" 150	5.13 X 4.88 X 12.88	H	15-725	42
F34	2" 150 X 2" 150	4.88 X 4.75 X 10.50	F, G	15-285	34
F35	2" 300 X 2" 150	4.88 X 4.75 X 10.50	F, G	15-740	36
F36	2" 600 X 2" 150	5.38 X 6.00 X 11.00	F, G	15-1480	38
F37	2" 900/1500 X 2" 300	6.06 X 6.00 X 11.69	F	15-2400	55
			G	15-2000	55
F38	2" 150 X 2" 150	4.88 X 4.75 X 12.63	H	15-285	36
F39	2" 300 X 2" 150	4.88 X 4.75 X 12.63	H	15-740	38

TABLE 3 – INLET/OUTLET CODES, DIMENSIONS & WEIGHTS (FLANGED) *CONTINUED*

Inlet/Outlet Code	Inlet/Outlet	A, B, C Dims (inches)	Orifice Sizes	Pressure Range (psi)	Approximate Weight (lbs)
F40	2" 600 X 2" 150	4.88 X 6.00 X 12.63	H	15-850	40
F41	2" 150 X 2 1/2" 150	4.88 X 4.75 X 12.63	H	15-285	39
F42	2" 300 X 2 1/2" 150	4.88 X 4.75 X 12.63	H	15-740	40
F43	2" 600 X 2 1/2" 150	4.88 X 6.00 X 12.63	H	15-850	42
F44	2" 600 X 2 1/2" 150	4.88 X 6.00 X 15.19 (Tall Bonnet)	H	726-1480	47
F45	2" 900 X 2 1/2" 150	6.06 X 6.00 X 16.38 (Tall Bonnet)	H	726-2000	65
F46	2" 150 X 3" 150	4.88 X 5.38 X 10.50	F, G	15-285	38
F47	2" 300 X 3" 150	4.88 X 5.38 X 10.50	F, G	15-740	40
F48	2" 600 X 3" 150	6.06 X 6.38 X 11.69	F, G	15-1480	42
F49	2" 900/1500 X 3" 300	6.06 X 6.38 X 11.69	F	15-2400	60
			G	15-2000	60
F71	2" 150 X 3" 150	6.06 X 4.75 X 13.75	H	15-285	40
F72	2" 300 X 3" 150	5.13 X 4.88 X 12.88	H	15-740	42
F73	2" 600 X 3" 150	6.06 X 6.38 X 13.69	H	15-725	44
F74	2" 600 X 3" 150	6.06 X 6.38 X 16.38 (Tall Bonnet)	H	726-1480	48
F75	2" 900 X 3" 150	6.06 X 6.38 X 16.38 (Tall Bonnet)	H	726-2000	66
F50	2" 150 X 3" 150	5.38 X 4.88 X 13.75	J	15-285	61
F51	2" 300 X 3" 150	5.38 X 4.88 X 13.75	J	15-450	62
F52	2" 300 X 3" 150	5.38 X 4.88 X 16.88 (Tall Bonnet)	J	451-740	69
F53	2" 600 X 3" 150	5.38 X 4.88 X 16.88 (Tall Bonnet)	J	451-1480	69
F68	3" 150 X 4" 150	6.13 X 6.38 X 17.38	J	15-285	77
F54	3" 300 X 4" 150	7.25 X 7.13 X 15.50	J	15-450	78
F55	3" 300 X 4" 150	7.25 X 7.13 X 18.69 (Tall Bonnet)	J	451-740	85
F56	3" 150 X 4" 150	6.13 X 6.38 X 17.38	K	15-285	117
F57	3" 300 X 4" 150	6.13 X 6.38 X 17.38	K	15-475	121
F86	3" 300 X 4" 150	6.16 x 6.38 x 23.00 (Tall Bonnet)	K	476-740	147
F58	3" 600 X 4" 150	7.25 X 7.13 X 18.69 (Tall Bonnet)	J, K	740-1480	88
F59	3" 900 X 4" 150	7.25 X 7.13 X 18.69 (Tall Bonnet)	J	451-1800	97
F60	3" 150 X 4" 150	6.13 X 6.50 X 17.38	L	15-285	124
F61	3" 300 X 4" 150	6.13 X 6.50 X 17.38	L	15-300	128
F62	4" 300 X 6" 150	7.06 X 7.13 X 17.38	L	15-300	144
F64	4" 300 X 6" 150	7.06 X 7.13 X 23.06 (Tall Bonnet)	L	301-740	174
F65	4" 600 X 6" 150	7.06 X 8.00 X 23.06 (Tall Bonnet)	L	301-1250	185
F66	4" 150 X 6" 150	7.00 X 7.00 X 17.25	M	15-250	92
F67	4" 150 X 6" 150	7.00 X 7.00 X 23.00 (Tall Bonnet)	M	251-285	166
F69	4" 300 X 6" 150	7.00 X 7.00 X 23.00 (Tall Bonnet)	M	251-740	174
F70	4" 600 X 6" 150	7.00 X 8.00 X 23.00 (Tall Bonnet)	M	251-1000	184
F66	4" 150 X 6" 150	Consult Factory	P	Consult Factory	166
F69	4" 300 X 6" 150	Consult Factory	P	Consult Factory	174
F80	6" 150 X 8" 150	9.44 X 9.50 X 26.39	Q	15-100	296
F81	6" 150 X 8" 150	9.44 X 9.50 X 34.87 (Tall Bonnet)	Q	101-165	352
F82	6" 300 X 8" 150	9.44 X 9.50 X 34.87 (Tall Bonnet)	Q	101-300	367
F83	6" 600 X 8" 150	9.44 X 9.50 X 34.87 (Tall Bonnet)	Q	101-600	395

HOW TO ORDER

EXAMPLE MODEL NO. ***RV10-EN05-1VV-190***

RV10 Series Relief Valve, E Orifice, 1" Male NPT Inlet X 1" Female NPT Outlet, Carbon Steel Body/Bonnet with Stainless Trim, Viton® Seat and Viton® Seals with a 86-190 PSI Spring

RV10 - E N 05 - 1 VV - 190

SERIES

SERVICE

RV10 - Gas
RV10L - Liquid

ORIFICE (in²)

D - 0.130
E - 0.220
F - 0.357
G - 0.478
H - 0.913
J - 1.440
K - 2.100
L - 3.300
M - 4.100
P - 7.070
Q - 12.700

CONNECTION

N - NPT
F - Flanged

INLET/OUTLET COMBINATION

See Table 2 for NPT or Table 3 for Flanged

MATERIALS – BODY/BONNET/TRIM

1 - CS/CS/SS
2 - NACE - CS/CS/SS
6 - F2/LCB/SS[1]
8 - NACE - F2/LCB/SS[1]

SEAT TYPE/SEALS

VV - Viton®/Viton®
TV - Carbon-Filled PTFE/Viton®
TH - Carbon-Filled PTFE/Low-Temp HNBR

SPRING CODE

Assigned by Factory

1. Only available with Orifices D thru G

REPAIR KITS AVAILABLE

BEAUMONTMANUFACTURING.COM

PHONE: 409.225.5863
850 FANNIN STREET, BEAUMONT, TEXAS 77701

10/2026

Beaumont Manufacturing and Distribution Company