

For Hot Water Boiler Applications

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Series 174A, 374, 740

ASME Water Pressure Relief Valves

For Pressure Protection of Hot Water Heating Boilers

Sizes: 3/4" – 2" (20 - 50mm)

Series 174A

Bronze body safety relief valves for pressure protection only of all types of hot water heating boiler equipment. Pressure range 30 to 150psi (2 - 10 bar) with corresponding high ratings from 650,000 to 14,370,000 BTU/hr. Female inlet and outlet connections. Sizes 3/4" - 2" (20 - 50mm).

Series 374A

Iron body with forged bronze inlet, 550,000 BTU/hr rating. 3/4" (20mm) only.

Series 740

Iron body with expanded outlets for hot water space heating boilers. Pressure range 30 to 75psi (2 to 5 bar) with corresponding high ratings from 925,000 to 10,700,000 BTU/hr.

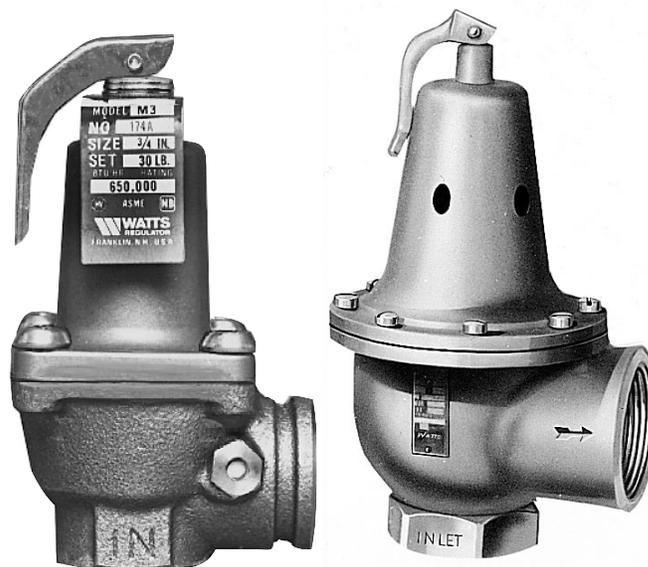
Features

- Seat located above drain; water can't be trapped and sediment can't foul seat.
- Non-mechanical seat-to-disc alignment will not stick or freeze.
- Water seal of high temperature resisting material isolates spring working parts from water during relief.

Specifications

Boiler Relief Valves

An ASME Section IV certified pressure relief valve shall be installed on each boiler as noted. The valve shall have a BTU rating in excess of the BTU rating of the boiler's heating output. Each hot water space heating boiler shall be equipped with a pressure relief valve set to relieve below the maximum boiler working pressure. The valve shall feature a raised seat and non-mechanical disc alignment. Working parts and spring shall be isolated from any discharge by a high temperature resistant material. Valve shall be a Watts Regulator Company Series 174A, 374A or 740.



Series 174A

Series 740

Operation

As thermal expansion conditions develop, pressure builds up to the setting of the relief valve. This will cause discharging of small quantity of water.

Should operating controls fail, permitting runaway firing, the boiler water may reach steam temperatures. The valve will then open to discharge steam at the rate or faster than the boiler can generate it, thus restoring system pressure to a safer level.

Important: The discharge line must be the same size as the valve outlet, and must pitch downward from the valve to a safe place for disposal.

Valve lever must be tripped at least once a year to ensure that waterways are clear. This device is designed for emergency safety relief and shall not be used as an operating control.

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REGULATOR

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

Materials

Series 174A

- Bronze body construction
- Nonmetallic disc-to-metal seating

Series 740

- Iron body construction
- Nonmetallic disc-to-metal seating

Pressure – Temperature

Series 174A

Pressure range: 30psi to 150psi (2 to 10 bar) with corresponding high BTU/hr ratings from 650,000 to 14,370,000 BTU/hr. Maximum Temperature: 250°F (121°C)

Series. 374A

Pressure range: rated up to 550,000 BTU/hr at a 30psi (2 bar) setting only.

Series 740

Pressure range: 30psi to 75psi (2 to 5 bar) with corresponding high ratings from 925,000 to 10,700,000 BTU/hr. Maximum Temperature: 250°F (121°C)

Standards



Tested and rated by the National Board of Boiler and Pressure Vessel Inspectors to the requirements of ASME. Meets Military Spec. MIL-V-18634B, Type I, Class 3A, Style A (Bronze Body), Style B (Iron Body).

Dimensions – Weights

SERIES 174A									
Model	Size (Dn)		Model	Height		Length		Weight	
	in.	mm		in.	mm	in.	mm	lbs.	kg.
374A	¾ x ¾	20 x 20	–	3⅝	92	2½	64	1.13	.5
174A	¾ x ¾	20 x 20	M3	5⅝	130	2½	64	1.50	.7
174A	1 x 1	25 x 25	M1	5¾	146	3	76	3.13	1.4
174A	1¼ x 1¼	32 x 32	M1	8⅜	213	4¾	121	6.25	2.8
174A	1½ x 1½	40 x 40	M	9	229	4⅞	124	7.25	3.3
174A	2 x 2	50 x 50	M	11⅝	295	6¼	159	13.75	6.2
SERIES 740									
740	¾ x 1	20 x 25	M1	5⅝	143	3	76	1.88	9
740	1 x 1¼	25 x 32	M	7¼	184	3½	89	3.13	1.4
740	1¼ x 1½	32 x 40	M	8¾	222	4⅞	117	6.13	2.8
740	1½ x 2	40 x 50	M	9¼	235	5¼	133	7.50	3.4
740	2 x 2½	50 x 65	M	11⅝	295	6¼	171	16.50	7.5

Capacity*

BTU/hr Steam Pressure Discharge Capacities
As tested and rated by the National Board of Boiler and Pressure Vessel Inspectors

SERIES 174A						
Set Pressure psi bar	¾" x ¾" 20 x 20mm Model M3	1" x 1" 25 x 25mm Model M1	1¼" x 1¼" 32 x 32mm Model M1	1½" x 1½" 40 x 40mm Model M	2" x 2" 50 x 50mm Model M	
30 2.07	650,000	1,005,000	1,682,000	2,020,000	3,815,000	
33 2.27	695,000	1,075,000	1,788,000	2,150,000	4,080,000	
35 2.41	725,000	1,125,000	1,877,000	2,250,000	4,250,000	
36 2.48	740,000	1,145,000	1,916,000	2,310,000	4,344,000	
40 2.76	800,000	1,240,000	2,071,000	2,490,000	4,690,000	
45 3.10	875,000	1,355,000	2,265,000	2,720,000	5,130,000	
50 3.45	950,000	1,470,000	2,459,000	2,950,000	5,575,000	
55 3.79	1,025,000	1,590,000	2,653,000	3,190,000	6,010,000	
60 4.13	1,100,000	1,702,000	2,847,000	3,425,000	6,450,000	
65 4.58	1,170,000	1,820,000	3,041,000	3,660,000	6,890,000	
70 4.82	1,245,000	1,935,000	3,325,000	3,890,000	7,330,000	
75 5.17	1,320,000	2,055,000	3,429,000	4,125,000	7,770,000	
80 5.51	1,400,000	2,166,000	3,605,000	4,360,000	8,215,000	
85 5.86	1,470,000	2,285,000	3,817,000	4,590,000	8,650,000	
90 6.60	1,545,000	2,400,000	4,011,000	4,825,000	9,090,000	
95 6.55	1,620,000	2,520,000	4,205,000	5,060,000	9,530,000	
100 6.89	1,695,000	2,635,000	4,399,000	5,290,000	9,970,000	
105 7.23	1,770,000	2,750,000	4,593,000	5,525,000	10,410,000	
110 7.58	1,845,000	2,865,000	4,787,000	5,760,000	10,850,000	
115 7.92	1,920,000	2,980,000	4,981,000	5,990,000	11,290,000	
120 8.27	1,995,000	3,100,000	5,175,000	6,225,000	11,730,000	
125 8.61	2,070,000	3,215,000	5,370,000	6,460,000	12,170,000	
130 8.96	2,145,000	3,330,000	5,564,000	6,690,000	12,610,000	
135 9.30	2,220,000	3,445,000	5,758,000	6,925,000	13,050,000	
140 9.65	2,295,000	3,565,000	5,952,000	7,160,000	13,490,000	
145 9.99	2,370,000	3,680,000	6,146,000	7,390,000	13,930,000	
150 10.34	2,445,000	3,795,000	6,340,000	7,630,000	14,370,000	

SERIES 740					
Set Pressure psi bar	¾" x 1" 20 x 20mm Model M1	1" x 1¼" 25 x 25mm Model M	1¼" x 1½" 32 x 32mm Model M	1½" x 2" 40 x 40mm Model M	2" x 2½" 50 x 50mm Model M
30 2.07	925,000	1,300,000	2,105,000	2,900,000	5,250,000
33 2.27	989,000	1,390,000	2,250,000	3,100,000	5,613,000
35 2.41	1,032,000	1,450,000	2,345,000	3,235,000	5,855,000
36 2.48	1,053,000	1,480,000	2,395,000	3,300,000	5,975,000
40 2.76	1,139,000	1,600,000	2,590,000	3,569,000	6,461,000
45 3.10	1,245,000	1,750,000	2,830,000	3,903,000	7,067,000
50 3.45	1,352,000	1,899,000	3,075,000	4,237,000	7,672,000
55 3.79	1,459,000	2,049,000	3,315,000	4,572,000	8,277,000
60 4.13	1,566,000	2,200,000	3,560,000	4,907,000	8,833,000
65 4.58	1,672,000	2,349,000	3,800,000	5,241,000	9,488,000
70 4.82	1,779,000	2,499,000	4,045,000	5,575,000	10,093,000
75 5.17	1,886,000	2,649,000	4,285,000	5,909,000	10,700,000



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