

## For Hot Water Boiler Applications

Job Name \_\_\_\_\_ Contractor \_\_\_\_\_  
 Job Location \_\_\_\_\_ Approval \_\_\_\_\_  
 Engineer \_\_\_\_\_ Contractor's P.O. No. \_\_\_\_\_  
 Approval \_\_\_\_\_ Representative \_\_\_\_\_

# Series 174A-740 ASME Water Pressure Relief Valves

for Pressure Protection of  
Hot Water Heating Boilers

Sizes:  $\frac{3}{4}$ " through 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 150 psi (2 - 10 bars) with corresponding high ratings from 650,000 to 14,370,000 BTU/hr. Female inlet and outlet connections. Sizes  $\frac{3}{4}$ " to 2" (20 to 50mm).

### Series 374A

Iron body with forged bronze inlet, 550,000 BTU/hr rating. Size  $\frac{3}{4}$ " (20mm) only.

### Series 740

Iron body with expanded outlets for hot water space heating boilers. Pressure range 30 to 75 psi (2 to 5 bars) 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 boilers 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 174A or 740 Series.



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 insure that waterways are clear. This device is designed for emergency safety relief and shall not be used as an operating control.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. 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.

**A LEADER IN VALVE TECHNOLOGY**  
  
**WATTS**  
 REGULATOR  
 Since 1874 Watts Industries, Inc.  
 Water Products Division • Safety & Control Valves

## 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: 30 psi to 150 psi (2 to 10 bars) with corresponding high BTU/hr ratings from 650,000 to 14,370,000 BTU/hr.

Maximum Temperature: 250°F (121°C).

### No. 374A

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

### Series 740

Pressure range: 30 PSI to 75 psi (2 to 5 bars) with corresponding high ratings from 925,000 to 10,700,000 BTU/hr.

Maximum Temperature: 250°F (121°C).

## STANDARDS



Tested and rated by A.S.M.E. National Board of Boiler and Pressure Vessel Inspectors.

Meets Military Spec. MIL-V-18634B, Type I, Class 3A, Style A (Bronze Body), Style B (Iron Body).

## 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   bars	¾" x ¾"	1" x 1"	1¼" x 1¼"	1½" x 1½"	2" x 2"
		20 x 20mm Model M3	25 x 25mm Model M1	32 x 32mm Model M1	40 x 40mm Model M	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	3,235,000	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   bars	¾" x 1"	1" x 1¼"	1¼" x 1½"	1½" x 2"	2" x 2½"
		20 x 25mm Model M3	25 x 32mm Model M1	32 x 40mm Model M1	40 x 50mm Model M	50 x 65mm 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	8,883,000
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

## DIMENSIONS - WEIGHTS

### Series 174A

No.	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	5⅞	130	2½	64	1.50	.7
174A	1 x 1	25 x 25	M1	5¼	146	3	76	3.13	1.4
174A	1¼ x 1¼	32 x 32	M1	8⅞	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	5⅞	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	6¾	171	16.50	7.5

A LEADER IN VALVE TECHNOLOGY



Since 1874 Watts Industries, Inc.  
Water Products Division • Safety & Control Valves

USA: 815 Chestnut St., No. Andover, MA 01845-6098; www.wattsreg.com  
Canada: 5435 North Service Rd., Burlington, ONT. L7L 5H7; www.wattscda.com

