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: ¾" – 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 (2.1 - 10 bar) with corresponding high ratings from 650,000 to 14,370,000 BTU/hr. Female inlet and outlet connections. Sizes ¾" - 2" (20 - 50mm).

Series 374A
Iron body with forged brass inlet, 550,000 BTU/hr rating. ¾" (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.

Series 174A


Series 740

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 Series 174A, 374A or 740.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

* Does not apply to 374A

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.

NOTICE

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.

⚠ WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

WATTS®

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 ºF (121 ºC)

Series. 374A
Pressure range: rated up to 550,000 BTU/hr at a 30psi (2 bar) setting. (Other settings available)

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 ºF (121 ºC)

Standards

ASME

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									
	Size (Dn)			Height		Length		Weight	
Model	in.	mm	Model	in.	mm	in	mm	lbs.	kg.
374A	¾ x ¾	20 x 20	–	3½	90	2½	64	1.2	0.5
174A	¾ x ¾	20 x 20	M3	4½	116	2¾	67	1.2	0.5
174A	1 x 1	25 x 25	M1	5¾	144	3	76	1.9	0.9
174A	1¼ x 1¼	32 x 32	M1	8½	213	4¼	109	4.6	2.1
174A	1½ x 1½	40 x 40	M	9¼	232	4¾	122	6.9	3.1
174A	2 x 2	50 x 50	M	11½	290	6½	162	14.4	6.5
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	4⅝	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

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		¾" x ¾"	1" x 1"	1¼" x 1¼"	1½" x 1½"	2" x 2"
		20 x 20mm	25 x 25mm	32 x 32mm	40 x 40mm	50 x 50mm
psi	bar	Model M3	Model M1	Model M1	Model M	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	3.1	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	6.6	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	9.3	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	13,390,000
150	10.34	2,445,000	3,795,000	6,340,000	7,630,000	14,370,000
SERIES 740						
Set Pressure		¾" x 1"	1" x 1¼"	1¼" x 1½"	1½" x 2"	2" x 2½"
		20 x 25mm	25 x 32mm	32 x 40mm	40 x 50mm	50 x 65mm
psi	bar	Model M1	Model M	Model M	Model M	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

A Watts Water Technologies Company

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