

## For Hot Water Boiler Applications

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# LEAD FREE\*

## Series LF174A ASME Water Pressure Relief Valves

For Pressure Protection of Hot  
Water Heating Boilers

Sizes: 3/4" – 2" (20 - 50mm)

### Series LF174A

Lead Free\* cast copper silicon alloy body safety relief valves for pressure protection only of all types of hot water heating boiler equipment. Pressure range 50 to 150psi (3 - 10 bar) with corresponding high ratings from 950,000 to 14,370,000 BTU/hr. Female inlet and outlet connections. Sizes 3/4" - 2" (20 - 50mm). The LF174A features Lead Free\* construction to comply with Lead Free\* installation requirements.

### Features

- Seat located above drain; water cannot be trapped and sediment cannot 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. The valve shall be constructed using Lead Free\* cast copper silicon alloy material. Lead Free\* boiler relief valve shall comply with state codes and standards where applicable, requiring reduced lead content. Valve shall be a Watts Series LF174A.



Series LF174A

### Operation

#### NOTICE

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.

#### WARNING

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.

\*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

## Materials

### Series LF174A

- Lead Free\* cast copper silicon alloy
- Nonmetallic disc-to-metal seating

## Pressure – Temperature

### Series LF174A

Pressure range: 50psi to 150psi (3 to 10 bar) with corresponding high BTU/hr ratings from 950,000 to 14,370,000 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).

## Dimensions – Weights

SERIES LF174A									
Model	Size (Dn)		Model	Height		Length		Weight	
	in.	mm		in.	mm	in.	mm	lbs.	kg.
LF174A	¾ x ¾	20 x 20	M3	4½	116	2¾	67	1.2	0.5
LF174A	1 x 1	25 x 25	M1	5¾	144	3	76	1.9	0.9
LF174A	1¼ x 1¼	32 x 32	M1	8½	213	4¼	109	4.6	2.1
LF174A	1½ x 1½	40 x 40	M	9¼	232	4¾	122	6.9	3.1
LF174A	2 x 2	50 x 50	M	11½	290	6½	162	14.4	6.6

## Capacity\*

### BTU/hr Steam Pressure Discharge Capacities

As tested and rated by the National Board of Boiler and Pressure Vessel Inspectors

SERIES LF174A						
Set Pressure	¾" x ¾" 20 x 20mm	1" x 1" 25 x 25mm	1¼" x 1¼" 32 x 32mm	1½" x 1½" 40 x 40mm	2" x 2" 50 x 50mm	
psi	bar	Model M3	Model M1	Model M1	Model M	Model M
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



A Watts Water Technologies Company



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