

H. A. THRUSH & COMPANY

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PERU, INDIANA

HOT WATER HEATING SPECIALTIES



Patent Reissue No. 19873

Thrush Flow Control Valves For Use with Thrush Circulator Only

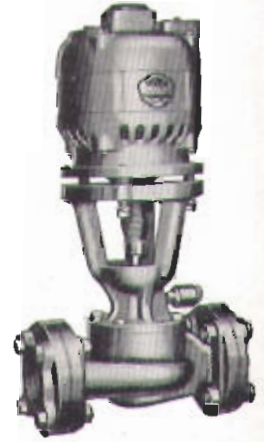
The Thrush Flow Control Valve is made in six sizes. It works by pressure head, generated by Thrush Circulator. Has opening just below the seat to provide for expansion and elimination of air and gases into Thrush Pressure Tank. Manually operated set screw permits opening permanently but is NOT necessary for normal operation.

No.	Size	Connection	Radiation Capacity	Shipping Weight
114	1"	Screwed	300 sq. ft.	3 lbs.
114A	1 1/4"	Unions	500 sq. ft.	7 lbs.
115	1 3/4"	Unions	1000 sq. ft.	8 lbs.
120	2"	Flanged	1500 sq. ft.	14 lbs.
125	2 1/2"	Flanged	2500 sq. ft.	26 lbs.
130	3"	Flanged	4000 sq. ft.	39 lbs.

Thrush Water Circulators

Silent, Electric Motor Driven, Water Circulating Pumps designed and used for three distinct purposes

For Flow Control Systems, the Thrush Water Circulator used in connection with a Thrush Flow Control Valve provides perfect circulation control. With a Thrush Tank-in-Basement System, this Circulator, by providing forced circulation, increases heating efficiency and overcomes sluggish circulation and other heating troubles. On a new installation the reduction in pipe sizes will completely offset the cost of the Circulator. For use with a Domestic Water Supply System, the Circulator assures an ample supply of really hot water at every faucet.



Patent Nos. 2054009 and 2111441, 2257867

CBL—Special Lubricant for Thrush Circulators— In Tubes

Thrush Water Circulators—Sizes and Capacities

No.	Size	Motor	*Radiation Capacity	Gallons Delivery	Storage Tank Capacity	End to End Dimensions	Shipping Weight	
16 Jr.	1"	Unions	1/20 h.p.	450 sq. ft.	15 per min.	500 gal.	8 3/4"	30 lbs.
14	1"	Unions	1/10 h.p.	750 sq. ft.	25 per min.	750 gal.	9"	47 lbs.
14A	1 1/4"	Unions	1/10 h.p.	1000 sq. ft.	35 per min.	1000 gal.	10 1/4"	48 lbs.
15	1 1/2"	Unions	1/8 h.p.	1500 sq. ft.	50 per min.	1500 gal.	10 3/4"	50 lbs.
22	2"	Flanged	1/6 h.p.	2500 sq. ft.	75 per min.	2000 gal.	10"	74 lbs.
23	3"	Flanged	1/4 h.p.	4000 sq. ft.	140 per min.	3000 gal.	11 1/2"	94 lbs.

*On conversion jobs use next size larger Circulator and, when automatically fired, Flow Control Valve with at least same size connection as Circulator. Capacities are of Circulators equipped with standard 110 volt, 60 cycle, single phase, A. C. motors. Bronze bodies and special characteristic motors can be furnished.

Thrush Reducing Valves Low Pressure



No. 12

No.	Size	Made of	Weight
9	1/4"	Brass	2 lbs.
9A	3/8"	Brass	2 lbs.
6	1/2"	Cast Iron	4 lbs.
10	3/4"	Brass	4 lbs.
11	1"	Brass	5 lbs.
12	3/4"	Cast Iron	7 lbs.

Low pressure Thrush Reducing Valves are pressure regulating valves designed for automatic filling and maintenance of proper water supply in a Hot Water Heating System. May be used on water or air to maintain pre-determined pressure automatically. Equipped with built-in strainer. The movement is actuated by metal diaphragms. All working parts are brass. The standard pressure setting is 45 lbs. initial and 12 lbs. delivery, which is suitable for the average 1, 2 or 3 story buildings.

Thrush Relief Valves—Low Pressure

Thrush Relief Valves for Hot Water Heating Systems are made in a range of types and sizes to meet varying conditions. All relief valves have metal diaphragms and brass working parts. They are adjustable up to 35 lbs. pressure. Underwriters' approved and comply with A.S.M.E. code.



No. 4

No.	Size	Made of	Weight
4	3/4"	Cast Iron	12 lbs.
4A	1"	Cast Iron	12 lbs.
30	1 1/2"	Cast Iron	4 lbs.
32	2"	Cast Iron	3 lbs.
33	3/4"	Cast Iron	4 lbs.
34	3/4"	Cast Iron	4 lbs.
35	1 1/2"	Brass	3 lbs.
40	1 1/2"	Cast Iron	3 lbs.
7	1 1/2"	Cast Iron	3 lbs.

Thrush Dual Control Units



No.	Size	Weight	Made of
Master	1 1/2"	8 lbs.	Brass
Standard	3/4"	6 lbs.	Brass
67	1 1/2"	7 lbs.	Cast Iron
28	3/4"	11 lbs.	Cast Iron

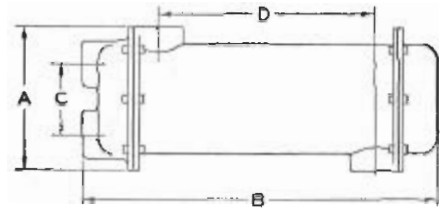
Consist of a pressure reducing valve with built-in strainer and a pressure relief valve. Provide automatic pressure relief, reduce line pressures, and automatically fill and maintain water supply in a Hot Water Heating System. Have all brass working parts and are metal diaphragm operated. Standard setting is 45 lbs. initial pressure and 12 lbs. delivery pressure, which is suitable for the average 1, 2 or 3 story building. Install in conjunction with a pressure tank for highest efficiency.



Patent No. 2,180,620

THRUSH WATER HEATERS

SIXTEEN SIZES
FOR HOT WATER OR STEAM
PRESSURE UP TO 150 LBS.



Heater No.	Capacities—Gallons of Water Heated from 40° to 140° in 3 Hours			Hot Water Radiation Capacities in Sq. Ft.			Dimensions				Pipe Connections		Shipping Weight Pounds
	Heater with Boiler Water at 180°	Heater Below Water Line Boiler Water at 212°	Heater in Live Steam 0 Lbs. Pressure	Heater with Boiler Water at 180°	Heater Below Water Line Boiler Water at 212°	Heater in Live Steam 0 Lbs. Pressure	A Width and Height Inches	B Length Inches	C Center to Tank Conns. Inches	D Center to Boiler Conns. Inches	Boiler Inches	Tank Inches	
24	24	40	75	20	33	50	5 1/4	11 1/4	2 3/4	6 1/4	1	3/4	16
31	31	52	100	26	43	65	5 3/8	14 1/8	2 3/4	9	1	3/4	18
40	40	66	125	33	55	82	6	13 1/8	3	7 1/4	1 1/4	1	22
49	49	82	150	41	68	100	6	15 1/8	3	9 3/8	1 1/4	1	26
60	60	100	190	50	83	125	6	18 3/8	3	11 1/4	1 1/4	1	29
72	72	120	225	60	100	150	6	21 3/8	3	14 1/8	1 1/4	1	32
86	86	144	275	72	120	180	6	24 3/8	3	17 1/8	1 1/4	1	35
96	96	160	300	80	130	200	7 1/8	15 3/8	4 3/8	7 1/8	2	1 1/4	42
120	120	200	375	100	170	250	7 3/8	18 3/8	4 3/8	10 1/4	2	1 1/4	45
150	150	250	475	125	210	310	7 3/8	21 3/8	4 3/8	13 1/4	2	1 1/4	51
180	180	300	560	150	250	375	7 3/8	24 3/8	4 3/8	17 1/4	2	1 1/4	57
240	240	400	750	200	330	500	8 3/8	25 3/8	4 3/8	12 3/4	2 1/2	2	85
300	300	500	940	250	420	625	8 3/8	30 3/8	4 3/8	17 3/4	2 1/2	2	100
360	360	600	1150	300	500	750	8 3/8	35 3/8	4 3/8	22 3/4	3	2 1/2	116
420	420	780	1300	350	580	875	8 3/8	40 3/8	4 3/8	27 3/4	3	2 1/2	130
480	480	800	1500	400	660	1000	8 3/8	45 3/8	4 3/8	32 3/4	3	2 1/2	143

Conversion Table

Steam Press., Lbs. per Sq. In.	0	2	5	10	15	20	25	30	40	50	75	100
Conversion Factor	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	2.0	2.2	2.6

Thrush Water Heater capacities are greatly increased when the heater is installed in live steam greater than 0 lbs. pressure. To find the capacity of a heater installed in live steam with pressure above 0 lbs., multiply the heater capacity given for 0 lbs. in the heater capacity table by the factor in the conversion table applying to the steam pressure.



Illustrates Nos. 75, 77, 86 and 88

High Pressure Thrush Relief Valves

All High Pressure Thrush Relief Valves are soundly engineered to protect hot water supply boilers, range boilers, gas storage heaters, etc., from excess pressure. They are built without tight fitting working parts and have large water passages. All working parts of these metal diaphragm operated valves are made of brass; equipped with testing levers.

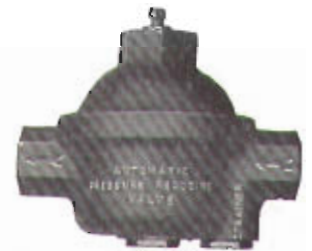
No.	Size	Made of	Regular Pressure Setting	Can Be Set at Factory Between	Weight
45	1/2" W	Iron	85 lbs.	35-150 lbs.	3 lbs.
75	1/2" W	Iron	If another setting is desired, specify when Ordering	35-150 lbs.	3 lbs.
77	1/2" W	Brass		35-150 lbs.	3 lbs.
55	3/4" W	Iron	35-150 lbs.	4 lbs.	
85	3/4" W	Iron	35-150 lbs.	4 lbs.	
86	3/4" W	Iron	35-150 lbs.	4 lbs.	
88	3/4" W	Brass	35-150 lbs.	4 lbs.	
90	1" W	Iron	35-150 lbs.	4 lbs.	

High Pressure and Temperature

No.	Size	Made of	Set at	Adjustable at Factory	Weight
76	1/2" W	Iron	85 lbs.	35-150 lbs.	3 lbs.
78	1/2" W	Brass	85 lbs.	35-150 lbs.	3 lbs.
87	3/4" W	Iron	85 lbs.	35-150 lbs.	4 lbs.
89	3/4" W	Brass	85 lbs.	35-150 lbs.	4 lbs.

High Pressure Thrush Reducing Valves

High Pressure Thrush Reducing Valves are designed to protect plumbing fixtures from excessive line pressure. Standard pressure setting 150 pounds initial, 45 pounds delivery. If other than standard setting is desired, specify both initial or line pressure and delivery pressure.



No. 60

No.	Size	Weight	Made of
20	1/2" W	4 lbs.	Brass
50	3/4" W	7 lbs.	Cast Iron
60	3/4" W	6 lbs.	Brass
70	1" W	11 lbs.	Brass

Single Pipe Thrush Iron Supply Tees

Only one of these fittings is required for each radiator, where the radiator is above the main. Not recommended for use with a radiator larger than 75 sq. ft.



Fitting Size	Maximum Loop Capacity		Branch and Riser	Net Weight
	Radiation	Main Size		
1 1/2" x 1 1/4" x 3/4"	300	1"	3/4"	1 1/2 lbs.
1 1/2" x 1 1/4" x 3/4"	500	1 1/4"	3/4"	2 1/4 lbs.
1 1/2" x 1 1/4" x 3/4"	650	1 1/2"	3/4"	2 3/4 lbs.
2" x 2" x 3/4"	1000	2"	3/4"	3 1/2 lbs.

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