# TACO HEAT-GARD THERMOSTATIC VALVES NON-ELECTRIC



The new Heat-Gard 5400 Series Thermostatic valves are self-contained, wireless, automatic, modulating temperature control valves for use in hot water and two pipe steam space heating systems. They sense changes in temperature and automatically increase or decrease the flow of heat to provide optimal comfort and energy savings.

# MOST COMPLETE LINE OF ZONE CONTROL PRODUCTS



# **FEATURES**

**Quiet Operation** 

Highly Accurate Sensor

In-Line Serviceability: Cartridge and Top

O-Ring can be Replaced Without Draining the System

No Electrical Power or Wires Required

Good Flow and Head Capacities

Ideal for Radiant Applications

Numbered Temperature Index Settings Optional Remote Sensors

**Attractive Operators** 

Corrosion Resistant Nickel Plated Brass Valve Bodies

Freeze Protection Setting

Double O-Ring Stem Seals

Field Adjustable Min/Max Limits

# **SPECIFICATIONS**

Max Pressure, Water: 150 PSI (1034 kPa) Max Temperature, Water: 250°F (120°C) Max Pressure, Steam: 15 PSI (103 kPa) Max Temperature, Steam: 250°F (120°C)

Max Shut-Off Capability: 50 FT. WG (150 kPa, 21.5PSI)

Cv at Full Open: 1/2" - 18 3/4" - 2.5 1" - 2.74 1-1/4" - 3.5

Max. Differential Pressure: 20 PSI H2O. Suggested Differential Pressure: 0.5-2.9 PSI If a higher pump head is encountered it is recommended that a differential by-pass valve be installed.

## **MATERIALS**

VALVES:

Body: Nickel Plated Forged Brass Union: Nickel Plated Wrought Brass

Stem: Stainless Steel Seals and Seat Disk: EPDM

Cartridge: Brass, Stainless Steel Spring

and Stem

### **OPERATORS:**

High Strength Engineering Grade Plastics

White Dial Knob

Nickel Plated Brass Attachment Nut.

# **CONTROLLED AIR** TEMPERATURE SETTING RANGE

Operator No. Temperature Range

5401 46°F-82° 5403 46°F-82°F 46°F-80°F 5406, 5411

# **TEMPERATURE CONTROL** RANGE (APPROXIMATE)

Dial Setting 3 5 Temp. °F 46 54 61 68 72 76 80

# Taco Heat-Gard

SUBMITTAL DATA INFORMATION SUPERSEDES: 100-6.3 DATED 8/1/97

### NON-ELECTRIC THERMOSTATIC RADIATOR VALVES

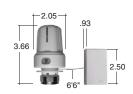
The Taco Heat Gard thermostatic valves keep a heating system comfort balanced by eliminating cold spots and overheating. Its proven design and reliable operation make it the simplest way to prevent energy waste and reduce heating costs. The Heat-Gard valve is made so that the complete cartridge can be replaced under pressure without draining the system, delivering a higher level of uninterrupted comfort control.

### **OPERATOR DIAGRAMS**

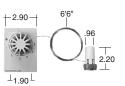
Direct Sensor Product #5401



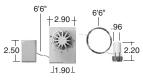
Remote Sensor Product #5403



Wall Mount Dial Product #5406

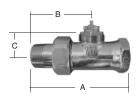


**Double Capillary** Product #5411



# **VALVE DIAGRAMS**

Straight



Straight Sweat x Sweat С

Angle

Axial / Side Mount

# PERFORMANCE FIELD, WATER

(valves fully open)

VALVE	PRESSURE DROP ACROSS VALVE					
SIZE	.43 PSI	1.7 PSI	3.5 PSI	5.2 PSI	7 PSI	
1/2"	12	23.5	33.5	41	47.5	
3/4"	16.5	32.5	47	57	66	
1"	17	35	51	62	71	
1-1/4"	21	44	64	77	88*	
4						

\*Thousands of BTU/Hour shown in Table

PERFORMANCE FIELD, STEAM (valves fully open)

VALVE	<b>PRESSUI</b>	RE DROP	<b>ACROSS VALVE</b>		
SIZE	1 PSI	3 PSI	5 PSI	7 PSI	
1/2"	28	46	63	72	
3/4"	36	65	84	96	
1"	39	70	91	104	
1-1/4"	48	87	113	130*	

\*Thousands of BTU/Hour shown in Table

### **DIMENSIONS**

VALVE	CONNECTION	PRODUCT	VALVE DIMENSIONS		
TYPE	SIZE	NUMBER	Α	В	С
Sweat	1/2"	5424	2-3/16"	1-3/32"	1"
X	3/4"	5434	2-11/16"	1-11/32"	7/8"
Sweat	1"	5444	3-5/32"	1-9/16"	1"
Straight	1/2"	5421	3-1/2"	2-1/16"	1"
NPT*	3/4"	5431	4"	2-1/2"	1"
	1"	5441	4-5/8"	2-15/16"	1"
	1-1/4"	5451	5-1/4"	3-3/8"	1-1/8"
Vertical	1/2"	5423	2-1/4"	1"	1-3/4"
NPT*	3/4"	5433	2-1/2"	1-1/8"	2-1/8"
	1"	5443	3"	1-3/8"	2-1/4"
	1-1/4"	5453	3-1/4"	1-3/4"	2-3/4"
Horizontal	1/2"	5422	3-3/8"	2-3/16"	1-1/2"
NPT*	3/4"	5432	3-3/4"	2-1/2"	1-1/4"
	1"	5442	4-3/16"	3"	1-3/8"
	1-1/4"	5452	4-3/4"	3-1/4"	1-7/8"
Operators D	Direct Mount	5401			
Remote Sensor Remote Dial		5403	6'6" Capillary	•	
		5406	6'6" Capillary	1	
R	emote Dial	5411	(2) 6'6" Capil	lary	
& Sensor					

\*Add C1 Suffix to product number for Sweat Union Fitting (not available for 1" & 1-1/4")

Note: Allowances must be made in the selection of the valve body configuration in order to fully extend the 5416 In-Line Cartridge Changing Tool a minimum of 16" to remove and replace the cartridge.