

Job Name \_\_\_\_\_  
 Job Location \_\_\_\_\_  
 Engineer \_\_\_\_\_  
 Approval \_\_\_\_\_

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

# Accritem® Controllers

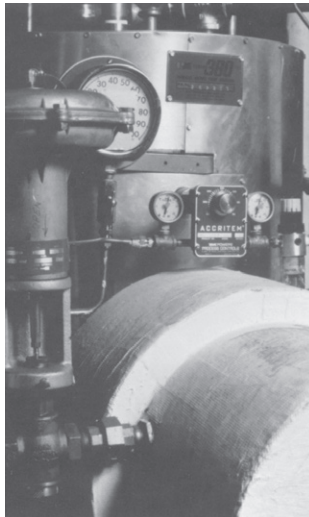
## Rigid and Remote Bulb Blind Controllers

Accritem Controllers are reliable, rugged, compact non-indicating controllers that accurately maintain temperatures in a wide variety of applications. The sensing element, either rigid or remote bulb, is mounted directly in the medium to be controlled, and the Accritem's response to temperature change is a proportional pneumatic signal sent to a control valve.

Typical applications are instantaneous or high capacity storage water heaters, compressors, lube oil coolers, shell and tube heat exchangers, diesel engine cooling systems, oil preheaters, 100% outside air make-up units, and specific processes such as parts washing, die casting, and plastic molding.

### Why non-indicating control?

A manually controlled process with an existing thermometer is an ideal situation for a move to automatic control; an Accritem and control valve team frees personnel for more productive work. In other applications, the redundancy of a separate thermometer and controller is desirable, since failure of one would not affect the other. Non-indicating controllers are equally effective to the indicating type in many applications, with the additional advantages of lower cost and less vulnerability to adverse operating conditions.



### Select Control Action

An effective system requires coordination of the control action of the Accritem, with that of the control valve, for fail safe conditions. The table below identifies which Accritem (direct or reverse acting) should be utilized for desired results in basic applications.

ACCREDITEM TYPE	APPLICATION		
	HEATING	COOLING	MIXING
Direct Acting (output pressure increases as temp.increases)	Normally Open Valve  Valve Opens on Air Failure	Normally Closed Valve  Valve Closes on Air Failure	Hot Piped to Normally Open Port of Valve  Valve Opens to Hot Flow on Air Failure
Reverse Acting (output pressure decreases as temp. increases)	Normally Closed Valve  Valve Closes On Air Failure	Normally Open Valve  Valve Opens on Air Failure	Hot Piped to Normally Closed Port of Valve  Valve Opens to Cold Flow on Air Failure

### Why Accritem control?

Accritem Controllers offer:

- precise, rapid response to temperature changes
- simple design – fewer moving parts allow trouble free, dependable operation
- available with remote or rigid bulbs in copper and stainless steel (316L) to satisfy different applications
- easy temperature adjustment
- supply and control pressure gauges included at no additional cost
- control action can be easily altered by operating personnel
- its rugged construction is very resistant to construction, and is unaffected by environmental moisture and dust. Air supply need only be clean, not instrument quality.

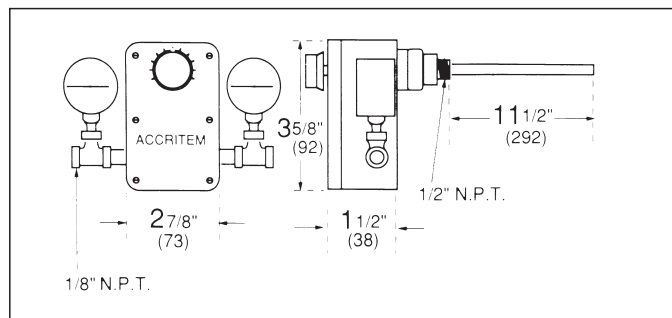
Powers product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Powers Technical Service. Powers reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Powers products previously or subsequently sold.

## Accritem® Rigid Bulb Controller



- Complete with pressure gauges and fitting (1/2" NPT Pipe Fitting)
- Adjustable set point 50-350 F
- Sensing element is bimetallic, an invar rod enclosed in copper or stainless steel bulb
- Sensing element acts by differential expansion of a bimetal element, so there is no danger of leakage from the bulb
- Forged brass construction with phosphor bronze internal parts special water operated model uses stainless steel internal parts

MODEL	ACTION	PRODUCT NUMBER
<b>Rigid Copper Bulb</b>		
Air Operated	Direct	744-1213
	Reverse	744-1214
Water Operated	Direct	744-1217
	Reverse	744-1218
<b>Rigid Stainless Steel Bulb</b>		
Air Operated	Direct	744-1270
	Reverse	744-1271

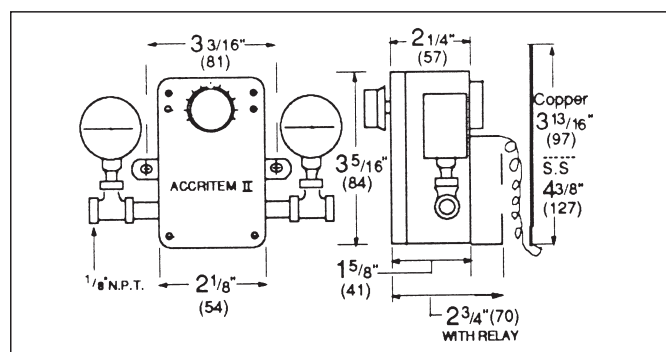


## Accritem® Remote Bulb Controller



- Offers the reliability of the Accritem Rigid Bulb Controller with increased flexibility of remote monitoring
- 4" copper bulb and capillary or 4" stainless steel bulb and capillary allows the bulb to be immersed in difficult-to-access pipes, tanks and air ducts, while the instrument can be conveniently located for ease of adjustment
- Compact size of the liquid filled thermal (4" long, 7/32" in diameter) allows placement in narrow pipes and the flexibility of transverse mounting for larger pipes
- Compression fitting with 3/8" NPT thread allows direct mounting of bulb in pipe or tank
- Easily mounted vertically or horizontally, on flat or curved surfaces, the glass filled Norel instrument body resists corrosion from moisture, caustic cleaners and many other chemical compounds
- Reversible F/C degree scale plate.

MODEL	ACTION	PRODUCT NUMBER
<b>Remote Copper Bulb (includes 3/8" NPT Brass compression fitting)</b>		
Air Operated	Direct	744-1256
	Reverse	744-1258
<b>Remote Stainless Bulb (includes 3/8" NPT Brass compression fitting)</b>		
Air Operated	Direct	744-1272
	Reverse	744-1273

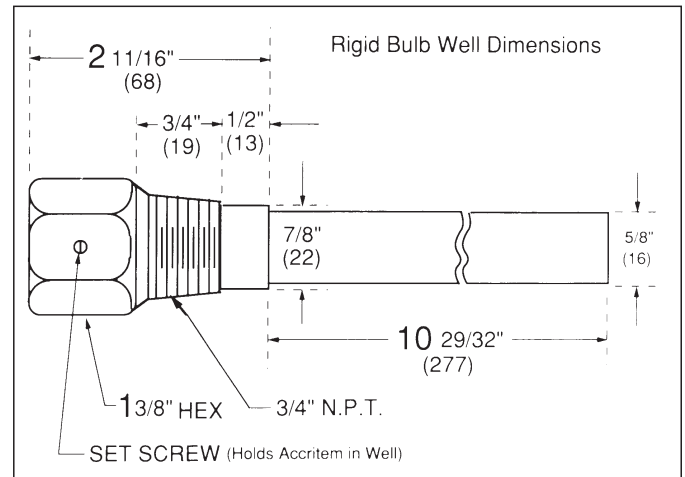
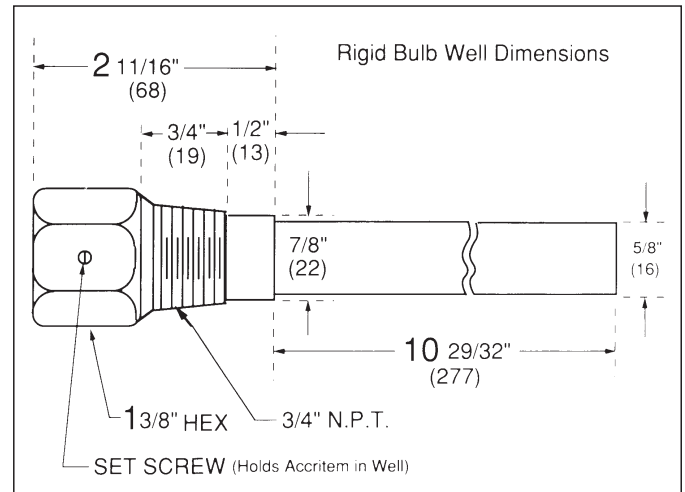


## Specifications

CHARACTERISTIC	RIGID BULB	REMOTE BULB
Standard Adjustment Dial Range	50°-350°F	0 to 300°F/ -20 to 150°C
Maximum Supply Pressure at Room Temp.	35psi	35psi
Maximum Operating Temp.	400°F (204°C)	350° (177°C)
Maximum Operating Pressure	250psi (1724kPa)	250psi (1724kPa)
Air Consumption (max.)	800 SCIM	200 SCIM
Adjustable Sensitivity per °F	1/4 to 2-1/4 psi	1/3 to 2 psi
Temperature Response	0.5°F	0.5°F
Sensing Element Bulb Mat.	Copper or Stainless	Copper or Stainless
Bulb Mounting Connection	1/2" NPT	1/2" NPT
Air or Water Connection	1/8" NPT	1/8" NPT
Drain Connection (water operated)	1/4" NPT	1/4" NPT
Ambient Temperature Range	NA	40-120°F
<b>Maximum Temperature of Wells</b>		
Stainless Steel	400°F (204°C)	400°F (204°C)
Copper	265°F (129°C)	265°F (129°C)
<b>Maximum Pressure of Wells</b>		
Stainless Steel	1125psi (7757kPa)	1000psi (6895kPa)
Copper	525psi (3619kPa)	400psi (2758kPa)
Shipping Weight	4 lbs.	2lbs.

## Accritem Accessories

DESCRIPTION	PART NO.	RIGID BULB	REMOTE BULB
Accessory Kit for Air/Gas Operation	744-107	X	X
Accessory Kit for Water	744-180	X	X
Union Fitting-Brass	744-106	X	X
Socket Well: Copper Copper	744-111	X	X
		X	X
Socket Well: Stainless Steel Stainless Steel	744-082	X	X
		NA	X
Duct Flange			X



# POWERS™

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