RFT
RECORDING THERMOMETER

R	F	0	1			0

BASIC RFT MODEL

CHART DRIVES (Counter Clockwise Rotation)

Description		Code
125V/60Hz	24 H	01
125V/60Hz	7 D	02
125V/60Hz	12 H	03
125V/60Hz	48 H	04
125V/50Hz	24 H	05
125V/50Hz	7 D	06
Spring	24 H	07
Spring	7 D	08
250V/50Hz	24 H	09
250V/50Hz	7 D	10
250V/60Hz	24 H	11

ACCESSORIES

Description	Code
None	0
Pressure Sensitive Marking Sys.	3

HOW TO ORDER

First select the proper ordering number for the RFT unit. Next consult element selection matrix, see Page 62. Select chart number, see page 70 and 71, and specify as a separate line item. The chart selected must correspond to specific range of sensing element selected. The RFT instrument requires a hollow (L-Type) element plunger (code 51 or 52). High ambient temperature head assembly (code 51) is used when the instrument will be located in ambient temperatures between 32°F but not greater than 150°F. Low ambient head assembly should be called out (code 52) when the instrument will be located in ambient temperatures between -30°F and 125°F. If the solution the sensing bulb is being immersed in is of a corrosive nature, see Form 3052, "Guide for use in Corrosive Applications".

Note: Availability of charts will limit element selection.

Sample Order:

Description	Required Number
RFT Unit	RF01010
with charts	00208004 (from page 71)
with element	109510520 (from page 62 and 63)

For pricing see Form 3028, Mechanical Price Book, page 12.

ABOUT THIS INSTRUMENT

Description

Records temperature on a 10" chart. Twelve ambient compensated ranges within -30° to 1100°F, permit application diversity from refrigeration to high temperature ovens. Standard clock rotations 12, 24, and 48 hour, 7 day, others available. Choice of electric or spring wound chart drives available. Wall mounted (brackets furnished) or flush mounted. UL listed.

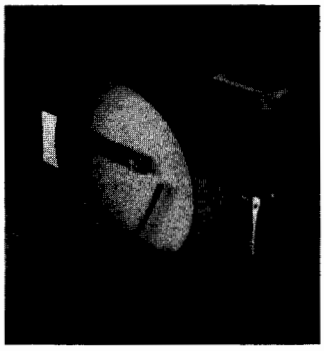
Operation

Pen recording is powered by the Piston Pak thermal sensing element, which is field replaceable. Temperature ranges may be substituted at any time by obtaining the correct Piston Pak assembly and proper chart graph, and exchange these with those already on the recorder, providing field range changeability.

Specifications

Dimensions	15 1/8" W x 13 13/16"H x 4 7/8" D
Chart Diameter	10 inch.
Chart Marking	Felt Tip Cartridge/optional pressure sensitive charts
Chart Drive	Electric with toggle switch, or spring wound.
Chart Rotation Periods	24 and 48 hour, 7 day, other options.
Flush Mount Cutout	13 1/2" W x 12 11/16" H
Surface Mounting	Mounting brackets included.
Electrical Hookup	Terminal block accessible with cover open.
Conduit Openings	One 7/8 inch diameter hole on each side of the case for 1/2 inch conduit fitting; drill guide hole spotted in the rear of the case showing optional rear opening location.
Rated Accuracy	1% of element range.
Agency Listing	UL
Warranty	One year, see page 80 for details.
Approx. Net Weight*	9 lbs.
Approx Ship. Weight*	14 lbs.

*Weight may vary depending on element length.



RF15-79
RECORDING TEMPERATURE CONTROL

BASIC RF15-79 MODEL

#73 switch is available in place of #79. It must be ordered separately and installed in the field.
#73 Close (1/2%) Sensitivity 64403018

CHART DRIVES (Counter Clockwise Rotation)

Description		Code
125V/60Hz	24 H	01
125V/60Hz	7 D	02
125V/60Hz	12 H	03
125V/60Hz	48 H	04
125V/50Hz	24 H	05
125V/50Hz	7 D	06
Spring wound	24 H	07
Spring wound	7 D	08
250V/50Hz	24 H	09
250V/50Hz	7 D	10
250V/60Hz	24 H	11

ACCESSORIES

Description	Code
None	0
257AP Low Limit Switch	1
Pressure Sensitive Marking Sys.	3

HOW TO ORDER

First select the proper ordering number for the RF15-79 unit. Next consult element selection matrix, see Page 62. Select chart number, see page 70 and 71, and specify as a separate line item. The chart selected must correspond to specific range of sensing element selected. The RF15-79 instrument requires a hollow (L-Type) element plunger (code 51 or 52). High ambient temperature head assembly (code 51) is used when the instrument will be located in ambient temperatures between 32°F but not greater than 150°F. Low ambient head assembly should be called out (code 52) when the instrument will be located in ambient temperatures between -30°F and 125°F. If the solution the sensing bulb is being immersed in is of a corrosive nature, see Form 3052, "Guide for use in Corrosive Applications".

Note: Availability of charts will limit element selection.

Sample Order:

Description	Required Number
RF15-79 Unit	RF02010
with charts	00208004 (from page 71)
with element	109510520 (from page 62 and 63)

For pricing see Form 3028, Mechanical Price Book, page 12.

ABOUT THIS INSTRUMENT

Description
This recording temperature controller incorporates two switches which operate in fixed relationship to the temperature setting. Differential between switches can be adjusted up to 5% of scale range. Like other RF series recorders, this unit has a 10" chart, may be flush or surface mounted. Unit is shipped with brackets for surface mounting operation. UL and CSA listed.

Operation
This unit incorporates two snap-setting switches mounted on a common setting arm (red pointer) and actuated by the same temperature response mechanism which moves the recording pen.

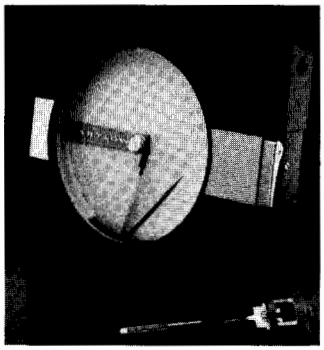
First to be actuated on a temperature rise is a leaf-type switch. The second, a pin-type switch, is actuated only when the recorded temperature exceeds the operation of the first switch.

Switches are mounted one behind the other, each having its own circuit. Temperature actuation points between the two switches (differential) is adjustable from 0 to 5 percent of scale range, with tolerance on switch settings ± 1/2%. Adjustment is made by set screws inside the instrument case.

Specifications

Dimensions	15 1/8" W x 13 3/16"H x 4 7/8" D
Chart Diameter	10 inch.
Chart Marking	Felt Tip Cartridge/optional pressure sensitive charts
Chart Drive	Electric with toggle switch, or spring wound.
Chart Rotation Periods	24 and 48 hour, 7 day, other options.
Panel Mount Cutout	13 1/2" W x 12 5/8" H
Surface Mounting	Mounting brackets included.
Switch Type	Three wire SPDT, 2 per mechanism.
Switch Sensitivities	Normal 1% of range (#79) standard. Super Sensitive (#73) 0.5% of range optional.
Electrical Hookup	Terminal block accessible with cover open.
Conduit Openings	One 7/8 inch diameter hole on each side of the case for 1/2 inch conduit fitting; drill guide hole spotted in the rear of the case showing optional rear opening location.
Electrical Rating	50VA, inductive; 500VA, non inductive; 250V maximum AC only.
Agency Listings	UL and CSA.
Warranty	One year, see page 80 for details.
Approx. Net Weight*	9 lbs.
Approx Ship. Weight*	14 lbs.

*Weight may vary depending on element length.



RFA - PNEUMATIC RECORDING TEMPERATURE CONTROLLER

R	F	0	3			0

BASIC RFA MODEL

CHART DRIVES (Counter Clockwise Rotation)

Description		Code
125V/60Hz	24 H	01
125V/60Hz	7 D	02
125V/60Hz	12 H	03
125V/60Hz	48 H	04
125V/50Hz	24 H	05
125V/50Hz	7 D	06
Spring	24 H	07
Spring	7 D	08
250V/50Hz	24 H	09
250V/50Hz	7 D	10
250V/60Hz	24 H	11

ACCESSORIES

Description	Code
None	0
Pressure Sensitive Marking Sys.	3

HOW TO ORDER

First select the proper ordering number for the RFT unit. Next consult element selection matrix, see Page 62. Select chart number, see page 70 and 71, and specify as a separate line item. The chart selected must correspond to specific range of sensing element selected. The RFT instrument requires a hollow (L-Type) element plunger (code 51 or 52). High ambient temperature head assembly (code 51) is used when the instrument will be located in ambient temperatures between 32°F but not greater than 150°F. Low ambient head assembly should be called out (code 52) when the instrument will be located in ambient temperatures between -30°F and 125°F. If the solution the sensing bulb is being immersed in is of a corrosive nature, see Form 3052, "Guide for use in Corrosive Applications".

Note: Availability of charts will limit element selection.

Sample Order:

Description	Required Number
RFA Unit	RF03010
with charts	00208004 (from page 71)
with element	109510520 (from apge 62 and 63)

For pricing see Form 3028, Mechanical Price Book, page 12.

ABOUT THIS INSTRUMENT

Description

This recorder is an accurate, sensitive pneumatic controller used in conjunction with an air-operated valve for control of steam, gas or fuel for combustion equipment or to operate other pneumatic devices. Requires approximately 16 psi input, air output is 3 to 15 psi, throttling span is 5% to 25% of scale range. Flush or wall mounted (brackets supplied) with 12 optional ranges from -30°F to 1100°F.

Operation

Operates in an adjustable throttling range of 5-25% of scale range. As the indicating pointer, moving up or down scale in response to the expansion or contraction in the thermal sensing element, enters the throttling range and approaches set point, it changes the effective orifice in the instrument's bleed valve.

Depending upon its control action (reverse or direct acting) this increases or decreases the pressure delivered to the remotely-placed air operated control device.

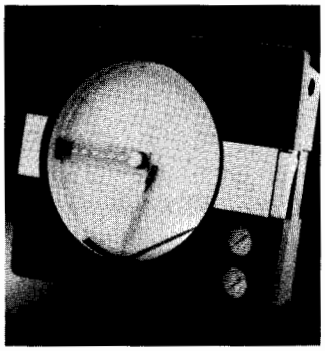
Pressure transmitted by the control instrument is reflected by the valve position of the air-operated device which modulates the flow of heating or cooling medium.

Load error, inherent in throttling controls, is compensated by manual reset adjustment. Note: For long air line feeds, ie. 10 feet or greater, or large volume air valves or control devices, an air pressure booster relay is strongly recommended.

Specifications

Dimensions	15 1/8" W x 13 3/16"H x 4 7/8" D
Chart Diameter	10 inch.
Chart Marking	Felt Tip Cartridge/optional pressure sensitive charts
Chart Drive	Electric with toggle switch, or spring wound.
Chart Rotation Periods	24 and 48 hour, 7 day, other options.
Flush Mount Cutout	13 1/2" W x 12 11/16" H
Surface Mounting	Mounting brackets included.
Electrical Hookup	Terminal block accessible with cover open.
Conduit Openings	One 7/8 inch diameter hole on each side of the case for 1/2 inch conduit fitting; drill guide hole spotted in the rear of the case showing optional rear opening location.
Air Hookup	1/4-NPT inlet and outlet openings at top and back of case.
Air Input Requirements	Approximately 16 psi to 20 psi.
Air Output Pressure	3 to 15 psi.
Air Consumption	12 cfh maximum.
Throttling Span	Adjustable from 7 to 35% of element range.
Load Error Adjustment	Manual reset for load error compensation.
Control Action	Reverse or Direct Acting (factory set-reverse, field changeable to direct acting).
Air Gauges	Inlet and outlet - both gauges provide for English and Metric scales.
Warranty	One year, see page 80 for details.
Approx. Net Weight*	9 1/2 lbs.
Approx Ship. Weight*	10 3/4 lbs.

*Weight may vary depending on element length.



RFP
MODULATING TEMPERATURE RECORDER

BASIC RFP MODEL

The potentiometer coil kits listed below are available.
They must be ordered separately and installed in the field.

Description	Part #
100 Ohm 1/8"	64403504
100 Ohm 5/16"	64403505
135 Ohm 1/8"	64403501

CHART DRIVES (Counter Clockwise Rotation)

Description		Code
125V/60Hz	24 H	01
125V/60Hz	7 D	02
125V/60Hz	12 H	03
125V/60Hz	48 H	04
125V/50Hz	24 H	05
125V/50Hz	7 D	06
Spring wound	24 H	07
Spring wound	7 D	08
250V/50Hz	24 H	09
250V/50Hz	7 D	10
250V/60Hz	24 H	11

ACCESSORIES

Description	Code
None	0
Pressure Sensitive Marking Sys.	3

HOW TO ORDER

First select the proper ordering number for the RFP unit. Next consult element selection matrix, see Page 62. Select chart number, see page 70 and 71, and specify as a separate line item. The chart selected must correspond to specific range of sensing element selected. The RFP instrument requires a hollow (L-Type) element plunger (code 51 or 52). High ambient temperature head assembly (code 51) is used when the instrument will be located in ambient temperatures between 32°F but not greater than 150°F. Low ambient head assembly should be called out (code 52) when the instrument will be located in ambient temperatures between -30°F and 125°F. If the solution the sensing bulb is being immersed in is of a corrosive nature, see Form 3052, "Guide for use in Corrosive Applications".

Note: Availability of charts will limit element selection.

Sample Order:

Description	Required Number
RFP Unit	RF04010
with charts	00208004 (from page 71)
with element	109510520 (from page 62 and 63)

For pricing see Form 3028, Mechanical Price Book, page 12.

ABOUT THIS INSTRUMENT

Description

This recorder is a potentiometer-type controller designed for use with proportional positioning motors to operate modulating valves or damper systems where extremely close sensitivity or straight-line control is required.

The instrument automatically positions any of a variety of standard motor operators to provide precise temperature control without sawtooth line characteristics of conventional on-off control. Flush or wall mounted, brackets supplied. Available in 12 optional ranges from -30°F to 1100°F. CSA listed.

Operation

The potentiometer coil, which moves up or down scale in response to the expansion or contraction in the thermal element, also slides the contact finger along the potentiometer coil within the modulating range.

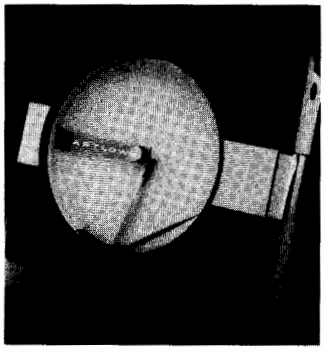
In essence, the coil forms half of a Wheatstone Bridge circuit, while the other half of the bridge is formed by a potentiometer of similar electrical characteristics built into the proportioning motor and driven by the motor shaft.

When the contact finger is located at the low end of the potentiometer coil as in process start-up, the motor drives the device to the fully open position.

With the contact finger at the high end of the coil, the motor moves the drive to the fully closed position.

Specifications

Dimensions	15 1/8" W x 13 3/16"H x 4 7/8" D			
Chart Diameter	10 inch.			
Chart Marking	Felt Tip Cartridge/optional pressure sensitive charts			
Chart Drive	Electric with toggle switch, or spring wound.			
Chart Rotation Periods	24 and 48 hour, 7 day, other options.			
Flush Mount Cutout	13 1/2" W x 12 11/16" H			
Surface Mounting	Mounting brackets included.			
Electrical Hookup	Terminal block accessible with hinged cover open.			
Conduit Openings	One 7/8 inch diameter hole on each side of the case for 1/2 inch conduit fitting; drill guide hole spotted in the rear of the case showing optional rear opening location.			
Coil Resistance	135 ohms 5/16" width std; others available as field installable kits.			
Electrical Rating	Max. volts - 30; max. watts - 3.			
Coil Length,	5/16"	1/8"	5/8"	
Throttling Range Available	12%	5%	24%	
Rated Accuracy	1% of element range.			
Agency Listing	CSA			
Warranty	One year, see page 80 for details.			
Approx. Net Weight*	12 lbs.			
Approx Ship. Weight*	17 lbs.			



*Weight may vary depending on element length.