KIMRAY INC.®

INSTALLATION OPERATION & MAINTENANCE GUIDE

THERMOSTAT PACKAGES

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Contents

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A Before you start

⚠ CAUTION:
The instructions provided herein should be completely reviewed and understood before operating or repairing this equipment. All **CAUTION** and **WARNING** notes must be strictly observed to prevent personal injury or equipment damage.

A1 Scope

Do not install, operate, or maintain a temperature controller without being fully trained and qualified with the Kimray installation, operation and maintenance manual.

To avoid personal injury or property damage, it is important to carefully read, understand, and follow all the contents of this manual, including all safety cautions and warnings.

If you have any questions about this manual, contact your Kimray applications support group before proceeding.

A2 Introduction

This repair manual contains information for tubing connection of Temperature Controllers.

A3 Description

The Kimray Temperature Controllers are designed to control set temperature in indirect heaters, emulsion treaters, reboilers, steam genera-tors, heat exchangers cooler shutter controls, and salt bath heaters. The pilot guard is de-signed to monitor the pilot flame to a burner in case the flame is extinguished.A name tag is attached to the upper bonnet housing on each thermostat. The name tag lists the serial number, model number, and pressure rating.

⚠ CAUTION:
When ordered, the Temperature Controller configuration and construction materials were selected to meet specific pressure, temperature, pressure drop and fluid conditions. Since some body / trim material combinations are limited in their pressure drop and temperature ranges, do not subject the Temperature Controller to any other conditions without first contacting the Kimray Inc, sales office or a sales / applications representative.

⚠ WARNING:
DO NOT exceed the maximum pressure specified on the nameplate. Under no circumstances should the Temperature Controller supply pressure ever exceed the maximum psig.

A4 Maintenance

Maintenance should be performed on a regular basis. Initial intervals of 12 months is recommended. The maintenance interval may increase or decrease depending on changing application environments. The valve can be repaired without being removed from the piping.

Related Publications
The following publications are applicable for the regulator
Number Type Title

See catalog section H for product pages.

Abbreviations / Acronyms
The abbreviations that follow are used in this manual.
Term Definition

Commonly Replaced Parts
- Diaphragm
- O-ring

Occasional Replacement Parts
- Pilot Plug
- Seat
- Spring

A5 Changes and Updates

⚠ NOTE:
To prevent galling or seizing at assembly level for straight threads Kimray recommends using a nickel impregnated paste. For other threads use a nickel impregnated PTFE thread sealant tape.

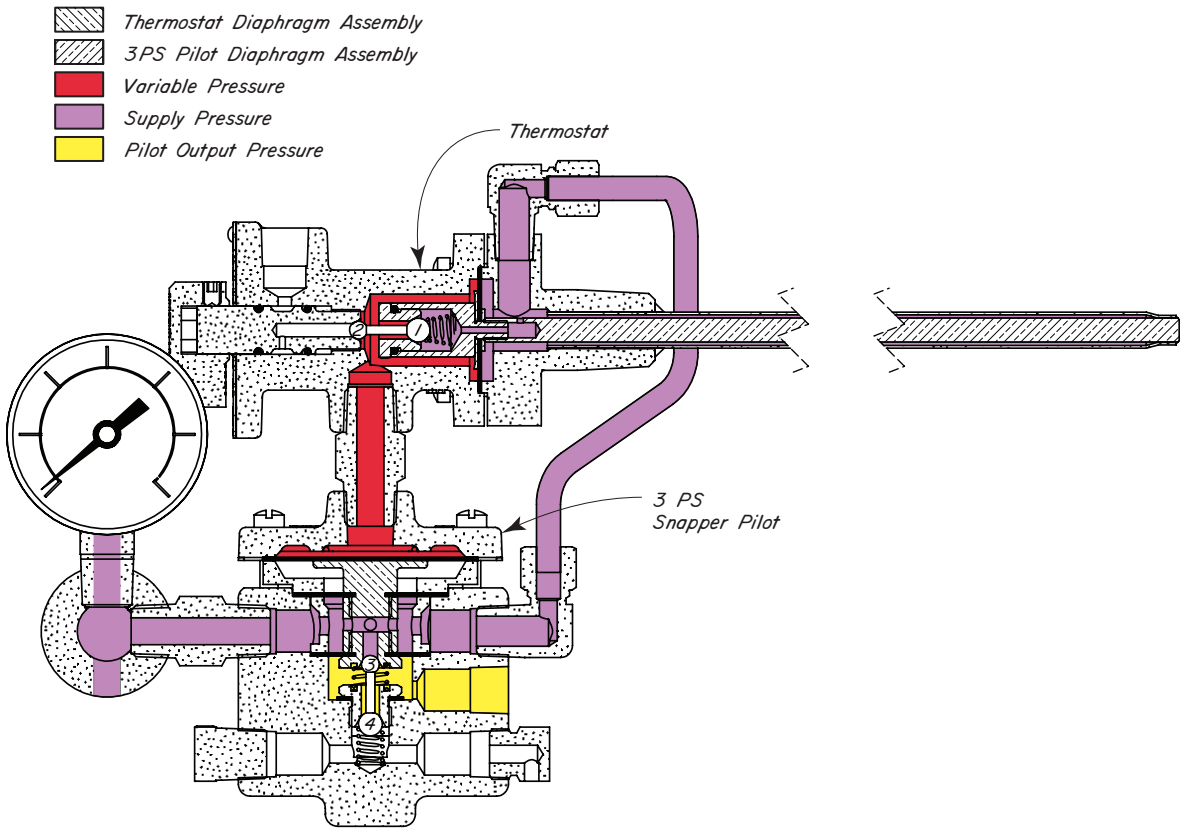
MODEL: DIRECT SNAP THERMOSTAT
Installation, Operation & Maintenance Guide

ACTION:

Direct snap; Pilot Output Pressure "snaps on" with temperature rise.

APPLICATION:

Used to control temperature in indirect and direct heaters, emulsion treaters, reboilers, steam generators, heat exchangers, cooler shutter controls, and salt bath heaters.



Order Code	Base Assembly	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
HAG	T 12 DAS	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 204°C	35.15 kg/cm^2
HAH	T 18 DAS	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 204°C	35.15 kg/cm^2
HBG	HT 12 DAS	5 - 30 psig	3°F	-30°F to 750°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 399°C	35.15 kg/cm^2
HBH	HT 18 DAS	5 - 30 psig	3°F	-30°F to 750°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 399°C	35.15 kg/cm^2

NOTES:

†† Working Pressure (sensing element) with Separable Socket:
4000 psig max. / 281.23 kg/cm^2 max.
Separable Socket is an extra price item and must be ordered separately, if desired.

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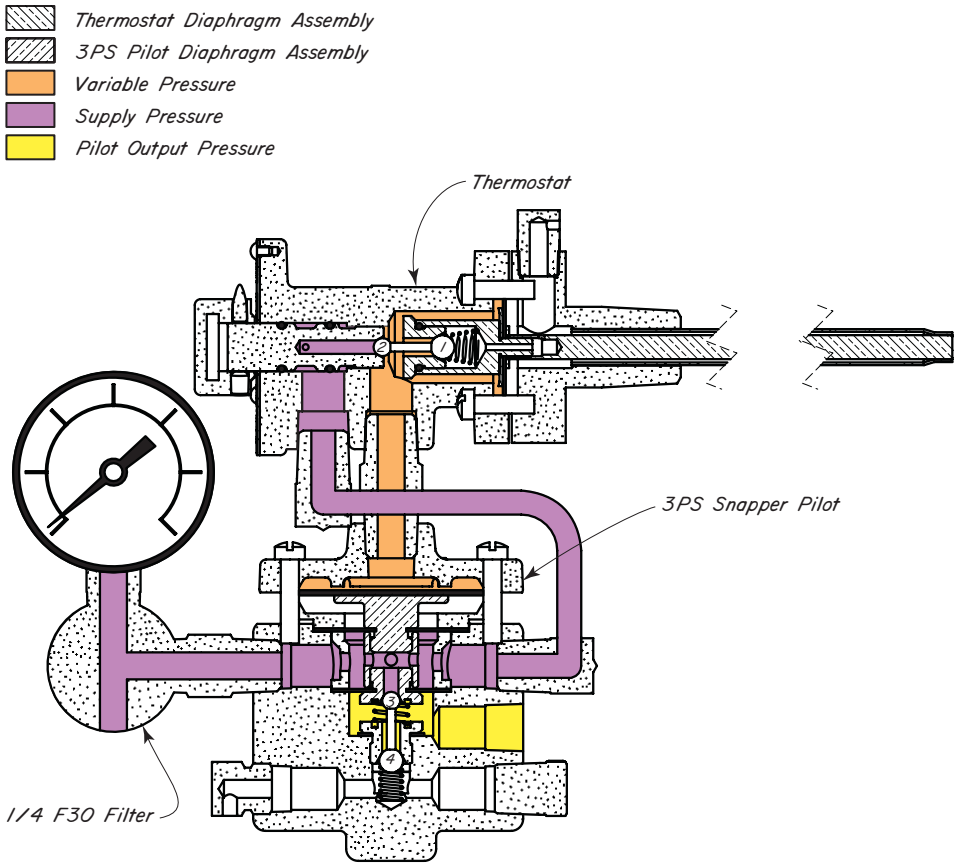
MODEL: INDIRECT SNAP THERMOSTAT
Installation, Operation & Maintenance Guide

ACTION:

Indirect snap; Pilot Output Pressure "snaps off" with temperature rise.

APPLICATION:

Used to control temperature in indirect and direct heaters, emulsion treaters, reboilers, steam generators, heat exchangers, cooler shutter controls, and salt bath heaters.



Order Code	Base Assembly	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
HAU	T 12 S	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm²	1.7°C	-34°C to 204°C	35.15 kg/cm²
HAX	T 18 S	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm²	1.7°C	-34°C to 204°C	35.15 kg/cm²

NOTES:

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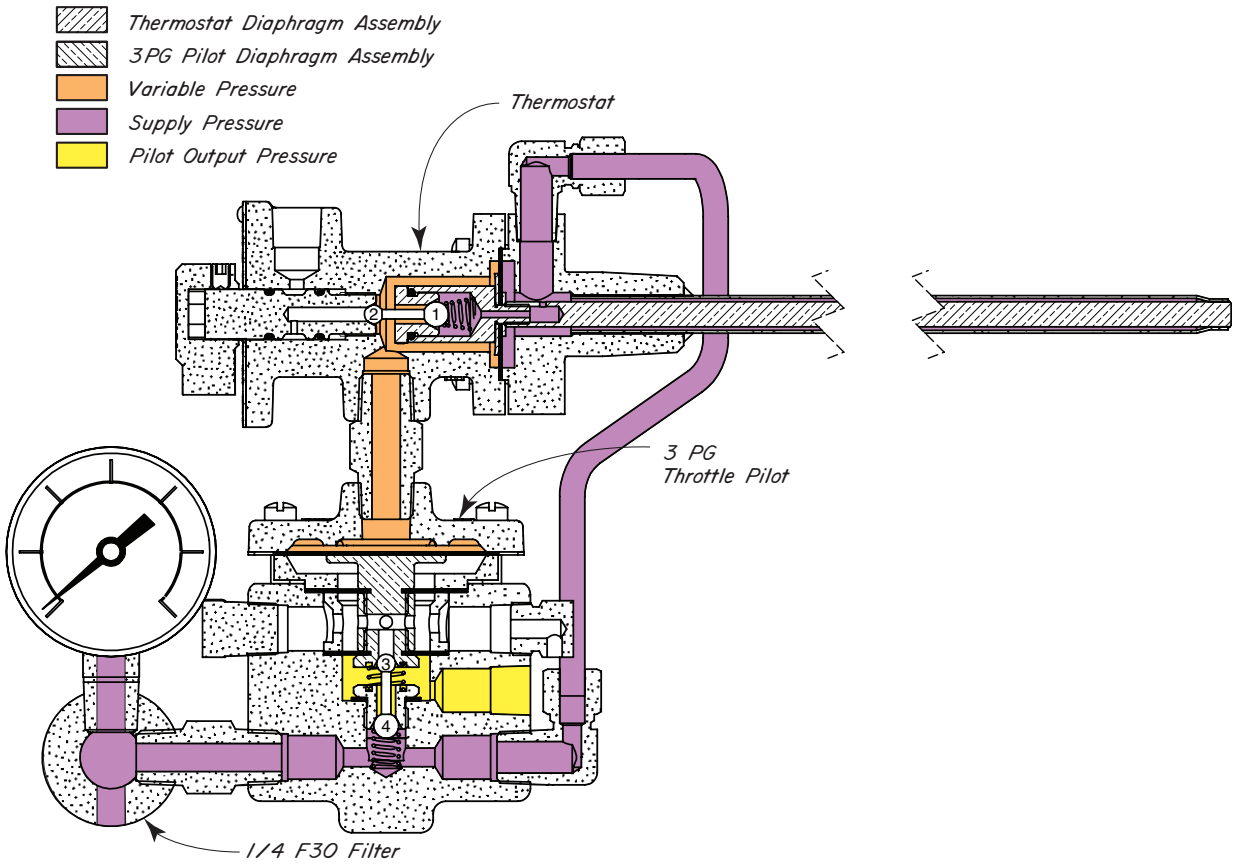
MODEL: INDIRECT THROTTLE THERMOSTAT
Installation, Operation & Maintenance Guide

ACTION:

Indirect throttle; Pilot Output Pressure (Yellow) decreases with temperature rise.

APPLICATION:

For temperature control of indirect heaters, emulsion treaters, reboilers, steam generators, heat exchangers cooler shutter controllers, and salt bath heaters.



Order Code	Base Assembly	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
HAI	T 12 T	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm²	1.7°C	-34°C to 204°C	35.15 kg/cm²
HAJ	T 18 T	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm²	1.7°C	-34°C to 204°C	35.15 kg/cm²
HBI	HT 12 T	5 - 30 psig	3°F	-30°F to 750°F	500 psig
		.35 - 2.11 kg/cm²	1.7°C	-34°C to 399°C	35.15 kg/cm²
HBJ	HT 18 T	5 - 30 psig	3°F	-30°F to 750°F	500 psig
		.35 - 2.11 kg/cm²	1.7°C	-34°C to 399°C	35.15 kg/cm²

NOTES:

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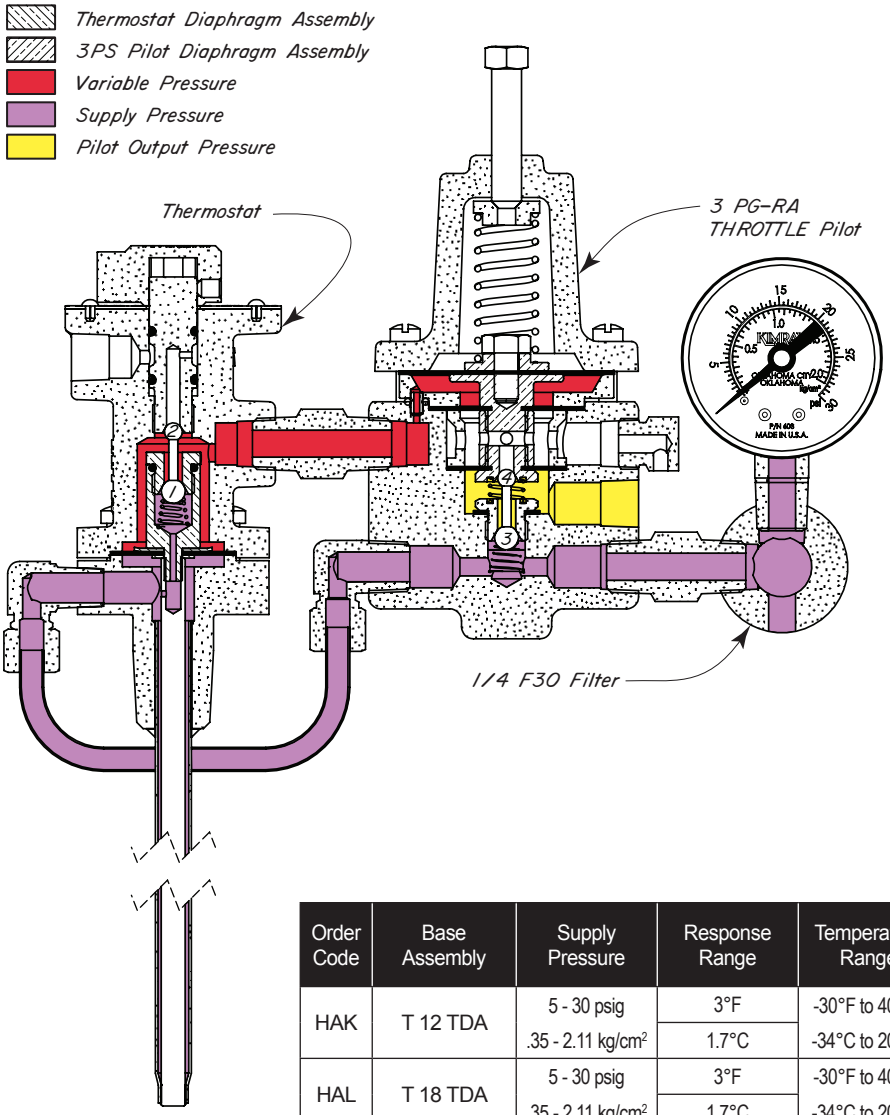
MODEL: DIRECT THROTTLE THERMOSTAT
Installation, Operation & Maintenance Guide

ACTION:

Direct throttle; Pilot Output Pressure (Yellow) increases with temperature rise.

APPLICATION:

For temperature control in indirect and direct heaters, emulsion treaters, reboilers, steam generators, heat exchangers cooler shutter controllers, and salt bath heaters.



Order Code	Base Assembly	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
HAK	T 12 TDA	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 204°C	35.15 kg/cm^2
HAL	T 18 TDA	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 204°C	35.15 kg/cm^2
HBK	HT 12 TDA	5 - 30 psig	3°F	-30°F to 750°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 399°C	35.15 kg/cm^2
HBL	HT 18 TDA	5 - 30 psig	3°F	-30°F to 750°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 399°C	35.15 kg/cm^2

NOTES:

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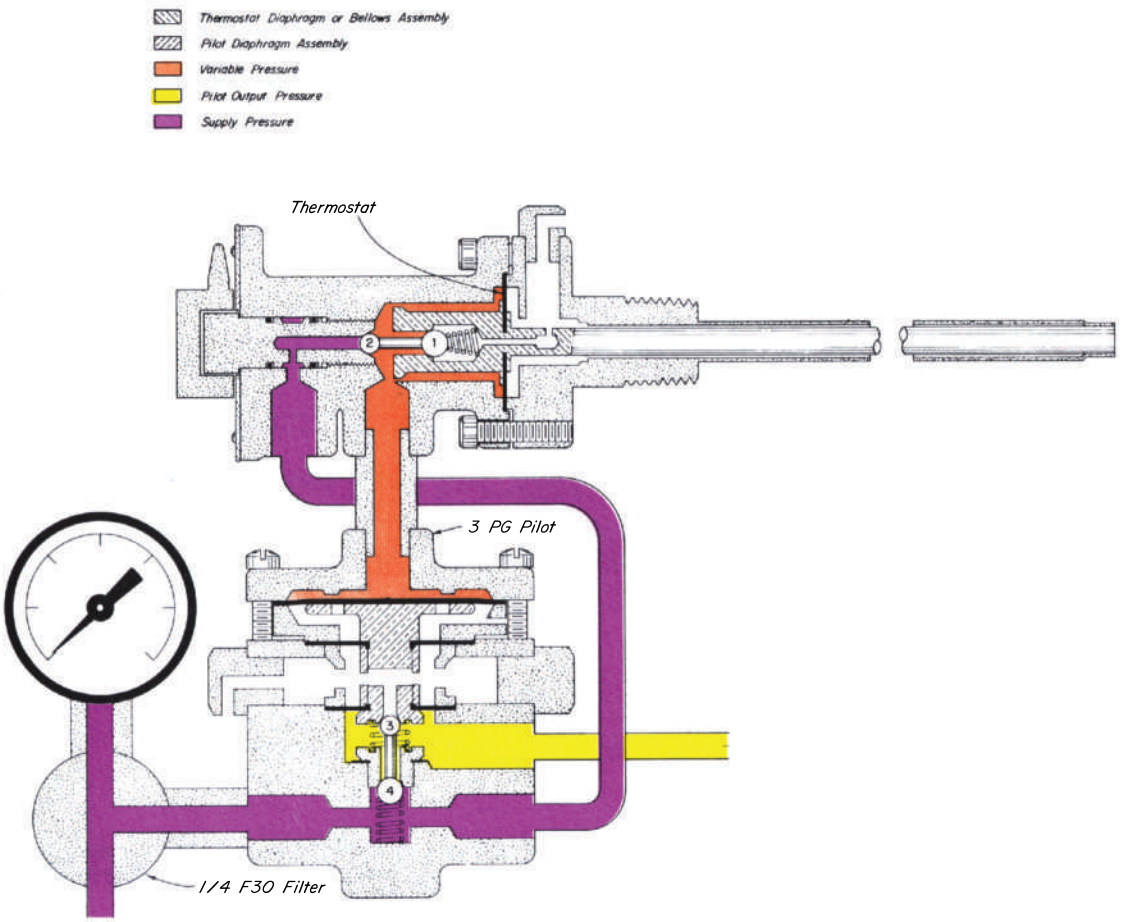
MODEL: DIRECT SEMI-THROTTLE THERMOSTAT
Installation, Operation & Maintenance Guide

ACTION:

Direct semi-throttle; Pilot Output Pressure (Yellow) increases with temperature rise.

APPLICATION:

For temperature control in indirect and direct heaters, emulsion treaters, reboilers, steam generators, heat exchangers cooler shutter controllers, and salt bath heaters.



Order Code	Base Assembly	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
HAG	T 12 DAT	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm²	1.7°C	-34°C to 204°C	35.15 kg/cm²

NOTES:

†† Working Pressure (sensing element) with Separable Socket:
4000 psig max. / 281.23 kg/cm² max.
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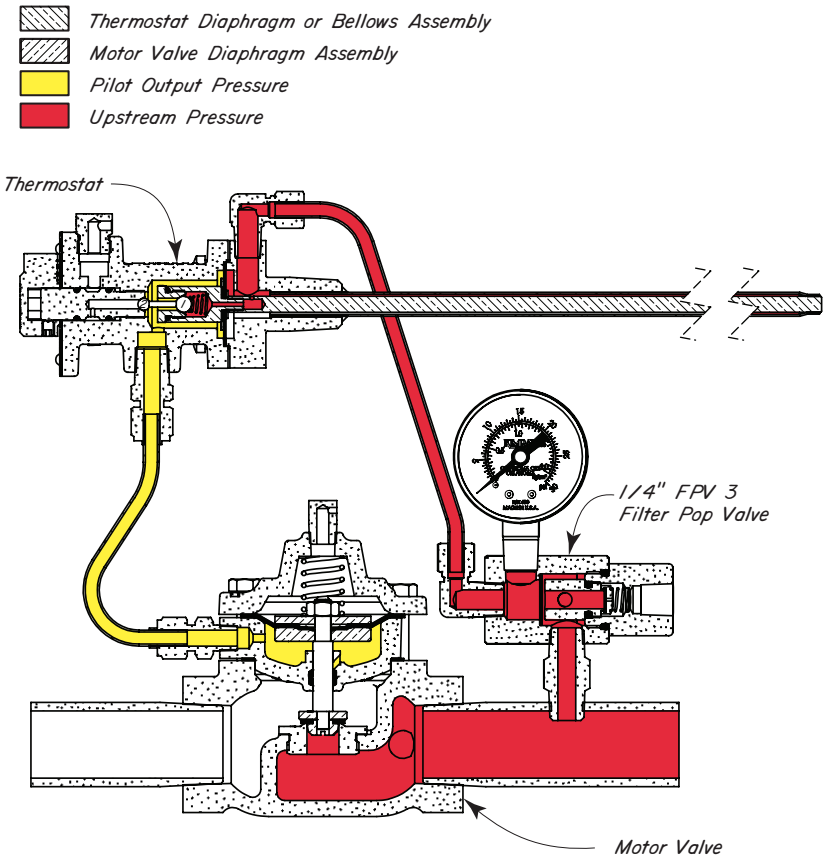
MODEL: "TC" THROTTLE
Installation, Operation & Maintenance Guide

ACTION:

Indirect throttle; Pilot Output Pressure (Yellow) decreases with temperature rise.

APPLICATION:

Used to control temperature in indirect heaters, emulsion treaters, reboilers, steam generators, heat exchangers, cooler shutter controls, and salt bath heaters.



Order Code	Base Assembly	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
HAE	1 TC 12	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 204°C	35.15 kg/cm^2
HAF	1 TC 18	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 204°C	35.15 kg/cm^2
HBE	1 HTC 12	5 - 30 psig	3°F	-30°F to 750°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 399°C	35.15 kg/cm^2
HBF	1 HTC 18	5 - 30 psig	3°F	-30°F to 750°F	500 psig
		.35 - 2.11 kg/cm^2	1.7°C	-34°C to 399°C	35.15 kg/cm^2

NOTES:

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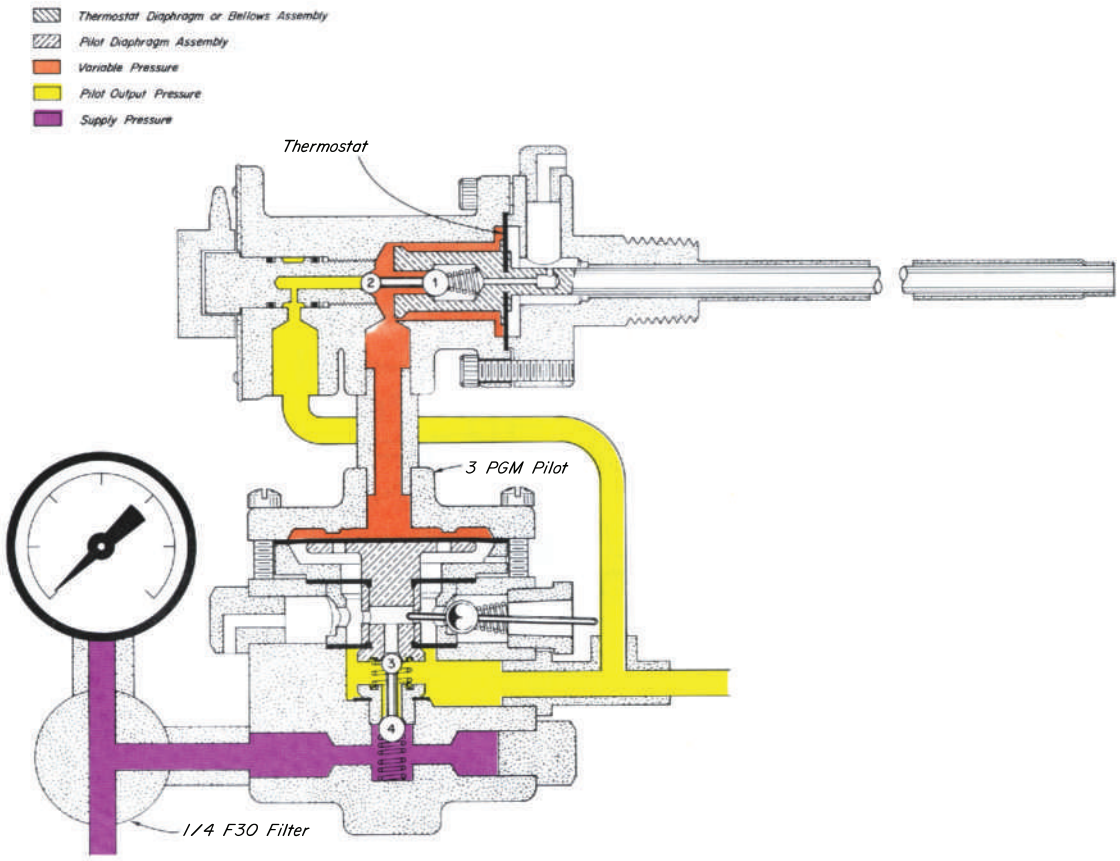
MODEL: DIRECT LOW TEMPERATURE SHUT-DOWN
Installation, Operation & Maintenance Guide

ACTION:

Direct; Pilot Output Pressure (Yellow) increases with temperature rise.

APPLICATION:

For temperature controlled system shutdown until manually reset.



Order Code	Base Assembly	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
HAT	T 12 DAS	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm²	1.7°C	-34°C to 204°C	35.15 kg/cm²

NOTES:

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Kimray is an ISO 9001- certified manufacturer.
Kimray quality assurance process maintains strict controls
of materials and the certification of parts used in the Kimray severe service control valve.

Please visit our website for up to date product data www.Kimray.com

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WHO WE ARE

Kimray is a manufacturer of oil and gas control equipment based in Oklahoma City, Oklahoma, USA.

Trusted for generations, Kimray has been creating simple, effective solutions for temperature, level, flow, and pressure control since 1948. Common applications include separation, heating, compression, dehydration, and artificial lift.

Buying from Kimray is about much more than the product. We are partners with hearts to serve. The relationships between our representatives and our customers extend from before the sale through the life of the product. Our focus is not on short-term profits but long-term growth for our customers.

Visit Kimray.com to learn more about our company and the products we create.

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