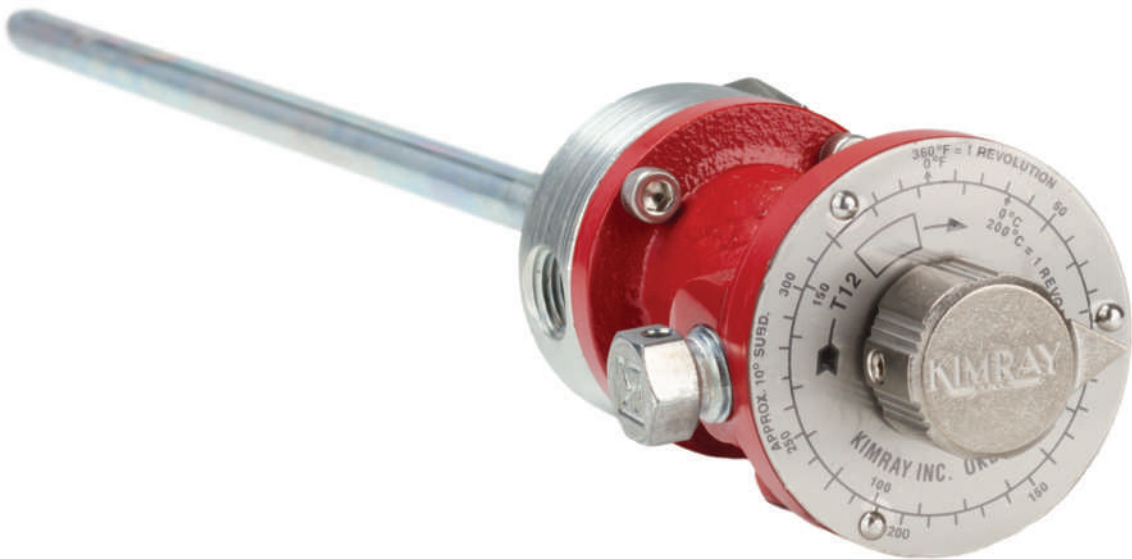


# TEMPERATURE CONTROLLERS



NOTE: We reserve the right to modify or change, without prior notice, any statement or information contained herein.  
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**-30° - 400, F BASE ASSEMBLIES:** . . . . . **·07:10.1 - 07:10.2**  
APPLICATIONS: 5-30 lb. signal varies within set temperature range.  
OPERATING PRESSURE RANGES: 5 psig to 250 psig

**-30° - 750, F BASE ASSEMBLIES:** . . . . . **·07:20.1 - 07:20.2**  
APPLICATIONS: 5-30 lb. signal varies within set temperature range.  
OPERATING PRESSURE RANGES: 5 psig to 250 psig

**HIGH TEMPERATURE PILOT GUARD:** . . . . . **·07:30.1 - 07:30.2**  
APPLICATIONS: 5-30 lb. signal is Off when no flame is sensed.  
OPERATING PRESSURE RANGES: 5 psig to 125 psig

**HIGH or LOW TEMPERATURE SHUT-DOWN:** . . . . . **·07:40.1 - 07:40.2**  
APPLICATIONS: 5-30 lb. signal change at set point.  
Must be manually reset to original condition.  
OPERATING PRESSURE RANGES: 10 psig to 285 psig

**SEPARABLE SOCKETS:** . . . . . **·07:50.1**  
APPLICATIONS: Increases working pressure of thermostats from 500 to 4,000 psig.  
OPERATING PRESSURE RANGES: 10 psig to 500 psig

**SEALS:** . . . . . **·07:I**

**MATERIAL SPECIFICATIONS** . . . . . **·07:II**

# TEMPERATURE CONTROLLERS



## CODE BUILDER T SERIES

Series:

T = Temperature Controllers

Model:

12 = -30°F to 400°F Thermostat

HT = -30°F to 750°F Thermostat

PG = Pilot Guard

SD = Shut Down with Manual Reset

Service Type:

S = Standard

T	12	S	
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Options: Additional cost and lead times will apply  
If multiple options required input in sequential order  
Leave blank if no options required

V = FKM Elastomers

Not all selections available on all products listed.  
See product pages 07:10.1 - 07:40.2 for available options

### APPLICATIONS:

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

### FEATURES:

Modulated (throttling) signal output. Can be direct or indirect signal output based on how it is installed. is Field Reversible:

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

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

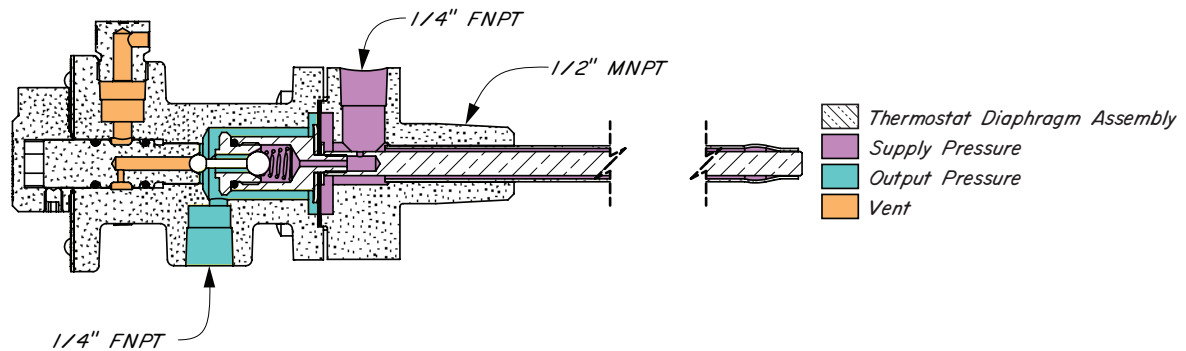
### CERTIFICATIONS:

Canadian Registration Number (CRN):

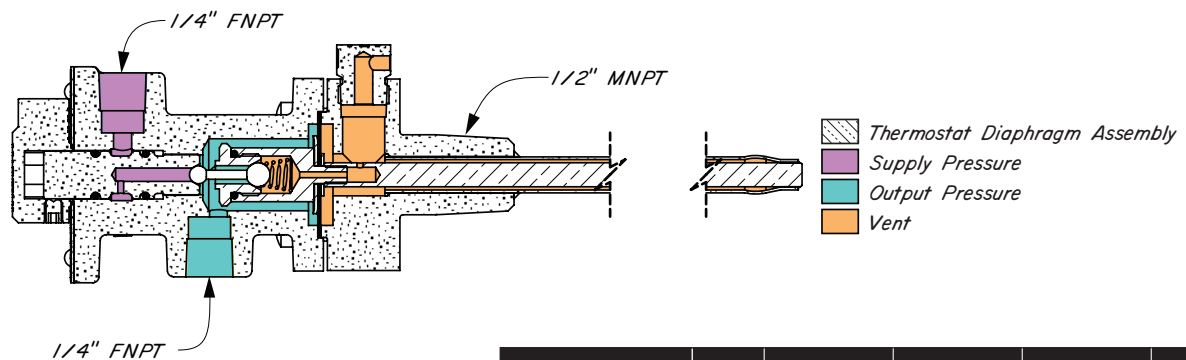
0H08105.2

Kimray is an ISO 9001- certified manufacturer.

### INDIRECT ACTION



### DIRECT ACTION



Standard † Configuration Code	Order Code	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
T12S	HAA	5 - 30 psig .35 - 2.11 kg/cm <sup>2</sup>	1.75 psig/°F .22 kg/cm <sup>2</sup> /C°	-30°F to 400°F -34°C to 204°C	500 psig 35.15 kg/cm <sup>2</sup>

### NOTES:

For standard & optional seals, metals, material specifications & dimensions see technical data on pages 07:1 - 07:11

† For code builder see page 07:00.2

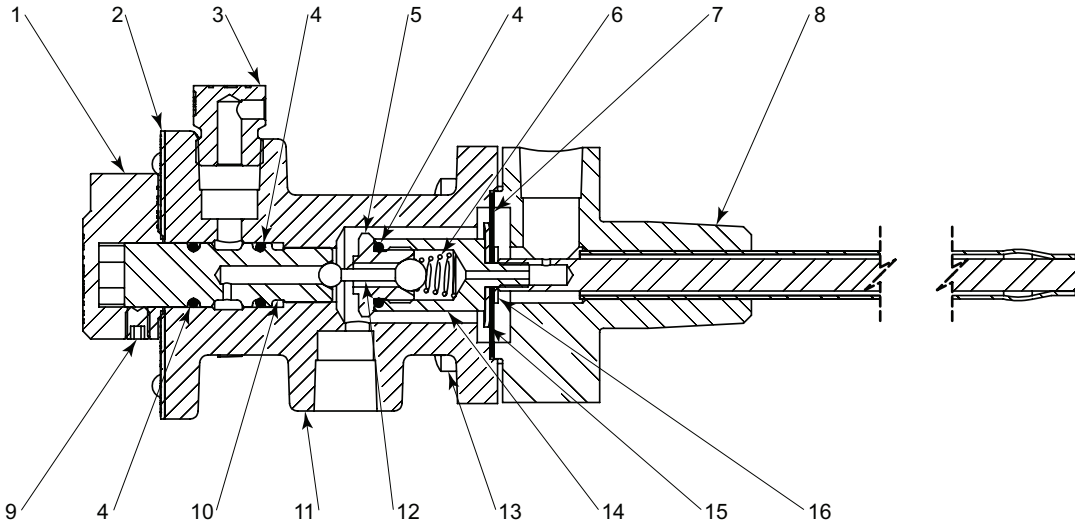
†† Working Pressure (sensing element) with Separable Socket:  
4000 psig max. / 281.23 kg/cm<sup>2</sup> max.

Separable Socket is an extra price item and must be ordered separately, if desired.

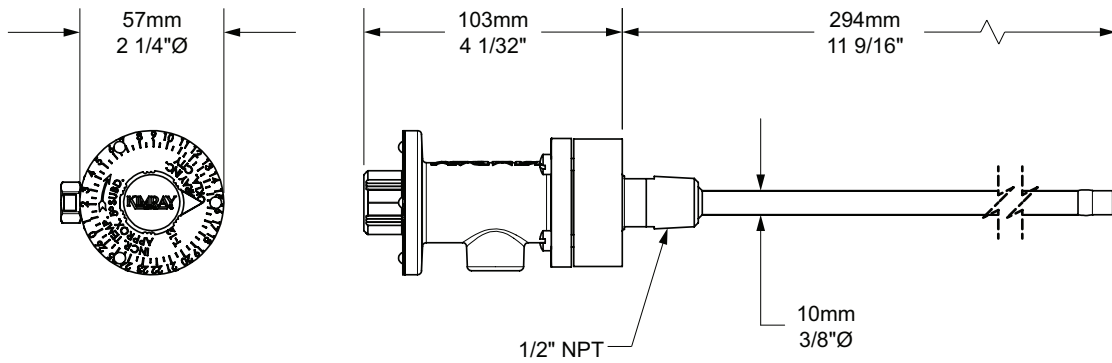
To order Separable Sockets refer to Table of Contents

# TEMPERATURE CONTROLLERS

-30°F to 400°F THERMOSTAT  
MODEL 12



## DIMENSIONS



ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Pointer Knob	600SS6
2	1	Dial	1743
3	1	Vent Plug	147
4	3	O-Ring *	265HSN
5	1	Seat *	565
6	1	Spring *	108
7	1	Diaphragm *	601HSN
8	1	Base	1627
9	1	Set Screw	264
10	1	Seat	1621
11	1	Bonnet	2728
12	1	Pilot Plug *	112
13	4	Screw	693
14	1	Housing	595
15	1	Upper Diaphragm Plate *	597
16	1	Lower Diaphragm Plate *	763
Repair Kit			RXX
* These parts are recommended spare parts and are stocked as repair kits.			

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

### APPLICATIONS:

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

### FEATURES:

Modulated (throttling) signal output. Can be direct or indirect signal output based on how it is installed. Field Reversible:

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

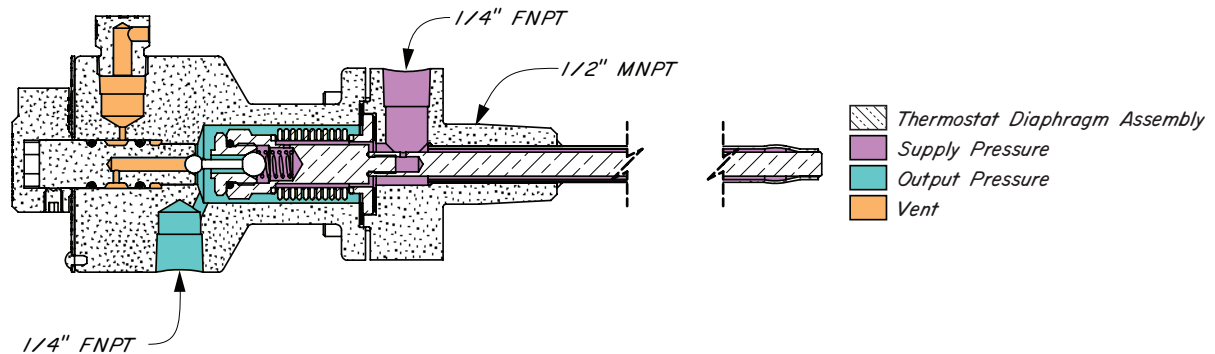
Direct: Pilot Output Pressure (Yellow) increases with temperature rise.

### CERTIFICATIONS:

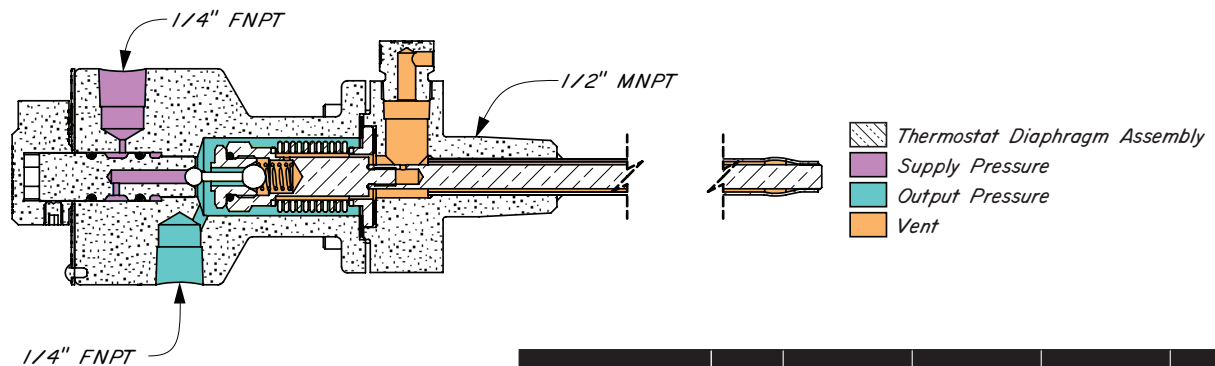
Canadian Registration Number (CRN):  
0H08105.2

Kimray is an ISO 9001- certified manufacturer.

### INDIRECT ACTION



### DIRECT ACTION



Standard † Configuration Code	Order Code	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
THTS	HBA	5 - 30 psig .35 - 2.11 kg/cm <sup>2</sup>	2.50 psig/°F .31 kg/cm <sup>2</sup> /C°	-30°F to 750°F -34°C to 399°C	500 psig 35.15 kg/cm <sup>2</sup>

### NOTES:

For standard & optional seals, metals, material specifications & dimensions see technical data on pages 07:1 - 07:11

† For code builder see page 07:00.2

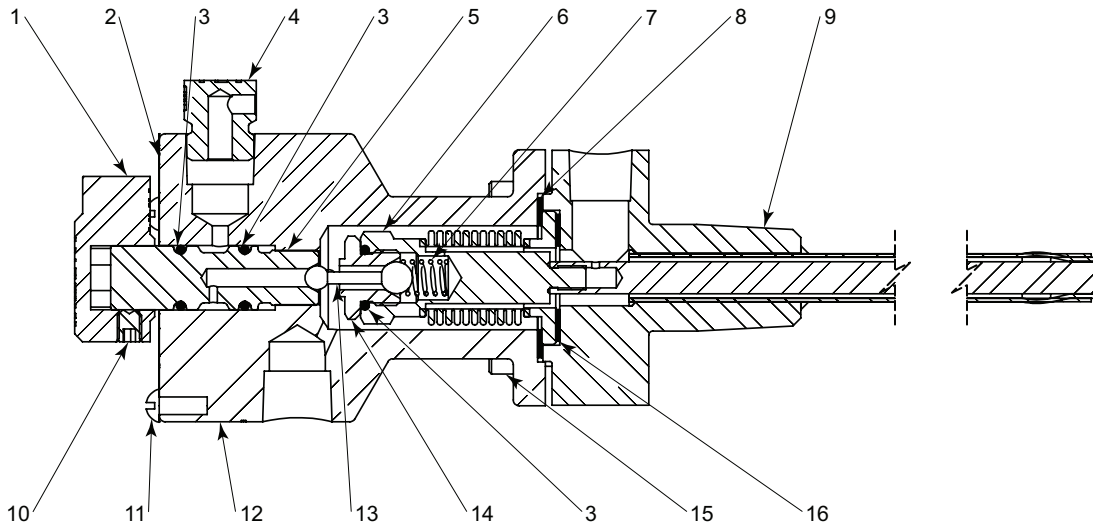
†† Working Pressure (sensing element) with Separable Socket:  
4000 psig max. / 281.23 kg/cm<sup>2</sup> max.

Separable Socket is an extra price item and must be ordered separately, if desired.

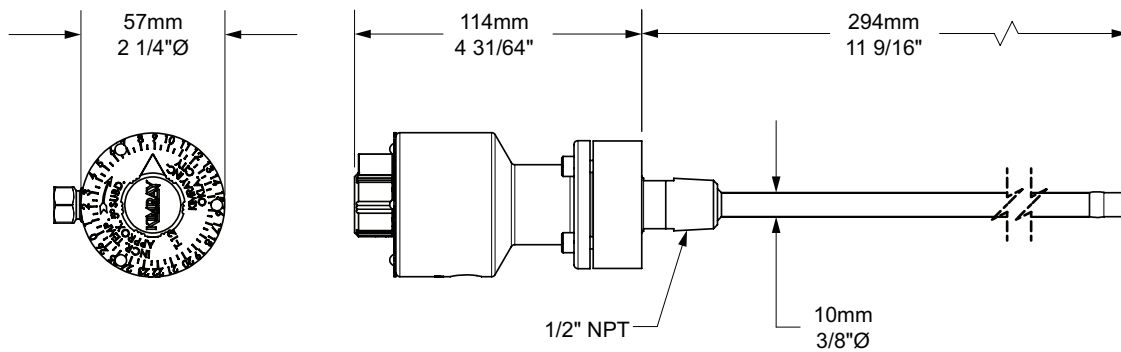
To order Separable Sockets refer to Table of Contents

# TEMPERATURE CONTROLLERS

-30°F to 750°F THERMOSTAT  
MODEL HT



## DIMENSIONS



ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Pointer Knob	600SS6
2	1	Dial	1622
3	3	O-Ring *	265HSN
4	1	Vent Plug	147
5	1	Seat	1621
6	1	Bellows Assembly	1620
7	1	Spring *	585
8	1	Gasket *	1623
9	1	Base	1627
10	1	Set Screw	264
11	3	Screw	1085
12	1	Bonnet	2922
13	1	Pilot Plug *	112
14	1	Seat *	565
15	4	Screw	693
16	1	Gasket *	1624
Repair Kit			RXX
* These parts are recommended spare parts and are stocked as repair kits.			

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



#### APPLICATIONS:

Used as a Pilot safety shutdown or as a high stack temperature shutdown.

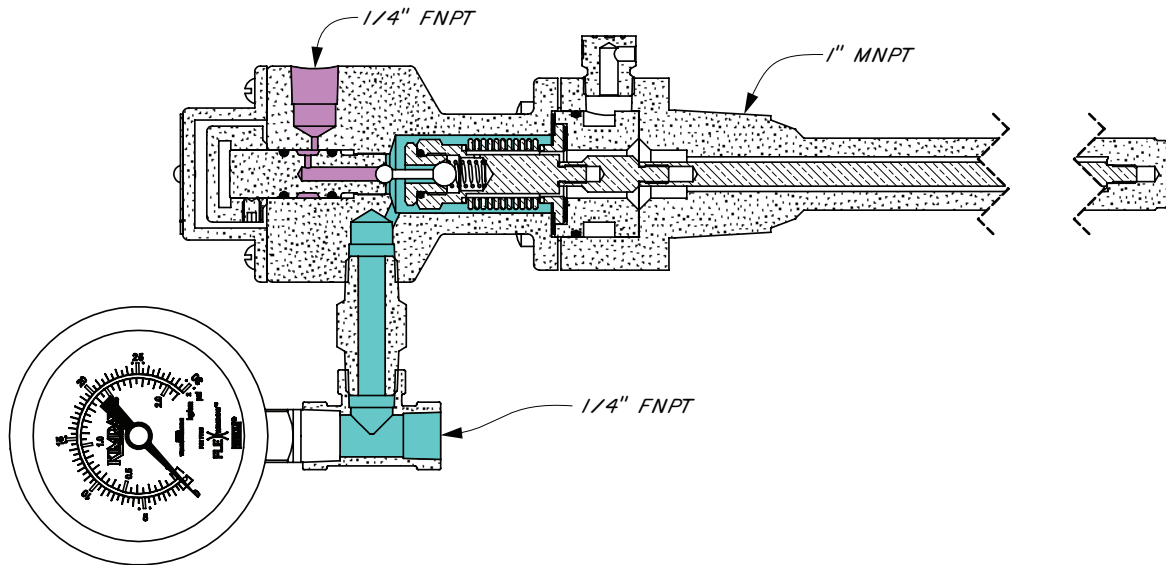
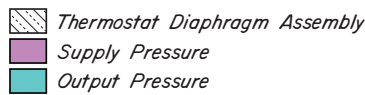
#### FEATURES:

Direct action; Pilot Output Pressure (Yellow) increases with temperature rise. As long as the temperature is above the set point, the output will remain at supply pressure. If the pilot flame goes out, the pressure decreases and drops to zero.

#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
0H08105.2

Kimray is an ISO 9001- certified manufacturer.



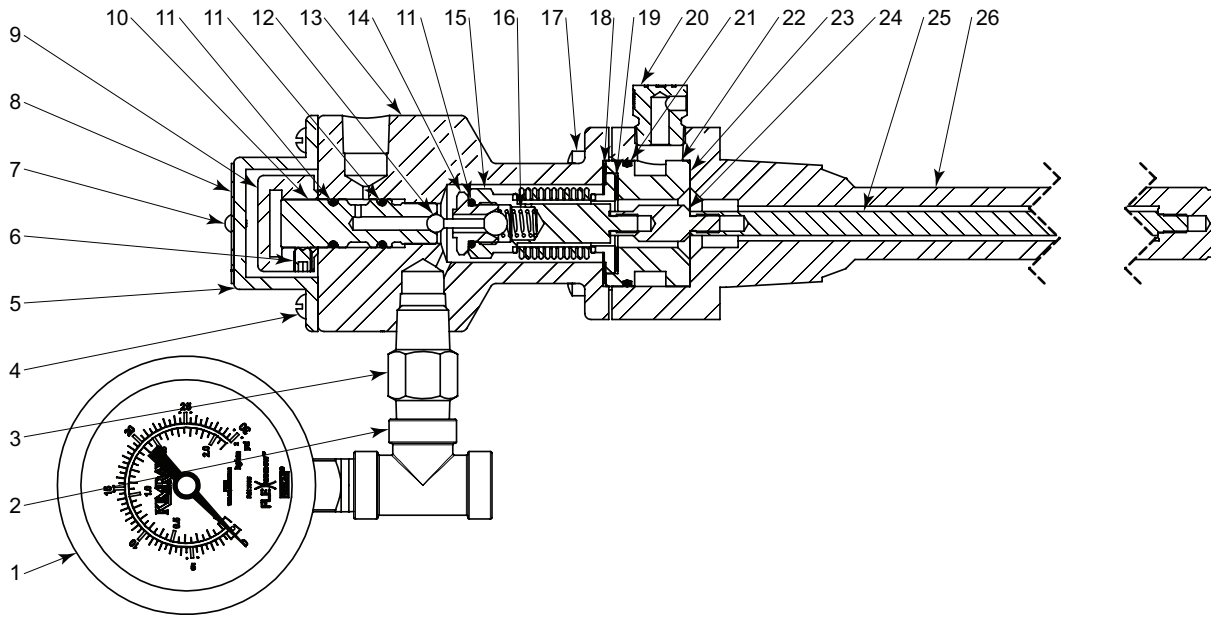
Standard † Configuration Code	Order Code	Supply Pressure	Temperature Range
TPGS	HBT	5 - 30 psig	-30°F to 2100°F
		.35 - 2.11 kg/cm <sup>2</sup>	-34°C to 1149°C
<b>NOTES:</b>			
For standard & optional seals, metals, material specifications & dimensions see technical data on pages 07:1 - 07:11			
† For code builder see page 07:00.2			

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

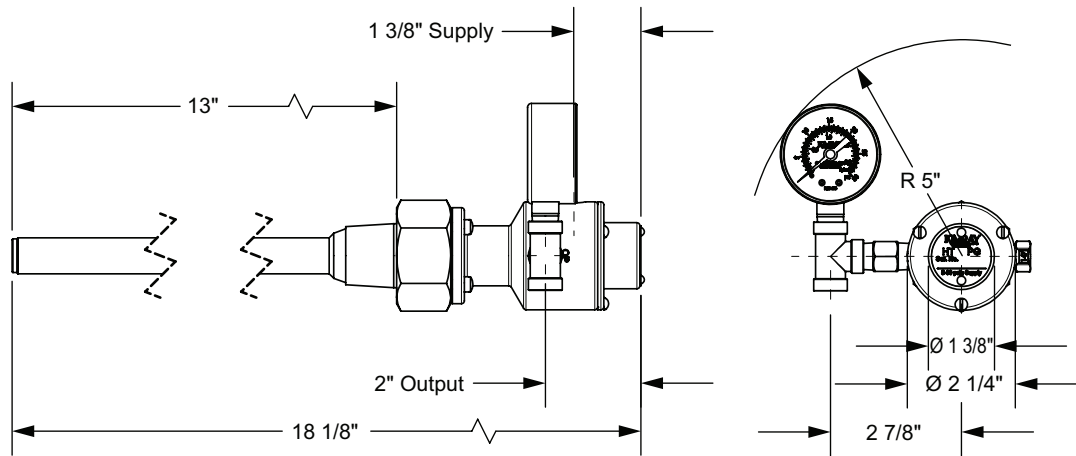
# TEMPERATURE CONTROLLERS



## HIGH TEMPERATURE PILOT GUARD MODEL PG



### DIMENSIONS



ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Gauge	7705
2	1	Tee	219
3	1	Nipple	648
4	3	Screw	1085
5	1	Cap	2921
6	1	Set Screw	264
7	2	Drive Screw	602
8	1	Name Plate	2920
9	1	Adjusting Knob	2919
10	1	Adjustable Seat	1621
11	3	O-Ring	* 265HSN
12	1	Pilot Plug	* 112
13	1	Bonnet	2922
14	1	Seat	* 565

ITEM	QTY.	DESCRIPTION	PART NO.
15	1	Bellows Assembly	1620
16	1	Spring	* 585
17	4	Screw	693
18	1	Gasket	* 1623
19	1	Gasket	* 1624
20	1	Vent Plug	147
21	1	O-Ring	* 4638HSN
22	1	Spool	4478
23	1	Metal Diaphragm	4422
24	1	Sensing Rod Extension	4481
25	1	Sensing Rod	4479
26	1	Base Assembly	4485
Repair Kit			RXX
* These parts are recommended spare parts and are stocked as repair kits.			

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

#### APPLICATIONS:

For temperature controlled system shutdown until manually reset.

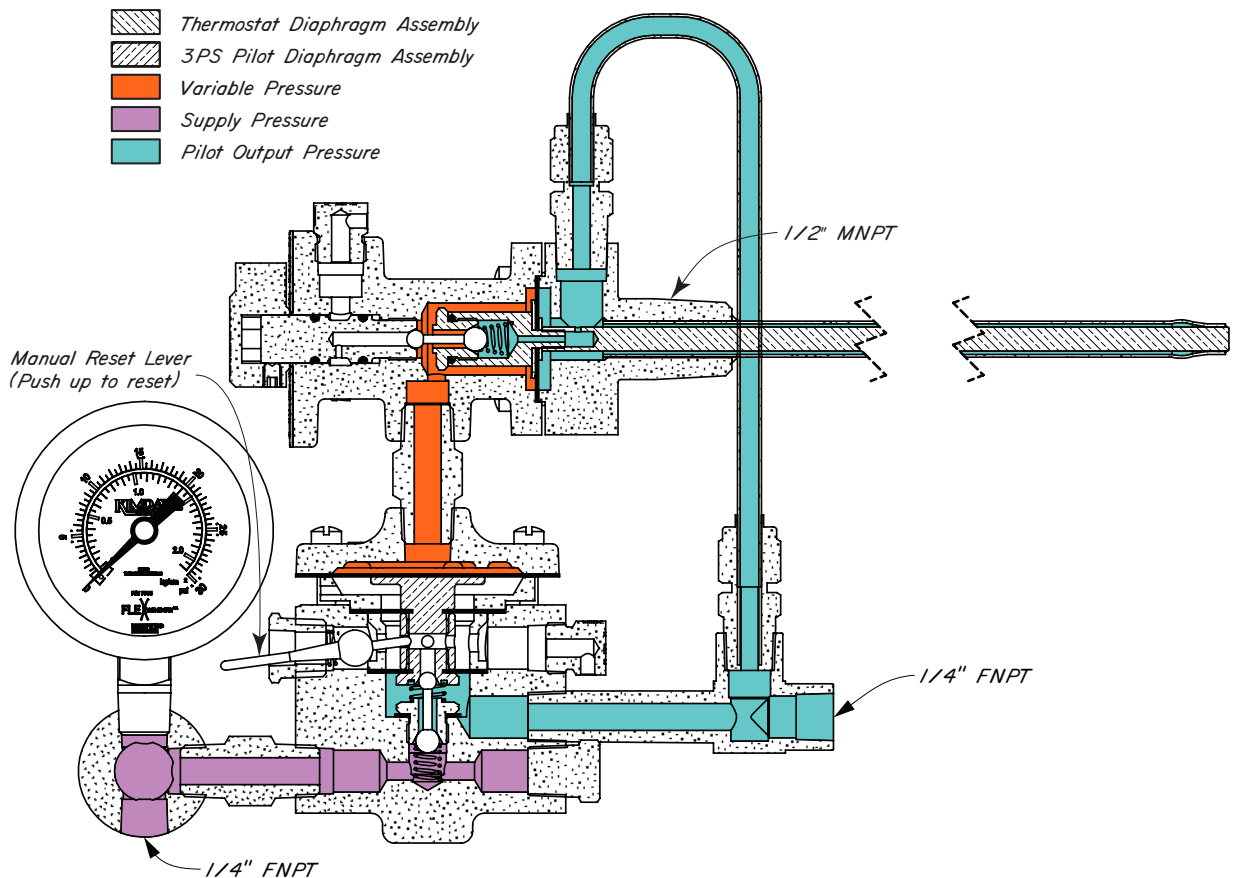
#### FEATURES:

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

#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
0H08105.2

Kimray is an ISO 9001- certified manufacturer.



Standard † Configuration Code	Order Code	Supply Pressure	Response Range	Temperature Range	Max. W.P. †† (sensing element)
TSDS	HAM	5 - 30 psig	3°F	-30°F to 400°F	500 psig
		.35 - 2.11 kg/cm <sup>2</sup>	1.7°C	-34°C to 204°C	35.15 kg/cm <sup>2</sup>

#### NOTES:

For standard & optional seals, metals, material specifications & dimensions see technical data on pages 07:1 - 07:11

† For code builder see page 07:00.2

†† Working Pressure (sensing element) with Separable Socket:  
4000 psig max. / 281.23 kg/cm<sup>2</sup> max.

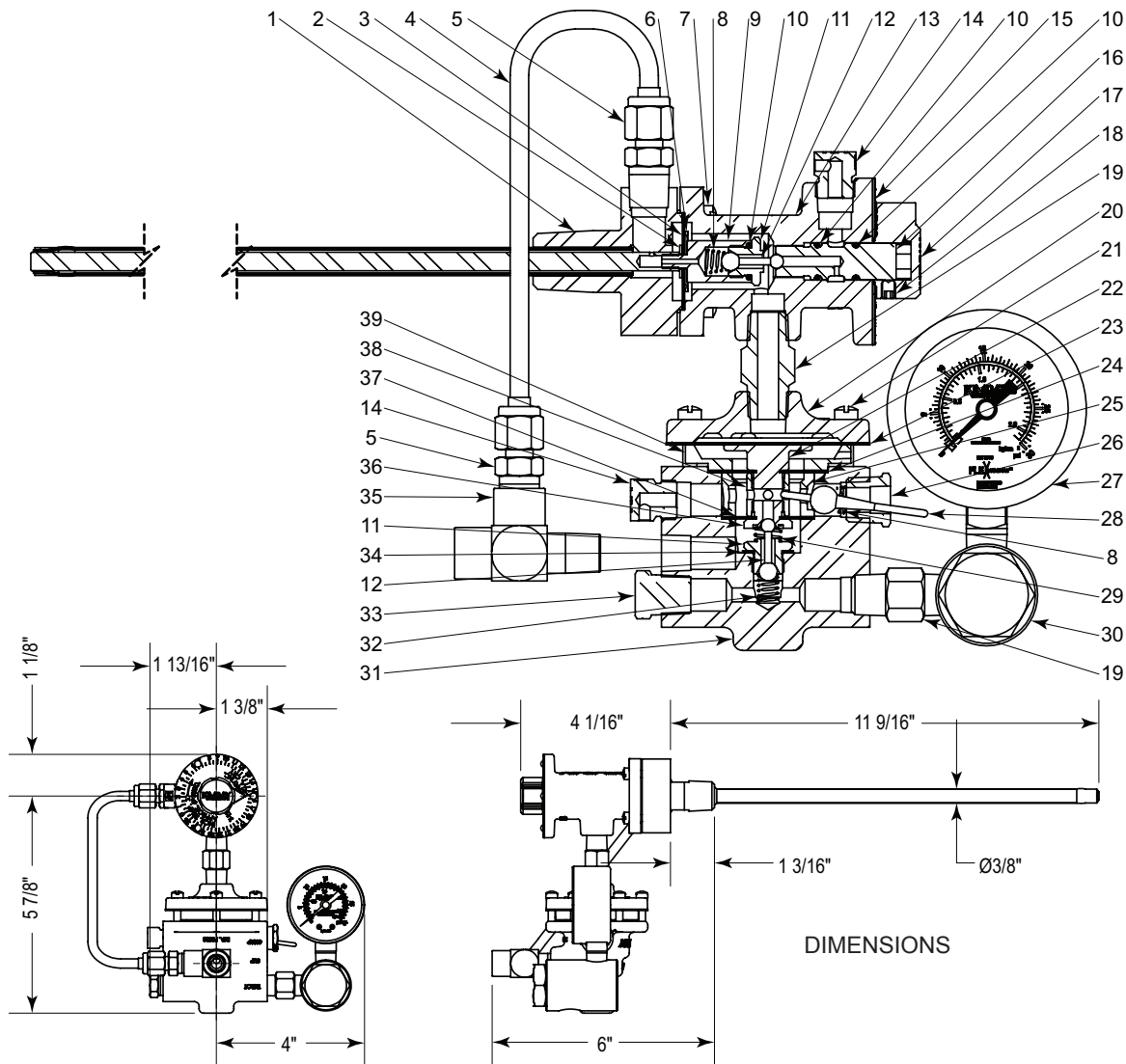
Separable Socket is an extra price item and must be ordered separately, if desired.

To order Separable Sockets refer to Table of Contents

# TEMPERATURE CONTROLLERS



## INDIRECT HIGH TEMPERATURE SHUT-DOWN MODEL SD



ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Base	1627
2	1	Lower Diaphragm Plate *	763
3	1	Diaphragm *	601HSN
4	1	Tubing	7562S6
5	2	Connector	874
6	1	Upper Diaphragm Plate *	597
7	4	Screw	693
8	2	Spring *	108
9	1	Housing	595
10	3	O-Ring *	265HSN
11	2	Seat *	565
12	2	Pilot Plug *	112
13	1	Bonnet	2728
14	2	Vent Plug	147
15	1	Dial	1743
16	1	Seat	1621
17	1	Pointer Knob	600SS6
18	1	Set Screw	264
19	2	Nipple	648
20	1	Pilot Cover	577
21	6	Screw	573

ITEM	QTY.	DESCRIPTION	PART NO.
22	1	Diaphragm plate	579
23	1	Diaphragm *	582HSN
24	1	Upper Diaphragm *	583HSN
25	1	Spacer Spool	580
26	1	Bushing	539
27	1	Gauge	7705
28	1	Reset Lever	1396
29	1	Spring *	566
30	1	Filter	YAS
31	1	Pilot Body	587
32	1	Spring *	585
33	1	Plug *	699
34	1	Gasket *	118
35	1	Tee	6881
36	1	Seat *	113
37	1	Lower Diaphragm *	584HSN
38	1	Spacer	581
39	1	Lower Diaphragm Housing	578
Repair Kits			RXZ
* These parts are recommended spare parts and are stocked as repair kits.			

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

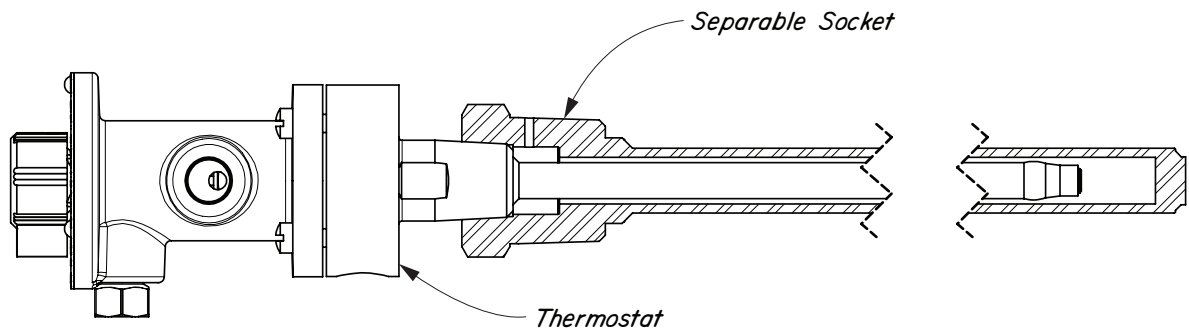
**APPLICATIONS:**

Increases working pressure of Thermostat Sensing Element.  
 All Separable Sockets are filled with high temperature grease.  
 Allows Thermostat removal without losing vessel pressure.

**FEATURES:**

One-piece construction

**CERTIFICATIONS:**



CODE	Thread Size MNPT	Description	Material	Length inches	Max. W.P. psig	Max. W.P. kg/cm <sup>2</sup>
HCB	1"	SS-6	STL	6	4,000	281.23
HCC	1"	SS-12	STL	12	4,000	281.23
HCE	1"	SS-12SS	SS6	12	4,000	281.23
HCH	3/4"	3/4SS-12	STL	12	4,000	281.23
HCJ	3/4"	3/4SS-12SS	SS6	12	4,000	281.23
HCM	3/4"	3/4SS-6	STL	6	4,000	281.23
HCMSS6	3/4"	3/4SS-6SS	SS6	6	4,000	281.23
HCN	1"	SS-6SS	SS6	6	4,000	281.23

**NOTES:**

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Kimray is an ISO 9001- certified manufacturer.

Part	Standard Material	Optional Material
O-rings	HSN	FKM
Diaphragm	HSN	FKM

		NITRILE	HIGHLY SATURATED NITRILE	FKM	AFLAS®	POLYURETHANE	GYLON
Kimray Suffix		-	HSN	V	AF	P	GY
Resistance	Abrasion	G	G-E	G	G	E	E
	Acid	F	G-E	G-E	E	P	E
	Chemical	F	F	E	E	F	E
	Cold	G	G	P	P	G	E
	Flame	P	P	E	E	P	P
	Heat	G	E	E	E	F	E
	Oil	G-E	E	E	E	G	E
	Ozone	P	G	G-E	E	E	E
	Set	G	G	G-E	P	F	P
	Tear	F	F	F	P	G-E	E
	Water/Steam	F	E	P	G	P	E
	Weather	F	G	E	E	E	E
	CO2	F-G	G	G	G	G	E
	H2S	P	F	P	E	G	E
Properties	Methanol	F	E	P	P	P	E
	Dynamic	G	G	G	G	E	P
	Electrical	F	F	F	G-E	F	E
	Impermeability	G	G	G	G	G	E
Tensile Strength		G	G-E	G	F	G-E	E
Temp. Range		-20° to +225°F	-20° to +250°F	-15° to +400°F	+15° to +450°F	-40° to +180°F	-450° to +500°F
		-29° to +107°C	-29° to +121°C	-26° to +204°C	-9° to +232°C	-40° to +82°C	-268° to +260°C
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT							

<b>Table 3 - Material Options Thermostat</b>	
<b>Part Description</b>	<b>Standard Material</b>
Bonnet	Ductile (ASTM A395)
Base	12L14 Steel (ASTM A108)
Probe	304SS (ASTM A249) / Low Expansion Alloy
Pilot Plug	316SS (ASTM A479)
Interior Parts	12L14 Steel (ASTM A108)

<b>Table 4 - Material Options Pilot Guard</b>	
<b>Part Description</b>	<b>Standard Material</b>
Bonnet	Ductile (ASTM A395)
Base	12L14 Steel (ASTM A108)
Probe	304SS (ASTM A249) / Low Expansion Alloy
Pilot Plug	316SS (ASTM A479)
Relay Body	Ductile (ASTM A395)
Filter Body	12L14 Steel (ASTM A108)
Filter Screens	304SS (ASTM A249)
Fittings	Steel (ASTM A108)
Guage	Brass Base and Bourdon Tube
Internal Parts	12L14 Steel (ASTM A108)