

# MAXITROL

## Selectra® Series 20/30 & 21/31 Condensed Catalog

### Electronic Modulation Gas-Fired Temperature Controls Indirect Fired Applications

Selectra® systems from Maxitrol maintain precise, stable gas-fired temperatures. Selectra's unique electronic Modulator-Regulator valves control gas flow with instantaneous response and continual adjustment. They are the superior alternative to mod motors and butterfly valves.

OEM or retrofit applications include environmental climate control, as well as industrial or commercial heating processes. Suitable for application in natural, manufactured, mixed gases, liquified petroleum gases and LP gas-air mixture piping systems.

Available standard companion electronics include temperature selectors, amplifiers, and temperature sensors, in a variety of configurations. The amplifier supplies output voltage to the MR valve.

#### Space Heating Applications - Series 20/30 System

Selectra® Series 20/30 systems are designed primarily for commercial and light industrial space heating, as components of indirect fired units with atmospheric burners.

The Series 20 is designed for single furnace operation, and the Series 30 is capable of handling up to four furnaces.

A wall mounted Selectrastat® senses space temperature and has an integral selector. Standard temperature adjustment range 60° to 85° F.

Amplifiers are available with high-fire ignition.

*Also optional:*

- A remote temperature sensor paired with a separate temperature selector can be substituted for the Selectrastat.

#### Make Up Air Applications - Series 21/31 System

Selectra® Series 21/31 systems are designed primarily for make-up air heating, as components of indirect fired units with atmospheric burners.

The Series 21 is designed for single furnace operation, and the Series 31 is capable of handling up to four furnaces.

A discharge air temperature sensor is mounted within a mixing tube housing. Standard temperature adjustment range 55° to 90° F.

Amplifiers are available with options such as high-fire ignition and integral or remote temperature selection.

*Also optional:*

- A room override thermostat provides space temperature control by raising the discharge air temperature to a pre-selected point - when used in conjunction with the remote temperature selector.
- An inlet air sensor (and mixing tube) provides inverse change in discharge air for each degree change in inlet air - when installed in a convenient duct location upstream of the burner.

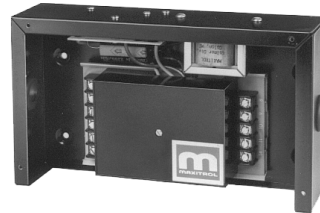


# Space Heating Applications - Series 20/30 System

Series 20/30 Basic System			Options	
Valves	Amplifier	Selectrstat	Space Temperature Selector	Space Temperature Sensor
MR410, MR510 & MR610 (see pg. 4)	A1010A, B or A1011A, B	T120	TD120	TS120



**A1010  
Amplifier**



**A1011  
Amplifier**



**T120  
Selectrstat**



**TD120  
Space Temp. Selector**



**TS120  
Space Temp. Sensor**

### Series 20 Amplifiers:

A1010A - single furnace  
A1010B - w/ high fire ignition

### Series 30 Amplifiers:

A1011A - multiple furnace  
A1011B - w/ high fire ignition

### Modulator-Regulator Valves:

MR410 (3/8" & 1/2" pipe size) Ⓢ  
MR510 (1/2" & 3/4" pipe size) Ⓢ  
MR610 (3/4" & 1" pipe size) Ⓢ

H-1 models for higher outlet pressure  
(such as for LP applications) Ⓢ

Ⓢ CSA certified to Z21.18 and CAN 1-6.3-M82



### Selectrstat: selector and integral sensing

T120 - (60° to 85° F) - *supersedes T107A-1*

*or optional pair to replace Selectrstat:*

### Space Temperature Selector: selection only

TD120 (60° to 85° F) - *supersedes TD107A*

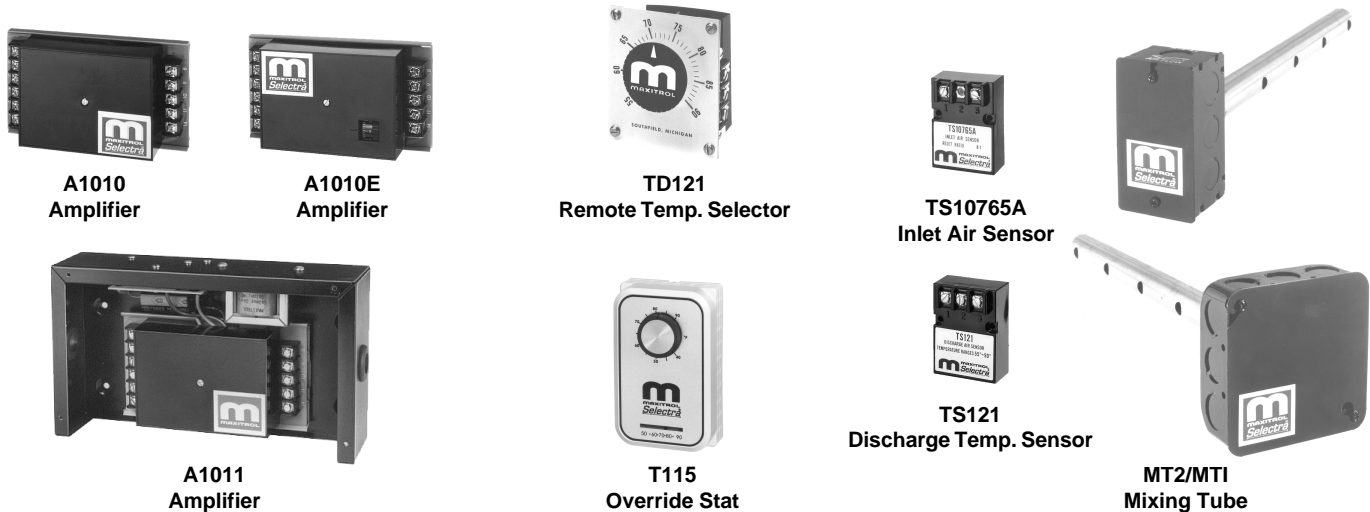
*Optional: ETD-1 enclosure,  
EFP-1 cover plate only - no enclosure*

### Space Temperature Sensor: remote sensing

TS120 - *supersedes TS2003A*

# Make Up Air Applications - Series 21/31 System

Series 21/31 Basic System					Options	
Valves	Amplifier	Selection Method	Remote Selector Model (if applicable)	Discharge Temp. Sensor	Override Stat	Inlet Air Sensor
MR410, MR510 & MR610	A1010A, B or A1011A, B	Remote	TD121	TS121 / MT1 or 2	T115	TS10765
(see pg. 4)	A1010E, F or A1011E, F	Integral	—	TS121 / MT1 or 2	T115	TS10765
<i>Note: Selector and sensor must have same temperature range to be compatible.</i>						



### Series 21 Amplifiers (single furnace):

- A1010A - use with TD121
- A1010B - high fire ignition - use with TD121
- A1010E - integral temp. selector
- A1010F - integral temp. selector and high fire ignition

### Series 31 Amplifiers (multiple furnace):

- A1011A - use with TD121
- A1011B - high fire ignition - use with TD121
- A1011E - integral temp. selector
- A1011F - integral temp. selector and high fire ignition

### Modulator-Regulator Valves:

- MR410 (3/8" & 1/2" pipe size) Ⓢ
- MR510 (1/2" & 3/4" pipe size) Ⓢ
- MR610 (3/4" & 1" pipe size) Ⓢ



H-1 models for higher outlet pressure (such as for LP applications) Ⓢ

Ⓢ CSA certified to Z21.18 and CAN 1-6.3-M82

### Remote Temperature Selectors:

- TD121 (55° to 90° F)
- TD121A (80° to 130° F)
- TD121B (120 to 170° F)
- TD121C (160° to 210° F)
- TD121D (200° to 250° F)
- TD121E (100° to 250° F)
- TD121F (40° to 80° F)

**NOTE:** Remote Selector and Discharge Temperature Sensor must have same temperature range to be compatible.

Optional: ETD-1 enclosure, EFP-1 cover plate only - no enclosure

### Discharge Air Temperature Sensors: use with Mixing Tube

- TS121 (55° to 90° F)
- TS121A (80° to 130° F)
- TS121B (120° to 170° F)
- TS121C (160° to 210° F)
- TS121D (200° to 250° F)
- TS121E (100° to 250° F)
- TS121F (40° to 80° F)

### Mixing Tubes: use with Sensors

- MT1-9 or 2-9 (9" length)
- MT1-12 or 2-12 (12" length)
- MT1-23 or 2-23 (23" length)
- MT1-28 or 2-28 (28" length)
- MT1-57 (57" length)

### Optional:

- Inlet Air Temperature Sensors:** use with Mixing Tube
  - TS10765A (8:1 ratio) - *supersedes TS1007A*
  - TS10765B (5:1 ratio) - *supersedes TS1007B*
  - TS10765C (3.5:1 ratio) - *supersedes TS1007C*

- Override Stat:** (use only with TD121)
  - T115 (40° to 90° F)

# Pressures, Dimensions

## Valve Dimensions - in inches (millimeters)

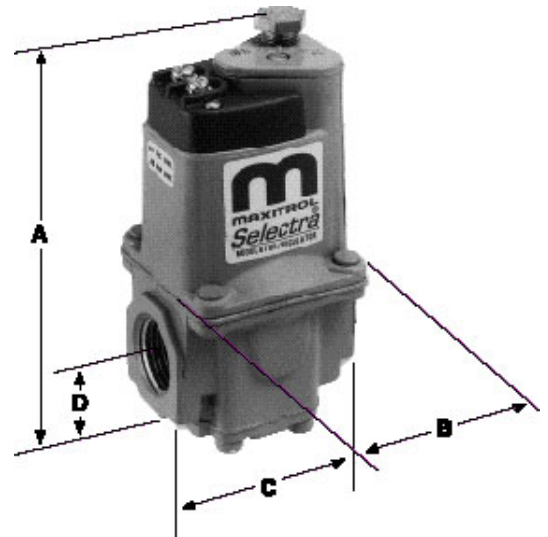
Dimensions are to be used only as an aid in designing clearance for the valve. Actual production dimensions may vary somewhat from those shown.

Model Number	Swing Radius	Call-Outs			
		A	B	C	D
MR410	3.1 (79)	3.9 (100)	2 (51)	2.1 (54)	.9 (24)
MR510	4.3 (109)	5.3 (135)	3.25 (83)	3.4 (86)	1.2 (30)
MR610	7.2 (183)	7.1 (180)	3.9 (99)	4 (102)	1.5 (37)



MR410, MR510, MR610 - CSA tested for 1/2 psi inlet pressure, Maxitrol tested for 1 psi maximum operating inlet pressure.

See Bulletin M/MR\_MT\_EN for additional valve information.



MR410, MR510, MR610

## Component Dimensions - width x height x depth, in inches (millimeters)

Series 20/30 System	Series 21/31 System
A1010 Amplifier 6" (152) x 3.5" (89) x 1.88" (48)	A1010 Amplifier 6" (152) x 3.5" (89) x 1.88" (48)
A1011 Amplifier 9.5" (241) x 5.5" (140) x 2.5" (64)	A1011 Amplifier 9.5" (241) x 5.5" (140) x 2.5" (64)
T120 Selectrstat 2.56" (65) x 4.5" (114) x 1.79" (46)	TD121 Remote Temp. Selector 2.62" (67) x 2.62" (67) x 1.75" (44)
TD120 Space Temp. Selector 2.62" (67) x 2.62" (67) x 1.75" (44)	T115 Override Stat 2.96" (75) x 4.69" (119) x 2.56" (65)
TS120 Space Temp. Sensor 2.56" (65) x 4.5" (114) x 1.53" (39)	ETD-1 (opt. TD121 enclosure), MT1 Mixing Tube enclosure (for sensor) 4.19" (106) x 4.19" (106) x 1.88" (48) [Tube lengths: 9" (229), 12" (305), 23" (584), 28" (711), 57" (1448)]
	MT2 Mixing Tube enclosure (for sensor) 2.19" (56) x 4.19" (106) x 1.88" (48) [Tube lengths: 9" (229), 12" (305), 23" (584), 28" (711)]

Dimensions are to be used only as an aid in designing clearance. Actual production dimensions may vary somewhat from those shown.

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