

NOTE 1:
24V AC POWER SOURCE
MUST BE FIELD INSTALLED
IF OPTIONAL TRANSFORMER
IS NOT PROVIDED.

OPTIONAL
120/24VAC 50 VA
277/24VAC 50 VA

NOTE 2:
IF TRANSFORMER PRIMARY
EXCEEDS 150V, SECONDARY
MUST BE GROUNDED
AS SHOWN.

OPTIONAL
DISCONNECT
SWITCH

NOTES:
1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. DAMPER POSITION SPECIFIED WITH ORDER ie
N.C./N.O.

LEGEND

- FACTORY PNEUMATIC TUBING
- - - - - FIELD ELECTRICAL WIRING

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:



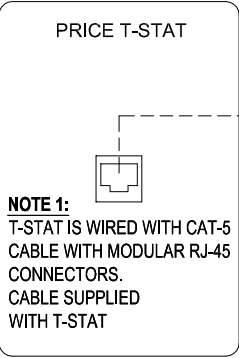
DDS5/DDQ5
KREUTER MEP-5061
COOLING/HEATING
CONST./VARIABLE VOLUME
OPTIONAL TRANS. AND DSW

243189

2005/06/27

COLD DECK SIDE

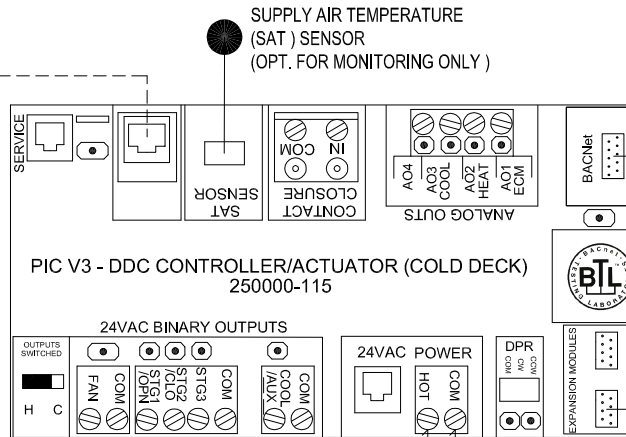
NOTE 8:
USE RJ45 JACKS FOR BACNET CONNECTION,
OR 3 POSITION TERMINAL BLOCK FOR
3-WIRE CONNECTION (+, -, NETCOM)
NETCOM MUST BE WIRED.



NOTE 2:
SEVERAL T-STAT OPTIONS
AVAILABLE.
(BLANK FACE, DIAL
ADJUST, LCD, WIRELESS
BASE, ETC.)

NOTE 3:
24 VAC POWER SOURCE
MUST BE FIELD WIRED IF
OPTIONAL TRANSFORMER
IS NOT PROVIDED.

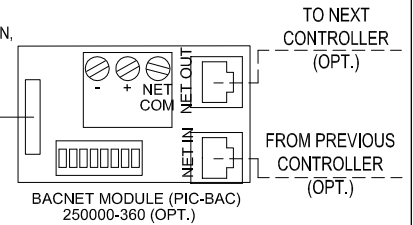
TRANSFORMER
SECONDARY COM MUST BE
EARTH GROUNDED



**PIC DUAL DUCT PACKAGE
(COLD + HOT DECK ASSEMBLIES + CABLE)
250000-510**

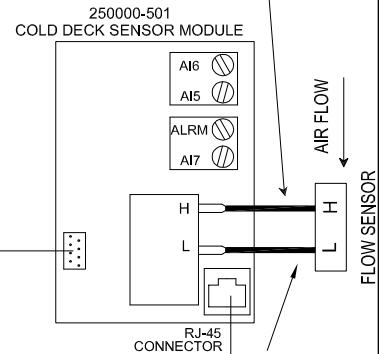
LEGEND

 FACTORY FLOW SENSOR TUBING
 FACTORY ELECTRICAL WIRING
 FIELD ELECTRICAL WIRING



NOTE 5:
A CAT-5 BACNET NETWORK CABLE IS
PROVIDED BY PRICE WITH EACH
CONTROLLER ORDERED WITH THE
BACNET OPTION

**NOTE 6: DO NOT
USE GAUGE TAPSI!**

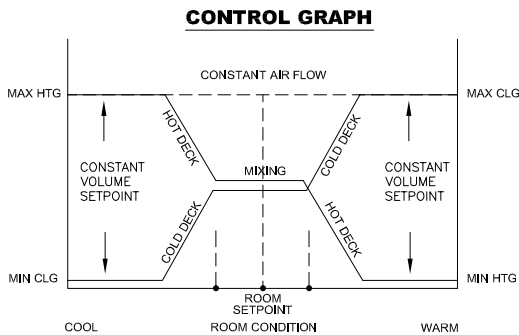


NOTE 4:
SECONDARY COM MUST
BE EARTH GROUNDED

USE WITH 208/240/480V
PRIMARY POWER
USE WITH 24/120/277V
PRIMARY POWER

NOTE 7:
NIGHT SETBACK IS STANDING
BY, READY TO BE USED ON ALL
PIC DDC CONTROLLERS.
SEE NIGHT SETBACK
SEQUENCE (9999) FOR DETAILS

Sequence of Operation – Pressure Independent, Dual Duct, Constant Volume, cooling and heating terminal unit.



On an increase in space temperature the PIC controller will regulate the cold deck actuator to increase the flow of cold air, while the hot deck actuator operates inversely to decrease the flow of warm air, while keeping the total flow of air delivered to the space constant. On an increase in temperature greater than the cooling proportional band the PIC controller will modulate the cold deck to its pre-selected maximum flow setting, while the hot deck flow is decreased proportionally to target the pre-selected minimum flow and maintain a constant total flow to the space.

On a decrease in space temperature the PIC controller will regulate the cold deck actuator to decrease the flow of cold air, while the hot deck actuator operates inversely to increase the flow of warm air, while keeping the total flow of air delivered to the space constant. On a decrease in temperature to less than the heating proportional band the PIC controller will modulate the cold deck to its pre-selected minimum flow setting, while the hot deck flow is increased proportionally to maintain a constant total flow to the space.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

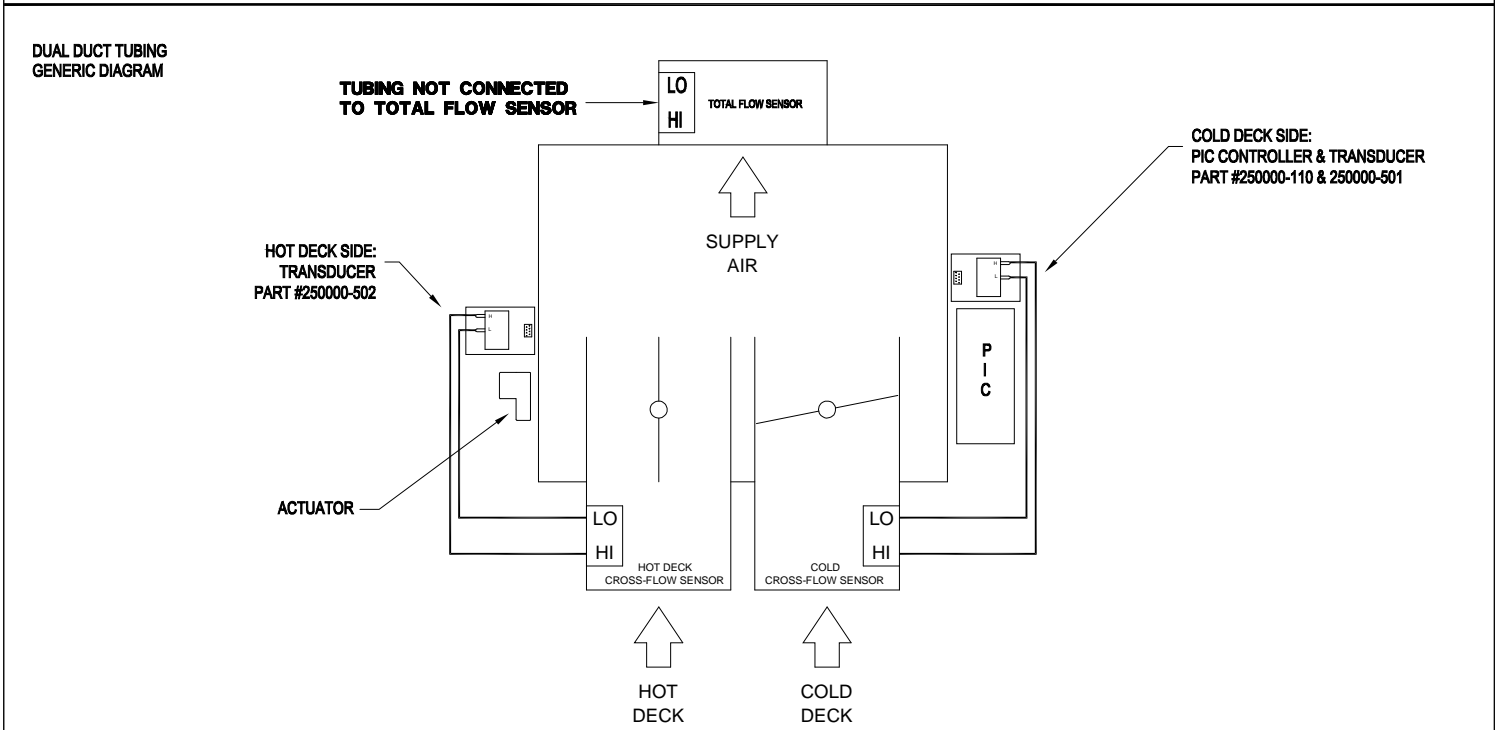
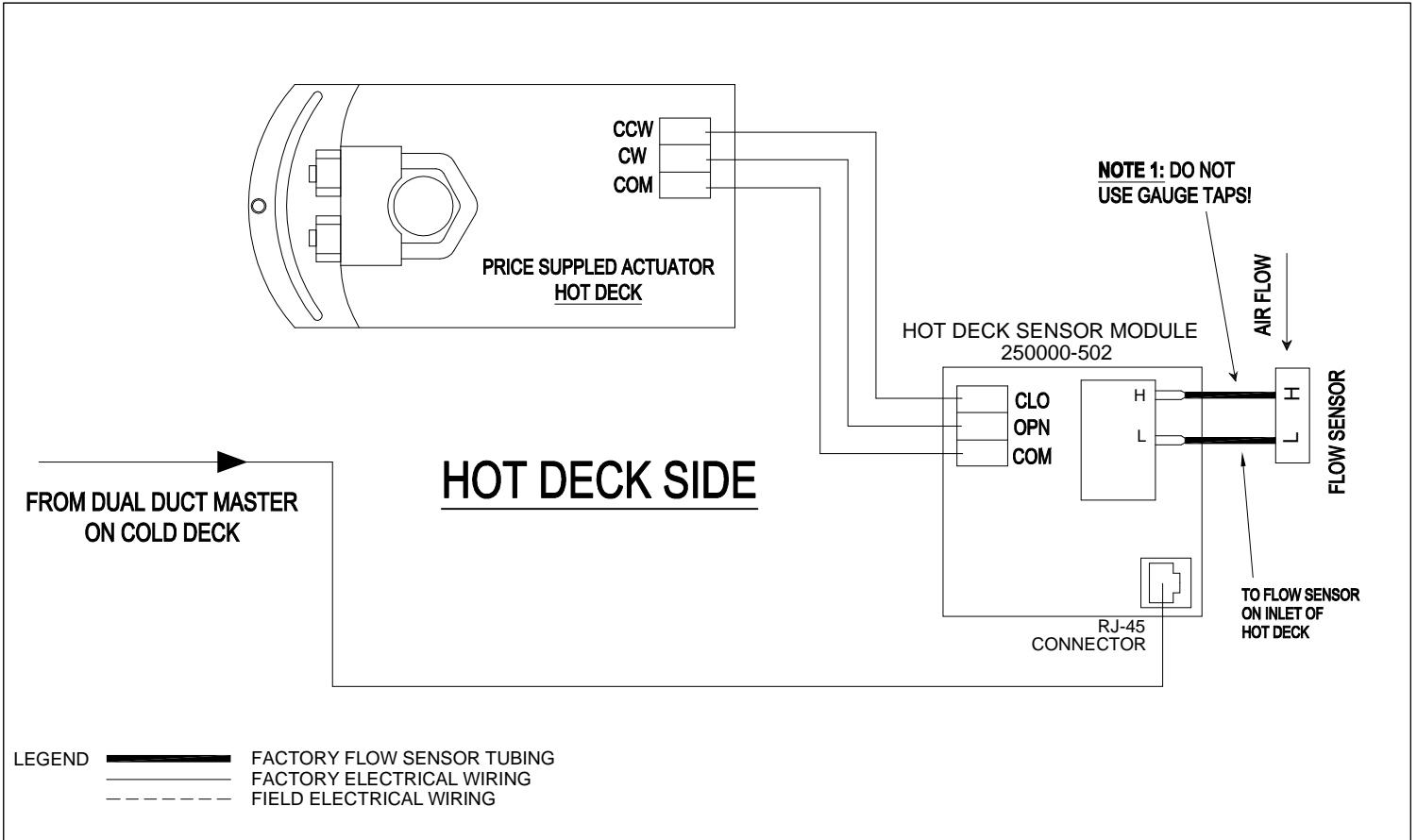



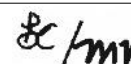
BE MB

DDM8,DDV8,DDS8,DDQ8,DDUQ8
PIC CONTROLLER
DUAL DUCT
CONSTANT VOLUME
COOLING & HEATING
TERMINAL UNITS

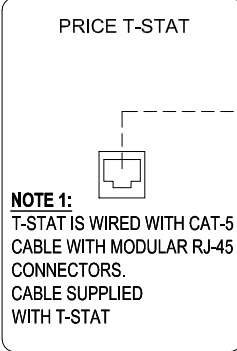
253461

2016/09/26



PROJECT:		 DDM8,DDV8,DDS8,DDQ8 PIC CONTROLLER DUAL DUCT CONSTANT VOLUME COOLING & HEATING TERMINAL UNITS
ENGINEER:		
CUSTOMER:		
SUBMITTAL DATE:	SPEC. SYMBOL:	
		 253461 2014/01/09

COLD DECK SIDE



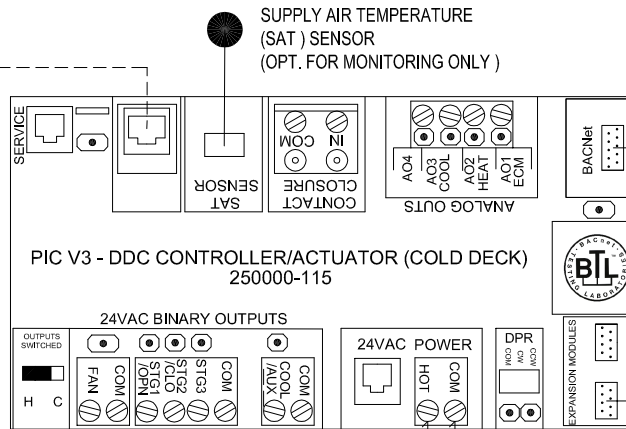
NOTE 2:
SEVERAL T-STAT OPTIONS AVAILABLE. (BLANK FACE, DIAL ADJUST, LCD, WIRELESS BASE, ETC.)

PIC DUAL DUCT PACKAGE
(COLD + HOT DECK ASSEMBLIES + CABLE)
250000-510

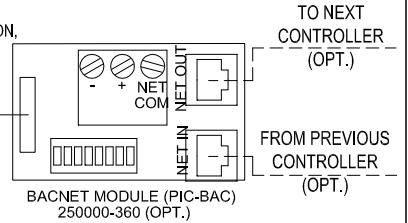
NOTE 3:
24 VAC POWER SOURCE MUST BE FIELD WIRED IF OPTIONAL TRANSFORMER IS NOT PROVIDED.

TRANSFORMER SECONDARY COM MUST BE EARTH GROUNDED

LEGEND
 FACTORY FLOW SENSOR TUBING
 FACTORY ELECTRICAL WIRING
 FIELD ELECTRICAL WIRING

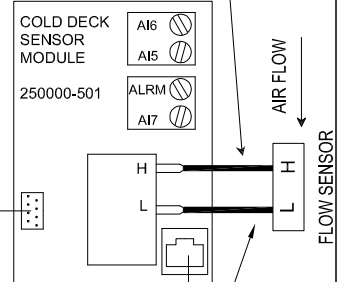


NOTE 8:
USE RJ45 JACKS FOR BACNET CONNECTION, OR 3 POSITION TERMINAL BLOCK FOR 3-WIRE CONNECTION (+, -, NETCOM) NETCOM MUST BE WIRED.



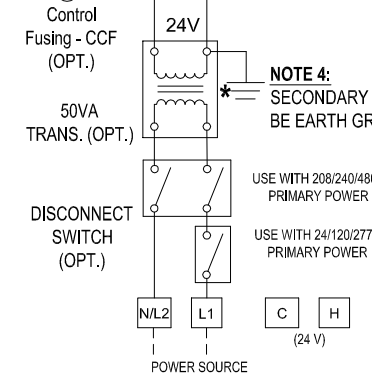
NOTE 5:
A CAT-5 BACNET NETWORK CABLE IS PROVIDED BY PRICE WITH EACH CONTROLLER ORDERED WITH THE BACNET OPTION

NOTE 6: DO NOT USE GAUGE TAPS!



NOTE 4:
SECONDARY COM MUST BE EARTH GROUNDED

NOTE 7:
NIGHT SETBACK IS STANDING BY, READY TO BE USED ON ALL PIC DDC CONTROLLERS. SEE NIGHT SETBACK SEQUENCE (9999) FOR DETAILS

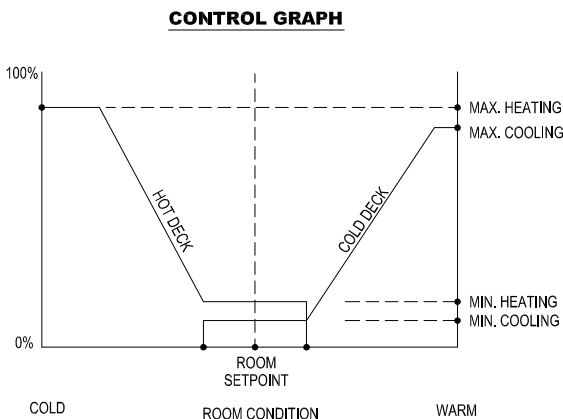


Sequence of Operation -- Pressure Independent, Dual Duct, Variable Volume, cooling and heating terminal unit, D.A. cooling / R.A. heating.

On an increase in space temperature the thermostat will regulate the cold deck controller/actuator to increase the flow of cold air, while the hot deck controller/actuator decreases its flow to its pre-selected minimum setting.
On an increase in temperature greater than the cooling proportional band, the cold deck will modulate to its pre-selected maximum flow setting, while the hot deck flow decreases to zero.

On a decrease in space temperature the thermostat will regulate the cold deck controller/actuator to decrease the flow of cold air to its pre-selected minimum setting.
On a decrease in temperature less than the heating proportional band the hot deck controller/actuator modulates open to its pre-selected maximum heating flow setting, while the cold deck flow decreases to zero.

When the controller is within the deadband, both the hot deck and cold deck dampers will modulate to their pre-selected minimum flow settings.



PROJECT:

ENGINEER:

CUSTOMER:

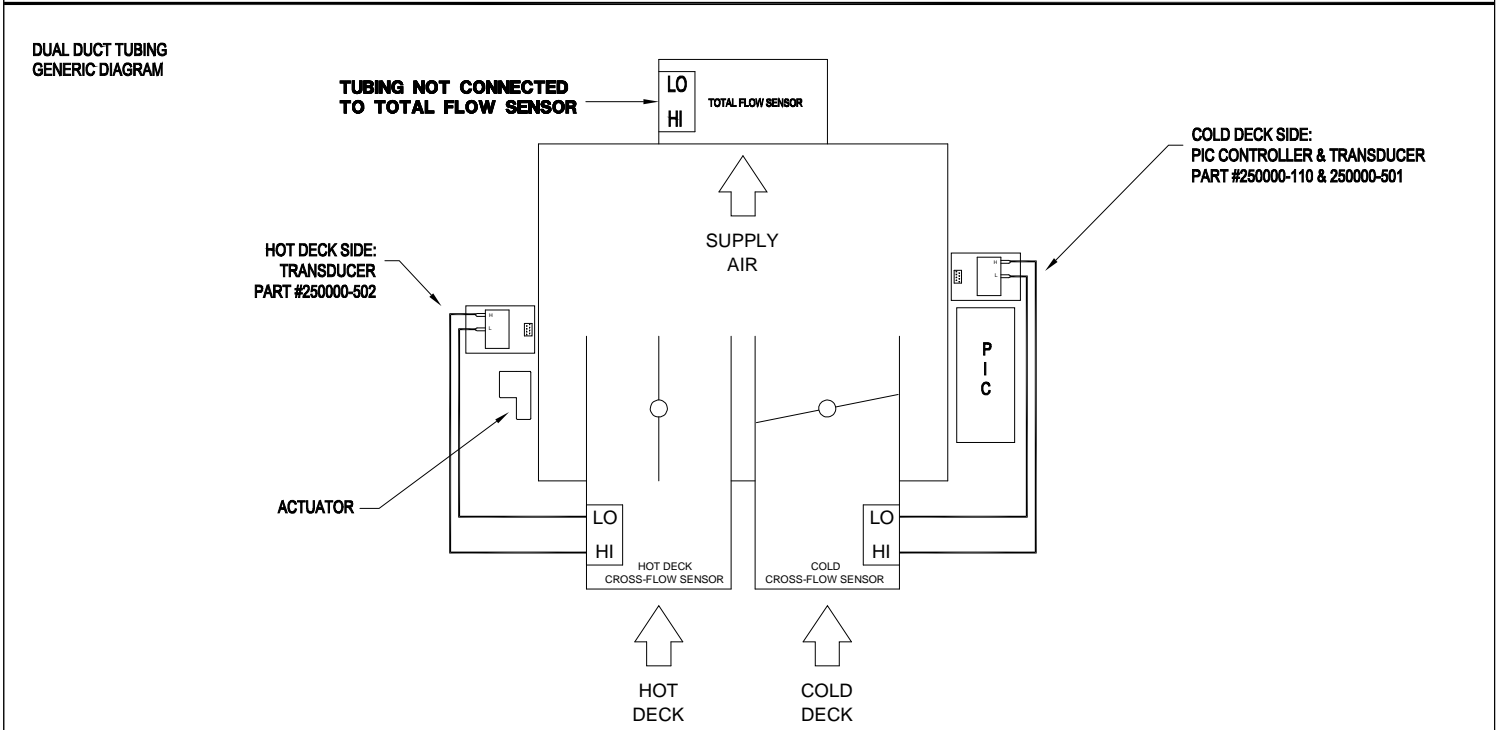
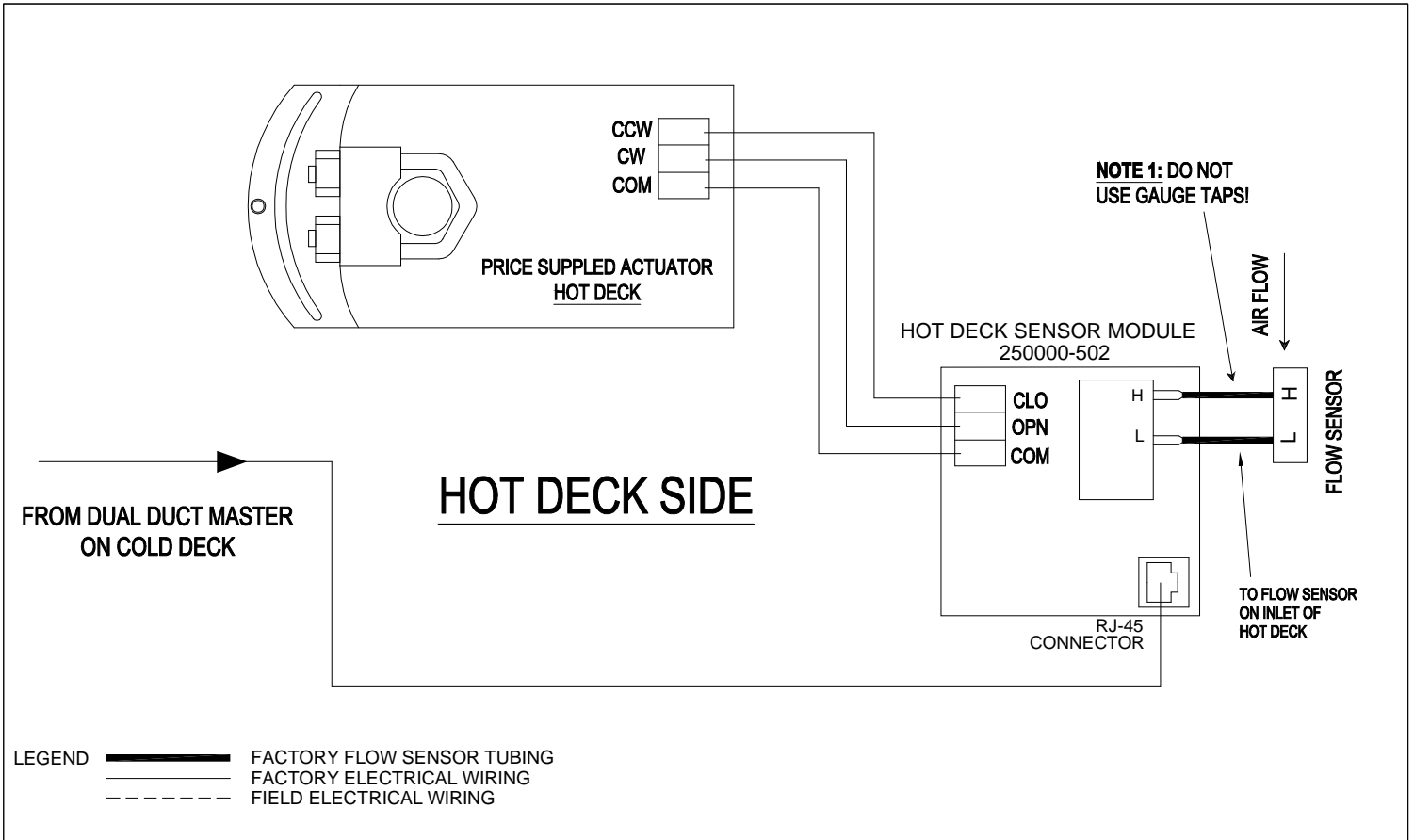
SUBMITTAL DATE:


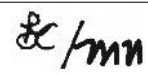
SPEC. SYMBOL:

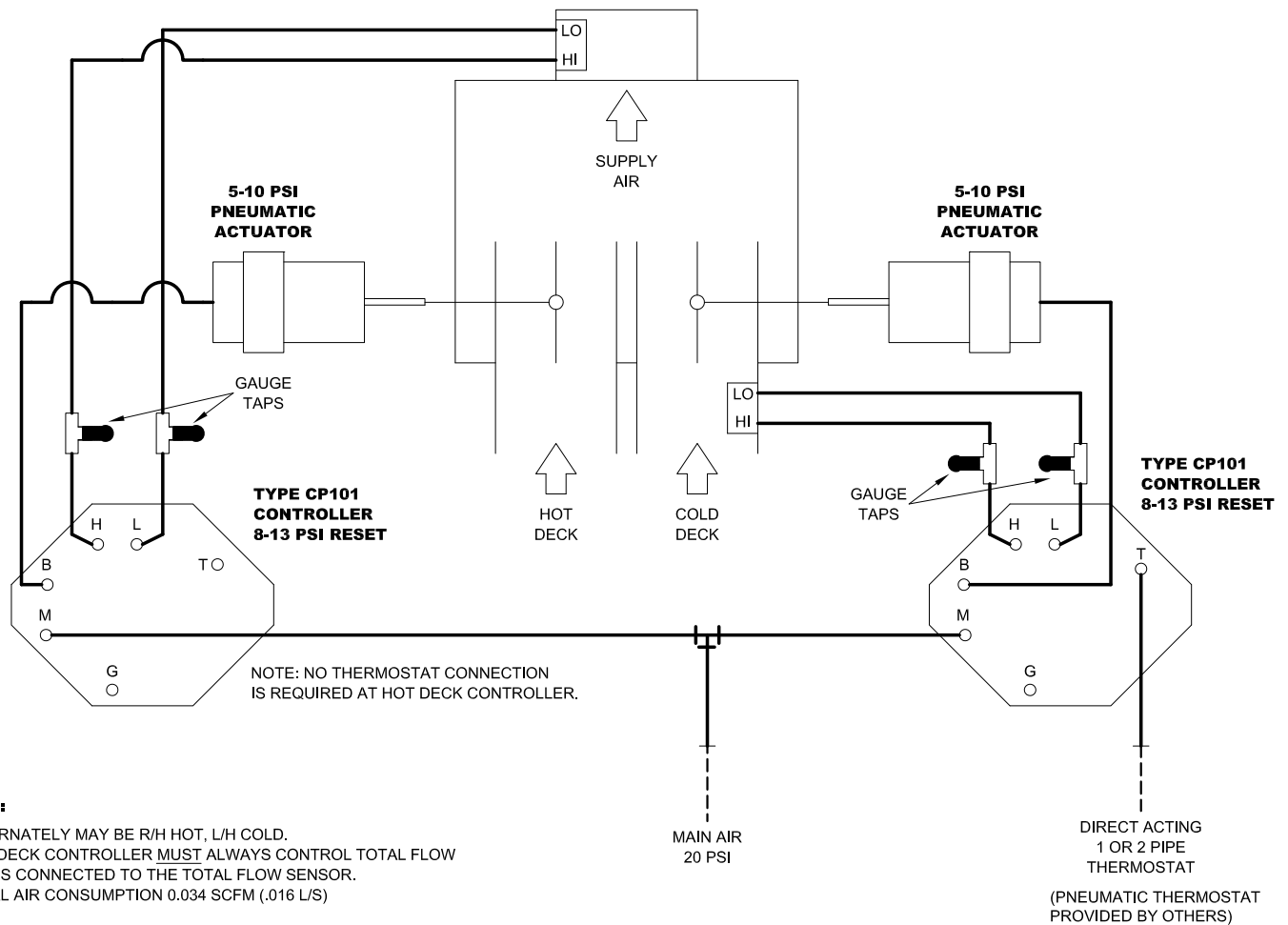


BE MB
253462
2016/10/12

DDM8,DDV8,DDS8,DDQ8, DDUQ8
PIC CONTROLLER
DUAL DUCT
VARIABLE VOLUME
COOLING & HEATING
TERMINAL UNITS



PROJECT:		 DDM8,DDV8,DDS8,DDQ8 PIC CONTROLLER DUAL DUCT VARIABLE VOLUME COOLING & HEATING TERMINAL UNITS
ENGINEER:		
CUSTOMER:		
SUBMITTAL DATE:	SPEC. SYMBOL:	
		 253462 2014/01/09



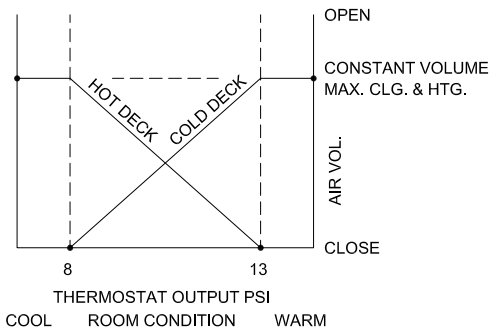
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER MUST ALWAYS CONTROL TOTAL FLOW AND IS CONNECTED TO THE TOTAL FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

LEGEND

- FACTORY PNEUMATIC TUBING
- - - - - FIELD PNEUMATIC TUBING

CONTROL GRAPH



Sequence of Operation -- Pressure independent, dual duct, constant volume, cooling and heating terminal unit, N.O. cold deck and hot deck, D.A. thermostat.

An increase in space temperature increases the thermostat output pressure. When the thermostat output pressure increases to 13 psi or more, the cold deck controller will modulate the cold deck airflow to the pre-selected maximum flow setting. As cold deck flow increases the total flow controller will maintain a constant volume by modulating the hot deck damper to the closed position.

A decrease in space temperature decreases the thermostat output pressure. As the thermostat output pressure decreases from 13 to 8 psi the cold deck damper is modulated from maximum flow to minimum flow, (usually zero). The hot deck damper is opened proportionally to maintain the constant total airflow. When the thermostat output pressure decreases to 8 psi or less the hot deck is maintained at the maximum flow setting.

At thermostat output pressures below 8 psi the hot deck is at maximum airflow with the cold deck airflow at minimum (usually zero).

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally open hot deck dampers: On failure of the main air supply both the cold deck damper and the hot deck damper will fail to the open position.

PROJECT:



ENGINEER:

BTG/BC

CUSTOMER:

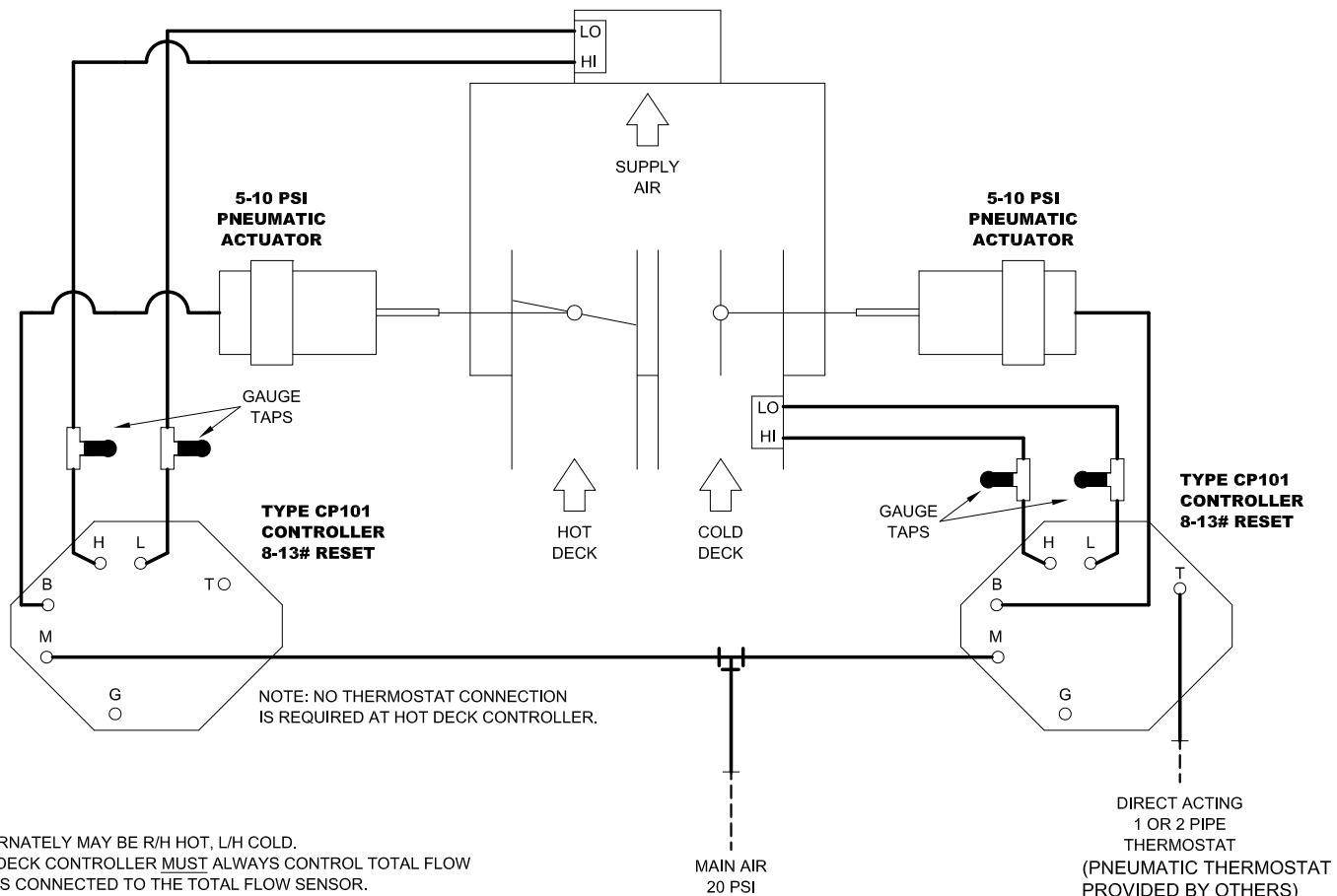
231718

SUBMITTAL DATE:

SPEC. SYMBOL:

2011/11/07

DPS8 / DPQ8
Kreuter CP-101
Dual Duct
Constant Volume
Cold Deck-N.O. Hot Deck-N.O.
D.A. Thermostat



NOTES:

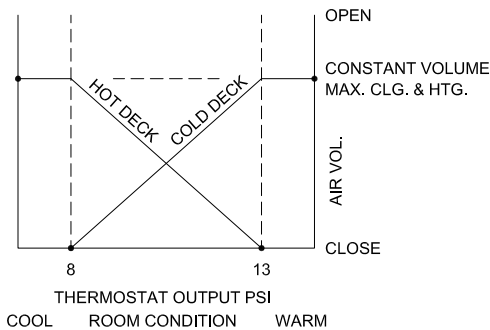
1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER MUST ALWAYS CONTROL TOTAL FLOW AND IS CONNECTED TO THE TOTAL FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

DIRECT ACTING
1 OR 2 PIPE
THERMOSTAT
(PNEUMATIC THERMOSTAT
PROVIDED BY OTHERS)

LEGEND

- FACTORY PNEUMATIC TUBING
- - - - - FIELD PNEUMATIC TUBING

CONTROL GRAPH



Sequence of Operation -- Pressure independent, dual duct, constant volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, D.A. thermostat.

An increase in space temperature increases the thermostat output pressure. When the thermostat output pressure increases to 13 psi or more, the cold deck controller will modulate the cold deck damper to the pre-selected maximum flow setting. As cold deck flow increases the total flow controller will maintain a constant volume by modulating the hot deck damper to the closed position. A decrease in space temperature decreases the thermostat output pressure. As the thermostat output pressure decreases from 13 to 8 psi the cold deck damper is modulated from maximum flow to minimum flow, (usually zero). The hot deck damper is opened proportionally to maintain the constant total airflow. When the thermostat output pressure decreases to 8 psi or less the hot deck is maintained at the maximum flow setting. At thermostat output pressures below 8 psi the hot deck is at maximum airflow with the cold deck damper at minimum (usually zero). Airflow is held constant regardless of changes in duct static pressure. **Normally open cold deck and normally closed hot deck dampers:** On failure of the main air supply the cold deck damper will fail to the open position and the hot deck damper will fail to the closed position.

PROJECT:



ENGINEER:

BTG/BC

CUSTOMER:

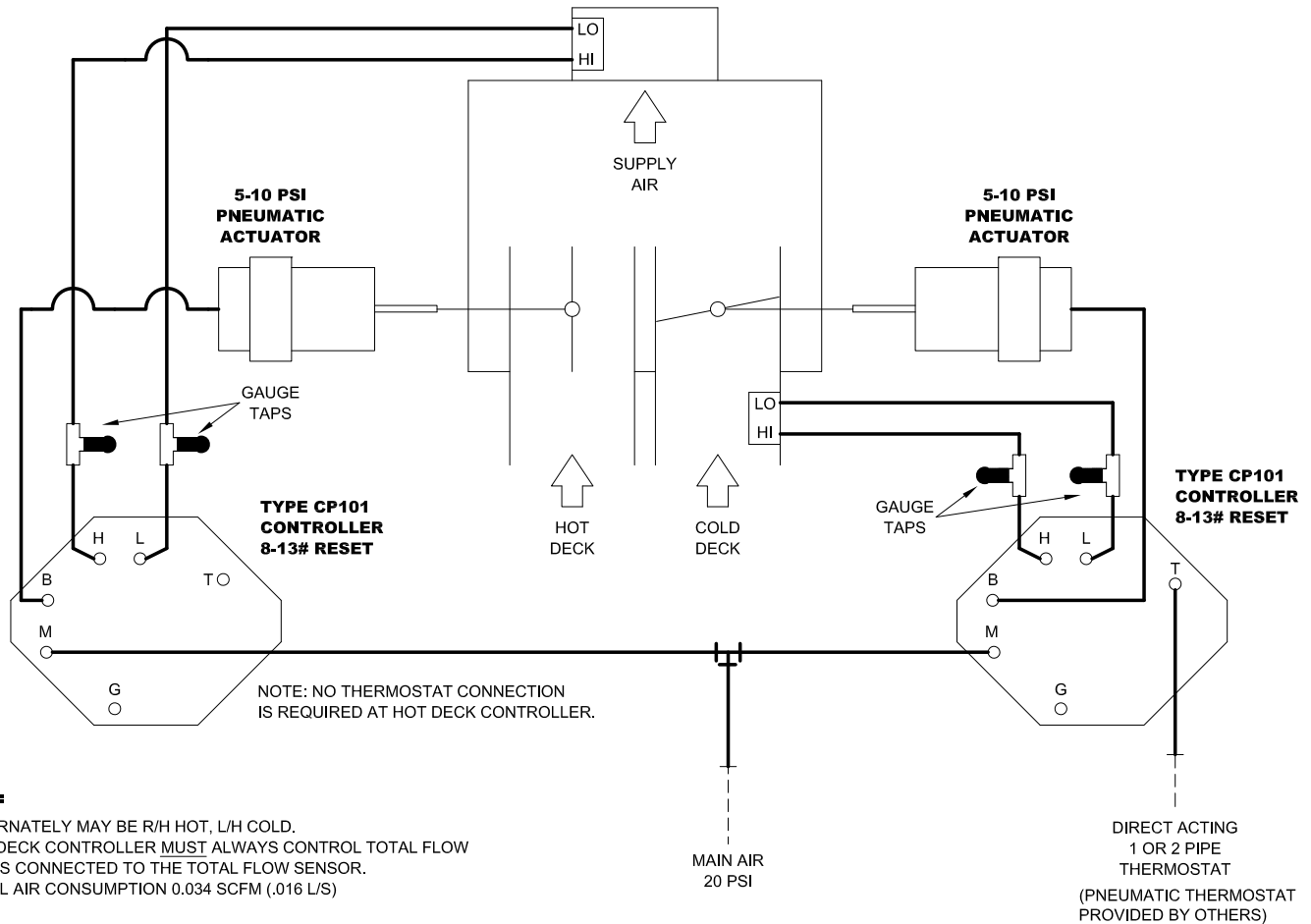
231719

SUBMITTAL DATE:

SPEC. SYMBOL:

2011/11/07

DPS8 / DPQ8
Kreuter CP-101
Dual Duct
Constant Volume
Cold Deck-N.O. Hot Deck-N.C.
D.A. Thermostat



Sequence of Operation -- Pressure independent, dual duct, constant volume, cooling and heating terminal unit, N.C. cold deck and N.O. hot deck, D.A. thermostat.

An increase in space temperature increases the thermostat output pressure. When the thermostat output pressure increases to 13 psi or more, the cold deck controller will modulate the cold deck damper to the pre-selected maximum flow setting. As cold deck flow increases the total flow controller will maintain a constant volume by modulating the hot deck damper to the closed position. A decrease in space temperature decreases the thermostat output pressure. As the thermostat output pressure decreases from 13 to 8 psi the cold deck damper is modulated from maximum flow to minimum flow, (usually zero). The hot deck damper is opened proportionally to maintain the constant total airflow. When the thermostat output pressure decreases to 8 psi or less the hot deck is maintained at the maximum flow setting.

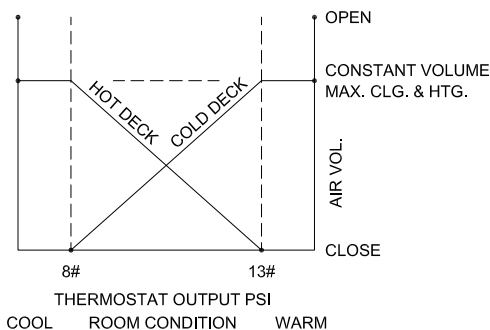
At thermostat output pressures below 8 psi the hot deck is at maximum airflow with the cold deck damper at minimum (usually zero).

Airflow is held constant regardless of changes in duct static pressure.
Normally closed cold deck and normally open hot deck dampers: On failure of the main air supply the cold deck damper will fail to the closed position and the hot deck damper will fail to the open position

LEGEND

- FACTORY PNEUMATIC TUBING
- - - - - FIELD PNEUMATIC TUBING

CONTROL GRAPH



PROJECT:

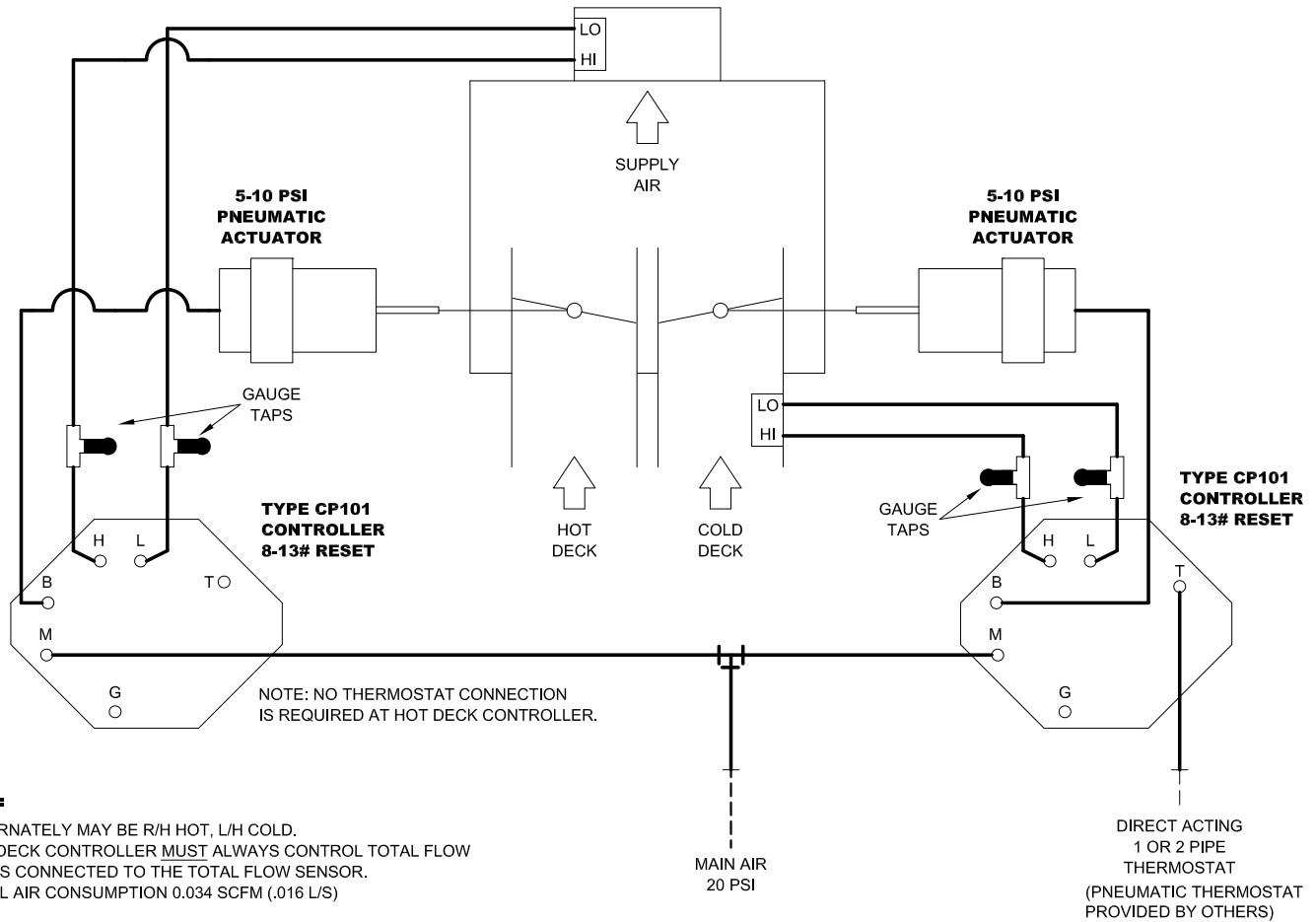
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
DPS8 / DPQ8 Kreuter CP-101 Dual Duct Constant Volume Cold Deck-N.C. Hot Deck-N.O. D.A. Thermostat	231720
2011/11/07	2011/11/07



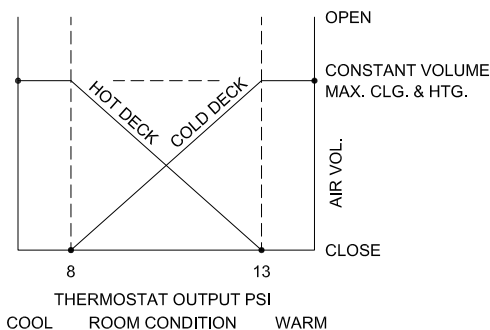
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER MUST ALWAYS CONTROL TOTAL FLOW AND IS CONNECTED TO THE TOTAL FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

LEGEND

- FACTORY PNEUMATIC TUBING
- - - - - FIELD PNEUMATIC TUBING

CONTROL GRAPH



Sequence of Operation -- Pressure independent, dual duct, constant volume, cooling and heating terminal unit, N.C. cold deck and hot deck, D.A. thermostat.

An increase in space temperature increases the thermostat output pressure. When the thermostat output pressure increases to 13 psi or more, the cold deck controller will modulate the cold deck damper to the pre-selected maximum flow setting. As cold deck flow increases the total flow controller will maintain a constant volume by modulating the hot deck damper to the closed position. A decrease in space temperature decreases the thermostat output pressure. As the thermostat output pressure decreases from 13 to 8 psi the cold deck damper is modulated from maximum flow to minimum flow, (usually zero). The hot deck damper is opened proportionally to maintain the constant total airflow. When the thermostat output pressure decreases to 8 psi or less the hot deck is maintained at the maximum flow setting. At thermostat output pressures below 8 psi the hot deck is at maximum airflow with the cold deck damper at minimum (usually zero). Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and normally closed hot deck dampers: On failure of the main air supply both the cold deck damper and the hot deck damper will fail to the closed position.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

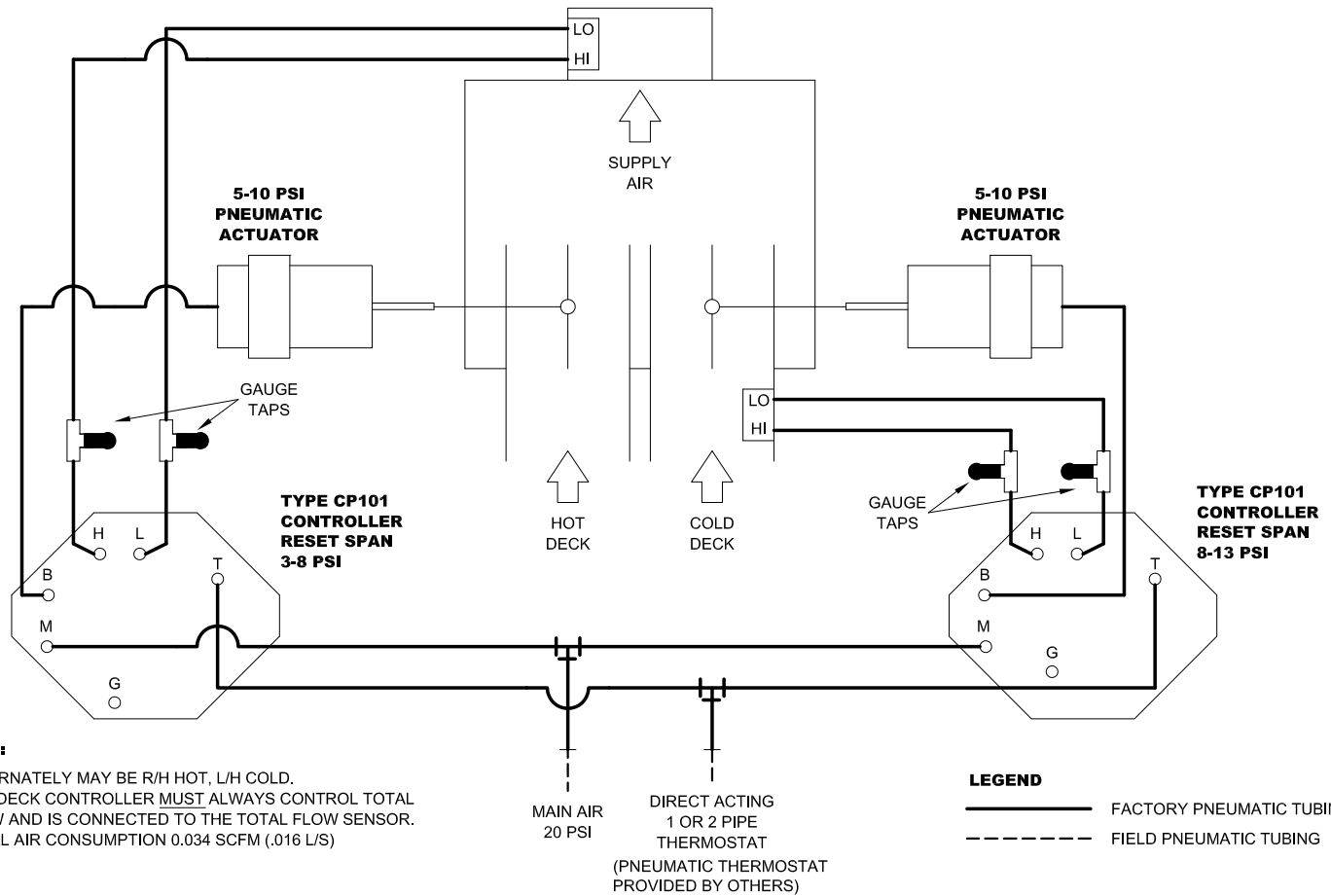
PRICE®

BTH/BC

231721

2011/11/07

DPS8 / DPQ8
Kreuter CP-101
Dual Duct
Constant Volume
Cold Deck-N.C. Hot Deck-N.C.
D.A. Thermostat



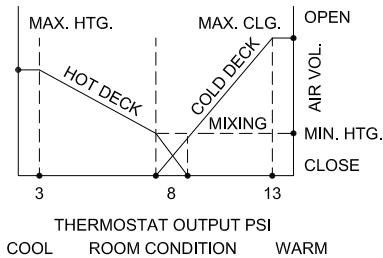
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER MUST ALWAYS CONTROL TOTAL FLOW AND IS CONNECTED TO THE TOTAL FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

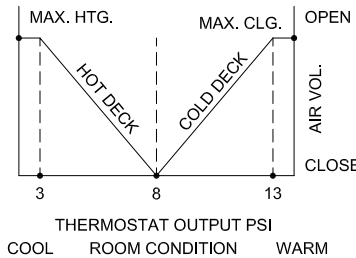
LEGEND

- FACTORY PNEUMATIC TUBING
- - - FIELD PNEUMATIC TUBING

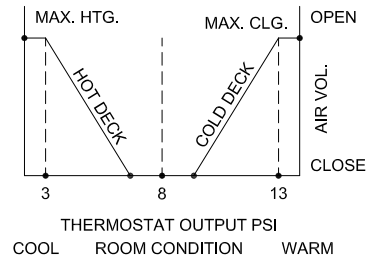
CONTROL GRAPH #1



CONTROL GRAPH #2



CONTROL GRAPH #3



Control Sequence #1 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum pre-selected setting is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting. Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

Control Sequence #2 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi. Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

Control Sequence #3 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

PROJECT:

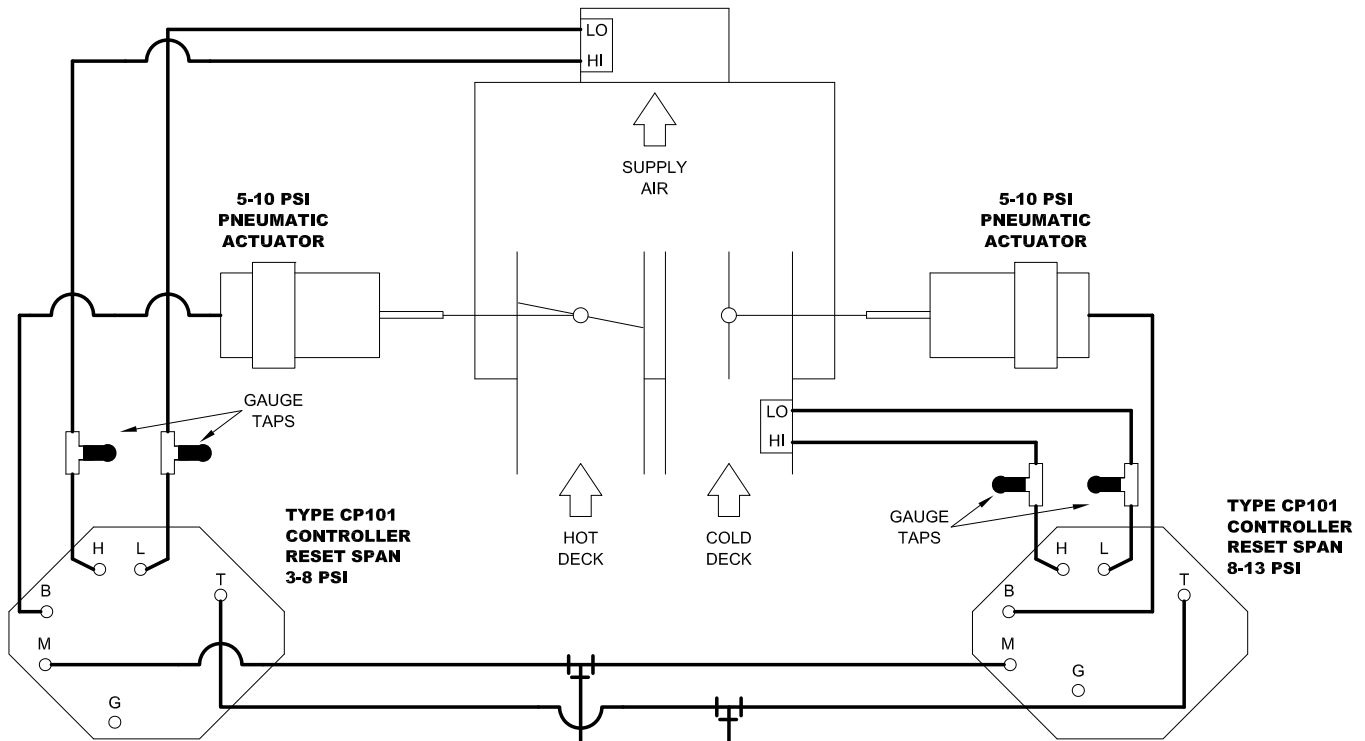
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
<p><i>BTH/BL</i></p> <p>231722</p> <p>2011/11/07</p>	<p>DPS8 / DPQ8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.O. Hot Deck-N.O. D.A. Thermostat</p>



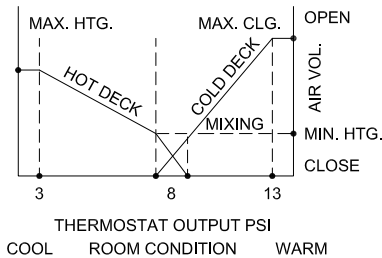
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER MUST ALWAYS CONTROL TOTAL FLOW AND IS CONNECTED TO THE TOTAL FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

LEGEND

- FACTORY PNEUMATIC TUBING
- - - FIELD PNEUMATIC TUBING

CONTROL GRAPH #1

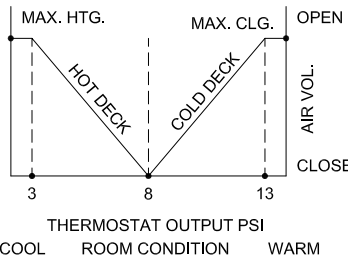


Control Sequence #1 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum pre-selected setting is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting. Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck:
On failure of the main air supply the cold deck will fail open and the hot deck dampers will fail closed.

CONTROL GRAPH #2

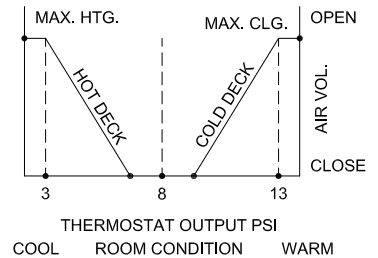


Control Sequence #2 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi. Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck:
On failure of the main air supply the cold deck will fail open and the hot deck will fail closed.

CONTROL GRAPH #3



Control Sequence #3 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck:
On failure of the main air supply the cold deck will fail open and the hot deck will fail closed.

PROJECT:

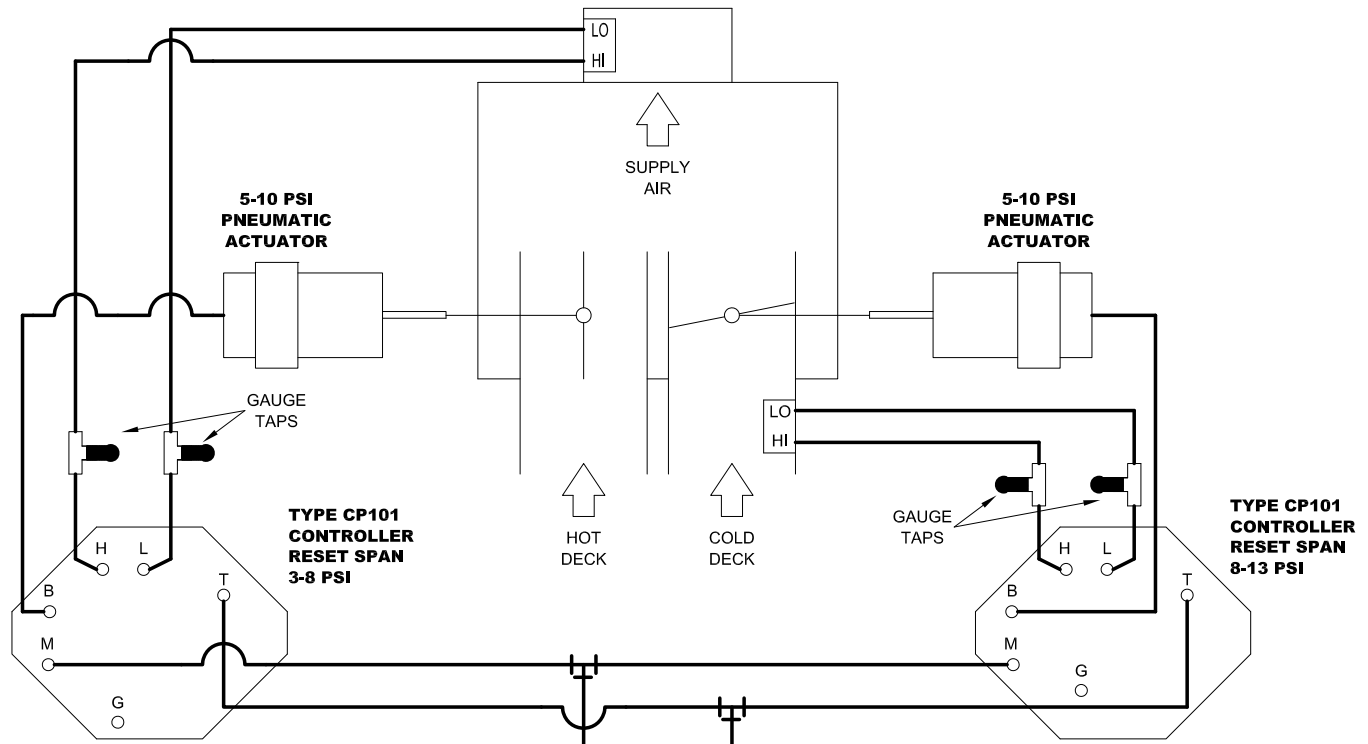
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE®	
bth/3c	DPS / DPQ8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.O. Hot Deck-N.C. D.A. Thermostat
231723	
2011/11/07	



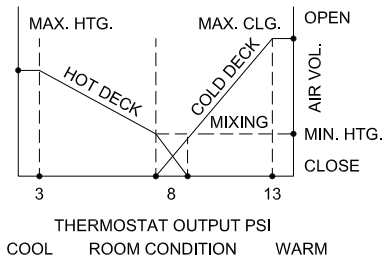
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER MUST ALWAYS CONTROL TOTAL FLOW AND IS CONNECTED TO THE TOTAL FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

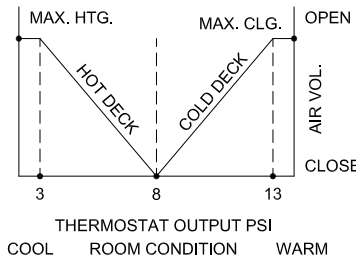
LEGEND

- FACTORY PNEUMATIC TUBING
- - - FIELD PNEUMATIC TUBING

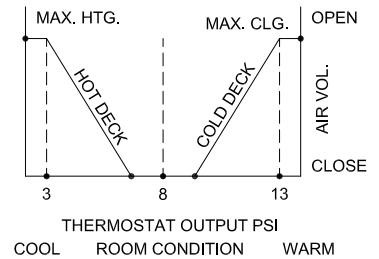
CONTROL GRAPH #1



CONTROL GRAPH #2



CONTROL GRAPH #3



Control Sequence #1 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and N.O. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum pre-selected setting is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting. Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and normally open hot deck:

On failure of the main air supply the cold deck will fail closed and the hot deck dampers will fail open.

Control Sequence #2 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and N.O. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi. Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and normally open hot deck:

On failure of the main air supply the cold deck will fail closed and the hot deck will fail open.

Control Sequence #3 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and N.O. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and normally open hot deck:

On failure of the main air supply the cold deck will fail closed and the hot deck will fail open.

PROJECT:

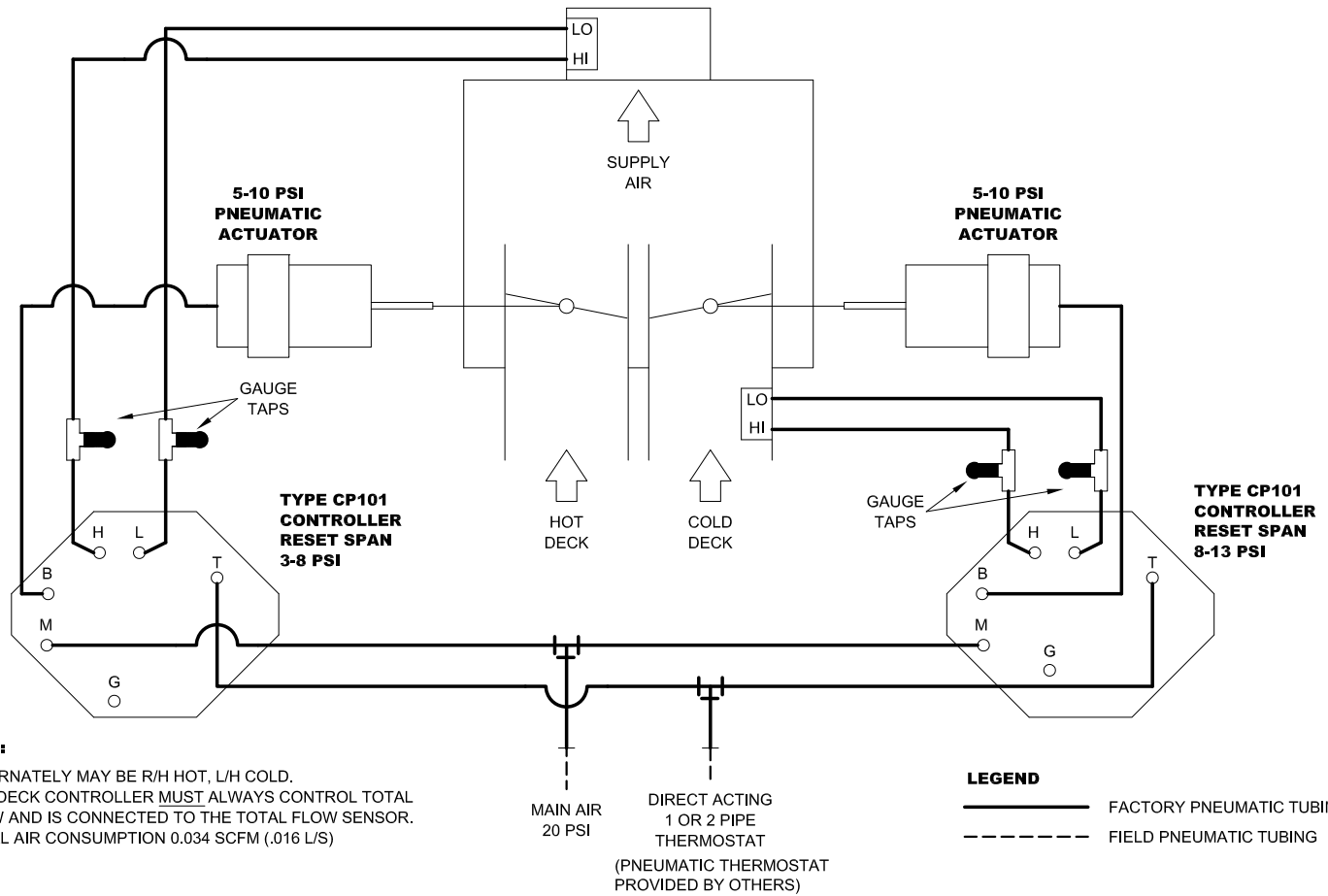
ENGINEER:

CUSTOMER:

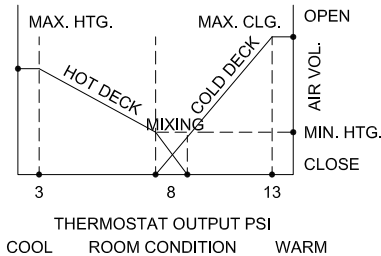
SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE®	
bjh/bl 231724	DPS8 / DPQ8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.C. Hot Deck-N.O. D.A. Thermostat
2011/11/07	REV A



CONTROL GRAPH #1



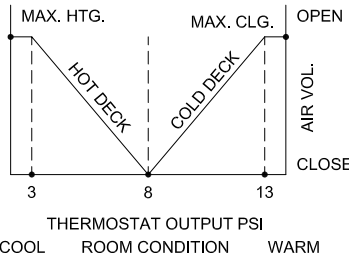
Control Sequence #1 – Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum pre-selected setting is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting. Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the closed position.

CONTROL GRAPH #2



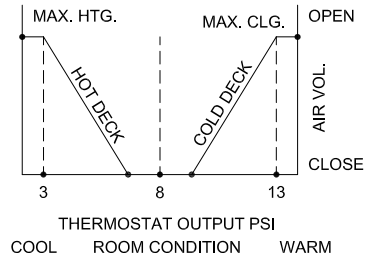
Control Sequence #2 – Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi. Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the closed position.

CONTROL GRAPH #3



Control Sequence #3 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the closed position.

PROJECT:

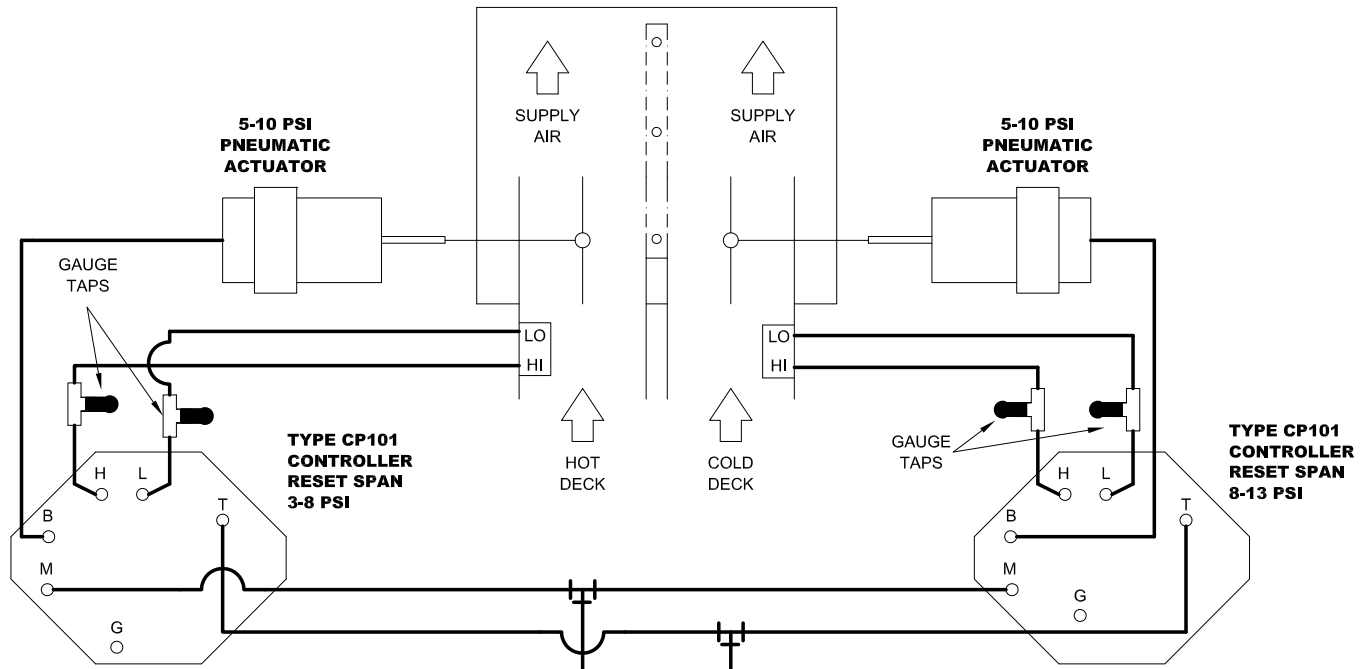
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
b7h/BL	DPS8 / DPQ8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.C. Hot Deck-N.C. D.A. Thermostat
231725	
2011/11/07	



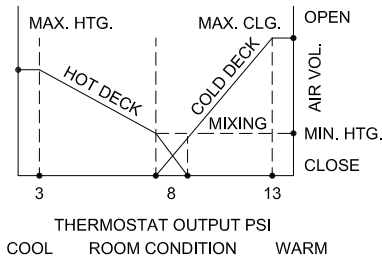
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER CONTROLS HOT DECK FLOW AND IS CONNECTED TO THE HOT DECK FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

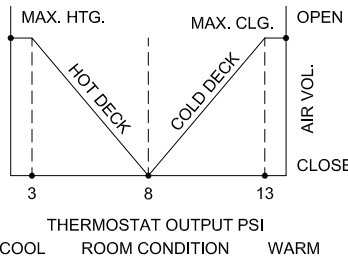
LEGEND

- FACTORY PNEUMATIC TUBING
- FIELD PNEUMATIC TUBING

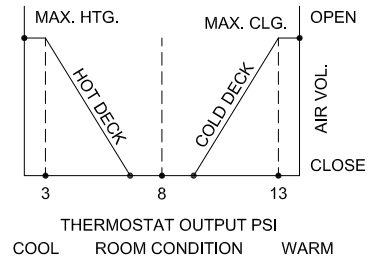
CONTROL GRAPH #1



CONTROL GRAPH #2



CONTROL GRAPH #3



Control Sequence #1 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum mixing volume is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

Control Sequence #2 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi. Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

Control Sequence #3 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

PROJECT:

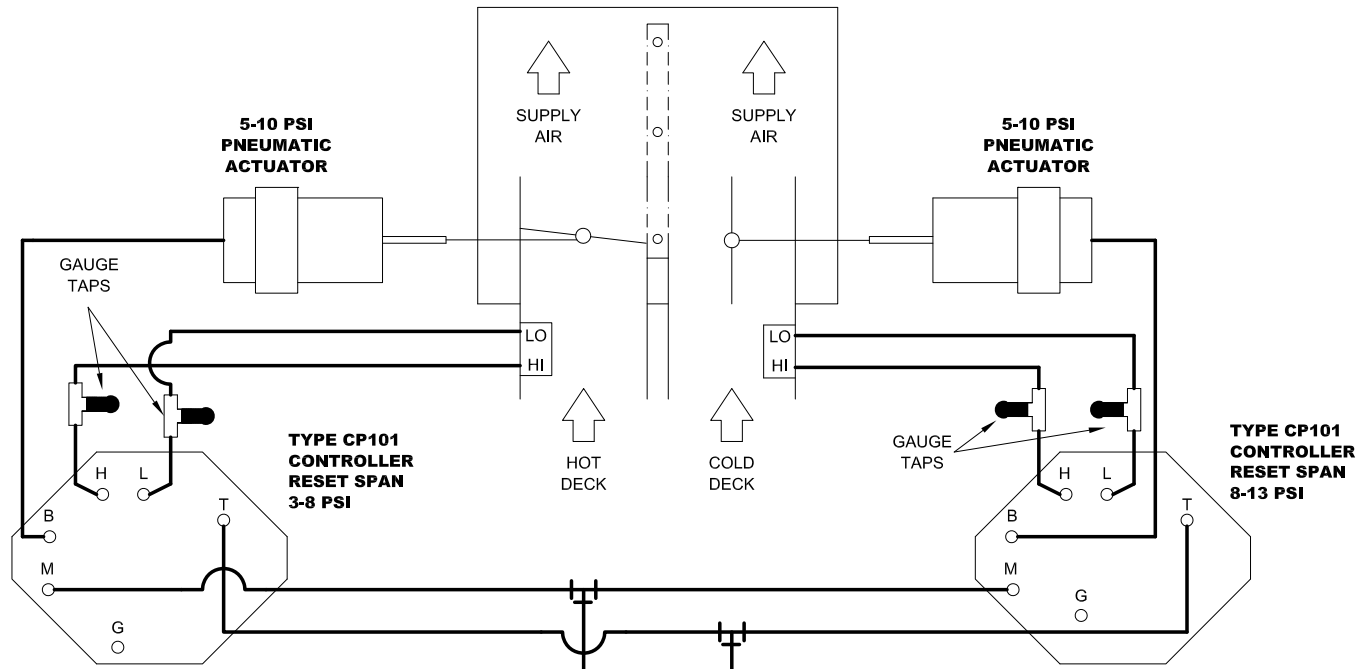
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
250123 2011/11/07	DPV8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.O. Hot Deck-N.O. D.A. Thermostat



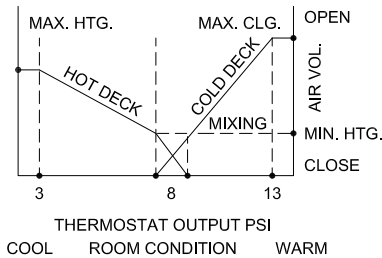
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER CONTROLS HOT DECK FLOW AND IS CONNECTED TO THE HOT DECK FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

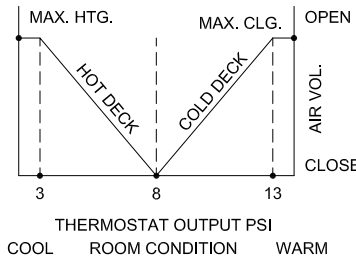
LEGEND

- FACTORY PNEUMATIC TUBING
- - - FIELD PNEUMATIC TUBING

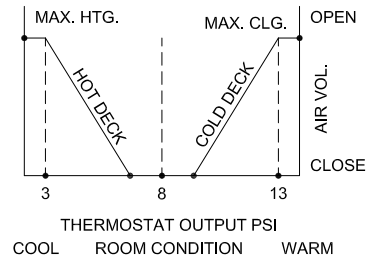
CONTROL GRAPH #1



CONTROL GRAPH #2



CONTROL GRAPH #3



Control Sequence #1 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum mixing volume is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck:

On failure of the main air supply the cold deck will fail open and the hot deck damper will fail closed.

Control Sequence #2 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck:

On failure of the main air supply the cold deck will fail open and the hot deck damper will fail closed.

Control Sequence #3 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck:

On failure of the main air supply the cold deck will fail open and the hot deck damper will fail closed.

PROJECT:

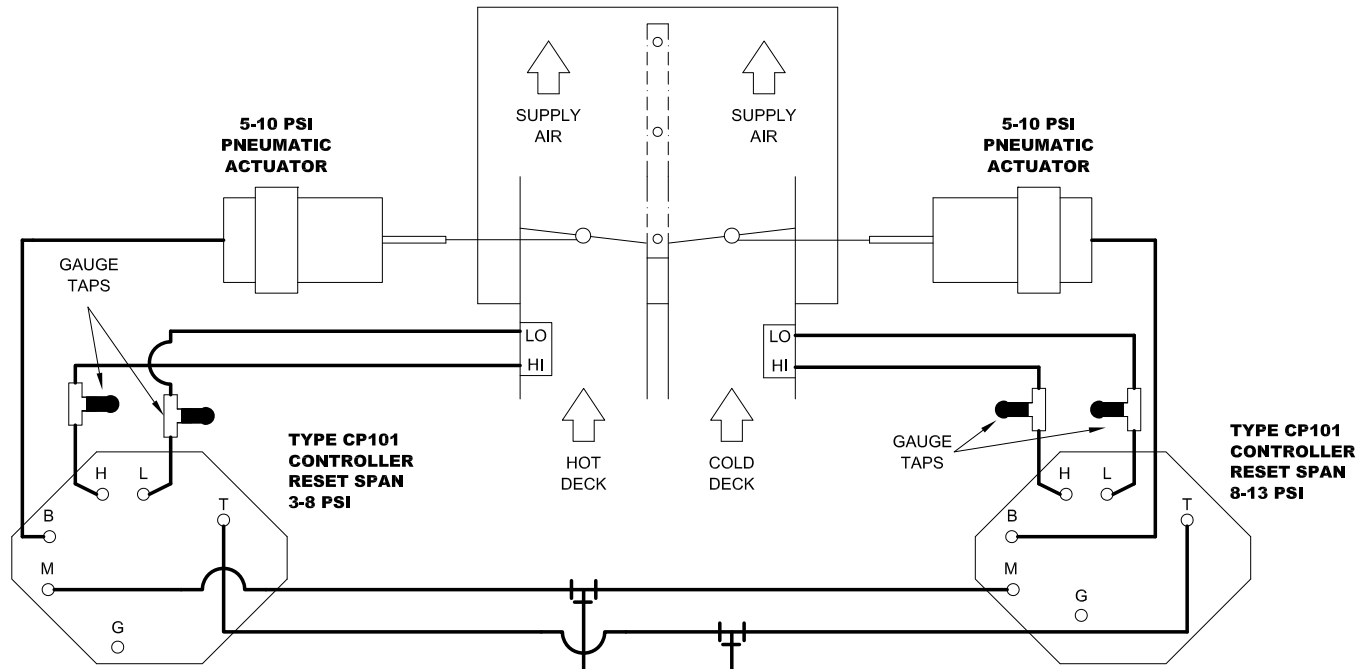
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE®	
250124 20/11/11/07	DPV8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.O. Hot Deck-N.C. D.A. Thermostat



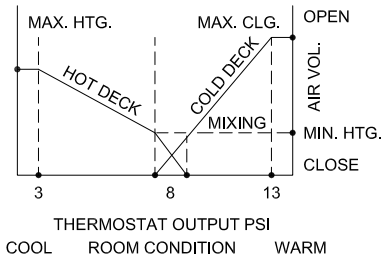
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER CONTROLS HOT DECK FLOW AND IS CONNECTED TO THE HOT DECK FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

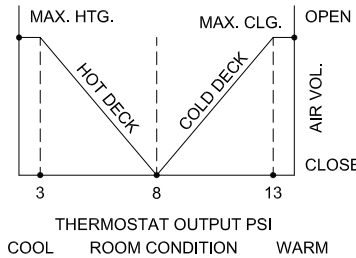
LEGEND

- FACTORY PNEUMATIC TUBING
- - - FIELD PNEUMATIC TUBING

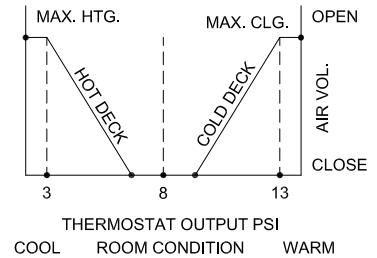
CONTROL GRAPH #1



CONTROL GRAPH #2



CONTROL GRAPH #3



Control Sequence #1 – Pressure Independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum mixing volume is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting. Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck:

On failure of the main air supply both dampers will fail closed.

Control Sequence #2 – Pressure Independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output increases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi. Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck:

On failure of the main air supply both dampers will fail closed.

Control Sequence #3 – Pressure Independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, D.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck:

On failure of the main air supply both dampers will fail closed.

PROJECT:

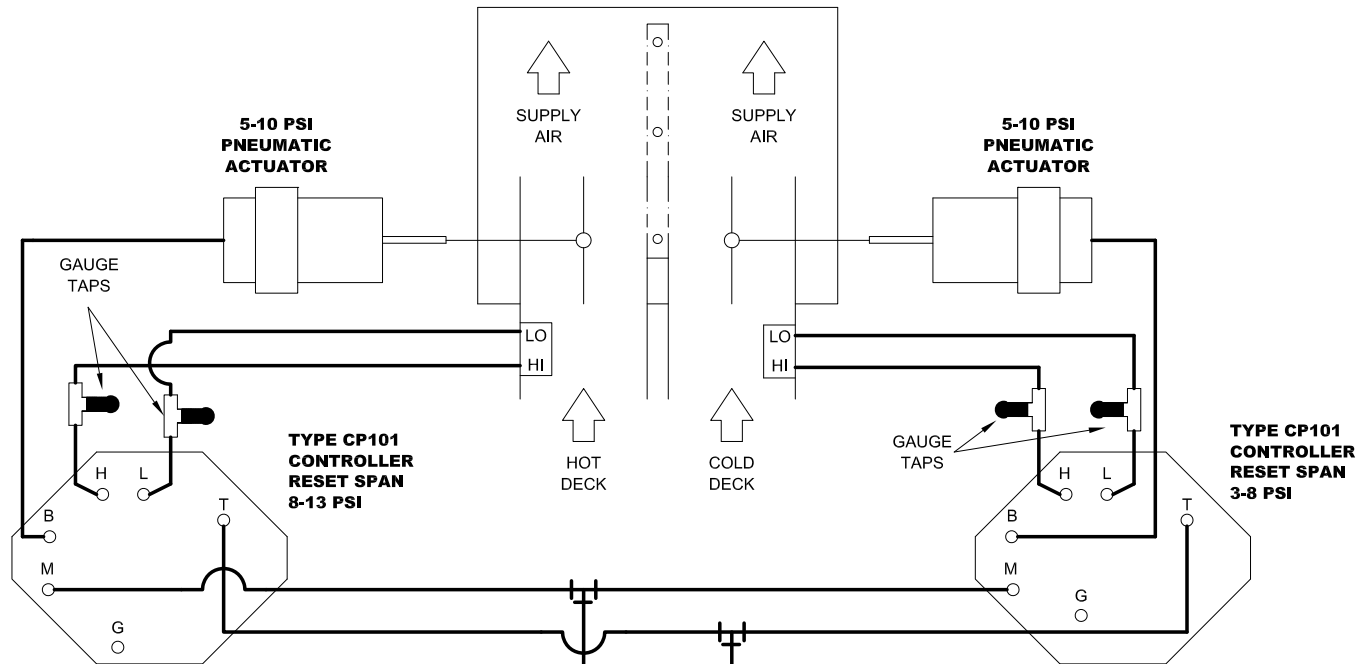
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
b76/3c	DPV8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.C. Hot Deck-N.C. D.A. Thermostat
250125	
2011/11/07	



NOTES:

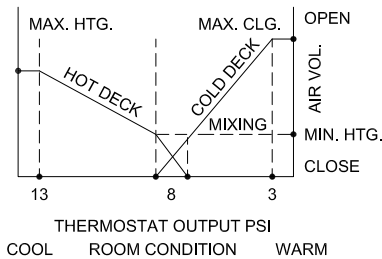
1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER CONTROLS HOT DECK FLOW AND IS CONNECTED TO THE HOT DECK FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

LEGEND

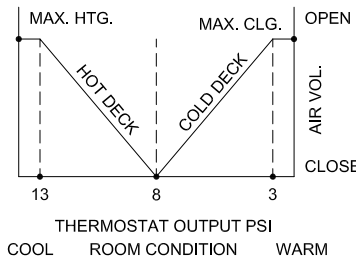
- FACTORY PNEUMATIC TUBING
- - - FIELD PNEUMATIC TUBING

MAIN AIR
20 PSI
DIRECT ACTING
1 OR 2 PIPE
THERMOSTAT
(PNEUMATIC THERMOSTAT
PROVIDED BY OTHERS)

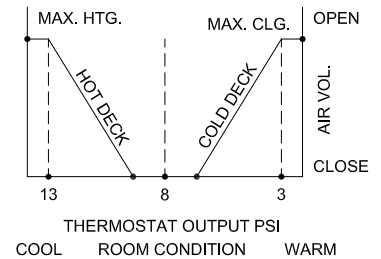
CONTROL GRAPH #1



CONTROL GRAPH #2



CONTROL GRAPH #3



Control Sequence #1 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output decreases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum mixing volume is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting. Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

Control Sequence #2 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output decreases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi. Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

Control Sequence #3 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck dampers will fail to the open position.

PROJECT:

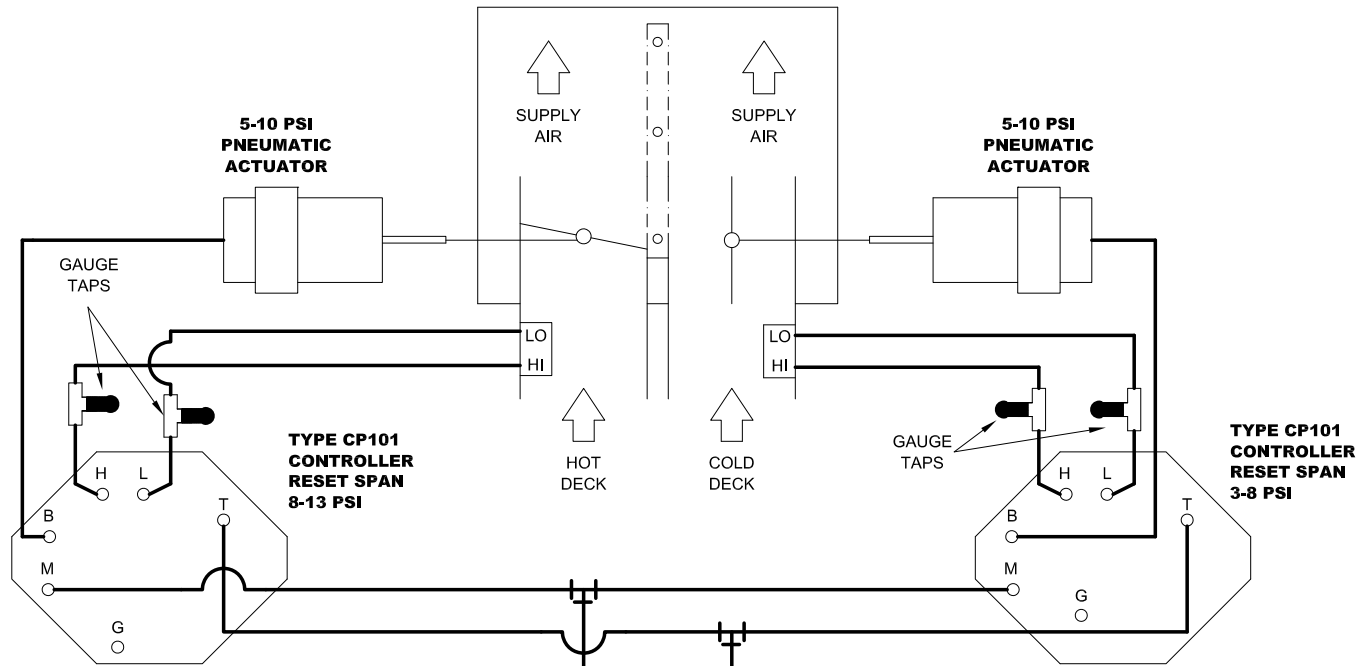
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
250127 2011/11/07	DPV8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.O. Hot Deck-N.O. R.A. Thermostat



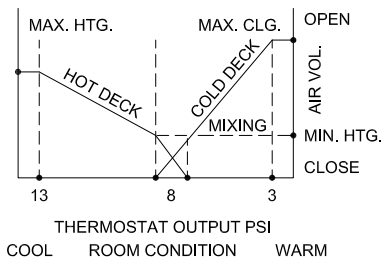
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER CONTROLS HOT DECK FLOW AND IS CONNECTED TO THE HOT DECK FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

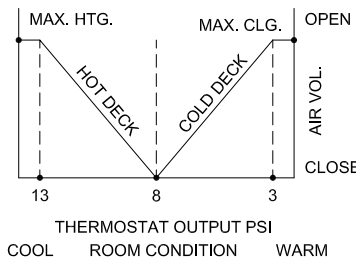
LEGEND

- FACTORY PNEUMATIC TUBING
- - - FIELD PNEUMATIC TUBING

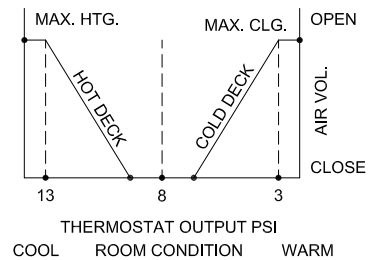
CONTROL GRAPH #1



CONTROL GRAPH #2



CONTROL GRAPH #3



Control Sequence #1 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output decreases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum mixing volume is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck dampers:

On failure of the main air supply the cold deck will fail open and the hot deck will fail closed.

Control Sequence #2 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output decreases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck dampers:

On failure of the main air supply the cold deck will fail open and the hot deck will fail closed.

Control Sequence #3 -- Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.O. cold deck and N.C. hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally open cold deck and normally closed hot deck dampers:

On failure of the main air supply the cold deck will fail open and the hot deck will fail closed.

PROJECT:

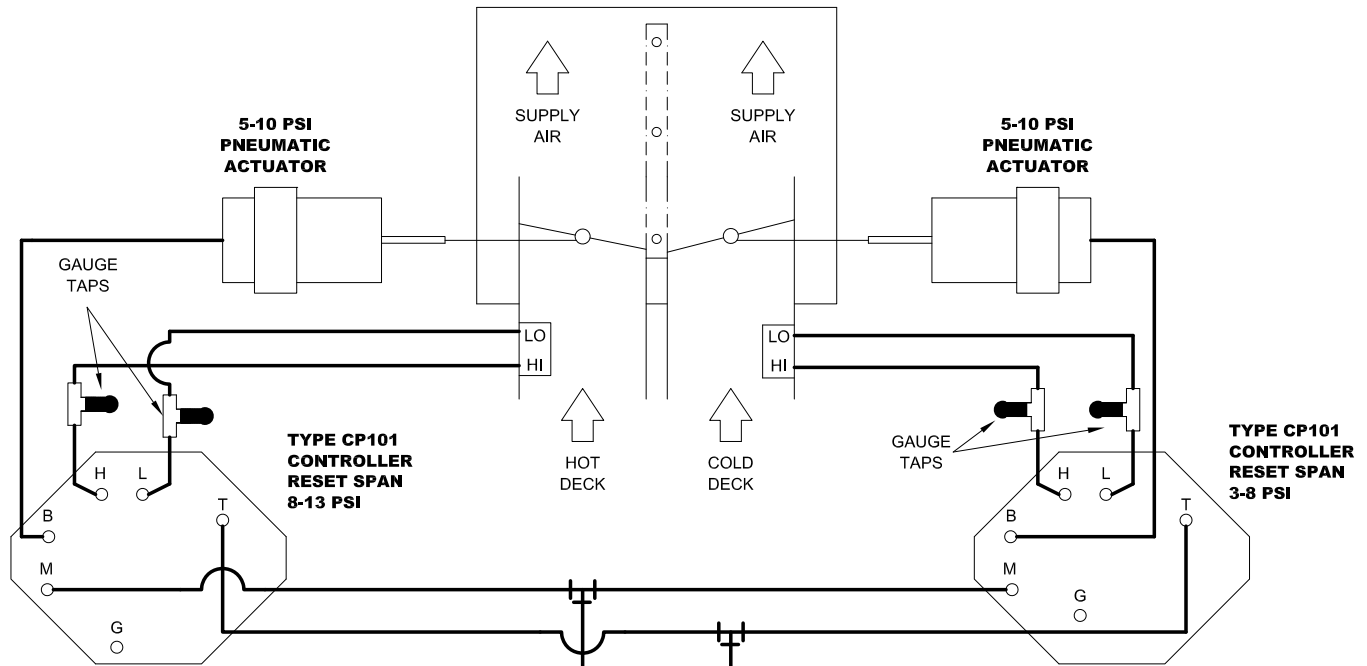
ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
250128	DPV8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.O. Hot Deck-N.C. R.A. Thermostat
2011/11/07	REV A



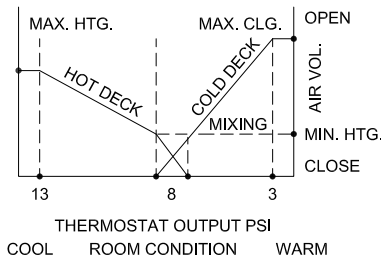
NOTES:

1. ALTERNATELY MAY BE R/H HOT, L/H COLD.
2. HOT DECK CONTROLLER CONTROLS HOT DECK FLOW AND IS CONNECTED TO THE HOT DECK FLOW SENSOR.
3. TOTAL AIR CONSUMPTION 0.034 SCFM (.016 L/S)

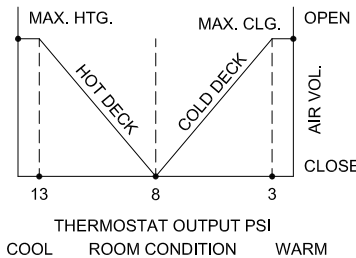
LEGEND

- FACTORY PNEUMATIC TUBING
- - - FIELD PNEUMATIC TUBING

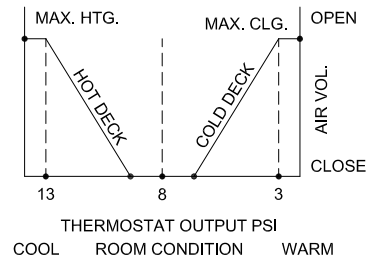
CONTROL GRAPH #1



CONTROL GRAPH #2



CONTROL GRAPH #3



Control Sequence #1 – Pressure Independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for unequal maximum air volumes. On a rise in space temperature, the thermostat output decreases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases until the minimum mixing volume is reached. On a further increase in space temperature, the hot deck closes and the cold deck airflow increases to the pre-selected maximum cold deck setting.

Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck will fail closed.

Control Sequence #2 – Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes. On a rise in space temperature, the thermostat output decreases which will reduce the flow of warm air from the pre-selected maximum setting. As the space temperature increases, the hot deck airflow decreases to zero. On a further increase in space temperature, the cold deck airflow increases to the maximum cold deck setting. The minimum flow for both decks is set at zero, which occurs at a thermostat output of 8 psi.

Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck will fail closed.

Control Sequence #3 – Pressure independent, dual duct, variable volume, cooling and heating terminal unit, N.C. cold deck and hot deck, R.A. thermostat.

In this diagram the hot and cold decks are set for equal maximum air volumes with a dead band in which no cooling or heating takes place. The control sequence is the same as described for Sequence #2.

Airflow is held constant regardless of changes in duct static pressure.

Normally closed cold deck and hot deck dampers:

On failure of the main air supply both the cold deck and the hot deck will fail closed.

PROJECT:

ENGINEER:

CUSTOMER:

SUBMITTAL DATE:

SPEC. SYMBOL:

PRICE [®]	
250130 2011/11/07	DPV8 Kreuter CP-101 Dual Duct Variable Volume Cold Deck-N.C. Hot Deck-N.C. R.A. Thermostat