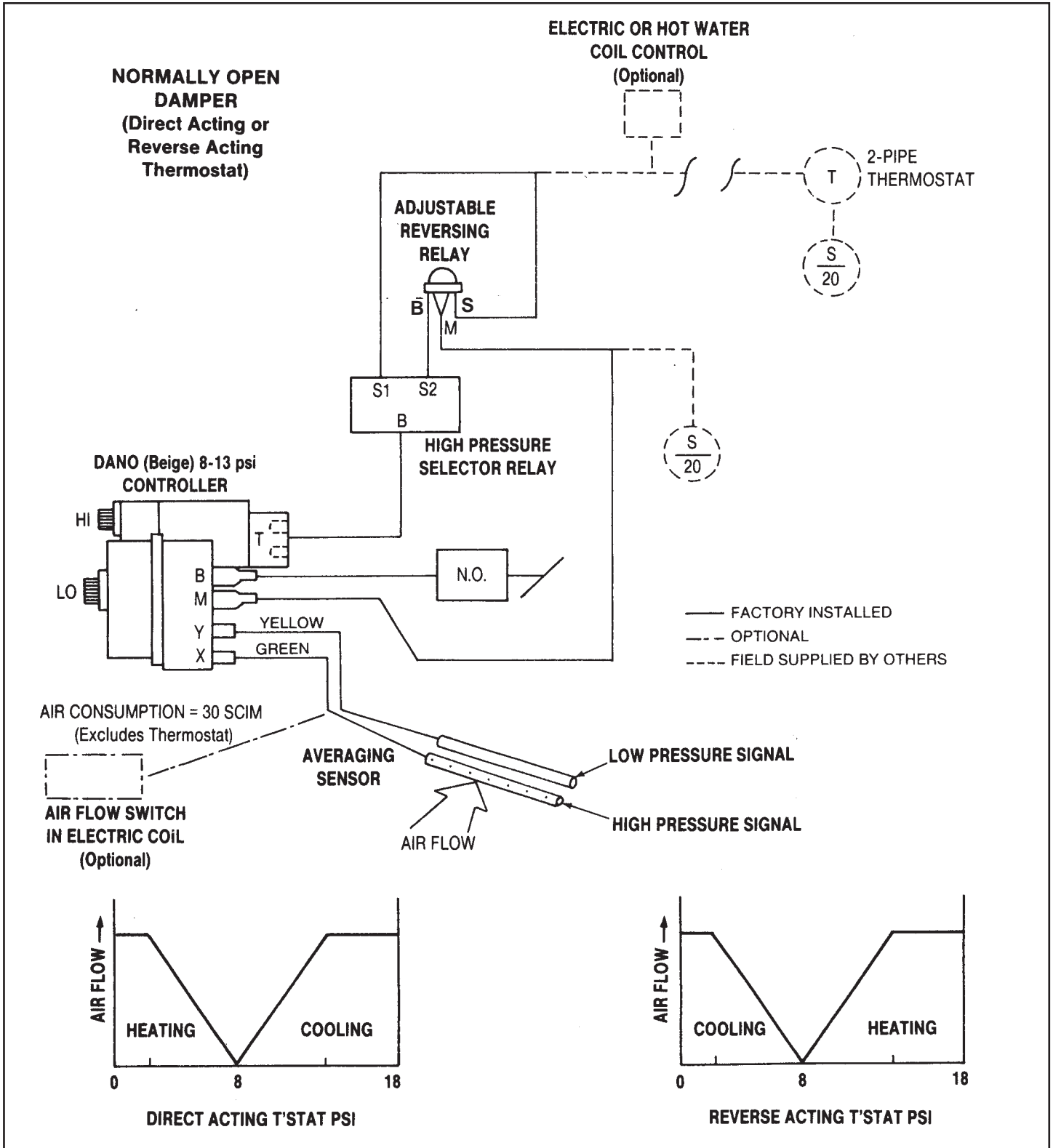


IP [English] Dimensions
SI (Metric) Dimensions

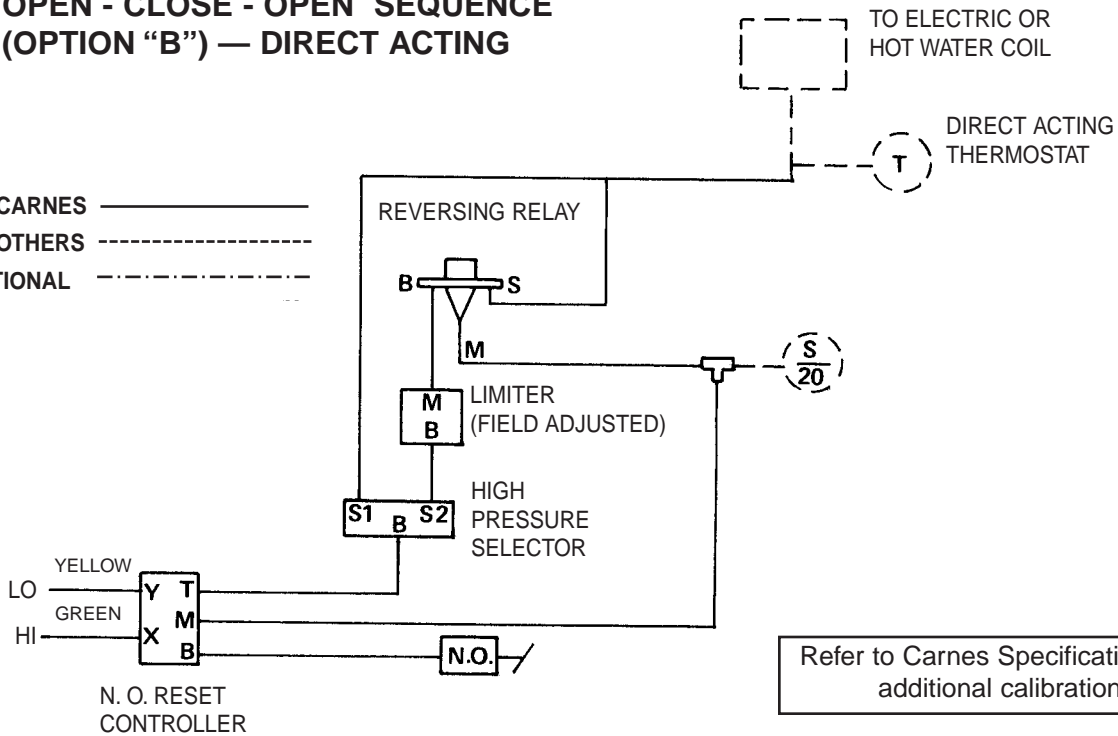
CARNES COMPANY, 448 S. Main St., P. O. Box 930040, Verona, WI. 53593-0040 - Phone: 608/845-6411 Fax: 608/845-6470



NOTE: Maximum cooling and heating cfms must be the same! Refer to Carnes Specification Sheet 20109 for additional calibration information.

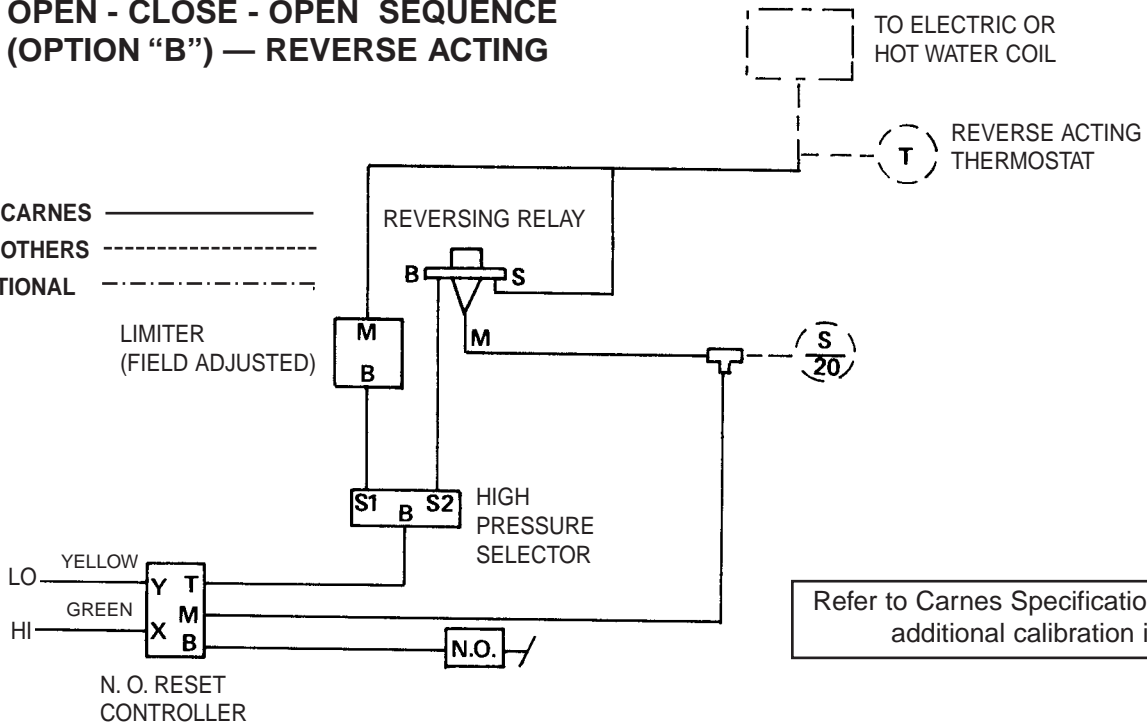
OPEN - CLOSE - OPEN SEQUENCE (OPTION "B") — DIRECT ACTING

BY CARNES ———
BY OTHERS - - - - -
OPTIONAL - - - - -

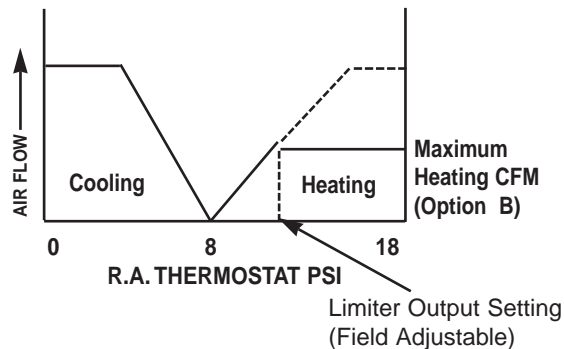
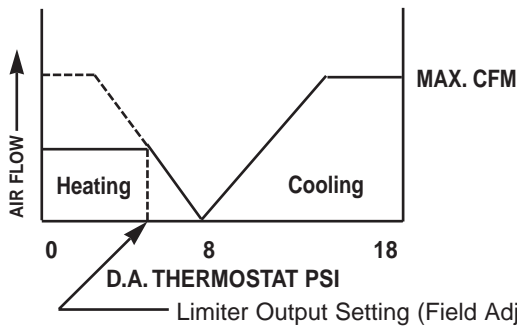


OPEN - CLOSE - OPEN SEQUENCE (OPTION "B") — REVERSE ACTING

BY CARNES ———
BY OTHERS - - - - -
OPTIONAL - - - - -



MAXIMUM HEATING CFM (Option B)



SINGLE DUCT THROTTLING UNITS

Open - Close - Open Control Scheme

Option A and B

SEQUENCE OF OPERATIONS

(Sequence uses typical pressure values, actual pressures may differ slightly)

1. OPTION A, DIRECT ACTING THERMOSTAT:

A. SPACE IS HOT:

Thermostat Output is 18 PSI to "SI" Port of High Pressure Selector (HPS).
Thermostat Output is converted to 0 PSI by the Reversing Relay and sent to "S2" of the HPS. HPS selects 18 PSI and sends that pressure to the Controller to call for Max. CFM.

B. SPACE IS SATISFIED:

Thermostat Output is 8 PSI to "SI" port of HPS. Output of the Reversing Relay is also 8 PSI, sent to the "S2" port. HPS sends 8 PSI signal to the Controller to call for Min. CFM.

C. SPACE IS COLD:

Thermostat Output is 0 PSI to "SI" Port of HPS. Reversing Relay converts 0 PSI to 16 PSI and sends that pressure to "S2". The HPS selects 16 PSI which signals the box to control to the Maximum CFM setting.

2. OPTION B, DIRECT ACTING THERMOSTAT:

A. SPACE IS COLD:

Same as in Procedure 1.

B. SPACE IS SATISFIED:

Same as in Procedure 1.

C. SPACE IS COLD:

Thermostat Output is 0 PSI to the "SI" Port of the HPS. The Reversing Relay converts 0 PSI to 16 PSI. The 16 PSI Signal is sent to the Limiter which is Field Adjusted to a Maximum Output between 8 to 13 PSI. This Limited pressure is sent to "S2" of the HPS. The HPS selects the CFM to the Field Adjusted Secondary Heating CFM.

SETTING PROCEDURE FOR LIMITER: (DA THERMOSTAT)

1. SET ZONE THERMOSTAT TO FULL HEATING (0 PSI Output).

2. MEASURE AIRFLOW.

3. TURN THE BIAS ADJUSTMENT OF THE LIMITER UNTIL THE DESIRED CFM IS OBTAINED.
(Turn Bias Adjustment Knob Counter-Clockwise to Decrease CFM or Clockwise to Increase CFM).

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