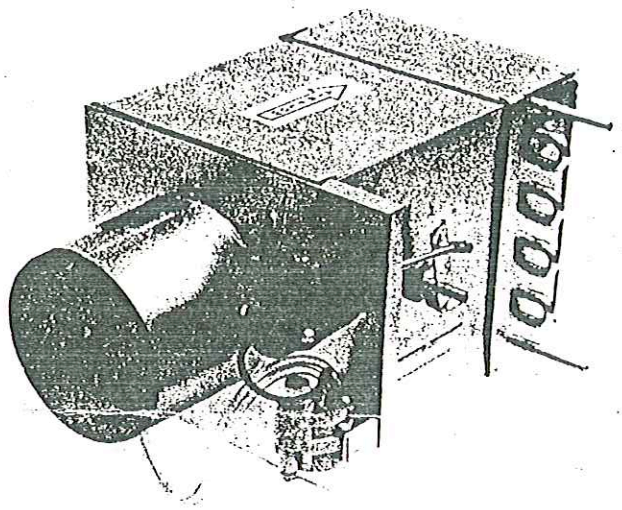
MODEL SSD-WC-II

DESCRIPTION



Model SSD-WC-II Terminals are designed for use in low, medium or high pressure, variable air volume, single duct systems requiring hot water reheating or terminal heating of the primary supply air. The SSD-WC-II's many control sequences represent the broadest range of standard control options in the industry, providing infinite design flexibility to meet any system requirement.

Model SSD-WC-II throttling-type Terminal incorporates a single damper blade, which operates through a 45° arc, providing throttling capability in all damper positions — a feature not possible with 90° arc single or multi-blade dampers used in competitive equipment.

Standard water coils available with the SSD-WC-II have been computer-selected to provide maximum efficiency at the lowest possible cost.

Coils for the Model SSD-WC-II are shipped separately for field attachment to the Terminal, or factory-mounted at extra cost.

CONSTRUCTION

Model SSD-WC-II Terminals are manufactured of zinc-coated steel: 24-gauge casing, 16-gauge damper and 20-gauge damper seat. (Heavier casing gauges are available at extra cost.) Assembly of the casing is by means of a mechanical lock, insuring the tightest possible construction; maximum air leakage — 2% at 3" water gauge.

The basic Terminal is including the Water Coil is 19" in length through size 18 and 12½" in height. All units are provided with round, oval or rectangular inlet collars and slip-and-drive outlets as standard. Optional round, oval or rectangular discharge collars are available at extra cost.

Pressure-independent units are furnished with an inlet Averaging Sensor which may be removed without disconnecting the inlet duct or flex. All other control components are accessible outside of the Terminal casing.

All SSD-WC-II casings are internally lined with ½", 4# dual density, coated fiberglass, complying with N.F.P.A. 90-A and U.L. 181. No raw edges are exposed to the air stream. Special insulation coatings are available for clean-room, hospital and laboratory applications.

Water coils are constructed of pure aluminum fins of .005" to .010" thickness, with die-formed spacer collars to maintain uniform spacing. Fins are mechanically affixed to .017" copper tubes, insuring maximum heat transfer. All ETI Coils are tested at 320 psig minimum pressure for leaks, using air under warm water.

INLET EFFECT — All SSD models are tested with straight inlet connection. If installed with other than straight connection, a shift in the set point may result. Units include an averaging probe to assist in overcoming poor inlet effect, however the controller may require field trim adjustment.

PERFORMANCE

Model SSD-WC-II units are available as system pressure-independent or system pressure dependent. The space thermostat controls the SSD-WC-II in either case, providing desired temperature by varying the air volume to the space served. Pressure-independent models are equipped with minimum/maximum air volume dials for rapid field setting; set points are maintained, regardless of system pressure fluctuations. Pressure-dependent models operate only in response to the room thermostat demand, and may fluctuate through their range as the system pressure changes. Pressure-dependent models are not recommended for large systems.

SSD-WC-II units will operate efficiently at pressures from as low as .03"ΔP (pneumatic) and .015"ΔP (electronic).

Consult coil performance charts for coil selection and determination of air pressure drop through coil. Air pressure drop through coil is additive to pressure drop of Terminal.

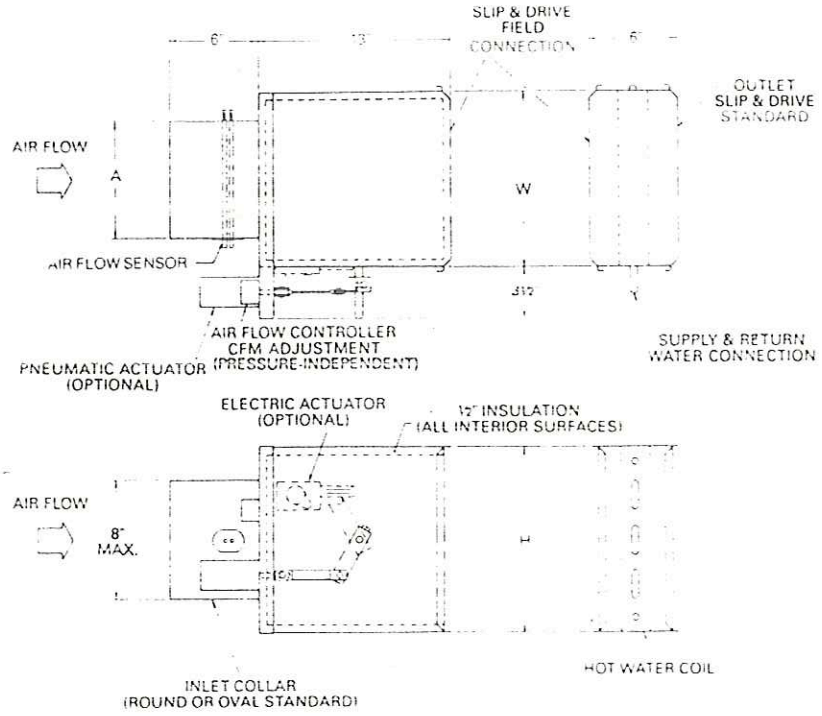
SELECTION

Model SSD-WC-II units should be selected in the mid to upper-mid range of the performance table (CFM) to insure maximum operating efficiency. Published performance values have been established by actual test with the max (CFM) set for the rated value. The recommended selection range will produce the quietest possible system.

Testing — all ENVIRO-TEC™ Terminals are tested and rated in accordance wth ADC, ARI and ASHRAE standards as applicable.

CONTROLS

Terminals are available with pneumatic or electronic controls. Control sequence descriptions and reproducible schematics are shown in Control Sequence Guide CSP 187 (pneumatic) and CSE 287 (electronic).



Unit Size	W Dim.	A Dim.	H Dim.
4	12"	4"	10"
5	12"	5"	10"
6	12"	6"	10"
8	12"	8"	10"
* 10	18"	11"	10"
* 12	22"	14¼"	12½"
* 14	26"	17¼"	12½"
* 16	32"	20⅜"	12½"
* 18	40"	23⁹⁄₁₆"	12½"
** 20	40"	26⅜"	12½"
** 24	40"	33"	12½"

*oval inlet
**rectangular inlet

PERFORMANCE DATA

Model SSD-WC-II

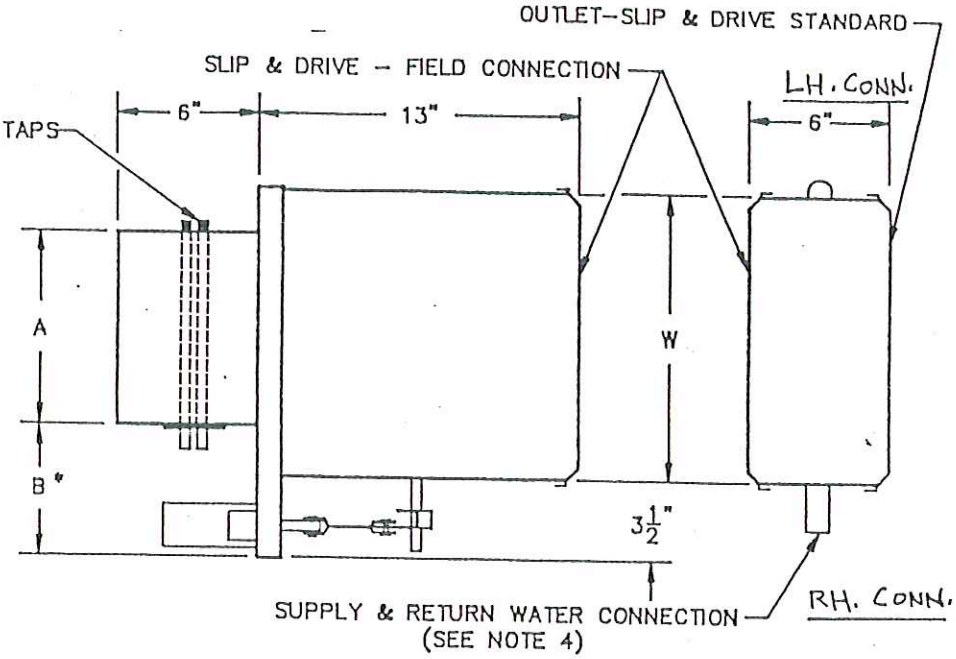
Terminal Size	CFM	Min. △Pt	Room Noise Criterion (NC) Min. △Ps		Min. △Ps + 0.75"		Min. △Ps + 1.5"		Min. △Ps + 3.0"	
			Disch.	Rad.	Disch.	Rad.	Disch.	Rad.	Disch.	Rad.
4	100	.11	—	—	20	—	27	—	33	—
	150	.24	—	—	24	—	33	—	36	—
	200	.39	—	—	33	—	39	21	42	27
5	175	.11	—	—	—	—	32	—	37	—
	265	.23	—	—	27	—	34	—	41	20
	350	.40	—	—	31	—	38	—	45	25
6	250	.11	—	—	—	—	31	—	35	20
	375	.24	—	—	27	—	33	—	40	24
	500	.41	—	—	28	—	35	23	43	28
8	500	.06	—	—	—	—	33	—	40	23
	750	.16	—	—	26	—	35	20	41	25
	1000	.27	—	—	30	—	36	23	42	28
10	750	.08	—	—	23	—	33	—	38	22
	1125	.16	—	—	27	—	34	21	40	25
	1500	.27	20	—	33	21	36	25	41	28
12	1000	.09	—	—	25	—	34	—	40	22
	1500	.19	21	—	28	—	36	21	43	25
	2000	.33	26	—	36	21	39	24	45	30
14	1250	.09	—	—	25	—	33	—	39	26
	1875	.18	24	—	34	—	38	23	43	27
	2500	.32	27	—	36	24	41	26	47	31
16	1600	.09	—	—	27	—	35	—	40	26
	2400	.19	20	—	31	20	37	24	43	31
	3200	.33	28	—	36	26	39	28	45	34
18	1900	.09	—	—	31	—	36	23	43	30
	2850	.20	26	—	34	22	40	28	45	35
	3800	.34	34	—	37	27	42	33	49	37
20	2300	.08	—	—	31	—	36	21	40	26
	3450	.17	23	—	33	20	39	26	43	31
	4600	.29	29	—	35	25	42	31	46	34
24	2900	.07	20	—	33	—	38	24	42	29
	4350	.15	27	—	34	24	41	30	45	34
	5800	.25	34	21	37	30	44	35	48	39

Performance data is based on tests conducted in accordance with Industry Standard 880.
△Pt is the total pressure difference between the terminal inlet and discharge. This does not include pressure requirement of hot water coil. Refer to coil tables to obtain this value which must be added to min. △Pt above for total pressure drop across the assembly. This value does not include pressure losses downstream of the terminal unit.
Discharge NC levels are based on 10dB room attenuation, five feet of lined duct downstream, and a maximum of 300 CFM per diffuser. Refer to page 8 for sound power correction factors if system conditions vary greatly from these assumptions.
Radiated NC levels are based on 10 dB room absorption and ceiling sound transmission class 35-39.

Blank space (—) indicates NC level less than 20.

Clean Air Engr.

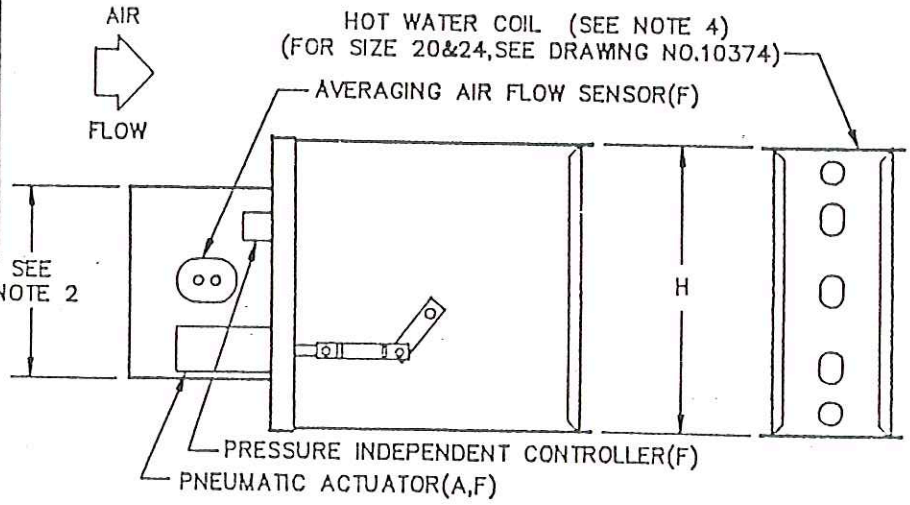
ENVIRO--TEC™ SUBMITTAL DATA



DIMENSIONAL DATA

UNIT SIZE	W	A	H	B*
4	12"	4"	10"	5 1/2"
5		5"		5"
6		6"		4 1/2"
8		8"		5 1/2"
10	18"	11"		5
12	22"	14 1/8"	12 1/2"	5 1/2"
14	26"	17 1/4"		5 3/4"
16	32"	20 3/8"		6 1/4"
18	40"	23 9/16"		7 1/2"
20	40"	26 3/8"		10 1/4"
24	40"	33"		7"

*INLET IS OFF–CENTER OF CASING "B" DIMENSION ±1/4"



CONSTRUCTION NOTES:

1. MATERIAL: Zinc coated steel; Casing –24 gauge; Air valve –16 gauge; Valve seat –20 gauge.
2. INLET COLLAR: Same size as nominal flex duct size. Unit sizes 8 and smaller have round inlets. Unit sizes 10 through 18 have oval inlets with 8" vertical dimension. Unit sizes 20 and 24 have rectangular inlets with 8" vertical dimension.
3. INSULATION: 1/2" thick dual density 4.0 P.C.F. fiberglass complying with NFPA 90–A and UL 181. All exposed edges are sealed.
4. HOT WATER COIL: Copper tubing with aluminum fins, 10 fins per inch. Supply and Return water connections: Unit sizes 4 through 14– 1 Row coil: 1/2" O.D., 2 Row Coil: 5/8" O.D.; Unit sizes 16 through 24– 1 Row Coil: 5/8" O.D., 2 Row Coil: 7/8" O.D.. Coil to be externally insulated by others if required.

NOTE: All drawings subject to change without prior notice.

~~(A) PRESSURE DEPENDENT – SERIES SD000~~ (F) PRESSURE INDEPENDENT – SERIES SD400

ENVIRONMENTAL TECHNOLOGIES, A CORPORATION

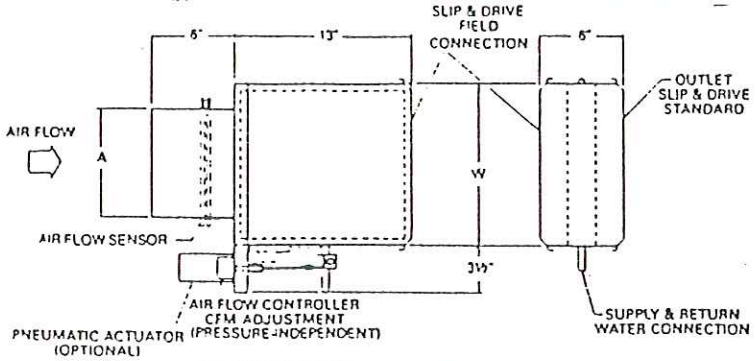
MODEL SSD–WC–II

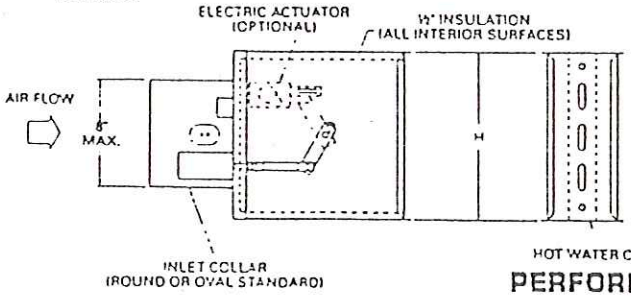
PNEUMATIC CONTROLS

DRAWN BY:	D ADAMS	DATE:	16 APR 84
REV NO:	07	REV DATE:	01 SEP 88
APPROVED BY:		DRAWING NO:	10366

AA+F CHICAGO

ENVIRO-TEC™ SUBMITTAL DATA





DIMENSIONS

Unit Size	W Dim.	A Dim.	H Dim.
4	12"	4"	10"
5	12"	5"	10"
6	12"	6"	10"
8	12"	8"	10"
* 10	18"	11"	10"
* 12	22"	14⅛"	12½"
* 14	26"	17¼"	12½"
* 16	32"	20⅜"	12½"
* 18	40"	23⅝"	12½"
** 20	40"	26⅞"	12½"
** 24	40"	33"	12½"

*oval inlet
**rectangular inlet

PERFORMANCE DATA

Model SSD-WC-II

Terminal Size	CFM	Min. △Pt	Room Noise Criterion (NC) Min. △Ps		Min. △Ps + 0.75"		Min. △Ps + 1.5"		Min. △Ps + 3.0"	
			Disch.	Rad.	Disch.	Rad.	Disch.	Rad.	Disch.	Rad.
4	100	11	—	—	20	—	27	—	33	—
	150	24	—	—	24	—	33	—	36	—
	200	39	—	—	33	—	39	21	42	27
5	175	11	—	—	—	—	32	—	37	—
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6	250	11	—	—	—	—	31	—	35	20
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	2400	19	20	—	31	20	37	24	43	31
	3200	33	28	—	36	26	39	28	45	34
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	3800	34	34	—	37	27	42	33	49	37
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	3450	17	23	—	33	20	39	26	43	31
	4600	29	29	—	35	25	42	31	46	34
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	5800	25	34	21	37	30	44	35	48	39

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△Pt is the total pressure difference between the terminal inlet and discharge. This does not include pressure requirement of hot water coil. Refer to coil tables to obtain this value which must be added to min. △Pt above for total pressure drop across the assembly. This value does not include pressure losses downstream of the terminal unit.
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Radiated NC levels are based on 10 dB room absorption and ceiling sound transmission class 35-39.

Blank space (—) indicates NC level less than 20

ENVIRONMENTAL TECHNOLOGIES, A CORPORATION

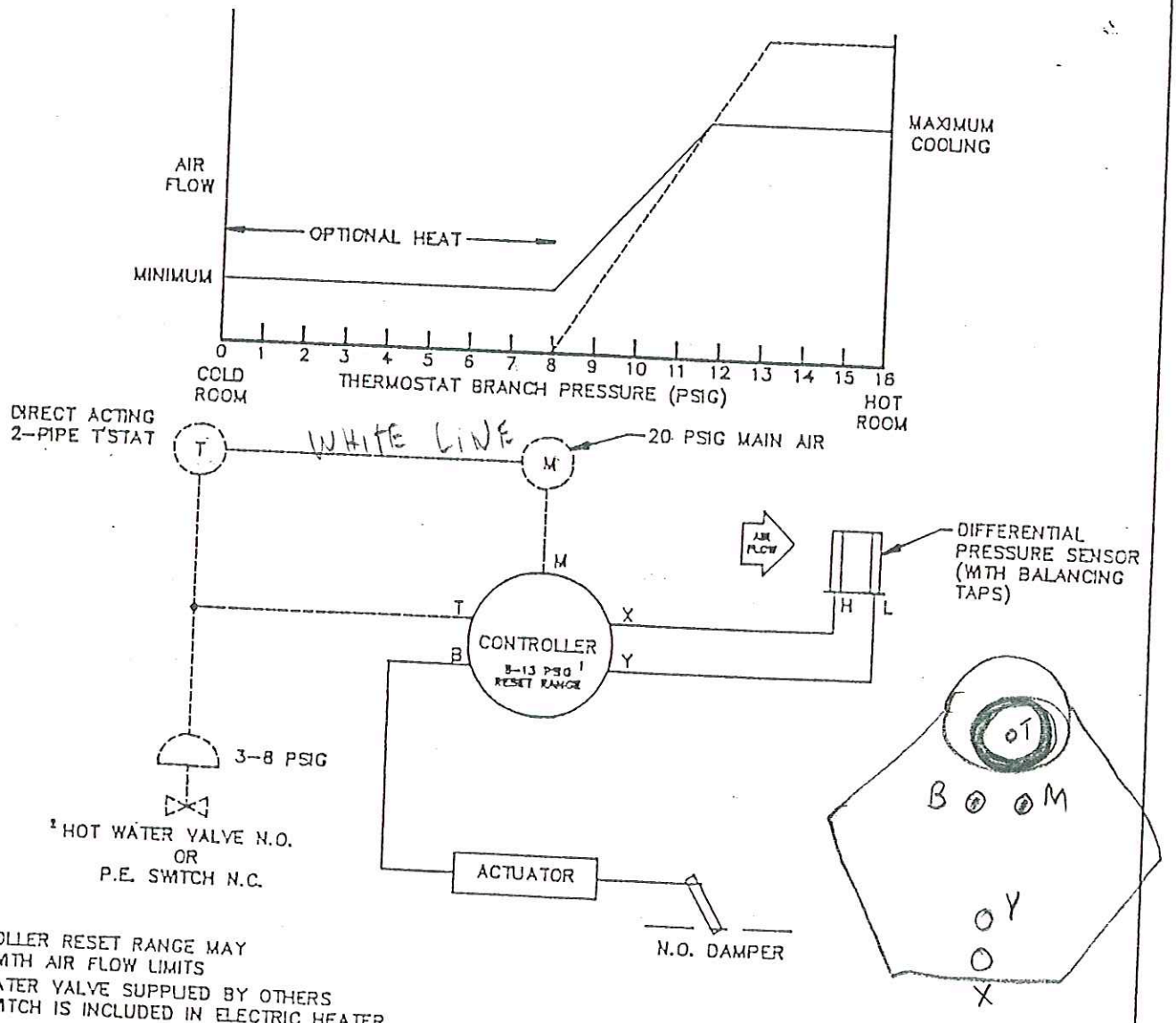
MODEL SSD-WC-II

PERFORMANCE DATA

Drawn by Nancy	Date 21 APR 87
Revision No 00	Revision Date
Approved by R.W.	Drawing No 11479

ENVIRO–TEC™ SUBMITTAL DATA

A direct acting, two–pipe thermostat is required. Damper is normally open. Optional reheat control will require a normally open hot water valve or a normally closed P.E. switch. On a rise in space temperature, air flow is increased. On a drop in space temperature, air flow is decreased. Maximum and minimum CFM set points are field adjustable. Control of supply air to room is between these set points. If the space temperature continues to drop at minimum air flow, the thermostat will energize an optional electric heater or hot water coil valve to provide reheat.



[1] CONTROLLER RESET RANGE MAY VARY WITH AIR FLOW LIMITS
[2] HOT WATER VALVE SUPPLIED BY OTHERS
P.E. SWITCH IS INCLUDED IN ELECTRIC HEATER

——— FACTORY PIPING - - - - - FIELD PIPING

PNEUMATIC AIR CONSUMPTION 0.0083 SCFM

ENVIRONMENTAL TECHNOLOGIES, A CORPORATION

SD408	PRESSURE INDEPENDENT	DRAWN BY: D ADAMS	DATE: 26 APR 83
	PNEUMATIC CONTROLS	REV NO: 03	REV DATE: 06 NOV 86
		APPROVED BY:	DRAWING NO: 10066

ENVIRO-GRAM NO: 74-052484

SUBJECT: R77 RESET VOLUME CONTROLLER DATE: 05/24/84

I. CALIBRATION PROCEDURE FOR R77 VELOCITY CONTROLLER

A. Direct Acting (Beige Unit)
1. Adjust the thermostat input to the controller to 0 PSIG.
2. Turn the center knob (LO) until the desired low velocity pressure or "CFM" is indicated on a suitable gauge; clockwise increases velocity.
3. Adjust the thermostat input to 15 PSIG or greater.
4. Turn the outer knob (HI) until the desired high velocity pressure of "CFM" is indicated; clockwise increases velocity.

B. Reverse Acting (Grey Unit)
1. Adjust the thermostat input to the controller to 0 PSIG.
2. Turn the center knob (HI) until the desired high velocity pressure or "CFM" is indicated on a suitable gauge; counter-clockwise increases velocity.
3. Adjust the thermostat input to 15 PSIG or greater.
4. Turn the outer knob (LO) until the desired low velocity pressure or "CFM" is indicated; counter-clockwise increases velocity.

II. CALIBRATION PROCEDURE FOR R77 VELOCITY CONTROLLER WHEN LOW FLOW LIMIT IS ZERO

A. Direct Acting (Beige Unit)
1. Adjust the thermostat input to the controller to 0 PSIG.
2. Adjust the low flow from any setting toward zero. When the flow gets to zero, the branch output will begin to rise quickly toward 20 PSIG or line pressure. When branch reaches 18 PSIG, note the position of the low adjustment knob and rotate it counter-clockwise one-half turn which will insure a hard close-off without detracting from the reset band.
3. Adjust the thermostat input to 15 PSIG or greater.
4. Adjust the high flow limit as in the normal procedure.

B. Reverse Acting (Grey Unit)
1. Adjust the thermostat input to the controller to 0 PSIG.
2. Adjust the high flow limit as in the normal calibration procedure.
3. Adjust the thermostat input to 13 PSIG or greater.
4. Adjust the low flow from any setting toward zero. When the flow gets to zero, the branch output will drop off quickly towards 0 PSIG. Note the position of the low flow adjustment knob at 2 PSIG and rotate it one-half turn clock-wise to insure a hard close-off without detracting from the reset band.

COMPLETE BALANCING SERVICES, INC.
983 W. Wise Road - 2nd. Flr. Schaumburg, IL 60193
(312) 351-3113

VENTILATION TEST REPORT - (CONT)

JOB NAME:_____ PAGE:___of___

SYSTEM:_____ DATE:_____

AREA SERVED	OPENING NO.	OPENING SIZE	K FACTOR	REQUIRED VEL	REQUIRED CFM	PERCENTAGE of REQUIREMENT		ACTUAL VEL	ACTUAL CFM