FORM 130.12-EG1 (1101)

YORK®

500-YH SINGLE DUCT AIR TERMINAL UNIT

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ARI CERTIFIED AIR TERMINALS

YORK Series 500-YH Single Duct Air Terminals have been tested by the Air-Conditioning and Refrigeration Institute (ARI 500-YH) and have been found qualified to bear the certification mark of this independent testing agency.

ARI Certification testing is conducted in accordance with Industry Standard 880 which ensures that the performance data published in this catalog have been independently tested and found to be accurate and repeatable. Accessories which can be attached to the Series 500-YH Air Terminals are not a part of the ARI certification program but ratings can be affected by their use.

Additional information on these testing programs can be obtained from your local YORK representative.

At YORK, we continually work to improve our products. Product descriptions, dimensions, and performance are subject to change without notice. For the most current available literature visit our web page at www.york.com. Contact your local YORK representative to verify product or performance details.

General Description

Series 500-YH Air Terminals are designed to regulate the flow of conditioned air in single duct air distribution systems. They are available with a wide range of standard control sequences and work equally well in Constant Volume and Variable Volume Systems. **Series 500-YH Air Terminals** can be specified with Hot Water Coils, Electric Heat, Sound Attenuators, Multiple Outlet Plenums, and other optional accessories. **Series 500-YH Air Terminals** feature a low leakage single blade damper. The YH series is available with pneumatic, electric, analog electronic, and DDC (by others) factory-mounted controls. YH Air Terminals are available for both system pressure independent and system pressure dependent applications. Series 500-YH Air Terminals are recommended for use in duct systems with static pressures up to 3" water gauge.

BASIC AIR TERMINAL

The basic 500-YH Air Terminal is supplied with a round inlet collar on unit sizes 6-16 and rectangular inlets on sizes 20 and 24. Outlets are rectangular with slip and drive connections. Units include an external 20-gauge control mounting panel. Optional control panel covers are available. All downstream accessories are attached to the basic terminal using slip and drive connections. Unless otherwise specified, accessories (except for Multiple Outlet Plenums) are shipped factory attached and have standard slip and drive inlet and outlet connections.

AVAILABLE OPTIONS AND ACCESSORIES

Air Terminal with Hot Water Coil

Series 500-YH Air Terminals may be specified with one, two, three or four row Hot Water Coils.

Air Terminal with Electric Heat

Series 500-YH Air Terminals may be specified with a wide range of U.L.® listed Electric Heaters.

Air Terminal with Sound Attenuator

Series 500-YH Air Terminals may be specified with a Sound Attenuator for applications which require exceptionally low sound levels.

AIR TERMINAL WITH MULTIPLE OUTLET PLENUM

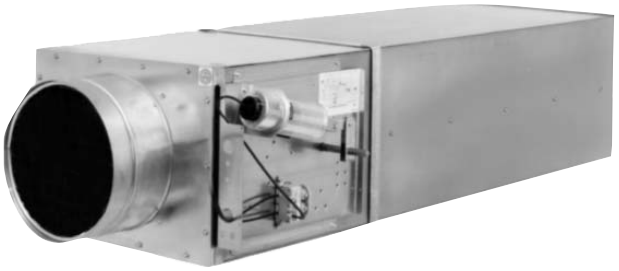
Series 500-YH Air Terminals may be specified with a Multiple Outlet Plenum for attachment directly downstream of the basic air terminal. A variety of outlet configurations is available.

Air Terminal with Multiple Accessories

It is possible to specify multiple accessories for a single 500-YH Air Terminal (for instance, a 500-YH with Electric Heat and a Sound Attenuator). Only one accessory is shipped attached to the Air Terminal. Other accessories for the same air terminal are shipped separately.

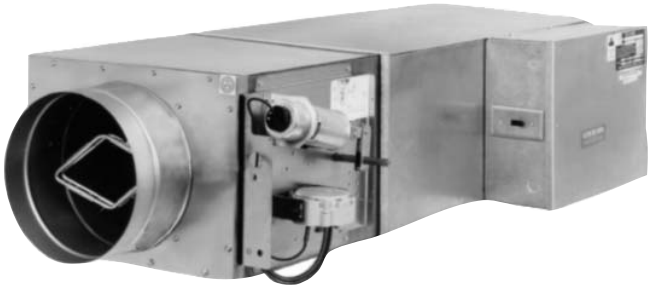
Series 500-YH with Pneumatic Controls and Sound Attenuator

The Series 500-YH Air Terminals may be specified with a Sound Attenuator for applications which require exceptionally low sound levels.



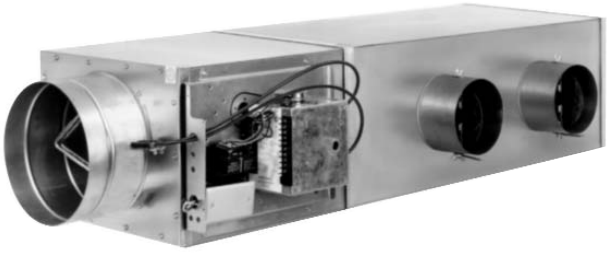
Series 500-YH with Pneumatic Controls and Electric Heat

Series 500-YH Air Terminals may be specified with a wide range of E.T.L.® listed Electric Heaters. Heater control components are enclosed in an externally mounted control cabinet.



Series 500-YH with DDC Direct Digital Controls and Multiple Outlet Plenum

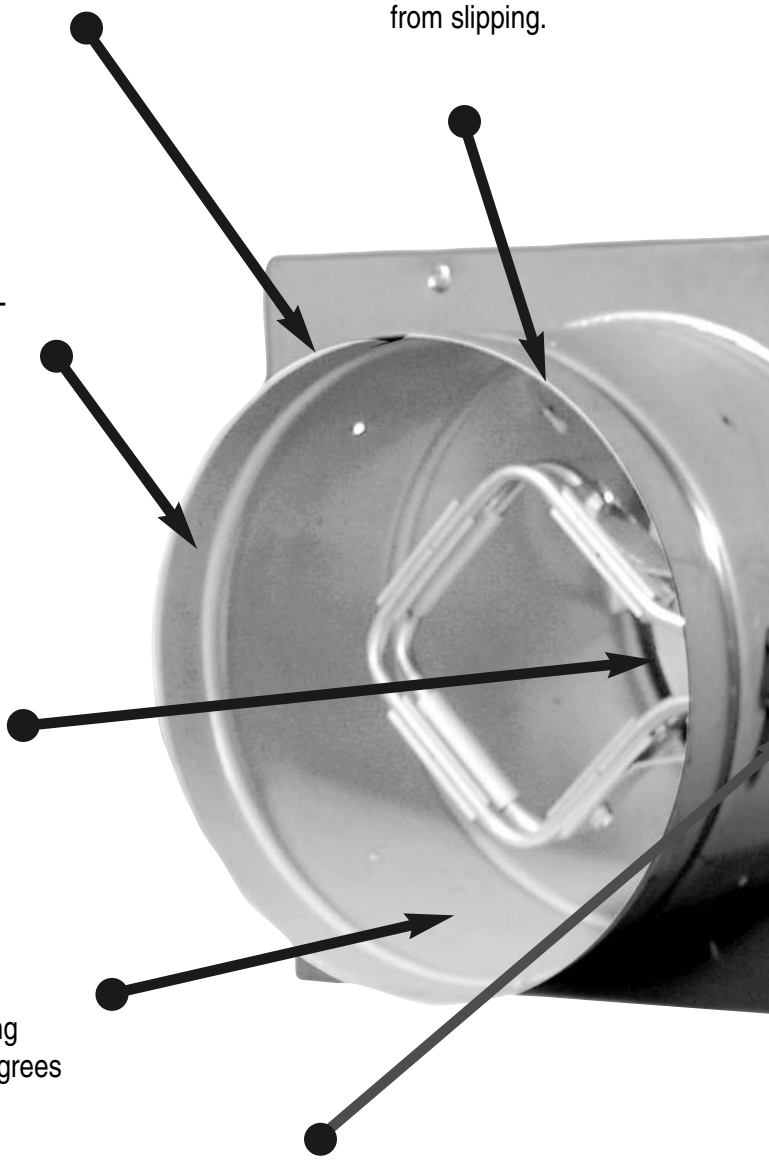
Series 500-YH Air Terminals may be specified with a Multiple Outlet Plenum for attachment directly downstream of the basic air terminal.
A variety of outlet configurations is available.



Series 500-YH Features

For
set-up and balancing purposes,
all units are shipped with a convenient
balancing chart located on the outside of the terminal for conversion from velocity pressure to CFM.

The
inlet tube for the
500-YH includes a bead
that strengthens
the tube and serves as a stop
to keep attached flex duct
from slipping.



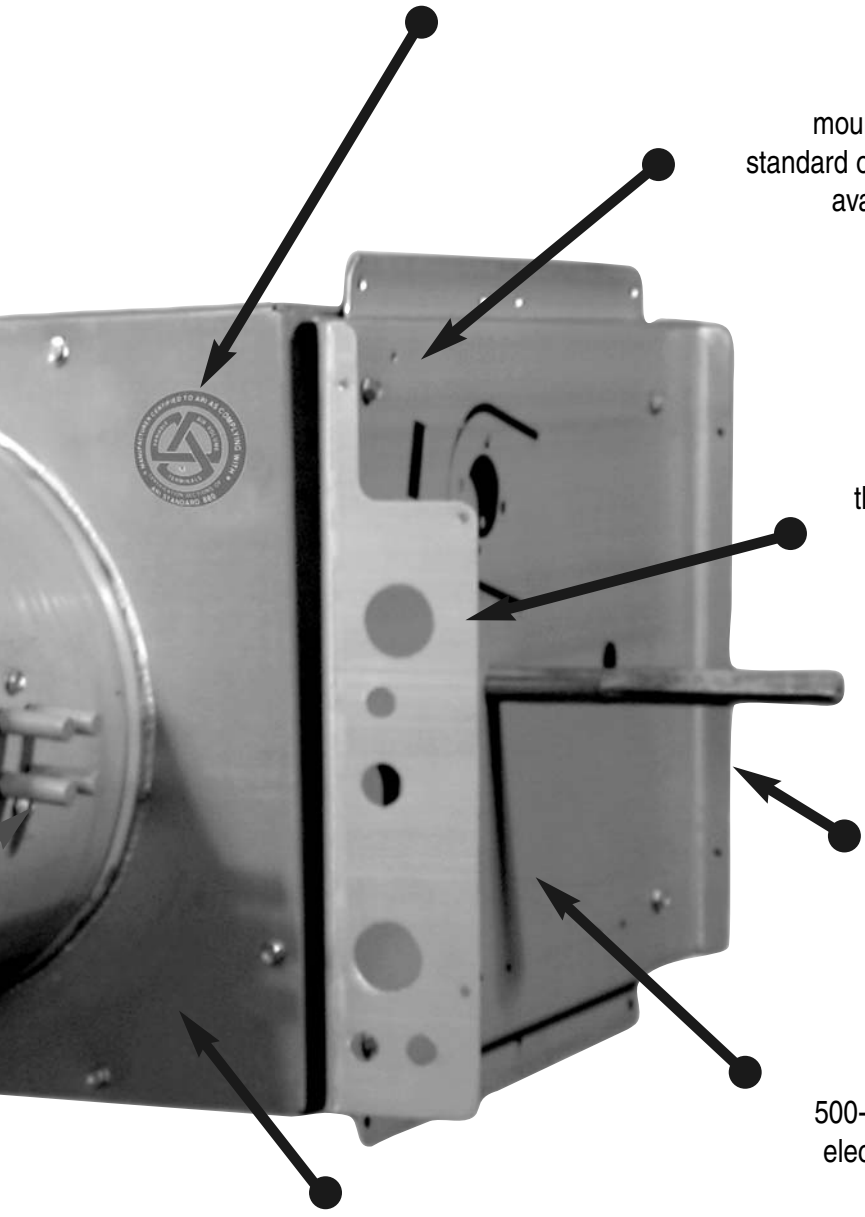
Units
size 6 through 16 are constructed with a
seamless butt weld to minimize leakage and prevent the damper from binding.

The
500-YH damper gasket has slits
around the perimeter to prevent a low
frequency vibration and corresponding noise at
near shut-off.

The
inlet tube is free of obstructions, including
stops, allowing the damper to rotate 360 degrees
within the inlet tube.

All
units are shipped with easy access
balancing taps. The extra ports can be used to
read CFM (through velocity pressure) directly
at the unit.

All
500-YH terminal units are ARI
shipped with the ARI seal.



Control
mounting plate is shipped
standard on all units. Control cover is
available as an option.

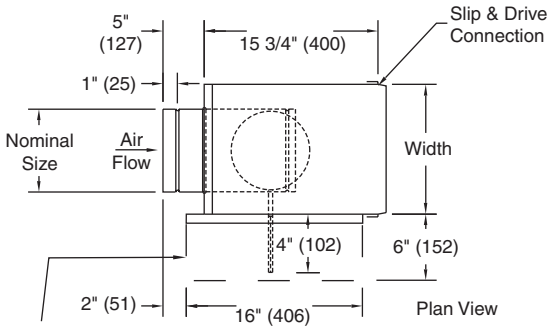
For
long life and continuous oper-
ation,
the damper rotates in a self-lubricating
Kepital® (acetal resin) bearing.

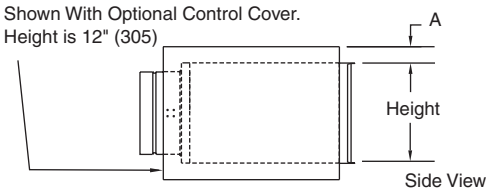
YORK factory mounts controls
by others. This program ships
each terminal unit with the required
control and power wiring diagrams.

500-YH is available with pneumatic
electric, analog or digital controls.

Standard
insulation is dual density glass fiber.
Optional liners are available
including Thermopure (closed cell foam), foil
face, and metal liner.

Dimensions – Series 500-YH



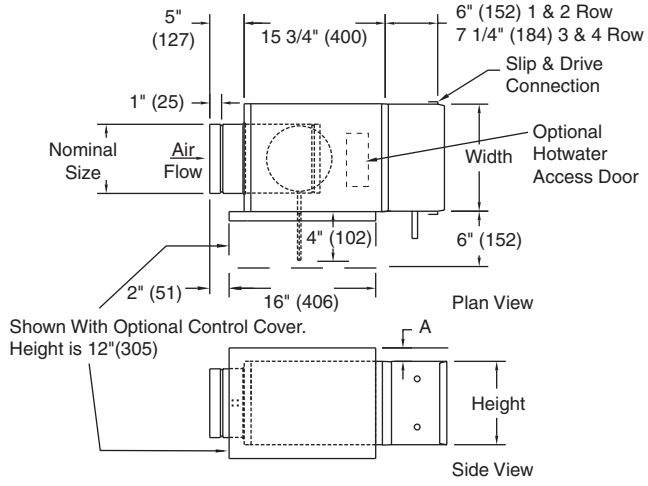


BASIC AIR TERMINAL

Model	Nominal Size in (mm)	Height in (mm)	Width in (mm)	Dim "A" in. (mm)	Weight lbs (kg)
506-YH	6" Dia (152)	8" (203)	12 (305)	2.00 (51)	12 (5.4)
508-YH	**8" Dia (203)**	**10" (254)**	**12 (305)**	**1.00 (25)**	**15 (6.8)**
510-YH	10" Dia (254)	12 1/2" (325)	14 (356)	-	18 (8.2)
512-YH	**12" Dia (305)**	**15" (381)**	**16 (406)**	**-**	**22 (9.9)**
514-YH	14" Dia (356)	17 1/2" (445)	20 (508)	-	24 (10.9)
516-YH	**16" Dia (406)**	**18" (457)**	**24 (610)**	**-**	**29 (13.2)**

Note: Dimensions are in Inches (mm)

Note: Weight data is based on a standard 500-YH with no options or accessories

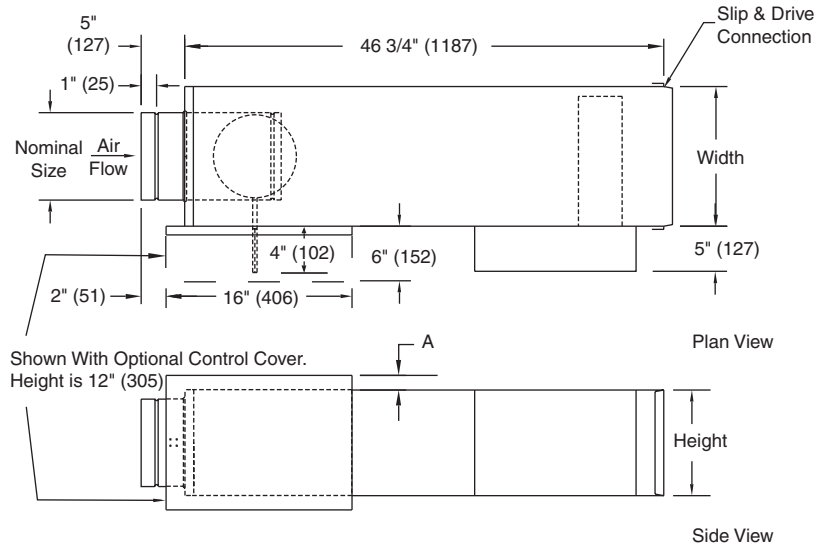


AIR TERMINAL WITH HOT WATER COIL

	Unit Weight with 1R HW Coil		2R		3R		4R	
506-YH	16.7	(7.6)	17.7	(8)	21.2	(9.6)	22.5	(10.2)
508-YH	20	(9.1)	21.6	(9.8)	26	(11.8)	27.7	(12.6)
510-YH	24.3	(11)	26.6	(12)	32.4	(14.7)	24.8	(15.8)
512-YH	31	(14.1)	34.3	(15.6)	40.1	(18.2)	43.4	(19.7)
514-YH	34.1	(15.5)	38.9	(12.6)	48	(21.8)	52.8	(24)
516-YH	42.3	(19.2)	48.0	(21.8)	53.7	(24.3)	59.4	(26.9)

lb (kg) *Dry Weight

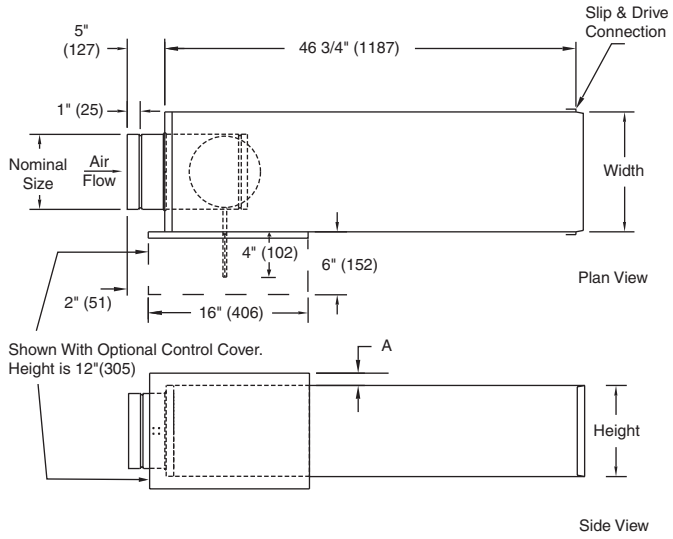
For Hot Water inlet Tube Dimensions see Page 40



AIR TERMINAL WITH ELECTRIC HEAT

	Unit Weight with Electric Heat
506-YH	38 (17)
508-YH	43 (20)
510-YH	50 (23)
512-YH	59 (27)
514-YH	67 (30)
516-YH	77 (35)

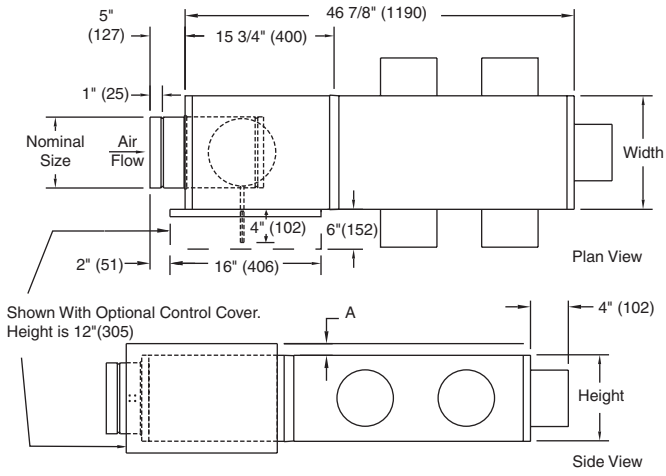
lb (kg)



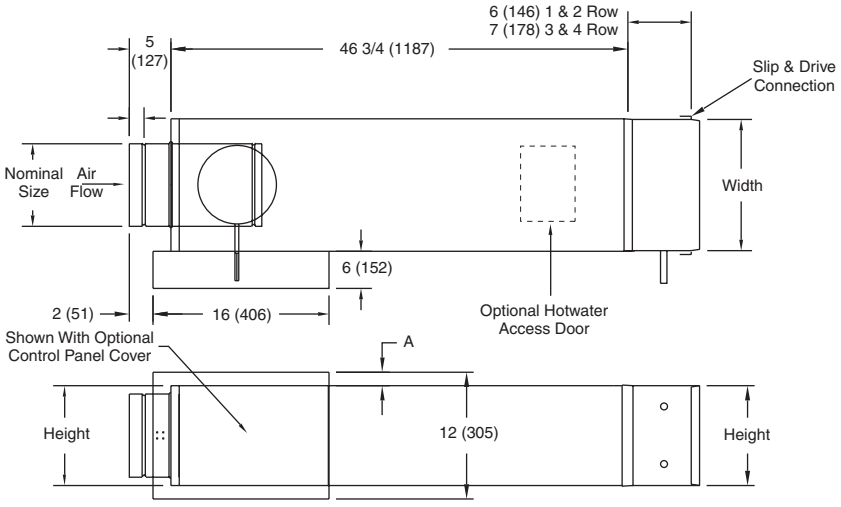
	Unit Weight
506YH	24 (11)
508YH	28 (13)
510YH	34 (15)
512YH	41 (19)
514YH	47 (21)
516YH	54 (25)

lb (kg)

AIR TERMINAL WITH SOUND ATTENUATOR



AIR TERMINAL WITH MULTIPLE OUTLET PLENUM



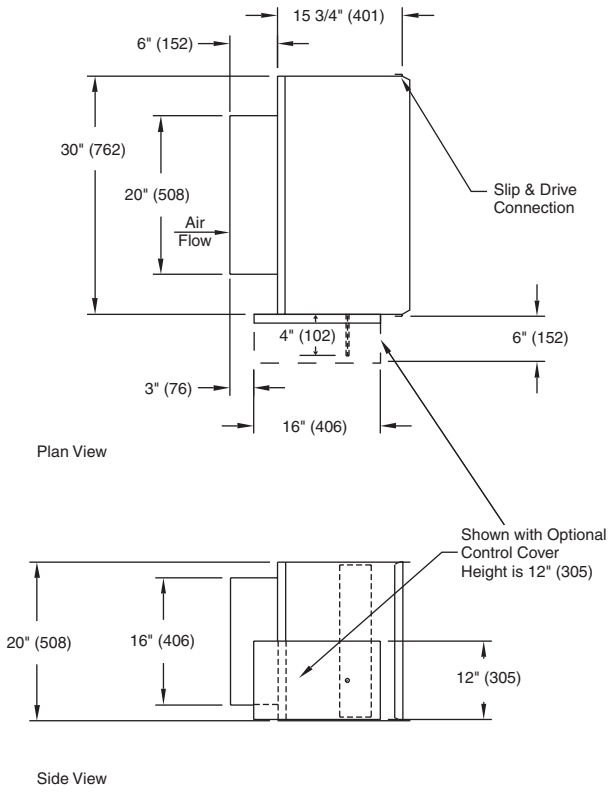
Unit Weight with	1R HW Coil	2R	3R	4R
506YH	29 (13)	30 (14)	33 (15)	35 (16)
508YH	33 (15)	35 (16)	39 (18)	41 (19)
510YH	40 (18)	43 (20)	48 (22)	51 (23)
512YH	50 (23)	53 (24)	59 (27)	62 (28)
514YH	57 (26)	62 (28)	71 (32)	78 (28)
516YH	67 (30)	73 (33)	79 (36)	84 (38)

lb(kg) *Dry Weight

For Hot Water Inlet
Tube Dimensions see Page 40

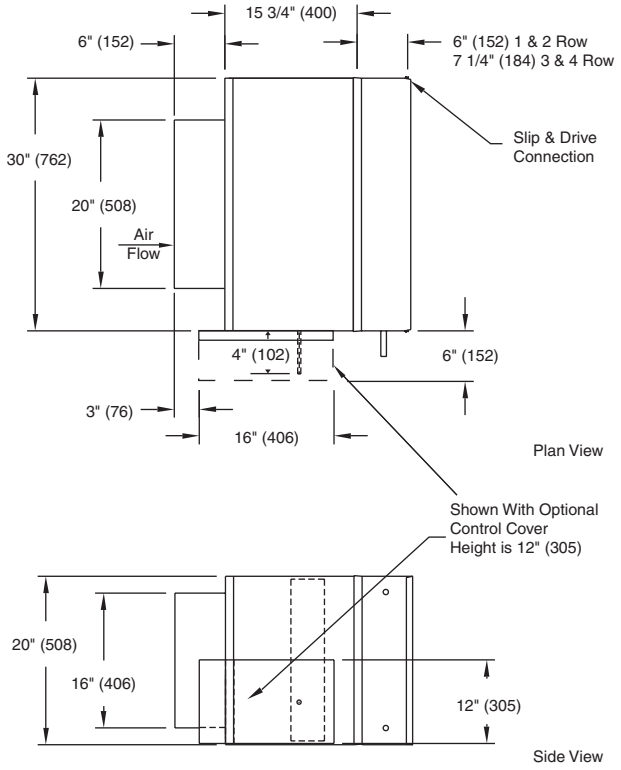
AIR TERMINAL WITH SOUND ATTENUATOR AND HOT WATER COIL

Dimensions – Series 520-YH



BASIC AIR TERMINAL

Basic unit weight 47lb (21.4kg)

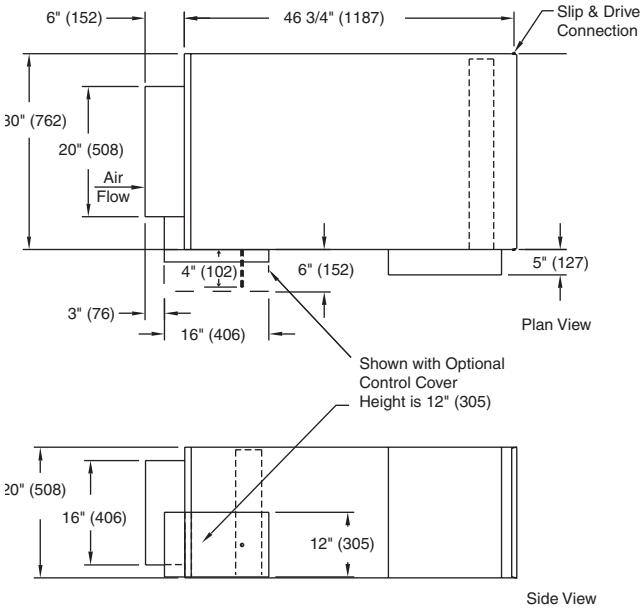


BASIC AIR TERMINAL WITH HOT WATER COIL

Unit Weight with 1R HW Coil	2R	3R	4R
64.1 (29)	72.2 (32.7)	78.3(35.5)	85.7(38.9)

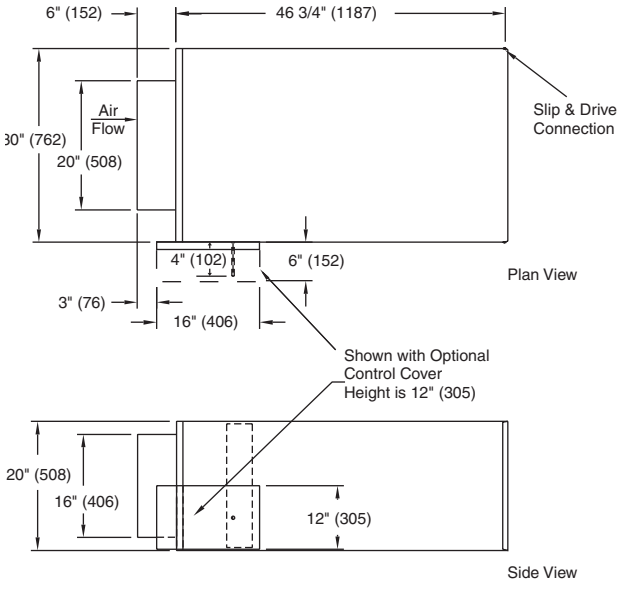
Dry Weight lb(kg)

For Hot Water Inlet Tube Dimensions see Page 40



Unit Weight* 103 lb (47 kg)
*weight for minimal kW electric heater.
Higher kW capacity heaters may weigh more.

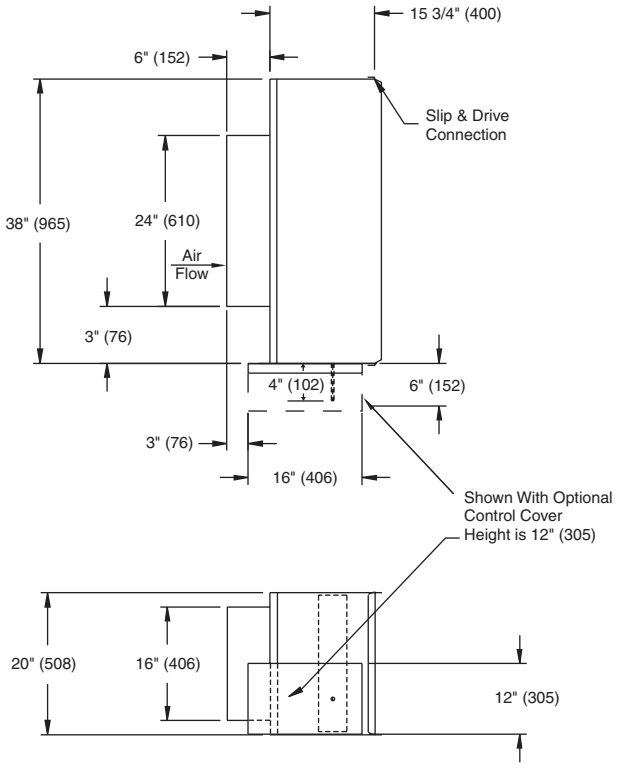
AIR TERMINAL WITH ELECTRIC HEAT



Unit Weight 77lb (35) kg

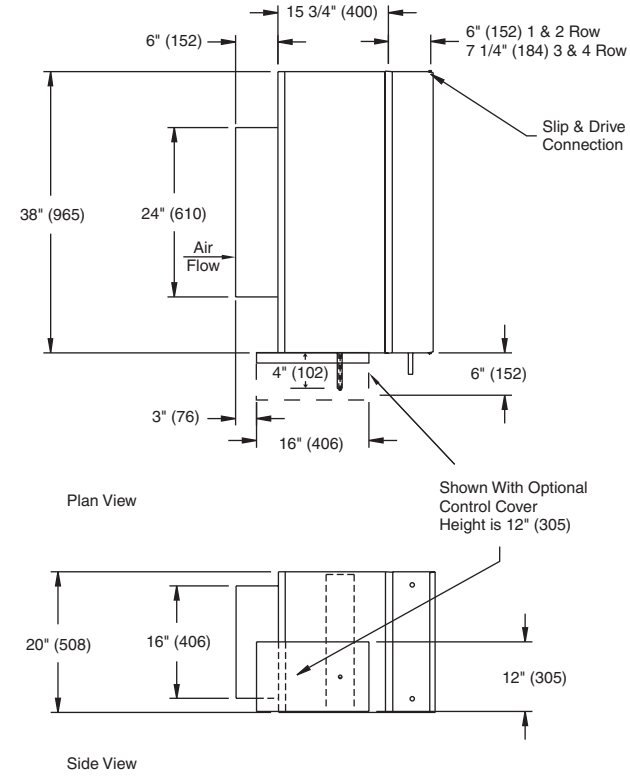
AIR TERMINAL WITH SOUND ATTENUATOR

Dimensions – Series 524-YH



BASIC AIR TERMINAL

Basic unit weight 58lb (26.3kg)

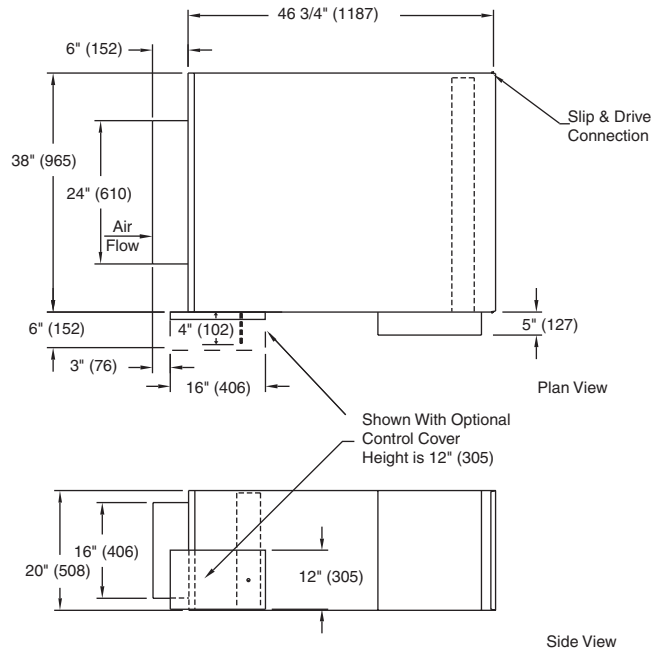


AIR TERMINAL WITH HOT WATER COIL

Unit Weight with 1R HW Coil	2R	3R	4R
78.5(35.6)	88.6(40.2)	98.7(44.8)	108.8(49.4)

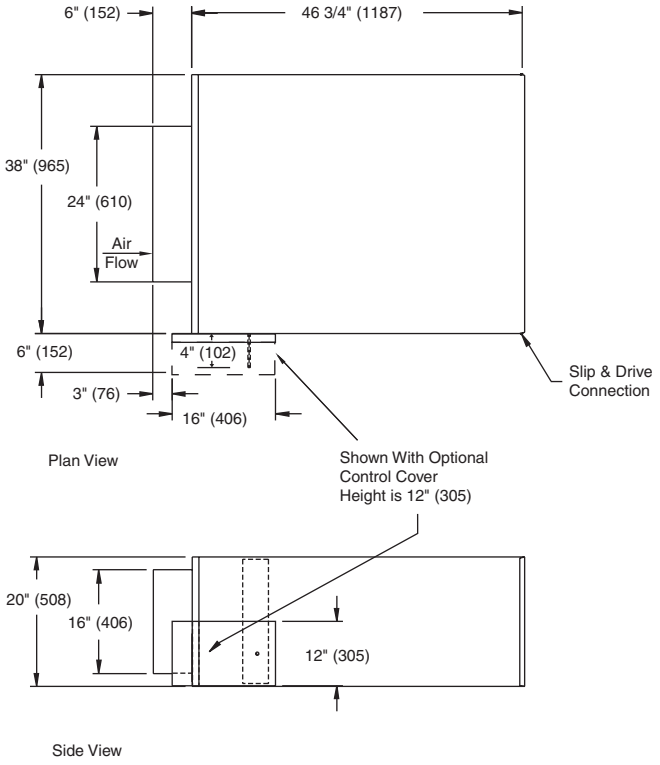
Dry Weight lb(kg)

For Hot Water Inlet Tube Dimensions see Page 40



Unit Weight* 122 lb (55 kg)
*weight for minimal kW electric heater.
Higher kW capacity heaters may weigh more.

AIR TERMINAL WITH ELECTRIC HEAT



Unit Weight 93 lb (42 kg)

AIR TERMINAL WITH SOUND ATTENUATOR

Series 500-YH ARI Rating Points

Radiated (dB)

		Unit Size	6	8	10	12	14	16	20	24
		CFM	400	700	1100	1600	2100	2800	4400	5300
Octave Bands	**2**	**(125 Hz)**	**57**	**62**	**66**	**64**	**63**	**64**	**70**	**76**
(Hertz Center	3	(250 Hz)	53	59	59	59	58	64	66	71
Band Frequency)	**4**	**(500 Hz)**	**47**	**49**	**51**	**55**	**49**	**58**	**64**	**70**
at 1.5	5	(1000 Hz)	40	43	46	48	44	51	61	65
Inches of Water	**6**	**(2000 Hz)**	**37**	**37**	**41**	**43**	**42**	**48**	**54**	**59**
Static Pressure.	7	(4000 Hz)	33	32	34	37	39	45	47	53

Discharge (dB)

		Unit Size	6	8	10	12	14	16	20	24
		CFM	400	700	1100	1600	2100	2800	4400	5300
Octave Bands	**2**	**(125 Hz)**	**65**	**66**	**69**	**68**	**71**	**73**	**79**	**86**
(Hertz Center	3	(250 Hz)	66	67	70	70	72	74	82	83
Band Frequency)	**4**	**(500 Hz)**	**61**	**61**	**63**	**68**	**67**	**73**	**81**	**83**
at 1.5	5	(1000 Hz)	57	59	61	61	65	66	76	78
Inches of Water	**6**	**(2000 Hz)**	**52**	**55**	**55**	**57**	**62**	**61**	**73**	**74**
Static Pressure.	7	(4000 Hz)	49	50	52	54	58	56	68	70

STATEMENT OF
STANDARD TEST
CONFORMITY

YORK tests all 500-YH air terminal units for engineering performance in accordance with the following standards: American National Standards Institute (ANSI) / American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) / International Organization for Standardization (ISO) / Air-Conditioning & Refrigeration Institute (ARI).

- ARI Standard 880-98 Standard for Air Terminals
- ANSI/ASHRAE 130-1996 Methods of Testing for Rating Ducted Air Terminal Units
- ASHRAE Standard 41.1-1986 (RA 91) Standard Method for Temperature Measurement
- ASHRAE Standard 41.2-1987 Standard Methods for Laboratory Air Measurements
- ASHRAE Standard 41.3-1989 Standard Methods for Pressure Measurement
- ISO 5219-1984 Air distribution and air diffusion - Laboratory aerodynamic testing and rating of air terminal devices.

Leakage Rates

Inlet Size	Damper Leakage, CFM		
	1.5" DPs	3.0" DPs	6.0" DPs
6	3	4	7
8	2	4	7
10	4	5	7
12	4	5	7
14	4	6	8
16	4	6	8

Inlet Size	Casing Leakage, CFM			
	.25" DPs	.5" DPs	1.0" DPs	1.5" DPs
6	2	3	4	5
8	2	3	5	6
10	3	4	6	8
12	3	5	7	9
14	4	6	9	11
16	5	7	10	12

Minimum Static Pressure Requirements

SERIES 500-YH

Imperial Units

SIZE	INLET CFM	MIN AIRFLOW (CFM)* Cooling Only [or Cooling with Hot Water Reheat]	ELECTRIC HEAT†† kW @ 55F EAT @ 75F LAT	ELECTRIC HEAT†† kW @ 55F EAT @ 85F LAT	ELECTRIC HEAT†† kW @ 55F EAT @ 95F LAT	Hot Water Coil: MINIMUM INLET STATIC PRESSURE (Unit and Heat Pressure Drop) (Inches of water)						Electric Heat
						Velocity Pressure D Vps	Basic Unit D Ps	Basic + 1 R HW Coil D Ps	Basic + 2 R HW Coil D Ps	Basic + 3 R HW Coil D Ps	Basic + 4 R HW Coil D Ps	Basic + Electric Heat D Ps
6	75	110 or [0]	n/a	n/a	n/a	0.01	0.00	0.01	0.02	0.02	0.02	0.00
	125		1	1	2	0.03	0.01	0.03	0.05	0.06	0.08	0.01
	200		1	2	3	0.06	0.03	0.06	0.11	0.15	0.19	0.03
	250		2	2	3	0.10	0.04	0.09	0.16	0.22	0.28	0.04
	300		2	3	4	0.15	0.06	0.13	0.22	0.30	0.38	0.06
	350		2	3	†	0.20	0.08	0.18	0.29	0.39	0.49	0.08
	400		3	4	†	0.26	0.10	0.22	0.36	0.49	0.62	0.10
	450		3	†	†	0.33	0.13	0.28	0.45	0.60	0.76	0.13
	500		3	†	†	0.41	0.16	0.34	0.54	0.72	0.91	0.16
	600		4	†	†	0.58	0.23	0.47	0.74	0.99	1.25	0.23
8	100	200 or [0]	n/a	n/a	n/a	0.01	0.00	0.00	0.00	0.00	0.01	0.00
	200		1	2	3	0.02	0.01	0.02	0.05	0.07	0.10	0.01
	300		2	3	4	0.05	0.02	0.06	0.12	0.17	0.22	0.02
	400		3	4	5	0.08	0.03	0.10	0.19	0.28	0.35	0.03
	500		3	5	6	0.13	0.05	0.16	0.29	0.40	0.52	0.05
	600		4	6	8	0.18	0.07	0.22	0.39	0.55	0.70	0.07
	700		4	7	9	0.25	0.10	0.29	0.51	0.72	0.91	0.10
	800		5	8	10	0.33	0.13	0.37	0.64	0.90	1.15	0.13
	900		6	9	11	0.41	0.16	0.46	0.78	1.10	1.41	0.16
	1000		6	9	13	0.51	0.20	0.56	0.94	1.32	1.70	0.20
10	400	300 or [0]	3	4	5	0.03	0.01	0.05	0.10	0.14	0.18	0.01
	600		4	6	8	0.08	0.03	0.11	0.20	0.28	0.37	0.03
	800		5	8	10	0.13	0.05	0.18	0.33	0.46	0.60	0.05
	1000		6	9	13	0.21	0.08	0.27	0.48	0.67	0.87	0.08
	1100		7	10	14	0.25	0.10	0.32	0.56	0.79	1.02	0.10
	1200		8	11	15	0.30	0.12	0.37	0.65	0.92	1.19	0.12
	1300		8	12	16	0.35	0.14	0.43	0.75	1.06	1.36	0.14
	1400		9	13	18	0.41	0.16	0.49	0.86	1.20	1.55	0.16
	1500		9	14	19	0.47	0.19	0.56	0.97	1.35	1.75	0.19
	1600		10	15	20	0.54	0.21	0.63	1.08	1.52	1.96	0.21
12	400	400 or [0]	3	4	5	0.02	0.01	0.02	0.04	0.07	0.08	0.01
	600		4	6	8	0.04	0.01	0.06	0.11	0.16	0.20	0.01
	800		5	8	10	0.06	0.03	0.10	0.18	0.27	0.34	0.03
	1000		6	9	13	0.10	0.04	0.15	0.27	0.39	0.51	0.04
	1200		8	11	15	0.15	0.06	0.21	0.37	0.53	0.69	0.06
	1400		9	13	18	0.20	0.08	0.27	0.49	0.69	0.90	0.08
	1600		10	15	20	0.26	0.10	0.35	0.61	0.87	1.13	0.10
	1800		11	17	23	0.33	0.13	0.43	0.75	1.06	1.38	0.13
	2000		13	19	†	0.40	0.16	0.52	0.90	1.27	1.65	0.16
	2200		14	21	†	0.49	0.19	0.62	1.06	1.50	1.94	0.19

For Performance Notes see Page 17

Minimum Static Pressure Requirements

SERIES 500-YH

Imperial Units

SIZE	INLET CFM	MIN AIRFLOW (CFM)* Cooling Only [or Cooling with Hot Water Reheat]	ELECTRIC HEAT†† kW @ 55F EAT @ 75F LAT	ELECTRIC HEAT†† kW @ 55F EAT @ 85F LAT	ELECTRIC HEAT†† kW @ 55F EAT @ 95F LAT	Hot Water Coil: MINIMUM INLET STATIC PRESSURE (Unit and Heat Pressure Drop) (Inches of water)						Electric Heat
						Velocity Pressure D Vps	Basic Unit D Ps	Basic + 1 R HW Coil D Ps	Basic + 2 R HW Coil D Ps	Basic + 3 R HW Coil D Ps	Basic + 4 R HW Coil D Ps	Basic + Electric Heat D Ps
14	1000	600 or [0]	6	9	13	0.05	0.02	0.08	0.14	0.21	0.27	0.02
	1300		8	12	16	0.09	0.04	0.13	0.23	0.33	0.43	0.04
	1600		10	15	20	0.14	0.06	0.19	0.33	0.47	0.61	0.06
	2000		13	19	†	0.22	0.09	0.28	0.48	0.69	0.89	0.09
	2200		14	21	†	0.26	0.10	0.33	0.57	0.81	1.04	0.10
	2400		15	23	†	0.31	0.12	0.38	0.66	0.94	1.20	0.12
	2600		16	†	†	0.37	0.15	0.44	0.76	1.07	1.37	0.15
	2800		18	†	†	0.43	0.17	0.50	0.86	1.22	1.56	0.17
	3100		20	†	†	0.52	0.21	0.60	1.02	1.45	1.85	0.21
	3300		21	†	†	0.59	0.24	0.67	1.14	1.61	2.05	0.24
16	1000	750 or [0]	6	9	13	0.03	0.01	0.05	0.10	0.14	0.18	0.01
	1300		8	12	16	0.05	0.02	0.09	0.16	0.23	0.30	0.02
	1600		10	15	20	0.08	0.03	0.13	0.23	0.33	0.43	0.03
	2000		13	19	25	0.13	0.05	0.19	0.34	0.49	0.63	0.05
	2300		15	22	29	0.17	0.07	0.24	0.43	0.62	0.80	0.07
	2600		16	25	33	0.22	0.09	0.30	0.54	0.76	0.99	0.09
	2800		18	27	35	0.25	0.10	0.34	0.61	0.87	1.12	0.10
	3100		20	29	†	0.31	0.12	0.41	0.73	1.03	1.33	0.12
	3500		22	33	†	0.39	0.16	0.51	0.90	1.27	1.64	0.16
	4000		25	38	†	0.51	0.20	0.65	1.13	1.60	2.07	0.20
20	1500	1200 or [0]	9	14	19	0.03	0.01	0.05	0.11	0.13	0.17	0.01
	2000		13	19	25	0.06	0.02	0.09	0.18	0.22	0.28	0.02
	2500		16	24	32	0.09	0.03	0.14	0.27	0.32	0.42	0.03
	3000		19	28	38	0.13	0.05	0.19	0.36	0.44	0.57	0.05
	3500		22	33	†	0.18	0.06	0.25	0.47	0.58	0.75	0.06
	4000		25	38	†	0.23	0.08	0.32	0.59	0.74	0.95	0.08
	4500		28	†	†	0.29	0.10	0.40	0.72	0.91	1.17	0.10
	5000		32	†	†	0.36	0.13	0.48	0.87	1.10	1.41	0.13
	5500		35	†	†	0.44	0.15	0.57	1.02	1.30	1.68	0.15
	6000		38	†	†	0.52	0.18	0.67	1.19	1.52	1.96	0.18
24	2000	1400 or [0]	13	19	25	0.03	0.01	0.06	0.12	0.15	0.23	0.01
	3000		19	28	38	0.08	0.03	0.13	0.25	0.34	0.46	0.03
	4000		25	38	†	0.14	0.06	0.22	0.40	0.57	0.75	0.06
	5000		32	†	†	0.22	0.09	0.32	0.59	0.84	1.09	0.09
	5500		35	†	†	0.26	0.10	0.38	0.69	0.99	1.28	0.10
	6000		38	†	†	0.31	0.12	0.45	0.80	1.15	1.48	0.12
	6500		†	†	†	0.37	0.15	0.52	0.92	1.31	1.70	0.15
	7000		†	†	†	0.43	0.17	0.59	1.05	1.49	1.93	0.17
	7500		†	†	†	0.49	0.20	0.67	1.18	1.68	2.17	0.20
	8000		†	†	†	0.56	0.22	0.75	1.32	1.87	2.43	0.22

For Performance Notes see Page 17

SERIES 500-YH

Metric Units

SIZE	INLET L/s	MIN AIRFLOW (L/s)* Cooling Only [or Cooling with Hot Water Reheat]	ELECTRIC HEAT†† kW @ 13 C EAT @ 24 C LAT	ELECTRIC HEAT†† kW @ 13 C EAT @ 29 C LAT	ELECTRIC HEAT†† kW @ 13 C EAT @ 35 C LAT	Hot Water Coil: MINIMUM INLET STATIC PRESSURE (Unit and Heat Pressure Drop) (kPa)						Electric Heat
						Velocity Pressure D Vps	Basic Unit D Ps	Basic + 1 R HW Coil D Ps	Basic + 2 R HW Coil D Ps	Basic + 3 R HW Coil D Ps	Basic + 4 R HW Coil D Ps	Basic + Electric Heat D Ps
6	35	50 or [0]	n/a	n/a	n/a	2	1	2	3	4	5	1
	59		1	1	2	6	3	5	8	11	14	3
	94		1	2	3	16	6	13	21	28	35	6
	118		2	2	3	25	10	21	32	44	55	10
	142		2	3	4	36	14	30	47	63	79	14
	165		2	3	†	50	20	40	64	85	107	20
	189		3	4	†	65	26	53	83	112	140	26
	212		3	†	†	82	32	67	105	141	177	32
	236		3	†	†	101	40	83	130	174	219	40
	283		4	†	†	146	58	119	187	251	315	58
8	47	95 or [0]	n/a	n/a	n/a	1	1	1	3	4	5	1
	94		1	2	3	5	2	6	10	14	18	2
	142		2	3	4	11	5	13	23	32	41	5
	189		3	4	5	20	8	23	40	56	72	8
	236		3	5	6	32	13	36	63	88	113	13
	283		4	6	8	46	18	52	90	127	163	18
	330		4	7	9	62	25	71	123	172	221	25
	378		5	8	10	82	32	93	161	225	289	32
	425		6	9	11	103	41	118	203	285	366	41
	472		6	9	13	127	51	146	251	352	452	51
10	189	140 or [0]	3	4	5	8	3	10	18	25	32	3
	283		4	6	8	19	7	23	40	56	72	7
	378		5	8	10	33	13	41	71	99	129	13
	472		6	9	13	52	21	64	111	155	201	21
	519		7	10	14	63	25	77	134	188	243	25
	566		8	11	15	75	30	92	159	224	289	30
	614		8	12	16	88	35	107	187	263	339	35
	661		9	13	18	102	41	125	217	305	394	41
	708		9	14	19	118	47	143	249	350	452	47
	755		10	15	20	134	53	163	283	398	514	53
12	189	190 or [0]	3	4	5	4	2	5	9	13	17	2
	283		4	6	8	9	4	12	21	30	38	4
	378		5	8	10	16	6	22	37	53	68	6
	472		6	9	13	25	10	34	58	82	106	10
	566		8	11	15	36	14	48	84	118	153	14
	661		9	13	18	49	20	66	114	161	208	20
	755		10	15	20	65	26	86	149	210	272	26
	849		11	17	23	82	32	109	188	266	345	32
	944		13	19	†	101	40	135	232	328	425	40
	1038		14	21	†	122	48	163	281	397	515	48

For Performance Notes see Page 17

Minimum Static Pressure Requirements

SERIES 500-YH

Metric Units

INLET SIZE	L/s	MIN AIRFLOW (L/s)* Cooling Only [or Cooling with Hot Water Reheat]	ELECTRIC HEAT†† kW @ 13 C EAT @ 24 C LAT	ELECTRIC HEAT†† kW @ 13 C EAT @ 29C LAT	ELECTRIC HEAT†† kW @ 13 C EAT @ 34 C LAT	Hot Water Coil: MINIMUM INLET STATIC PRESSURE (Unit and Heat Pressure Drop) (kPa)						Electric Heat
						Velocity Pressure D Vps	Basic Unit D Ps	Basic + 1 R HW Coil D Ps	Basic + 2 R HW Coil D Ps	Basic + 3 R HW Coil D Ps	Basic + 4 R HW Coil D Ps	Basic + Electric Heat D Ps
14	472	285 or [0]	6	9	13	14	5	17	30	43	56	5
	614		8	12	16	23	9	29	51	73	94	9
	755		10	15	20	35	14	44	77	110	142	14
	944		13	19	†	54	22	69	121	173	222	22
	1038		14	21	†	66	26	84	146	209	269	26
	1133		15	23	†	78	31	100	174	248	320	31
	1227		16	†	†	92	36	117	204	292	376	36
	1321		18	†	†	106	42	136	237	338	436	42
	1463		20	†	†	130	52	167	290	414	534	52
	1557		21	†	†	148	59	189	329	470	605	59
16	472	355 or [0]	6	9	13	8	3	11	20	28	36	3
	614		8	12	16	13	5	18	33	47	61	5
	755		10	15	20	20	8	28	50	72	93	8
	944		13	19	25	32	13	44	79	112	145	13
	1085		15	22	29	42	17	58	104	148	191	17
	1227		16	25	33	54	21	74	133	189	245	21
	1321		18	27	35	62	25	86	154	220	284	25
	1463		20	29	†	76	30	105	189	269	348	30
	1652		22	33	†	97	39	134	241	343	443	39
	1888		25	38	†	127	51	175	315	448	579	51
20	708	565 or [0]	9	14	19	8	3	12	22	27	36	3
	944		13	19	25	14	5	21	40	49	63	5
	1180		16	24	32	22	8	33	62	76	99	8
	1416		19	28	38	32	11	47	90	110	142	11
	1652		22	33	†	44	15	64	122	149	194	15
	1888		25	38	†	57	20	84	159	195	253	20
	2124		28	†	†	73	25	106	202	247	320	25
	2360		32	†	†	90	31	131	249	305	396	31
	2596		35	†	†	109	38	158	301	369	479	38
	2832		38	†	†	129	45	188	358	439	570	45
24	944	660 or [0]	13	19	25	9	3	12	22	28	36	3
	1416		19	28	38	20	8	28	50	62	81	8
	1888		25	38	†	35	14	49	88	111	143	14
	2360		32	†	†	54	22	77	138	173	224	22
	2596		35	†	†	66	26	93	167	209	271	26
	2832		38	†	†	78	31	111	199	249	322	31
	3068		†	†	†	92	37	130	233	293	378	37
	3304		†	†	†	107	42	151	271	339	439	42
	3540		†	†	†	123	49	174	311	390	504	49
	3775		†	†	†	139	55	198	354	443	573	55

For Performance Notes see Page 17

NOTES:

1. D Ps is the static pressure difference across the YH assembly, with the damper in the fully open position.
2. To obtain total pressure (Pt), add the velocity pressure (Pv) for a given CFM to the static pressure (Ps) of the desired configuration.
3. Damper leakage at shut-off is less than 1% at the maximum capacity of the air terminal at 3 inches of static pressure, for units 6 through 16.
4. It is recommended that air terminals be selected in the upper middle range of their listed capacity for maximum efficiency.
5. The lowest CFM flows shown above only imply a range; all terminals are capable of shut-off. The minimum pressure independent controlled flow is dependent on the controller specified.
6. Low flows: High gain sensors are available for flow control down to 10 CFM if desired. Warning: Most flow controllers are limited to a 5/1 flow control range.
7. Air terminals are not recommended for operation in ambient temperatures over 95°F. For protection of controls, do not store in ambient temperatures over 115° F.
8. A minimum of 0.03 inches of water is required to set the flow switch in the electric heater. Warning: Flow rates with static pressures below 0.03 inches of water will not activate the electric heater.
9. †Consult Factory
10. ††Three phase electric heat not available on 506-YH.
11. Heaters equal or less than 10 kW are specifiable to the nearest 1/2 kW. Heaters greater than 10 kW are specifiable to the nearest 1 kW.
12. Minimum flow rate for electric heat is 55 CFM / kW. Flow rates below 70 CFM / kW require derated elements Consult factory.
13. For optimum thermal comfort, the suggested discharge temperature should not exceed 20°F above room set point.
14. We do not recommend discharge temperatures in excess of 105°F to protect heater coils.

	1 Phase				3 Phase			
Size	Heater V	Min. kW	Max. kW	Max. Steps	Heater V	Min. kW	Max. kW	Max Steps
6	120 208/240 277	.5 .5 .5	4 4 4	2 2 2	Not Available			
8	120 208/240 277	.5 .5 .5	5 8 8	3 3 3	208 480	1.5 1.5	8 14	3 3
10	120 208/240 277	.5 .5 .5	5 9 12	3 3 3	208 480	1.5 1.5	13 24	3 3
12	120 208/240 277	.5 .5 .5	5 9 12	3 3 3	208 480	1.5 1.5	16 24	3 3
14	120 208/240 277	.5 .5 .5	5 9 12	3 3 3	208 480	1.5 1.5	16 24	3 3
16	120 208/240 277	.5 .5 .5	5 9 12	3 3 3	208 480	1.5 1.5	16 39	3 3
20	120 208/240 277	.5 .5 .5	5 9 12	3 3 3	208 480	1.5 1.5	16 39	3 3
24	120 208/240 277	.5 .5 .5	5 9 12	3 3 3	208 480	1.5 1.5	16 39	3 3

Electric heat selection:

A. Specify electric duct heaters using voltage, kW, and number of steps.
B. Use above chart to select voltage. Calculate required kW using following equations:

$$kW = \frac{BTU/hr}{3413} \qquad kW = \frac{CFM \times dT \times 1.085^*}{3413} \qquad dT = \frac{kW \times 3413}{CFM \times 1.085^*}$$

$$CFM = \frac{kW \times 3413}{dT \times 1.085^*} \qquad CFM = \frac{kW \times 3413}{dT \times 1.085^*}$$

* air density at sea level - reduce by 0.036 for each 1000 feet of altitude above sea level

Where:

BTU / Hr = Required heating capacity.
CFM = volume of air during heating. Typically 30% to 100% of maximum cooling air volume.
dT = desired air temperature rise across the electric heater.
Inlet air temperature = primary air temperature, usually 55°F.

Discharge Sound Power

AT MINIMUM .5", .75" WG

See Pg. 22 For NC Calculations

			Min	Min Ps								Static Pressure, PS=0.5 inches of water (125PA)								Static Pressure, PS=0.75 inches of water (187 PA)							
				Octave Band Sound Power, Lw						Room Sound		Octave Band Sound Power, Lw						Room Sound		Octave Band Sound Power, Lw						Room Sound	
Terminal	Supply Volume		Ps	2	3	4	5	6	7	Power, Lp		2	3	4	5	6	7	Power, Lp		2	3	4	5	6	7	Power, Lp	
	CFM	(L/s)	in H20 (Pa)							NC1	NC2							NC1	NC2							NC1	NC2
	100	(47)	0.006 (1.6)	58	38	24	21	17	17	-	-	53	48	37	37	33	28	-	-	54	52	43	40	37	34	-	-
	200	(94)	0.026 (6.4)	56	43	35	31	23	19	-	-	58	50	40	41	35	31	-	-	58	54	45	44	39	36	-	-
	300	(142)	0.058 (14.4)	56	48	44	39	30	25	-	-	60	53	45	45	38	35	-	-	60	57	49	47	41	38	-	-
506	400	(189)	0.103 (25.6)	57	54	50	46	37	33	-	-	61	58	50	50	42	40	-	-	63	61	53	52	45	42	-	23
6 inch	500	(236)	0.161 (40.0)	60	59	54	52	44	40	-	21	62	61	55	54	47	44	-	24	64	64	57	56	48	45	-	27
	600	(283)	0.231 (57.7)	62	63	58	57	49	46	-	26	64	65	59	58	51	48	-	28	66	67	61	59	52	49	23	31
	700	(330)	0.315 (78.5)	65	66	62	61	53	49	22	29	68	66	62	62	54	51	23	30	69	69	64	62	55	52	25	33
	300	(142)	0.018 (4.6)	53	42	29	27	20	17	-	-	57	54	47	43	38	33	-	-	58	57	51	46	41	37	-	-
	500	(236)	0.051 (12.6)	54	46	40	41	28	21	-	-	60	58	51	48	41	37	-	-	62	61	53	51	45	40	-	-
	600	(283)	0.073 (18.2)	56	49	45	46	33	26	-	-	62	60	53	51	43	39	-	-	64	62	55	53	46	42	-	21
508	700	(330)	0.099 (24.8)	57	53	49	51	38	31	-	-	64	62	55	54	45	40	-	-	66	64	57	55	48	43	-	23
8 inch	800	(378)	0.130 (32.4)	59	56	53	55	43	36	-	-	65	63	57	56	47	43	-	23	67	65	59	58	50	45	-	25
	900	(425)	0.164 (41.0)	61	59	56	59	47	41	-	-	67	65	59	59	50	45	-	25	68	67	61	60	52	47	-	27
	1000	(472)	0.203 (50.6)	62	61	58	62	51	46	-	-	68	67	61	62	52	47	-	27	70	68	63	63	54	49	21	29
	400	(189)	0.013 (3.3)	49	37	17	11	9	6	-	-	52	55	48	47	42	37	-	-	55	58	51	50	45	42	-	-
	600	(283)	0.030 (7.5)	53	47	32	28	23	19	-	-	56	56	50	49	43	38	-	-	58	60	53	52	46	43	-	-
	800	(378)	0.053 (13.3)	57	54	43	40	33	30	-	-	58	58	52	50	44	39	-	-	60	61	55	54	47	43	-	-
510	1000	(472)	0.083 (20.7)	59	59	50	49	41	37	-	-	61	61	54	53	45	41	-	-	62	63	57	56	49	45	-	-
10 inch	1200	(566)	0.120 (29.8)	60	63	55	54	46	43	-	-	64	65	58	56	48	44	-	-	65	66	60	58	51	47	-	21
	1400	(661)	0.163 (40.6)	62	65	59	58	50	47	-	-	67	69	62	60	52	48	-	24	68	70	63	61	54	50	-	25
	1600	(755)	0.213 (53.1)	64	67	62	62	54	51	-	22	70	72	66	64	56	52	21	29	71	73	66	65	57	53	22	30
	800	(378)	0.026 (6.4)	58	52	47	43	33	33	-	-	59	59	51	45	35	33	-	-	61	62	55	49	39	37	-	-
	1000	(472)	0.040 (10.0)	59	55	49	46	35	35	-	-	61	61	53	48	38	37	-	-	62	63	57	51	42	40	-	-
	1200	(566)	0.058 (14.4)	60	57	52	49	39	39	-	-	63	63	55	51	42	40	-	-	64	64	58	53	45	43	-	-
512	1450	(684)	0.084 (21.0)	62	60	55	52	44	43	-	-	65	65	58	54	46	44	-	-	65	66	61	56	49	47	-	-
12 inch	1700	(802)	0.116 (28.9)	64	63	59	56	49	47	-	-	67	67	61	57	51	48	-	21	67	68	63	59	53	50	-	21
	1950	(920)	0.152 (38.0)	66	65	62	59	53	51	-	-	68	69	64	61	55	52	-	23	68	69	65	61	56	53	-	24
	2200	(1038)	0.194 (48.3)	68	67	64	61	57	55	-	21	69	71	67	63	59	56	-	25	70	71	68	64	60	56	-	26
	1000	(472)	0.022 (5.4)	63	62	53	48	45	40	-	-	65	65	56	54	50	42	-	-	65	65	57	55	52	46	-	-
	1300	(614)	0.037 (9.1)	67	68	60	56	53	48	-	-	69	69	60	58	54	46	-	21	69	69	61	58	55	50	-	21
	1600	(755)	0.055 (13.8)	69	72	65	61	58	54	-	24	71	72	64	61	57	50	-	24	72	72	64	61	58	52	-	24
514	1900	(897)	0.078 (19.4)	71	74	68	64	61	57	-	26	73	73	66	62	59	53	-	26	73	73	66	63	59	54	-	26
14 inch	2200	(1038)	0.105 (26.1)	72	74	70	65	62	58	-	27	74	74	69	64	60	55	-	27	74	74	68	64	60	56	-	27
	2600	(1227)	0.146 (36.4)	73	73	70	66	62	58	-	26	74	74	71	65	61	57	-	27	74	74	70	66	61	57	-	27
	3000	(1416)	0.195 (48.5)	73	72	70	65	61	57	-	25	73	73	73	67	61	59	-	26	74	74	72	67	62	58	-	27
	1500	(708)	0.029 (7.1)	62	63	59	55	51	48	-	-	66	66	61	55	49	44	-	-	67	68	64	58	52	46	-	-
	1800	(849)	0.041 (10.2)	64	65	62	59	55	52	-	-	68	68	62	57	52	46	-	-	69	70	66	59	54	48	-	-
	2400	(1133)	0.073 (18.2)	68	68	64	61	57	55	-	-	72	71	65	60	55	51	-	22	72	72	67	62	56	52	-	23
516	2800	(1321)	0.100 (24.8)	70	69	65	61	56	54	-	-	73	72	67	62	56	53	-	23	73	73	68	63	58	54	-	24
16 inch	3200	(1510)	0.130 (32.4)	72	70	65	61	56	54	-	21	74	73	69	63	58	55	-	24	74	73	69	64	59	55	-	24
	3600	(1699)	0.165 (41.0)	73	71	67	62	57	54	-	23	73	73	70	64	59	56	-	24	74	73	71	65	60	56	-	25
	4000	(1888)	0.203 (50.6)	75	73	72	66	61	57	-	25	72	73	72	65	59	56	-	24	74	74	73	66	61	57	-	25
	1900	(897)	0.018(4.5)	67	68	62	57	51	45	-	-	68	69	65	60	55	49	-	-	68	70	67	62	58	53	-	-
	2500	(1180)	0.031 (7.8)	68	68	64	59	54	48	-	-	71	73	69	63	59	53	-	23	71	74	70	65	61	56	-	24
	3200	(1510)	0.051 (12.8)	69	68	65	61	56	51	-	-	74	76	72	67	62	57	-	27	74	77	74	69	64	59	21	28
520	3900	(1841)	0.076 (18.9)	70	70	67	63	58	53	-	-	76	79	74	70	65	61	23	30	76	79	76	71	67	62	24	31
20x16 inch	4600	(2171)	0.106 (26.4)	73	73	70	66	61	56	-	24	77	79	76	71	67	63	24	31	77	80	77	72	68	64	25	32
	5300	(2501)	0.140 (35.0)	75	77	74	70	65	59	21	28	77	79	76	71	69	63	23	31	78	80	78	73	70	65	24	32
	6000	(2832)	0.180 (44.8)	76	77	74	70	65	60	21	28	78	78	77	72	70	64	23	30	78	79	78	73	71	66	24	31
	2000	(944)	0.014 (3.5)	69	71	65	57	53	47	-	-	68	70	65	59	55	48	-	-	69	72	68	62	59	53	-	-
	3000	(1416)	0.031 (7.8)	72	74	68	62	57	51	-	22	73	76	71	65	61	55	-	24	73	76	73	67	63	58	-	25
	4000	(1888)	0.056 (13.8)	73	73	68	64	59	55	-	21	77	79	75	69	65	61	21	28	77	79	76	71	67	62	21	29
524	5000	(2360)	0.087 (21.6)	75	72	69	67	62	59	-	-	80	81	77	72	68	64	23	31	80	81	78	73	69	65	24	31
24x16 inch	6000	(2832)	0.125 (31.1)	79	74	71	72	68	66	-	22	82	82	77	73	69	64	24	32	83	82	78	74	70	66	25	33
	7000	(3304)	0.170 (42.4)	82	76	73	78	73	73	22	27	84	83	78	73	70	64	26	33	85	83	79	74	71	66	26	34
	8000	(3775)	0.222 (55.3)	82	77	72	79	74	72	21	26	85	85	81	74	71	66	29	36	86	85	81	75	72	68	29	36

AT MINIMUM 1", 2", 3" WG

See Pg. 22 For NC Calculations

					Static Pressure, PS=1.0 inches of water (250PA)								Static Pressure, PS=2.0 inches of water (500 PA)								Static Pressure, PS=3.0 inches of water (750 PA)							
			Min		Octave Band Sound Power, Lw						Room Sound		Octave Band Sound Power, Lw						Room Sound		Octave Band Sound Power, Lw						Room Sound	
Terminal	Supply Volume		Ps		2	3	4	5	6	7	Power, Lp		2	3	4	5	6	7	Power, Lp		2	3	4	5	6	7	Power, Lp	
	CFM	(L/s)	in H20	(Pa)							NC1	NC2							NC1	NC2							NC1	NC2
	100	(47)	0.006	(1.6)	55	56	48	44	41	40	-	-	50	53	53	50	51	49	-	-	49	53	54	54	55	53	-	21
	200	(94)	0.026	(6.4)	58	58	51	47	42	40	-	-	56	58	57	54	52	50	-	-	55	58	59	57	55	53	-	22
	300	(142)	0.058	(14.4)	61	61	54	50	44	42	-	23	61	62	60	56	53	51	-	25	61	63	63	59	56	54	-	25
506	400	(189)	0.103	(25.6)	64	64	57	53	47	44	-	27	65	66	63	59	54	52	22	30	65	67	65	61	57	55	23	31
6 inch	500	(236)	0.161	(40.0)	67	67	60	57	50	47	23	31	68	69	65	61	56	53	26	34	69	70	67	63	59	56	28	35
	600	(283)	0.231	(57.7)	69	69	63	60	53	50	26	34	70	72	67	64	58	55	30	37	71	74	70	65	60	58	32	38
	700	(330)	0.315	(78.5)	70	71	66	63	56	53	28	35	72	75	70	67	60	58	33	40	73	76	73	68	62	60	35	41
	300	(142)	0.018	(4.6)	60	61	54	50	45	42	-	-	61	61	59	55	53	48	-	-	64	63	60	58	58	54	-	22
	500	(236)	0.051	(12.6)	64	63	56	53	48	44	-	23	66	66	62	59	55	50	-	26	69	69	65	62	60	55	22	29
	600	(283)	0.073	(18.2)	66	65	57	55	49	45	-	24	68	68	63	60	56	51	21	28	71	71	67	63	60	56	25	32
508	700	(330)	0.099	(24.8)	67	66	59	57	51	46	-	26	69	69	64	61	57	52	23	30	72	73	68	64	61	57	27	35
8 inch	800	(378)	0.130	(32.4)	69	67	61	59	52	48	-	27	71	71	65	63	58	53	24	31	74	75	69	66	62	57	29	36
	900	(425)	0.164	(41.0)	70	68	63	61	54	49	21	29	72	71	66	64	59	53	25	33	75	76	70	67	63	58	31	37
	1000	(472)	0.203	(50.6)	71	69	64	63	55	51	23	30	73	72	68	66	60	54	26	34	75	77	71	68	63	59	31	38
	400	(189)	0.013	(3.3)	57	61	55	53	47	46	-	-	62	64	60	58	56	54	-	-	65	67	62	61	60	58	-	22
	600	(283)	0.030	(7.5)	61	63	56	55	49	47	-	-	65	67	63	61	57	55	-	22	67	70	66	65	61	59	-	25
	800	(378)	0.053	(13.3)	63	64	58	57	51	48	-	-	68	70	65	63	58	56	-	26	69	73	69	67	63	60	22	29
510	1000	(472)	0.083	(20.7)	64	65	59	59	52	49	-	-	70	72	67	65	59	56	21	29	71	75	71	68	63	61	25	32
10 inch	1200	(566)	0.120	(29.8)	66	67	62	61	54	50	-	22	72	74	68	66	60	57	23	31	73	77	72	69	64	61	27	35
	1400	(661)	0.163	(40.6)	69	70	64	63	56	52	-	26	73	75	69	67	61	58	25	33	75	79	72	70	65	62	29	36
	1600	(755)	0.213	(53.1)	72	74	67	65	57	54	23	31	74	76	70	68	62	59	26	34	76	79	72	70	65	62	30	37
	800	(378)	0.026	(6.4)	62	64	59	53	44	41	-	-	66	69	65	62	57	52	-	23	66	69	66	65	62	57	-	24
	1000	(472)	0.040	(10.0)	63	65	61	54	46	43	-	-	67	71	68	64	58	54	-	26	67	72	70	68	63	58	-	27
	1200	(566)	0.058	(14.4)	64	66	62	56	49	46	-	-	69	72	70	65	59	55	-	27	69	74	72	70	64	59	22	29
512	1450	(684)	0.084	(21.0)	65	67	63	58	52	49	-	21	70	73	71	66	61	57	21	29	71	76	74	71	65	61	24	31
12 inch	1700	(802)	0.116	(28.9)	67	68	65	60	55	52	-	22	72	74	72	67	62	58	22	30	73	77	75	72	66	62	26	33
	1950	(920)	0.152	(38.0)	68	70	66	62	58	55	-	24	73	75	72	68	63	60	23	31	75	78	76	72	67	63	27	34
	2200	(1038)	0.194	(48.3)	70	72	69	64	61	57	-	26	74	76	73	69	65	61	24	32	77	79	76	72	68	64	28	35
	1000	(472)	0.022	(5.4)	65	66	58	55	53	51	-	-	69	72	65	61	57	56	-	24	70	75	69	64	60	59	-	28
	1300	(614)	0.037	(9.1)	69	69	62	58	56	53	-	21	72	74	68	63	59	58	-	27	73	77	71	66	62	60	23	31
	1600	(755)	0.055	(13.8)	72	72	64	61	58	55	-	24	73	75	69	65	61	59	21	29	74	78	73	67	63	61	25	32
514	1900	(897)	0.078	(19.4)	74	73	66	63	60	56	-	26	74	76	70	66	62	60	22	29	75	78	73	68	64	62	25	32
14 inch	2200	(1038)	0.105	(26.1)	75	74	68	64	60	56	-	27	75	76	71	67	63	60	22	29	75	78	74	69	65	63	24	32
	2600	(1227)	0.146	(36.4)	75	74	70	66	61	57	-	27	75	76	72	68	64	61	21	29	76	77	74	70	66	64	24	31
	3000	(1416)	0.195	(48.5)	74	74	72	67	62	57	-	27	75	76	73	69	65	62	22	29	77	78	74	70	67	65	24	32
	1500	(708)	0.029	(7.1)	68	70	67	61	54	49	-	21	70	74	74	70	64	58	-	26	70	75	77	74	69	63	-	27
	1800	(849)	0.041	(10.2)	70	71	69	62	56	50	-	23	72	76	76	71	64	59	-	28	72	77	79	75	70	64	23	30
	2400	(1133)	0.073	(18.2)	72	73	70	63	58	53	-	24	75	77	77	71	65	60	22	30	77	80	81	76	70	65	25	33
516	2800	(1321)	0.100	(24.8)	73	73	70	64	59	55	-	24	76	77	77	71	66	61	23	30	78	81	82	76	71	65	26	34
16 inch	3200	(1510)	0.130	(32.4)	74	73	70	64	60	56	-	25	77	77	77	71	66	62	23	30	79	81	81	76	71	65	27	34
	3600	(1699)	0.165	(41.0)	74	74	71	65	61	57	-	25	77	78	77	72	67	63	23	30	79	80	81	76	72	66	26	34
	4000	(1888)	0.203	(50.6)	75	75	74	67	62	58	-	27	78	78	79	74	69	64	24	31	78	80	81	78	73	67	25	33
	1900	(897)	0.018	(4.5)	68	72	69	65	61	56	-	21	73	78	76	74	71	67	21	29	74	80	80	79	76	73	24	31
	2500	(1180)	0.031	(7.8)	71	75	72	68	64	59	-	25	76	80	78	75	72	68	24	32	77	82	81	79	77	73	26	34
	3200	(1510)	0.051	(12.8)	74	78	75	70	66	61	22	30	78	82	80	77	74	69	27	34	79	84	83	80	78	74	29	36
520	3900	(1841)	0.076	(18.9)	76	80	77	73	68	64	25	32	79	84	82	78	75	71	29	36	81	86	84	81	79	75	32	38
20x16 inch	4600	(2171)	0.106	(26.4)	78	81	79	74	70	66	26	33	81	85	83	79	77	73	30	37	82	87	85	82	80	77	34	40
	5300	(2501)	0.140	(35.0)	78	81	79	74	71	67	26	33	82	86	84	80	78	75	31	38	83	88	86	82	81	79	35	41
	6000	(2832)	0.180	(44.8)	78	81	79	74	72	68	25	33	84	86	85	80	79	76	32	39	85	89	87	83	82	80	36	42
	2000	(944)	0.014	(3.5)	69	73	70	65	62	57	-	-	71	77	76	73	71	69	-	26	71	79	79	78	75	73	22	28
	3000	(1416)	0.031	(7.8)	74	77	75	69	66	61	-	25	76	81	80	75	73	70	23	31	77	83	82	78	77	74	26	33
	4000	(1888)	0.056	(13.8)	77	80	78	72	68	64	22	30	80	84	83	78	75	72	27	35	82	87	84	80	79	76	30	37
524	5000	(2360)	0.087	(21.6)	80	82	79	73	70	67	25	32	83	86	84	80	77	74	30	37	86	89	86	82	80	78	33	40
24x16 inch	6000	(2832)	0.125	(31.1)	83	83	80	74	71	68	26	33	87	87	85	81	78	75	31	37	89	90	87	83	81	79	34	41
	7000	(3304)	0.170	(42.4)	85	83	80	74	72	69	26	34	91	87	86	81	79	77	31	38	91	90	88	84	82	80	35	41
	8000	(3775)	0.222	(55.3)	87	85	82	76	72	70	29	36	93	89	87	82	80	78	33	39	93	91	88	84	83	82	35	42

Radiated Sound Power

AT MINIMUM .5", .75" WG

See Pg. 22 For NC Calculations

					Min Ps								Static Pressure, PS=0.5 inches of water (125 PA)								Static Pressure, PS=0.75 inches of water (185 PA)							
					Octave Band Sound Power, Lw						Room Sound		Octave Band Sound Power, Lw						Room Sound		Octave Band Sound Power, Lw						Room Sound	
Terminal	Supply Volume		Min Ps		2	3	4	5	6	7	Power, Lp		2	3	4	5	6	7	Power, Lp		2	3	4	5	6	7	Power, Lp	
	CFM	(L/s)	in H20	(Pa)							NC1	NC2							NC1	NC2							NC1	NC2
	100	(47)	0.006	(1.6)	49	32	17	14	12	20	-	-	41	32	22	20	16	10	-	-	43	34	24	22	18	13	-	-
	200	(94)	0.026	(6.4)	50	35	23	20	19	18	-	-	48	38	30	25	20	16	-	-	50	40	34	28	24	20	-	-
	300	(142)	0.058	(14.4)	50	38	29	26	25	19	-	-	52	41	35	29	25	20	-	-	54	45	40	32	29	24	-	-
506	400	(189)	0.103	(25.6)	51	41	34	31	31	22	-	-	54	45	39	33	31	23	-	-	56	48	43	36	33	27	-	-
6 inch	500	(236)	0.161	(40.0)	52	45	39	36	36	26	-	-	55	48	42	37	36	27	-	-	57	51	45	39	37	30	-	-
	600	(283)	0.231	(57.7)	52	49	44	41	41	31	-	-	55	51	45	41	42	32	-	-	58	54	47	42	42	33	-	22
	700	(330)	0.315	(78.5)	54	53	48	45	44	36	-	21	56	54	48	45	46	37	-	22	58	57	50	45	45	37	21	25
	300	(142)	0.018	(4.6)	57	36	22	18	18	18	-	-	51	40	33	25	20	19	-	-	53	43	37	31	24	21	-	-
	500	(236)	0.051	(12.6)	57	39	26	24	19	18	-	-	53	43	36	30	23	19	-	-	55	46	39	33	26	22	-	-
	600	(283)	0.073	(18.2)	58	41	29	27	21	18	-	-	54	44	37	33	25	20	-	-	57	48	40	35	28	23	-	-
508	700	(330)	0.099	(24.8)	58	43	33	31	23	20	-	-	56	46	40	35	27	21	-	-	58	50	42	37	30	25	-	-
8 inch	800	(378)	0.130	(32.4)	58	45	37	36	26	21	-	-	57	48	42	37	29	23	-	-	60	51	44	39	32	27	-	22
	900	(425)	0.164	(41.0)	59	48	41	40	29	23	-	-	59	50	44	40	32	25	-	-	61	53	46	41	34	28	-	23
	1000	(472)	0.203	(50.6)	59	50	45	43	32	26	-	21	60	52	46	42	34	27	-	22	62	54	48	44	36	30	21	25
	400	(189)	0.013	(3.3)	52	36	25	22	19	19	-	-	52	42	34	28	24	19	-	-	54	45	37	32	27	21	-	-
	600	(283)	0.030	(7.5)	53	38	26	24	19	20	-	-	54	44	37	31	26	19	-	-	56	48	41	35	30	22	-	-
	800	(378)	0.053	(13.3)	53	40	29	28	21	22	-	-	56	46	39	35	29	20	-	-	58	50	43	38	32	23	-	-
510	1000	(472)	0.083	(20.7)	54	43	32	32	24	26	-	-	58	49	42	38	31	22	-	-	60	51	45	40	34	25	-	22
10 inch	1200	(566)	0.120	(29.8)	57	48	34	37	28	35	-	-	60	51	45	41	34	24	-	22	62	53	46	42	36	27	21	24
	1400	(661)	0.163	(40.6)	61	55	35	43	33	51	23	23	62	54	48	44	37	28	-	24	64	55	48	45	38	30	23	26
	1600	(755)	0.213	(53.1)	67	65	35	51	39	74	46	40	63	56	51	47	40	32	22	26	65	57	51	47	40	33	24	28
	800	(378)	0.026	(6.4)	54	39	29	24	19	18	-	-	56	46	38	31	27	21	-	-	57	49	42	34	29	24	-	-
	1000	(472)	0.040	(10.0)	55	41	32	26	20	18	-	-	56	48	40	33	29	23	-	-	58	50	44	36	31	25	-	-
	1200	(566)	0.058	(14.4)	56	44	35	28	22	19	-	-	57	49	42	35	31	24	-	-	58	51	45	38	33	27	-	-
512	1450	(684)	0.084	(21.0)	56	46	38	31	25	20	-	-	58	50	44	38	34	27	-	-	59	52	47	40	36	29	-	21
12 inch	1700	(802)	0.116	(28.9)	57	48	42	34	28	22	-	-	59	51	47	40	37	29	-	21	61	53	49	42	38	31	-	23
	1950	(920)	0.152	(38.0)	58	51	46	37	32	25	-	-	61	53	50	43	39	32	-	23	62	55	51	44	40	34	21	25
	2200	(1038)	0.194	(48.3)	59	52	49	41	36	28	-	23	63	55	53	45	41	34	22	27	64	57	54	46	43	36	24	28
	1000	(472)	0.022	(5.4)	54	37	28	23	20	19	-	-	57	47	42	37	34	33	-	-	57	49	42	37	34	33	-	-
	1300	(614)	0.037	(9.1)	54	40	31	26	22	19	-	-	59	49	44	38	36	34	-	-	58	51	44	38	36	34	-	-
	1600	(755)	0.055	(13.8)	53	43	34	28	25	20	-	-	60	50	44	40	37	34	-	22	59	52	44	40	37	34	-	21
514	1900	(897)	0.078	(19.4)	54	46	39	32	28	22	-	-	61	52	45	41	38	35	-	23	60	53	45	41	38	35	-	22
14 inch	2200	(1038)	0.105	(26.1)	55	49	44	36	31	24	-	-	62	53	46	41	39	35	-	24	61	54	46	41	39	35	-	23
	2600	(1227)	0.146	(36.4)	57	52	50	40	35	28	-	23	62	55	47	43	41	36	21	25	62	56	47	43	41	36	21	25
	3000	(1416)	0.195	(48.5)	59	55	55	44	38	32	24	29	63	58	50	45	43	38	23	26	63	58	50	45	43	38	23	27
	1500	(708)	0.029	(7.1)	56	45	35	28	24	21	-	-	58	51	41	35	31	26	-	-	58	53	44	38	33	28	-	21
	1800	(849)	0.041	(10.2)	56	46	37	31	27	23	-	-	59	52	42	36	33	29	-	21	58	54	45	39	35	30	-	22
	2400	(1133)	0.073	(18.2)	57	48	41	36	33	29	-	-	60	53	44	40	37	33	-	22	60	55	47	42	38	34	-	23
516	2800	(1321)	0.100	(24.8)	58	50	45	39	36	32	-	-	60	54	46	42	39	35	-	23	61	56	49	43	40	36	21	24
16 inch	3200	(1510)	0.130	(32.4)	59	53	48	42	39	36	-	22	61	55	49	44	40	37	-	24	62	57	51	46	41	38	22	26
	3600	(1699)	0.165	(41.0)	60	55	52	45	41	38	21	25	62	57	52	46	42	39	23	26	63	59	53	48	43	40	24	28
	4000	(1888)	0.203	(50.6)	61	57	54	47	43	40	24	29	64	59	53	49	45	42	24	28	65	60	54	50	46	42	26	29
	1900	(897)	0.018	(4.5)	56	47	40	40	34	27	-	-	57	53	49	45	41	35	-	22	58	56	51	47	41	34	21	25
	2500	(1180)	0.031	(7.8)	57	51	45	45	39	32	-	-	59	57	53	48	43	37	23	27	60	58	54	49	43	36	24	29
	3200	(1510)	0.051	(12.8)	59	56	50	50	45	37	-	24	62	61	58	51	45	40	28	32	63	61	58	53	46	39	28	32
520	3900	(1841)	0.076	(18.9)	61	60	55	53	49	41	26	29	64	64	61	54	47	43	32	36	65	64	61	56	49	43	31	35
20x16 inch	4600	(2171)	0.106	(26.4)	63	63	57	56	53	44	29	33	66	66	64	57	50	45	34	38	68	65	63	58	53	46	34	38
	5300	(2501)	0.140	(35.0)	65	64	58	57	55	47	31	35	67	67	65	60	54	47	36	40	70	67	65	60	56	49	36	40
	6000	(2832)	0.180	(44.8)	67	65	59	59	56	48	33	36	67	67	66	63	57	50	37	41	72	68	67	62	59	51	37	42
	2000	(944)	0.014	(3.5)	56	46	42	42	32	27	-	-	59	55	50	43	35	28	-	24	60	57	53	47	39	32	23	28
	3000	(1416)	0.031	(7.8)	59	53	50	51	41	35	21	23	63	59	56	51	42	35	26	31	64	62	59	53	45	39	29	33
	4000	(1888)	0.056	(13.8)	62	59	56	56	48	42	28	30	66	64	62	58	49	42	33	37	68	65	63	59	51	45	34	38
524	5000	(2360)	0.087	(21.6)	66	64	59	60	53	47	31	34	70	68	66	63	55	48	37	41	72	68	67	62	56	50	38	42
24x16 inch	6000	(2832)	0.125	(31.1)	69	66	61	61	56	50	33	36	73	70	68	65	58	51	39	44	74	71	69	64	59	53	40	45
	7000	(3304)	0.170	(42.4)	72	66	62	62	56	51	34	37	75	72	69	65	59	53	39	44	77	72	70	65	61	55	41	45
	8000	(3775)	0.222	(55.3)	74	66	63	62	56	51	35	39	77	72	69	65	59	54	40	44	79	74	70	65	61	55	42	46

AT MINIMUM 1", 2", 3" WG

See Pg. 22 For NC Calculations

					Static Pressure, PS=1.0 inches of water (250PA)								Static Pressure, PS=2.0 inches of water (500 PA)								Static Pressure, PS=3.0 inches of water (750 PA)							
			Min		Octave Band Sound Power, Lw						Room Sound		Octave Band Sound Power, Lw						Room Sound		Octave Band Sound Power, Lw						Room Sound	
Terminal	Supply Volume		Ps		2	3	4	5	6	7	Power, Lp		2	3	4	5	6	7	Power, Lp		2	3	4	5	6	7	Power, Lp	
	CFM	(L/s)	in H20	(Pa)							NC1	NC2							NC1	NC2							NC1	NC2
	100	(47)	0.006	(1.6)	45	36	25	24	21	15	-	-	47	37	34	31	31	28	-	-	48	36	36	38	40	38	-	-
	200	(94)	0.026	(6.4)	51	43	39	31	28	24	-	-	51	43	41	38	37	35	-	-	50	42	41	41	43	41	-	-
	300	(142)	0.058	(14.4)	55	48	45	35	32	28	-	-	54	48	46	41	40	38	-	-	53	48	46	44	44	43	-	-
506	400	(189)	0.103	(25.6)	58	52	47	38	36	30	-	-	57	53	49	43	41	39	-	22	57	53	50	46	45	44	-	23
6 inch	500	(236)	0.161	(40.0)	59	55	47	41	39	32	-	23	60	57	52	45	43	39	22	26	61	58	54	48	46	44	24	28
	600	(283)	0.231	(57.7)	60	57	48	43	41	34	22	26	63	61	54	47	44	40	27	30	64	62	57	49	47	45	29	32
	700	(330)	0.315	(78.5)	61	59	51	46	45	37	24	28	65	63	56	49	47	42	30	34	67	65	59	51	49	45	32	36
	300	(142)	0.018	(4.6)	55	46	42	36	28	24	-	-	54	46	43	40	35	33	-	-	54	45	45	42	40	38	-	-
	500	(236)	0.051	(12.6)	57	50	42	37	30	25	-	-	59	54	49	44	38	35	-	23	59	55	51	47	42	40	21	25
	600	(283)	0.073	(18.2)	59	52	43	38	31	27	-	21	61	57	51	45	39	36	22	26	61	59	54	49	43	41	24	28
508	700	(330)	0.099	(24.8)	61	53	45	40	33	28	-	23	63	59	53	47	40	37	25	28	64	61	56	51	44	41	28	31
8 inch	800	(378)	0.130	(32.4)	62	54	46	41	35	30	21	25	65	61	54	48	41	37	27	30	67	64	58	52	45	42	30	34
	900	(425)	0.164	(41.0)	64	55	48	43	37	32	23	27	66	62	55	49	43	38	28	32	69	65	59	53	46	42	32	36
	1000	(472)	0.203	(50.6)	65	57	50	45	39	33	24	28	68	63	56	50	44	39	29	33	70	66	60	54	47	42	33	37
	400	(189)	0.013	(3.3)	55	48	41	35	31	23	-	-	56	49	43	40	37	42	-	-	56	48	44	42	40	56	28	22
	600	(283)	0.030	(7.5)	58	52	45	38	33	25	-	-	60	55	49	43	39	45	-	23	60	56	50	45	42	60	31	26
	800	(378)	0.053	(13.3)	61	53	46	41	35	26	-	23	63	60	53	46	42	48	25	29	63	62	56	49	45	63	35	32
510	1000	(472)	0.083	(20.7)	62	54	47	42	36	28	21	25	66	63	56	49	44	50	29	33	67	67	60	52	47	67	38	37
10 inch	1200	(566)	0.120	(29.8)	64	54	48	43	38	29	23	27	68	65	57	51	46	52	32	35	69	69	62	54	49	69	41	40
	1400	(661)	0.163	(40.6)	65	55	49	45	39	31	25	29	70	66	58	52	47	54	33	36	71	70	63	56	50	71	43	41
	1600	(755)	0.213	(53.1)	67	57	51	47	41	34	26	30	71	66	59	53	49	56	34	37	72	71	63	56	51	72	44	42
	800	(378)	0.026	(6.4)	59	52	46	37	31	26	-	21	61	57	54	47	41	38	23	28	61	59	57	52	47	44	27	31
	1000	(472)	0.040	(10.0)	59	53	48	39	32	27	-	21	62	60	57	49	43	38	26	31	63	62	60	55	49	45	31	35
	1200	(566)	0.058	(14.4)	60	54	49	40	34	29	-	22	64	62	58	50	44	39	28	33	65	65	63	56	49	45	33	37
512	1450	(684)	0.084	(21.0)	61	54	50	42	37	31	-	23	65	63	59	51	45	40	30	34	66	67	64	57	50	45	35	38
12 inch	1700	(802)	0.116	(28.9)	62	56	52	44	40	34	21	25	66	64	60	52	46	41	31	35	68	69	65	57	51	45	36	39
	1950	(920)	0.152	(38.0)	63	57	53	46	42	36	23	27	67	65	61	53	48	42	32	35	69	70	65	58	51	46	37	40
	2200	(1038)	0.194	(48.3)	65	59	55	48	44	38	25	30	69	66	62	55	50	44	33	37	71	70	66	59	53	47	38	41
	1000	(472)	0.022	(5.4)	57	51	42	37	34	33	-	-	61	58	50	44	40	39	23	27	63	62	55	48	44	44	28	32
	1300	(614)	0.037	(9.1)	57	52	44	38	36	34	-	-	63	60	52	46	42	40	26	30	65	65	57	50	45	45	32	35
	1600	(755)	0.055	(13.8)	58	53	44	40	37	34	-	21	64	62	53	47	44	41	28	31	66	67	58	51	47	45	34	37
514	1900	(897)	0.078	(19.4)	59	54	45	41	38	35	-	22	65	63	54	48	45	42	29	33	68	68	59	52	49	46	35	38
14 inch	2200	(1038)	0.105	(26.1)	61	55	46	41	39	35	-	23	66	64	55	49	47	43	30	34	69	69	60	54	50	47	36	39
	2600	(1227)	0.146	(36.4)	62	57	47	43	41	36	21	25	68	65	57	51	48	45	32	36	70	70	62	55	52	48	37	40
	3000	(1416)	0.195	(48.5)	63	58	50	45	43	38	24	27	69	66	58	52	49	45	34	37	71	70	63	55	53	49	38	41
	1500	(708)	0.029	(7.1)	57	55	46	40	36	30	-	24	61	59	55	50	45	42	25	30	63	61	57	53	49	47	27	32
	1800	(849)	0.041	(10.2)	58	56	47	41	37	32	21	25	63	61	57	52	47	44	27	32	65	64	60	56	52	49	30	34
	2400	(1133)	0.073	(18.2)	60	57	49	43	40	35	22	26	65	64	60	54	51	48	31	35	68	67	64	60	58	56	35	38
516	2800	(1321)	0.100	(24.8)	61	58	51	45	41	37	23	27	67	66	61	56	53	51	33	36	69	69	66	62	62	61	37	40
16 inch	3200	(1510)	0.130	(32.4)	63	59	53	47	43	39	24	28	68	66	62	57	55	52	34	37	70	70	66	63	63	63	38	41
	3600	(1699)	0.165	(41.0)	64	60	55	49	44	41	26	30	68	66	62	56	54	51	34	37	70	69	66	61	61	59	37	40
	4000	(1888)	0.203	(50.6)	66	61	55	50	47	43	27	31	67	65	60	54	49	45	32	35	68	66	62	56	50	47	33	37
	1900	(897)	0.018	(4.5)	58	58	54	49	40	34	23	28	60	63	61	57	49	44	32	36	61	65	65	61	54	50	35	39
	2500	(1180)	0.031	(7.8)	60	60	56	51	42	35	25	30	63	65	63	58	51	45	34	38	65	68	67	62	55	51	37	42
	3200	(1510)	0.051	(12.8)	63	61	58	54	47	39	28	33	67	67	65	60	53	47	35	39	68	70	68	63	57	52	39	44
520	3900	(1841)	0.076	(18.9)	67	63	61	57	51	43	31	35	69	69	66	62	55	49	36	41	70	72	69	65	58	53	40	45
20x16 inch	4600	(2171)	0.106	(26.4)	70	64	63	59	55	47	33	37	71	70	67	64	58	51	38	42	72	74	70	66	60	55	42	45
	5300	(2501)	0.140	(35.0)	74	66	65	61	58	50	36	40	73	71	68	65	60	53	39	44	73	75	70	68	62	57	43	46
	6000	(2832)	0.180	(44.8)	77	69	67	62	61	53	40	44	74	73	70	67	61	55	40	45	73	76	71	69	63	58	44	46
	2000	(944)	0.014	(3.5)	61	60	57	51	43	37	27	31	62	63	61	56	51	47	32	36	63	65	65	60	56	52	35	39
	3000	(1416)	0.031	(7.8)	66	64	61	56	48	42	31	35	67	66	65	60	54	49	35	39	69	69	68	63	58	53	38	43
	4000	(1888)	0.056	(13.8)	70	66	65	59	54	48	35	39	72	70	68	63	57	52	39	44	74	72	71	66	60	55	42	46
524	5000	(2360)	0.087	(21.6)	74	69	68	62	58	52	39	44	77	72	72	67	61	54	43	46	79	75	74	69	63	57	45	49
24x16 inch	6000	(2832)	0.125	(31.1)	76	71	70	64	61	55	41	46	81	75	74	69	63	57	45	49	83	77	76	72	65	59	46	52
	7000	(3304)	0.170	(42.4)	79	73	71	65	62	57	42	46	83	77	76	71	66	59	46	52	85	79	78	74	68	61	50	55
	8000	(3775)	0.222	(55.3)	81	75	71	66	63	57	44	46	85	79	77	72	67	61	49	54	87	81	80	75	69	63	52	57

Sound Path Attenuation

ASSUMPTIONS BASED ON ARI 885-98

RADIATED SOUND PATH ATTENUATION ASSUMPTIONS						
ARI 885-90	Octave Band Sound Power Reductions					
NC1	2	3	4	5	6	7
Environmental Effect	3	2	1	1	1	1
Ceiling Effect	9	10	12	14	15	15
Room Effect	9	10	11	12	13	14
Total dB Reduction	21	22	24	27	29	30

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-90.

Parameters:
1) Mineral Fiber Ceiling Tile, 5/8" thick (35 lb/ft^3 density).
2) Room size is 3000 ft^3.
3) Unit is located 10 ft from measurement point.

RADIATED SOUND PATH ATTENUATION ASSUMPTIONS						
ARI 885-98	Octave Band Sound Power Reductions					
NC2	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Mineral Tile Ceiling/ Space Effect*	16	18	20	26	31	36
Total dB Reduction	18	19	20	26	31	36

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:
1) Mineral fiber ceiling tile, 5/8" thick (35 lb/ft^3 density).
2) The plenum space is at least 3 ft deep and either wide (>30 ft) or insulated.

** Combined effect including absorption of the ceiling tile, plenum absorption and room absorption, (New to ARI 885-98, ARI 885-90 had separate lines for these absorptions)*

DISCHARGE SOUND PATH ATTENUATION ASSUMPTIONS						
ARI 885-90	Octave Band Sound Power Reductions					
NC1	2	3	4	5	6	7
Environmental Effect	3	2	1	1	1	1
Duct Lining	1	3	8	21	20	12
End Reflection	6	2	0	0	0	0
5 ft., 8 in. Flex Duct	6	10	17	19	19	12
Room Effect	9	10	11	12	13	14
Total dB Reduction plus flow division	25	27	37	53	53	39

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-90.

Parameters:
1) Fiberglass duct lining is 1 inch thick, duct length is 5 feet.
2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
3) Flex duct has a vinyl core.
4) Room size is 3000 ft^3.
5) Unit is located 10 ft from measurement point.

DISCHARGE SOUND PATH ATTENUATION ASSUMPTIONS						
ARI 885-98	Octave Band Sound Power Reductions					
NC1	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Duct Lining	2	3	9	18	17	12
End Reflection	9	5	2	0	0	0
5 ft., 8 in. Flex Duct	6	10	18	20	2	12
Space Effect	5	6	7	8	9	10
Total dB Reduction plus flow division	24	25	36	46	47	34

NOTE: Attenuation assumptions are based upon factors located in the ARI Standard 885-98.

Parameters:
1) 12"x12"x5' duct with 1 inch thick fiberglass lining.
2) Flex duct is 8 inches in diameter and 5 feet in length for run to diffuser.
3) Flex duct has a vinyl core.
4) Room size is 2400 ft^3 (size of standard test room).
5) Unit is located 5 ft from measurement point.

The following dB attenuation credits have been taken in the calculations of NC Values. These attenuation credits are based on a 300 CFM flow division. These values are deducted in each band.

FLOW DIVISION	
Unit Size	(dB)
506	0
508	3
510	7
512	8
514	10
516	11
520	12
524	14

The following dB attenuation credits have been taken in the calculations of NC Values. These attenuation credits are based on a 300 CFM flow division. These values are deducted in each band.

FLOW DIVISION	
Unit Size	(dB)
506	0
508	3
510	7
512	8
514	10
516	11
520	12
524	14

Hot Water Coils Selection Data

506-YH Imperial Units

	GPM	Head Loss	CFM 100	200	300	400	500	600	700	800
	0.5	0.1	5.0	6.8	7.9	8.6	9.2	9.7	10.0	10.3
	1.0	0.5	5.6	7.8	9.3	10.4	11.2	11.9	12.5	13.0
1 Row	2.0	1.9	5.9	8.5	10.3	11.6	12.7	13.6	14.4	15.1
1 - Circuit	3.0	4.1	6.0	8.8	10.7	12.1	13.3	14.3	15.2	15.9
	5.0	10.4	6.1	9.0	11.0	12.6	13.9	15.0	15.9	16.8
	Airside Ps		0.01	0.04	0.07	0.12	0.18	0.24	0.32	0.40
	1.0	0.2	8.1	12.0	14.5	16.3	17.7	18.8	19.7	20.4
	2.0	0.6	8.8	13.6	16.9	19.4	21.4	23.1	24.5	25.7
2 Row	3.0	1.3	9.0	14.2	17.9	20.7	23.1	25.0	26.7	28.1
2 - Circuit	5.0	2.8	9.2	14.8	18.8	22.0	24.6	26.9	28.8	30.6
	6.0	4.0	9.3	14.9	19.1	22.4	25.1	27.4	29.5	31.3
	Airside Ps		0.03	0.08	0.16	0.26	0.38	0.51	0.66	0.83
	3.0	0.4	10.7	17.5	22.3	25.9	28.9	31.3	33.3	35.1
	4.0	0.7	10.9	18.0	23.1	27.2	30.4	33.2	35.5	37.6
3 Row	5.0	1.2	11.0	18.3	23.7	28.0	31.5	34.5	37.0	39.2
4 - Circuit	6.0	1.7	11.1	18.5	24.1	28.5	32.2	35.4	38.1	40.5
	8.0	2.9	11.2	18.8	24.6	29.3	33.2	36.6	39.5	42.1
	Airside Ps		0.04	0.12	0.24	0.39	0.56	0.77	0.99	1.24
	6.0	1.1	12.0	20.8	27.6	32.5	37.5	41.0	44.6	47.4
	7.0	1.5	12.1	21.0	27.9	33.0	38.2	41.9	45.6	48.6
4 Row	8.0	2.0	12.1	21.2	28.2	33.5	38.9	42.7	46.6	49.8
6 - Circuit	9.0	2.5	12.2	21.3	28.5	34.1	39.3	43.4	47.3	50.6
	10.0	3.0	12.2	21.4	28.7	34.7	39.7	44.1	47.9	51.3
	Airside Ps		0.05	0.16	0.32	0.52	0.75	1.02	1.32	1.66

Refer to Table-A on page 31 for Imperial Notes

506-YH Metric Units

	L/s	Head Loss kPa	L/s 45	95	140	190	235	285	330	380
	0.03	0.3	1.5	2.0	2.3	2.5	2.7	2.8	2.9	3.0
	0.06	1.5	1.6	2.3	2.7	3.0	3.3	3.5	3.7	3.8
1 Row	0.13	5.7	1.7	2.5	3.0	3.4	3.7	4.0	4.2	4.4
1 - Circuit	0.19	12.3	1.8	2.6	3.1	3.5	3.9	4.2	4.5	4.7
	0.32	31.1	1.8	2.6	3.2	3.7	4.1	4.4	4.7	4.9
	Airside Ps (kPa)		0.00	0.01	0.02	0.03	0.04	0.06	0.08	0.10
	0.06	0.6	2.4	3.5	4.2	4.8	5.2	5.5	5.8	6.0
	0.13	1.8	2.6	4.0	4.9	5.7	6.3	6.8	7.2	7.5
2 Row	0.19	3.9	2.6	4.2	5.2	6.1	6.8	7.3	7.8	8.2
2 - Circuit	0.32	8.4	2.7	4.3	5.5	6.4	7.2	7.9	8.4	9.0
	0.38	12.0	2.7	4.4	5.6	6.6	7.4	8.0	8.6	9.2
	Airside Ps (kPa)		0.01	0.02	0.04	0.06	0.09	0.13	0.16	0.21
	0.19	1.2	3.1	5.1	6.5	7.6	8.5	9.2	9.8	10.3
	0.25	2.1	3.2	5.3	6.8	8.0	8.9	9.7	10.4	11.0
3 Row	0.32	3.6	3.2	5.4	6.9	8.2	9.2	10.1	10.8	11.5
4 - Circuit	0.38	5.1	3.3	5.4	7.1	8.3	9.4	10.4	11.2	11.8
	0.50	8.7	3.3	5.5	7.2	8.6	9.7	10.7	11.6	12.3
	Airside Ps (kPa)		0.01	0.03	0.06	0.10	0.14	0.19	0.25	0.31
	0.38	3.3	3.5	6.1	8.1	9.5	11.0	12.0	13.1	13.9
	0.44	4.5	3.5	6.2	8.2	9.7	11.2	12.3	13.3	14.2
4 Row	0.50	6.0	3.5	6.2	8.3	9.8	11.4	12.5	13.6	14.6
6 - Circuit	0.57	7.5	3.6	6.2	8.3	10.0	11.5	12.7	13.8	14.8
	0.63	9.0	3.6	6.3	8.4	10.2	11.6	12.9	14.0	15.0
	Airside Ps (kPa)		0.01	0.04	0.08	0.13	0.19	0.25	0.33	0.41

Refer to Table-B on page 31 for Metric Notes

Hot Water Coils Selection Data

508-YH Imperial Units

	GPM	Head Loss	CFM 300	400	500	600	700	800	900	1000
	0.5	0.20	9.1	9.9	10.7	11.2	11.7	12.1	12.4	12.7
	1.0	0.70	10.5	11.7	12.7	13.6	14.3	15.3	15.5	16.0
1 Row	2.0	2.40	11.8	13.5	14.7	16.0	16.9	17.7	18.6	19.2
1 - Circuit	3.0	5.50	12.2	13.9	15.3	16.6	17.7	18.8	19.4	20.2
	4.0	9.60	12.5	14.2	15.9	17.2	18.4	19.4	20.3	21.1
	Airside Ps		0.04	0.07	0.11	0.15	0.19	0.24	0.30	0.36
	1.0	0.20	16.4	18.5	20.2	21.5	22.6	23.6	24.4	25.1
	2.0	0.60	18.2	20.8	23.2	25.0	26.7	29.7	29.2	30.3
2 Row	3.0	1.40	20.0	23.1	26.3	28.5	30.7	32.5	34.1	35.6
2 - Circuit	4.5	3.10	20.6	24.0	27.4	29.8	32.3	34.8	36.0	37.8
	6.0	5.30	21.2	24.9	28.5	31.2	33.9	36.1	38.0	39.9
	Airside Ps		0.10	0.16	0.23	0.32	0.41	0.51	0.62	0.74
	3.0	0.50	24.7	29.2	32.5	35.8	38.2	40.6	42.4	44.3
	4.0	0.90	25.6	30.2	33.9	37.5	40.2	42.9	45.0	47.1
3 Row	5.0	1.40	26.1	31.3	35.2	39.2	42.2	45.2	47.5	49.9
4 - Circuit	6.0	1.90	26.5	31.8	35.9	40.0	43.2	46.3	48.8	51.3
	7.0	2.60	26.8	32.3	36.6	40.9	44.2	47.5	50.1	52.8
	Airside Ps		0.15	0.24	0.36	0.47	0.62	0.77	0.94	1.11
	4.0	0.50	28.9	34.1	39.4	43.1	46.9	49.7	52.5	54.8
	5.0	0.80	29.6	35.0	40.6	44.7	48.7	51.8	54.9	57.5
4 Row	6.0	1.20	30.0	35.9	41.9	46.2	50.6	54.0	57.4	60.2
6 - Circuit	8.0	2.10	30.6	37.0	43.0	47.8	52.3	56.1	59.7	62.9
	10.0	3.30	31.0	38.0	44.1	49.4	54.0	58.2	62.0	65.5
	Airside Ps		0.20	0.32	0.46	0.63	0.82	1.02	1.25	1.49

Refer to Table-A on page 31 for Imperial Notes

508-YH Metric Units

	L/s	Head Loss kPa	L/s 140	190	235	285	330	380	425	470
	0.03	0.6	2.7	2.9	3.1	3.3	3.4	3.5	3.6	3.7
	0.06	2.1	3.1	3.4	3.7	4.0	4.2	4.5	4.5	4.7
1 Row	0.13	7.2	3.5	4.0	4.3	4.7	5.0	5.2	5.4	5.6
1 - Circuit	0.19	16.4	3.6	4.1	4.5	4.9	5.2	5.5	5.7	5.9
	0.25	28.7	3.7	4.2	4.7	5.0	5.4	5.7	5.9	6.2
	Airside Ps (kPa)		0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.09
	0.06	0.6	4.8	5.4	5.9	6.3	6.6	6.9	7.1	7.4
	0.13	1.8	5.3	6.1	6.8	7.3	7.8	8.7	8.6	8.9
2 Row	0.19	4.2	5.9	6.8	7.7	8.3	9.0	9.5	10.0	10.4
2 - Circuit	0.28	9.3	6.0	7.0	8.0	8.7	9.5	10.2	10.6	11.1
	0.38	15.8	6.2	7.3	8.3	9.1	9.9	10.6	11.1	11.7
	Airside Ps (kPa)		0.02	0.04	0.06	0.08	0.10	0.13	0.15	0.18
	0.19	1.5	7.2	8.5	9.5	10.5	11.2	11.9	12.4	13.0
	0.25	2.7	7.5	8.9	9.9	11.0	11.8	12.6	13.2	13.8
3 Row	0.32	4.2	7.7	9.2	10.3	11.5	12.3	13.2	13.9	14.6
4 - Circuit	0.38	5.7	7.8	9.3	10.5	11.7	12.6	13.6	14.3	15.0
	0.44	7.8	7.8	9.5	10.7	12.0	12.9	13.9	14.7	15.5
	Airside Ps (kPa)		0.04	0.06	0.09	0.12	0.15	0.19	0.23	0.28
	0.25	1.5	8.5	10.0	11.5	12.6	13.7	14.5	15.4	16.1
	0.32	2.4	8.7	10.3	11.9	13.1	14.3	15.2	16.1	16.8
4 Row	0.38	3.6	8.8	10.5	12.3	13.5	14.8	15.8	16.8	17.6
6 - Circuit	0.50	6.3	9.0	10.8	12.6	14.0	15.3	16.4	17.5	18.4
	0.63	9.9	9.1	11.1	12.9	14.5	15.8	17.1	18.2	19.2
	Airside Ps (kPa)		0.05	0.08	0.11	0.16	0.20	0.25	0.31	0.37

Refer to Table-B on page 31 for Metric Notes

510-YH Imperial Units

	GPM	Head Loss	CFM 400	600	800	1000	1200	1400	1500	1600
1 Row	1.0	0.10	13.4	15.5	17.0	18.1	19.0	19.7	20.0	20.3
	2.0	0.50	15.4	18.3	20.5	22.1	23.5	24.6	25.1	25.6
	3.0	1.20	16.3	19.6	22.0	24.0	25.6	26.9	27.6	28.1
2 - Circuit	4.0	2.10	16.8	20.3	22.9	25.0	26.8	28.3	29.0	29.6
	5.0	2.50	17.1	20.7	23.5	25.7	27.6	29.2	30.0	30.6
	Airside Ps		0.04	0.08	0.13	0.19	0.25	0.33	0.37	0.42
	1.0	0.10	20.4	23.8	26.1	27.7	29.0	30.0	30.5	30.9
	2.0	0.50	23.4	28.2	31.6	34.3	36.5	38.2	39.0	42.5
2 Row	3.0	1.20	26.3	32.5	37.2	40.9	43.9	46.4	47.6	48.6
3 - Circuit	4.5	2.70	27.4	34.3	39.5	43.7	47.2	50.2	51.6	53.9
	6.0	4.70	28.5	36.0	41.8	46.6	50.6	54.1	55.6	57.1
	Airside Ps		0.09	0.17	0.27	0.39	0.54	0.69	0.78	0.87
	4.0	1.10	33.7	42.4	48.9	54.0	58.2	61.7	63.2	64.7
	6.0	2.40	35.3	44.6	52.0	57.9	62.9	67.1	69.0	70.7
3 Row	8.0	4.30	36.2	46.8	55.0	61.8	67.6	72.5	74.7	76.8
6 - Circuit	10.0	6.70	36.7	47.6	56.3	63.4	69.5	74.8	77.2	79.4
	12.0	9.60	37.1	48.4	57.5	65.1	71.5	77.1	79.6	82.0
	Airside Ps		0.13	0.25	0.41	0.59	0.80	1.04	1.17	1.30
	5.0	1.40	39.2	50.6	59.3	66.1	71.8	76.5	78.5	80.5
	7.0	2.80	40.3	52.6	62.2	70.0	76.5	82.0	84.5	88.1
4 Row	9.0	4.60	41.3	54.6	65.2	73.9	81.2	87.6	90.4	93.1
8 - Circuit	11.0	6.90	41.8	55.5	66.5	75.6	83.4	90.2	93.3	96.6
	13.0	9.60	42.2	56.3	67.8	77.4	85.7	92.8	96.1	99.2
	Airside Ps		0.17	0.34	0.54	0.79	1.07	1.39	1.56	1.74

Refer to Table-A on page 31 for Imperial Notes

510-YH Metric Units

	L/s	Head Loss kPa	L/s 190	285	380	470	565	660	710	755
	0.06	0.30	3.9	4.5	5.0	5.3	5.6	5.8	5.9	6.0
	0.13	1.49	4.5	5.4	6.0	6.5	6.9	7.2	7.4	7.5
1 Row	0.19	3.59	4.8	5.7	6.4	7.0	7.5	7.9	8.1	8.2
2 - Circuit	0.25	6.28	4.9	5.9	6.7	7.3	7.8	8.3	8.5	8.7
	0.32	7.47	5.0	6.1	6.9	7.5	8.1	8.6	8.8	9.0
	Airside Ps (kPa)		0.01	0.02	0.03	0.05	0.06	0.08	0.09	0.10
	0.06	0.30	6.0	7.0	7.6	8.1	8.5	8.8	8.9	9.0
	0.13	1.49	6.8	8.2	9.3	10.0	10.7	11.2	11.4	12.4
2 Row	0.19	3.59	7.7	9.5	10.9	12.0	12.9	13.6	13.9	14.2
3 - Circuit	0.28	8.07	8.0	10.0	11.6	12.8	13.8	14.7	15.1	15.8
	0.38	14.05	8.3	10.5	12.2	13.6	14.8	15.8	16.3	16.7
	Airside Ps (kPa)		0.02	0.04	0.07	0.10	0.13	0.17	0.19	0.22
	0.25	3.29	9.9	12.4	14.3	15.8	17.0	18.1	18.5	18.9
	0.38	7.17	10.3	13.1	15.2	17.0	18.4	19.6	20.2	20.7
3 Row	0.50	12.85	10.6	13.7	16.1	18.1	19.8	21.2	21.9	22.5
6 - Circuit	0.63	20.03	10.7	13.9	16.5	18.6	20.4	21.9	22.6	23.3
	0.76	28.69	10.9	14.2	16.8	19.1	20.9	22.6	23.3	24.0
	Airside Ps (kPa)		0.03	0.06	0.10	0.15	0.20	0.26	0.29	0.32
	0.32	4.18	11.5	14.8	17.4	19.4	21.0	22.4	23.0	23.6
	0.44	8.37	11.8	15.4	18.2	20.5	22.4	24.0	24.7	25.8
4 Row	0.57	13.75	12.1	16.0	19.1	21.6	23.8	25.6	26.5	27.3
8 - Circuit	0.69	20.62	12.2	16.2	19.5	22.2	24.4	26.4	27.3	28.3
	0.82	28.69	12.4	16.5	19.9	22.7	25.1	27.2	28.1	29.0
	Airside Ps (kPa)		0.04	0.08	0.13	0.20	0.27	0.35	0.39	0.43

Refer to Table-B on page 31 for Metric Notes

Hot Water Coils Selection Data

512-YH Imperial Units

	GPM	Head Loss	CFM 800	1000	1200	1400	1600	1800	2000	2200
	1.0	0.10	20.0	21.4	22.5	23.8	24.2	24.8	25.4	25.9
	2.0	0.60	24.1	24.9	26.5	28.4	29.0	30.0	30.9	31.7
1 Row	3.0	1.20	25.9	28.4	30.5	33.0	33.8	35.1	36.3	37.4
2 - Circuit	4.0	2.20	27.0	29.5	31.7	34.5	35.3	36.8	38.1	39.3
	5.0	3.30	27.7	30.5	32.9	35.9	36.8	38.4	39.9	41.2
	Airside Ps		0.07	0.11	0.15	0.22	0.24	0.30	0.36	0.42
	1.0	0.20	29.6	31.7	33.2	34.4	35.4	36.3	37.0	37.6
	2.0	0.60	38.3	39.3	42.0	44.2	46.0	47.7	49.1	50.3
2 Row	3.0	1.40	42.5	47.0	50.8	53.9	56.7	59.1	61.2	63.1
4 - Circuit	4.5	3.10	45.8	50.3	54.6	58.4	61.7	64.6	67.2	69.5
	6.0	5.40	47.7	53.5	58.5	62.9	66.7	70.1	73.1	75.9
	Airside Ps		0.16	0.23	0.32	0.41	0.51	0.62	0.74	0.87
	4.0	1.90	57.8	64.8	70.5	75.4	79.6	83.3	86.5	89.4
	6.0	4.10	61.5	68.6	75.3	82.5	87.7	92.4	96.5	100.2
3 Row	8.0	7.30	63.6	72.4	80.0	86.6	92.4	97.6	102.3	106.6
6 - Circuit	10.0	11.40	64.8	73.9	81.8	89.2	95.5	101.1	106.2	110.8
	12.0	16.30	65.7	75.4	83.7	91.1	97.6	103.5	108.9	113.9
	Airside Ps		0.24	0.35	0.47	0.61	0.77	0.93	1.11	1.31
	5.0	1.90	68.3	77.4	84.9	91.3	96.8	101.6	105.9	109.7
	7.0	3.70	71.7	82.0	90.8	98.4	105.0	110.8	116.1	120.8
4 Row	9.0	6.10	73.8	84.8	94.4	102.7	110.1	116.6	122.6	127.9
8 - Circuit	11.0	9.10	75.1	86.7	96.8	105.7	113.6	120.6	127.1	132.9
	13.0	12.70	76.0	88.0	98.5	107.8	116.1	123.6	130.4	136.6
	Airside Ps		0.32	0.46	0.63	0.82	1.02	1.25	1.49	1.74

Refer to Table-A on page 31 for Imperial Notes

512-YH Metric Units

	L/s	Head Loss kPa	L/s 380	470	565	660	755	850	945	104
	0.06	0.30	5.9	6.3	6.6	7.0	7.1	7.3	7.4	7.6
	0.13	1.79	7.1	7.3	7.8	8.3	8.5	8.8	9.0	9.3
1 Row	0.19	3.59	7.6	8.3	8.9	9.7	9.9	10.3	10.6	11.0
2 - Circuit	0.25	6.58	7.9	8.6	9.3	10.1	10.3	10.8	11.2	11.5
	0.32	9.86	8.1	8.9	9.6	10.5	10.8	11.2	11.7	12.1
	Airside Ps (kPa)		0.02	0.03	0.04	0.05	0.06	0.07	0.09	0.10
	0.06	0.60	8.7	9.3	9.7	10.1	10.4	10.6	10.8	11.0
	0.13	1.79	11.2	11.5	12.3	12.9	13.5	14.0	14.4	14.7
2 Row	0.19	4.18	12.4	13.8	14.9	15.8	16.6	17.3	17.9	18.5
4 - Circuit	0.28	9.27	13.4	14.7	16.0	17.1	18.1	18.9	19.7	20.3
	0.38	16.14	14.0	15.7	17.1	18.4	19.5	20.5	21.4	22.2
	Airside Ps (kPa)		0.04	0.06	0.08	0.10	0.13	0.15	0.18	0.22
	0.25	5.68	16.9	19.0	20.7	22.1	23.3	24.4	25.3	26.2
	0.38	12.25	18.0	20.1	22.0	24.2	25.7	27.0	28.3	29.3
3 Row	0.50	21.82	18.6	21.2	23.4	25.4	27.1	28.6	30.0	31.2
6 - Circuit	0.63	34.07	19.0	21.6	24.0	26.1	28.0	29.6	31.1	32.5
	0.76	48.72	19.3	22.1	24.5	26.7	28.6	30.3	31.9	33.3
	Airside Ps (kPa)		0.06	0.09	0.12	0.15	0.19	0.23	0.28	0.33
	0.32	5.68	20.0	22.7	24.9	26.7	28.4	29.8	31.0	32.1
	0.44	11.06	21.0	24.0	26.6	28.8	30.7	32.5	34.0	35.4
4 Row	0.57	18.23	21.6	24.8	27.6	30.1	32.2	34.2	35.9	37.5
8 - Circuit	0.69	27.20	22.0	25.4	28.3	30.9	33.3	35.3	37.2	38.9
	0.82	37.96	22.3	25.8	28.9	31.6	34.0	36.2	38.2	40.0
	Airside Ps (kPa)		0.08	0.11	0.16	0.20	0.25	0.31	0.37	0.43

Refer to Table-B on page 31 for Metric Notes

514-YH Imperial Units

	GPM	Head Loss	CFM 1000	1300	1600	2000	2300	2600	3000	3300
	1.0	0.20	22.8	27.5	29.0	30.5	31.4	32.3	33.0	33.8
	2.0	0.80	31.6	32.8	35.2	37.6	39.0	40.5	41.7	43.0
1 Row	3.0	1.70	34.3	38.1	41.4	44.6	46.6	48.6	50.4	52.2
2 - Circuit	4.0	3.00	35.8	39.7	43.3	46.9	49.1	51.4	53.4	55.4
	5.0	4.60	36.8	41.4	45.3	49.2	51.7	54.1	56.4	58.7
	Airside Ps		0.06	0.09	0.14	0.19	0.24	0.29	0.37	0.44
	1.0	0.20	34.8	37.2	38.9	40.6	41.5	42.4	43.1	43.8
	2.0	1.00	43.9	48.4	51.8	55.3	57.3	59.2	60.9	67.7
2 Row	3.0	2.20	53.1	59.5	64.7	70.0	73.0	76.1	78.7	81.4
4 - Circuit	4.5	4.90	57.1	64.7	71.1	77.5	81.4	85.3	88.8	94.7
	6.0	8.80	61.1	69.9	77.5	85.1	89.9	94.6	98.9	103.2
	Airside Ps		0.12	0.19	0.29	0.39	0.50	0.61	0.76	0.91
	4.0	0.70	71.9	80.5	89.1	95.5	101.8	106.2	110.6	113.6
	6.0	1.50	77.7	86.7	97.0	105.1	113.1	118.9	124.7	128.8
3 Row	8.0	2.70	80.9	92.9	104.9	114.7	124.5	131.6	138.8	144.0
6 - Circuit	10.0	4.20	83.0	95.4	108.1	118.7	129.3	137.2	145.2	150.9
	12.0	6.10	84.4	97.9	111.4	122.8	134.2	142.8	151.5	157.8
	Airside Ps		0.19	0.30	0.41	0.58	0.75	0.96	1.17	1.37
	5.0	0.60	85.7	98.6	109.1	119.6	125.7	131.8	137.0	142.2
	7.0	1.30	90.9	104.5	117.1	129.6	137.2	144.7	151.4	158.1
4 Row	9.0	2.10	93.9	110.5	125.0	139.6	148.7	157.7	165.9	174.1
8 - Circuit	11.0	3.10	95.9	113.1	128.7	144.2	154.1	164.0	173.1	182.1
	13.0	4.30	97.4	115.7	132.3	148.9	159.6	170.3	180.2	190.1
	Airside Ps		0.25	0.38	0.59	0.79	1.01	1.23	1.53	1.83

Refer to Table-A on page 31 for Imperial Notes

514-YH Metric Units

	L/s	Head Loss kPa	L/s 470	615	755	945	1085	1225	1415	1555
	0.06	0.6	6.7	8.1	8.5	8.9	9.2	9.5	9.7	9.9
	0.13	2.4	9.2	9.6	10.3	11.0	11.4	11.8	12.2	12.6
1 Row	0.19	5.1	10.0	11.2	12.1	13.1	13.7	14.2	14.8	15.3
2 - Circuit	0.25	9.0	10.5	11.6	12.7	13.7	14.4	15.0	15.6	16.2
	0.32	13.7	10.8	12.1	13.3	14.4	15.1	15.9	16.5	17.2
	Airside Ps (kPa)		0.01	0.02	0.03	0.05	0.06	0.07	0.09	0.11
	0.06	0.6	10.2	10.9	11.4	11.9	12.2	12.4	12.6	12.8
	0.13	3.0	12.9	14.2	15.2	16.2	16.8	17.3	17.8	19.8
2 Row	0.19	6.6	15.6	17.4	19.0	20.5	21.4	22.3	23.1	23.8
4 - Circuit	0.28	14.6	16.7	19.0	20.8	22.7	23.9	25.0	26.0	27.7
	0.38	26.3	17.9	20.5	22.7	24.9	26.3	27.7	29.0	30.2
	Airside Ps (kPa)		0.03	0.05	0.07	0.10	0.12	0.15	0.19	0.23
	0.25	2.1	21.0	23.6	26.1	28.0	29.8	31.1	32.4	33.3
	0.38	4.5	22.8	25.4	28.4	30.8	33.1	34.8	36.5	37.7
3 Row	0.50	8.1	23.7	27.2	30.7	33.6	36.4	38.6	40.7	42.2
6 - Circuit	0.63	12.6	24.3	27.9	31.7	34.8	37.9	40.2	42.5	44.2
	0.76	18.2	24.7	28.7	32.6	36.0	39.3	41.8	44.4	46.2
	Airside Ps (kPa)		0.05	0.07	0.10	0.14	0.19	0.24	0.29	0.34
	0.32	1.8	25.1	28.9	31.9	35.0	36.8	38.6	40.1	41.6
	0.44	3.9	26.6	30.6	34.3	38.0	40.2	42.4	44.3	46.3
4 Row	0.57	6.3	27.5	32.4	36.6	40.9	43.5	46.2	48.6	51.0
8 - Circuit	0.69	9.3	28.1	33.1	37.7	42.2	45.1	48.0	50.7	53.3
	0.82	12.9	28.5	33.9	38.7	43.6	46.7	49.9	52.8	55.7
	Airside Ps (kPa)		0.06	0.09	0.15	0.20	0.25	0.31	0.38	0.46

Refer to Table-B on page 31 for Metric Notes

Hot Water Coils Selection Data

516-YH Imperial Units

	GPM	Head Loss	CFM 1600	2000	2300	2600	3000	3300	3600	4000
	1.0	0.20	31.4	33.2	34.2	35.0	36.0	36.6	37.2	37.8
	2.0	0.90	40.7	43.8	45.7	47.3	49.2	50.4	51.5	52.8
1 Row	3.0	1.90	45.2	49.0	51.4	53.5	55.9	57.6	59.0	60.9
2 - Circuit	4.0	3.60	47.3	51.5	54.2	56.6	59.4	61.2	62.9	65.0
	5.0	5.20	49.4	54.1	57.1	59.7	62.8	64.9	66.8	69.1
	Airside Ps		0.09	0.14	0.17	0.21	0.27	0.32	0.37	0.45
	1.0	0.10	41.4	43.2	44.3	45.1	46.0	46.6	47.1	47.6
	2.0	0.30	59.6	63.8	66.3	68.4	70.8	72.3	73.6	75.2
2 Row	3.0	0.70	69.5	75.5	79.1	82.3	85.8	88.2	90.2	92.7
4 - Circuit	5.0	1.90	80.0	88.2	93.4	97.9	103.2	106.7	109.8	113.6
	6.0	2.80	83.1	92.1	97.8	102.8	108.7	112.5	116.1	120.3
	Airside Ps		0.20	0.29	0.37	0.45	0.57	0.67	0.78	0.93
	4.0	0.70	95.7	104.6	110.0	114.6	119.7	123.1	126.1	129.5
	6.0	1.60	106.4	118.1	125.3	131.7	139.0	143.8	148.0	153.2
3 Row	8.0	2.90	112.5	126.0	134.5	142.0	150.8	156.6	161.9	168.2
6 - Circuit	10.0	4.50	116.5	131.2	140.6	148.9	158.8	165.3	171.3	178.5
	12.0	6.40	119.3	134.8	144.9	153.9	164.5	171.7	178.2	186.1
	Airside Ps		0.30	0.44	0.55	0.68	0.86	1.01	1.17	1.40
	5.0	0.70	116.3	128.3	135.7	141.9	149.0	153.5	157.6	162.3
	7.0	1.30	126.3	141.3	150.8	158.9	168.4	174.5	180.0	186.6
4 Row	9.0	2.20	132.4	149.5	160.4	169.9	181.1	188.4	195.1	203.1
8 - Circuit	11.0	3.20	136.5	155.1	167.0	177.6	190.1	198.3	205.9	215.0
	12.0	3.80	138.1	157.3	169.6	180.6	193.6	202.3	210.2	219.7
	Airside Ps		0.40	0.58	0.73	0.90	1.15	1.35	1.56	1.86

Refer to Table-A on page 31 for Imperial Notes

516-YH Metric Units

	L/s	Head Loss kPa	L/s 755	945	1085	1225	1415	1555	1700	1890
	0.06	0.6	9.2	9.7	10.0	10.3	10.5	10.7	10.9	11.1
	0.13	2.7	11.9	12.8	13.4	13.9	14.4	14.8	15.1	15.5
1 Row	0.19	5.7	13.2	14.3	15.0	15.7	16.4	16.9	17.3	17.8
2 - Circuit	0.25	10.8	13.9	15.1	15.9	16.6	17.4	17.9	18.4	19.0
	0.32	15.5	14.5	15.8	16.7	17.5	18.4	19.0	19.6	20.2
	Airside Ps (kPa)		0.02	0.03	0.04	0.05	0.07	0.08	0.09	0.11
	0.06	0.3	12.1	12.7	13.0	13.2	13.5	13.6	13.8	14.0
	0.13	0.9	17.4	18.7	19.4	20.0	20.7	21.2	21.6	22.0
2 Row	0.19	2.1	20.3	22.1	23.2	24.1	25.1	25.8	26.4	27.1
4 - Circuit	0.32	5.7	23.4	25.8	27.4	28.7	30.2	31.2	32.2	33.3
	0.38	8.4	24.3	27.0	28.6	30.1	31.8	33.0	34.0	35.2
	Airside Ps (kPa)		0.05	0.07	0.09	0.11	0.14	0.17	0.19	0.23
	0.25	2.1	28.0	30.6	32.2	33.5	35.1	36.0	36.9	37.9
	0.38	4.8	31.2	34.6	36.7	38.6	40.7	42.1	43.4	44.9
3 Row	0.50	8.7	33.0	36.9	39.4	41.6	44.2	45.9	47.4	49.2
6 - Circuit	0.63	13.5	34.1	38.4	41.2	43.6	46.5	48.4	50.2	52.3
	0.76	19.1	34.9	39.5	42.4	45.1	48.2	50.3	52.2	54.5
	Airside Ps (kPa)		0.07	0.11	0.14	0.17	0.21	0.25	0.29	0.35
	0.32	2.1	34.0	37.6	39.7	41.6	43.6	45.0	46.1	47.5
	0.44	3.9	37.0	41.4	44.2	46.5	49.3	51.1	52.7	54.6
4 Row	0.57	6.6	38.8	43.8	47.0	49.8	53.0	55.2	57.1	59.5
8 - Circuit	0.69	9.6	40.0	45.4	48.9	52.0	55.7	58.1	60.3	63.0
	0.76	11.4	40.5	46.1	49.7	52.9	56.7	59.2	61.6	64.4
	Airside Ps (kPa)		0.10	0.14	0.18	0.22	0.29	0.34	0.39	0.46

Refer to Table-B on page 31 for Metric Notes

520-YH Imperial Units

	GPM	Head Loss	CFM 1500	2000	2500	3000	3500	4000	5000	6000
	2.0	0.20	43.5	47.6	50.7	53.2	55.2	56.9	59.6	61.7
	4.0	1.00	52.4	58.7	63.6	67.6	71.0	74.0	78.8	82.6
1 Row	6.0	2.10	56.3	63.6	69.5	74.4	78.6	82.3	88.3	93.3
4 - Circuit	8.0	3.70	58.5	66.5	73.0	78.4	83.1	87.2	94.1	99.7
	10.0	5.80	59.9	68.3	75.2	81.1	86.1	90.8	97.9	104.1
	Airside Ps		0.04	0.07	0.11	0.15	0.19	0.24	0.36	0.49
	2.0	0.25	62.9	68.7	72.9	76.1	78.6	80.6	83.8	86.1
	4.0	0.70	81.0	91.6	99.7	106.2	111.5	116.0	123.2	128.7
2 Row	6.0	1.50	89.5	102.8	113.3	122.0	129.2	135.4	145.6	153.7
6 - Circuit	8.0	2.70	94.4	109.5	121.6	131.7	140.3	147.8	160.1	170.1
	10.0	4.20	97.6	113.9	127.2	138.4	148.0	156.3	170.3	181.7
	Airside Ps		0.10	0.16	0.23	0.32	0.41	0.51	0.74	1.01
	6.0	1.00	102.7	118.8	131.5	141.8	150.5	157.8	169.7	179.0
	8.0	1.70	108.1	126.4	141.2	153.5	164.0	173.0	187.9	199.7
3 Row	10.0	2.70	11.5	131.4	147.7	161.4	173.2	183.4	200.6	214.4
8 - Circuit	12.0	3.80	113.8	134.9	152.3	167.0	179.8	191.0	209.9	225.4
	14.0	5.20	115.6	137.5	155.7	171.3	184.9	196.8	217.1	233.9
	Airside Ps		0.12	0.19	0.29	0.40	0.52	0.66	0.97	1.34
	6.0	0.60	116.9	135.3	149.6	161.0	170.4	178.3	190.8	200.4
	8.0	1.10	123.8	145.3	162.5	176.6	188.4	198.5	214.9	227.7
4 Row	10.0	1.70	128.2	151.9	171.2	187.2	200.9	212.7	232.1	247.6
12 - Circuit	12.0	2.50	131.2	156.5	177.3	194.9	210.0	223.2	245.1	262.8
	14.0	3.40	133.5	160.0	182.0	200.7	217.0	231.2	255.1	274.6
	Airside Ps		0.16	0.26	0.38	0.53	0.69	0.88	1.29	1.78

Refer to Table-A on page 31 for Imperial Notes

520-YH Metric Units

	L/s	Head Loss kPa	L/s 710	945	1180	1415	1650	1890	2360	2830
	0.13	0.60	12.7	13.9	14.9	15.6	16.2	16.7	17.4	18.1
	0.25	2.99	15.3	17.2	18.6	19.8	20.8	21.7	23.1	24.2
1 Row	0.38	6.28	16.5	18.6	20.4	21.8	23.0	24.1	25.9	27.3
4 - Circuit	0.50	11.06	17.1	19.5	21.4	23.0	24.3	25.5	27.6	29.2
	0.63	17.34	17.5	20.0	22.0	23.7	25.2	26.6	28.7	30.5
	Airside Ps (kPa)		0.01	0.02	0.03	0.04	0.05	0.06	0.09	0.12
	0.13	0.75	18.4	20.1	21.4	22.3	23.0	23.6	24.5	25.2
	0.25	2.09	23.7	26.8	29.2	31.1	32.7	34.0	36.1	37.7
2 Row	0.38	4.48	26.2	30.1	33.2	35.7	37.8	39.7	42.6	45.0
6 - Circuit	0.50	8.07	27.6	32.1	35.6	38.6	41.1	43.3	46.9	49.8
	0.63	12.55	28.6	33.4	37.3	40.5	43.3	45.8	49.9	53.2
	Airside Ps (kPa)		0.02	0.04	0.06	0.08	0.10	0.13	0.18	0.25
	0.38	2.99	30.1	34.8	38.5	41.5	44.1	46.2	49.7	52.4
	0.50	5.08	31.6	37.0	41.4	45.0	48.0	50.7	55.0	58.5
3 Row	0.63	8.07	3.4	38.5	43.2	47.3	50.7	53.7	58.7	62.8
8 - Circuit	0.76	11.36	33.3	39.5	44.6	48.9	52.7	55.9	61.5	66.0
	0.88	15.54	33.9	40.3	45.6	50.2	54.1	57.6	63.6	68.5
	Airside Ps (kPa)		0.03	0.05	0.07	0.10	0.13	0.16	0.24	0.33
	0.38	1.79	34.2	39.6	43.8	47.2	49.9	52.2	55.9	58.7
	0.50	3.29	36.2	42.6	47.6	51.7	55.2	58.1	62.9	66.7
4 Row	0.63	5.08	37.5	44.5	50.1	54.8	58.8	62.3	68.0	72.5
12 - Circuit	0.76	7.47	38.4	45.8	51.9	57.1	61.5	65.4	71.8	77.0
	0.88	10.16	39.1	46.8	53.3	58.8	63.5	67.7	74.7	80.4
	Airside Ps (kPa)		0.04	0.06	0.09	0.13	0.17	0.22	0.32	0.44

Refer to Table-B on page 31 for Metric Notes

Hot Water Coils Selection Data

524-YH Imperial Units

	GPM	Head Loss	CFM 2000	3000	4000	5000	5500	6000	7000	8000
	2.0	0.40	52.9	59.3	63.5	66.5	67.8	68.9	70.8	72.4
	4.0	1.70	65.6	76.0	83.4	89.1	91.4	93.6	97.3	100.5
1 Row	6.0	3.80	71.3	83.9	93.1	100.3	103.4	106.2	111.1	115.3
4 - Circuit	8.0	6.60	74.5	88.5	98.9	107.1	110.6	113.8	119.5	124.5
	10.0	10.30	76.6	91.6	102.8	111.6	115.5	119.0	125.3	130.7
	Airside Ps		0.05	0.10	0.16	0.24	0.28	0.32	0.42	0.53
	2.0	0.30	74.2	82.4	87.3	90.7	92.0	93.1	95.0	96.5
	4.0	1.30	99.6	116.2	127.3	135.4	138.8	141.7	146.7	150.8
2 Row	6.0	2.90	112.0	134.0	149.5	161.2	166.1	170.5	178.0	184.4
6 - Circuit	8.0	5.10	119.4	145.0	163.5	177.9	183.9	189.4	199.0	207.1
	10.0	7.90	124.3	152.4	173.2	189.6	196.5	202.9	214.0	223.5
	Airside Ps		0.11	0.21	0.34	0.50	0.59	0.68	0.88	1.10
	6.0	0.70	141.3	168.5	186.7	199.9	205.2	209.9	217.9	224.4
	8.0	1.30	151.4	184.5	207.6	224.8	232.0	238.4	249.3	258.3
3 Row	10.0	2.00	158.0	195.2	222.1	242.6	251.2	258.9	272.3	283.5
9 - Circuit	12.0	2.90	162.6	203.0	232.7	255.8	265.5	274.4	289.8	302.8
	14.0	3.90	166.0	208.8	240.9	266.0	276.7	286.5	303.6	318.1
	Airside Ps		0.13	0.32	0.52	0.75	0.88	1.02	1.32	1.65
	6.0	0.50	159.2	189.9	209.8	223.8	229.3	234.2	242.3	248.8
	8.0	1.00	171.6	210.1	236.4	255.6	263.4	270.3	282.0	291.5
4 Row	10.0	1.50	179.6	223.8	255.1	278.6	288.3	296.9	311.8	324.1
12-Circuit	12.0	2.10	185.2	233.6	268.9	295.9	307.2	317.3	334.9	349.5
	14.0	2.90	189.3	241.1	279.5	309.4	322.0	333.4	353.2	370.0
	Airside Ps		0.22	0.42	0.69	1.00	1.17	1.36	1.76	2.20

Refer to Table-A on page 31 for Imperial Notes

524-YH Metric Units

	L/s	Head Loss kPa	L/s 945	1415	1890	2360	2595	2830	3305	3775
	0.25	5.08	19.2	22.3	24.4	26.1	26.8	27.4	28.5	29.4
	0.38	11.36	20.9	24.6	27.3	29.4	30.3	31.1	32.5	33.8
1 Row	0.50	19.73	21.8	25.9	29.0	31.4	32.4	33.3	35.0	36.4
2 - Circuit	0.63	30.79	22.4	26.8	30.1	32.7	33.8	34.9	36.7	38.3
	#VALUE!	0.00	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2
	Airside Ps (kPa)		18.49	20.51	21.74	22.58	22.91	23.19	23.67	24.03
	0.25	3.89	29.2	34.0	37.3	39.7	40.6	41.5	43.0	44.2
	0.38	8.67	32.8	39.2	43.8	47.2	48.6	49.9	52.1	54.0
2 Row	0.50	15.24	35.0	42.5	47.9	52.1	53.9	55.5	58.3	60.7
4 - Circuit	0.63	23.61	36.4	44.6	50.7	55.5	57.6	59.4	62.7	65.5
	#VALUE!	0.00	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3
	Airside Ps (kPa)		35.20	41.96	46.50	49.78	51.11	52.29	54.28	55.90
	0.50	3.89	44.3	54.0	60.8	65.8	67.9	69.8	73.0	75.7
	0.63	5.98	46.3	57.2	65.0	71.0	73.6	75.8	79.7	83.0
3 Row	0.76	8.67	47.6	59.5	68.2	74.9	77.8	80.4	84.9	88.7
9 - Circuit	0.88	11.66	48.6	61.2	70.5	77.9	81.0	83.9	88.9	93.2
	#VALUE!	0.00	0.0	0.1	0.2	0.2	0.3	0.3	0.4	0.5
	Airside Ps (kPa)		39.66	47.30	52.25	55.73	57.12	58.33	60.35	61.97
	0.50	2.99	50.3	61.5	69.2	74.8	77.1	79.2	82.6	85.4
	0.63	4.48	52.6	65.5	74.7	81.6	84.4	87.0	91.3	94.9
4 Row	0.76	6.28	54.2	68.4	78.8	86.7	90.0	92.9	98.1	102.4
12-Circuit	0.88	8.67	55.4	70.6	81.9	90.6	94.3	97.6	103.5	108.4
	#VALUE!	0.00	0.1	0.1	0.2	0.3	0.3	0.4	0.5	0.6
	Airside Ps (kPa)		#VALUE!	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Refer to Table-B on page 31 for Metric Notes

Hot Water Coils – Notes

Table-A

IMPERIAL NOTES

1. Values shown in the above charts assume the following conditions: 180°F EWT, and 55°F EAT. For other conditions of entering water, air temperatures and air flow, see note 4.
2. Tabulated values are in MBH (Thousands of BTU Per Hour).
3. Head Loss is in feet of water.
4. MBH values are based on a DT (Temperature Difference) of 125° F between entering air and entering water. For other DTs, multiply the MBH values by the factors below:

DT	Factor
40	.32
50	**.40**
60	.48
70	**.56**
80	.64
90	**.72**

DT	Factor
100	.80
110	**.88**
125	1
135	**1.10**
160	1.28
180	**1.44**

5. Air Temperature Rise = $\frac{927 \times MBH}{CFM}$

6. Water Temperature Drop = $\frac{2.04 \times MBH}{GPM}$

7. For water valve sizing, contact your YORK representative. For data values other than those listed, interpolate or use the YORK Terminal Selection Program. Contact your YORK representative for additional information.

Table-B

METRIC NOTES

1. Values shown in the above charts assume the following conditions: Standard Atmospheric Conditions, 82°C EWT, and 12°C EAT. For other conditions of entering water, air temperatures and air flows, see note 4.
2. Tabulated values are in kW (Thousands of watts).
3. Head loss is in kPa.
4. kW values are based on a DT (temperature difference) between entering air and entering water of 70°C. For other DTs, multiply the kW values by the factors below:

DT	Factor
20	0.28
30	0.43
40	0.57
50	0.72
55	0.79
60	0.86

DT	Factor
65	0.93
70	1.00
75	1.08
80	1.15
90	1.29
100	1.44

5. Air Temperature Rise = $\frac{kW \times 579}{\text{air flow in L/s}}$

6. Water Temperature Drop = $\frac{kW \times 0.17}{\text{water flow in L/s}}$

7. For water valve sizing, contact your YORK representative. For data values other than those listed, interpolate or use the Metal Industries computerized Engineering program. Contact your YORK representative for additional information.

Control Sequences

BASIC AIR TERMINAL

(100) Without Controls:
Specify when controls are to be field-mounted and supplied by others—Flow sensor extra.

MANUALLY OPERATED AIR TERMINAL (101) Pressure dependent:
Basic air terminal with manual locking quadrant.

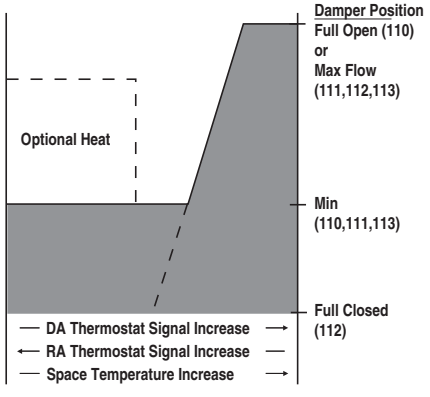
PNEUMATICALLY CONTROLLED AIR TERMINALS

Pressure dependent pneumatic air terminal actuators are powered directly by branch line pressure signals from the room thermostat. Pressure independent pneumatic air terminal actuators are powered by signals from a flow control device which balances pressure readings from the main air supply and the branch air pressure from the thermostat. The dampers position is regulated by the flow control which operates within preset minimum and maximum flow rates.

A direct acting thermostat causes an increase in branch pressure as the room temperature rises. A reverse acting thermostat causes a decrease in branch pressure as the room temperature rises. Since the pneumatic actuator is a spring return device, the damper can be connected so that without main pressure it will return to normally closed position to shut off air flow to the room, or to a normally open position to permit unobstructed air flow to the room.

Single function flow controllers are dedicated for use with either a direct or reverse acting thermostat to return the damper actuator to a fixed, specified normal position. Multi-function flow controllers can be field modified for use with a direct or reverse acting thermostat and the damper actuator can be switched to either normal position without adding control components. The Series 500-YH readily accommodates this type of controller versatility since its control linkage design allows the primary air damper to be repositioned without the use of tools from normally open to normally closed, or vice versa, without removing or relocating the damper actuator. Pressure independent control sequences are available with a choice of flow controllers. Specify controller choice by indicating the proper suffix letter from the following table.

Flow Control Manufacturer	Suffix
KMC single function non-scaled	**L**
KMC multi-function non-scaled	M

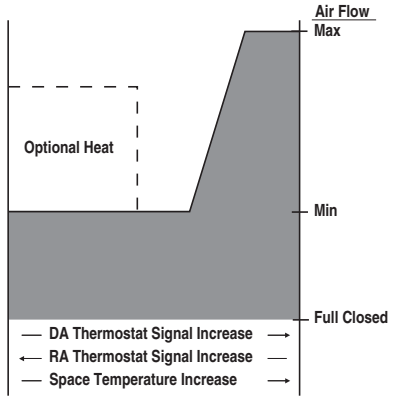


Pneumatic
Pressure Dependent

Actuator responds directly to a signal from a room thermostat.
Furnished with a mechanical air flow stop. Heat optional.

(110) Normally closed for use with a direct acting room thermostat.
(111) Normally closed for use with a direct acting room thermostat.
Furnished with a control air pressure regulator for limiting maximum air flow.
(112) Normally open for use with a reverse acting room thermostat.
(113) Normally open for use with a reverse acting room thermostat.
Furnished with a control air pressure regulator for limiting minimum air flow.

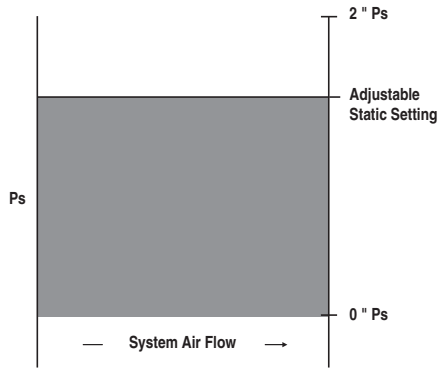
Pneumatic Control Sequence



Pneumatic
Pressure Independent
114 - DA/NC
115 - DA/NO
116 - RA/NC
117 - RA/NO

(114) Variable Volume. Normally closed. For use with direct acting thermostat.
Optional heat is energized by the thermostat after air flow has reached a preset minimum.
(115) Variable Volume. Normally open. For use with direct acting thermostat.
Optional heat is energized by the thermostat after air flow has reached a preset minimum.
(116) Variable Volume. Normally closed. For use with reverse acting thermostat.
Optional heat is energized by the thermostat after air flow has reached a preset minimum.
(117) Variable Volume. Normally open. For use with reverse acting thermostat.
Optional heat is energized by the thermostat after air flow has reached a preset minimum.

Pneumatic
140 Static Control (0" - 2")



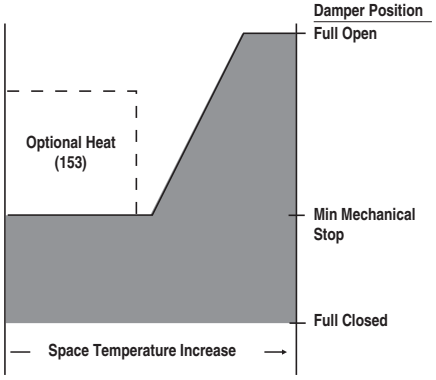
(140) Static Control. Normally open or normally closed.
Local or remote pickup senses duct static and signals controller to maintain constant static at sensing point. It may be used for direct static control or as a by-pass flow method. 0"–2" range.

Electric Control Sequences

ELECTRICALLY CONTROLLED AIR TERMINALS

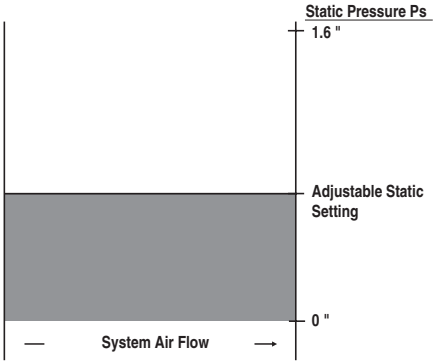
Reversible electric actuators are pressure dependent, and are powered directly by signals from the room thermostat. As room temperature rises, the actuator opens the damper to permit a higher flow of cooling air into the room. As room temperature falls, the actuator closes the damper to reduce air flow to the room. The electric actuator is not a spring return device. If there is a loss of power to the air terminal, the damper will remain in the position it occupied at the time of the failure. A mechanical stop is provided with each electric control sequence to assure minimum air flow to the room. The modulating actuator provides floating proportional control of supply air to the room and can be left in a stalled position indefinitely. A 24 volt, bimetallic room thermostat is a standard component of each electric control sequence, with the exception of 157N. A transformer is required to reduce line voltage to 24 volts to operate the thermostat and the actuator. Standard 40 VA (50 VA on units with electric heat) transformers that reduce 120, 240, or 277 line voltage to 24 control voltage are optional with each electric control sequence, as is a control panel cover to enclose the low voltage controls used.

Electric
Pressure Dependent
152 Cooling Only
153 Cooling with Heat



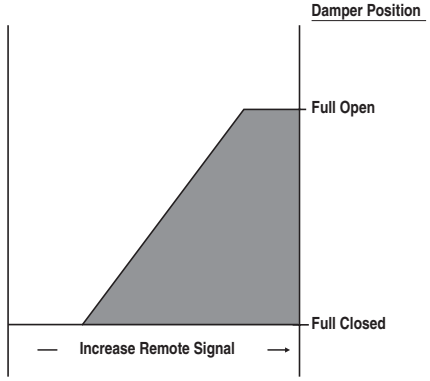
(152) Cooling Only. As room temperature rises, the thermostat signals the actuator to open the damper to its fully open position. As room temperature falls, the thermostat signals the actuator to close the damper to a mechanically determined minimum point.

Electric
156 Static Control (0" - 1.6")



(156) Static Control.
Static sensor - at terminal or remote - senses static variations and signals controller to maintain static.
0" - 1.6" range.

Electric
157 Floating, Electric Control



(157) Floating, Electric Control.
Actuator modulates air flow in response to controller (by others) signals. Signal, 24VAC, may be from a static, velocity, or other controller requiring air flow modulation.
(Flow sensor and thermostat optional.)

Analog Electronic Control Sequences

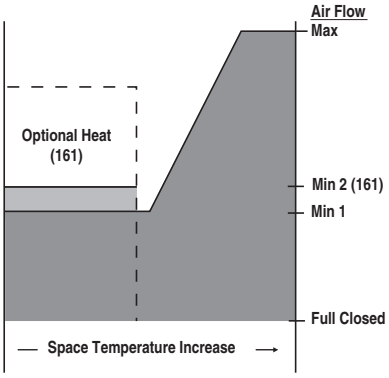
ANALOG ELECTRONICALLY CONTROLLED AIR TERMINALS

Analog electronic flow controls are the only electrical devices available for use with electric or electronic damper actuators that achieve pressure independent control so that variations in supply static pressure do not affect air flow conditions to the room. The analog electronic room thermostats supplied with the control sequences detailed on this page have field adjustable flow limit set points. The thermostat electronically signals the actuator to open or close the damper in response to the temperature of the room within preset air flow limits. The electric and electronic actuators are not spring return devices. If there is a loss of power to the air terminal, the damper will remain in the position it occupied at the time of the power failure.

These state-of-the-art control sequences are available with both analog and computer compatible, digital input/output controller options. Numerous control arrangements are possible with electronic control sequencing which are not discussed in this catalog.

All of the electric and electronic components used in these sequences use low voltage (24 volt) controls and are readily enclosed with a standard control panel cover. A standard 40 VA transformer that reduces 120, 240 or 277 line voltage to 24 control voltage is wired into the control sequence as a standard component. It is assumed that 120 line voltage is being supplied to the air terminal if a different line voltage is not specifically listed.

Analog Electronic Control
Pressure Independent
160 Cooling Only
161 Cooling with Reheat

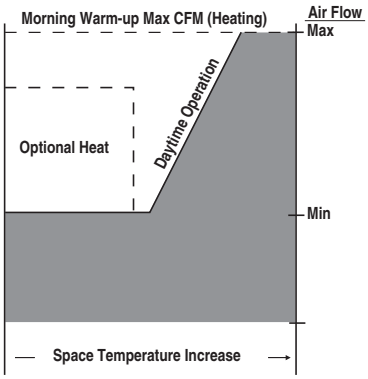


(160) Cooling Only.
Electronic thermostat (analog models with integral, adjustable, maximum and minimum flow limits) signals electronic flow controller to regulate damper position. The damper is rotated to its maximum open position as room temperature rises and to its minimum open position as room temperature falls.

(161) Cooling with Heat.
Electronic thermostat (analog models with integral, adjustable, maximum and minimum flow limits) signals electronic flow controller to regulate damper position.

The damper is rotated to its maximum open position as room temperature rises and to its minimum open position as room temperature falls. After the damper has reached its minimum position, the thermostat actuates optional heat at an independently selected setpoint. Up to three stages of heat are available depending on the control manufacturer selected.

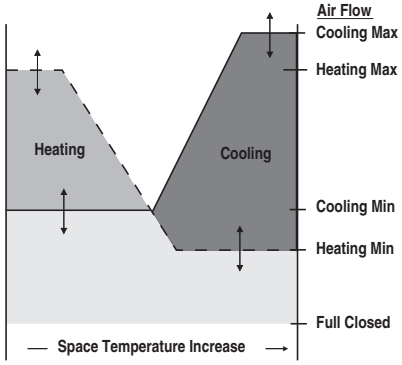
Analog Electronic Control
Pressure Independent
164 Night Shutdown/Morning Warm-up



(164) Night Shutdown/Morning Warm-up.
Daytime Operation: Electronic thermostat (analog models with integral, adjustable, maximum and minimum flow limits) signals electronic flow controller to regulate damper position. The damper is rotated to its maximum open position as room temperature rises and to its minimum open position as room temperature falls. After the damper has reached its minimum position, the thermostat actuates optional heat at an independently selected setpoint. Up to three stages of heat are available depending on the control manufacturer selected.

Night Shutdown/Morning Warm-up: With central system off, no air or duct mounted heat is supplied to the room. At morning warm-up, a duct sensor detects warm air in the central system and drives air terminal to maximum CFM. During warm-up, duct heat is held off. When duct sensor detects cold air in the central system, air terminal automatically reverts to daytime operation.

Analog Electronic Control
Pressure Independent
165 Heating Cooling Changeover

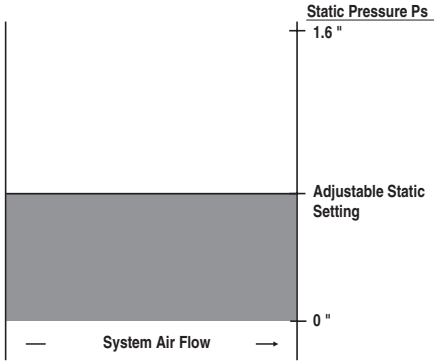


(165) Heating/Cooling Changeover: Either a duct thermostat or remote input signal switches a heat/cool relay to make the system operate in the appropriate heating or cooling mode.

Cooling Mode: Electronic thermostat (analog models with integral, adjustable, maximum and minimum flow limits) signals electronic flow controller to regulate damper position. The damper is rotated to its maximum open position as room temperature rises and to its minimum open position as room temperature falls.

Heating Mode: In the heating mode, damper is modulated in response to the heating signals from the electronic room thermostat.

Electronic
173 Static Control



(173) Electronic Static Control.
Static sensor - local or remote - senses variations and signals controller accordingly. For direct static control or bypass static control. 0"-2" range.

DDC Electronic Control Capability

DDC ELECTRONIC CONTROL CAPABILITY

A large and growing number of manufacturers are developing digital and analog electronic controls for HVAC applications. Regardless of the brand of controls chosen for your installation, YORK INTERNATIONAL will mount and wire any manufacturer's controls.

In those cases where it is desirable to have the controls field-mounted and wired, a basic air terminal without controls can be purchased from YORK INTERNATIONAL. The basic unit includes a control panel that will accommodate the mounting of all currently available manufacturers' equipment.

Whether controls are to be factory-mounted and wired by YORK INTERNATIONAL or field-installed by the control manufacturer, many types of electronic controllers require a flow sensor. YORK INTERNATIONAL will provide its own multi-point flow sensor which is compatible with most electronic control devices currently on the market, or mount a control manufacturer's compatible sensor.

By focusing on developing a universally functional air terminal that is compatible with all electronic control packages, YORK INTERNATIONAL offers a unique service to today's fast-paced, technology-hungry HVAC market. This approach is highly endorsed by control manufacturers and HVAC design engineers alike. YORK INTERNATIONAL is dedicated to providing the best air terminal device to operate with any control manufacturer's equipment.

Consult your local YORK INTERNATIONAL representative for the latest information on both availability and pricing of electronic controls.

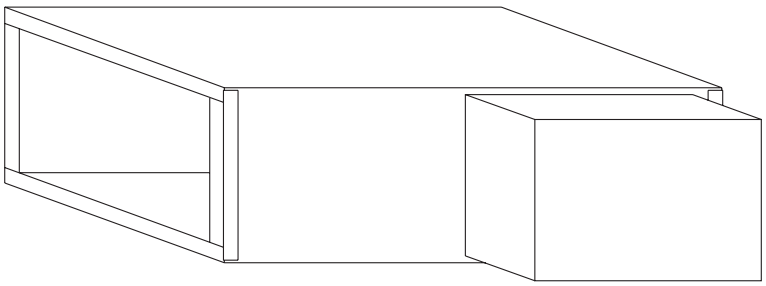
Manufacturer	Analog(A) Digital (D)	Uses YI Flow Sensor	Uses YI Actuator	YI Code Letter
Honeywell	D	Yes	No	A
Johnson	**D**	**Yes**	**No***	**G**
Siemens-Landis	D	Yes	No	H
Alerton	**D**	**Yes**	**Yes**	**J**
KMC	A/D	Yes	No	K/Y
Invensys-Siebe	**D**	**Yes**	**No**	**R**
Andover	D	Yes	Yes	T
Siemens-Staefa	**D**	**No**	**No**	**U**
Automated Logic	D	Yes	Yes	V
CSI	**D**	**Yes**	**No**	**X**

Accessories and Components

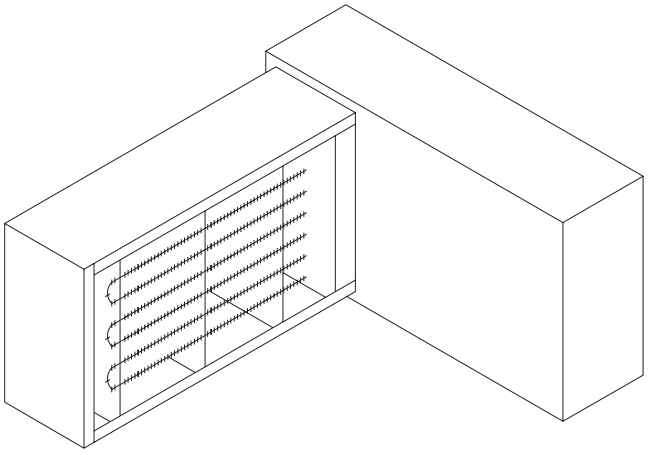
ELECTRIC HEAT

Electric heater elements, as illustrated on this page, are enclosed in an insulated plenum which is integral to the air terminal. The discharge end of the plenum has slip and drive connections for easy connection to an additional air terminal unit accessory or to downstream ductwork. E.T.L.® listed heaters are provided with an air static switch to improve air flow through the elements. Heaters that will be controlled electrically or electronically must include a 24VAC control circuit to operate compatibly with the low voltage controls on the air terminal. A transformer should be added to the electric heater for this purpose which will reduce line voltage to the heater and air terminal controls. Pneumatically controlled heaters may operate at line voltage unless they are over 300 volts or local code requires a lower control voltage. The length of the heater control cabinet depends upon the control package ordered for the heater with a maximum standard length of 34". The factory will provide notification if the control cabinet length exceeds this dimension. The depth of the control cabinet normally does not exceed 5". The location of the heater elements in the plenum downstream of the air terminal provides adequate distance for the flow of supply air to expand once past the damper so that there are no hot spots in the heater. Heater plenums are internally insulated with 1/2", 1.5-lb density fiberglass insulation. When an air terminal is ordered with clean room lining and electric heat, the heater plenum is either internally lined with optional foil backed insulation or closed cell foam or may be externally insulated in the field.

NOTE: Three phase electric heat is not available on the Series 506-YH.



All accessories which can be attached to the Series 500-YH Air Terminals are not a part of the ARI certification program but ratings can be affected by their use.

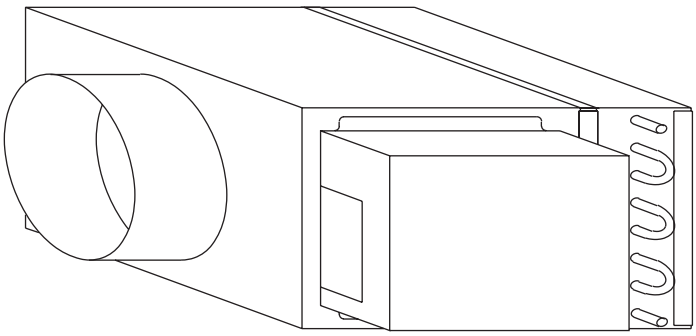


Accessories and Components

HOT WATER COILS

When ordered with the air terminal, the hot water coil is shipped attached with slip and drive connections to the air terminal casing. The discharge end of the casing has slip and drive connections for easy connection to an additional air terminal unit accessory or to downstream ductwork. The hot water coil is constructed of aluminum fin and copper serpentine-type tubes with sweat connections tested at 300 PSIG. Coil selection may be made using YORK Terminal Selection Program on CD. Contact your YORK representative for a copy. The hot water housing must be externally insulated after installation in the field. Hot water coils are tested in accordance to ARI. Options, at an additional charge on hot water coils, include access doors for inspection and cleaning, and inlet/outlet on opposite sides of coils.

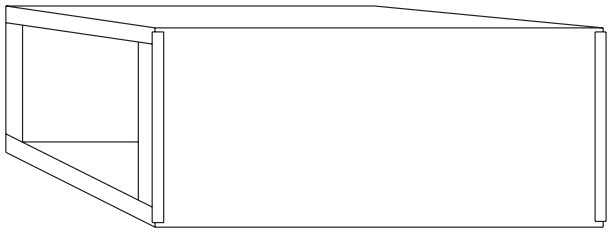
All accessories which can be attached to the Series 500-YH Air Terminals are not a part of the ARI certification program but ratings can be affected by their use.



Unit	1 Row		2 Row		3 Row		4 Row	
Size	Inlet Tube Dia.	#Fins/Inch	Inlet Tube Dia.	#Fins/Inch	Inlet Tube Dia.	#Fins/Inch	Inlet Tube Dia.	#Fins/Inch
506	5/8" (15.9)	10	7/8" (22)	10	7/8" (22)	10	7/8" (22)	10
508	**5/8" (15.9)**	**10**	**7/8" (22)**	**10**	**7/8" (22)**	**10**	**7/8" (22)**	**10**
510	5/8" (15.9)	10	7/8" (22)	10	7/8" (22)	10	7/8" (22)	10
512	**7/8" (22)**	**10**	**7/8" (22)**	**10**	**7/8" (22)**	**10**	**7/8" (22)**	**10**
514	5/8" (15.9)	10	7/8" (22)	10	7/8" (22)	10	7/8" (22)	10
516	**5/8"" (15.9)**	**10**	**7/8" (22)**	**10**	**7/8" (22)**	**10**	**7/8" (22)**	**10**
520	7/8" (22)	10	7/8" (22)	10	1 1/8" (28.6)	8	1 1/8" (28.6)	8
524	**7/8" (22)**	**10**	**7/8"(22)**	**10**	**1 1/8" (28.6)**	**8**	**1 1/8" (28.6)**	**8**

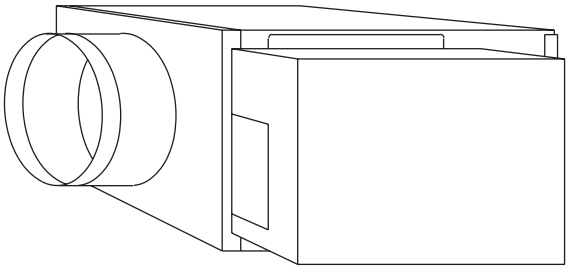
SOUND ATTENUATORS

The 30" long, acoustically lined sound attenuator is designed to further reduce discharge sound levels from the air terminal. The sound attenuator and the YH are shipped as an integrated unit. When ordered with the electric heat, the sound attenuator attaches directly to the heat option by means of slip and drive connections. The discharge end of the sound attenuator also has slip and drive connections for easy connection to an additional air terminal unit accessory or to downstream ductwork. The chart below gives reductions to the discharge sound power figures at minimum static pressure for each octave band. When the 500-YH is ordered with a sound attenuator and clean room lining, the sound attenuator must be shipped with the foil backed or closed cell foam insulation lining. These liners reduce the insertion loss values by approximately 50%.



Air Terminal	Band Frequency (Hz)					
Size	2/125	3/250	4/500	5/1000	6/2000	7/4000
506	1	1	3	10	13	8
508	**1**	**1**	**3**	**9**	**11**	**8**
510	1	1	3	8	10	7
512	**1**	**1**	**2**	**7**	**9**	**6**
514	1	1	2	7	7	6
516	**1**	**1**	**2**	**6**	**7**	**5**
520	1	1	2	6	6	5
524	**1**	**1**	**2**	**6**	**5**	**4**

All accessories which can be attached to the Series 500-YH Air Terminals are not a part of the ARI certification program but ratings can be affected by their use.



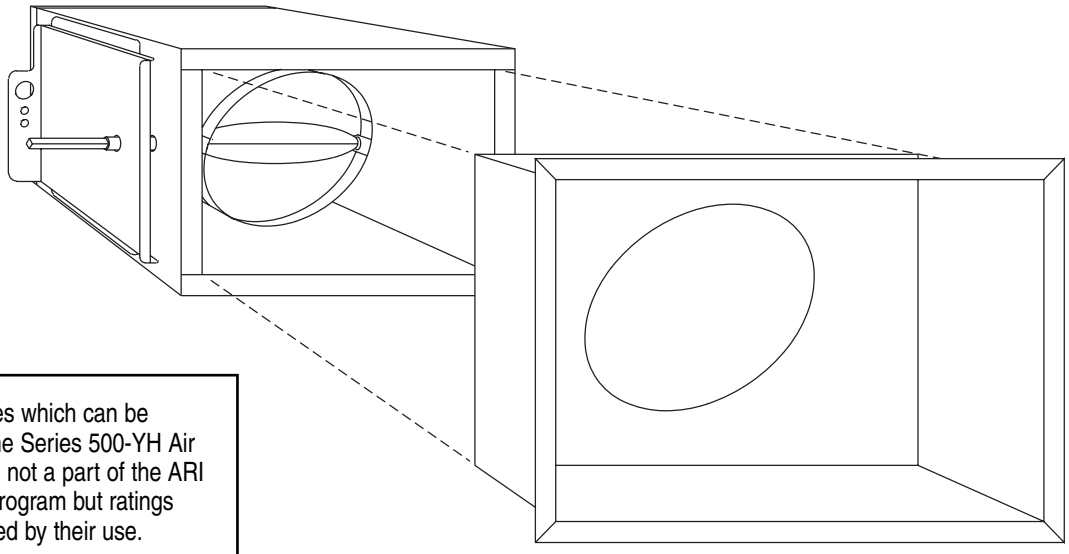
Accessories and Components

CLEAN ROOM LINERS
YORK INTERNATIONAL has developed three types of air terminal and accessory "clean room" liners for use in health care, laboratory and penal institutions when required by specification.

FOIL BACKED LINER
An optional foil backed lining can be applied to the Series 500-YH Air Terminal and the sound attenuator, electric heat plenum and multiple outlet plenum accessories. 1.5lbs./cu.ft. density, 1/2" thick foil backed fiberglass material is available as a clean room liner in applications where discharge noise performance is more critical. The discharge noise performance for an air terminal with the foil backed clean room liner is equal to the current catalog data for a standard air terminal. Foil backed liner meets the requirements of U.L. 181 and NFPA 90A.

THERMOPURE
This innovative closed cell foam eliminates fiberglass completely, while meeting or exceeding the performance of fiberglass.ThermoPure has a 25/50 fire/smoke rating, 1.5lbs./cu.ft. density, 6000 ft./min. velocity rating, and holds its thermal integrity, even when wet. It meets the U.L. 181 tests for mold and mildew resistance. Surfaces are washable if desired. Sound attenuators, multiple outlet plenums and electric heat plenums are shipped with ThermoPure or foil backed insulation for an additional fee. These accessories may also be ordered without insulation in which case they require external insulation after installation in the duct work. Hot water coils are shipped without insulation and must be externally insulated in the field.

METAL LINER
A special sheet metal liner that fits inside of the Series 500-YH Air Terminal is thoroughly sealed to completely isolate the coated fibrous glass insulation material from the air stream. The liner provides a virtually indestructible nonporous duct surface that cannot dry out, rip, tear, or break off in the air stream no matter how long the air terminal operates in the system, but effectively inhibits bacteria growth. The use of the metal liner makes the air terminal casing more rigid and retains the functionality of factory applied interior insulation for condensation protection and noise reduction. The discharge noise levels cataloged for the air terminal are increased somewhat by the addition of the metal liner and should be considered if the application involves installation in an area where higher noise levels are not acceptable.



All accessories which can be attached to the Series 500-YH Air Terminals are not a part of the ARI certification program but ratings can be affected by their use.

MULTIPLE OUTLET PLENUM

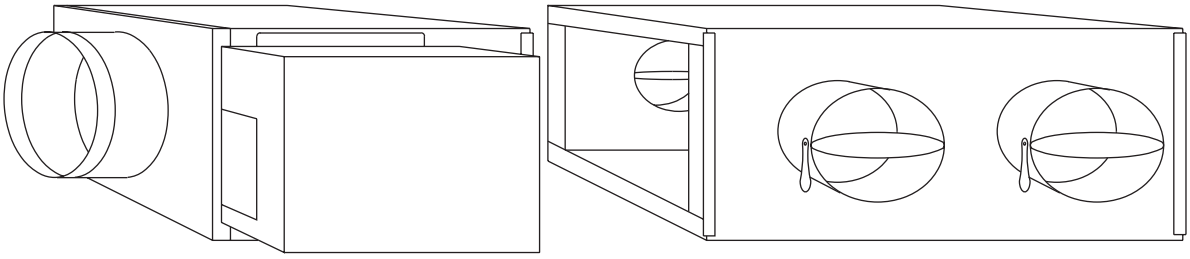
The Multiple Outlet Plenum is a cost effective alternative to field fabricated ductwork in applications having more than one supply air connection near the air terminal outlet. Since the plenum is acoustically insulated, it will also provide some discharge sound attenuation. Multiple outlet plenums are available with a variety of outlet configurations and should be specified as shown in the table and examples on this page. The multiple outlet plenum is supplied with slip and drive inlet and is shipped separately from the air terminal and other accessory items. Each outlet is furnished with a damper and locking quadrant. When the multiple outlet plenum is ordered with an air terminal that has a clean room lining, the plenum is either not insulated or it can be lined with ThermoPure foam or foil backed insulation.

SPECIFYING EXAMPLES

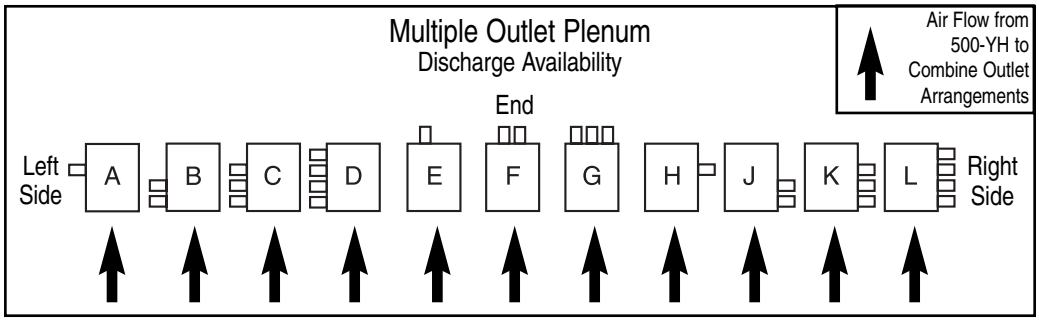
When ordering the multiple outlet plenum begin the specification by writing "Y-" and the number of outlets required on the plenum. Follow this entry with the coding below to indicate the placement of outlets on the plenum.

1. Required:
Series 508-YH with 5 - 6" nominal diameter outlets as follows: 2 on right side, 2 on left side, and 1 on end.
Specify: Y-5/J6-B6-E6

2. Required:
Series 510-YH with 6 nominal diameter outlets as follows, 2 on right side 6", 2 on end 6", and 2 on left side 8".
Specify: Y-6/J6-F6-B8



All accessories which can be attached to the Series 500-YH Air Terminals are not a part of the ARI certification program but ratings can be affected by their use.



Quantity Equals Maximum Number of Outlets Per 500-YH FCI Size												
Sizes	506-YH		508-YH		510-YH		512-YH		514-YH		516-YH	
Location	Side	End	Side	End	Side	End	Side	End	Side	End	Side	End
Noml. Dia.	6	6	6 8	6 8	6 8 10	6 8 10	6 8 10	6 8 10	6 8 10	6 8 10	6 8 10	6 8 10
Quantity	4	1	4 3	1 1	4 3 2	2 1 1	4 3 2	2 1 1	4 3 2	3 2 1	4 3 2	3 2 2

Product Specifications and Highlights

1. Single Duct Variable Volume Air Terminals shall be YORK Model 500-YH. The units shall be the size and capacity as outlined in the plans and specifications.

   Air terminals shall be certified under the American Refrigeration Institute (ARI) Standard 880-98 Certification Program and carry the ARI seal.

2. The air terminals shall be constructed of coated steel. Unit sizes 6 through 16 inch shall have a single blade, round damper operating within a round chamber enclosed by an insulated sheet metal casing. Unit sizes 20 and 24 shall include a rectangular damper. Unit shall include a universal control-mounting panel constructed of 20-gauge steel. Low pressure downstream casing shall be 22-gauge.

3. Air Terminals shall be internally insulated with 1/2" thick, 1.5 lbs/ft^3 dual density glass fiber, coated to prevent air flow erosion to 6000 FPM surface velocity. Insulation to comply with U.L. 181 and NFPA 90A. All exposed edges shall be coated with NFPA 90A approved sealant to prevent entrainment of fibers in the airstream.

4. Unit sizes 6 through 16 inch shall have a seamless butt weld on inlet tube to minimize leakage and prevent the damper from binding. Inlet tubes with overlapping welds or non-continuous, skipped welds are not acceptable. Damper shaft shall rotate in a self-lubricating Kepital® (acetal resin material) bearing. Damper shaft shall be die cast aluminum. Damper shaft end shall include a casted damper position indicator. End of shaft where actuator is installed shall be square to prevent actuator tightening screw(s) from slipping.

   Inlet tube shall be free of internal obstructions including damper stops to allow the free rotation of the damper. Internal mechanical damper stops are not allowed. Damper seal shall be provided by a flexible gasket mounted in the damper blade without adhesives. Damper gasket shall include slits around the perimeter to prevent damper noise, at low turn down. Damper gaskets without perimeter slits are not acceptable. Damper shall be a double thickness of 24-gauge steel and leakage around the damper shall be less than 1% of maximum CFM at 3" static pressure. Construction to be heavy gauge coated steel for the Air Terminal supply valve.

   Round Inlets shall have a bead rolled into the tube which will strengthen and serve as a stop to prevent field attached flex duct from slipping.

5. Unit sizes 20 and 24 shall have a rectangular blade damper assembly.

6. Sensor shall be multi-ported and arranged to sense velocity in each of four quadrants of the inlet, and shall contain two control ports and two accessory ports. Ports shall extend through damper tube for connections to piping. Units with internal piping connections are not acceptable. Each Air Terminal shall have a control piping/wiring diagram specific to that Air Terminal affixed to the control mounting panel and shall be marked with specific settings and location tagging.

7. At an inlet velocity of 2000 fpm, the differential static pressure required to operate any terminal size shall not exceed .14" wg. for the basic terminal.

8. Sound ratings for the terminal shall not exceed ____ NC at ____ static pressure. Sound performance shall be ARI certified. Each individual terminal unit shall bear an ARI label.

OPTIONS AND ACCESSORIES

1. Hot Water Coils

   Hot Water Coils are to be factory-mounted in an extended air terminal casing with the number of rows and circuits as required to meet the capacities as shown in the schedule. Hot water coils shall be enclosed in a minimum 20-gauge coated steel casing allowing attachment to metal ductwork with a slip and drive connection. Fins shall be rippled and sine wave type constructed from heavy gauge aluminum. Corrugated configured coils are not acceptable. Tubes shall be copper with a minimum wall thickness of .016" with male solder header connections. Fins shall be mechanically bonded to the tubes. Coils shall be leak tested to 300 psi with minimum burst of 2000 psi at ambient temperature. Coil performance data shall be based on tests run in accordance with ARI standard 410. Coils must be ARI rated and include an ARI label.

2. Electric Reheat Coils

   Electric Reheat Coils are to be factory-mounted on the outlet end of the 500-YH Series Air Terminal with the sizes and with kilowatts, operating and control voltages, steps and accessories as outlined in the plans and specifications. The heaters shall be E.T.L.® listed for zero clearance, tested in accordance with U.L.® Standard 1996 and the National Electric Code (N.E.C.). Heater casings shall be constructed of heavy-duty zinc-coated steel. Element wire shall be high grade nichrome alloy derated to 50 watts per square inch density.

   Element wire shall be supported by moisture resistant steatite ceramics. Ceramics to be enclosed in reinforcement brackets spaced across the heater element rack at 2" to 4" intervals. Controls shall be contained in a NEMA 1 control cabinet with a hinged, latching door. A permanent wiring diagram shall be affixed to the inside of the control cabinet door for field reference. The heating element rack shall be recessed 1" into the duct to assure adequate air temperature readings for proper operation of safety switches.

   Each Electric Duct Heater shall be shipped with a E.T.L.® label certifying that it meets or exceeds the safety requirements of Standard 1996. Each heater will have an automatic primary overtemperature limit switch, a manual reset overtemperature limit switch, air static or fan relay type air proving switch and fusing if the heater exceeds 48 amps as required by U.L.®. A terminal block for line and control voltage shall be provided for simplified field wiring. A P. E . switch or contactor per step shall be provided for each stage of heat.

Suggested Division 15 Specifications

OPTIONAL INSULATIONS

1. ThermoPure Fibre-Free Liner Air Terminal shall be internally insulated with 1/2" thick, 1.5 lb/ft^3. dual density fiber-free liner, rated to prevent air flow erosion to 6000 FPM surface velocity. Insulation to comply with U.L. 181 and NFPA 255 (25/50). Material shall be chemically resistant to most hydrocarbon based solvents. Material shall not support mold growth or demonstrated degradation while subject to air erosion when tested in accordance to U.L. 181 and UMC 10-1.
2. Foil Face Liner Air Terminal shall be internally insulated with 1/2" thick, 1.5 lb/ft dual density fibrous glass with foil face, rated to prevent air flow erosion to 6000 FPM surface velocity. Insulation to comply with U.L. 181 and NFPA 90A. All exposed edges shall be coated with NFPA 90A approved sealant to prevent entrainment of fibers in the airstream. Liners made of Mylar, Tedlar, Silane, or woven fiberglass cloths are not acceptable.

CONTROL OPTIONS AIR TERMINAL MANUFACTURER SHALL PROVIDE:

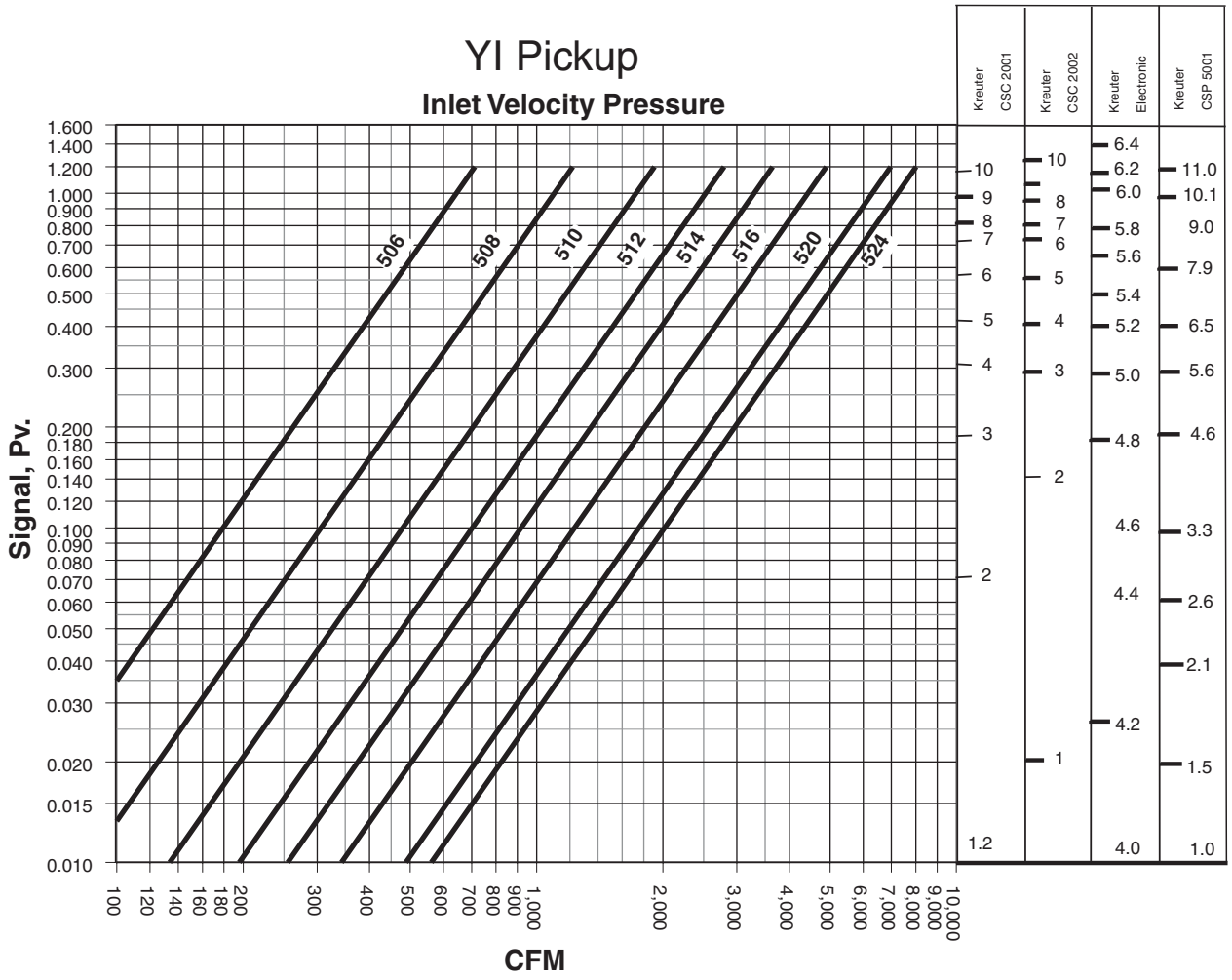
1. Factory-Mounting

   Factory mounting, wiring and calibration of DDC controls shall be as specified in section 15. Mounting shall include manufacturer's flow sensor, transformer (if required by DDC controls manufacturer), an enclosure protecting DDC controls and wiring.
2. Analog Electronic Controls

   Analog electronic controls with flow adjustments shall be as specified in section 15.
3. Pneumatic Controls

   Pneumatic controls shall be as specified in section 15. Manufacturer shall provide terminal units with factory set flow adjustments as required per the terminal unit schedule.

Calibration for YI Pickup



Notes

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