

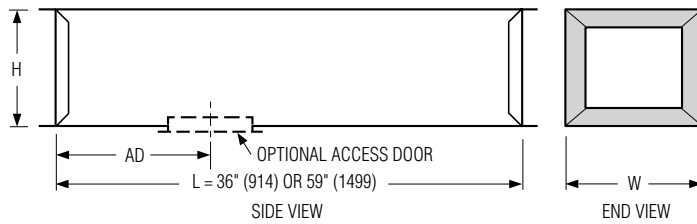


**SINGLE DUCT TERMINAL UNIT
ACCESSORY • DISCHARGE SOUND ATTENUATOR
MODELS: AT303 AND AT305**

Accessories:

Accessories ordered as separate models.

AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
 - Shipped loose for field attachment.
 - Slip and drive connection.
 - 3/4" (14) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.
- AT303** 3' (916) Long - Standard.
 - AT305** 5' (1524) Long - Optional.
 - Special Features: _____

Dimensional Data

Unit Size	W	H	AD
4, 5, 6	10 (254)	10 (254)	12 (305)
7, 8	12 (305)	12 1/2 (318)	12 (305)
9, 10	14 (356)	12 1/2 (318)	12 (305)
12	18 (457)	12 1/2 (318)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)
16	28 (711)	12 1/2 (318)	12 (305)
24 x 16	38 (965)	18 (457)	12 (305)

Options:

- Steri-Liner.
- Fiber-Free Liner.
- Solid Metal Liner.
- 1" (25) Fiberglass Liner.
- 2" (51) Fiberglass Liner.
- Perforated Metal Liner.
- Steri-Liner with Perforated Liner.
- Access Door
 - Sizes 4 to 12 : 8" x 5" (203 x 127) Oval;
 - Sizes 14 to 24 x 16: 12" x 6" (305 x 152) Oval.
- Special Features: _____

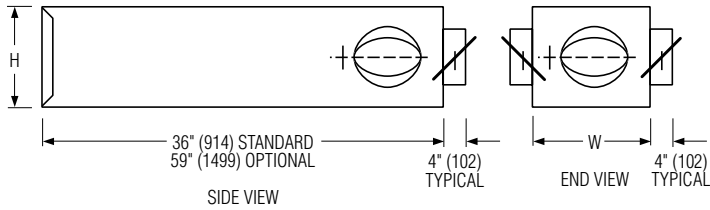
Note: Select Insulation to match VAV terminal.

SCHEDULE TYPE:	Dimensions are in inches (mm)			
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	3 - 30 - 17	3000	3 - 21 - 13	30AT



**SINGLE DUCT TERMINAL UNIT
ACCESSORY • MULTI-OUTLET ATTENUATOR
MODELS: MOA303 AND MOA305**

Multi-Outlet Attenuator

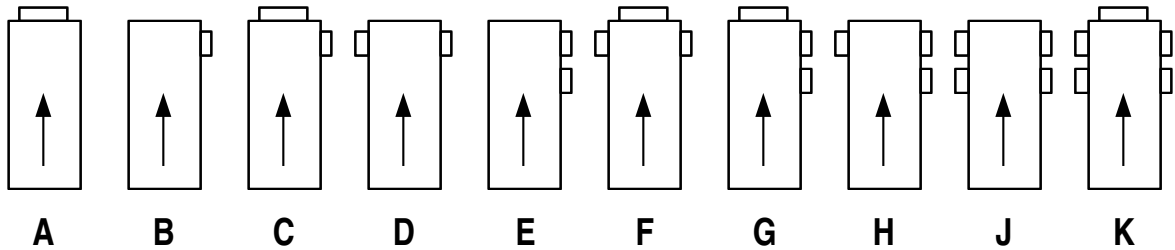


- MOA303** 3' (916) Long
- MOA305** 5' (1524) Long

Available Combinations

Unit Size	W	H	No. of Outlets	Outlet Size
4, 5, 6	10 (254)	10 (254)	1, 2, or 3	6 (152)
7, 8	12 (305)	12 1/2 (318)	2, 3, 4 or 5	6, 8 (152, 203)
9, 10	14 (356)	12 1/2 (318)	3, 4 or 5	8 (203)
	14 (356)	12 1/2 (318)	2, 3 or 4	10 (254)
12	18 (457)	12 1/2 (318)	4 or 5	8 (203)
	18 (457)	12 1/2 (318)	3, 4 or 5	10 (254)
14	28 (711)	12 1/2 (318)	4 or 5	10 (254)
16	28 (711)	12 1/2 (318)	4 or 5	10 (254)

Standard Outlet Arrangements



Features:

- 22 ga. (0.86) corrosion-resistant steel, mechanically sealed, low leakage construction.
- All are supplied with slip and drive cleat duct connection.
- Shipped loose for field attachment.
- 3/4" (19) dual density insulation standard. Exposed edges are coated to prevent erosion. Meets requirements of NFPA 90A and UL 181 Standards.
- Only one outlet size to be specified per M.O.A.. No mixing of outlet sizes on the same unit.
- Number and size of outlets on M.O.A. not to exceed the limits listed in table, both maximum quantity of outlets and maximum size of outlet.
- All round outlets c/w manual dampers with hand locking quadrant.
- Denotes inlet air flow direction. →
- For special outlet sizes and arrangements, consult your Nailor representative.

Options:

- Steri-liner.
- Fiber-free liner.
- 1" (25) liner.
- Special Features:

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm)

DATE

B SERIES

SUPERSEDES

DRAWING NO.

3 - 30 -17

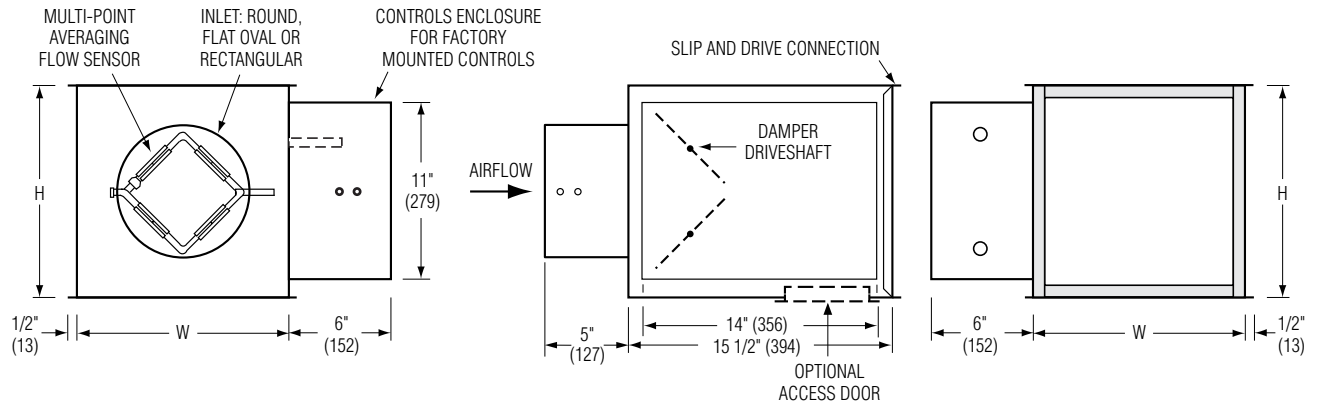
3000

1 - 20 -14

30MOA



SINGLE DUCT TERMINAL UNIT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODEL: D3001



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- 22 ga. (0.86) galvanized steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.

- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.
- Model D3001 can be installed horizontally, vertical or at any angle. Operation is not affected by position.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- Fiber-free liner.
 - Perforated metal liner.
 - Solid metal liner.
 - Steri-liner.
 - Steri-liner + Perforated metal liner.
 - 1" (25) liner.
 - FMI Removable insert type Flow Sensor.
 - Bottom access door.
 - 24 VAC control transformer.
 - 20 ga. (1.00) construction.
 - Toggle disconnect switch.
 - Controls enclosure for field mounted controls.
 - Hanger brackets.
 - Dust tight enclosure seal.
 - Ultra low leakage casing.
- Seismic Certification:
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special features: _____ .

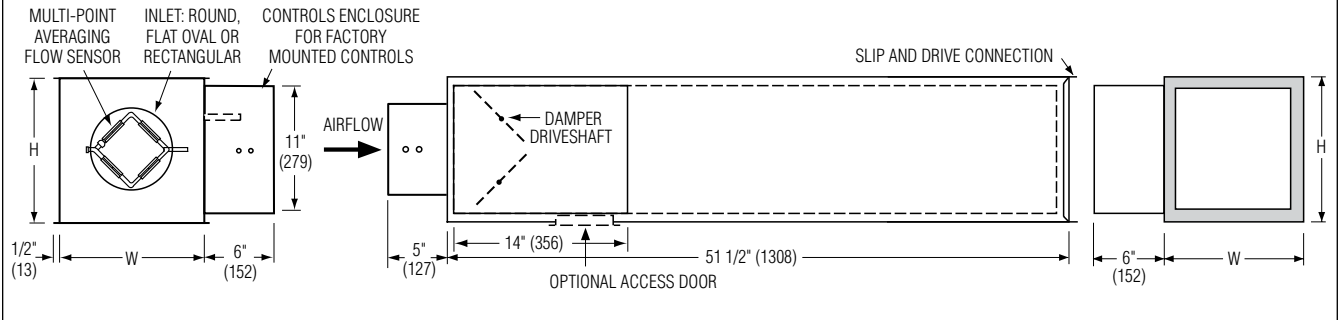


SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

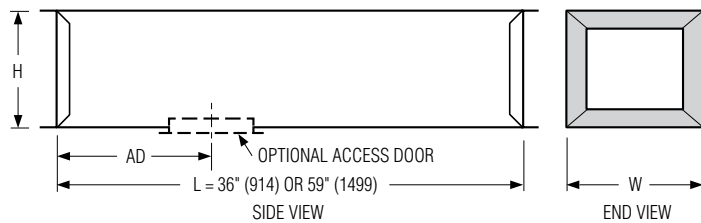
DATE	B SERIES	SUPERSEDES	DRAWING NO.
11 - 2 - 22	3000	10 - 6 - 21	D3001-1

Integral Sound Attenuator

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.

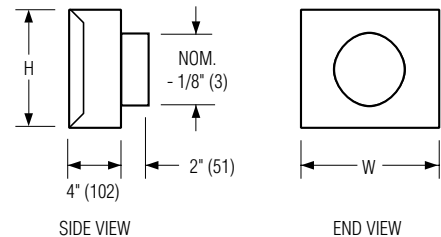


AT Discharge Sound Attenuator (loose)

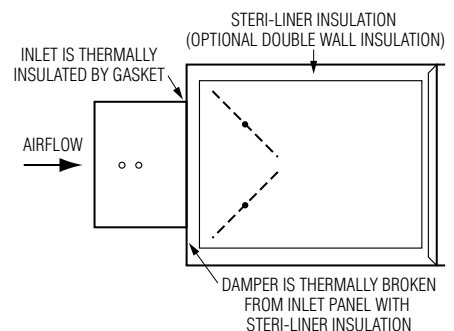


- 22 ga. (0.86) galvanized steel construction.
 - Shipped loose for field attachment.
 - Slip and drive connection.
 - Supplied as standard with same liner as basic unit.
- AT303 3' (916) Long - Standard.**
 - AT305 5' (1524) Long - Optional.**
 - Special Features:** _____

FF Round Discharge Collar



FTL Low Temperature Construction



Dimensional Data

Unit Size	W	H	AD	FF Nominal Outlet Size
4, 5, 6	10 (254)	10 (254)	12 (305)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	12 1/2 (318)	12 (305)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	12 (305)	9, 10 (229, 254)
12	18 (457)	12 1/2 (318)	12 (305)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	16 (406)
24 x 16	38 (965)	18 (457)	12 (305)	-

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 2 of 2.
Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

11 - 2 - 22

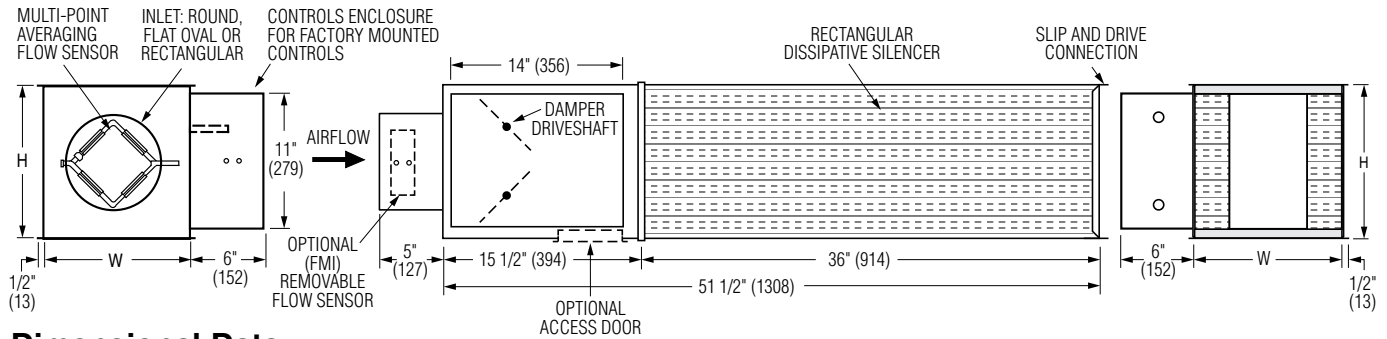
3000

10 - 6 - 21

D3001-1



**SINGLE DUCT TERMINAL UNIT WITH
DISSIPATIVE SILENCER • SUPER QUIET
DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D3001Q**



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Diamond Flow Sensor.

Standard Features:

- Designed for noise sensitive applications such as classrooms, libraries, studios and performance halls.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the

requirements of NFPA 90A and UL 181.

- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Silencer Section:

- Designed to mate w/VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media.
- Internal insulation on top and bottom exposed panels optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- 24 VAC control transformer.
 - Toggle disconnect switch.
 - FMI Removable insert type Flow Sensor.
 - Controls enclosure for field mounted controls.
 - Bottom access door.
 - Dust tight enclosure seal.
 - 20 ga. (1.00) construction.
 - Hanger brackets.
- Seismic Certification:
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special Features: _____
- Terminal Unit Liner:**
- Steri-liner.
 - Fiber-free liner.
 - Steri-liner + Perforated metal liner.
 - Perforated metal liner.
 - Solid metal liner.
 - 1" (25) liner.
- Silencer Acoustic Media:**
- Fiberglass cloth liner.
 - Mylar/Spacer liner.



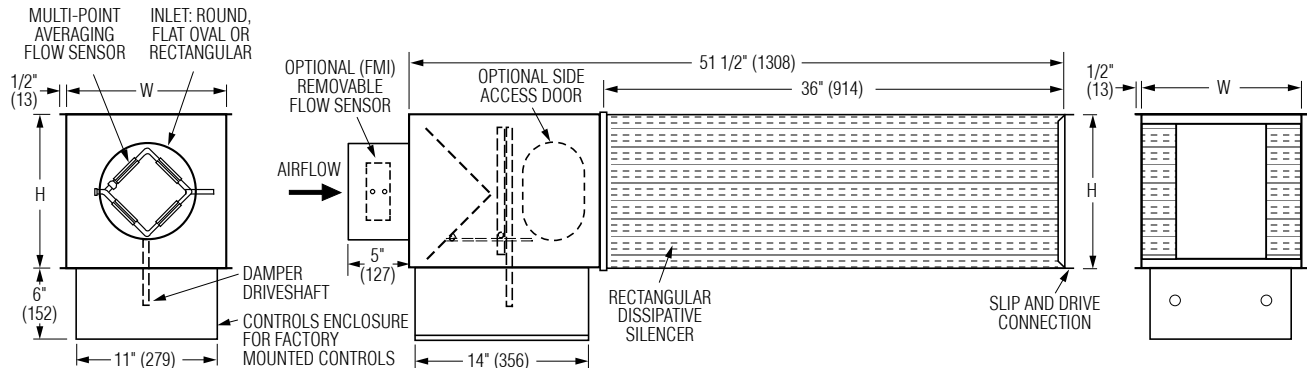
SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Page 1 of 1.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	3 - 12 - 18	D3001Q



SINGLE DUCT TERMINAL UNIT WITH DISSIPATIVE SILENCER • SUPER QUIET
DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D3001Q WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- Designed for noise sensitive applications such as classrooms, libraries, studios and performance halls.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.

- VAV section is lined with 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.

Silencer Section:

- Designed to mate w/VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media.
- Internal insulation on top and bottom exposed panels optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- 24 VAC control transformer.
 - Toggle disconnect switch.
 - FMI Removable insert type Flow Sensor.
 - Controls enclosure for field mounted controls.
 - Dust tight enclosure seal.
 - Hanger brackets.
 - Side access door.
 - Special Features: _____
- Terminal Unit Liner:**
- Steri-liner.
 - Fiber-free liner.
 - Steri-liner + Perforated metal liner.
 - Perforated metal liner.
 - Solid metal liner.
 - 1" (25) liner.
- Silencer Acoustic Media:**
- Fiberglass cloth liner.
 - Mylar/Spacer liner.

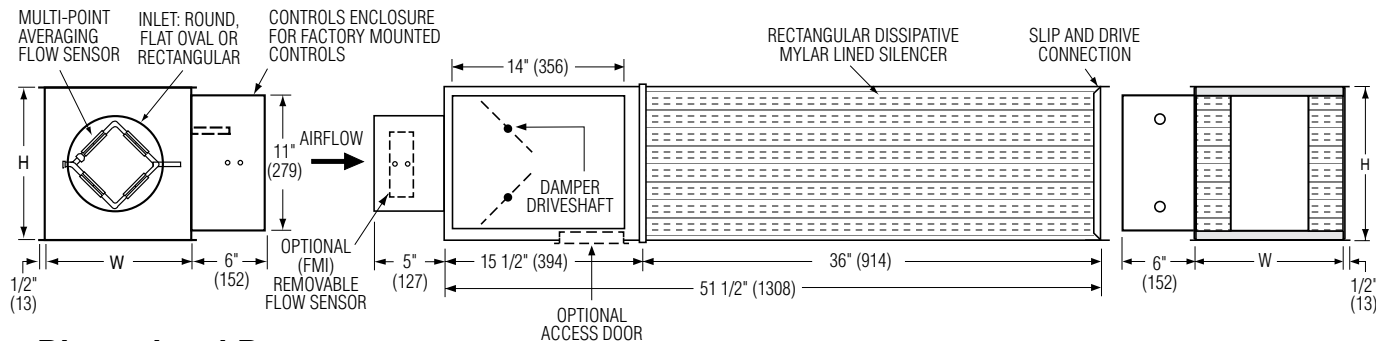
SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Page 1 of 1.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	1 - 19 - 22	D3001Q-2



SINGLE DUCT TERMINAL UNIT WITH DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D30HQ



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signals from Flow Sensor.

Standard Features:

- Designed for hospital and other critical environment applications where IAQ is a concern.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 13/16" (21), thick, 4 lb. density Steri-Liner insulation.

Fiberglass with a reinforced aluminum FSK facing. Meets the requirements of NFPA 90A, UL 181 and ASTM C655.

"Notch and tuck" fabrication and full seam length steel Z-strip construction.

• Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Silencer Section:

- Designed to mate with VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media. Mylar lining with acoustical spacer isolates material from airstream.
- Internal Steri-Liner insulation on top and bottom optimizes sound reduction and eliminates need for external field

applied thermal duct wrap.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- 1" (25) Steri-Liner (VAV section).
 - Bottom access door.
 - FMI Removable insert type Flow Sensor.
 - 24 VAC control transformer.
 - 20 ga. (1.00) construction.
 - Toggle disconnect switch.
 - Hanger brackets.
 - Controls enclosure for field mounted controls.
 - Dust tight enclosure seal.
- Seismic Certification:
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special Features: _____



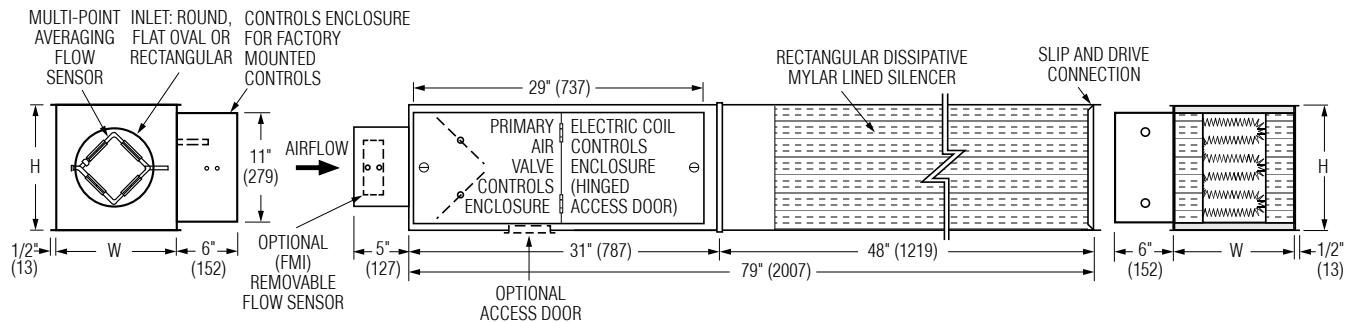
SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Page 1 of 1.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	3 - 12 - 18	D30HQ



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT AND DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
DIGITAL CONTROLS • CONSTANT OR VARIABLE VOLUME
MODEL: D30HQE**



Dimensional Data

Unit Size	Min.- Max. Airflow Range* cfm (l/s)	W	H	Inlet Size
4	25 – 225 (12 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	45 – 400 (21 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	65 – 550 (31 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	95 – 800 (45 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	125 – 1100 (59 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	165 – 1400 (78 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	215 – 1840 (101 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	290 – 2500 (137 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	360 – 3125 (170 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	430 – 3725 (203 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	960 – 8330 (453 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Min & Max airflow limits are based on .02" w.g. (5 Pa) & 1.5" w.g. (373 Pa), respectively, differential pressure signals from Diamond Flow Sensor.

Standard Features:

- Designed for hospital and other critical environment applications where IAQ is a concern.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 13/16" (21), thick, 4 lb. density Seri-Liner insulation. Fiberglass with a reinforced aluminum FSK facing. Meets the requirements of

- NFPA 90A, UL 181 and ASTM C 655. "Notch and tuck" fabrication and full seam length steel Z-strip construction.
- Electric Coil is mounted in an integral silencer section.
- 24 VAC Control transformer.
- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Silencer Section:

- Designed to mate with VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media. Mylar lining with acoustical spacer isolates material from airstream.
- Internal Steri-Liner insulation on top and bottom optimizes sound reduction and eliminates need for externally field applied thermal duct wrap.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- Bottom access door.
 - 1" (25) Steri-Liner (VAV section).
 - FMI Removable insert type Flow Sensor.
 - Hanger brackets.
 - Controls enclosure for field mounted controls.
 - Dust tight enclosure seal.
 - 24 VAC control transformer.
 - 20 ga. (1.00) construction.
- Seismic Certification:
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special Features: _____

Electric Coil Features, Options and Accessories: See page 2 of 2.



Intertek



SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Page 1 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	6 - 17 - 20	D30HQE



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT AND DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
DIGITAL CONTROLS • CONSTANT OR VARIABLE VOLUME
MODEL: D30HQE**

Nailor manufactures its own electric heating coils. They have been specifically designed and tested for use with variable air volume single duct terminal units.

All terminals with electric heat have been tested and ETL listed as an assembly, eliminating the need to mount coils a minimum of 36" (914) downstream or having to ship a bulky length of ductwork when coils are to be supplied mounted on the terminal.

Nailor electric coils are factory mounted as an integral part of the terminal unit in an insulated extended plenum section. Total length of the casing including heater terminal is only 31" (787), providing a compact, easy to handle unit. Freight costs are therefore also reduced. The unique inclined opposed blade damper design provides improved and more even airflow over the coil elements compared with round butterfly damper designs, which helps to minimize air stratification, avoid nuisance tripping of the thermal cut-outs and maximize heat pick-up.

Electric Coil Limitations

Unit Size	Heating Range* cfm (l/s)	Maximum kW									
		Single Phase					Three Phase				
		120V	208V	220V	240V	277V	347/480V	208V	380V	480V	600V
4	25 – 225 (12 – 106)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	45 – 400 (21 – 189)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	65 – 550 (31 – 260)	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
7	95 – 800 (45 – 378)	5.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
8	125 – 1100 (59 – 519)	5.5	9.5	10.5	11.0	13.0	13.0	13.0	13.0	13.0	13.0
9	165 – 1400 (78 – 661)	5.5	9.5	10.5	11.0	13.0	16.0	16.0	16.0	16.0	16.0
10	215 – 1840 (101 – 868)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	21.0	21.0	21.0
12	290 – 2500 (137 – 1180)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	30.0	30.0
14	360 – 3125 (170 – 1475)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5
16	430 – 3725 (203 – 1758)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5
24 x 16	960 – 8330 (453 – 3931)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5



* Minimum airflow must be the greater of the air volume listed or 70 cfm per kilowatt (33 L/s/kW).

Selection Guidelines:

The table above provides a general guideline as to the voltages and maximum kilowatts available for each terminal unit size. Up to three stages of heat are available. A minimum of 0.5 kW/stage is required.

For optimum diffuser performance and maximum thermal comfort, ASHRAE recommends that discharge temperatures do not exceed 15°F (8°C) above room set point, as stratification and short circuiting may occur. ASHRAE Standard 62.1 limits discharge temperatures to 90°F (32°C) or increasing the ventilation rate when heating from the ceiling. Never select kW to exceed a discharge temperatures of 120°F (49°C).

Standard Features:

- Primary auto-reset high limit thermal cut-out (one per coil in control circuit).
- Secondary manual reset high limit thermal cut-outs (one per element).
- Positive pressure air proving switch.
- Class A 80/20 Ni/Cr wire.
- Magnetic contactor per stage.
- Line terminal block.
- High performance arrowhead insulators.
- ETL Listed as an assembly.
- Hinged door control enclosure.
- Slip and drive discharge connection.

Voltage:

- Single phase, 60 Hz.
 120V 208V 240V
 277V 347V 480V
 Three phase, 60 Hz.
 208V 480V 600V

$$\Delta T \text{ (Air Temp. Rise, } ^\circ\text{F)} = \frac{\text{kW} \times 3160}{\text{cfm}}$$

The coils ranges listed are restricted to a maximum of 48 amps and do not require circuit fusing to meet NEC code requirements. A minimum of .1" w.g. (25 Pa) of downstream static pressure is required to ensure proper operation of the heater. To avoid possible nuisance tripping of the thermal cutouts due to insufficient airflow, a minimum airflow of 70 cfm (33 l/s) per kilowatt must be maintained. Check that desired minimum airflow is within recommended operating range.

Coil Options and Accessories:

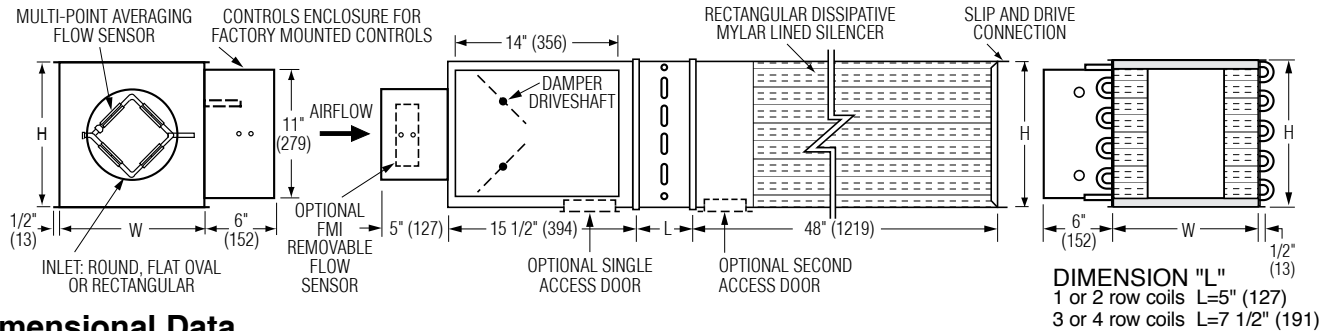
- Toggle disconnect switch.
- Door interlock disconnect switch.
- Mercury contactors.
- Power circuit fusing.
- Dust tight construction.
- SCR control.
- SCR w/discharge Temp. Control.
- Special Features: _____

SCHEDULE TYPE:	Page 2 of 2.			
PROJECT:	Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	2 - 27 - 24	3000	6 - 17 - 20	D30HQE



SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT AND DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D30HQW

Hot Water Coil Position: Box/Coil/Silencer



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Designed for hospital and other critical environment applications where IAQ is a concern.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 13/16" (21), thick, 4 lb. density Steri-Liner insulation. Fiberglass with a reinforced aluminum FSK facing. Meets the requirements of NFPA 90A, UL 181 and ASTM C655. "Notch and tuck" fabrication and full seam length steel Z-strip construction.

- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Silencer Section:

- Designed to mate with VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media. Mylar lining with acoustical spacer isolates material from airstream.
- Internal Steri-Liner insulation on top and bottom optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Hot Water Coil Section:

- Position: Box/Coil/Silencer (shown above).
- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 20 ga. (1.00) zinc coated steel casing Uninsulated.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).



- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Nailor EZvav.
 - Factory mount (by others).
 - Field mount.
- See separate submittal.

Options and Accessories:

- HW coil position: Box/Silencer/Coil (see page 2).
 - Access door.
 - 2 Access doors.
 - Removable insert type Diamond Flow Sensor.
 - 24 VAC control transformer.
 - Toggle disconnect switch.
 - Hanger brackets.
 - Controls enclosure for field mounted controls.
 - Dust tight enclosure seal.
- Seismic Certification:
- SSI (Standard)
 - OSHPD
 - Special Features: _____

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

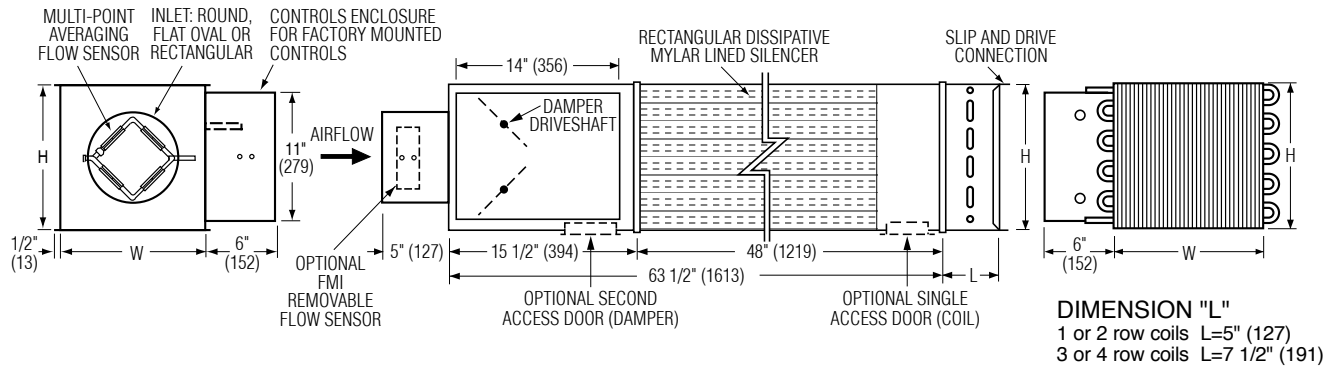
Page 1 of 2.
 Dimensions are in inches (mm)

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 3 - 23	3000	4 - 11 - 22	D30HQW



SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT AND DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D30HQW

☐ **Hot Water Coil Position: Box/Silencer/Coil**



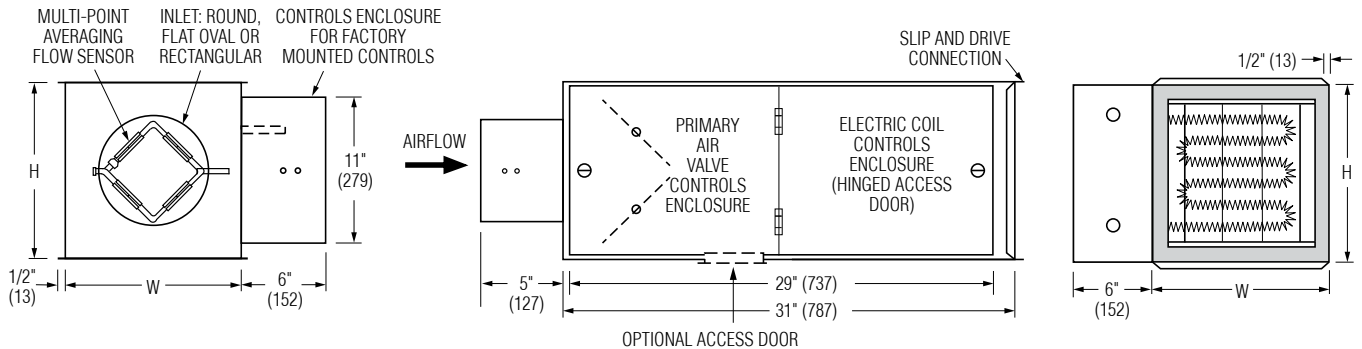
SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

Page 2 of 2.
 Dimensions are in inches (mm)

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 3 - 23	3000	4 - 11 - 22	D30HQW



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D30RE**



Dimensional Data

Unit Size	Min.- Max. Airflow Range* cfm (l/s)	W	H	Inlet Size
4	25 – 225 (12 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	45 – 400 (21 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	65 – 550 (31 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	95 – 800 (45 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	125 – 1100 (59 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	165 – 1400 (78 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	215 – 1840 (101 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	290 – 2500 (137 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	360 – 3125 (170 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	430 – 3725 (203 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	960 – 8330 (453 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.



* Min & Max airflow limits are based on .02" w.g. (5 Pa) & 1.5" w.g. (373 Pa), respectively, differential pressure signal from Diamond Flow Sensor.

Standard Features:

- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type low voltage controls enclosure for factory mounted controls.

- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Electric Coil is mounted in an integral plenum section.
- 24 VAC Control transformer.
- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- Steri-liner.
- Fiber-free liner.
- Steri-liner + Perforated metal liner.

- Perforated metal liner.
- Solid metal liner.
- Fiberglass liner.
- 1" (25) liner.
- Low temperature construction.
- Round/Oval discharge collar.
- FMI Removable insert type Flow Sensor.
- 20 ga. (1.00) construction.
- Dust tight enclosure seal.
- Bottom access door.
- 24 VAC Control transformer.
- Hanger brackets.
- Ultra low leakage casing.
- Controls enclosure for field mounted controls.

Seismic Certification:

- Seismic Source International (Standard)
- HCAI (formerly OSHPD, California)
- Special Features: _____

Electric Coil Features, Options and Accessories: See page 2 of 2.

SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Page 1 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	11 - 3 - 23	D30RE-1



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D30RE**

Nailor manufactures its own electric heating coils. They have been specifically designed and tested for use with variable air volume single duct terminal units.

All terminals with electric heat have been tested and ETL listed as an assembly, eliminating the need to mount coils a minimum of 36" (914) downstream or having to ship a bulky length of ductwork when coils are to be supplied mounted on the terminal.

Nailor electric coils are factory mounted as an integral part

of the terminal unit in an insulated extended plenum section. Total length of the casing including heater terminal is only 31" (787), providing a compact, easy to handle unit. Freight costs are therefore also reduced. The unique inclined opposed blade damper design provides improved and more even airflow over the coil elements compared with round butterfly damper designs, which helps to minimize air stratification, avoid nuisance tripping of the thermal cut-outs and maximize heat pick-up.

Electric Coil Limitations

Unit Size	Heating Range* cfm (l/s)	Maximum kW									
		Single Phase						Three Phase			
		120V	208V	220V	240V	277V	347/480V	208V	380V	480V	600V
4	25 – 225 (12 – 106)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	45 – 400 (21 – 189)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	65 – 550 (31 – 260)	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
7	95 – 800 (45 – 378)	5.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
8	125 – 1100 (59 – 519)	5.5	9.5	10.5	11.0	13.0	13.0	13.0	13.0	13.0	13.0
9	165 – 1400 (78 – 661)	5.5	9.5	10.5	11.0	13.0	16.0	16.0	16.0	16.0	16.0
10	215 – 1840 (101 – 868)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	21.0	21.0	21.0
12	290 – 2500 (137 – 1180)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	30.0	30.0
14	360 – 3125 (170 – 1475)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5
16	430 – 3725 (203 – 1758)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5
24 x 16	960 – 8330 (453 – 3931)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5



Intertek
Tested and approved to the following standards:
ANSI/UL 1996, 1st. ed.
CSA C22.2 No. 155-M1986.

* Minimum airflow must be the greater of the air volume listed or 70 cfm per kilowatt (33 L/s/kW).

Selection Guidelines:

The table above provides a general guideline as to the voltages and maximum kilowatts available for each terminal unit size. Up to three stages of heat are available. A minimum of 0.5 kW/stage is required.

For optimum diffuser performance and maximum thermal comfort, ASHRAE recommends that discharge temperatures do not exceed 15°F (8°C) above room set point, as stratification and short circuiting may occur. ASHRAE Standard 62.1 limits discharge temperatures to 90°F (32°C) or increasing the ventilation rate when heating from the ceiling. Never select kW to exceed a discharge temperatures of 120°F (49°C).

$$\Delta T \text{ (Air Temp. Rise, } ^\circ\text{F)} = \frac{\text{kW} \times 3160}{\text{cfm}}$$

The coils ranges listed are restricted to a maximum of 48 amps and do not require circuit fusing to meet NEC code requirements. A minimum of .1" w.g. (25 Pa) of downstream static pressure is required to ensure proper operation of the heater. To avoid possible nuisance tripping of the thermal cutouts due to insufficient airflow, a minimum airflow of 70 cfm (33 l/s) per kilowatt must be maintained. Check that desired minimum airflow is within recommended operating range.

Standard Features:

- Primary auto-reset high limit thermal cut-out (one per coil in control circuit).
- Secondary manual reset high limit thermal cut-outs (one per element).
- Positive pressure air proving switch.
- Class A 80/20 Ni/Cr wire.
- Magnetic contactor per stage.
- Line terminal block.
- High performance ceramic insulators.
- ETL Listed as an assembly.
- Hinged door control enclosure.
- Slip and drive discharge connection.

Voltage:

- Single phase, 50 Hz, 60 Hz.
- 120V 208V 240V
 - 277V 347V 480V
 - 220V (50 Hz)
- Three phase, 50 Hz, 60 Hz.
- 208V 480V 600V
 - 380V (50 Hz)
 - _____

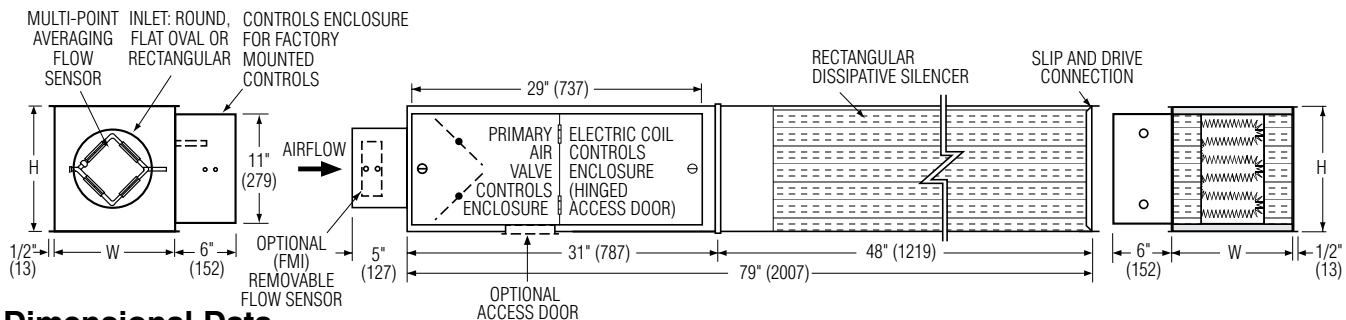
Coil Options and Accessories:

- SCR control.
- SCR w/discharge temp. control.
- Toggle type disconnect switch.
- Door interlock disconnect switch.
- Mercury contactors.
- Quiet type contactors.
- Power circuit fusing.
- Dust tight construction.
- Special Features: _____

SCHEDULE TYPE:	Page 2 of 2.			
PROJECT:	Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	2 - 27 - 24	3000	11 - 3 - 23	D30RE-1



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT AND DISSIPATIVE SILENCER
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D30REQ**



Dimensional Data

Unit Size	Min. – Max. Airflow Range* cfm (l/s)	W	H	Inlet Size
4	25 – 225 (12 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	45 – 400 (21 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	65 – 550 (31 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	95 – 800 (45 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	125 – 1100 (59 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	165 – 1400 (78 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	215 – 1840 (101 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	290 – 2500 (137 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	360 – 3125 (170 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	430 – 3725 (203 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	960 – 8330 (453 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.



* Min & Max airflow limits are based on .02" w.g. (5 Pa) & 1.5" w.g. (373 Pa), respectively, differential pressure signals from Diamond Flow Sensor.

Standard Features:

- Designed for noise sensitive applications such as classrooms, libraries, studios and performance halls.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Electric Coil is mounted in an integral attenuator section.

- 24 VAC Control transformer.
- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Silencer Section:

- Designed to mate w/VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media.
- Internal insulation on top and bottom exposed panels optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- 24 VAC control transformer.
 - FMI Removable insert type Flow Sensor.
 - Hanger brackets.
 - Duct Tight Enclosure Seal.
 - Bottom Access door.
 - Controls enclosure for field mounted controls.
 - 20 ga. (1.00) construction.
- Seismic Certification:
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special Features: _____
- Terminal Unit Liner:**
- Fiber-free liner.
 - Perforated metal liner.
 - Solid metal liner.
 - Steri-liner.
 - Steri-liner + Perforated metal liner.
 - 1" (25) liner.
- Silencer Acoustic Media:**
- Fiberglass cloth liner.
 - Mylar/Spacer liner.
- Electric Coil Features, Options and Accessories:** See page 2 of 2.

SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

Page 1 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	6 - 24 - 20	D30REQ



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT AND DISSIPATIVE SILENCER
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D30REQ**

Nailor manufactures its own electric heating coils. They have been specifically designed and tested for use with variable air volume single duct terminal units.

All terminals with electric heat have been tested and ETL listed as an assembly, eliminating the need to mount coils a minimum of 36" (914) downstream or having to ship a bulky length of ductwork when coils are to be supplied mounted on the terminal.

Nailor electric coils are factory mounted as an integral part

of the terminal unit in an insulated extended plenum section. Total length of the casing including heater terminal is only 31" (787), providing a compact, easy to handle unit. Freight costs are therefore also reduced. The unique inclined opposed blade damper design provides improved and more even airflow over the coil elements compared with round butterfly damper designs, which helps to minimize air stratification, avoid nuisance tripping of the thermal cut-outs and maximize heat pick-up.

Electric Coil Limitations

Unit Size	Heating Range* cfm (l/s)	Maximum kW							
		Single Phase					Three Phase		
		120V	208V	240V	277V	347/480V	208V	480V	600V
4	25 – 225 (12 – 106)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	45 – 400 (21 – 189)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	65 – 550 (31 – 260)	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
7	95 – 800 (45 – 378)	5.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
8	125 – 1100 (59 – 519)	5.5	9.5	11.0	13.0	13.0	13.0	13.0	13.0
9	165 – 1400 (78 – 661)	5.5	9.5	11.0	13.0	16.0	16.0	16.0	16.0
10	215 – 1840 (101 – 868)	5.5	9.5	11.0	13.0	16.5	17.0	21.0	21.0
12	290 – 2500 (137 – 1180)	5.5	9.5	11.0	13.0	16.5	17.0	30.0	30.0
14	360 – 3125 (170 – 1475)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5
16	430 – 3725 (203 – 1758)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5
24 x 16	960 – 8330 (453 – 3931)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signals from Flow Sensor.

Selection Guidelines:

The table above provides a general guideline as to the voltages and maximum kilowatts available for each terminal unit size. Up to three stages of heat are available. A minimum of 0.5 kW/stage is required.

For optimum diffuser performance and maximum thermal comfort, ASHRAE recommends that discharge temperatures do not exceed 15°F (8°C) above room set point, as stratification and short circuiting may occur. ASHRAE Standard 62.1 limits discharge temperatures to 90°F (32°C) or increasing the ventilation rate when heating from the ceiling. Never select kW to exceed a discharge temperatures of 120°F (49°C).

Standard Features:

- Primary auto-reset high limit thermal cut-out (one per coil in control circuit).
- Secondary manual reset high limit thermal cut-outs (one per element).
- Positive pressure air proving switch.
- Class A 80/20 Ni/Cr wire.
- Magnetic contactor per stage.
- Line terminal block.
- High performance arrowhead insulators.
- ETL Listed as an assembly.
- Hinged door control enclosure.
- Slip and drive discharge connection.

Voltage:

- Single phase, 60 Hz.
 120V 208V 240V
 277V 347V 480V
 Three phase, 60 Hz.
 208V 480V 600V
 _____ .

Options and Accessories:

- Toggle type disconnect switch.
- Door interlock disconnect switch.
- Dust tight construction.
- Mercury contactors.
- Quiet contactors.
- Power circuit fusing.
- SCR control.
- SCR w/discharge Temp. Control.
- Special Features: _____ .



Intertek

Tested and approved to the following standards:

ANSI/UL 1996, 1st ed.
 CSA C22.2 No. 155-M1986.

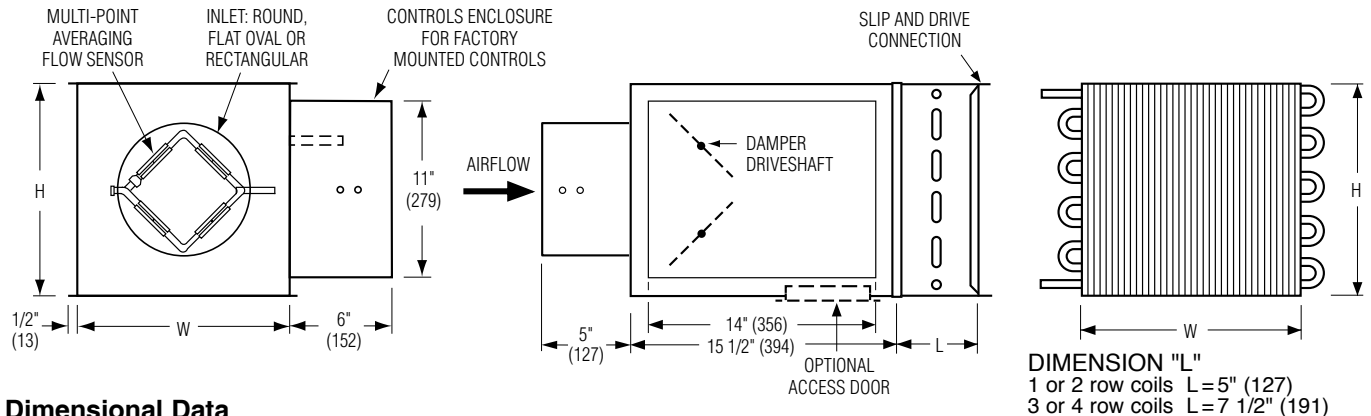
$$\Delta T \text{ (Air Temp. Rise, } ^\circ\text{F)} = \frac{\text{kW} \times 3160}{\text{cfm}}$$

The coils ranges listed are restricted to a maximum of 48 amps and do not require circuit fusing to meet NEC code requirements. A minimum of .1" w.g. (25 Pa) of downstream static pressure is required to ensure proper operation of the heater. To avoid possible nuisance tripping of the thermal cutouts due to insufficient airflow, a minimum airflow of 70 cfm (33L/s) per kilowatt must be maintained. Check that desired minimum airflow is within recommended operating range.

SCHEDULE TYPE:	Page 2 of 2.			
PROJECT:	Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	2 - 27 - 24	3000	6 - 24 - 20	D30REQ



**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODEL: D30RW**



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.

- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.
- Model D30RW can be installed horizontally, vertical or at any angle. Operation is not affected by position.

Hot Water Coil Section:

- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 1, 2, 3 or 4 row.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
- Field mounted (supplied by others)
- Nailor EZvav
- See separate submittal.



Options and Accessories:

- Steri-liner.
- Fiber-free liner.
- Steri-liner + Perforated metal liner.
- Perforated metal liner.
- Solid metal liner.
- 1" (25) liner.
- FMI Removable insert type Flow Sensor.
- 20 ga. (1.00) construction.
- Bottom access door.
- 24 VAC Control transformer.
- Toggle disconnect switch.
- Hanger brackets.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- Ultra low leakage casing.
- Seismic Certification:
 - Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special Features: _____



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

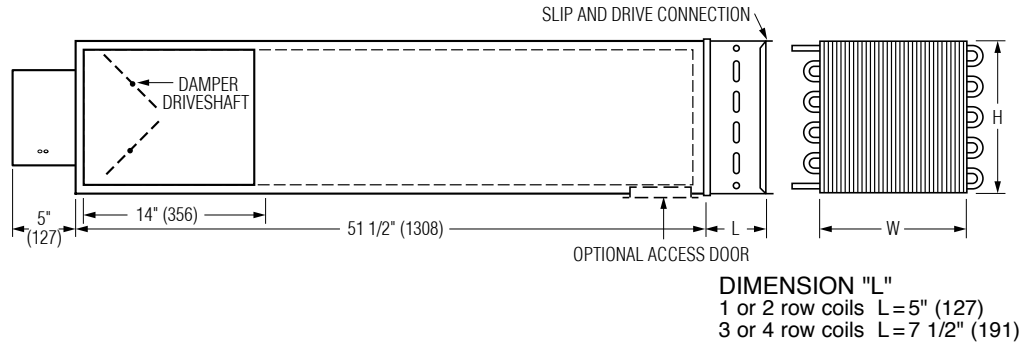
DATE	B SERIES	SUPERSEDES	DRAWING NO.
11 - 2 - 22	3000	3 - 13 - 18	D30RW-1

Page 1 of 2.

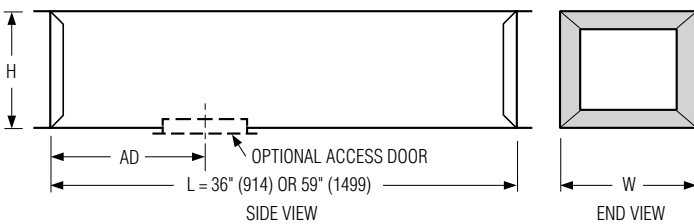
Dimensions are in inches (mm).

Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.

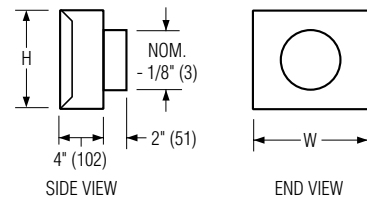


AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
 - Shipped loose for field attachment.
 - Slip and drive connection.
 - 3/4" (14) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.
- AT303 3' (916) Long - Standard.**
 - AT305 5' (1524) Long - Optional.**
 - Special Features:** _____

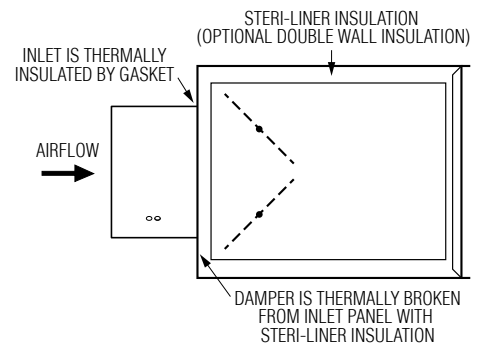
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	FF Nominal Outlet Size
4, 5, 6	10 (254)	10 (254)	12 (305)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	12 1/2 (318)	12 (305)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	12 (305)	9, 10 (229, 254)
12	18 (457)	12 1/2 (318)	12 (305)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	16 (406)
24 x 16	38 (965)	18 (457)	12 (305)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 2 of 2.
 Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

11 - 2 - 22

3000

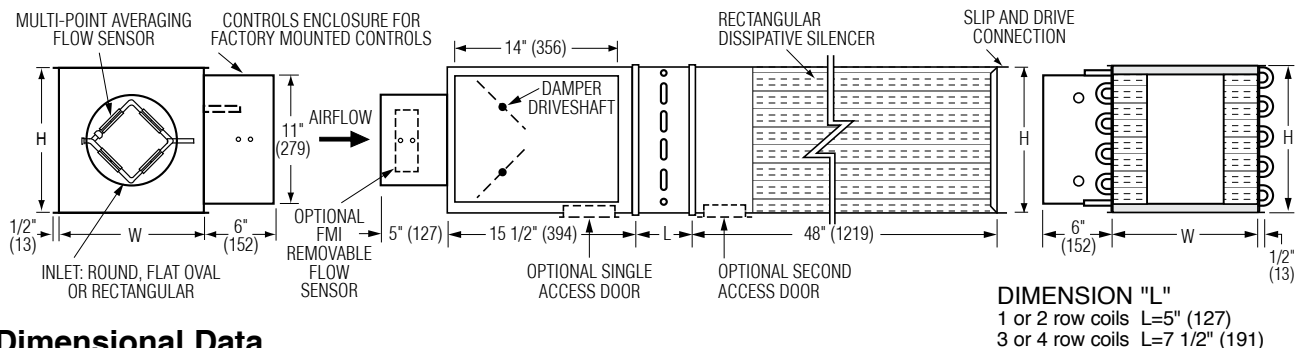
3 - 13 - 18

D30RW-1



SINGLE DUCT TERMINAL UNIT WITH DISSIPATIVE SILENCER AND HOT WATER REHEAT • SUPER QUIET DIGITAL CONTROLS VARIABLE OR CONSTANT VOLUME MODEL: D30RWQ

Hot Water Coil Position: Box/Coil/Silencer



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Designed for noise sensitive applications such as classrooms, libraries, studios and performance halls.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Right-hand controls location is standard

(shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Silencer Section:

- Designed to mate w/VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media.
- Internal insulation on top and bottom exposed panels optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Hot Water Coil Section:

- Position: Box/Coil/Silencer (shown above).
- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 20 ga. (1.00) zinc coated steel casing. Uninsulated.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- HW coil position: Box/Silencer/Coil (see page 2).
- Access door.
- 2 Access doors.
- 24 VAC control transformer.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- Removable insert type Flow Sensor.
- Hanger brackets.
- 20 ga. (1.00) construction.
- Toggle disconnect switch.



SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

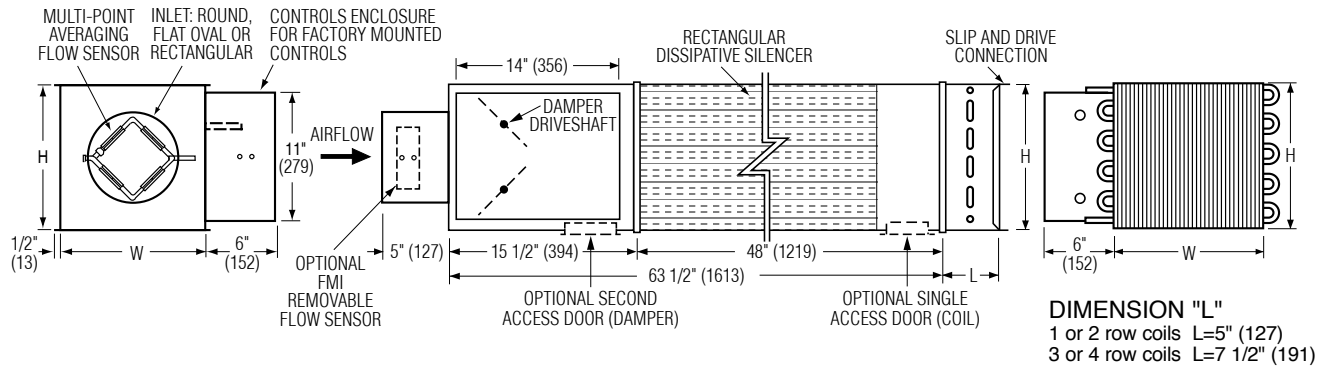
Page 1 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 3 - 23	3000	4 - 11 - 22	D30RWQ



SINGLE DUCT TERMINAL UNIT WITH DISSIPATIVE SILENCER AND HOT WATER REHEAT • SUPER QUIET DIGITAL CONTROLS VARIABLE OR CONSTANT VOLUME MODEL: D30RWQ

Hot Water Coil Position: Box/Silencer/Coil



Options and Accessories (con't):

Seismic Certification:

- Seismic Source International (Standard)
- HCAI (formerly OSHPD, California)
- Special Features: _____

Terminal Unit Liner:

- Steri-liner.
- Steri-liner + Perforated metal liner.
- Fiber-free liner.
- Perforated metal liner.
- Solid metal liner.
- 1" (25) liner.

Silencer Acoustic Media:

- Fiberglass cloth liner.
- Mylar/Spacer liner.

SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

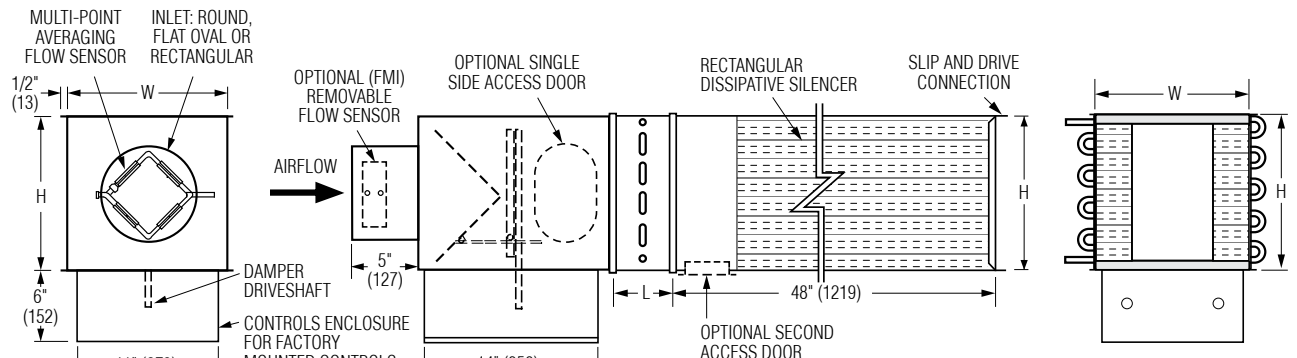
Page 2 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 3 - 23	3000	4 - 11 - 22	D30RWQ



SINGLE DUCT TERMINAL UNIT WITH DISSIPATIVE SILENCER AND HOT WATER REHEAT • SUPER QUIET DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME MODEL: D30RWQ WITH BOTTOM MOUNT CONTROLS LOCATION (OPTION OB)

Hot Water Coil Position: Box/Coil/Silencer



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- Designed for noise sensitive applications such as classrooms, libraries, studios and performance halls.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 3/4" (19), dual density insulation, exposed edges

coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.

Silencer Section:

- Designed to mate w/VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media.
- Internal insulation on top and bottom exposed panels optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Hot Water Coil Section:

- Position: Box/Coil/Silencer (shown above).
- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 20 ga. (1.00) zinc coated steel casing. Uninsulated.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).

- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- HW coil position: Box/Silencer/Coil (see page 2).
- Access door.
- 2 Access doors.
- 24 VAC control transformer.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- Removable insert type Flow Sensor.
- Hanger brackets.
- Toggle disconnect switch.
- Special Features: _____



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

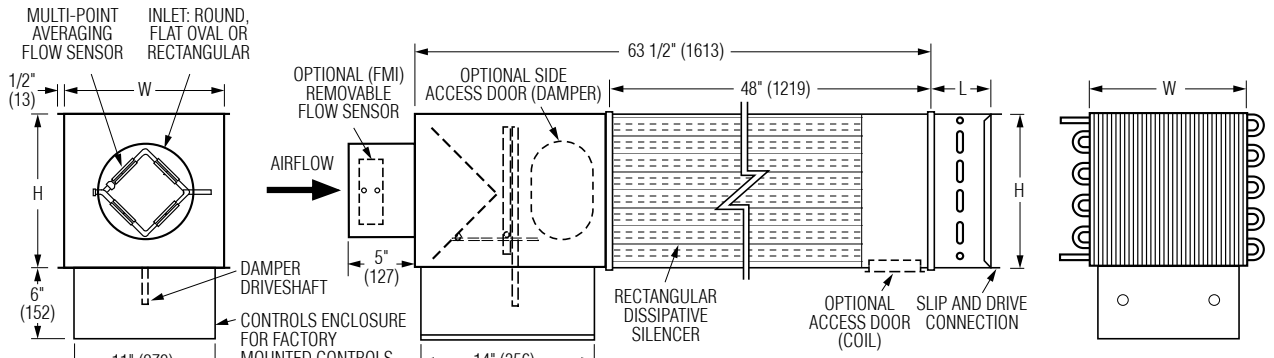
Page 1 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
5 - 1 - 23	3000	4 - 3 - 23	D30RWQ-2



SINGLE DUCT TERMINAL UNIT WITH DISSIPATIVE SILENCER AND HOT WATER REHEAT • SUPER QUIET DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME MODEL: D30RWQ WITH BOTTOM MOUNT CONTROLS LOCATION (OPTION OB)

Hot Water Coil Position: Box/Silencer/Coil



DIMENSION "L"
 1 or 2 row coils L=5" (127)
 3 or 4 row coils L=7 1/2" (191)

Options and Accessories (con't):

Terminal Unit Liner:

- Steri-liner.
- Steri-liner + Perforated metal liner.
- Fiber-free liner.
- Perforated metal liner.
- Solid metal liner.
- 1" (25) liner.

Silencer Acoustic Media:

- Fiberglass cloth liner.
- Mylar/Spacer liner.

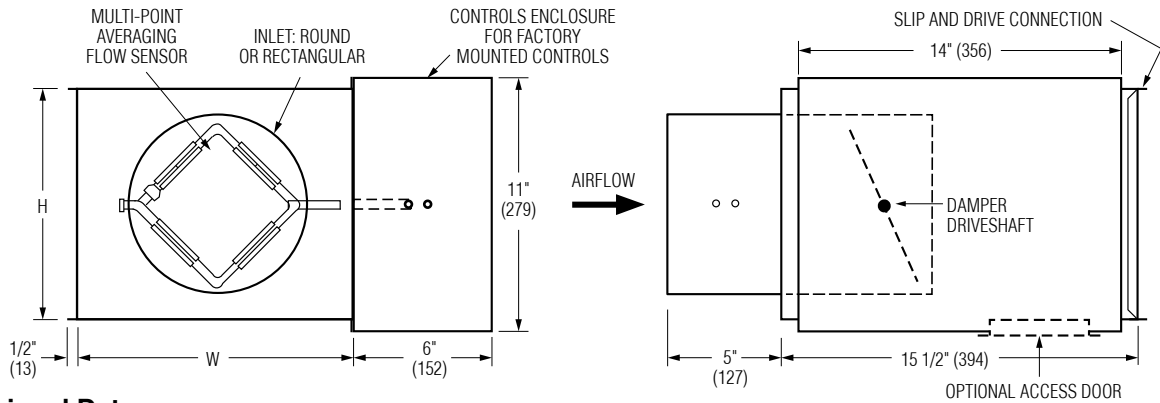
SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
5 - 1 - 23	3000	4 - 3 - 23	D30RWQ-2



SINGLE DUCT TERMINAL UNIT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODEL: D3101



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size
4	0 – 225 (0 – 106)	12 (305)	8 (203)	3 7/8 (98) Round
5	0 – 400 (0 – 189)	12 (305)	8 (203)	4 7/8 (124) Round
6	0 – 550 (0 – 260)	12 (305)	8 (203)	5 7/8 (149) Round
7	0 – 800 (0 – 378)	12 (305)	10 (254)	6 7/8 (175) Round
8	0 – 1100 (0 – 519)	12 (305)	10 (254)	7 7/8 (200) Round
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	0 – 2500 (0 – 1180)	16 (406)	15 (381)	11 7/8 (302) Round
14	0 – 3370 (0 – 1590)	20 (508)	17 1/2 (445)	13 7/8 (352) Round
16	0 – 4525 (0 – 2135)	24 (610)	18 (457)	15 7/8 (403) Round
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- 22 ga. (0.86) galvanized steel casing, mechanically sealed, low leakage construction. Leakage is less than 1% of the terminal rated airflow at 1" w.g. (250 Pa).
- 2 x 20 ga. (1.00) round laminated butterfly damper with a polyurethane peripheral gasket. 90° rotation, CW to close. Tight shut-off. Damper leakage is less the 1% of the terminal rated airflow at 3" w.g. (750 pa.) and less than 2% at 6" w.g. (1500 pa.) as tested in accordance with ANSI / ASHRAE Standard 130.
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Unit sizes 4–16 feature round inlet collars.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees (4 and 5 are Annubar).

- Rectangular discharge with slip and drive cleat duct connection.
 - Full NEMA 1 type low voltage controls enclosure for factory mounted controls.
 - 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
 - Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.
 - Model D3101 can be installed horizontally, vertical or at any angle. Operation is not affected by position.
- Digital Controls:**
- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- 20 ga. (1.00) construction
 - 24 VAC control transformer
 - Toggle disconnect switch
 - Dust tight enclosure seal
- Liner:**
- Steri-liner
 - Steri-liner + Perforated metal
 - Fiber-free
 - Perforated metal
 - Solid metal
 - 1" (25) fiberglass
- Flow Sensor:**
- Diamond Flow Sensor, removable
 - Cross Flow Sensor
 - Cross Flow Sensor, removable
- Other:**
- Bottom access door
 - Hanger brackets
 - Ultra low leakage casing
 - Controls enclosure for field mounted controls
- Seismic Certification:**
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special features: _____ .

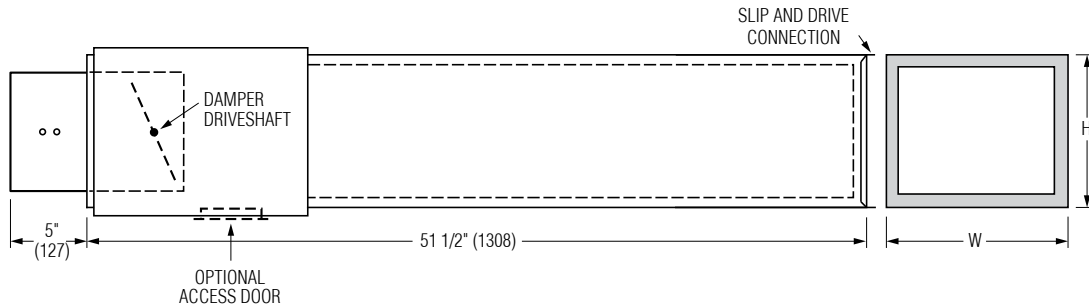


SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

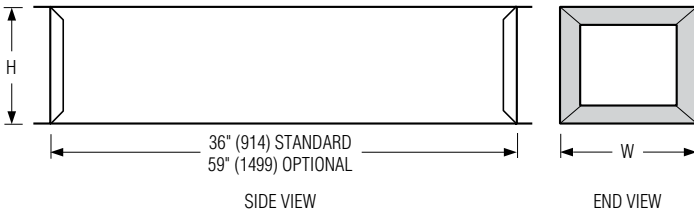
DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 7 - 21	D3101

Integral Sound Attenuator

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.

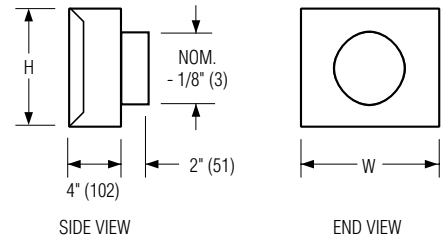


AT Discharge Sound Attenuator (loose)



- Shipped loose for field attachment.
 - Slip and drive connection.
 - Supplied as standard with same liner as basic unit.
- AT313 3' (916) Long - Standard.**
 AT315 5' (1524) Long - Optional.
 Special Features: _____

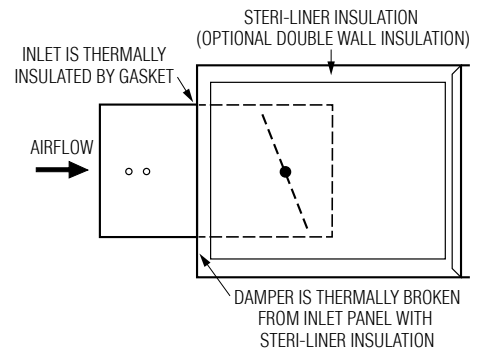
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	FF Nominal Outlet Size
4, 5, 6	12 (305)	8 (203)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	10 (254)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	9, 10 (229, 254)
12	16 (406)	15 (381)	12 (305)
14	20 (508)	17 1/2 (445)	14 (356)
16	24 (610)	18 (457)	16 (406)
24 x 16	38 (965)	18 (457)	-

FTL Low Temperature Construction

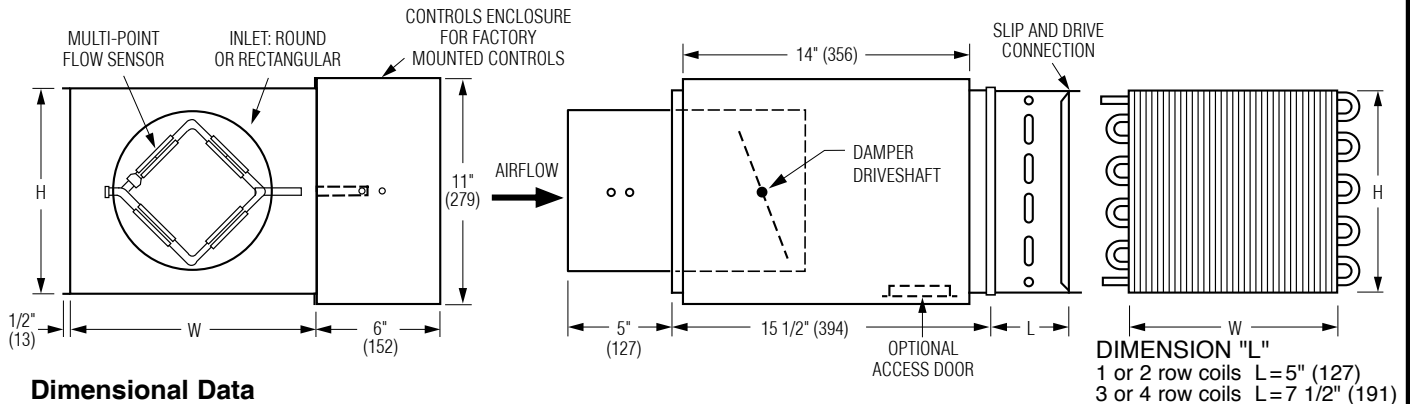


SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 7 - 21	D3101



**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODEL: D31RW**



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 - 225 (0 - 106)	12 (305)	8 (203)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 - 400 (0 - 189)	12 (305)	8 (203)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 - 550 (0 - 260)	12 (305)	8 (203)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 - 800 (0 - 378)	12 (305)	10 (254)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 - 1100 (0 - 519)	12 (305)	10 (254)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 - 1400 (0 - 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 - 1840 (0 - 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 - 2500 (0 - 1180)	16 (406)	15 (381)	11 7/8 (302) Round	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 - 3370 (0 - 1590)	20 (508)	17 1/2 (508)	13 7/8 (352) Round	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 - 4525 (0 - 2135)	24 (610)	18 (457)	15 7/8 (403) Round	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 - 8330 (0 - 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- 22 ga. (0.86) galvanized steel casing, mechanically sealed, low leakage construction. Leakage is less than 1% of the terminal rated airflow at 1" w.g. (250 Pa).
 - 2 x 20 ga. (0.86) round laminated butterfly damper with a polyurethane peripheral gasket. 90° rotation, CW to close. Tight shut-off. Damper leakage is less than 1% of the terminal rated airflow at 3" w.g. (750 pa.) and less than 2% at 6" w.g. (1500 pa.) as tested in accordance with ANSI / ASHRAE Standard 130.
 - 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
 - Unit sizes 4-16 feature round inlet collars.
 - Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees (4 and 5 are Annubar).
 - Rectangular discharge with slip and drive cleat duct connection.
 - Full NEMA 1 type controls enclosure for factory mounted controls.
 - 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
 - Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.
 - Model D31RW can be installed horizontally, vertical or at any angle. Operation is not affected by position.
- Hot Water Coil Section:**
- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
 - 1, 2, 3 or 4 row.

Options and Accessories:

- 20 ga. (1.00) construction
- 24 VAC control transformer
- Toggle disconnect switch
- Dust tight enclosure seal
- Liner:**
- Steri-liner
- Steri-liner + Perforated metal
- Fiber-free
- Perforated metal
- Solid metal
- 1" (25) fiberglass
- Flow Sensor:**
- Diamond Flow Sensor, removable
- Cross Flow Sensor
- Cross Flow Sensor, removable
- Other:**
- Bottom access door.
- Hanger brackets.
- Ultra low leakage casing.
- Controls enclosure for field mounted controls.
- Seismic Certification:**
- Seismic Source International (Standard)
- HCAI (formerly OSHPD, California)
- Special features: _____



SCHEDULE TYPE: _____

PROJECT: _____

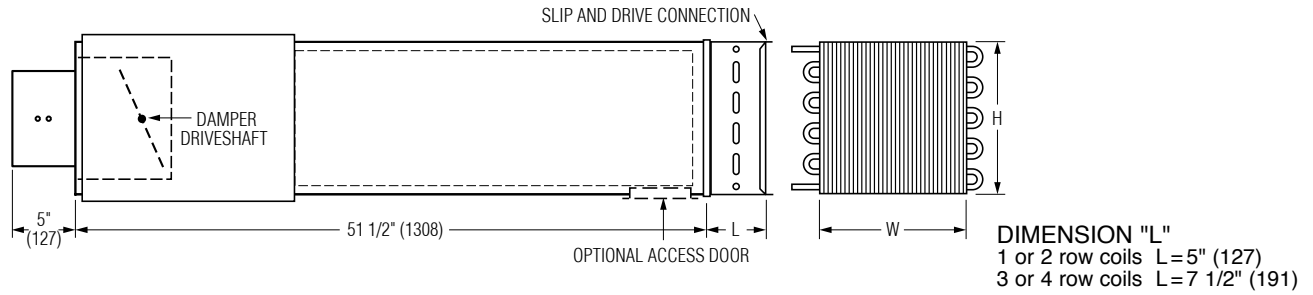
ENGINEER: _____

CONTRACTOR: _____

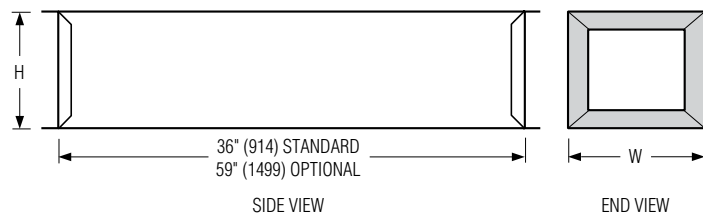
DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 7 - 21	D31RW

Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.

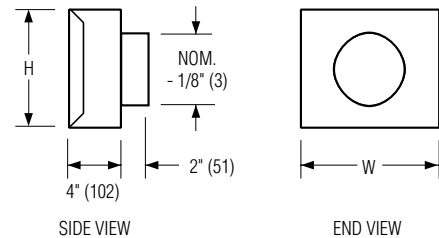


AT Discharge Sound Attenuator (loose)



- Shipped loose for field attachment.
 - Slip and drive connection.
 - Supplied as standard with same liner as basic unit.
- AT313** 3' (916) Long - Standard.
- AT315** 5' (1524) Long - Optional.
- Special Features: _____

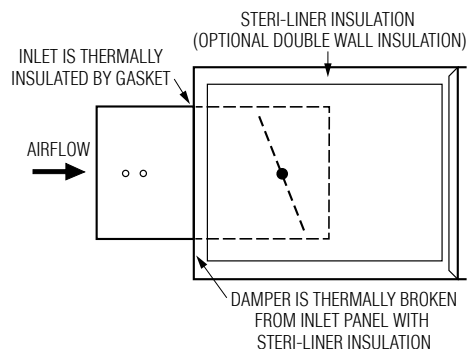
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	FF Nominal Outlet Size
4, 5, 6	12 (305)	8 (203)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	10 (254)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	9, 10 (229, 254)
12	16 (406)	15 (381)	12 (305)
14	20 (508)	17 1/2 (445)	14 (356)
16	24 (610)	18 (457)	16 (406)
24 x 16	38 (965)	18 (457)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

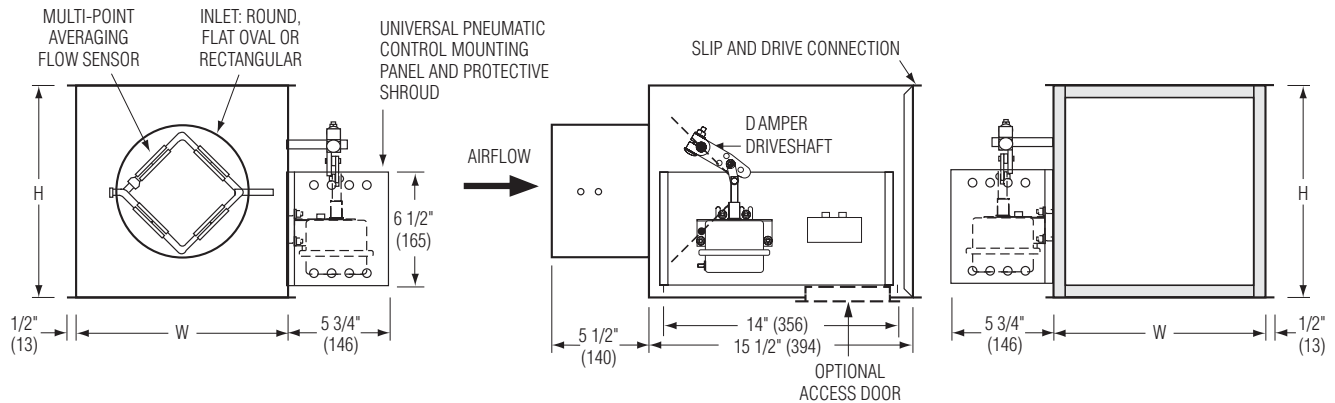
CONTRACTOR:

Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 7 - 21	D31RW



SINGLE DUCT TERMINAL UNIT
PNEUMATIC CONTROLS • PRESSURE INDEPENDENT
VARIABLE OR CONSTANT VOLUME
MODEL: P3001



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size
4	0 – 180 (0 – 85)	10 (254)	10 (254)	3 7/8 (98) Round
5	0 – 325 (0 – 153)	10 (254)	10 (254)	4 7/8 (124) Round
6	0 – 450 (0 – 212)	10 (254)	10 (254)	5 7/8 (149) Round
7	0 – 650 (0 – 307)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	0 – 900 (0 – 425)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	0 – 1150 (0 – 543)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	0 – 1500 (0 – 708)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	0 – 2050 (0 – 967)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	0 – 2550 (0 – 1203)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	0 – 3040 (0 – 1435)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	0 – 6800 (0 – 3209)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Maximum airflow limit is based upon 1.0" w.g. (249 Pa) max. differential pressure signal from Diamond Flow Sensor.

Standard Features:

- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.

- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Controls:

- By Nailor (See separate submittal).
- By Others.

Options and Accessories:

- Steri-liner.
 - Fiber-free liner.
 - Solid metal liner.
 - Perforated Metal Liner.
 - 1" (25) liner.
 - Bottom access door.
 - Hanger brackets.
 - 20 ga. (1.00) construction.
 - Protective controls shroud cover.
- Seismic Certification:
- SSI (Standard)
 - OSHPD
 - Special Features: _____



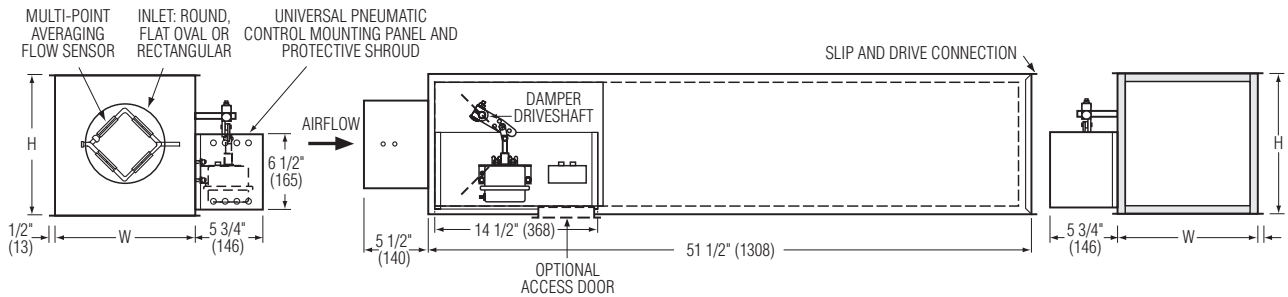
SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

Page 1 of 2.
 Dimensions are in inches (mm).

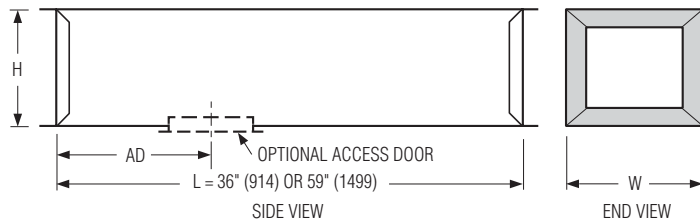
DATE	B SERIES	SUPERSEDES	DRAWING NO.
3 - 12 - 18	3000	8 - 3 - 08	P3001-1

Integral Sound Attenuator

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.

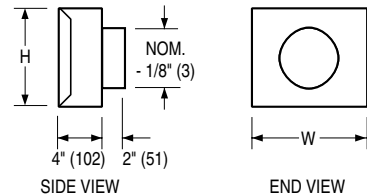


AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
 - Shipped loose for field attachment.
 - Slip and drive connection.
 - 3/4" (14) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.
- AT303** 3' (916) Long - Standard.
 - AT305** 5' (1524) Long - Optional.
 - Special Features: _____

FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	FF Nominal Outlet Size
4, 5, 6	10 (254)	10 (254)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	12 1/2 (318)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	9, 10 (229, 254)
12	18 (457)	12 1/2 (318)	12 (305)
14	24 (610)	12 1/2 (318)	14 (356)
16	28 (711)	12 1/2 (318)	16 (406)
24 x 16	38 (965)	18 (457)	-

SCHEDULE TYPE:

PROJECT:

ENGINEER:

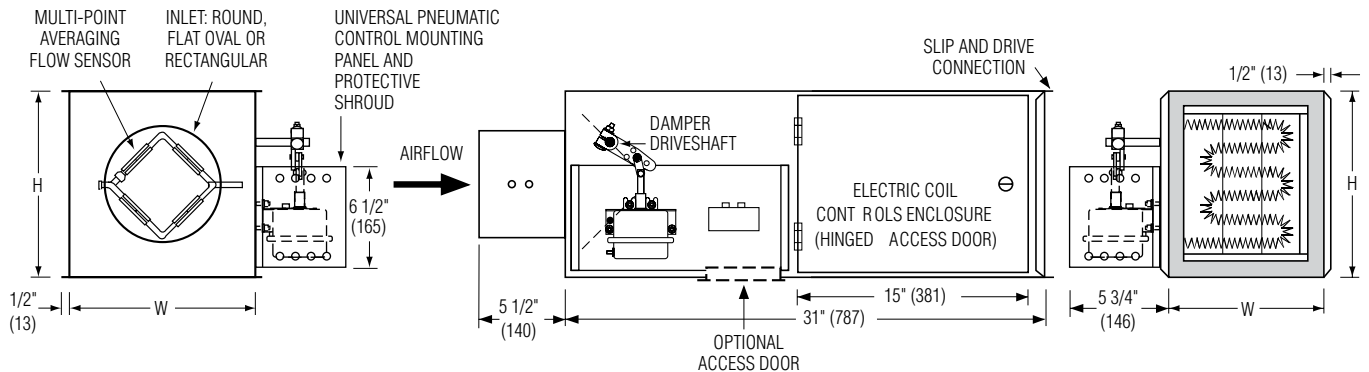
CONTRACTOR:

Page 2 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
3 - 12 - 18	3000	8 - 3 - 08	P3001-1



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT
PNEUMATIC CONTROLS • PRESSURE INDEPENDENT
MODEL: P30RE**



Dimensional Data

Unit Size	Min.- Max. Airflow Range* cfm (l/s)	W	H	Inlet Size
4	30 – 180 (14 – 85)	10 (254)	10 (254)	3 7/8 (98) Round
5	55 – 325 (26 – 153)	10 (254)	10 (254)	4 7/8 (124) Round
6	80 – 450 (38 – 212)	10 (254)	10 (254)	5 7/8 (149) Round
7	115 – 650 (54 – 307)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	155 – 900 (73 – 425)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	200 – 1150 (94 – 543)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	260 – 1500 (123 – 708)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	355 – 2050 (168 – 967)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	440 – 2550 (208 – 1203)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	525 – 3040 (248 – 1435)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	1180 – 6800 (557 – 3209)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Minimum flows are based upon 0.03" w.g. differential pressure from flow sensor. The maximum flow rate represents the diamond flow sensor's differential pressure reading at 1" w.g. (250 Pa).



Standard Features:

- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Universal control mounting panel with double wall stand-off construction.

- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Electric Coil is mounted in an integral attenuator section.
- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Controls:

- By Nailor. (See separate submittal).
- By others.

Unit Options and Accessories:

- Steri-liner.
 - Fiber-free liner.
 - Solid metal liner.
 - 1" (25) liner.
 - Bottom access door.
 - Hanger brackets.
 - Protective controls shroud cover.
 - 20 ga. (1.00) construction.
- Seismic Certification:
- SSI (Standard).
 - OSHPD.
 - Special Features: _____.



Electric Coil Features, Options and Accessories:

See page 2 of 2.

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:				
CONTRACTOR:				
DATE	B SERIES	SUPERSEDES	DRAWING NO.	
6 - 17 - 20	3000	4 - 30 - 20	P30RE-1	



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT
PNEUMATIC CONTROLS • PRESSURE INDEPENDENT
MODEL: P30RE**

Nailor manufactures its own electric heating coils. They have been specifically designed and tested for use with variable air volume single duct terminal units.

All terminals with electric heat have been tested and ETL listed as an assembly, eliminating the need to mount coils a minimum of 36" (914) downstream or having to ship a bulky length of ductwork when coils are to be supplied mounted on the terminal.

Nailor electric coils are factory mounted as an integral part

of the terminal unit in an insulated extended plenum section. Total length of the casing including heater terminal is only 31" (787), providing a compact, easy to handle unit. Freight costs are therefore also reduced. The unique inclined opposed blade damper design provides improved and more even airflow over the coil elements compared with round butterfly damper designs, which helps to minimize air stratification, avoid nuisance tripping of the thermal cut-outs and maximize heat pick-up.

Electric Coil Limitations

Unit Size	Heating Range* cfm (l/s)	Maximum kW							
		Single Phase					Three Phase		
		120V	208V	240V	277V	347V	208V	480V	600V
4	30 – 180 (14 – 85)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	55 – 325 (26 – 153)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	80 – 450 (38 – 212)	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
7	115 – 650 (54 – 307)	5.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
8	155 – 900 (73 – 425)	5.5	9.5	11.0	13.0	13.0	13.0	13.0	13.0
9	200 – 1150 (94 – 543)	5.5	9.5	11.0	13.0	16.0	16.0	16.0	16.0
10	260 – 1500 (123 – 708)	5.5	9.5	11.0	13.0	16.5	17.0	21.0	21.0
12	355 – 2050 (168 – 967)	5.5	9.5	11.0	13.0	16.5	17.0	30.0	30.0
14	440 – 2550 (208 – 1203)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5
16	525 – 3040 (248 – 1435)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5
24 x 16	1180 – 6800 (557 – 3209)	5.5	9.5	11.0	13.0	16.5	17.0	31.0	38.5



Intertek
Tested and approved to the following standards:
ANSI/UL
1996, 1st. ed.
CSA C22.2
No. 155-M1986.

* Minimum airflow must be the greater of the air volume listed or 70 cfm per kilowatt (33 L/s/kW)

Selection Guidelines:

The table above provides a general guideline as to the voltages and maximum kilowatts available for each terminal unit size. Up to three stages of heat are available. A minimum of 0.5 kW/stage is required.

For optimum diffuser performance and maximum thermal comfort, ASHRAE recommends that discharge temperatures do not exceed 15°F (8°C) above room set point, as stratification and short circuiting may occur. ASHRAE Standard 62.1 limits discharge temperatures to 90°F (32°C) or increasing the ventilation rate when heating from the ceiling. Never select kW to exceed a discharge temperatures of 120°F (49°C).

$$\Delta T \text{ (Air Temp. Rise, } ^\circ\text{F)} = \frac{\text{kW} \times 3160}{\text{cfm}}$$

The coils ranges listed are restricted to a maximum of 48 amps and do not require circuit fusing to meet NEC code requirements. A minimum of .1" w.g. (25 Pa) of downstream static pressure is required to ensure proper operation of the heater. To avoid possible nuisance tripping of the thermal cutouts due to insufficient airflow, a minimum airflow of 70 cfm (33 l/s) per kilowatt must be maintained. Check that desired minimum airflow is within recommended operating range.

Standard Features:

- Primary auto-reset high limit thermal cut-out (one per coil in control circuit).
- Secondary manual reset high limit thermal cut-outs (one per element).
- Positive pressure air proving switch.
- Class A 80/20 Ni/Cr wire.
- PE Switch per stage. Back-up contactors as required.
- Line terminal block.
- High performance arrowhead insulators.
- ETL Listed as an assembly.
- Hinged door control enclosure.
- Slip and drive discharge connection.

Voltage:

- Single phase, 60 Hz.
 120V 208V 240V
 277V 347V
 Three phase, 60 Hz.
 208V 480V 600V

Coil Options and Accessories:

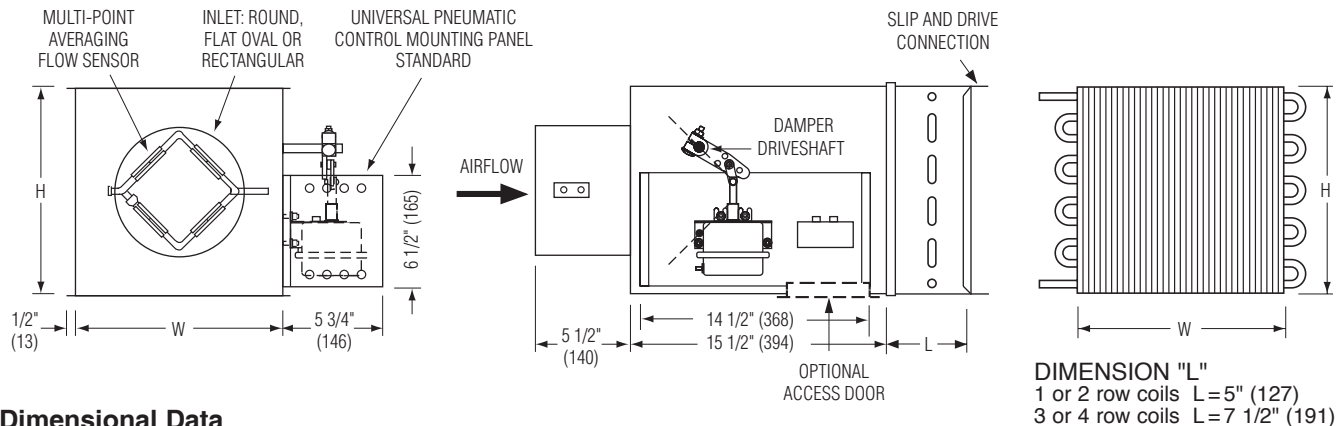
- Toggle type disconnect switch.
- Door interlock disconnect switch.
- Mercury contactors.
- Power circuit fusing.
- Dust tight construction.
- Special Features: _____

SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Page 2 of 2. Dimensions are in inches (mm).			
DATE	B SERIES	SUPERSEDES	DRAWING NO.
6 - 17 - 20	3000	4 - 30 - 20	P30RE-1



**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT
PNEUMATIC CONTROLS • PRESSURE INDEPENDENT
VARIABLE OR CONSTANT VOLUME
MODEL: P30RW**



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 – 180 (0 – 85)	10 (254)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 – 325 (0 – 153)	10 (254)	10 (254)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 – 450 (0 – 212)	10 (254)	10 (254)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 – 650 (0 – 307)	12 (305)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 – 900 (0 – 425)	12 (305)	12 1/2 (318)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 – 1150 (0 – 543)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 – 1500 (0 – 708)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 – 2050 (0 – 967)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 – 2550 (0 – 1203)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 – 3040 (0 – 1435)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 – 6800 (0 – 3209)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)

* Maximum airflow limit is based upon 1.0" w.g. (249 Pa) max. differential pressure signal from Diamond Flow Sensor.

Standard Features:

- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Universal control mounting panel with double wall stand-off construction.

- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Hot Water Coil Section:

- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 1, 2, 3 or 4 row.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.



Intertek

Controls:

- By Nailor. (See separate submittal).
- By others.

Options and Accessories:

- Steri-liner.
 - Fiber-free liner.
 - Solid metal liner.
 - 1" (25) liner.
 - Bottom access door.
 - Hanger brackets.
 - Protective controls shroud cover.
- Seismic Certification:
- SSI (Standard)
 - OSHPD
 - Special Features: _____

Page 1 of 2.

Dimensions are in inches (mm).

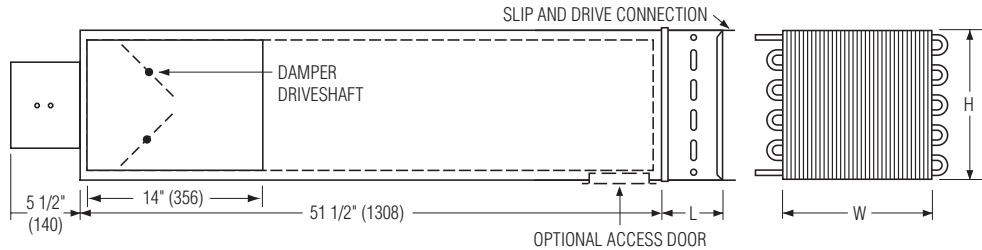
SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	3 - 13 - 18	3000	3 - 30 - 17	P30RW-1



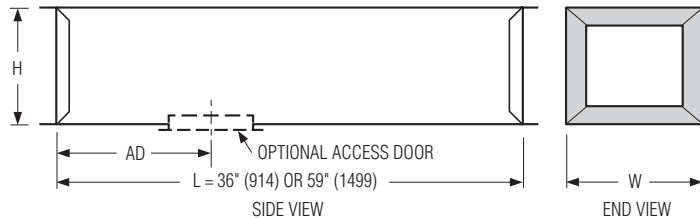
**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT • ACCESSORIES**
PNEUMATIC CONTROLS
PRESSURE INDEPENDENT
MODEL: P30RW

Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.



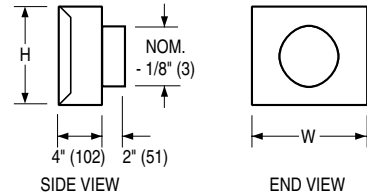
AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
- Shipped loose for field attachment.
- Slip and drive connection.
- 3/4" (14) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.

- AT313** 3' (916) Long - Standard.
- AT315** 5' (1524) Long - Optional.
- Special Features: _____

FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	Hot Water Coil		FF Nominal Outlet Size
				L (1 & 2 row)	L (3 & 4 row)	
4, 5, 6	10 (254)	10 (254)	12 (305)	5 (127)	7 1/2 (191)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	9, 10 (229, 254)
12	18 (457)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	16 (406)
24 x 16	38 (965)	18 (457)	12 (305)	5 (127)	7 1/2 (191)	-

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 2 of 2.
Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

3 - 13 - 18

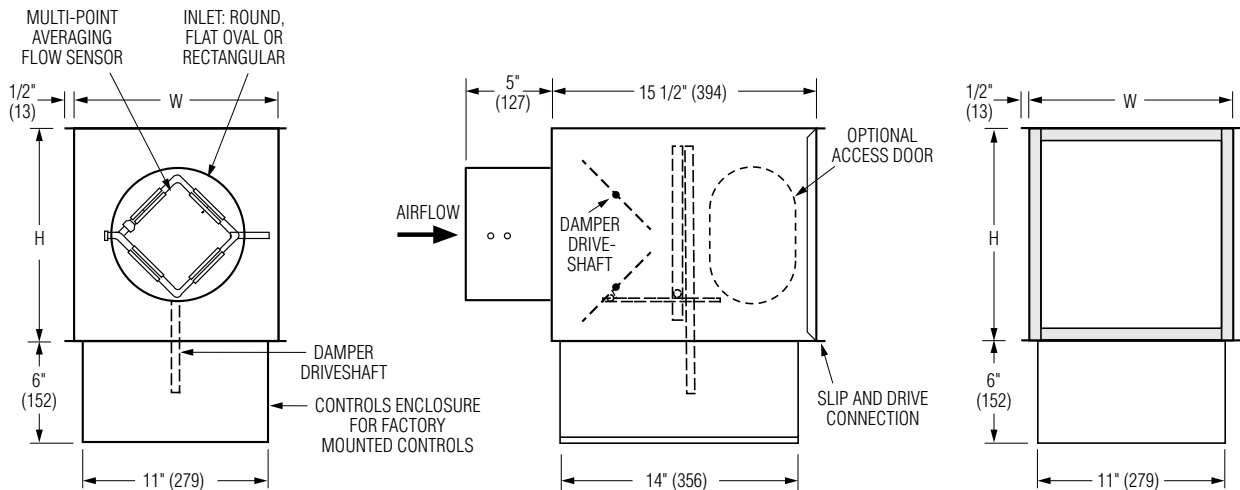
3000

3 - 30 - 17

P30RW-1



SINGLE DUCT TERMINAL UNIT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODELS: D3001 WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Diamond Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction. Leakage is less than 1% of nominal flow at 1" w.g. (250 Pa).
- 16 ga. (1.61) corrosion-resistant steel inclined single blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.

- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

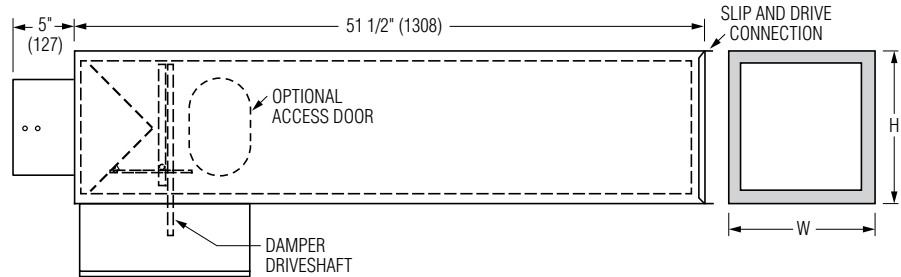
- Fiber-free liner.
- Perforated metal liner.
- Solid metal liner.
- Steri-liner.
- Steri-liner + Perforated metal liner.
- 1" (25) liner.
- FMI Removable insert type flow sensor.
- Side access door.
- 24 VAC Control transformer.
- Toggle disconnect switch.
- Hanger brackets.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- Ultra low leakage casing.
- Special Features: _____

SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

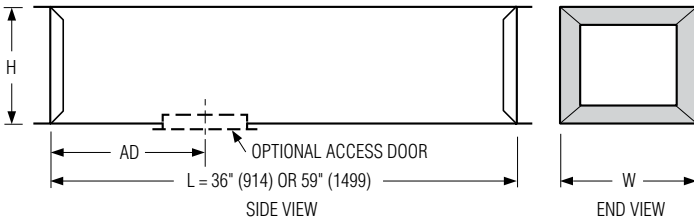
Page 1 of 2.			
Dimensions are in inches (mm).			
DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	3 - 30 - 17	D3001-2

Integral Sound Attenuator

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.



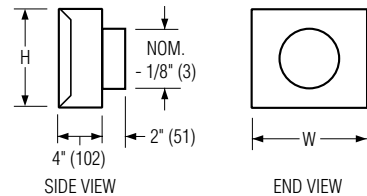
AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
- Shipped loose for field attachment.
- Slip and drive connection.
- 3/4" (14) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.

- AT313 3' (916) Long - Standard.**
- AT315 5' (1524) Long - Optional.**
- Special Features:** _____

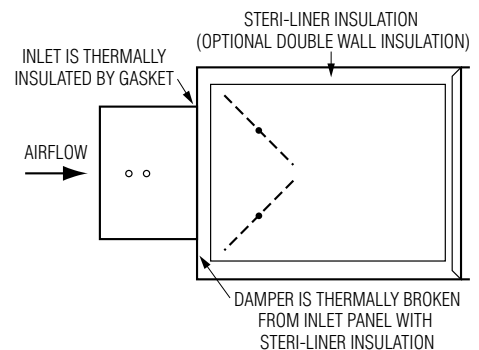
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	FF Outlet Size
4, 5, 6	10 (254)	10 (254)	12 (305)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	12 1/2 (318)	12 (305)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	12 (305)	9, 10 (229, 254)
12	18 (457)	12 1/2 (318)	12 (305)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	16 (406)
24 x 16	38 (965)	18 (457)	12 (305)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

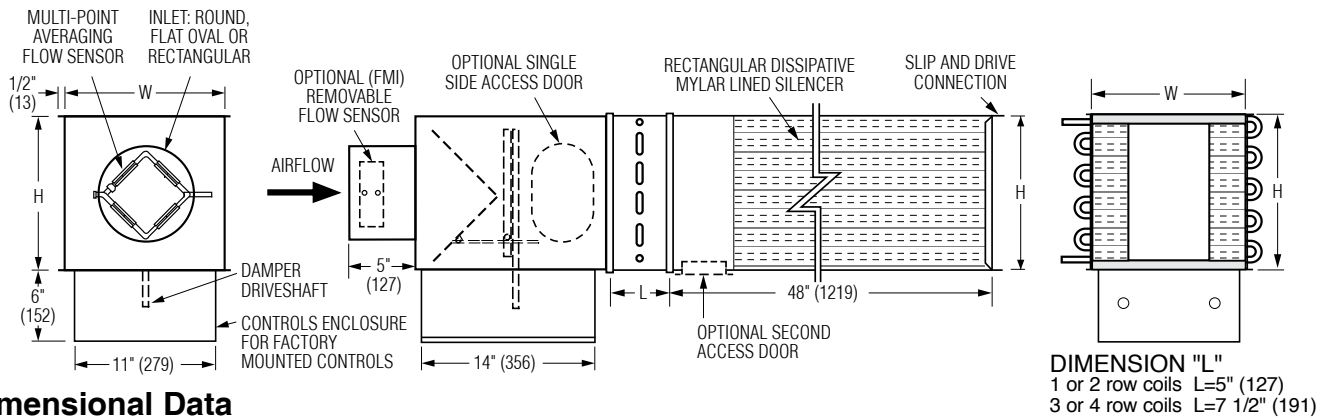
Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	3 - 30 - 17	D3001-2



SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT AND DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
 DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D30HQW WITH BOTTOM MOUNT CONTROLS
 LOCATION (OPTION OB)

Hot Water Coil Position: Box/Coil/Silencer



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)



Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- Designed for hospital and other critical environment applications where IAQ is a concern.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.

- VAV section is lined with 13/16" (21), thick, 4 lb. density Steri-Liner insulation. Fiberglass with a reinforced aluminum FSK facing. Meets the requirements of NFPA 90A, UL 181 and ASTM C655. "Notch and tuck" fabrication and full seam length steel Z-strip construction.

Silencer Section:

- Designed to mate with VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media. Mylar lining with acoustical spacer isolates material from airstream.
- Internal Steri-Liner insulation on top and bottom optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Hot Water Coil Section:

- Position: Box/Coil/Silencer (shown above).
- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 20 ga. (1.00) zinc coated steel casing Uninsulated.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

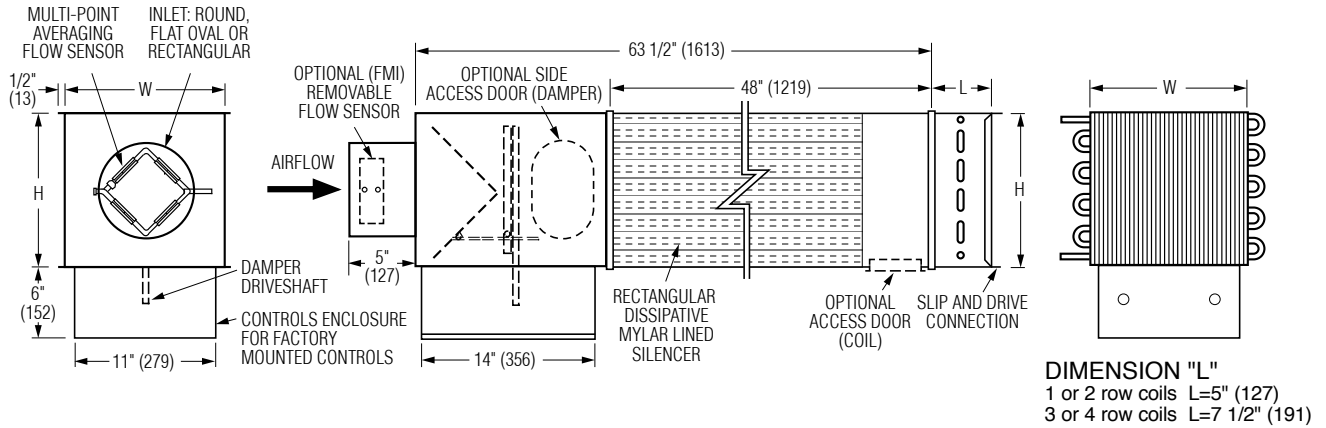
Page 1 of 2.
 Dimensions are in inches (mm)

DATE	B SERIES	SUPERSEDES	DRAWING NO.
5 - 1 - 23	3000	NEW	D30HQW-2



SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT AND DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
 DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D30HQW WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION B)

Hot Water Coil Position: Box/Silencer/Coil



Options and Accessories:

- HW coil position: Box/Silencer/Coil (see page 2).
- Access door.
- 2 Access doors.
- Removable insert type Flow Sensor.
- 24 VAC control transformer.
- Toggle disconnect switch.
- Hanger brackets.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- Special Features: _____ .

Terminal Unit Liner:

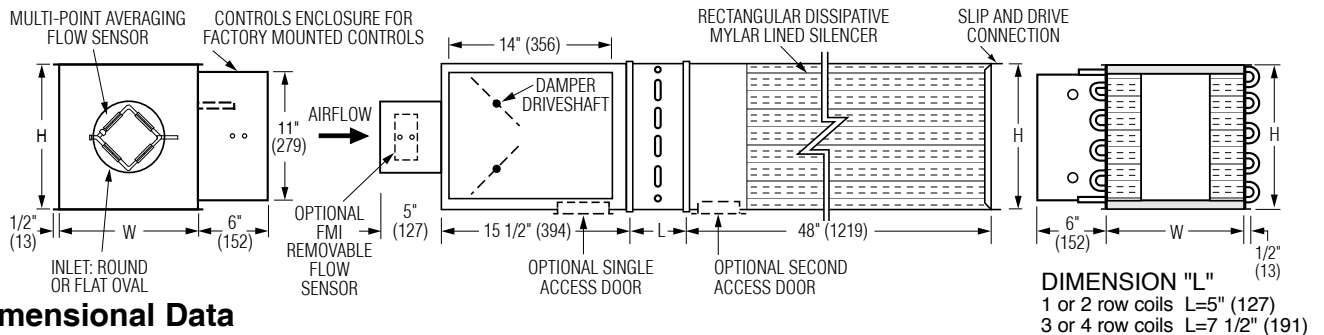
- Solid metal liner.

SCHEDULE TYPE:		Page 2 of 2.			
PROJECT:		Dimensions are in inches (mm)			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.	
CONTRACTOR:	5 - 1 - 23	3000	NEW	D30HQW-2	



SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT AND DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
 OVERSIZED CASING (LARGER WATER COIL)
 DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D30HQW

Hot Water Coil Position: Box/Coil/Silencer



Dimensional Data

Unit Size	Inlet Size	Airflow Range* cfm (l/s)	W	H	Inlet Size (Nominal)	Coil Connections			
						1 Row	2 Row	3 Row	4 Row
8	4	0 - 225 (0 - 106)	12 (305)	12 1/2 (318)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	5	0 - 400 (0 - 189)			4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	6	0 - 550 (0 - 260)			5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	7	0 - 800 (0 - 378)	14 (356)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	8	0 - 1100 (0 - 519)			7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	9	0 - 1400 (0 - 661)	18 (457)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	10	0 - 1840 (0 - 868)			9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	12	0 - 2500 (0 - 1180)	24 (610)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	14	0 - 3125 (0 - 1475)	28 (711)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24	16	0 - 3725 (0 - 1758)	38 (965)	18 (457)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Designed for hospital and other critical environment applications where IAQ is a concern.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 13/16" (21), thick, 4 lb. density Steri-Liner insulation. Fiberglass with a reinforced aluminum FSK facing. Meets the requirements of NFPA 90A, UL 181 and ASTM C655.
- "Notch and tuck" fabrication and full seam length steel Z-strip construction.

- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.
- Silencer Section:**
 - Designed to mate with VAV section for optimum performance and super quiet operation.
 - Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
 - 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media. Mylar lining with acoustical spacer isolates material from airstream.
 - Internal Steri-Liner insulation on top and bottom optimizes sound reduction and eliminates need for external field applied thermal duct wrap.
- Hot Water Coil Section:**
 - Position: Box/Coil/Silencer (shown above).
 - 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
 - 20 ga. (1.00) zinc coated steel casing. Uninsulated.
 - Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).



- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- Solid metal liner (VAV section).
 - HW coil position: Box/Silencer/Coil (see page 2).
 - Access door.
 - 2 Access doors.
 - Removable insert type Flow Sensor.
 - 20 ga. (1.00) construction.
 - 24 VAC control transformer.
 - Toggle disconnect switch.
 - Hanger brackets.
 - Controls enclosure for field mounted controls.
 - Dust tight enclosure seal.
- Seismic Certification:
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special Features: _____

Page 1 of 2.

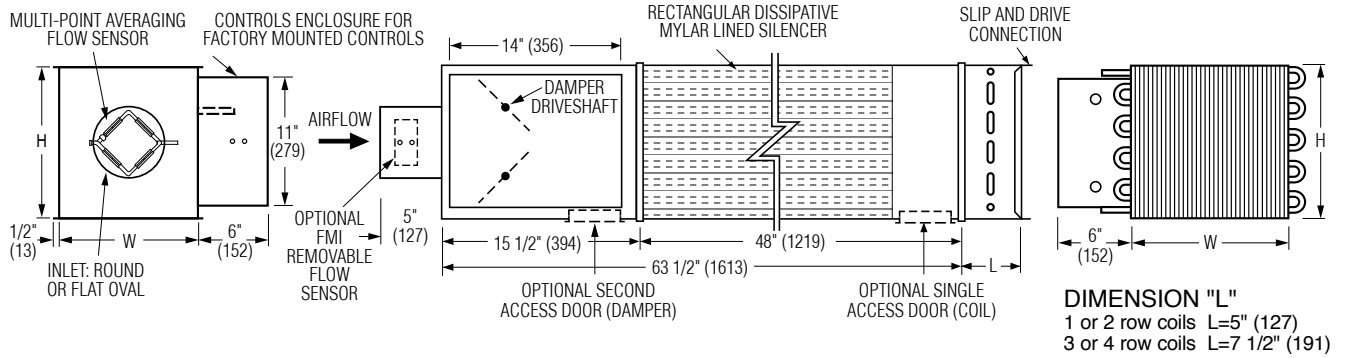
Dimensions are in inches (mm)

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	4 - 3 - 23	3000	4 - 11 - 22	D30HQW-OC



SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT AND DISSIPATIVE SILENCER
HOSPITAL GRADE • SUPER QUIET
 OVERSIZED CASING (LARGER WATER COIL)
 DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME
MODEL: D30HQW

☐ Hot Water Coil Position: Box/Silencer/Coil



SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

Page 2 of 2.
 Dimensions are in inches (mm)

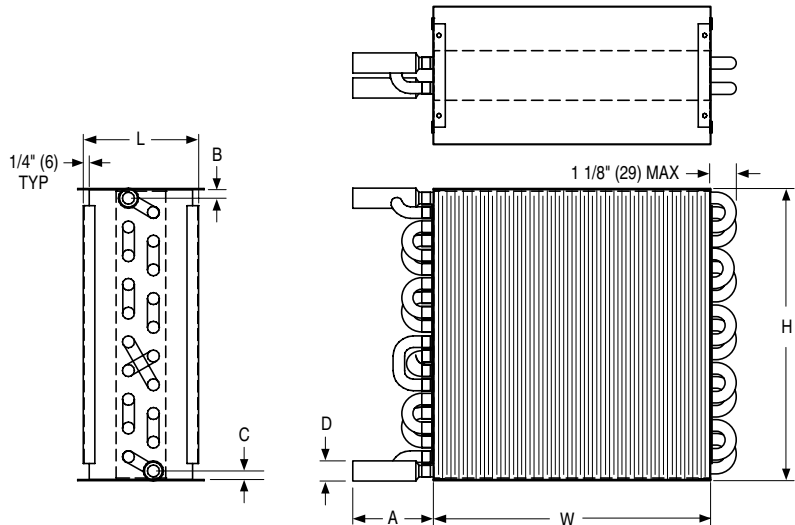
DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 3 - 23	3000	4 - 11 - 22	D30HQW-OC



**SINGLE DUCT TERMINAL UNIT
HOT WATER REHEAT COILS
FOR USE WITH MODELS: (D, A or P) 30RW
MODEL SERIES: 30HWC**

Description:

- 0.0045" (0.11) Aluminum sine-wave corrugation and rippled fins, 10 fins per inch.
- 1/2" (13) O.D. copper tubes, 0.016" (0.41) wall thickness.
- 20 ga. (1.00) galvanized steel casing.
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. copper male solder sweat connections.
- Connection is slip and drive to ductwork, both sides.
- Leakage tested to 360 psi (2481 kPa).
- AHRI Certified.



Dimensional Data

Unit Size	W	H	1 Row						2 Row					
			Part No.	L	A	B	C	D	Part No.	L	A	B	C	D
4, 5, 6	10 (254)	10 (254)	V30HWC106	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V30HWC206	5 (127)	4 (102)	13/32 (10)	13/32 (10)	7/8 (22)
7, 8	12 (305)	12 1/2 (318)	V30HWC108	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V30HWC208	5 (127)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
9, 10	14 (356)	12 1/2 (318)	V30HWC110	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V30HWC210	5 (127)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
12	18 (457)	12 1/2 (318)	V30HWC112	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V30HWC212	5 (127)	3 1/2 (89)	13/32 (10)	13/32 (10)	7/8 (22)
14	24 (610)	12 1/2 (318)	V30HWC114	5 (127)	3 (76)	3/8 (10)	1 (25)	1/2 (13)	V30HWC214	5 (127)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
16	28 (711)	12 1/2 (318)	V30HWC116	5 (127)	4 3/4 (121)	3/8 (10)	1 (25)	7/8 (22)	V30HWC216	5 (127)	4 3/4 (121)	11/16 (17)	11/16 (17)	7/8 (22)
24 x 16	38 (965)	18 (457)	V30HWC124	5 (127)	4 3/4 (121)	9/16 (14)	1 3/16 (30)	7/8 (22)	V30HWC224	5 (127)	4 3/4 (121)	7/8 (22)	7/8 (22)	7/8 (22)

Unit Size	W	H	3 Row						4 Row					
			Part No.	L	A	B	C	D	Part No.	L	A	B	C	D
4, 5, 6	10 (254)	10 (254)	V30HWC306	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)	V30HWC406	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)
7, 8	12 (305)	12 1/2 (318)	V30HWC308	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)	V30HWC408	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)
9, 10	14 (356)	12 1/2 (318)	V30HWC310	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)	V30HWC410	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)
12	18 (457)	12 1/2 (318)	V30HWC312	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)	V30HWC412	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)
14	24 (610)	12 1/2 (318)	V30HWC314	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)	V30HWC414	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)
16	28 (711)	12 1/2 (318)	V30HWC316	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)	V30HWC416	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)
24 x 16	38 (965)	18 (457)	V30HWC324	7 1/2 (191)	4 3/4 (121)	1 1/8 (29)	1 1/8 (29)	1 3/8 (35)	V30HWC424	7 1/2 (191)	4 3/4 (121)	1 1/8 (29)	1 1/8 (29)	1 3/8 (35)

Weights:

Unit Size	1 Row			2 Row			3 Row			4 Row		
	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)
4, 5, 6	5	0.16	0.02	7	0.43	0.06	10	0.65	0.09	12	0.81	0.11
7, 8	7	0.21	0.03	9	0.53	0.07	11	0.80	0.11	14	1.01	0.14
9, 10	7	0.23	0.03	10	0.58	0.08	12	0.87	0.12	15	1.11	0.15
12	8	0.28	0.04	11	0.67	0.09	13	1.01	0.14	17	1.30	0.17
14	10	0.35	0.05	13	0.82	0.11	16	1.23	0.17	20	1.58	0.21
16	12	0.65	0.09	16	1.32	0.18	19	1.67	0.23	23	1.77	0.24
24 x 16	19	0.96	0.13	28	2.49	0.34	43	4.53	0.61	51	5.19	0.70

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 1.
Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

9 - 6 - 19

3000

11 - 3 - 17

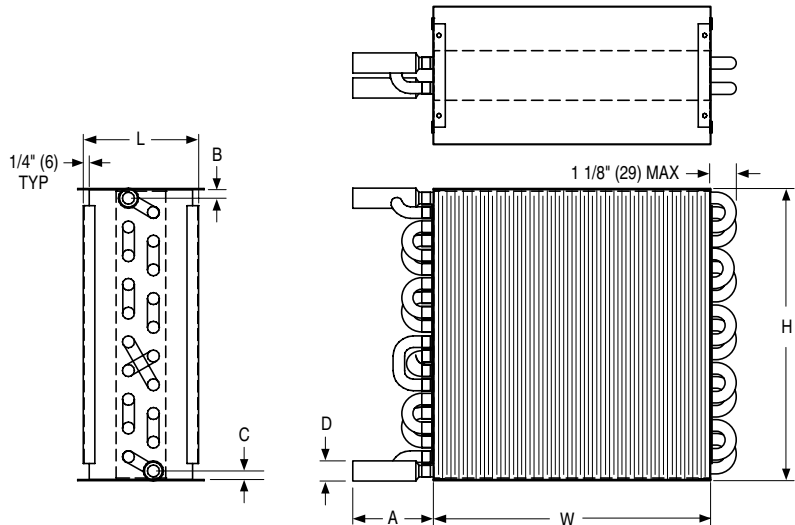
D30HWC-1



**SINGLE DUCT TERMINAL UNIT
HOT WATER REHEAT COILS (HIGH CAPACITY)
FOR USE WITH MODELS: (D, A or P) 30RW
MODEL SERIES: 30HWC**

Description:

- 0.0045" (0.11) Aluminum sine-wave corrugation and rippled fins, 12 fins per inch.
- 1/2" (13) O.D. copper tubes, 0.016" (0.41) wall thickness.
- 20 ga. (1.00) galvanized steel casing.
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. copper male solder sweat connections.
- Connection is slip and drive to ductwork, both sides.
- Leakage tested to 360 psi (2481 kPa).
- AHRI Certified.



Dimensional Data

Unit Size	W	H	1 Row						2 Row					
			Part No.	L	A	B	C	D	Part No.	L	A	B	C	D
4, 5, 6	10 (254)	10 (254)	V30HWC106H	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V30HWC206	5 (127)	4 (102)	13/32 (10)	13/32 (10)	7/8 (22)
7, 8	12 (305)	12 1/2 (318)	V30HWC108H	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V30HWC208	5 (127)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
9, 10	14 (356)	12 1/2 (318)	V30HWC110H	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V30HWC210	5 (127)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
12	18 (457)	12 1/2 (318)	V30HWC112H	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V30HWC212	5 (127)	3 1/2 (89)	13/32 (10)	13/32 (10)	7/8 (22)
14	24 (610)	12 1/2 (318)	V30HWC114H	5 (127)	3 (76)	3/8 (10)	1 (25)	1/2 (13)	V30HWC214	5 (127)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
16	28 (711)	12 1/2 (318)	V30HWC116H	5 (127)	4 3/4 (121)	3/8 (10)	1 (25)	7/8 (22)	V30HWC216	5 (127)	4 3/4 (121)	11/16 (17)	11/16 (17)	7/8 (22)
24 x 16	38 (965)	18 (457)	V30HWC124H	5 (127)	4 3/4 (121)	9/16 (14)	1 3/16 (30)	7/8 (22)	V30HWC224	5 (127)	4 3/4 (121)	7/8 (22)	7/8 (22)	7/8 (22)

Unit Size	W	H	3 Row						4 Row					
			Part No.	L	A	B	C	D	Part No.	L	A	B	C	D
4, 5, 6	10 (254)	10 (254)	V30HWC306H	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)	V30HWC406	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)
7, 8	12 (305)	12 1/2 (318)	V30HWC308H	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)	V30HWC408	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)
9, 10	14 (356)	12 1/2 (318)	V30HWC310H	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)	V30HWC410	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)
12	18 (457)	12 1/2 (318)	V30HWC312H	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)	V30HWC412	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)
14	24 (610)	12 1/2 (318)	V30HWC314H	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)	V30HWC414	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)
16	28 (711)	12 1/2 (318)	V30HWC316H	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)	V30HWC416	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)
24 x 16	38 (965)	18 (457)	V30HWC324H	7 1/2 (191)	4 3/4 (121)	1 1/8 (29)	1 1/8 (29)	1 3/8 (35)	V30HWC424	7 1/2 (191)	4 3/4 (121)	1 1/8 (29)	1 1/8 (29)	1 3/8 (35)

Weights:

Unit Size	1 Row			2 Row			3 Row			4 Row		
	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)
4, 5, 6	5	0.16	0.02	7	0.43	0.06	10	0.65	0.09	13	0.81	0.11
7, 8	7	0.21	0.03	9	0.53	0.07	11	0.80	0.11	15	1.01	0.14
9, 10	7	0.23	0.03	11	0.58	0.08	12	0.87	0.12	16	1.11	0.15
12	9	0.28	0.04	12	0.67	0.09	14	1.01	0.14	18	1.30	0.17
14	11	0.35	0.05	15	0.82	0.11	17	1.23	0.17	21	1.58	0.21
16	13	0.65	0.09	17	1.32	0.18	20	1.67	0.23	26	1.77	0.24
24 x 16	23	0.96	0.13	31	2.49	0.34	47	4.53	0.61	58	5.19	0.70

SCHEDULE TYPE:

PROJECT:

ENGINEER:

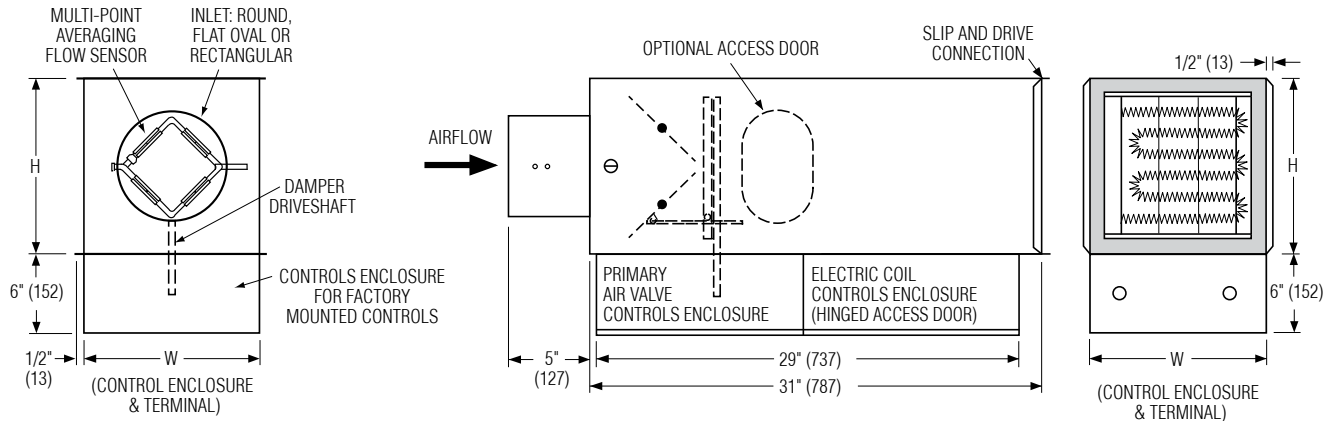
CONTRACTOR:

Page 1 of 1.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
9 - 6 - 19	3000	NEW	D30HWC-2



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D30RE WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)**



Dimensional Data

Unit Size	Min.- Max. Airflow Range* cfm (l/s)	W	H	Inlet Size
4	25 – 225 (12 – 106)	10 (254)	10 (254)	3 7/8 (98) Round
5	45 – 400 (21 – 189)	10 (254)	10 (254)	4 7/8 (124) Round
6	65 – 550 (31 – 260)	10 (254)	10 (254)	5 7/8 (149) Round
7	95 – 800 (45 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	125 – 1100 (59 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	165 – 1400 (78 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	215 – 1840 (101 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	290 – 2500 (137 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	360 – 3125 (170 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	430 – 3725 (203 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	960 – 8330 (453 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Min & Max airflow limits are based on .02" w.g. (5 Pa) & 1.5" w.g. (373 Pa), respectively, differential pressure signals from Diamond Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.

- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type low voltage controls enclosure for factory mounted controls.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Electric Coil is mounted in an integral attenuator section.

Digital Controls:

- Factory mounted (supplied by others)
- Field mounted (supplied by others)
- Nailor EZvav

See separate submittal.

Options and Accessories:

- Steri-liner.
- Fiber-free liner.
- Steri-liner + Perforated metal liner.
- Perforated metal liner.
- Solid metal liner.
- Fiberglass liner.
- 1" (25) liner.
- Low temperature construction.
- FMI Removable insert type Flow Sensor.
- Dust tight enclosure seal.
- Side access door.
- 24 VAC Control transformer.
- Hanger brackets.
- Ultra low leakage casing.
- Controls enclosure for field mounted controls.

Electric Coil Features, Options and Accessories: See page 2 of 2.



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	6 - 17 - 20	D30RE-2



**SINGLE DUCT TERMINAL UNIT WITH
ELECTRIC REHEAT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D30RE WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)**

Nailor manufactures its own electric heating coils. They have been specifically designed and tested for use with variable air volume single duct terminal units.

All terminals with electric heat have been tested and ETL listed as an assembly, eliminating the need to mount coils a minimum of 36" (914) downstream or having to ship a bulky length of ductwork when coils are to be supplied mounted on the terminal.

Nailor electric coils are factory mounted as an integral part

of the terminal unit in an insulated extended plenum section. Total length of the casing including heater terminal is only 31" (787), providing a compact, easy to handle unit. Freight costs are therefore also reduced. The unique inclined opposed blade damper design provides improved and more even airflow over the coil elements compared with round butterfly damper designs, which helps to minimize air stratification, avoid nuisance tripping of the thermal cut-outs and maximize heat pick-up.

Electric Coil Limitations

Unit Size	Heating Range* cfm (l/s)	Maximum kW									
		Single Phase					Three Phase				
		120V	208V	220V	240V	277V	347/480V	208V	380V	480V	600V
4	25 – 225 (12 – 106)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	45 – 400 (21 – 189)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	65 – 550 (31 – 260)	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
7	95 – 800 (45 – 378)	5.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
8	125 – 1100 (59 – 519)	5.5	9.5	10.5	11.0	13.0	13.0	13.0	13.0	13.0	13.0
9	165 – 1400 (78 – 661)	5.5	9.5	10.5	11.0	13.0	16.0	16.0	16.0	16.0	16.0
10	215 – 1840 (101 – 868)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	21.0	21.0	21.0
12	290 – 2500 (137 – 1180)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	30.0	30.0
14	360 – 3125 (170 – 1475)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5
16	430 – 3725 (203 – 1758)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5
24 x 16	960 – 8330 (453 – 3931)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	24.5	31.0	38.5



Intertek

Tested and approved to the following standards:

ANSI/UL 1996, 1st. ed.

CSA C22.2 No. 155-M1986.

* Minimum airflow must be the greater of the air volume listed or 70 cfm per kilowatt (33 L/s/kW)

Selection Guidelines:

The table above provides a general guideline as to the voltages and maximum kilowatts available for each terminal unit size. Up to three stages of heat are available. A minimum of 0.5 kW/stage is required.

For optimum diffuser performance and maximum thermal comfort, ASHRAE recommends that discharge temperatures do not exceed 15°F (8°C) above room set point, as stratification and short circuiting may occur. ASHRAE Standard 62.1 limits discharge temperatures to 90°F (32°C) or increasing the ventilation rate when heating from the ceiling. Never select kW to exceed a discharge temperatures of 120°F (49°C).

$$\Delta T \text{ (Air Temp. Rise, } ^\circ\text{F)} = \frac{\text{kW} \times 3160}{\text{cfm}}$$

The coils ranges listed are restricted to a maximum of 48 amps and do not require circuit fusing to meet NEC code requirements. A minimum of .1" w.g. (25 Pa) of downstream static pressure is required to ensure proper operation of the heater. To avoid possible nuisance tripping of the thermal cutouts due to insufficient airflow, a minimum airflow of 70 cfm (33 l/s) per kilowatt must be maintained. Check that desired minimum airflow is within recommended operating range.

Standard Features:

- Primary auto-reset high limit thermal cut-out (one per coil in control circuit).
- Secondary manual reset high limit thermal cut-outs (one per element).
- Positive pressure airflow switch.
- Derated high quality nickel-chrome alloy heating elements.
- Class A 80/20 Ni/Cr wire.
- Magnetic contactor per stage.
- Line terminal block.
- High performance arrowhead insulators.
- ETL Listed as an assembly.

- Hinged door control enclosure.
- Slip and drive discharge connection.

Voltage:

- Single phase, 50 Hz, 60 Hz.
- 120V 208V 240V
 - 277V 347V 480V
 - 220V (50 Hz)
- Three phase, 50 Hz, 60 Hz.
- 208V 480V 600V
 - 380V (50 Hz)
 - _____

Coil Options and Accessories:

- Toggle type disconnect switch.
- Door interlock disconnect switch.
- Mercury contactors.
- Quiet type contactors.
- Power circuit fusing.
- Dust tight construction.
- SCR control.
- SCR w/discharge Temp. Control.
- Special Features: _____

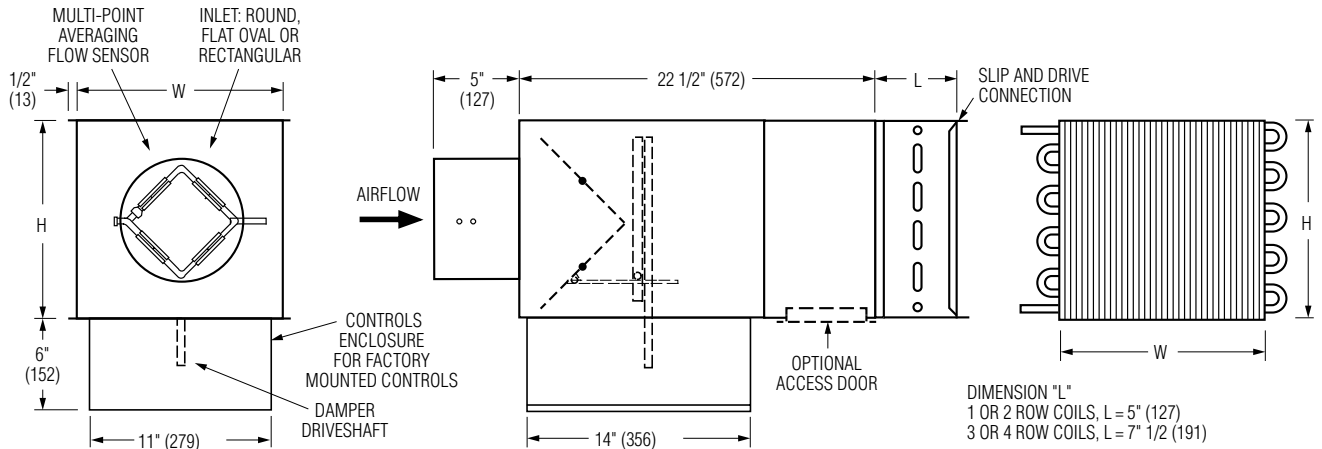
Page 2 of 2.

Dimensions are in inches (mm).

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	2 - 27 - 24	3000	6 - 17 - 20	D30RE-2



SINGLE DUCT TERMINAL UNIT W/HOT WATER REHEAT
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODEL: D30RW WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 – 225 (0 – 106)	10 (254)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 – 400 (0 – 189)	10 (254)	10 (254)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 – 550 (0 – 260)	10 (254)	10 (254)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 – 800 (0 – 378)	12 (305)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 – 1100 (0 – 519)	12 (305)	12 1/2 (318)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 – 2500 (0 – 1180)	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 – 3125 (0 – 1475)	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 – 3725 (0 – 1758)	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signals from Diamond Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.

- Full NEMA type-1 controls enclosure for factory mounted controls.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.

Hot Water Coil Section:

- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 1, 2, 3 or 4 row.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- Steri-liner.
- Fiber-free liner.
- Steri-liner + Perforated metal liner.
- Perforated metal liner.
- Solid metal liner.
- 1" (25) liner.
- FMI Removable insert type Flow Sensor.
- Bottom access door.
- 24 VAC Control transformer.
- Toggle disconnect switch.
- Hanger brackets.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- Ultra low leakage casing.
- Special Features: _____



Intertek

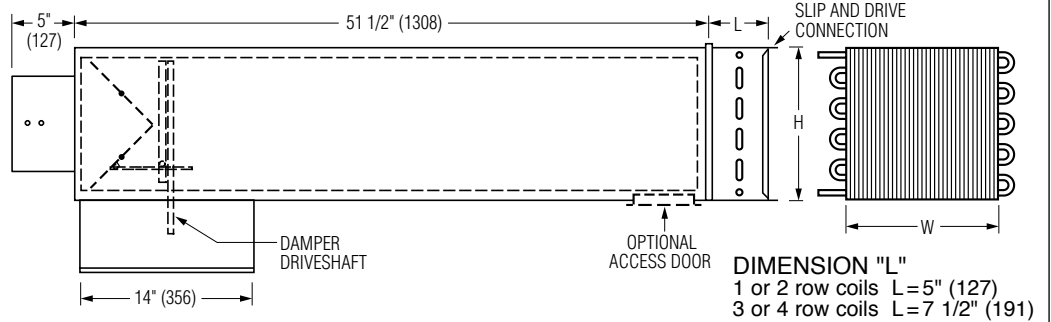
SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	2 - 27 - 24	3000	3 - 30 - 17	D30RW-2



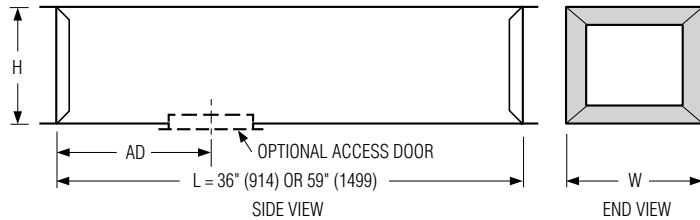
SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT ACCESSORIES
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D30RW WITH BOTTOM MOUNT CONTROLS
ENCLOSURE (OPTION OB)

Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.



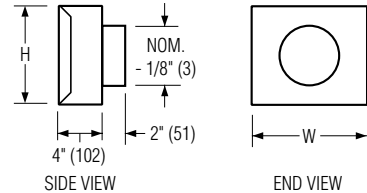
AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
- Shipped loose for field attachment.
- Slip and drive connection.
- 3/4" (14) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.

- AT313 3'** (916) Long - Standard.
- AT315 5'** (1524) Long - Optional.
- Special Features:** _____

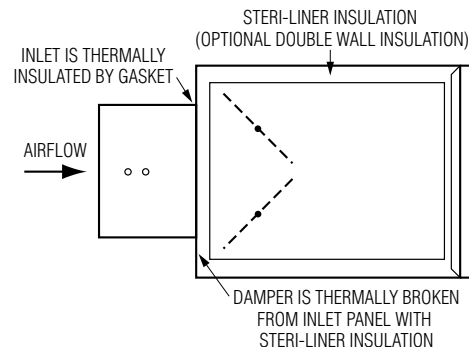
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	FF Outlet Size
4, 5, 6	10 (254)	10 (254)	12 (305)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	12 1/2 (318)	12 (305)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	12 (305)	9, 10 (229, 254)
12	18 (457)	12 1/2 (318)	12 (305)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	16 (406)
24 x 16	38 (965)	18 (457)	12 (305)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

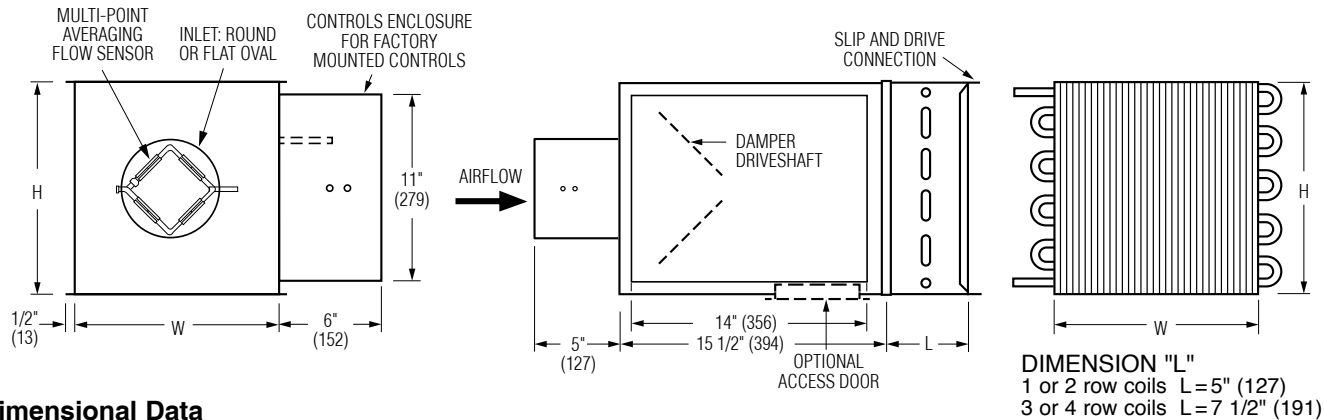
CONTRACTOR:

Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	3 - 30 - 17	D30RW-2



**SINGLE DUCT TERMINAL UNIT W/ HOT WATER REHEAT
OVERSIZED CASING (LARGER WATER COIL)
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODEL: D30RW**



Dimensional Data

Unit Size	Inlet Size	Airflow Range* cfm (l/s)	W	H	Inlet Size (Nominal)	Coil Connections			
						1 Row	2 Row	3 Row	4 Row
8	4	0 – 225 (0 – 106)	12 (305)	12 1/2 (318)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	5	0 – 400 (0 – 189)			4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	6	0 – 550 (0 – 260)			5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	7	0 – 800 (0 – 378)	14 (356)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	8	0 – 1100 (0 – 519)			7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	9	0 – 1400 (0 – 661)	18 (457)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	10	0 – 1840 (0 – 868)			9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	12	0 – 2500 (0 – 1180)	24 (610)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	14	0 – 3125 (0 – 1475)	28 (711)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24	16	0 – 3725 (0 – 1758)	38 (965)	18 (457)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Diamond Flow Sensor.

Standard Features:

- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Right-hand controls location is standard

(shown) when looking in direction of airflow. Optional left hand controls mounting is available.

• Model D30RW can be installed horizontally, vertical or at any angle. Operation is not affected by position.

Hot Water Coil Section:

- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 1, 2, 3 or 4 row.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounte (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- Steri-liner.
 - Fiber-free liner.
 - Steri-liner + Perforated metal liner.
 - Perforated metal liner.
 - Solid metal liner.
 - 1" (25) liner.
 - FMI Removable insert type Flow Sensor.
 - 20 ga. (1.00) construction.
 - Bottom access door.
 - 24 VAC Control transformer.
 - Toggle disconnect switch.
 - Hanger brackets.
 - Controls enclosure for field mounted controls.
 - Dust tight enclosure seal.
 - Ultra low leakage casing.
- Seismic Certification:
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special Features: _____

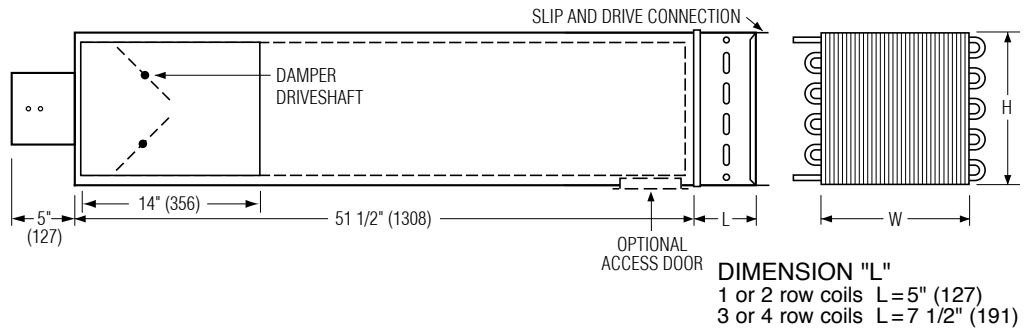


SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

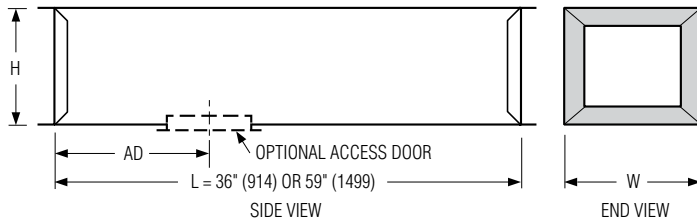
Page 1 of 2.			
Dimensions are in inches (mm).			
DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	3 - 15 - 18	D30RW-OC

Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.



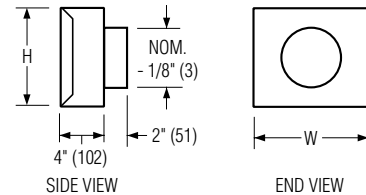
AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
- Shipped loose for field attachment.
- Slip and drive connection.
- 3/4" (14) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.

- AT303 3' (916) Long - Standard.**
- AT305 5' (1524) Long - Optional.**
- Special Features:** _____

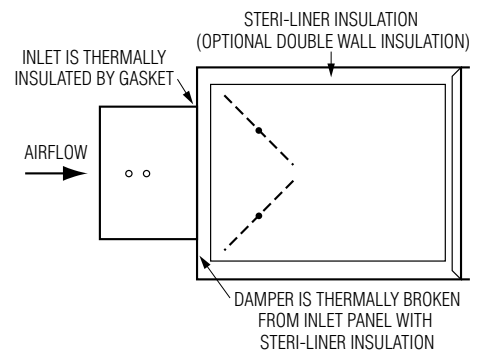
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	FF Nominal Outlet Size
8	12 (305)	12 1/2 (318)	12 (305)	8 (203)
10	14 (356)	12 1/2 (318)	12 (305)	10 (254)
12	18 (457)	12 1/2 (318)	12 (305)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	16 (406)
24	38 (965)	18 (457)	12 (305)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

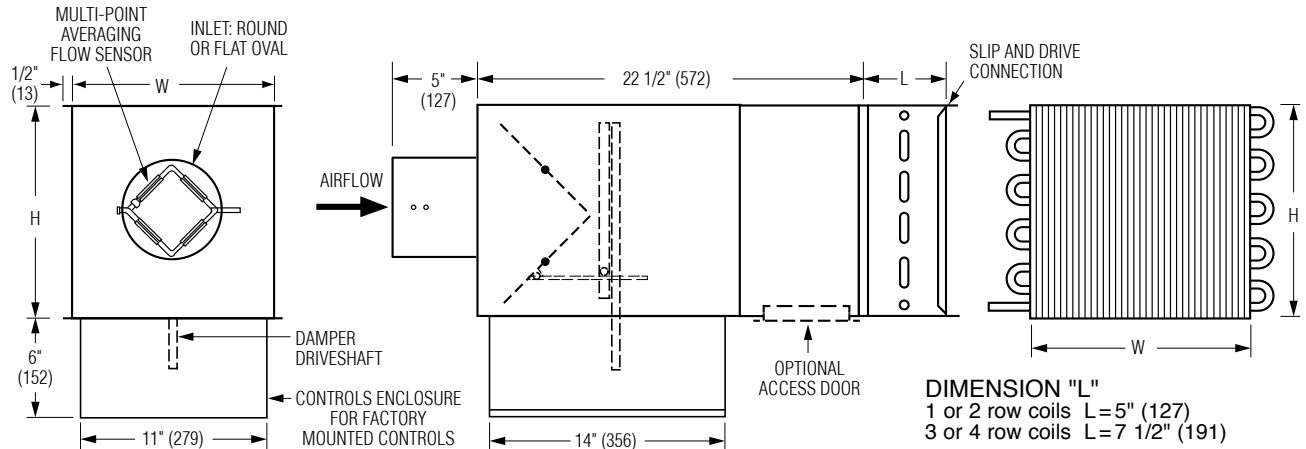
CONTRACTOR:

Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	3 - 15 - 18	D30RW-OC



**SINGLE DUCT TERMINAL UNIT W/HOT WATER REHEAT
OVERSIZED CASING (LARGER WATER COIL)
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODEL: D30RW WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)**



Dimensional Data

Unit Size	Inlet Size	Airflow Range* cfm (l/s)	W	H	Inlet Size (Nominal)	Coil Connections			
						1 Row	2 Row	3 Row	4 Row
8	4	0 – 225 (0 – 106)	12 (305)	12 1/2 (318)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	5	0 – 400 (0 – 189)			4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	6	0 – 550 (0 – 260)			5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	7	0 – 800 (0 – 378)	14 (356)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	8	0 – 1100 (0 – 519)			7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	9	0 – 1400 (0 – 661)	18 (457)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	10	0 – 1840 (0 – 868)			9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	12	0 – 2500 (0 – 1180)	24 (610)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	14	0 – 3125 (0 – 1475)	28 (711)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24	16	0 – 3725 (0 – 1758)	38 (965)	18 (457)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Diamond Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA type-1 controls enclosure for factory mounted controls.

- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.

Hot Water Coil Section:

- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 1, 2, 3 or 4 row.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- Steri-liner.
- Fiber-free liner.
- Steri-liner + Perforated metal liner.
- Perforated metal liner.
- Solid metal liner.
- 1" (25) liner.
- FMI Removable insert type Flow Sensor.
- Bottom access door.
- 24 VAC Control transformer.
- Toggle disconnect switch.
- Hanger brackets.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- Ultra low leakage casing.
- Special Features: _____



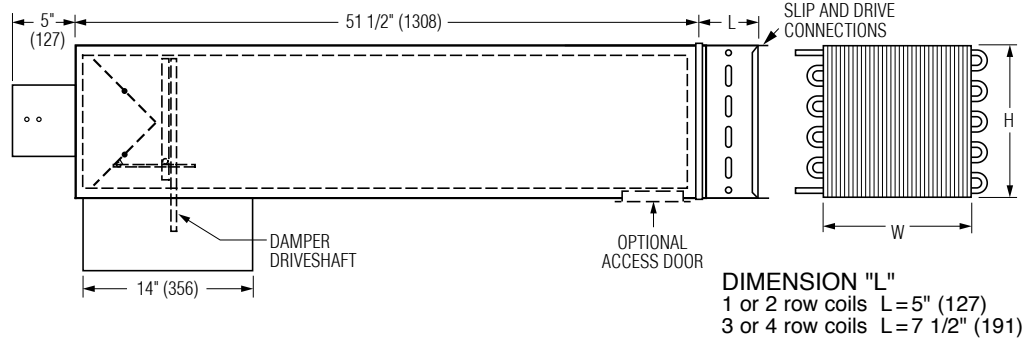
SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	2 - 27 - 24	3000	3 - 15 - 18	D30RW-OC-2



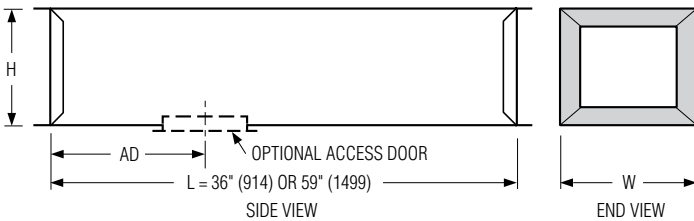
SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT • ACCESSORIES
OVERSIZED CASING (LARGER WATER COIL)
PRESSURE INDEPENDENT • DIGITAL CONTROLS
MODEL: D30RW WITH BOTTOM MOUNT CONTROLS
ENCLOSURE (OPTION OB)

Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.

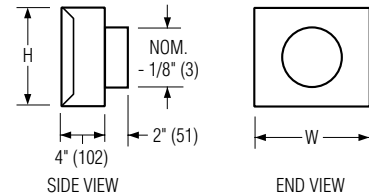


AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
 - Shipped loose for field attachment.
 - Slip and drive connection.
 - 3/4" (14) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.
- AT313 3' (916) Long - Standard.**
 - AT315 5' (1524) Long - Optional.**
 - Special Features:** _____

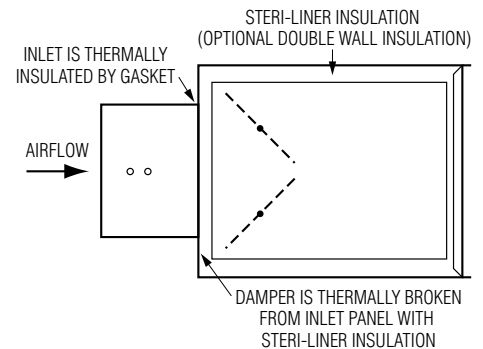
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	FF Nominal Outlet Size
8	12 (305)	12 1/2 (318)	12 (305)	8 (203)
10	14 (356)	12 1/2 (318)	12 (305)	10 (254)
12	18 (457)	12 1/2 (318)	12 (305)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	16 (406)
24	38 (965)	18 (457)	12 (305)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

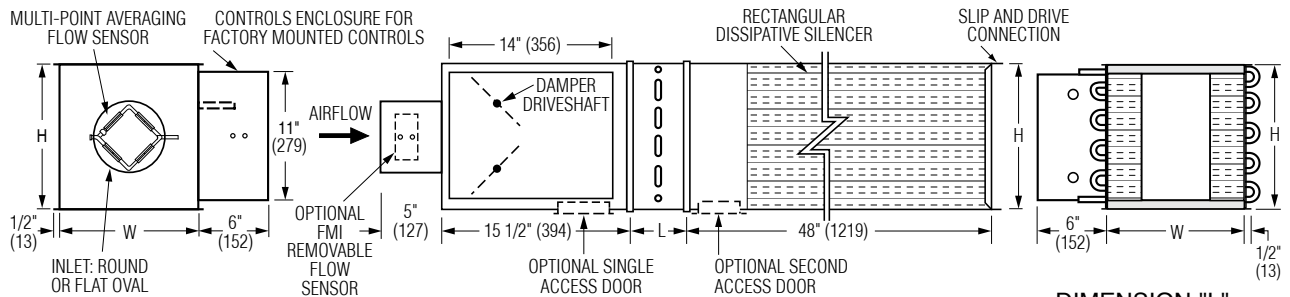
Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 27 - 24	3000	3 - 15 - 18	D30RW-OC-2



SINGLE DUCT TERMINAL UNIT WITH DISSIPATIVE SILENCER AND HOT WATER REHEAT • SUPER QUIET OVERSIZED CASING (LARGER WATER COIL) DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME MODEL: D30RWQ

Hot Water Coil Position: Box/Coil/Silencer



Dimensional Data

Unit Size	Inlet Size	Airflow Range* cfm (l/s)	W	H	Inlet Size (Nominal)	Coil Connections			
						1 Row	2 Row	3 Row	4 Row
8	4	0 – 225 (0 – 106)	12 (305)	12 1/2 (318)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	5	0 – 400 (0 – 189)			4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	6	0 – 550 (0 – 260)			5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	7	0 – 800 (0 – 378)	14 (356)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	8	0 – 1100 (0 – 519)			7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	9	0 – 1400 (0 – 661)	18 (457)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	10	0 – 1840 (0 – 868)			9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	12	0 – 2500 (0 – 1180)	24 (610)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	14	0 – 3125 (0 – 1475)	28 (711)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24	16	0 – 3725 (0 – 1758)	38 (965)	18 (457)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Designed for noise sensitive applications such as classrooms, libraries, studios and performance halls.
- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.63) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- VAV section is lined with 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Right-hand controls location is standard (shown) when looking in direction of airflow.

Optional left hand controls mounting is available.

Silencer Section:

- Designed to mate w/VAV section for optimum performance and super quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, minimizes pressure drop and maximizes acoustic attenuation.
- 22 ga. (0.86) coated steel perforated baffles encapsulate fiberglass acoustic media.
- Internal Steri-Liner insulation on top and bottom optimizes sound reduction and eliminates need for external field applied thermal duct wrap.

Hot Water Coil Section:

- Position: Box/Coil/Silencer (shown above).
- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 20 ga. (1.00) zinc coated steel casing. Uninsulated.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- HW coil position: Box/Silencer/Coil (see page 2).
 - Access door.
 - 2 Access doors.
 - Removable insert type Flow Sensor.
 - 24 VAC control transformer.
 - Toggle disconnect switch.
 - Hanger brackets.
 - Controls enclosure for field mounted controls.
 - Dust tight enclosure seal.
- Seismic Certification:
- Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special Features: _____



SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

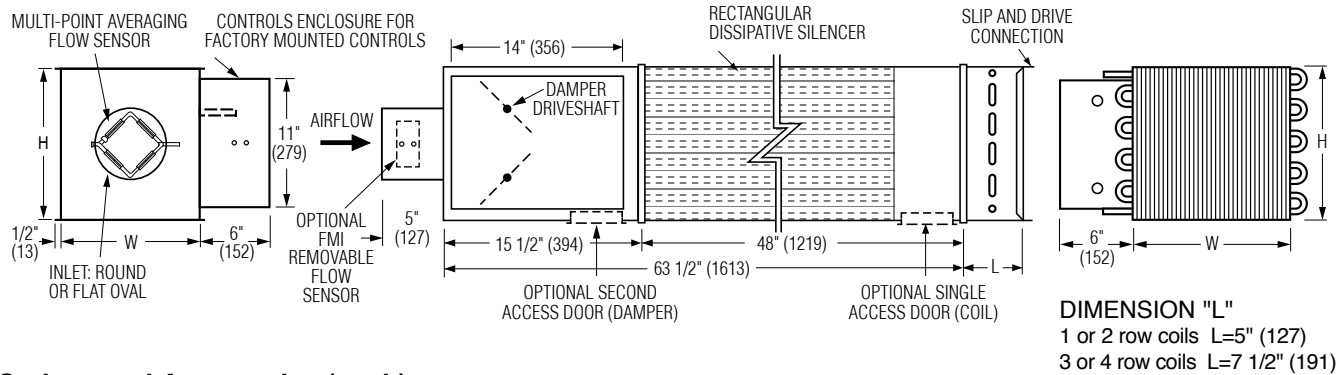
Page 1 of 2.
Dimensions are in inches (mm)

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 3 - 23	3000	4 - 11 - 22	D30RWQ-OC



SINGLE DUCT TERMINAL UNIT WITH DISSIPATIVE SILENCER AND HOT WATER REHEAT • SUPER QUIET OVERSIZED CASING (LARGER WATER COIL) DIGITAL CONTROLS • VARIABLE OR CONSTANT VOLUME MODEL: D30RWQ

Hot Water Coil Position: Box/Coil/Silencer



Options and Accessories (con't):

Terminal Unit Liner:

- Steri-liner.
- Steri-liner + Perforated metal liner.
- Fiber-free liner.
- Perforated metal liner.
- Solid metal liner.
- 1" (25) liner.

Silencer Acoustic Media:

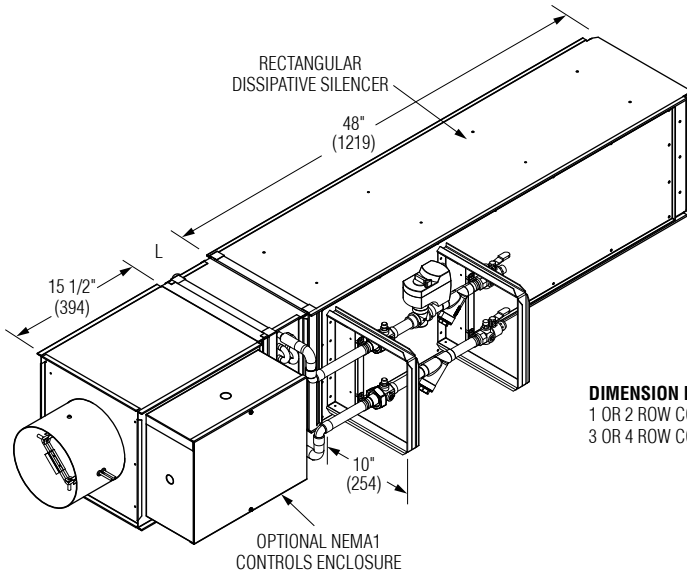
- Mylar/Spacer liner.
- Fiberglass cloth liner.

SCHEDULE TYPE:		Page 2 of 2.			
PROJECT:		Dimensions are in inches (mm)			
ENGINEER:		DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:		4 - 3 - 23	3000	4 - 11 - 22	D30RWQ-OC

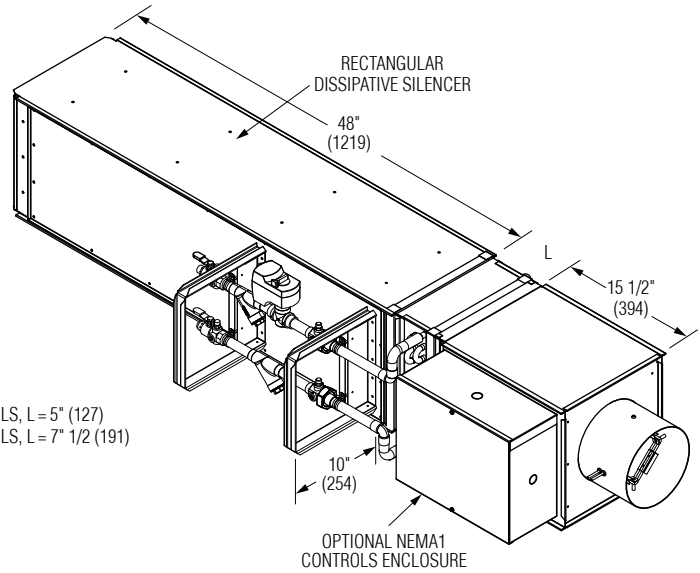


**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT
FACTORY MOUNTED VALVE /PIPING PACKAGE
ORIENTATION
MODELS: D30RWQ AND D30HQW**

OR/VPND
RIGHT HAND CONTROLS LOCATION &
RIGHT HAND PIPING PACKAGE (TOWARDS DISCHARGE)

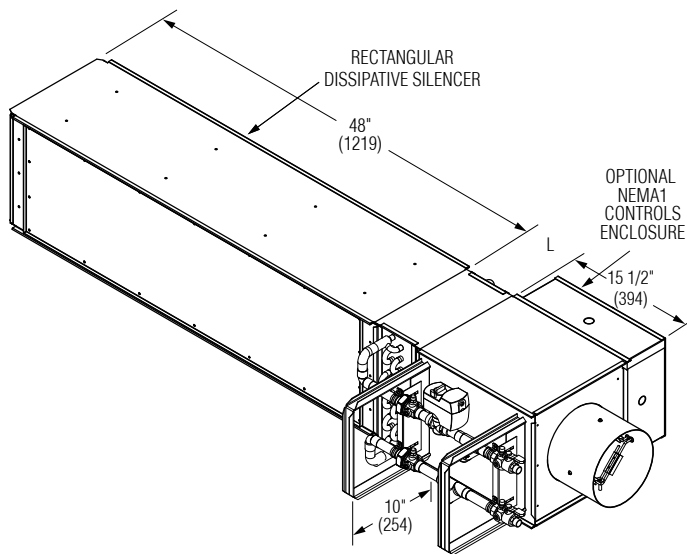


OL/VPND
LEFT HAND CONTROLS LOCATION &
LEFT HAND PIPING PACKAGE (TOWARDS DISCHARGE)

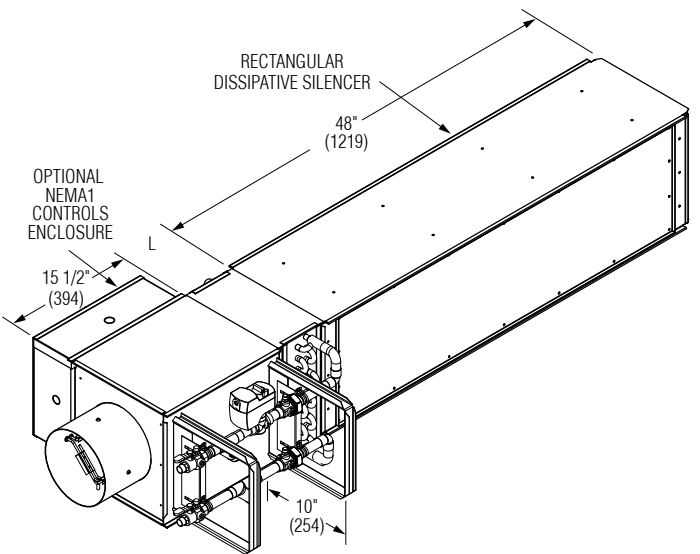


DIMENSION L:
1 OR 2 ROW COILS, L = 5" (127)
3 OR 4 ROW COILS, L = 7" 1/2 (191)

OR/VPNI
RIGHT HAND CONTROLS LOCATION &
LEFT HAND PIPING PACKAGE (TOWARDS INLET)



OL/VPNI
LEFT HAND CONTROLS LOCATION &
RIGHT HAND PIPING PACKAGE (TOWARDS INLET)



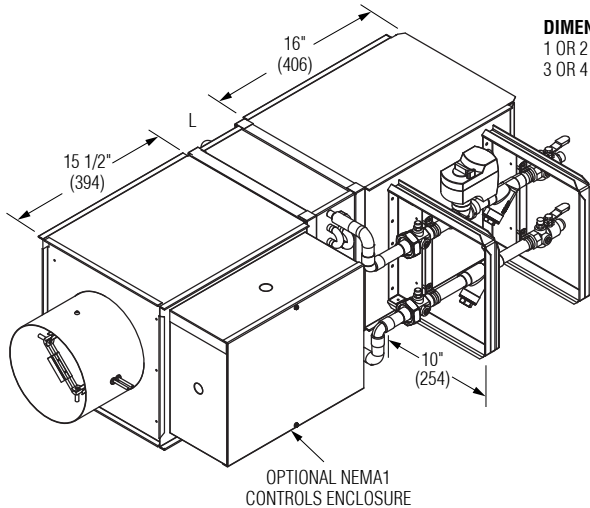
HW Coil Position:
Box/Coil/Silencer

- NOTES:**
1. Valve/Piping packages are factory assembled, leakage tested and shipped as shown.
 2. Factory mounted valve/piping package features robust mounting hardware for support and protection.
 3. Refer to terminal unit submittal for unit size dimensions.

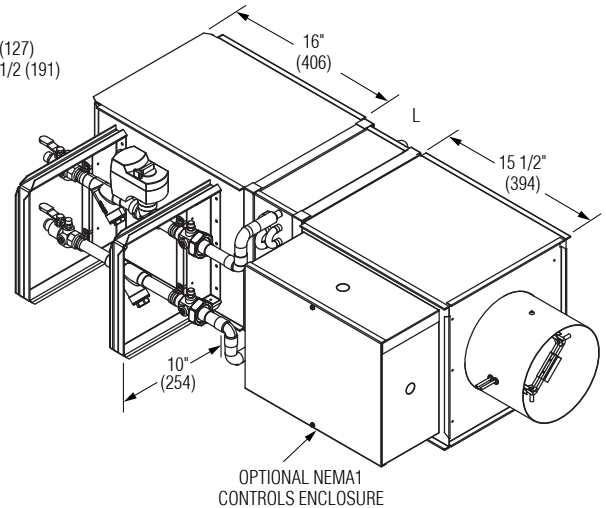
SCHEDULE TYPE:	Page 1 of 1.			
PROJECT:	Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	3 - 20 - 23	3000	NEW	D30RWQVP-1

**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT
FACTORY MOUNTED VALVE / PIPING PACKAGE
ORIENTATION
MODELS: D30RW AND D31RW**

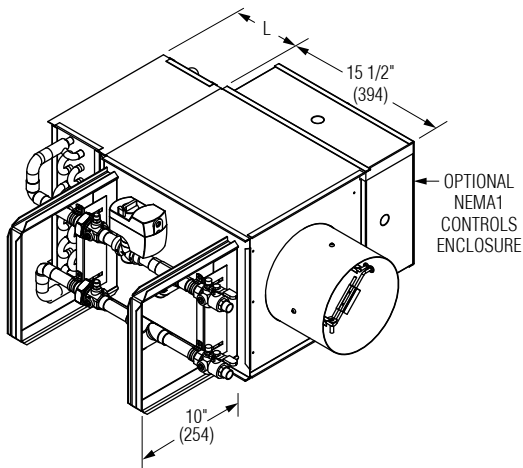
OR/VPNA
RIGHT HAND CONTROLS LOCATION &
RIGHT HAND PIPING PACKAGE (TOWARDS DISCHARGE)



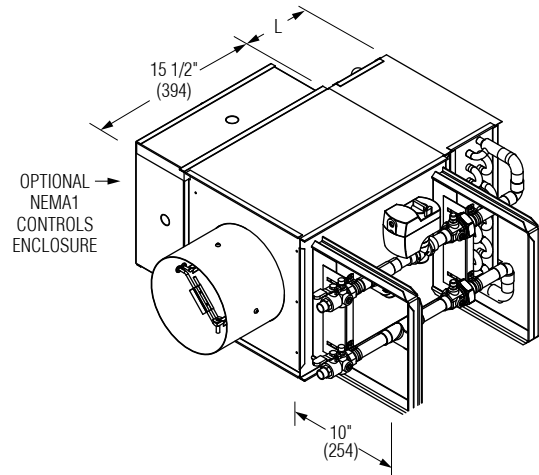
OL/VPNA
LEFT HAND CONTROLS LOCATION &
LEFT HAND PIPING PACKAGE (TOWARDS DISCHARGE)



OR/VPNI
RIGHT HAND CONTROLS LOCATION &
LEFT HAND PIPING PACKAGE (TOWARDS INLET)



OL/VPNI
LEFT HAND CONTROLS LOCATION &
RIGHT HAND PIPING PACKAGE (TOWARDS INLET)



NOTES:

1. Valve/Piping packages are factory assembled, leakage tested and shipped as shown.
2. Factory mounted valve/piping package features robust mounting hardware with integrated carrying handles.
3. Refer to terminal unit submittal for unit size dimensions.
4. 16" (406) extension provided when controls enclosure and coil handing are on the same side. Extension is internally insulated to match terminal unit liner.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 1.
Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

3 - 8 - 23

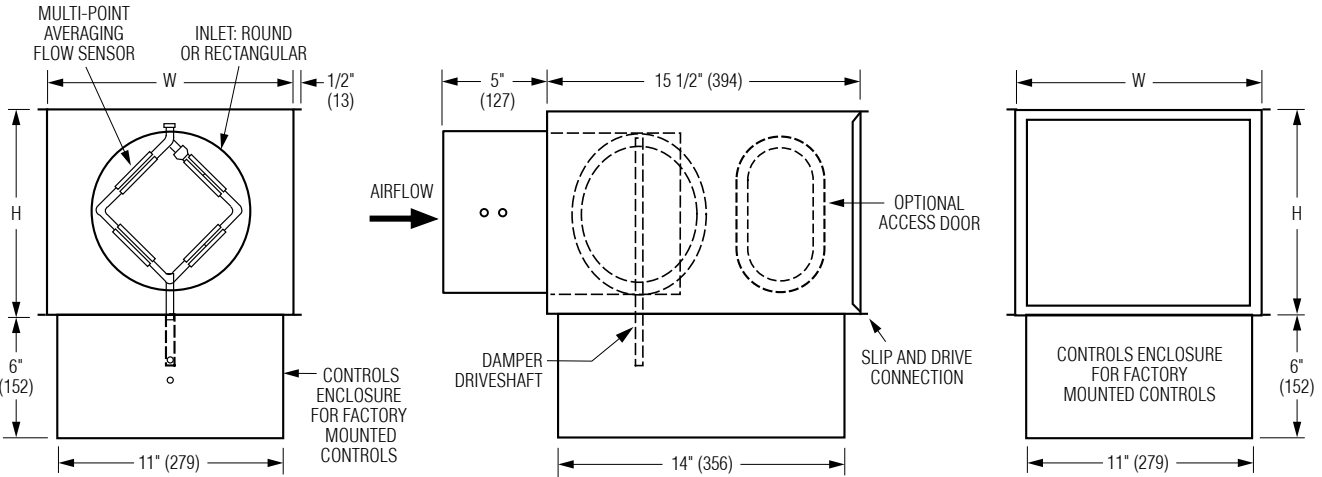
3000

10 - 19 - 22

D30RWVP-1



SINGLE DUCT TERMINAL UNIT
 DIGITAL CONTROL • PRESSURE INDEPENDENT
 VARIABLE OR CONSTANT VOLUME
MODEL: D3101 WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)



Dimensional Data

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size
4	0 – 225 (0 – 106)	12 (305)	8 (203)	3 7/8 (98) Round
5	0 – 400 (0 – 189)	12 (305)	8 (203)	4 7/8 (124) Round
6	0 – 550 (0 – 260)	12 (305)	8 (203)	5 7/8 (149) Round
7	0 – 800 (0 – 378)	12 (305)	10 (254)	6 7/8 (175) Round
8	0 – 1100 (0 – 519)	12 (305)	10 (254)	7 7/8 (200) Round
9	0 – 1400 (0 – 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	0 – 1840 (0 – 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	0 – 2500 (0 – 1180)	16 (406)	15 (381)	11 7/8 (302) Round
14	0 – 3370 (0 – 1590)	20 (508)	17 1/2 (445)	13 7/8 (352) Round
16	0 – 4525 (0 – 2135)	24 (610)	18 (457)	15 7/8 (403) Round
24 x 16	0 – 8330 (0 – 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- 22 ga. (0.86) galvanized steel casing, mechanically sealed, low leakage construction. Leakage is less than 1% of the terminal rated airflow at 1" w.g. (250 Pa).
- 2 x 20 ga. (0.86) round laminated butterfly damper with a polyurethane peripheral gasket. 90° rotation, CW to close. Tight shut-off. Damper leakage is less than 1% of the terminal rated airflow at 3" w.g. (750 pa.) and less than 2% at 6" w.g. (1500 pa.) as tested in accordance with ANSI / ASHRAE Standard 130.
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Unit sizes 4–16 feature round inlet collars.

- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees (4 and 5 are Annubar).
 - Rectangular discharge with slip and drive cleat duct connection.
 - Full NEMA 1 type controls enclosure for factory mounted controls.
 - 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Digital Controls:**
- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.



Intertek



Options and Accessories:

- 24 VAC control transformer
 - Toggle disconnect switch
 - Dust tight enclosure seal
- Liner:**
- Steri-liner
 - Steri-liner + Perforated metal
 - Fiber-free
 - Perforated metal
 - Solid metal
 - 1" (25) fiberglass
- Flow Sensor:**
- Diamond Flow Sensor, removable
 - Cross Flow Sensor
 - Cross Flow Sensor, removable
- Other:**
- Side access door
 - Hanger brackets
 - Ultra low leakage casing
 - Controls enclosure for field mounted controls
 - Special features: _____

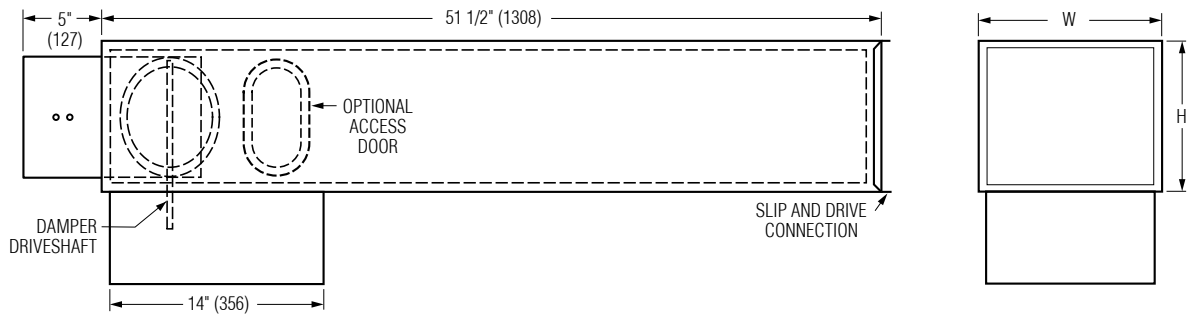
SCHEDULE TYPE
PROJECT
ENGINEER
CONTRACTOR

Page 1 of 2.
 Dimensions are in inches (mm).

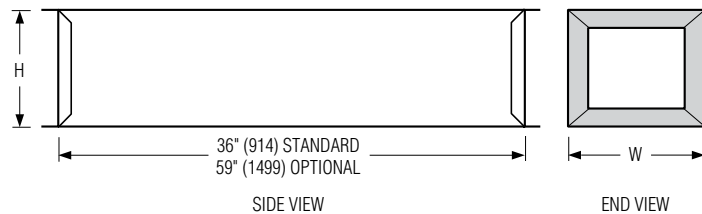
DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 10 - 21	D3101-2

Integral Sound Attenuator

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.

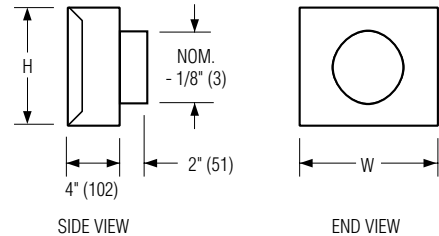


AT Discharge Sound Attenuator (loose)



- Shipped loose for field attachment.
 - Slip and drive connection.
 - Supplied as standard with same liner as basic unit.
- AT313 3' (916) Long - Standard.**
 AT315 5' (1524) Long - Optional.
 Special Features: _____

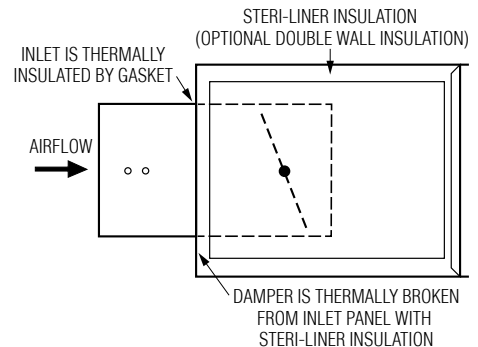
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	FF Nominal Outlet Size
4, 5, 6	12 (305)	8 (203)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	10 (254)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	9, 10 (229, 254)
12	16 (406)	15 (381)	12 (305)
14	20 (508)	17 1/2 (445)	14 (356)
16	24 (610)	18 (457)	16 (406)
24 x 16	38 (965)	18 (457)	-

FTL Low Temperature Construction



SCHEDULE TYPE

PROJECT

ENGINEER

CONTRACTOR

Page 2 of 2.
Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

2 - 6 - 23

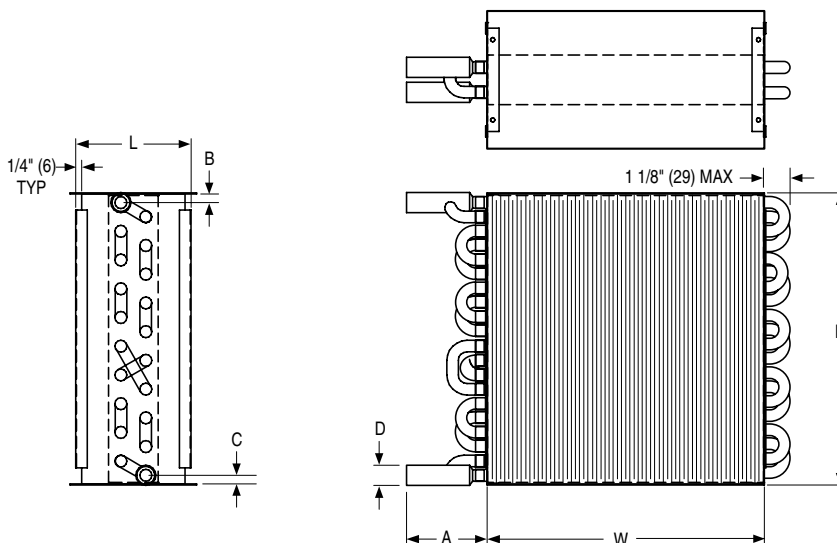
3100

5 - 10 - 21

D3101-2



**SINGLE DUCT TERMINAL UNIT
HOT WATER REHEAT COILS
FOR USE WITH MODELS: (D, A or P) 31RW
MODEL SERIES: 31HWC**



Dimensional Data

Unit Size	W	H	1 Row						2 Row					
			Part No.	L	A	B	C	D	Part No.	L	A	B	C	D
4, 5, 6	12 (305)	7 1/2 (191)	V31HWC106	5 1/2 (114)	3 1/2 (89)	9/16 (14)	3/16 (5)	1/2 (13)	V31HWC206	5 1/2 (114)	3 1/2 (89)	9/16 (14)	9/16 (14)	7/8 (22)
7, 8	12 (305)	10 (254)	V31HWC108	5 1/2 (114)	3 1/2 (89)	3/8 (10)	1 (25)	1/2 (13)	V31HWC208	5 1/2 (114)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
9, 10	14 (356)	12 1/2 (318)	V31HWC110	5 (127)	3 (76)	13/32 (10)	1 1/32 (26)	1/2 (13)	V31HWC210	5 (127)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
12	16 (406)	15 (381)	V31HWC112	5 1/2 (114)	3 1/2 (89)	3/8 (10)	1 (25)	7/8 (22)	V31HWC212	5 1/2 (114)	3 1/2 (89)	3/8 (10)	3/8 (10)	7/8 (22)
14	20 (508)	17 1/2 (445)	V31HWC114	5 1/2 (114)	3 1/2 (89)	3/8 (10)	1 (25)	7/8 (22)	V31HWC214	5 1/2 (114)	4 3/4 (121)	7/8 (22)	7/8 (22)	7/8 (22)
16	24 (610)	17 1/2 (445)	V31HWC116	5 1/2 (114)	3 1/2 (89)	9/16 (14)	1 3/16 (30)	7/8 (22)	V31HWC216	5 1/2 (114)	4 3/4 (121)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	17 1/2 (445)	38 (965)	V31HWC124	5 (127)	4 3/4 (121)	9/16 (14)	1 3/16 (30)	7/8 (22)	V31HWC224	5 (127)	4 3/4 (121)	7/8 (22)	7/8 (22)	7/8 (22)

Unit Size	W	H	3 Row						4 Row					
			Part No.	L	A	B	C	D	Part No.	L	A	B	C	D
4, 5, 6	12 (305)	7 1/2 (191)	V31HWC306	7 1/2 (191)	4 (102)	1 3/16 (30)	9/16 (14)	7/8 (22)	V31HWC406	7 1/2 (191)	4 (102)	1 3/16 (30)	9/16 (14)	7/8 (22)
7, 8	12 (305)	10 (254)	V31HWC308	7 1/2 (191)	4 3/4 (121)	7/8 (22)	7/8 (22)	7/8 (22)	V31HWC408	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)
9, 10	14 (356)	12 1/2 (318)	V31HWC310	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)	V31HWC410	7 1/2 (191)	4 1/4 (108)	11/16 (17)	11/16 (17)	7/8 (22)
12	16 (406)	15 (381)	V31HWC312	7 1/2 (191)	4 1/4 (108)	23/32 (18)	23/32 (18)	7/8 (22)	V31HWC412	7 1/2 (191)	4 (102)	23/32 (18)	23/32 (18)	7/8 (22)
14	20 (508)	17 1/2 (445)	V31HWC314	7 1/2 (191)	4 3/4 (121)	7/8 (22)	7/8 (22)	7/8 (22)	V31HWC414	7 1/2 (191)	4 (102)	7/8 (22)	7/8 (22)	7/8 (22)
16	24 (610)	17 1/2 (445)	V31HWC316	7 1/2 (191)	4 3/4 (121)	7/8 (22)	7/8 (22)	7/8 (22)	V31HWC416	7 1/2 (191)	4 (102)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	38 (965)	17 1/2 (445)	V31HWC324	7 1/2 (191)	4 3/4 (121)	1 1/8 (29)	1 1/8 (29)	1 3/8 (35)	V31HWC424	7 1/2 (191)	4 3/4 (121)	1 1/8 (29)	1 1/8 (29)	1 3/8 (35)

Description:

- 0.0045" (0.11) Aluminum sine-wave corrugation and rippled fins, 10 fins per inch.
- 1/2" (13) O.D. copper tubes, 0.016" (0.41) wall thickness.
- 20 ga. (1.00) galvanized steel casing.
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. copper male solder sweat connections.
- Connection is slip and drive to ductwork, both sides.
- Leakage tested to 360 psi (2481 kPa).
- AHRI Certified.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
3 - 30 - 17	3100	1 - 3 - 12	D31HWC-1



**SINGLE DUCT TERMINAL UNIT
HOT WATER REHEAT COILS
FOR USE WITH MODELS: (D, A or P) 31RW
MODEL SERIES: 31HWC**

Weights:

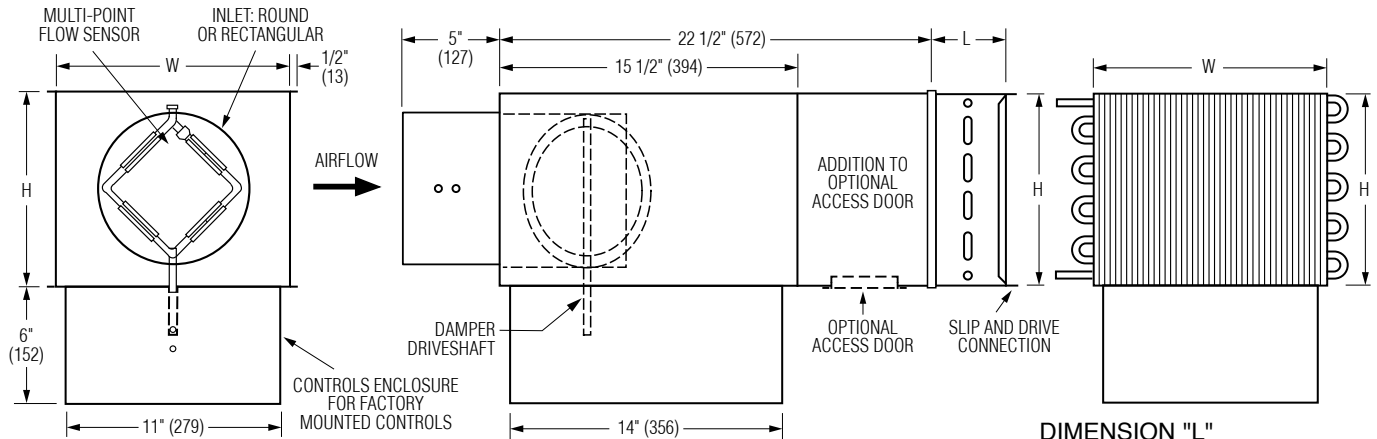
Unit Size	1 Row			2 Row			3 Row			4 Row		
	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)	Dry Coil Weight (lbs)	Water Weight (lbs)	Water Volume (gal)
4, 5, 6	5.27	0.16	0.02	6.47	0.40	0.05	9.65	0.61	0.08	10.75	0.75	0.10
7, 8	6.05	0.19	0.03	7.64	0.47	0.06	11.45	1.09	0.15	12.28	0.88	0.12
9, 10	7.08	0.23	0.03	9.25	0.58	0.08	13.59	0.87	0.12	15.75	1.11	0.15
12	9.13	0.46	0.06	11.86	0.71	0.10	16.99	1.07	0.14	19.01	1.37	0.18
14	11.06	0.58	0.08	16.80	1.88	0.25	22.74	2.01	0.27	24.34	1.80	0.24
16	12.61	0.72	0.10	18.79	2.01	0.27	25.34	2.39	0.32	27.56	2.07	0.28
24 x 16	17.40	0.96	0.13	25.43	2.49	0.34	36.52	4.53	0.61	42.58	5.19	0.70

Note: 8.34 lbs / gallon of water.

SCHEDULE TYPE:	Page 2 of 2.			
PROJECT:	Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	3 - 30 - 17	3100	1 - 3 - 12	D31HWC-1



**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT
DIGITAL CONTROL • PRESSURE INDEPENDENT
VARIABLE OR CONSTANT VOLUME
MODEL: D31RW WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)**



Dimensional Data

DIMENSION "L"
1 or 2 row coils L=5" (127)
3 or 4 row coils L=7 1/2" (191)

Unit Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
					1 Row	2 Row	3 Row	4 Row
4	0 - 225 (0 - 106)	12 (305)	8 (203)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
5	0 - 400 (0 - 189)	12 (305)	8 (203)	4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
6	0 - 550 (0 - 260)	12 (305)	8 (203)	5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
7	0 - 800 (0 - 378)	12 (305)	10 (254)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
8	0 - 1100 (0 - 519)	12 (305)	10 (254)	7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
9	0 - 1400 (0 - 661)	14 (356)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	0 - 1840 (0 - 868)	14 (356)	12 1/2 (318)	9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	0 - 2500 (0 - 1180)	16 (406)	15 (381)	11 7/8 (302) Round	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
14	0 - 3370 (0 - 1590)	20 (508)	17 1/2 (508)	13 7/8 (352) Round	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
16	0 - 4525 (0 - 2135)	24 (610)	18 (457)	15 7/8 (403) Round	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24 x 16	0 - 8330 (0 - 3931)	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)

* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
 - 22 ga. (0.86) galvanized steel casing, mechanically sealed, low leakage construction. Leakage is less than 1% of the terminal rated airflow at 1" w.g. (250 Pa).
 - 2 x 20 ga. (0.86) round laminated butterfly damper with a polyurethane peripheral gasket. 90° rotation, CW to close. Tight shut-off. Damper leakage is less the 1% of the terminal rated airflow at 3" w.g. (750 pa.) and less than 2% at 6" w.g. (1500 pa.) as tested in accordance with ANSI / ASHRAE Standard 130.
 - 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
 - Unit sizes 4-16 feature round inlet collars.
 - Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees (4 and 5 are Annubar).
 - Rectangular discharge with slip and drive cleat duct connection.
 - Full NEMA 1 type controls enclosure for factory mounted controls.
 - 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.
- Hot Water Coil Section:**
- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.

- 1, 2, 3 or 4 row.
 - Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
 - 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.
- Digital Controls:**
- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav See separate submittal.



Options and Accessories:

- 24 VAC control transformer
 - Toggle disconnect switch
 - Dust tight enclosure seal
- Liner:**
- Steri-liner
 - Steri-liner + Perforated metal
 - Fiber-free
 - Perforated metal
 - Solid metal
 - 1" (25) fiberglass
- Flow Sensor:**
- Diamond Flow Sensor, removable
 - Cross Flow Sensor
 - Cross Flow Sensor, removable
- Other:**
- Bottom access door
 - Hanger brackets
 - Ultra low leakage casing
 - Controls enclosure for field mounted controls
 - Special features: _____

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 2.
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 10 - 21	D31RW-2

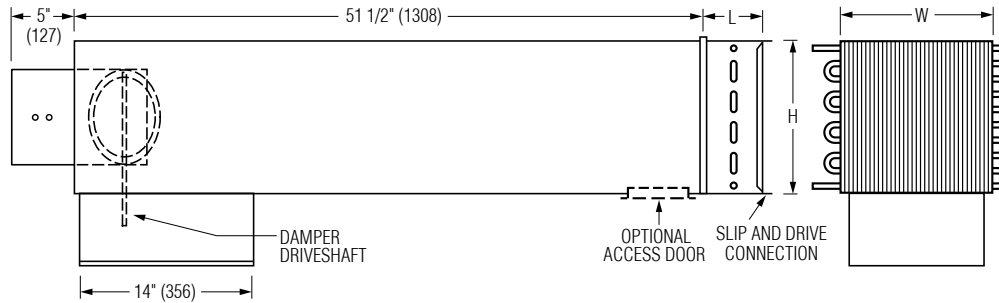


SINGLE DUCT TERMINAL UNIT WITH HOT WATER REHEAT • ACCESSORIES
DIGITAL CONTROL • PRESSURE INDEPENDENT
MODEL: D31RW WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)

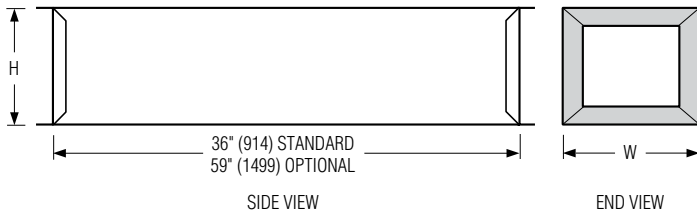
Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.

DIMENSION "L"
 1 or 2 row coils L=5" (127)
 3 or 4 row coils L=7 1/2" (191)

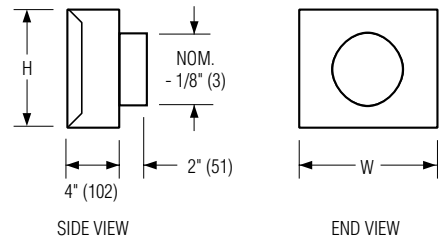


AT Discharge Sound Attenuator (loose)



- Shipped loose for field attachment.
 - Slip and drive connection.
 - Supplied as standard with same liner as basic unit.
- AT313 3' (916) Long - Standard.**
 AT315 5' (1524) Long - Optional.
 Special Features: _____

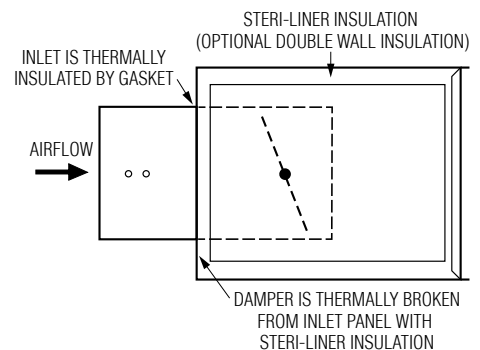
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	FF Outlet Size
4, 5, 6	12 (305)	8 (203)	4, 5, 6 (102, 127, 152)
7, 8	12 (305)	10 (254)	7, 8 (178, 203)
9, 10	14 (356)	12 1/2 (318)	9, 10 (229, 254)
12	16 (406)	15 (381)	12 (305)
14	20 (508)	17 1/2 (445)	14 (356)
16	24 (610)	18 (457)	16 (406)
24 x 16	38 (965)	18 (457)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

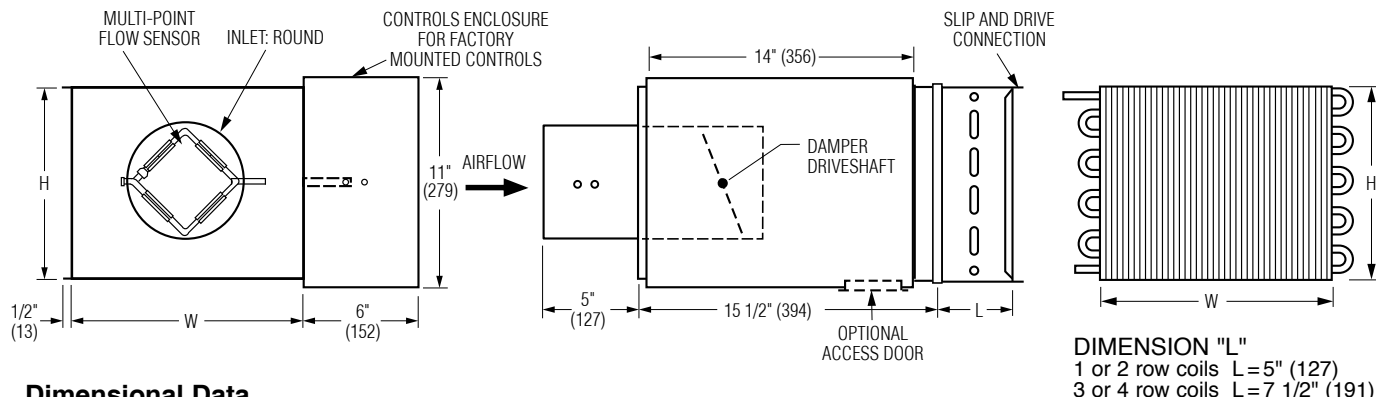
CONTRACTOR:

Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 10 - 21	D31RW-2



**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT**
OVERSIZED CASING (LARGER WATER COIL)
DIGITAL CONTROLS • PRESSURE INDEPENDENT
CONSTANT OR VARIABLE VOLUME
MODEL: D31RW



Dimensional Data

Unit Size	Inlet Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
						1 Row	2 Row	3 Row	4 Row
8	4	0 – 225 (0 – 106)	12 (305)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	5	0 – 400 (0 – 189)			4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	6	0 – 550 (0 – 260)			5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	7	0 – 800 (0 – 378)	14 (356)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	8	0 – 1100 (0 – 519)			7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	9	0 – 1400 (0 – 661)	16 (406)	15 (381)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	10	0 – 1840 (0 – 868)			9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	12	0 – 2500 (0 – 1180)	20 (508)	17 1/2 (508)	11 7/8 (302) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	14	0 – 3370 (0 – 1590)	24 (610)	18 (457)	13 7/8 (352) Round	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24	16	0 – 4525 (0 – 2135)	38 (965)	18 (457)	15 7/8 (403) Round	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- 22 ga. (0.86) galvanized steel casing, mechanically sealed, low leakage construction. Leakage is less than 1% of the terminal rated airflow at 1" w.g. (250 Pa).
- 2 x 20 ga. (0.86) round laminated butterfly damper with a polyurethane peripheral gasket. 90° rotation, CW to close. Tight shut-off. Damper leakage is less than 1% of the terminal rated airflow at 3" w.g. (750 pa.) and less than 2% at 6" w.g. (1500 pa.) as tested in accordance with ANSI / ASHRAE Standard 130.
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Unit sizes 4–16 feature round inlet collars.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees (4 and 5 are Annubar).
- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.

- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.
- Model D31RW can be installed horizontally, vertical or at any angle. Operation is not affected by position.

Hot Water Coil Section:

- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 1, 2, 3 or 4 row.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
 - Field mounted (supplied by others)
 - Nailor EZvav
- See separate submittal.

Options and Accessories:

- 20 ga. (1.00) construction
- 24 VAC control transformer
- Toggle disconnect switch
- Dust tight enclosure seal
- Liner:**
 - Steri-liner
 - Steri-liner + Perforated metal
 - Fiber-free
 - Perforated metal
 - Solid metal
 - 1" (25) fiberglass
- Flow Sensor:**
 - Diamond Flow Sensor, removable
 - Cross Flow Sensor
 - Cross Flow Sensor, removable
- Other:**
 - Bottom access door
 - Hanger brackets
 - Ultra low leakage casing
 - Controls enclosure for field mounted controls
- Seismic Certification:**
 - Seismic Source International (Standard)
 - HCAI (formerly OSHPD, California)
 - Special features: _____



SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

Page 1 of 2.
Dimensions are in inches (mm).

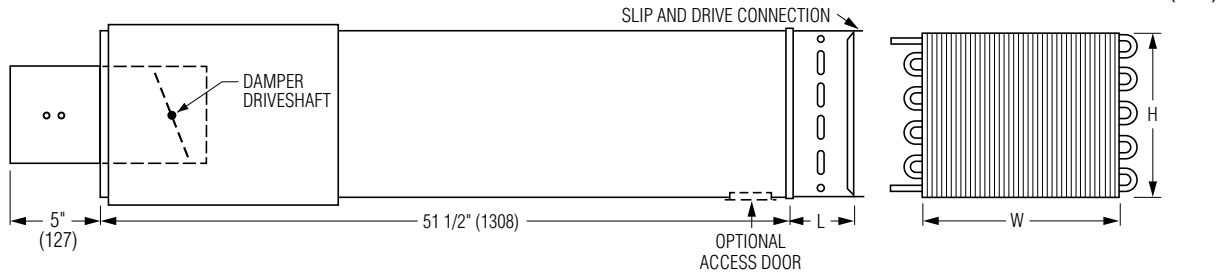
DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 10 - 21	D31RW-OC



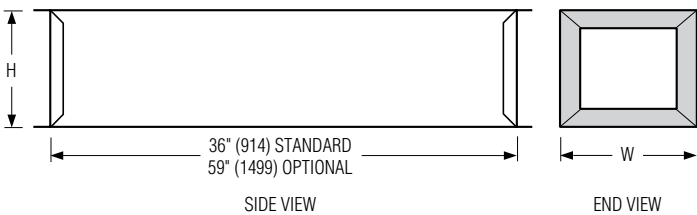
SINGLE DUCT TERMINAL UNIT W/ HOT WATER REHEAT ACCESSORIES
OVERSIZED CASING (LARGER WATER COIL)
DIGITAL CONTROLS • PRESSURE INDEPENDENT
MODEL: D31RW

Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.

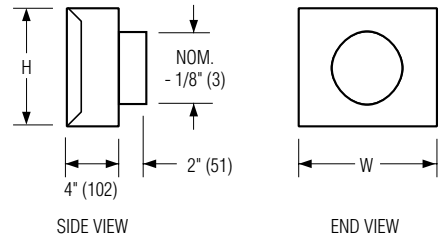


AT Discharge Sound Attenuator (loose)



- Shipped loose for field attachment.
 - Slip and drive connection.
 - Supplied as standard with same liner as basic unit.
- AT313 3' (916) Long - Standard.**
 AT315 5' (1524) Long - Optional.
 Special Features: _____

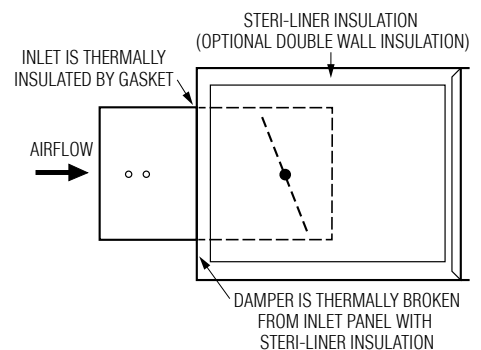
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	FF Nominal Outlet Size
8	12 (305)	12 1/2 (318)	12 (305)	8 (203)
10	14 (356)	12 1/2 (318)	12 (305)	10 (254)
12	18 (457)	12 1/2 (318)	12 (305)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	16 (406)
24	38 (965)	18 (457)	12 (305)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

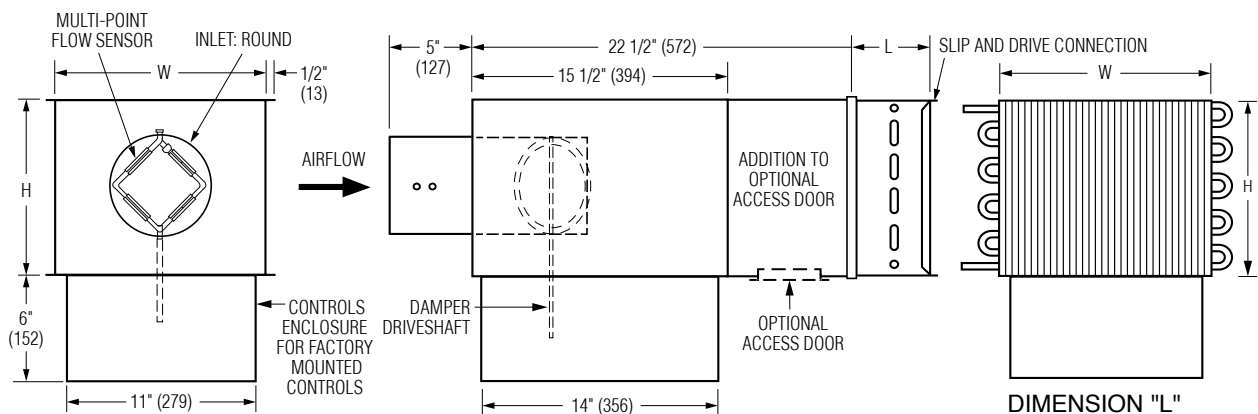
CONTRACTOR:

Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 10 - 21	D31RW-OC



**SINGLE DUCT TERMINAL UNIT W/ HOT WATER REHEAT
OVERSIZED CASING (LARGER WATER COIL)
DIGITAL CONTROL • PRESSURE INDEPENDENT
VARIABLE OR CONSTANT VOLUME
MODEL: D31RW WITH BOTTOM MOUNT CONTROLS
LOCATION (OPTION OB)**



DIMENSION "L"
1 or 2 row coils L=5" (127)
3 or 4 row coils L=7 1/2" (191)

Dimensional Data

Unit Size	Inlet Size	Airflow Range* cfm (l/s)	W	H	Inlet Size	Coil Connections			
						1 Row	2 Row	3 Row	4 Row
8	4	0 – 225 (0 – 106)	12 (305)	10 (254)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	5	0 – 400 (0 – 189)			4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	6	0 – 550 (0 – 260)			5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	7	0 – 800 (0 – 378)	14 (356)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	8	0 – 1100 (0 – 519)			7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	9	0 – 1400 (0 – 661)	16 (406)	15 (381)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	10	0 – 1840 (0 – 868)			9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	12	0 – 2500 (0 – 1180)	20 (508)	17 1/2 (508)	11 7/8 (302) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	14	0 – 3370 (0 – 1590)	24 (610)	18 (457)	13 7/8 (352) Round	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24	16	0 – 4525 (0 – 2135)	38 (965)	18 (457)	15 7/8 (403) Round	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)



* Maximum airflow limit is based upon 1.5" w.g. (373 Pa) max. differential pressure signal from Flow Sensor.

Standard Features:

- Bottom mount controls location with vertical drive shaft (option code OB).
- 22 ga. (0.86) galvanized steel casing, mechanically sealed, low leakage construction. Leakage is less than 1% of the terminal rated airflow at 1" w.g. (250 Pa).
- 2 x 20 ga. (0.86) round laminated butterfly damper with a polyurethane peripheral gasket. 90° rotation, CW to close. Tight shut-off. Damper leakage is less the 1% of the terminal rated airflow at 3" w.g. (750 pa.) and less than 2% at 6" w.g. (1500 pa.) as tested in accordance with ANSI / ASHRAE Standard 130.
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Unit sizes 4–16 feature round inlet collars.
- Multi-point averaging Diamond Flow Sensor. Supplied with balancing tees (4 and 5 are Annubar).

- Rectangular discharge with slip and drive cleat duct connection.
- Full NEMA 1 type controls enclosure for factory mounted controls.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air erosion. Meets the requirements of NFPA 90A and UL 181.

Hot Water Coil Section:

- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 1, 2, 3 or 4 row.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Digital Controls:

- Factory mounted (supplied by others)
- Field mounted (supplied by others)
- Nailor EZvav. See separate submittal.

Options and Accessories:

- 24 VAC control transformer
- Toggle disconnect switch
- Dust tight enclosure seal
- Liner:**
- Steri-liner
- Steri-liner + Perforated metal
- Fiber-free
- Perforated metal
- Solid metal
- 1" (25) fiberglass
- Flow Sensor:**
- Diamond Flow Sensor, removable
- Cross Flow Sensor
- Cross Flow Sensor, removable
- Other:**
- Bottom access door
- Hanger brackets
- Ultra low leakage casing
- Controls enclosure for field mounted controls
- Special features: _____

SCHEDULE TYPE:		Page 1 of 2.			
PROJECT:		Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.	
CONTRACTOR:	2 - 6 - 23	3100	5 - 10 - 21	D31RW-OC-2	

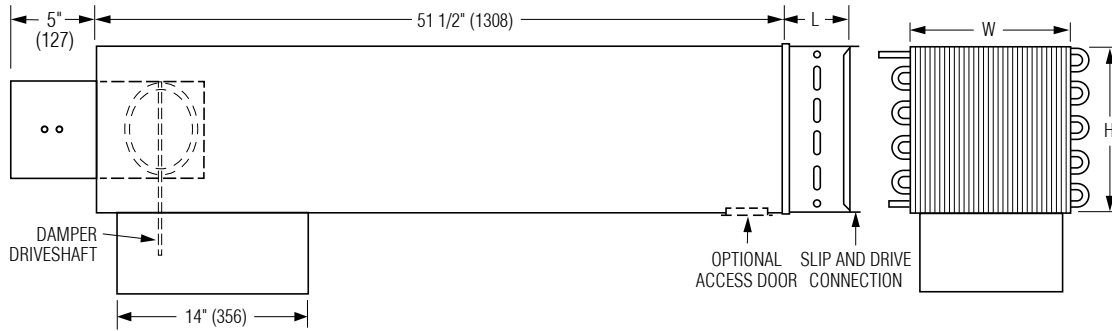


SINGLE DUCT TERMINAL UNIT W/ HOT WATER REHEAT ACCESSORIES
 OVERSIZED CASING (LARGER WATER COIL)
 DIGITAL CONTROL • PRESSURE INDEPENDENT
MODEL: D31RW WITH BOTTOM MOUNT CONTROLS LOCATION (OPTION OB)

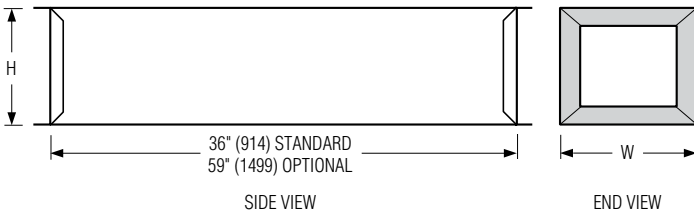
Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.

DIMENSION "L"
 1 or 2 row coils L=5" (127)
 3 or 4 row coils L=7 1/2" (191)

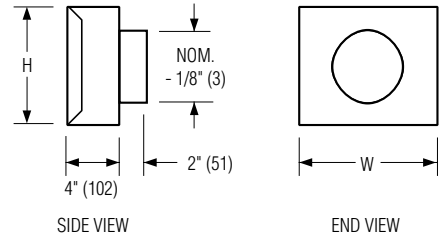


AT Discharge Sound Attenuator (loose)



- Shipped loose for field attachment.
 - Slip and drive connection.
 - Supplied as standard with same liner as basic unit.
- AT313 3' (916) Long - Standard.**
 AT315 5' (1524) Long - Optional.
 Special Features: _____

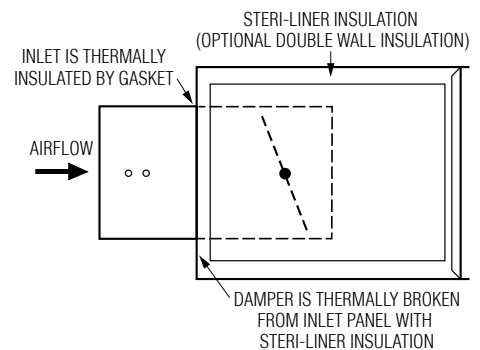
FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	FF Nominal Outlet Size
8	12 (305)	12 1/2 (318)	12 (305)	8 (203)
10	14 (356)	12 1/2 (318)	12 (305)	10 (254)
12	18 (457)	12 1/2 (318)	12 (305)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	16 (406)
24	38 (965)	18 (457)	12 (305)	-

FTL Low Temperature Construction



SCHEDULE TYPE:

PROJECT:

ENGINEER:

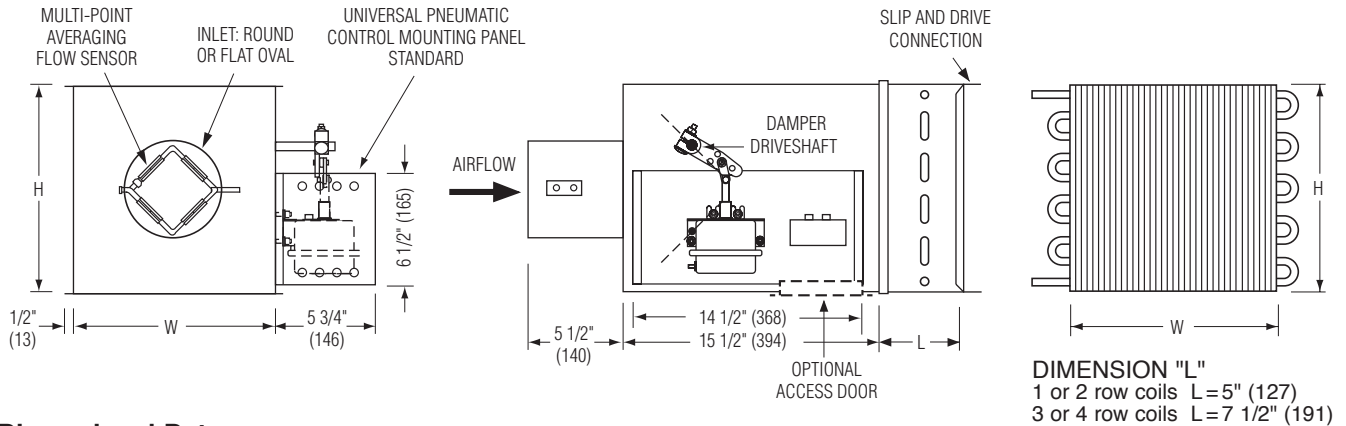
CONTRACTOR:

Page 2 of 2.
 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
2 - 6 - 23	3100	5 - 10 - 21	D31RW-OC-2



**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT**
OVERSIZED CASING (LARGER WATER COIL)
PNEUMATIC CONTROLS • PRESSURE INDEPENDENT
VARIABLE OR CONSTANT VOLUME
MODEL: P30RW



Dimensional Data

Unit Size	Inlet Size	Airflow Range, cfm (l/s)	W	H	Inlet Size (Nominal)	Coil Connections			
						1 Row	2 Row	3 Row	4 Row
8	4	0 - 180 (0 - 85)	12 (305)	12 1/2 (318)	3 7/8 (98) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	5	0 - 325 (0 - 153)			4 7/8 (124) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	6	0 - 450 (0 - 212)			5 7/8 (149) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
10	7	0 - 650 (0 - 307)	14 (356)	12 1/2 (318)	6 7/8 (175) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	8	0 - 900 (0 - 425)			7 7/8 (200) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
12	9	0 - 1150 (0 - 543)	18 (457)	12 1/2 (318)	8 7/8 (225) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
	10	0 - 1500 (0 - 708)			9 7/8 (251) Round	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
14	12	0 - 2050 (0 - 967)	24 (610)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	1/2 (13)	7/8 (22)	7/8 (22)	7/8 (22)
16	14	0 - 2550 (0 - 1203)	28 (711)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	7/8 (22)	7/8 (22)	7/8 (22)	7/8 (22)
24	16	0 - 3040 (0 - 1435)	38 (965)	18 (457)	19 3/16 x 9 13/16 (487 x 249) Oval	7/8 (22)	7/8 (22)	1 3/8 (35)	1 3/8 (35)

Standard Features:

- 22 ga. (0.86) zinc coated steel casing, mechanically sealed, low leakage construction.
- 16 ga. (1.61) corrosion-resistant steel inclined opposed blade damper with extruded PVC seals (single blade on size 4, 5, 6). 45° rotation, CW to close. Tight close-off. Damper leakage is less than 2% of the terminal rated airflow at 3" w.g. (750 Pa).
- 1/2" (13) dia. plated steel drive shaft. An indicator mark on the end of the shaft shows damper position.
- Multi-point averaging Diamond Flow Sensor. Aluminum construction. Supplied with balancing tees.
- Rectangular discharge with slip and drive cleat duct connection.
- Universal control mounting panel with double wall stand-off construction.
- 3/4" (19), dual density insulation, exposed edges coated to prevent air

erosion. Meets the requirements of NFPA 90A and UL 181.

- Right-hand controls location is standard (shown) when looking in direction of airflow. Optional left hand controls mounting is available.

Hot Water Coil Section:

- 1/2" (13) Copper tubes and aluminum ripple fins, 10 per inch.
- 1, 2, 3 or 4 row.
- Left or right hand connection. Determined by looking in direction of airflow (RH illustrated).
- 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. male solder sweat connections.

Controls:

- By Nailor. (See separate submittal).
- By others.



Intertek



Options and Accessories:

- Steri-liner.
 - Fiber-free liner.
 - Solid metal liner.
 - 1" (25) liner.
 - Bottom access door.
 - Hanger brackets.
 - Protective controls shroud cover.
- Seismic Certification:
- SSI (Standard)
 - OSHPD
 - Special Features:

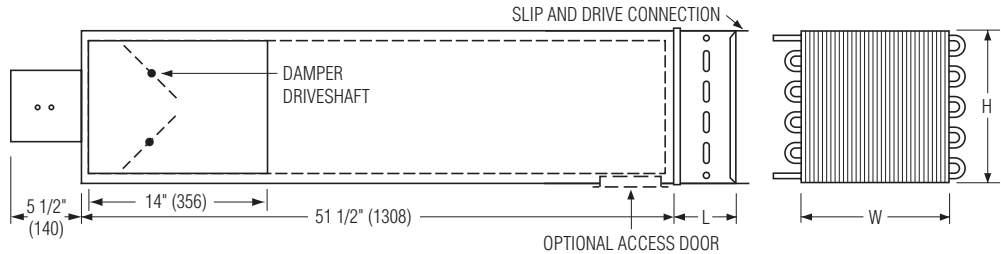
SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	3 - 15 - 18	3000	2 - 28 - 18	P30RW-OC



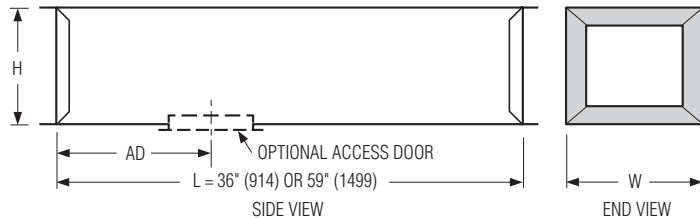
**SINGLE DUCT TERMINAL UNIT WITH
HOT WATER REHEAT • ACCESSORIES**
OVERSIZED CASING (LARGER WATER COIL)
PNEUMATIC CONTROLS • PRESSURE INDEPENDENT
MODEL: P30RW

Integral Sound Attenuator plus Hot Water Coil

- Single continuous length terminal construction minimizes casing leakage.
- Continuous internal insulation reduces insulation seams and minimizes airflow disturbance.
- Supplied with same liner as basic unit.



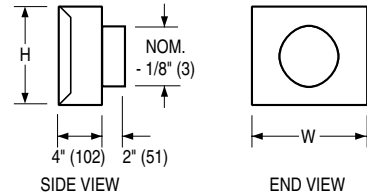
AT Discharge Sound Attenuator (loose)



- 22 ga. (0.86) galvanized steel construction.
- Shipped loose for field attachment.
- Slip and drive connection.
- 3/4" (19) dual density fiberglass insulation, exposed edges coated to prevent erosion as standard.

- AT313** 3' (916) Long - Standard.
- AT315** 5' (1524) Long - Optional.
- Special Features: _____

FF Round Discharge Collar



Dimensional Data

Unit Size	W	H	AD	Hot Water Coil		FF Nominal Outlet Size
				L (1 & 2 row)	L (3 & 4 row)	
8	12 (305)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	8 (203)
10	14 (356)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	10 (254)
12	18 (457)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	12 (305)
14	24 (610)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	14 (356)
16	28 (711)	12 1/2 (318)	12 (305)	5 (127)	7 1/2 (191)	16 (406)
24	38 (965)	18 (457)	12 (305)	5 (127)	7 1/2 (191)	-

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 2 of 2.
Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

3 - 15 - 18

3000

2 - 28 - 18

P30RW-OC



**TERMINAL UNITS
LINER OPTIONS
TYPE: FIBERGLASS DUAL DENSITY INSULATION**

DESCRIPTION

Tuf-Skin® dual-density fiberglass insulation is the most widely-used insulation for HVAC equipment applications. The combination of high-density skin and low-density core provides high acoustical values in the high and low frequency ranges normally encountered in HVAC equipment.

Application. Tuf-Skin® provides effective thermal and acoustical control in air conditioning and heating equipment.

Advantage. The porosity and inherent structure of the flame-attenuated glass fiber blankets are highly effective in reducing thermal transfer.

Tuf-Skin® readily withstands damage from mechanical abrasion during assembly and from air erosion in service.

INSULATION CHARACTERISTICS

Material: Dual density fiberglass, surface treated to prevent erosion (Tuf-Skin® II)
 Available Thicknesses: 1/2" (13), 3/4" (19), 1" (25) (Consult individual model submittal for thickness used).
 Density: 4.0 lb/cu.ft. (64 kg/m³) skin, 1.5 lb/cu.ft. (24 kg/m³) core
 Thermal Conductance: 1/2" (13) - 0.52 BTU / hr-ft²-°F @ 75°F (2.95 W / m²-°C @ 24°C),
 3/4" (19) - 0.36 BTU / hr-ft²-°F @ 75°F (2.04 W / m²-°C @ 24°C),
 1" (25) - 0.26 BTU / hr-ft²-°F @ 75°F (1.47 W / m²-°C @ 24°C)
 Thermal Resistance: 1/2" (13) - 1.9 hr-ft²-°F / BTU (0.34 m²-°C / W),
 (Effective R-Value) 3/4" (19) - 2.8 hr-ft²-°F / BTU (0.49 m²-°C / W),
 1" (25) - 3.8 hr-ft²-°F / BTU (0.68 m²-°C / W)
 Flame Spread Index: 25
 Smoke Developed Index: 50

MAXIMUM AIR VELOCITY

3,600 FPM (1,097 mpm). Tested at two and one-half times (9,000 fpm) (2,743 mpm) the maximum recommended service velocity. Meets the erosion requirements of UL 181.

TEMPERATURE LIMIT

250°F (121°C).

STANDARD AND CODE COMPLIANCE

- ASTM E84, UL 723 and CAN/ULC S102 Flame/Smoke (25/50)
- NFPA 90A and 90B
- ASTM C 1071

Tuf-Skin® is a registered trademark of Johns Manville.

SCHEDULE TYPE:	Dimensions are in inches (mm)			
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	5 - 12 - 22	VAV.ACC.	3 - 30 - 22	VAV-FDD



**TERMINAL UNITS
LINER OPTIONS
SOUND POWER LEVEL CORRECTION FACTORS
TYPE: FIBER-FREE**

INSULATION CHARACTERISTICS

Material: Engineered Polymer Foam Insulation (EPFI). Closed cell. Zero permeability and water absorption.

Available Thicknesses: 1/2" (13), 3/4" (19), 1" (25) (Consult individual model submittal for thickness used).

Density: 1.5 lb/cu.ft. (24 kg/m³).

Thermal Conductivity: 0.27 BTU-in / hr-ft²-°F @ 75°F (0.039 W / m-°K @ 24°C). (K-Factor)

Thermal Resistance: 1/2" (13): 1.9 hr-ft²-°F / BTU (0.33 m²-°C / W). (R-Value) 3/4" (19): 2.8 hr-ft²-°F / BTU (0.49 m²-°C / W). 1" (25): 3.7 hr-ft²-°F / BTU (0.65 m²-°C / W).

Flame Spread Index: 25

Smoke Developed Index: 50

Mold Growth: None

Erosion: None

STANDARD AND CODE COMPLIANCE

- UL 181 Class I
- ASTM E84 and UL 723 Flame/Smoke (25/50)
- NFPA 90A (Heating and Cooling Equipment)
- ASTM C 209
- ASTM C 665

ACOUSTICAL PERFORMANCE

Correction factors to cataloged sound power level data (standard liner) are shown below.

Single Duct Terminal Units • 3000 Series Basic Unit • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	-1	-2	-2	-3	-3	-3	-2

Single Duct Terminal Units with Integral Attenuator • 3000 Series • All Sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	+1	+1	+3	+4	+7	+8	+3
Radiated Sound	-1	-2	-2	-3	-3	-3	-2

Fan Powered Terminal Units • 33SZ, 35N, 35S, 37N and 37S Series • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	+2	+2	+4	+2	+2	+2	+3

Fan Powered Terminal Units • 35SST and 37SST "Stealth" Series • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	+2	+2	+4	+2	+2	+2	+3

SCHEDULE TYPE:	Dimensions are in inches (mm)			
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	5 - 12 - 22	VAV.ACC.	4 - 17 - 20	VAV-FF



**TERMINAL UNITS
LINER OPTIONS
SOUND POWER LEVEL CORRECTION FACTORS
TYPE: STERI-LINER**

INSULATION CHARACTERISTICS

Material: Rigid board form fiberglass with a thermosetting resin. Fire resistant reinforced aluminum foil-scrim-kraft (FSK) facing.

Available Thicknesses: 1/2" (13), 13/16" (21), 1" (25) (Consult individual model submittal for thickness used).

Density: 4.1 lb/cu.ft. (66 kg/m³).

Thermal Conductivity: 0.23 BTU-in / hr-ft²-°F @ 75°F (0.033 W / m-°K @ 24°C).
(K-Factor)

Thermal Resistance: 1/2" (13) - 2.2 hr-ft²-°F / BTU (0.48 m²-°C / W).
(R-Value) 13/16" (21) - 3.5 hr-ft²-°F / BTU (0.76 m²-°C / W).
1" (25) - 4.3 hr-ft²-°F / BTU (0.96 m²-°C / W).

Flame Spread Index: 25

Smoke Developed Index: 50

Mold Growth: None

STANDARD AND CODE COMPLIANCE

- UL 181 Class I
- ASTM E84 and UL 723 Flame/Smoke (25/50)
- NFPA 90A and 90B
- ASTM C 1071 Air Velocity (2000 fpm max.)
- ASTM C 665
- ASTM C 1338, G21 and G22 Fungi and Bacteria Resistance

ACOUSTICAL PERFORMANCE

Correction factors to cataloged sound power level data (standard liner) are shown below.

Single Duct Terminal Units • 3000 Series Basic Unit • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	-1	-2	-2	-3	-3	-3	-2

Single Duct Terminal Units with Integral Attenuator • 3000 Series • All Sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	+1	+1	+3	+4	+7	+8	+3
Radiated Sound	-1	-2	-2	-3	-3	-3	-2

Fan Powered Terminal Units • 33SZ, 35N, 35S, 37N and 37S Series • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	+2	+3	+6	+11	+10	+3	+3

Fan Powered Terminal Units • 35SST and 37SST "Stealth" Series • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	-5	-4	-4	0	+3	+5	-4

SCHEDULE TYPE:	Dimensions are in inches (mm)			
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	5 - 17 - 22	VAV.ACC.	1 - 12 - 21	VAV-SL



**VAV TERMINAL UNITS
LINER OPTIONS
TYPE: SOLID METAL LINER
(DOUBLE WALL CONSTRUCTION)**

A Solid metal liner completely isolates the standard insulation and its raw edges from the airstream within the terminal. The solid metal liner option, also referred to as double wall construction, offers excellent protection against exposure of fiberglass particles to the airstream. This option is ideal for applications where Indoor Air Quality (IAQ) is a concern and where terminals will be wiped down and cleaned on a regular basis. This option is also resistant to moisture.

ISOLATED INSULATION

Material: Dual Density flame attenuated glass fiber.
 Thickness: 3/4" (19). (37N, 37S, 37SST and 33SZ Size 30 Low Profile Fan Powered Terminal Units use 1/2" (13) material).
 Density: 4.0 lb/cu. ft. (64 kg/m³) skin.
 1.5 lb/cu. ft. (24 kg/m³) core.
 Thermal Conductance: 0.36 BTU / hr-ft²-°F @ 75°F (2.04 W / m²-°C @ 24°C).
 (C) For 1/2" (13) material: 0.52 BTU / hr-ft²-°F @ 75°F (2.95 W / m²-°C @ 24°C).

STANDARD AND CODE COMPLIANCE

- UL 181 Class I
- ASTM E84 and UL 723 Flame/Smoke (25/50)
- NFPA 90A and 90B
- ASTM C 1071 Air Velocity (2000 fpm max.)
- ASTM C 665

ACOUSTICAL PERFORMANCE

Correction factors to cataloged sound power level data (standard dual density insulation) are shown below.

Single Duct Terminal Units • 3000 Series Basic Unit • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	-1	-2	-2	-3	-3	-3	-2

Fan Powered Terminal Units • 33SZ, 35N, 35S, 37N and 37S Series • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	+2	+1	+2	+6	+13	+14	+3

Fan Powered Terminal Units • 35SST and 37SST "Stealth" Series • All sizes.

Octave Band	2	3	4	5	6	7	NC Impact
Center Frequency (Hz)	125	250	500	1000	2000	4000	(Average)
Discharge Sound	0	0	0	0	0	0	0
Radiated Sound	-5	-4	-4	0	+3	+5	-4

Dual Duct Terminal Units • 3230 and 3240 "Blendmaster" Series • All sizes.

Nailor has independently tested and cataloged their dual duct sound data based upon the use of Steri-Liner (high density foil back insulation) rather than standard dual density fiberglass insulation as used in the above terminal units. This is because it is the most popular specification for dual duct terminals, where IAQ is frequently a concern. Solid metal liner is acoustically reflective in a manner similar to Steri-Liner. The cataloged data may therefore be used without correction when a solid metal liner is required.

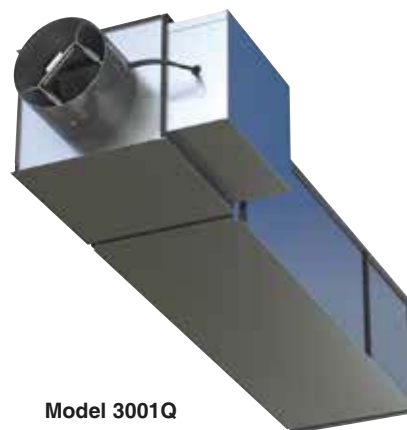
SCHEDULE TYPE				
PROJECT				
ENGINEER	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR	8 - 19 - 16	VAV.ACC.	11 - 19 - 12	VAV - SML

Recommended Airflow Ranges For Single Duct Terminal Units

The recommended airflow ranges below are for 3000Q Series single duct terminal units with pressure independent controls and are presented as ranges for total and controller specific minimum and maximum airflow. Airflow ranges are based upon maintaining reasonable sound levels and controller limits using Nailor's Diamond Flow Sensor as the airflow measuring device. For a given unit size, the minimum, auxiliary minimum (where applicable) and the maximum flow setting must be within the range limits to ensure pressure independent operation, accuracy and repeatability.

Minimum airflow limits are based upon .02" w.g. (5 Pa) differential pressure signal from Diamond Flow Sensor on analog/digital controls and .03" (7.5) for pneumatic controllers. This is a realistic low limit for many transducers used in the digital controls industry. Check your controls supplier for minimum limits. Setting airflow minimums lower, may cause damper hunting and result in a failure to meet minimum ventilation requirements. Factory settings will therefore not be made outside these ranges; however, a minimum setting of zero (shut-off) is an available option on pneumatic units. Where an auxiliary setting is specified, the value must be greater than the minimum setting.

The high end of the tabulated Total Airflow Range on pneumatic and analog electronic controls represents the Diamond Flow Sensor's differential pressure reading at 1" w.g. (250 Pa). The high end airflow range for digital controls is represented by the indicated transducer differential pressure.



Model 3001Q

ASHRAE 130 "Performance Rating of Air Terminals" is the method of test for the certification program. The "standard rating condition" (certification rating point) airflow volumes for each terminal unit size are tabulated below per AHRI Standard 880. These air volumes equate to an approximate inlet velocity of 2000 fpm (10.2 m/s).

When digital or other controls are mounted by Nailor, but supplied by others, these values are guidelines only, based upon experience with the majority of controls currently available. Controls supplied by others for factory mounting are configured and calibrated in the field. Airflow settings on pneumatic and analog controls supplied by Nailor are factory preset when provided.

Imperial Units, Cubic Feet per Minute

Unit Size	Inlet Type	Total Airflow Range, cfm	Airflow at 2000 fpm Inlet Velocity (nom.), cfm	Range of Minimum and Maximum Settings, cfm							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
				Transducer Differential Pressure ("w.g.)							
				Min.	Max.	Min.	Max.	Min.	Max.		
4	Round	0 – 225	150	30	180	25	180	25	180	200	225
5		0 – 400	250	55	325	45	325	45	325	360	400
6		0 – 550	400	80	450	65	450	65	450	500	550
7	Round	0 – 800	550	115	650	95	650	95	650	725	800
8		0 – 1100	700	155	900	125	900	125	900	1000	1100
9		0 – 1400	900	200	1150	165	1150	165	1150	1285	1400
10		0 – 1840	1100	260	1500	215	1500	215	1500	1675	1840
12	Flat Oval	0 – 2500	1600	355	2050	290	2050	290	2050	2300	2500
14		0 – 3125	2100	440	2550	360	2550	360	2550	2850	3125
16		0 – 3725	2800	525	3040	430	3040	430	3040	3400	3725
24 x 16	Rect.	0 – 8330	5350	1180	6800	960	6800	960	6800	7600	8330

Metric Units, Liters per Second

Unit Size	Inlet Type	Total Airflow Range, l/s	Airflow at 10.2 m/s Inlet Velocity (nom.), l/s	Range of Minimum and Maximum Settings, l/s							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
				Transducer Differential Pressure (Pa)							
				Min.	Max.	Min.	Max.	Min.	Max.		
4	Round	0 – 106	71	14	85	12	85	12	85	94	106
5		0 – 189	118	26	153	21	153	21	153	170	189
6		0 – 260	189	38	212	31	212	31	212	236	260
7	Round	0 – 378	260	54	307	45	307	45	307	342	378
8		0 – 519	330	73	425	59	425	59	425	472	519
9		0 – 661	425	94	543	78	543	78	543	606	661
10		0 – 868	519	123	708	101	708	101	708	790	868
12	Flat Oval	0 – 1180	755	168	967	137	967	137	967	1085	1180
14		0 – 1475	991	208	1203	170	1203	170	1203	1345	1475
16		0 – 1758	1321	248	1435	203	1435	203	1435	1604	1758
24 x 16	Rect.	0 – 3931	2525	557	3209	453	3209	453	3209	3586	3931

A SINGLE DUCT TERMINAL UNITS

Performance Data • AHRI Certification and Performance Notes

3000Q Series • Quiet • Dissipative Silencer • AHRI Certification Rating Points

Fiberglass Acoustic Media (FAM)

Inlet Size	Airflow		Min. Inlet ΔPs		Discharge Sound Power Levels @ 1.5" w.g. (375 Pa) ΔPs							Radiated Sound Power Levels @ 1.5" w.g. (375 Pa) ΔPs						
	cfm	l/s	"w.g.	Pa	Octave Band							Octave Band						
					2	3	4	5	6	7	2	3	4	5	6	7		
4	150	71	0.21	52	60	55	41	27	28	36	49	50	47	39	31	30		
5	250	118	0.10	25	68	60	44	34	31	37	55	48	45	35	35	30		
6	400	189	0.05	12	67	60	42	38	36	39	59	52	47	40	36	33		
7	550	260	0.04	10	69	62	46	40	45	45	61	54	49	43	36	33		
8	700	330	0.01	2	71	64	51	42	41	45	61	53	50	40	39	35		
9	900	425	0.01	2	72	64	51	45	44	48	60	54	49	44	39	36		
10	1100	519	0.02	5	70	62	50	45	46	50	60	54	50	45	39	36		
12	1600	755	0.02	5	72	64	54	49	55	54	61	58	53	49	42	39		
14	2100	991	0.02	5	72	62	56	54	57	57	63	61	55	48	44	43		
16	2800	1321	0.12	30	72	63	58	54	56	57	65	63	57	50	44	39		
24 x 16	5350	2525	0.01	2	86	78	76	72	73	73	72	70	70	65	60	55		



Ratings are certified in accordance with AHRI Standards.

Performance Notes for Sound Power Levels:

- Discharge sound power is the noise emitted from the unit discharge into the downstream duct. Discharge Sound Power Levels (SWL) now include duct end reflection energy as part of the standard rating. Including the duct end correction provides sound power levels that would normally be transmitted into an acoustically, non-reflective duct. The effect of including the energy correction to the discharge SWL, is higher sound power levels when compared to previous AHRI certified data. For more information on duct end reflection calculations see AHRI Standard 880.
- Radiated sound power is the breakout noise transmitted through the unit casing walls.
- Sound power levels are in decibels, dB re 10⁻¹² watts.
- All sound data listed by octave bands is raw data without any corrections for room absorption or duct attenuation. Dash (-) in space indicates sound power level is less than 20 dB or equal to background.
- Minimum inlet ΔPs is the minimum operating pressure requirement of the unit (damper full open) and the difference in static pressure from inlet to discharge of the unit.
- Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.
- Data derived from independent tests conducted in accordance with ANSI/ASHRAE Standard 130 and AHRI Standard 880.

A

SINGLE DUCT TERMINAL UNITS

Performance Data • NC Level Application Guide

3000Q Series • Quiet • Dissipative Silencer

Fiberglass Acoustic Media (FAM)

Inlet Size	Airflow cfm l/s		Min. inlet ΔPs "w.g. Pa		NC Levels @ Inlet Pressure (ΔPs) shown											
					DISCHARGE					RADIATED						
					Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)
4	200	94	0.38	94	-	-	-	21	20	21	-	-	-	21	24	28
	150	71	0.23	57	-	-	-	-	-	-	-	-	-	21	22	22
	100	47	0.11	28	-	-	-	-	-	-	-	-	-	-	20	23
	50	24	0.04	11	-	-	-	-	-	-	-	-	-	-	-	-
5	350	165	0.17	41	-	-	20	24	24	28	-	-	-	23	25	30
	250	118	0.08	20	-	-	23	25	25	26	-	-	-	-	22	25
	150	71	0.03	7	-	-	-	-	-	-	-	-	-	-	-	20
	100	47	0.02	5	-	-	-	-	-	-	-	-	-	-	-	-
6	500	236	0.05	13	-	-	-	21	21	26	-	-	20	23	26	30
	400	189	0.04	10	-	-	-	20	20	23	-	-	-	21	25	29
	300	142	0.03	6	-	-	-	-	-	-	-	-	-	20	21	25
	200	94	0.01	3	-	-	-	-	-	-	-	-	-	-	-	20
7	700	330	0.03	7	-	-	23	26	29	31	22	-	21	26	30	35
	550	260	0.01	2	-	-	-	23	26	28	-	-	-	24	28	32
	400	189	0.01	2	-	-	-	23	23	24	-	-	-	20	23	26
	250	118	0.01	2	-	-	-	-	-	-	-	-	-	-	-	20
8	1100	519	0.02	4	-	20	25	28	33	36	-	20	25	29	31	35
	900	425	0.01	3	-	-	23	26	30	34	-	-	23	26	29	33
	700	330	0.01	2	-	-	23	25	30	33	-	-	21	24	26	31
	500	236	0.01	2	-	-	-	23	24	28	-	-	-	21	23	26
9	1400	661	0.01	2	-	21	25	28	33	36	20	20	23	28	34	38
	1150	543	0.01	2	-	-	20	26	29	31	-	-	21	25	31	35
	900	425	0.01	2	-	-	-	24	26	29	-	-	-	23	28	31
	650	307	0.01	2	-	-	-	23	23	25	-	-	-	20	23	26
10	1500	708	0.02	5	-	20	23	28	30	34	-	20	24	28	30	35
	1100	519	0.02	4	-	-	-	21	24	28	-	-	21	24	25	31
	700	330	0.01	2	-	-	-	-	-	21	-	-	-	21	23	28
	215	101	0.01	1	-	-	-	-	-	-	-	-	-	-	-	-
12	2500	1180	0.04	10	-	25	29	33	34	35	29	28	31	34	35	40
	2050	967	0.03	7	-	21	25	28	30	33	22	25	29	31	33	38
	1600	755	0.02	6	-	20	24	24	28	29	-	20	25	28	30	35
	1150	543	0.02	4	-	-	-	20	21	26	-	-	20	24	26	30
14	2650	1251	0.02	5	-	21	23	26	29	30	24	25	30	34	37	40
	2100	991	0.02	4	-	-	-	24	26	30	-	21	26	31	34	37
	1550	731	0.01	2	-	-	-	-	21	25	-	-	24	28	30	34
	1000	472	0.01	2	-	-	-	-	-	-	-	-	-	21	25	26
16	3725	1758	0.14	36	23	25	29	28	33	38	30	*	33	37	40	44
	2800	1321	0.12	30	-	-	-	24	24	28	23	24	29	34	36	40
	1800	849	0.05	12	-	-	-	-	-	21	-	-	24	29	31	35
	800	378	0.01	2	-	-	-	-	-	-	-	-	26	30	34	36
24 x 16	8330	3931	0.05	12	30	31	39	48	49	56	44	44	49	51	54	57
	7000	3303	0.04	10	27	29	36	43	46	49	43	43	48	50	53	56
	5350	2525	0.01	2	-	26	34	41	44	46	40	41	47	49	51	55
	3800	1793	0.01	2	-	-	24	28	29	32	32	38	44	46	48	51

Performance Notes:

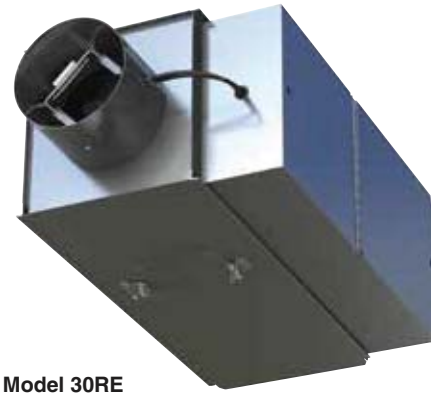
1. NC Levels are calculated based on procedures as outlined on page A75.
2. Dash (-) in space indicates a NC less than 20.
3. Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.

Recommended Airflow Ranges For Single Duct Pressure Independent Terminal Units

The recommended airflow ranges below are for 3000 Series single duct terminal units with pressure independent controls and are presented as ranges for total and controller specific minimum and maximum airflow. Airflow ranges are based upon maintaining reasonable sound levels and controller limits using Nailor's Diamond Flow Sensor as the airflow measuring device. For a given unit size, the minimum, auxiliary minimum (where applicable) and the maximum flow setting must be within the range limits to ensure pressure independent operation, accuracy and repeatability.

Minimum airflow limits are based upon .02" w.g. (5 Pa) differential pressure signal from Diamond Flow Sensor on analog/ digital controls and .03" (7.5) for pneumatic controllers. This is a realistic low limit for many transducers used in the digital controls industry. Check your controls supplier for minimum limits. Setting airflow minimums lower, may cause damper hunting and result in a failure to meet minimum ventilation requirements. Factory settings will therefore not be made outside these ranges; however, a minimum setting of zero (shut-off) is an available option on pneumatic units. Where an auxiliary setting is specified, the value must be greater than the minimum setting.

The high end of the tabulated Total Airflow Range on pneumatic and analog electronic controls represents the Diamond Flow Sensor's differential pressure reading at 1" w.g. (249 Pa). The high end airflow range for digital controls is represented by the indicated transducer differential pressure.



Model 30RE

ASHRAE 130 "Performance Rating of Air Terminals" is the method of test for the certification program. The "standard rating condition" (certification rating point) airflow volumes for each terminal unit size are tabulated below per AHRI Standard 880. These air volumes equate to an approximate inlet velocity of 2000 fpm (10.2 m/s).

When digital or other controls are mounted by Nailor, but supplied by others, these values are guidelines only, based upon experience with the majority of controls currently available. Controls supplied by others for factory mounting are configured and calibrated in the field. Airflow settings on pneumatic and analog controls supplied by Nailor are factory preset when provided.

Imperial Units, Cubic Feet per Minute

Unit Size	Inlet Type	Total Airflow Range, cfm	Airflow at 2000 fpm Inlet Velocity (nom.), cfm	Range of Minimum and Maximum Settings, cfm							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
				Transducer Differential Pressure ("w.g.)							
				Min. .03	Max. 1.0	Min. .02	Max. 1.0	Min. .02	1.0	1.25	1.5
4	Round	0 – 225	150	30	180	25	180	25	180	200	225
5		0 – 400	250	55	325	45	325	45	325	360	400
6		0 – 550	400	80	450	65	450	65	450	500	550
7	Round	0 – 800	550	115	650	95	650	95	650	725	800
8		0 – 1100	700	155	900	125	900	125	900	1000	1100
9		0 – 1400	900	200	1150	165	1150	165	1150	1285	1400
10		0 – 1840	1100	260	1500	215	1500	215	1500	1675	1840
12	Flat Oval	0 – 2500	1600	355	2050	290	2050	290	2050	2300	2500
14		0 – 3125	2100	440	2550	360	2550	360	2550	2850	3125
16		0 – 3725	2800	525	3040	430	3040	430	3040	3400	3725
24 x 16	Rect.	0 – 8330	5350	1180	6800	960	6800	960	6800	7600	8330

Metric Units, Liters per Second

Unit Size	Inlet Type	Total Airflow Range, l/s	Airflow at 10.2 m/s Inlet Velocity (nom.), l/s	Range of Minimum and Maximum Settings, l/s							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
				Transducer Differential Pressure (Pa)							
				Min. 7.5	Max. 249	Min. 5	Max. 249	Min. 5	249	311	374
4	Round	0 – 106	71	14	85	12	85	12	85	94	106
5		0 – 189	118	26	153	21	153	21	153	170	189
6		0 – 260	189	38	212	31	212	31	212	236	260
7	Round	0 – 378	260	54	307	45	307	45	307	342	378
8		0 – 519	330	73	425	59	425	59	425	472	519
9		0 – 661	425	94	543	78	543	78	543	606	661
10		0 – 868	519	123	708	101	708	101	708	790	868
12	Flat Oval	0 – 1180	755	168	967	137	967	137	967	1085	1180
14		0 – 1475	991	208	1203	170	1203	170	1203	1345	1475
16		0 – 1758	1321	248	1435	203	1435	203	1435	1604	1758
24 x 16	Rect.	0 – 3931	2525	557	3209	453	3209	453	3209	3586	3931

Performance Data • AHRI Certification and Performance Notes

3000 Series • Basic Unit • AHRI Certification Rating Points

Fiberglass Liner

Inlet Size	Airflow		Min. Inlet ΔPs		Discharge Sound Power Levels @ 1.5" w.g. (375 Pa) ΔPs							Radiated Sound Power Levels @ 1.5" w.g. (375 Pa) ΔPs						
					Octave Band							Octave Band						
	cfm	l/s	"w.g.	Pa	2	3	4	5	6	7	2	3	4	5	6	7		
4	150	71	0.10	25	69	68	62	58	51	48	49	50	47	39	31	30		
5	250	118	0.05	12	71	70	63	61	51	48	55	48	45	35	35	30		
6	400	189	0.01	2	72	70	63	60	53	51	59	52	47	40	36	33		
7	550	260	0.01	2	74	70	65	62	55	53	61	54	49	43	36	33		
8	700	330	0.01	2	76	71	67	65	58	55	61	53	50	40	39	35		
9	900	425	0.01	2	75	69	67	65	58	55	60	54	49	44	39	36		
10	1100	519	0.01	2	74	69	66	65	58	55	60	54	50	45	39	36		
12	1600	755	0.01	2	76	70	69	68	62	58	61	58	53	49	42	39		
14	2100	991	0.01	2	75	70	71	70	64	60	63	61	55	48	44	43		
16	2800	1321	0.02	5	76	70	68	67	62	58	65	63	57	50	44	39		
24 x 16	5350	2525	0.01	2	87	81	79	76	72	69	72	70	70	65	60	55		



Ratings are certified in accordance with AHRI Standards.

Performance Notes for Sound Power Levels:

- Discharge sound power is the noise emitted from the unit discharge into the downstream duct. Discharge Sound Power Levels (SWL) now include duct end reflection energy as part of the standard rating. Including the duct end correction provides sound power levels that would normally be transmitted into an acoustically, non-reflective duct. The effect of including the energy correction to the discharge SWL, is higher sound power levels when compared to previous AHRI certified data. For more information on duct end reflection calculations see AHRI Standard 880.
- Radiated sound power is the breakout noise transmitted through the unit casing walls.
- Sound power levels are in decibels, dB re 10⁻¹² watts.
- All sound data listed by octave bands is raw data without any corrections for room absorption or duct attenuation. Dash (-) in space indicates sound power level is less than 20 dB or equal to background.
- Minimum inlet ΔPs is the minimum operating pressure requirement of the unit (damper full open) and the difference in static pressure from inlet to discharge of the unit.
- Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.
- Data derived from independent tests conducted in accordance with ANSI/ASHRAE Standard 130 and AHRI Standard 880.

A

SINGLE DUCT TERMINAL UNITS

Performance Data • Discharge Sound Power Levels

3000 Series • Basic Unit

Fiberglass Liner



Table with columns: Inlet Size, Airflow (cfm, l/s), Min. inlet ΔPs ("w.g., Pa), and Sound Power Octave Bands @ Inlet Pressure (ΔPs) shown (Minimum ΔPs, 0.5" wg (125Pa) ΔPs, 1.0" wg (250Pa) ΔPs, 1.5" wg (375Pa) ΔPs, 2.0" wg (500Pa) ΔPs, 3.0" wg (750Pa) ΔPs).

For performance table notes, see page A20; highlighted numbers indicate embedded AHRI certification points.

A SINGLE DUCT TERMINAL UNITS

Performance Data • Discharge Sound Power Levels

3000 Series • With 3 ft. (914) Integral Attenuator

Fiberglass Liner

Inlet Size	Airflow		Min. inlet Δ Ps		Sound Power Octave Bands @ Inlet Pressure (Δ Ps) shown																																									
					Minimum Δ Ps							0.5" wg (125Pa) Δ Ps							1.0" wg (250Pa) Δ Ps							1.5" wg (375Pa) Δ Ps							2.0" wg (500Pa) Δ Ps							3.0" wg (750Pa) Δ Ps						
					"w.g.	Pa	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7				
4	225	106	0.53	133	62	55	49	44	30	27	*	*	*	*	*	*	67	68	61	53	31	30	69	71	64	55	33	32	70	71	64	57	36	35	71	72	65	58	39	38						
	200	94	0.43	106	62	53	47	42	27	27	64	65	58	53	31	28	66	68	59	52	32	31	69	71	62	55	35	35	70	71	63	56	35	36	70	72	66	59	37	37						
	150	71	0.10	25	60	48	41	34	21	23	63	59	51	43	23	20	66	66	56	48	27	27	67	67	58	51	29	31	66	68	60	53	31	32	66	69	63	59	36	35						
	100	47	0.11	28	58	41	26	-	-	-	62	56	47	39	21	-	64	61	53	44	27	26	63	60	56	47	29	27	63	60	57	51	31	30	64	61	58	53	34	34						
	75	35	0.06	16	56	40	-	-	-	-	60	53	43	36	-	20	63	57	52	42	30	24	60	57	54	46	27	25	59	55	57	51	33	30	59	58	58	53	38	35						
5	400	189	0.19	48	59	52	47	45	31	28	64	62	60	55	34	30	68	67	66	59	36	32	70	70	69	62	37	34	72	71	69	62	38	36	73	72	70	63	41	39						
	300	142	0.11	28	59	49	42	39	24	22	64	64	57	52	30	26	67	69	61	55	33	31	70	70	63	57	35	35	71	72	65	58	36	35	72	73	67	60	37	37						
	250	118	0.05	12	58	45	38	33	21	20	63	60	53	47	25	21	67	67	57	51	28	27	69	69	59	54	29	31	70	71	61	55	32	33	70	72	63	58	36	36						
	200	94	0.05	13	57	43	34	-	-	24	64	61	50	43	24	23	68	63	53	47	27	27	68	65	55	48	29	29	70	67	58	48	30	31	71	68	61	52	32	34						
	125	59	0.02	5	56	39	-	-	-	-	62	51	42	36	-	21	64	57	49	40	27	24	64	59	54	42	23	23	64	57	58	52	30	28	64	57	61	59	41	35						
6	550	260	0.01	2	59	51	46	42	26	24	67	62	56	51	31	29	70	66	60	55	33	32	72	70	64	58	35	35	74	72	66	60	38	38	75	73	68	62	40	40						
	450	212	0.01	2	57	47	41	37	21	20	65	62	52	47	28	26	68	66	57	51	32	32	71	70	61	55	36	37	73	71	64	57	37	38	74	72	66	59	38	38						
	400	189	0.01	2	56	45	39	34	20	20	64	61	51	45	26	24	67	64	55	49	29	29	70	67	59	53	31	34	72	69	62	55	34	36	73	70	64	57	36	38						
	200	94	0.01	2	54	37	27	-	-	20	62	50	43	37	21	21	65	54	48	40	24	24	66	57	52	43	26	27	67	58	55	48	29	30	67	59	57	53	32	32						
	100	47	0.01	2	51	37	-	-	-	-	56	44	38	30	-	20	57	47	44	38	26	23	55	49	50	46	26	25	56	51	52	50	33	31	56	52	53	53	40	37						
7	800	378	0.01	2	66	58	55	51	35	31	71	65	61	57	38	32	74	68	64	60	40	35	76	71	67	62	41	38	78	74	69	64	44	40	80	76	72	67	46	43						
	650	307	0.01	2	62	54	49	46	29	25	69	64	57	52	34	29	72	67	60	56	37	33	75	71	64	59	40	38	77	73	67	62	42	40	79	75	70	64	44	41						
	550	260	0.01	2	58	51	45	41	25	22	65	61	54	49	30	26	69	65	58	53	33	31	73	68	62	57	36	35	75	70	65	59	39	38	77	72	68	61	42	40						
	335	158	0.01	2	56	45	37	35	26	20	63	55	48	43	26	23	67	59	53	47	30	27	70	63	57	50	33	31	70	64	60	54	36	34	71	65	63	58	39	37						
	225	106	0.01	2	51	37	38	33	-	-	59	49	43	37	27	21	60	53	49	43	29	25	62	57	55	50	31	29	62	58	57	53	36	33	63	59	58	57	41	37						
8	1100	519	0.01	2	70	66	63	61	43	37	72	68	65	63	44	35	75	70	68	65	46	38	77	72	70	67	48	40	80	76	72	69	50	43	83	79	75	71	53	46						
	900	425	0.01	2	66	61	58	55	37	31	70	65	61	58	40	32	73	68	64	61	42	35	76	72	67	64	45	38	79	74	70	66	47	42	81	77	73	68	50	45						
	700	330	0.01	2	61	57	52	48	31	23	66	61	56	52	35	28	70	66	60	56	38	32	75	70	64	60	42	36	77	72	68	63	45	39	78	74	71	65	48	43						
	600	283	0.01	2	58	53	47	43	26	-	64	59	53	50	31	25	69	64	58	54	36	30	74	68	62	58	40	36	75	70	65	60	43	39	76	71	69	63	46	42						
	400	189	0.01	2	51	40	38	33	-	-	61	55	48	44	27	22	65	60	54	49	32	27	68	65	59	53	37	32	69	65	62	57	40	35	69	65	64	61	43	38						
9	1400	661	0.01	2	70	62	63	58	43	40	74	69	66	63	45	39	77	71	68	65	47	41	79	73	70	67	49	44	81	76	72	69	51	46	84	78	75	71	53	49						
	1250	590	0.01	2	66	59	59	55	39	36	72	64	63	59	42	37	74	70	66	62	44	39	77	72	69	64	46	42	79	75	71	66	48	45	82	77	73	68	51	47						
	900	425	0.01	2	61	55	49	45	28	23	67	61	56	51	35	30	70	65	59	55	38	34	74	69	63	58	41	38	76	71	66	60	44	41	78	73	69	63	47	44						
	675	319	0.01	2	56	49	43	38	23	20	64	58	52	47	30	25	69	62	56	51	35	31	73	66	60	55	39	36	75	68	63	57	42	39	75	71	67	60	45	43						
	450	212	0.01	2	52	41	34	28	-	-	61	53	47	42	25	22	64	58	52	46	30	27	67	63	57	51	35	33	68	64	60	54	38	36	69	65	63	57	41	38						
10	1850	873	0.01	2	71	66	62	56	43	43	77	71	66	63	46	43	78	72	69	65	48	45	80	74	71	67	49	47	81	76	73	68	51	49	83	77	74	70	53	51						
	1650	779	0.01	2	67	60	60	54	40	41	75	66	65	60	43	41	77	72	67	63	45	43	78	73	70	65	48	45	81	75	71	67	49	48	82	77	73	68	51	50						
	1100	519	0.01	2	61	53	46	41	26	23	66	61	56	50	35	32	69	64	59	53	38	36	72	67	62	56	40	39	74	70	64	58	43	42	76	72	67	60	46	45						
	825	389	0.01	2	54	46	39	33	20	20	61	56	50	44	29	26	65	60	54	48	33	31	69	64	58	52	37	36	71	67	61	54	40	39	72	70	65	57	43	43						
	550	260	0.01	2	50	38	30	-	-	-	58	51	45	39	24	22	62	56	50	43	29	28	65	61	55	48	34	33	66	63	58	51	37	36	67	64	61	54	40	39						
12	2500	1180	0.01	2	65	59	59	55	41	41	78	69	66	63	46	44	79	71	69	64	48	46	81	73	72	66	50	49	82	75	73	68	53	52	83	76	75	70	56	55						
	2000	944	0.01	2	62	56	53	49	35	35	74	66	62	57	41	39	75	68	65	60	44	43	77	70	68	63	48	47	78	72	70	65	50	47	80	74	72	66	53	53						
	1600	755	0.01	2	59	51	47	43	29	27	69	63	58	52	37	36	71	65	61	56	41	40	74	67	64	59	44	44	75	70	67	61	47	47	77	73	69	63	50	50						
	1200	566	0.01	2	52	45	41	35	22	22	64	58	54	48	33	31	68	61	57	51	37	36	71	65	60	55	41	42	73	67	63	57	44	45	74	70	66	59	48	48						
	800	378	0.01	2	50	37	29	21	-	-	59	49	46	40	27	26	62	55	51	44	32	32	66	60	55	48	37	38	67	62	59	51	40	41	68	64	62	54	43	45						
14	3125	1475	0.01	2	69	62	58	55	44	43	7																																			

Performance Data • NC Level Application Guide

3000 Series • Basic Unit

Fiberglass Liner

A

SINGLE DUCT TERMINAL UNITS

Inlet Size	Airflow cfm / s		Min. inlet ΔPs "w.g. Pa		NC Levels @ Inlet Pressure (ΔPs) shown																	
					DISCHARGE (basic assembly)					DISCHARGE w/ 36" (914) attenuator					RADIATED							
					Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)
4	225	106	0.53	133	21	-	30	33	34	36	-	-	29	33	33	34	-	*	-	23	25	29
	200	94	0.43	106	20	25	29	33	34	35	-	25	29	33	33	34	-	-	-	21	24	28
	150	71	0.10	25	-	21	26	29	30	30	-	-	26	28	29	30	-	-	-	21	22	22
	100	47	0.11	28	-	-	21	21	21	21	-	-	20	-	-	20	-	-	-	-	20	23
	75	35	0.06	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
5	400	189	0.19	48	-	23	28	30	33	35	-	20	26	30	31	33	-	-	-	23	26	31
	300	142	0.11	28	-	23	29	30	33	35	-	23	29	30	33	34	-	-	-	21	23	28
	250	118	0.05	12	-	23	28	31	33	34	-	-	28	30	33	34	-	-	-	-	22	25
	200	94	0.05	13	-	21	25	28	29	30	-	20	25	25	28	29	-	-	-	-	20	22
	125	59	0.02	5	-	-	20	21	21	21	-	-	20	20	20	20	-	-	-	-	-	-
6	550	260	0.01	2	-	25	29	33	36	38	-	20	25	30	33	34	-	-	20	25	28	31
	450	212	0.01	2	-	23	28	33	35	36	-	20	25	30	31	33	-	-	-	22	24	29
	400	189	0.01	2	-	20	25	30	31	33	-	-	23	26	29	30	-	-	-	21	25	29
	200	94	0.01	2	-	-	21	24	24	24	-	-	21	23	24	24	-	-	-	-	-	20
	100	47	0.01	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	800	378	0.01	2	-	24	28	31	35	38	-	23	26	30	34	36	25	-	22	28	33	37
	650	307	0.01	2	-	23	28	33	37	37	-	23	26	31	34	36	20	-	21	24	29	34
	550	260	0.01	2	-	-	24	30	31	34	-	-	24	28	30	33	-	-	-	24	28	32
	335	158	0.01	2	-	-	21	25	25	26	-	-	20	24	24	25	-	-	-	20	22	24
	225	106	0.01	2	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-
8	1100	519	0.01	2	25	28	31	34	37	40	24	26	29	31	36	39	-	20	25	29	31	35
	900	425	0.01	2	20	24	29	33	36	38	-	23	26	31	34	37	-	-	23	26	29	33
	700	330	0.01	2	-	21	26	31	35	38	-	-	25	30	33	35	-	-	21	24	26	31
	600	283	0.01	2	-	-	25	30	34	36	-	-	23	29	30	31	-	-	-	23	25	31
	400	189	0.01	2	-	-	-	25	26	28	-	-	-	24	24	24	-	-	-	20	21	25
9	1400	661	0.01	2	23	28	31	34	37	39	21	28	30	33	36	39	20	20	23	28	34	38
	1250	590	0.01	2	-	25	29	33	35	38	-	24	29	31	35	37	-	20	22	26	33	36
	900	425	0.01	2	-	-	24	28	31	35	-	-	23	28	30	33	-	-	-	23	28	31
	675	319	0.01	2	-	-	23	28	30	33	-	-	23	28	30	31	-	-	-	20	25	26
	450	212	0.01	2	-	-	-	23	24	25	-	-	-	21	23	24	-	-	-	-	20	22
10	1850	873	0.01	2	24	31	34	36	38	39	24	30	31	34	36	38	22	22	26	31	33	37
	1650	779	0.01	2	20	28	31	35	37	39	-	28	31	33	35	37	-	20	25	30	31	36
	1100	519	0.01	2	-	21	25	28	31	35	-	-	21	25	29	31	-	-	21	24	25	31
	825	389	0.01	2	-	-	20	25	29	31	-	-	-	21	25	29	-	-	-	21	23	28
	550	260	0.01	2	-	-	-	21	24	26	-	-	-	-	21	23	-	-	-	-	-	22
12	2500	1180	0.01	2	-	31	34	35	38	40	-	31	33	35	36	38	29	28	31	34	35	40
	2000	944	0.01	2	-	28	30	31	35	37	-	26	28	30	31	34	22	25	29	31	33	37
	1600	755	0.01	2	-	23	26	29	33	35	-	20	23	26	29	33	-	20	25	28	30	35
	1200	566	0.01	2	-	-	21	25	29	33	-	-	-	23	25	29	-	-	20	24	28	31
	800	378	0.01	2	-	-	-	21	24	24	-	-	-	-	-	21	-	-	-	20	21	24
14	3125	1475	0.01	2	23	31	34	35	38	39	20	31	33	34	36	38	29	28	31	36	39	43
	2700	1274	0.01	2	-	29	30	33	35	37	-	28	29	31	34	36	24	25	30	34	37	40
	2100	991	0.01	2	-	21	25	29	33	36	-	21	24	28	30	34	-	21	26	31	34	37
	1550	731	0.01	2	-	-	21	26	30	33	-	-	20	25	26	29	-	-	24	28	30	34
	1050	495	0.01	2	-	-	-	21	24	26	-	-	-	21	23	24	-	-	-	24	26	28
16	3725	1758	0.03	8	-	29	31	33	35	38	-	28	30	31	35	38	30	30	33	37	40	44
	3500	1652	0.03	8	-	26	29	31	34	36	-	24	28	31	34	35	28	30	33	36	39	43
	2800	1321	0.02	6	-	23	26	29	31	34	-	21	25	29	30	33	23	24	29	34	36	40
	2100	991	0.02	4	-	-	20	25	26	30	-	-	-	23	25	28	-	-	26	30	34	36
	1400	661	0.01	3	-	-	-	-	21	24	-	-	-	-	-	23	-	-	21	26	29	31
24 x 16	8330	3931	0.02	5	49	49	49	52	53	53	48	48	48	50	52	52	44	44	49	51	54	57
	7000	3303	0.02	4	45	45	45	48	49	50	44	44	44	46	48	49	40	41	47	49	51	55
	6000	2831	0.01	2	40	41	43	45	46	48	39	40	41	44	45	46	36	39	45	47	49	53
	5350	2525	0.01	2	35	38	40	43	45	46	34	36	39	41	44	45	32	38	44	46	48	51
	4000	1888	0.01	2	25	31	35	38	40	43	24	30	34	36	39	41	24	35	39	43	45	47
3000	1416	0.01	2	-	24	29	33	35	38	-	23	28	31	34	37	20	31	36	38	40	44	

Performance Notes:

- NC Levels are calculated based on procedures as outlined on page A75.
- Dash (-) in space indicates a NC less than 20.
- Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.

Performance Data • Radiated Sound Power Levels

3000 Series • Basic Unit Fiberglass Liner



Inlet Size	Airflow		Min. inlet ΔPs		Sound Power Octave Bands @ Inlet Pressure (ΔPs) shown																																			
					Minimum ΔPs		0.5" wg (125Pa) ΔPs		1.0" wg (250Pa) ΔPs		1.5" wg (375Pa) ΔPs		2.0" wg (500Pa) ΔPs		3.0" wg (750Pa) ΔPs																									
					2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7						
4	225	106	0.53	133	-	37	33	33	-	-	*	*	*	*	*	*	51	48	45	38	32	30	55	54	49	42	33	32	55	55	51	44	35	33	56	57	54	48	39	38
	200	94	0.43	106	-	36	33	32	-	-	-	39	37	38	29	29	49	46	43	37	30	29	53	52	47	40	32	31	53	53	50	42	33	33	54	55	53	47	37	37
	150	71	0.10	25	-	35	29	31	-	-	-	40	36	30	25	23	47	46	40	34	28	26	49	50	47	39	31	30	47	48	48	43	34	32	48	48	48	50	40	37
	100	47	0.11	28	-	-	-	-	-	-	-	37	32	27	-	-	-	43	42	34	27	23	-	44	45	41	32	29	-	43	46	46	36	32	-	42	44	51	43	38
	75	35	0.06	16	-	-	-	-	-	-	-	37	31	26	-	-	-	41	43	37	29	24	-	42	45	42	32	29	-	38	42	45	40	33	-	36	41	48	44	40
5	400	189	0.19	48	49	41	34	36	34	27	52	45	40	40	39	36	56	48	45	38	37	34	60	52	49	40	39	34	63	56	51	42	40	36	63	59	56	45	44	40
	300	142	0.11	28	47	38	32	32	30	27	50	43	37	35	33	31	54	46	44	37	35	31	57	49	47	39	38	33	59	52	49	40	39	35	59	55	53	43	43	39
	250	118	0.05	12	-	35	31	25	23	-	50	40	36	32	30	25	54	45	42	33	32	28	55	48	45	35	35	30	56	51	48	37	37	32	57	53	51	42	41	35
	200	94	0.05	13	-	-	-	-	-	-	50	38	34	27	25	-	52	43	39	31	30	25	52	45	43	32	32	28	53	48	46	36	36	30	53	48	48	44	41	34
	125	59	0.02	5	-	-	-	-	-	-	-	33	29	21	-	-	48	40	38	28	27	-	48	42	42	34	33	27	49	42	44	39	38	29	49	42	44	47	46	37
6	550	260	0.01	2	48	47	41	39	31	29	49	48	42	41	35	31	57	52	46	41	35	32	62	55	49	45	36	34	64	58	51	45	40	38	67	61	56	48	44	43
	450	212	0.01	2	48	44	37	35	30	28	48	47	40	38	32	29	56	50	45	40	34	31	59	53	48	44	36	33	61	55	50	43	39	37	64	58	54	46	42	41
	400	189	0.01	2	-	42	33	33	28	26	49	46	39	35	30	28	56	49	44	38	32	29	59	52	47	40	36	33	62	54	49	42	39	36	64	58	54	45	42	41
	200	94	0.01	2	-	-	-	-	-	-	47	36	30	24	-	-	53	43	38	30	29	28	53	45	43	32	31	30	53	47	44	36	32	32	55	49	46	43	37	37
	100	47	0.01	2	-	-	-	-	-	-	-	34	27	-	-	-	35	38	33	29	24	-	45	39	40	37	31	28	47	39	40	42	37	32	46	40	40	46	44	38
7	800	378	0.01	2	50	47	51	37	36	36	50	48	45	37	33	33	57	52	48	40	34	32	63	58	53	46	38	35	68	62	56	49	40	38	70	66	61	54	45	42
	650	307	0.01	2	49	45	46	38	31	30	49	48	45	37	31	29	54	50	47	40	34	32	60	54	50	44	37	35	64	58	54	48	40	38	67	63	58	51	44	43
	550	260	0.01	2	48	43	41	33	27	25	48	44	40	32	28	26	55	49	45	38	32	30	61	54	49	43	36	33	64	58	52	45	38	36	65	61	57	50	42	40
	335	158	0.01	2	-	-	28	33	-	-	-	40	35	29	24	-	52	48	42	36	30	28	57	51	46	40	32	30	57	52	48	42	34	32	57	53	50	47	39	38
	225	106	0.01	2	-	-	-	-	-	-	-	39	33	28	-	-	50	45	40	34	28	25	52	47	43	38	31	29	51	47	43	41	33	31	52	48	45	42	35	36
8	1100	519	0.01	2	52	50	45	37	34	33	57	51	46	37	35	32	60	54	51	40	38	33	65	57	53	43	42	36	67	60	56	45	44	39	70	63	60	49	48	42
	900	425	0.01	2	51	47	40	34	31	29	56	50	45	37	34	31	58	53	49	39	37	33	63	56	51	42	42	36	65	58	54	44	44	39	68	60	56	47	48	42
	700	330	0.01	2	50	43	37	31	29	25	51	47	42	33	31	28	57	51	47	37	36	32	61	53	50	40	39	35	63	55	51	42	41	37	64	59	56	45	44	40
	600	283	0.01	2	-	39	33	29	26	-	50	45	40	31	30	26	57	49	45	35	34	31	60	53	49	38	38	33	61	55	51	40	40	36	63	59	56	44	43	40
	400	189	0.01	2	-	35	26	-	-	-	49	41	36	28	27	24	54	47	41	32	31	30	57	52	46	35	34	32	57	52	47	37	36	34	59	54	51	41	40	39
9	1400	661	0.01	2	51	46	46	44	37	35	52	47	46	41	38	35	57	53	49	42	37	35	64	58	53	47	41	37	66	63	57	50	43	40	69	67	61	54	47	44
	1250	590	0.01	2	51	46	45	42	35	35	51	46	46	41	37	34	56	52	48	42	36	34	63	57	52	46	40	37	65	62	56	50	43	40	68	65	60	53	46	44
	900	425	0.01	2	48	40	39	36	30	29	50	45	42	37	32	30	56	50	45	40	35	33	60	54	49	44	39	36	63	58	52	47	41	38	64	61	56	50	44	42
	675	319	0.01	2	47	37	31	29	22	-	49	41	36	31	28	25	55	48	42	37	32	30	58	52	46	41	35	33	60	56	50	44	38	36	60	57	52	47	41	39
	450	212	0.01	2	-	-	24	-	-	-	48	40	33	30	26	24	53	46	39	34	30	29	54	49	43	38	33	31	55	50	46	41	35	34	56	52	48	45	39	38
10	1850	873	0.01	2	57	47	48	40	36	27	58	49	48	40	37	31	60	55	52	45	39	35	64	59	56	50	43	39	65	62	57	52	46	42	68	66	61	56	49	46
	1650	779	0.01	2	55	45	45	40	35	26	57	49	46	39	36	30	59	54	51	44	38	34	63	58	55	49	42	38	64	60	56	51	45	41	67	65	60	55	48	45
	1100	519	0.01	2	51	37	35	30	25	-	53	46	42	35	31	27	55	50	47	41	35	31	60	54	50	45	39	36	61	56	51	47	42	39	64	61	55	51	45	43
	825	389	0.01	2	-	33	29	25	-	-	50	43	38	32	29	25	55	48	43	38	33	30	58	52	47	42	37	34	59	54	49	44	39	37	61	57	53	49	43	41
	550	260	0.01	2	-	-	-	-	-	-	-	38	33	29	25	-	51	44	38	34	30	28	53	47	42	38	34	32	56	50	45	41	36	35	57	52	48	45	40	38
12	2500	1180	0.01	2	57	55	54	50	42	36	60	57	53	46	41	38	63	61	54	50	42	39	66	63	57	53	45	41	67	64	59	55	48	44	70	69	63	59	52	50
	2000	944	0.01	2	54	50	48	44	37	33	58	55	51	46	39	35	61	59	53	49	42	37	64	61	56	52	45	41	65	62	58	55	48	44	68	66	61	58	51	49
	1600	755	0.01	2	52	45	41	36	30	27	56	52	45	40	34	30	59	56	49	46	38	35	61	58	53	49	42	39	62	60	55	51	44	42	65	64	58	55	48	46
	1200	566	0.01	2	47	39	33	29	24	-	52	48	40	36	30	27	55	52	45	41	34	32	58	55	49	45	38	36	60	58	51	48	41	39	61	61	55	52	45	44
	800	378	0.01	2	-	-	-	-	-	-	50	41	34	30	26	-	52	48	41	37	31	30	53	52	45	42	35	33	54	53	47	44	37	36	56	55	50	48	42	42
14	3125	1475	0.01	2	61	57	54	50	45	38	62	58	53	49	45	38	64	61	55	50	47	40	67	65	59	52	49	46	67											

Performance Data Explanation

Sound Power Levels vs. NC Levels

The **Nailor 3000, 3000Q, 30HQ, 30X, 30HQX and 3100 Series** single duct terminal unit performance data is presented in two forms (where applicable).

The laboratory obtained discharge and radiated sound power levels in octave bands 2 through 7 (125 through 4000 Hz) center frequency for each unit size at various flow rates and inlet static pressures is presented. This data is derived in accordance with ANSI/ASHRAE Standard 130 and AHRI Standard 880. This data is raw with no attenuation deductions and includes AHRI Certification standard rating points.

Nailor also provides an NC Level table as an application aid in terminal selection, which includes attenuation allowances as explained below. The suggested attenuation allowances are not representative of specific job site conditions. It is recommended that the sound power level data be used and a detailed NC calculation be performed using the procedures outlined in AHRI Standard 885, Appendix E for accurate space sound levels.

Explanation of NC Levels

Tabulated NC levels are based on attenuation values as outlined in AHRI Standard 885 "Procedure for Estimating Occupied Space Sound Levels in the Application of Air Terminals and Air Outlets". AHRI Standard 885, Appendix E provides typical sound attenuation values for air terminal discharge sound and air terminal radiated sound.

As stated in AHRI Standard 885, Appendix E, "These values can be used as a quick method of estimating space sound levels when a detailed evaluation is not available. The attenuation values are required for use by manufacturers to catalog application sound levels. In product catalogs, the end user environments are not known and the following factors are provided as typical attenuation values. Use of these values will allow better comparison between manufacturers and give the end user a value which will be expected to be applicable for many types of space."

Radiated Sound

Table E1 of Appendix E provides radiated sound attenuation values for three types of ceiling: Type 1 – Glass Fiber; Type 2 – Mineral Fiber; Type 3 – Solid Gypsum Board.

Since Mineral Fiber tile ceilings are the most common construction used in commercial buildings, these values have been used to tabulate Radiated NC levels.

The following table provides the calculation method for the radiated sound total attenuation values based on AHRI Standard 885.

	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
Ceiling/Space Effect	16	18	20	26	31	36
Total Attenuation Deduction	18	19	20	26	31	36

The ceiling/space effect assumes the following conditions:

1. 5/8" (16) tile, 20 lb/ft³ (320 kg/m³) density.
2. The plenum is at least 3 feet (914) deep.
3. The plenum space is either wide [over 30 feet (9 m)] or lined with insulation.
4. The ceiling has no significant penetration directly under the unit.

Discharge Sound

Table E1 of Appendix E provides typical discharge sound attenuation values for three sizes of terminal unit.

1. Small box: Less than 300 cfm (142 l/s)
[Discharge Duct 8" x 8" (203 x 203)].
2. Medium box: 300 – 700 cfm (142 - 330 l/s)
[Discharge Duct 12" x 12" (305 x 305)].
3. Large box: Greater than 700 cfm (330 l/s)
[Discharge Duct 15" x 15" (381 x 381)].

These attenuation values have been used to tabulate Discharge NC levels applied against the terminal airflow volume and not terminal unit size.

The following tables provide the calculation method for the discharge sound total attenuation values based on AHRI Standard 885.

Small Box <300 cfm	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
5 ft. (1.5 m) 1" (25) Duct Lining	2	6	12	25	29	18
Branch Power Division (1 outlet)	0	0	0	0	0	0
5 ft. (1.5 m), 8 in. dia. (203) Flex Duct	5	10	18	19	21	12
End Reflection	10	5	2	1	0	0
Space Effect	5	6	7	8	9	10
Total Attenuation Deduction	24	28	39	53	59	40

Medium Box 300 – 700 cfm	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
5 ft. (1.5 m) 1" (25) Duct Lining	2	4	10	20	20	14
Branch Power Division (2 outlets)	3	3	3	3	3	3
5 ft. (1.5 m), 8 in. dia. (203) Flex Duct	5	10	18	19	21	12
End Reflection	10	5	2	1	0	0
Space Effect	5	6	7	8	9	10
Total Attenuation Deduction	27	29	40	51	53	39

Large Box >700 cfm	Octave Band					
	2	3	4	5	6	7
Environmental Effect	2	1	0	0	0	0
5 ft. (1.5 m) 1" (25) Duct Lining	2	3	9	18	17	12
Branch Power Division (3 outlets)	5	5	5	5	5	5
5 ft. (1.5 m), 8 in. dia. (203) Flex Duct	5	10	18	19	21	12
End Reflection	10	5	2	1	0	0
Space Effect	5	6	7	8	9	10
Total Attenuation Deduction	29	30	41	51	52	39

1. Flexible duct is non-metallic with 1" (25) insulation.
2. Space effect (room size and receiver location) 2500 ft.³ (69 m³) and 5 ft. (1.5 m) distance from source.

For a complete explanation of the attenuation factors and the procedures for calculating room NC levels, please refer to the acoustical engineering guidelines at the back of this catalog and AHRI Standard 885.

Electric Heating Coils Selection, Capacities and Features

Models: 30RE, 30REQ and 30HQE

Nailor manufactures its own electric heating coils. They have been specifically designed and tested for use with variable air volume single duct terminal units.

All terminals with electric heat have been tested and ETL listed as an assembly, eliminating the need to mount coils a minimum of 36" (914) downstream or having to ship a bulky length of ductwork when coils are to be supplied mounted on the terminal.

Nailor electric coils are factory mounted as an integral part of the terminal unit in an insulated extended plenum section. Total length of the casing including heater terminal is only 31" (787), providing a compact, easy to handle unit. The unique inclined opposed blade damper design provides improved and more even airflow over the coil elements compared with round butterfly damper designs, which helps to minimize air stratification, avoid nuisance tripping of the thermal cut-outs and maximize heat transfer.

Selection Guidelines:

The table below provides a general guideline as to the voltages and maximum kiloWatts available for each terminal unit size. Up to three stages of heat are available. A minimum of 0.5 kW/ stage is required.

For optimum diffuser performance and maximum thermal comfort, ASHRAE recommends that discharge temperatures do not exceed 15°F (8°C) above room set point, as stratification and short circuiting may occur. ASHRAE Standard 62.1 limits discharge temperatures to 90°F (32°C) or increasing the



Model 30RE

ventilation rate when heating from the ceiling. Never select kW to exceed a discharge temperatures of 115°F (46°C).

$$\Delta T (\text{Air Temp. Rise, } ^\circ\text{F}) = \frac{\text{kW} \times 3160}{\text{cfm}}$$

The coil ranges listed are restricted to a maximum of 48 amps and do not require circuit fusing to meet NEC code requirements. A minimum of .1" w.g. (25 Pa) of downstream static pressure is required to ensure proper operation of the heater. To avoid possible nuisance tripping of the thermal cutouts due to insufficient airflow, a minimum airflow of 70 cfm (33 l/s) per kilowatt must be maintained.

Electric Coil Limitations

Unit Size	Heating Range* cfm (l/s)	Maximum kW										
		Single Phase						Three Phase				
		120V	208V	220V	240V	277V	347V	208V	380V	480V	600V	
4	25 – 225 (12 – 106)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	45 – 400 (21 – 189)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6	65 – 550 (31 – 260)	5.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
7	95 – 800 (45 – 378)	5.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
8	125 – 1100 (59 – 519)	5.5	9.5	10.5	11.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0
9	165 – 1400 (78 – 661)	5.5	9.5	10.5	11.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0
10	215 – 1840 (101 – 868)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	21.0	21.0	
12	290 – 2500 (137 – 1180)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	30.0	30.0	
14	360 – 3125 (170 – 1475)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	31.0	38.5	
16	430 – 3725 (203 – 1758)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	31.0	38.5	
24 x 16	960 – 8330 (453 – 3931)	5.5	9.5	10.5	11.0	13.0	16.5	17.0	16.5	31.0	38.5	

* Minimum required airflow must be the greater of the air volume listed or 70 cfm per kilowatt (33 L/s/kW)

Standard Features:

- Primary auto-reset high limit thermal cut-out.
- Secondary manual reset high limit thermal cut-outs (one per element).
- Positive pressure airflow switch.
- Derated high quality nickel-chrome alloy heating elements.
- Magnetic or safety contactors and/or PE switches as required.
- Control transformer. Class II, 24 Vac for digital and analog controls.
- Line terminal block.
- ETL Listed as an assembly.
- Hinged door control enclosure.
- High performance arrowhead insulators.

- Slip and drive discharge connection.
- Class A 80/20 Ni/Cr wire.

Options:

- Quiet contactors.
- Mercury contactors.
- Toggle type disconnect switch.
- Door interlock disconnect switch.
- Power circuit fusing.
- Dust tight construction.
- SCR control.



Intertek

Tested and approved to the following standards:

ANSI/UL 1996, 4th ed.

CSA C22.2 No. 155-M1986.

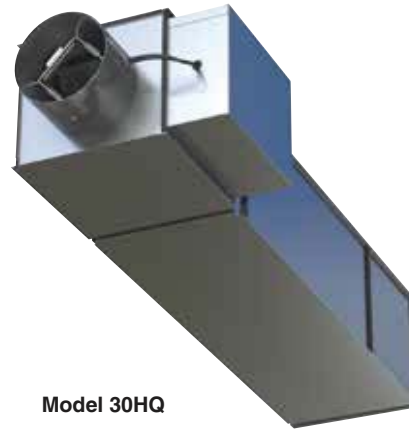
A SINGLE DUCT TERMINAL UNITS

Recommended Airflow Ranges For Single Duct Terminal Units

The recommended airflow ranges below are for 30HQ Series single duct terminal units with pressure independent controls and are presented as ranges for total and controller specific minimum and maximum airflow. Airflow ranges are based upon maintaining reasonable sound levels and controller limits using Nailor's Diamond Flow Sensor as the airflow measuring device. For a given unit size, the minimum, auxiliary minimum (where applicable) and the maximum flow setting must be within the range limits to ensure pressure independent operation, accuracy and repeatability.

Minimum airflow limits are based upon .02" w.g. (5 Pa) differential pressure signal from Diamond Flow Sensor on analog/digital controls and .03" (7.5) for pneumatic controllers. This is a realistic low limit for many transducers used in the digital controls industry. Check your controls supplier for minimum limits. Setting airflow minimums lower, may cause damper hunting and result in a failure to meet minimum ventilation requirements. Factory settings will therefore not be made outside these ranges; however, a minimum setting of zero (shut-off) is an available option on pneumatic units. Where an auxiliary setting is specified, the value must be greater than the minimum setting.

The high end of the tabulated Total Airflow Range on pneumatic and analog electronic controls represents the Diamond Flow Sensor's differential pressure reading at 1" w.g. (250 Pa). The high end airflow range for digital controls is represented by the indicated transducer differential pressure.



Model 30HQ

ASHRAE 130 "Performance Rating of Air Terminals" is the method of test for the certification program. The "standard rating condition" (certification rating point) airflow volumes for each terminal unit size are tabulated below per AHRI Standard 880. These air volumes equate to an approximate inlet velocity of 2000 fpm (10.2 m/s).

When digital or other controls are mounted by Nailor, but supplied by others, these values are guidelines only, based upon experience with the majority of controls currently available. Controls supplied by others for factory mounting are configured and calibrated in the field. Airflow settings on pneumatic and analog controls supplied by Nailor are factory preset when provided.

Imperial Units, Cubic Feet per Minute

Unit Size	Inlet Type	Total Airflow Range, cfm	Airflow at 2000 fpm Inlet Velocity (nom.), cfm	Range of Minimum and Maximum Settings, cfm							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
				Transducer Differential Pressure ("w.g.)							
				Min.	Max.	Min.	Max.	Min.	Max.		
	.03	1.0	.02	1.0	.02	1.0	1.25	1.5			
4	Round	0 – 225	150	30	180	25	180	25	180	200	225
5		0 – 400	250	55	325	45	325	45	325	360	400
6		0 – 550	400	80	450	65	450	65	450	500	550
7	Round	0 – 800	550	115	650	95	650	95	650	725	800
8		0 – 1100	700	155	900	125	900	125	900	1000	1100
9		0 – 1400	900	200	1150	165	1150	165	1150	1285	1400
10		0 – 1840	1100	260	1500	215	1500	215	1500	1675	1840
12	Flat Oval	0 – 2500	1600	355	2050	290	2050	290	2050	2300	2500
14		0 – 3125	2100	440	2550	360	2550	360	2550	2850	3125
16		0 – 3725	2800	525	3040	430	3040	430	3040	3400	3725
24 x 16	Rect.	0 – 8330	5350	1180	6800	960	6800	960	6800	7600	8330

Metric Units, Liters per Second

Unit Size	Inlet Type	Total Airflow Range, l/s	Airflow at 10.2 m/s Inlet Velocity (nom.), l/s	Range of Minimum and Maximum Settings, l/s							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
				Transducer Differential Pressure (Pa)							
				Min.	Max.	Min.	Max.	Min.	Max.		
	7.5	249	5	249	5	249	311	374			
4	Round	0 – 106	71	14	85	12	85	12	85	94	106
5		0 – 189	118	26	153	21	153	21	153	170	189
6		0 – 260	189	38	212	31	212	31	212	236	260
7	Round	0 – 378	260	54	307	45	307	45	307	342	378
8		0 – 519	330	73	425	59	425	59	425	472	519
9		0 – 661	425	94	543	78	543	78	543	606	661
10		0 – 868	519	123	708	101	708	101	708	790	868
12	Flat Oval	0 – 1180	755	168	967	137	967	137	967	1085	1180
14		0 – 1475	991	208	1203	170	1203	170	1203	1345	1475
16		0 – 1758	1321	248	1435	203	1435	203	1435	1604	1758
24 x 16	Rect.	0 – 3931	2525	557	3209	453	3209	453	3209	3586	3931

Performance Data • AHRI Certification and Performance Notes

30HQ Series • Hospital Grade • Dissipative Silencer • AHRI Certification Points

Terminal: Steri-Liner • Silencer: Mylar, Spacer, Steri-Liner (MSSL) Media

Inlet Size	Airflow		Min. Inlet ΔPs		Discharge Sound Power Levels @ 1.5" w.g. (375 Pa) ΔPs							Radiated Sound Power Levels @ 1.5" w.g. (375 Pa) ΔPs						
					Octave Band							Octave Band						
	cfm	l/s	"w.g.	Pa	2	3	4	5	6	7	2	3	4	5	6	7		
4	150	71	0.24	60	62	58	55	48	29	37	49	50	47	39	31	30		
5	250	118	0.08	20	66	62	53	49	30	38	55	48	45	35	35	30		
6	400	189	0.06	15	66	61	54	52	39	41	59	52	47	40	36	33		
7	550	260	0.06	16	68	63	56	51	38	43	61	54	49	43	36	33		
8	700	330	0.08	21	72	67	59	51	37	46	61	53	50	40	39	35		
9	900	425	0.07	17	71	65	57	49	41	48	60	54	49	44	39	36		
10	1100	519	0.14	34	71	65	56	49	46	51	60	54	50	45	39	36		
12	1600	755	0.19	48	73	66	57	51	54	55	61	58	53	49	42	39		
14	2100	991	0.19	46	72	66	61	56	57	57	63	61	55	48	44	43		
16	2800	1321	0.30	75	73	67	61	55	57	59	65	63	57	50	44	39		
24 x 16	5350	2525	0.01	2	87	80	77	72	74	75	72	70	70	65	60	55		



Ratings are certified in accordance with AHRI Standards.

Performance Notes for Sound Power Levels:

- Discharge sound power is the noise emitted from the unit discharge into the downstream duct. Discharge Sound Power Levels (SWL) now include duct end reflection energy as part of the standard rating. Including the duct end correction provides sound power levels that would normally be transmitted into an acoustically, non-reflective duct. The effect of including the energy correction to the discharge SWL, is higher sound power levels when compared to previous AHRI certified data. For more information on duct end reflection calculations see AHRI Standard 880.
- Radiated sound power is the breakout noise transmitted through the unit casing walls.
- Sound power levels are in decibels, dB re 10-12 watts.
- All sound data listed by octave bands is raw data without any corrections for room absorption or duct attenuation. Dash (-) in space indicates sound power level is less than 20 dB or equal to background.
- Minimum inlet ΔPs is the minimum operating pressure requirement of the unit (damper full open) and the difference in static pressure from inlet to discharge of the unit.
- Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.
- Data derived from independent tests conducted in accordance with ANSI/ASHRAE Standard 130 and AHRI Standard 880.

A

SINGLE DUCT TERMINAL UNITS

Performance Data • Discharge Sound Power Levels

30HQ Series • Hospital Grade • Dissipative Silencer

Terminal: Steri-Liner • Silencer: Mylar, Spacer, Steri-Liner (MSSL) Media



Inlet Size	Airflow		Min. inlet ΔPs "w.g. Pa	Sound Power Octave Bands @ Inlet Pressure (ΔPs) shown																																									
				Minimum ΔPs							0.5" w.g. (125Pa) ΔPs							1.0" w.g. (250Pa) ΔPs							1.5" w.g. (375Pa) ΔPs							2.0" w.g. (500Pa) ΔPs							3.0" w.g. (750Pa) ΔPs						
				2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7						
4	200	94	0.38	94	57	52	48	44	25	34	59	57	57	52	30	34	62	59	57	50	30	37	65	62	58	51	32	39	65	62	59	52	34	42	66	64	62	55	36	45					
	150	71	0.21	52	55	47	43	35	-	25	57	54	49	42	23	27	61	56	53	45	26	32	62	58	55	48	29	37	62	60	57	49	31	40	61	60	59	54	34	43					
	100	47	0.11	28	52	42	35	27	-	-	55	49	44	36	-	21	58	52	48	41	22	29	57	54	52	45	27	34	57	54	53	49	30	37	57	54	55	52	35	43					
	50	24	0.05	12	52	41	22	-	-	-	-	53	44	40	33	-	-	55	46	45	40	-	28	55	46	47	40	25	33	55	47	47	42	27	36	55	47	47	42	29	37				
5	350	165	0.17	41	59	52	45	41	25	33	63	58	54	51	33	34	66	62	58	53	36	39	68	64	60	54	38	42	69	65	61	55	39	43	71	67	62	57	40	46					
	250	118	0.10	25	57	47	39	36	-	23	60	56	48	43	25	27	64	59	51	47	28	34	66	62	53	49	30	38	66	63	55	50	32	40	67	65	58	52	34	44					
	150	71	0.03	7	55	42	29	-	-	-	57	49	40	35	-	23	61	54	45	40	20	30	62	56	49	43	24	36	62	57	51	45	26	38	62	57	54	52	32	42					
	100	47	0.02	5	55	41	21	-	-	-	56	46	39	32	-	21	58	49	44	40	22	30	59	50	47	42	27	36	59	51	48	44	28	38	59	51	50	48	31	42					
6	500	236	0.05	13	52	46	41	40	31	30	61	56	50	50	39	38	64	60	54	53	41	41	67	64	57	55	42	44	70	66	60	57	44	47	72	68	62	59	45	49					
	400	189	0.05	12	51	41	37	34	24	24	60	54	47	46	34	33	63	58	51	49	37	37	66	61	54	52	39	41	68	63	57	54	41	44	69	65	59	56	42	47					
	300	142	0.03	6	52	37	32	28	-	20	59	51	44	42	29	30	62	55	48	46	32	35	65	58	51	49	34	39	66	60	54	51	36	42	66	61	56	53	37	45					
	200	94	0.01	3	52	37	27	-	-	20	56	46	40	38	24	28	58	50	44	41	26	32	59	53	47	44	28	35	60	54	50	50	32	40	61	55	53	55	36	44					
7	700	330	0.03	7	57	52	47	43	33	33	64	59	53	50	41	41	67	62	56	52	42	45	70	66	60	55	43	48	72	68	62	57	44	50	74	71	65	59	45	52					
	550	260	0.04	10	55	47	42	37	24	25	61	56	49	45	35	37	65	59	53	48	36	40	68	63	56	51	38	43	70	66	59	53	39	46	71	68	62	55	41	49					
	400	189	0.01	2	53	42	36	30	-	21	59	53	46	41	29	32	63	57	50	45	31	37	67	61	53	48	33	41	67	63	56	50	34	44	68	64	59	52	36	47					
	250	118	0.01	2	51	38	29	-	-	-	56	47	41	35	22	27	57	51	44	39	24	32	58	54	47	42	28	37	60	55	50	46	30	41	60	57	52	49	32	45					
8	1100	519	0.02	4	67	64	58	53	42	43	70	66	61	54	48	49	73	69	63	56	49	52	75	71	65	57	49	55	78	74	67	59	49	57	80	77	70	62	50	58					
	900	425	0.01	3	64	60	52	47	35	36	68	63	56	49	43	45	71	66	59	52	43	48	74	69	62	54	44	51	76	72	65	56	44	53	78	75	67	59	45	54					
	700	330	0.01	2	60	55	46	40	25	27	64	59	51	45	36	40	68	63	55	48	36	43	72	67	59	51	37	46	74	70	62	53	38	48	75	73	64	55	39	51					
	500	236	0.01	2	55	46	37	29	-	21	61	55	47	39	26	32	65	60	51	43	28	37	69	64	55	46	30	41	70	66	58	48	31	45	70	68	61	51	33	48					
9	1400	661	0.01	2	66	62	56	53	47	47	70	66	60	55	52	53	73	69	62	57	52	56	76	71	65	58	53	59	78	74	67	60	54	60	80	77	69	62	54	62					
	1150	543	0.01	2	62	56	49	45	36	35	66	61	55	49	45	46	69	64	58	51	46	49	73	67	60	53	47	53	75	70	63	55	47	54	77	73	65	56	48	56					
	900	425	0.01	2	58	52	43	39	28	27	63	58	51	45	39	41	67	62	54	47	40	45	71	65	57	49	41	48	72	68	60	51	42	50	74	71	63	53	43	52					
	650	307	0.01	2	53	44	36	30	-	20	60	54	46	40	31	35	64	58	50	43	33	39	68	63	53	45	34	43	68	65	56	47	36	46	69	67	59	49	38	49					
10	1500	708	0.02	5	64	58	49	48	44	42	69	64	55	52	51	51	72	67	58	53	52	54	75	70	61	55	53	57	77	73	63	56	53	59	79	75	65	57	54	60					
	1100	519	0.02	4	59	51	41	39	31	27	64	59	50	46	43	42	68	62	53	47	44	47	71	65	56	49	46	51	73	68	58	50	46	52	75	71	61	52	47	53					
	700	330	0.01	2	53	42	32	26	19	19	59	53	43	38	31	33	63	57	47	40	33	38	66	61	50	41	35	42	67	64	53	43	37	45	68	66	56	45	40	48					
	215	101	0.01	1	52	39	-	-	-	-	49	43	29	-	-	21	50	45	34	29	26	30	50	47	39	29	26	38	51	48	40	31	29	42	51	48	41	32	32	45					
12	2500	1180	0.04	10	67	59	52	51	54	52	74	67	58	55	58	59	77	69	61	56	59	62	79	71	64	58	60	64	81	73	66	60	61	66	82	75	67	61	62	68					
	2050	967	0.03	7	64	55	48	47	49	46	71	64	55	51	55	54	73	66	58	53	56	57	75	68	61	54	57	60	77	71	62	56	59	62	79	73	64	58	60	64					
	1600	755	0.02	6	62	50	42	43	41	37	68	59	50	47	50	48	71	62	53	49	52	51	73	66	57	51	54	55	75	68	59	52	55	57	76	70	60	53	56	58					
	1150	543	0.02	4	54	43	36	35	28	24	61	54	45	42	42	40	65	58	48	44	45	44	68	62	51	46	47	48	70	64	54	47	49	50	72	66	57	49	51	53					
14	2650	1251	0.02	5	62	56	52	51	50	47	70	63	57	55	57	56	73	66	60	56	58	59	75	68	64	58	60	62	77	71	67	61	61	64	78	73	70	64	63	66					
	2100	991	0.02	4	58	51	47	46	43	39	66	59	54	51	53	51	69	63	58	53	55	54	72	66	61	56	57	57	75	69	64	58	59	60	77	71	67	61	60	62					
	1550	731	0.01	2	56	48	47	46	38	30	65	59	58	58	54	49	69	64	63	62	57	53	73	68	67	66	60	56	75	71	70	69	63	60	77	73	73	71	66	63					
	1000	472	0.01	2	51	38	30	23	-	-	57	50	45	40	37	36	61	54	49	44	42	41	65	58	54	47	46	46	66	60	57	50	49	50	67	62	60	52	52	54					
16	3725	1758	0.14	36	65	58	53	54	55	53	70	63	58	58	59	59	74	67	62	59	60	62	77	71	65	60	61	64	79	73	67	61	63	66	81	75	69	62	64	68					
	2800	1321	0.12	30	58	52	47	49	49	45	67	60	54	52	54	52	70	64	58	54	56	56	73	67	61	55	57	59	75	70	63	57	59	61	77	72	65	58	60	63					
	1800	849	0.05	12	49	42	38	38	32	27	60	55	48	45	44	42	63	58	51	47	48	47	67	61	54	49	51	51	69	64	57	51	53	54	71	66	60	53	55	57					
	700	330	0.01	2	30	24	-	-	-	-	47	43	34	28	26	22	51	46	38	31	32	30	55	49	41	35																			

Performance Data • NC Level Application Guide

Model 30HQ • Hospital Grade • Dissipative Silencer

Terminal: Steri-Liner • Silencer: Mylar, Spacer, Steri-Liner (MSSL) Media

Inlet Size	Airflow cfm /s		Min. inlet ΔPs "w.g. Pa		NC Levels @ Inlet Pressure (ΔPs) shown											
					DISCHARGE					RADIATED						
					Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)
4	200	94	0.38	94	-	-	-	21	21	24	-	-	-	21	24	28
	150	71	0.21	52	-	-	-	-	-	-	-	-	-	21	22	22
	100	47	0.11	28	-	-	-	-	-	-	-	-	-	-	20	23
	50	24	0.05	12	-	-	-	-	-	-	-	-	-	-	-	-
5	350	165	0.17	41	-	-	20	23	24	26	-	-	-	23	25	30
	250	118	0.10	25	-	-	20	23	23	25	-	-	-	-	22	25
	150	71	0.03	7	-	-	-	-	-	-	-	-	-	-	-	20
	100	47	0.02	5	-	-	-	-	-	-	-	-	-	-	-	-
6	500	236	0.05	13	-	-	-	23	25	28	-	-	20	23	26	30
	400	189	0.05	12	-	-	-	-	21	24	-	-	-	21	25	29
	300	142	0.03	6	-	-	-	-	-	-	-	-	-	20	21	25
	200	94	0.01	3	-	-	-	-	-	-	-	-	-	-	-	20
7	700	330	0.03	7	-	-	20	25	28	31	22	-	21	26	30	35
	550	260	0.04	10	-	-	-	21	25	28	-	-	-	24	28	32
	400	189	0.01	2	-	-	-	20	21	23	-	-	-	20	23	26
	250	118	0.01	2	-	-	-	-	-	-	-	-	-	-	-	20
8	1100	519	0.02	4	21	24	28	30	34	37	-	20	25	29	31	35
	900	425	0.01	3	-	20	24	28	31	35	-	-	23	26	29	33
	700	330	0.01	2	-	-	21	26	30	34	-	-	21	24	26	31
	500	236	0.01	2	-	-	-	23	25	28	-	-	-	21	23	26
9	1400	661	0.01	2	-	24	28	30	34	37	20	20	23	28	34	38
	1150	543	0.01	2	-	-	21	25	29	33	-	-	21	25	31	35
	900	425	0.01	2	-	-	-	23	26	30	-	-	-	23	28	31
	650	307	0.01	2	-	-	-	21	24	26	-	-	-	20	23	26
10	1500	708	0.02	5	-	21	25	29	33	35	-	20	24	28	30	35
	1100	519	0.02	4	-	-	-	23	26	30	-	-	21	24	25	31
	700	330	0.01	2	-	-	-	-	23	25	-	-	-	-	21	24
	215	101	0.01	1	-	-	-	-	-	-	-	-	-	-	-	-
12	2500	1180	0.04	10	-	26	30	33	35	36	29	28	31	34	35	40
	2050	967	0.03	7	-	23	25	28	30	33	22	25	29	31	33	38
	1600	755	0.02	6	-	-	23	25	28	29	-	20	25	28	30	35
	1150	543	0.02	4	-	-	-	-	21	24	-	-	20	24	26	30
14	2650	1251	0.02	5	-	21	25	28	30	33	24	25	30	34	37	40
	2100	991	0.02	4	-	-	20	24	28	30	-	21	26	31	34	37
	1550	731	0.01	2	-	-	21	26	30	33	-	-	24	28	30	34
	1000	472	0.01	2	-	-	-	-	-	-	-	-	-	21	25	26
16	3725	1758	0.14	36	-	23	26	30	33	35	30	*	33	37	40	44
	2800	1321	0.12	30	-	-	21	25	29	31	23	24	29	34	36	40
	1800	849	0.05	12	-	-	-	-	21	24	-	-	24	29	31	35
	700	330	0.01	2	-	-	-	-	-	-	-	-	-	-	-	21
24 x 16	8330	3931	0.05	12	34	44	40	46	50	53	44	44	49	51	54	57
	7000	3303	0.03	7	25	36	38	44	48	49	40	41	47	49	51	55
	5350	2525	0.01	3	21	33	36	43	45	46	32	38	44	46	48	51
	3800	1793	0.01	2	-	20	25	29	30	33	24	35	39	43	45	47

Performance Notes:

1. NC Levels are calculated based on procedures as outlined on page A75.
2. Dash (-) in space indicates a NC less than 20.
3. Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.

A SINGLE DUCT TERMINAL UNITS

Performance Data • Radiated Sound Power Levels

30HQ Series • Hospital Grade • Dissipative Silencer

Terminal: Steri-Liner • Silencer: Mylar, Spacer, Steri-Liner (MSSL) Media



A SINGLE DUCT TERMINAL UNITS

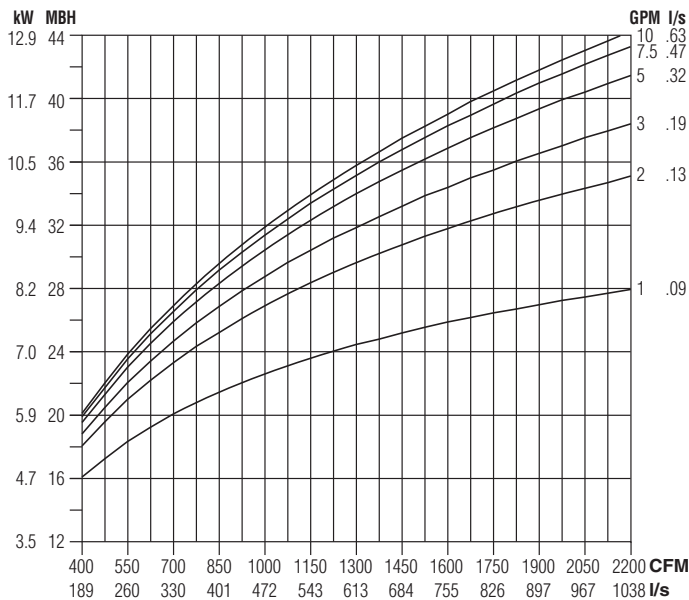
Inlet Size	Airflow		Min. inlet ΔPs		Sound Power Octave Bands @ Inlet Pressure (ΔPs) shown																																				
					Minimum ΔPs		0.5" w.g. (125Pa) ΔPs					1.0" w.g. (250Pa) ΔPs					1.5" w.g. (375Pa) ΔPs					2.0" w.g. (500Pa) ΔPs					3.0" w.g. (750Pa) ΔPs														
					2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7							
4	200	94	0.38	94	-	36	33	32	-	-	-	39	37	38	29	29	49	46	43	37	30	29	53	52	47	40	32	31	53	53	50	42	33	33	54	55	53	47	37	37	
	150	71	0.21	52	-	35	29	31	-	-	-	40	36	30	25	23	47	46	40	34	28	26	49	50	47	39	31	30	47	48	48	43	34	32	48	48	48	50	40	37	
	100	47	0.11	28	-	-	-	-	-	-	-	37	32	27	-	-	-	43	42	34	27	23	-	44	45	41	32	29	-	43	46	46	36	32	-	42	44	51	43	38	
	50	24	0.05	12	-	-	-	-	-	-	-	37	38	30	-	-	-	36	41	40	32	27	-	35	40	43	38	31	-	34	38	40	38	33	-	32	36	37	35	37	
5	350	165	0.17	41	48	39	33	32	30	27	52	45	39	38	37	32	55	48	45	38	36	32	59	51	49	40	39	34	61	54	51	42	40	36	61	57	55	45	44	40	
	250	118	0.10	25	-	35	31	25	23	-	50	40	36	32	30	25	54	45	42	33	32	28	55	48	45	35	35	30	56	51	48	37	37	32	57	53	51	42	41	35	
	150	71	0.03	7	-	-	-	-	-	-	49	35	31	23	20	-	50	41	39	30	29	21	50	43	43	34	33	27	48	45	45	40	39	31	51	45	46	46	44	37	
	100	47	0.02	5	-	-	-	-	-	-	47	32	29	-	-	-	49	38	28	26	-	-	40	42	36	34	26	46	40	43	43	41	31	47	41	43	47	46	37		
6	500	236	0.05	13	48	44	38	36	30	28	49	48	42	40	33	30	57	52	46	41	35	32	60	54	49	45	36	34	62	57	51	45	40	38	65	59	55	47	43	42	
	400	189	0.05	12	-	42	33	33	28	26	49	46	39	35	30	28	56	49	44	38	32	29	59	52	47	40	36	33	62	54	49	42	39	36	64	58	54	45	42	41	
	300	142	0.03	6	-	34	27	26	-	-	47	42	35	29	25	-	55	46	40	33	30	28	58	49	44	36	33	32	59	51	47	38	36	34	60	55	51	43	39	39	
	200	94	0.01	3	-	-	-	-	-	-	47	36	30	24	-	-	53	43	38	30	29	28	53	45	43	32	31	30	53	47	44	36	32	32	55	49	46	43	37	37	
7	700	330	0.03	7	49	46	48	37	33	32	49	48	45	37	31	30	56	51	47	40	34	31	62	57	52	45	37	34	66	60	55	48	40	37	68	64	60	52	44	42	
	550	260	0.04	10	48	43	41	33	27	25	48	44	40	32	28	26	55	49	45	38	32	30	61	54	49	43	36	33	64	58	52	45	38	36	65	61	57	50	42	40	
	400	189	0.01	2	46	39	33	33	-	-	46	43	38	30	26	20	53	48	43	37	31	29	57	51	46	41	34	32	59	53	49	44	36	34	60	56	52	47	40	40	
	250	118	0.01	2	-	-	20	31	-	-	-	39	34	28	21	-	51	46	41	35	29	27	54	47	43	38	31	30	53	48	44	40	33	32	53	49	46	43	37	38	
8	1100	519	0.02	4	52	50	45	37	34	33	57	51	46	37	35	32	60	54	51	40	38	33	65	57	53	43	42	36	67	60	56	45	44	39	70	63	60	49	48	42	
	900	425	0.01	3	51	47	40	34	31	29	56	50	45	37	34	31	58	53	49	39	37	33	63	56	51	42	42	36	65	58	54	44	44	39	68	60	56	47	48	42	
	700	330	0.01	2	50	43	37	31	29	25	51	47	42	33	31	28	57	51	47	37	36	32	61	53	50	40	39	35	63	55	51	42	41	37	64	59	56	45	44	40	
	500	236	0.01	2	-	38	30	27	24	-	50	44	39	31	29	25	55	48	44	35	34	31	58	51	47	37	37	33	59	53	49	39	39	36	61	55	52	43	43	40	
9	1400	661	0.01	2	51	46	46	44	37	35	52	47	46	41	38	35	57	53	49	42	37	35	64	58	53	47	41	37	66	63	57	50	43	40	69	67	61	54	47	44	
	1150	543	0.01	2	50	45	44	41	34	34	51	46	45	40	36	33	56	52	47	41	36	34	62	56	51	45	39	37	64	61	55	49	42	39	67	64	59	52	46	43	
	900	425	0.01	2	48	40	39	36	30	29	50	45	42	37	32	30	56	50	45	40	35	33	60	54	49	44	39	36	63	58	52	47	41	38	64	61	56	50	44	42	
	650	307	0.01	2	47	36	31	28	21	-	49	41	36	31	28	25	54	48	42	37	32	30	57	51	46	41	35	33	59	54	49	44	38	36	60	57	52	47	41	39	
10	1500	708	0.02	5	54	43	43	38	34	26	56	48	46	39	35	30	58	53	50	44	38	34	62	57	53	48	42	38	64	59	55	50	45	41	66	64	59	54	48	45	
	1100	519	0.02	4	51	37	35	30	25	-	53	46	42	35	31	27	55	50	47	41	35	31	60	54	50	45	39	36	61	56	51	47	42	39	64	61	55	51	45	43	
	700	330	0.01	2	-	30	25	21	-	-	48	42	37	31	27	24	53	47	42	37	33	29	56	50	45	41	36	33	58	51	47	43	38	36	59	55	50	48	41	40	
	215	101	0.01	1	-	-	-	-	-	-	36	32	25	23	-	-	45	36	29	28	26	22	46	38	33	31	28	28	49	38	34	33	30	29	49	41	38	37	33	33	
12	2500	1180	0.04	10	57	55	54	50	42	36	60	57	53	46	41	38	63	61	54	50	42	39	66	63	57	53	45	41	67	64	59	55	48	44	70	69	63	59	52	50	
	2050	967	0.03	7	55	50	48	44	37	33	58	55	51	46	39	35	61	59	53	49	42	37	64	61	56	52	45	41	65	62	58	55	48	44	68	67	61	58	51	49	
	1600	755	0.02	6	52	45	41	36	30	27	56	52	45	40	34	30	59	56	49	46	38	35	61	58	53	49	42	39	62	60	55	51	44	42	65	64	58	55	48	46	
	1150	543	0.02	4	47	38	31	27	23	-	52	48	40	36	30	26	55	52	45	41	34	32	58	55	49	45	38	36	59	57	51	48	41	39	61	60	55	52	45	44	
14	2650	1251	0.02	5	57	53	50	46	42	35	58	56	49	44	40	35	62	60	53	48	45	39	64	63	56	50	47	44	65	66	59	52	49	47	69	69	63	57	52	50	
	2100	991	0.02	4	54	48	44	39	35	30	56	53	46	41	37	31	60	57	50	44	41	38	63	61	55	48	44	43	64	63	57	50	46	45	66	66	60	55	50	48	
	1550	731	0.01	2	46	40	35	30	26	-	51	48	42	35	31	27	57	55	48	40	36	35	60	58	52	45	40	39	60	60	53	47	43	41	62	63	57	52	47	45	
	1000	472	0.01	2	-	-	-	-	-	-	48	45	37	31	28	24	52	51	43	37	33	31	54	53	46	41	37	35	55	56	49	44	40	38	56	57	52	48	43	42	
16	3752	1758	0.14	36	58	58	55	51	45	38	* * * * *	64	62	57	53	48	39	67	66	60	56	50	45	69	69	62	57	51	49	71	72	65	59	53	49	71	72	65	59	53	49
	2800	1321	0.12	30	54	51	49	43	37	32	59	55	50	44	38	32	62	59	53	47	41	35	65	63	57	50	44	39	66	65	59	52	46	41	68	69	62	56	50	46	
	1800	849	0.05	12	47	40	37	30	24	-	52	49	42	36	32	27	57	55	49	41	36	32	59	59	52	44	39	35	61	61	54	48	42	38	62	64	57	52	46	43	
	700	300	0.01	2	-	-	-	-	-	-	40	33	28	25	-	-	47	47	39	33	32	29	49	49	42	37	35	33	50	51	44	39	37	36	51	53	46	43	41	41	
24 x 16	8330	3931	0.03	7	70	67	68	61	60	55	74	71	68	62	61	55	78																								

Performance Data • Hot Water Coil

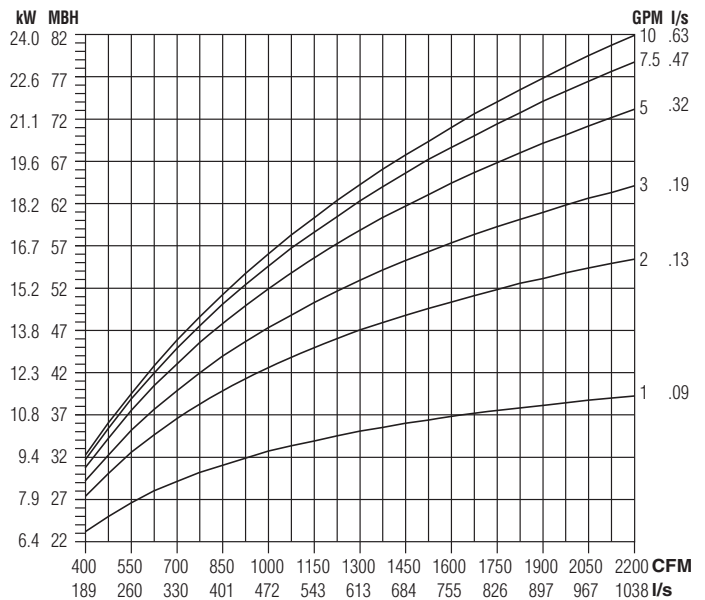
Models: 30RW, 30RWQ and 30HQW

Unit Size 12

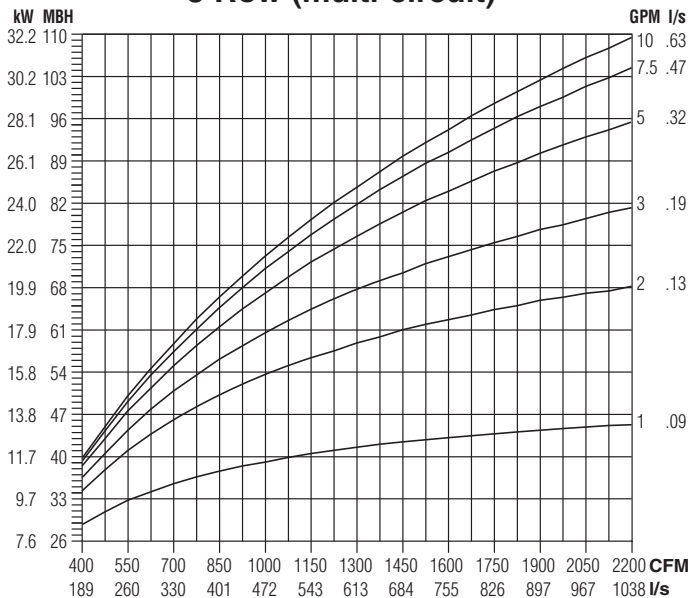
1 Row (single circuit)



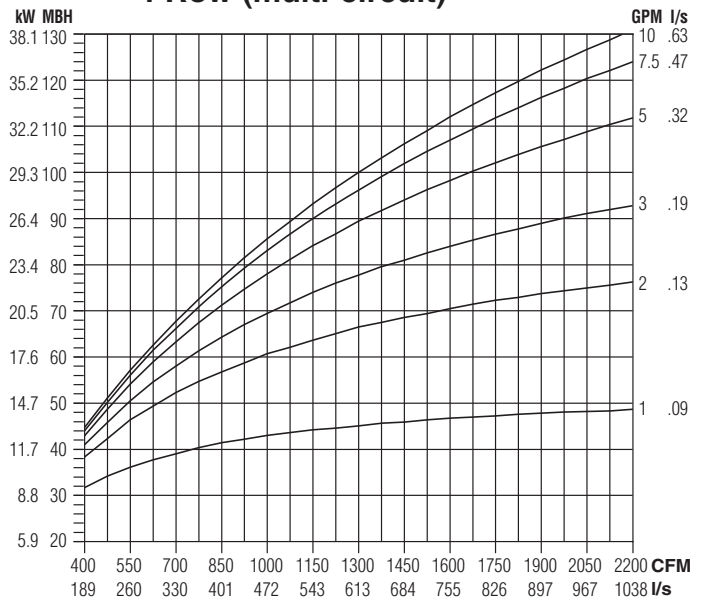
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$\text{ATR (°F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \text{ATR (°C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

- Water Temp. Drop.

$$\text{WTD (°F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \text{WTD (°C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

A

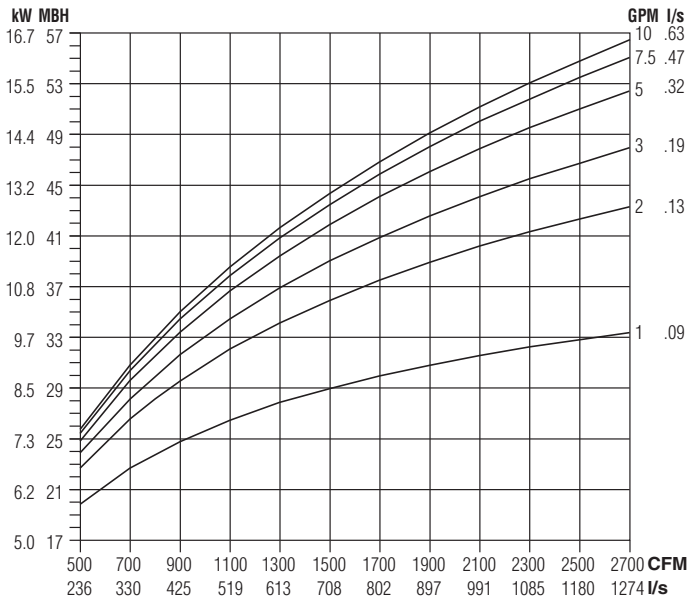
SINGLE DUCT TERMINAL UNITS

Performance Data • Hot Water Coil

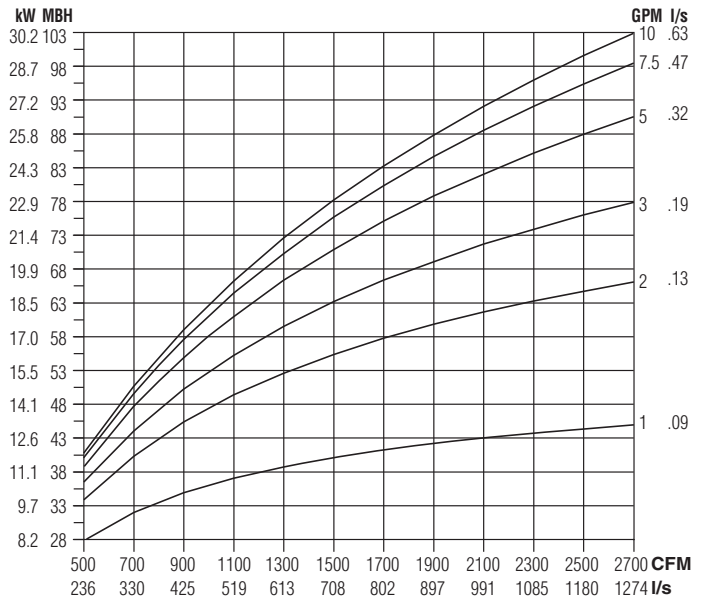
Models: 30RW, 30RWQ and 30HQW

Unit Size 14

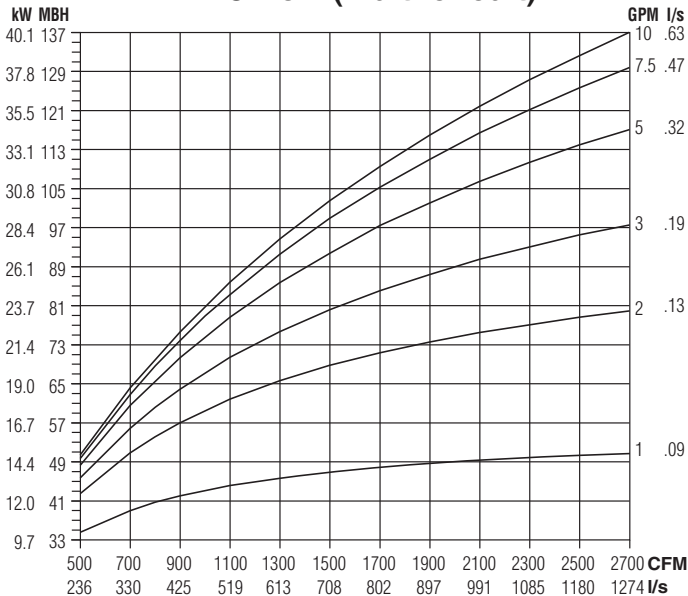
1 Row (single circuit)



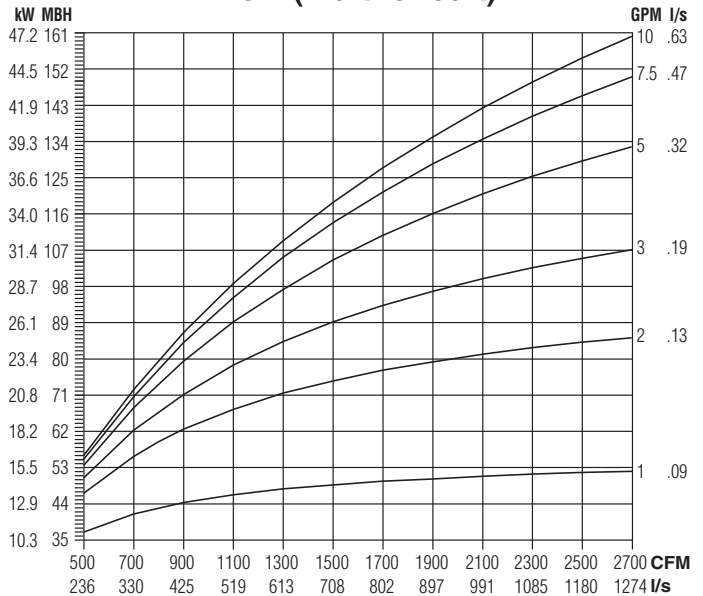
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$\text{ATR (°F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \quad \text{ATR (°C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

- Water Temp. Drop.

$$\text{WTD (°F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \quad \text{WTD (°C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

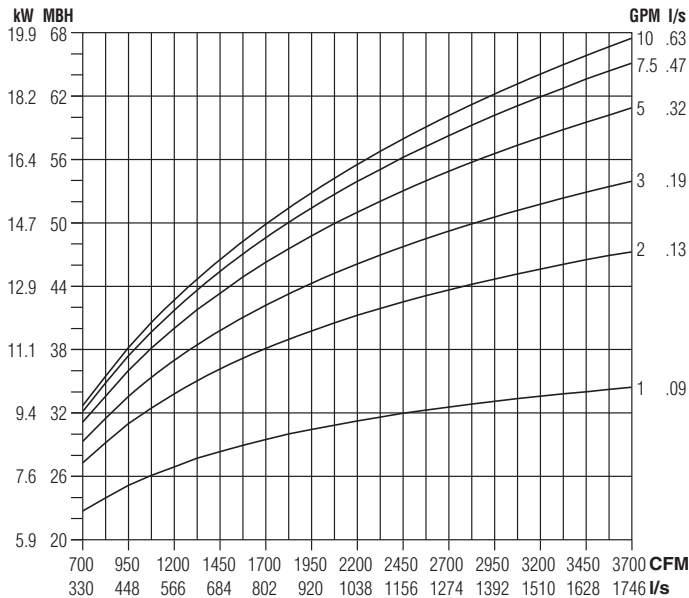
Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

Performance Data • Hot Water Coil

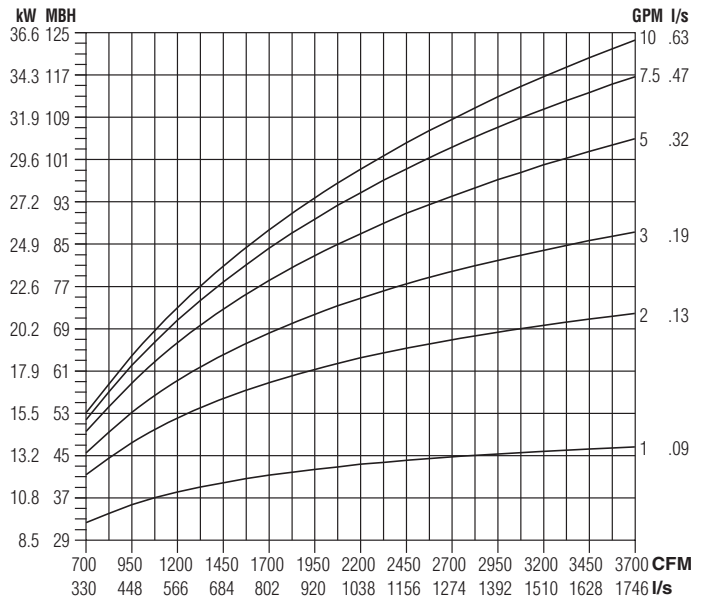
Models: 30RW, 30RWQ and 30HQW

Unit Size 16

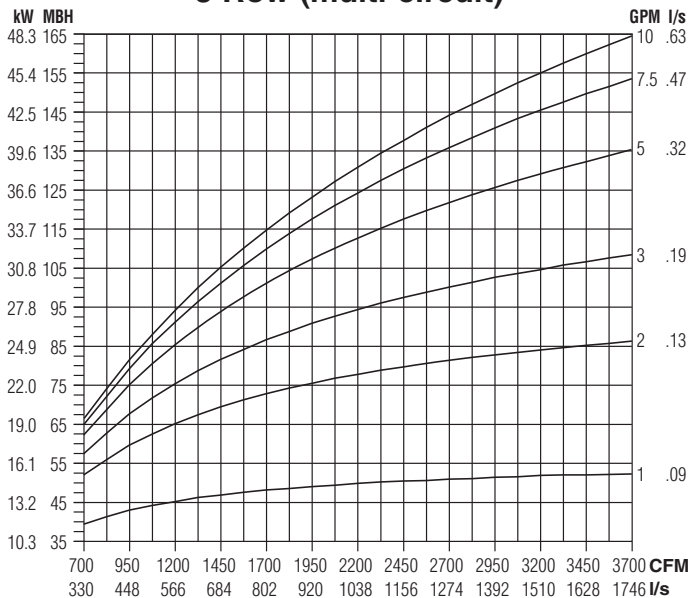
1 Row (single circuit)



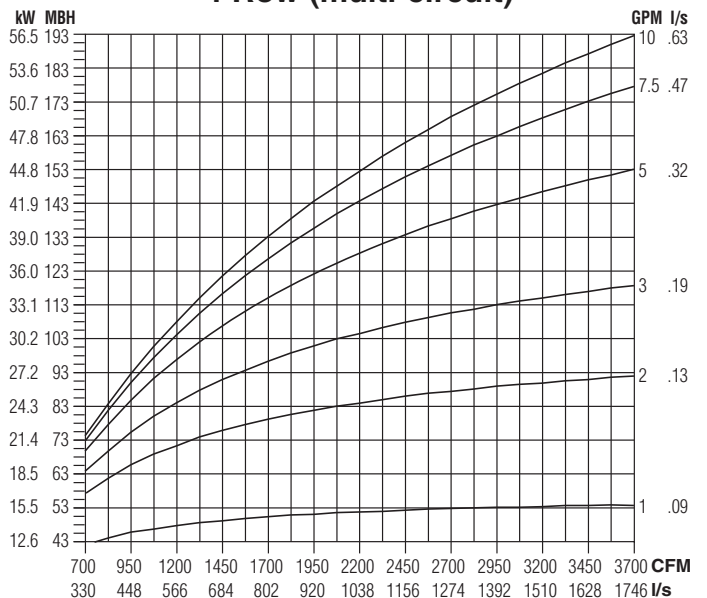
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$\text{ATR (°F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \text{ATR (°C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

- Water Temp. Drop.

$$\text{WTD (°F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \text{WTD (°C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1, 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

A

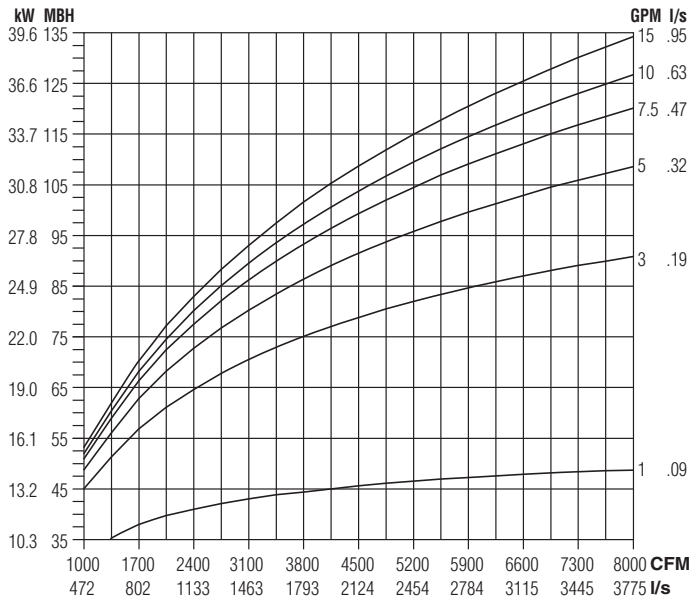
SINGLE DUCT TERMINAL UNITS

Performance Data • Hot Water Coil

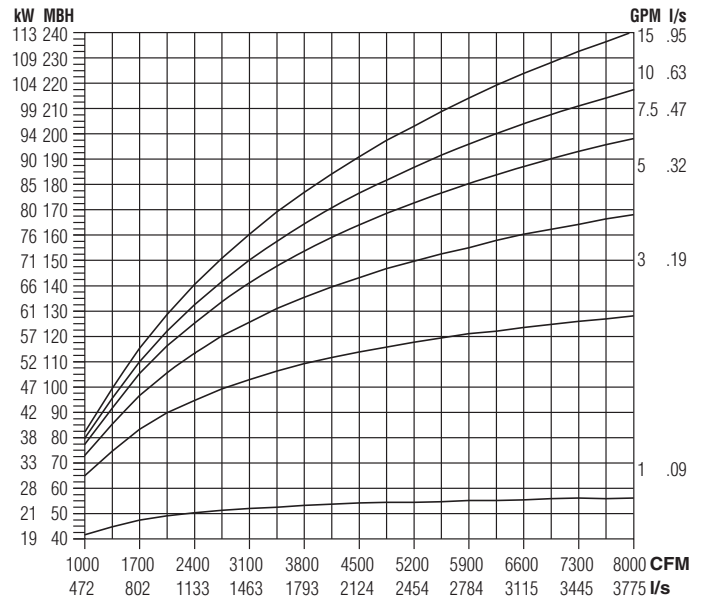
Models: 30RW, 30RWQ and 30HQW

Unit Size 24 x 16

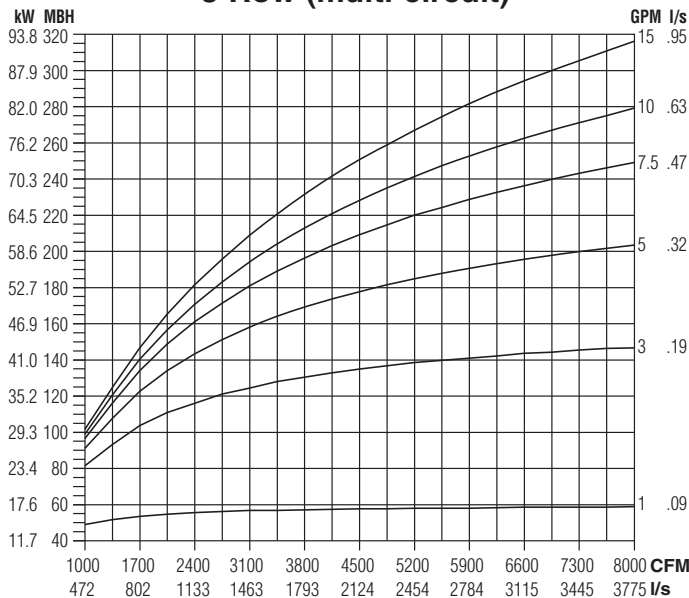
1 Row (single circuit)



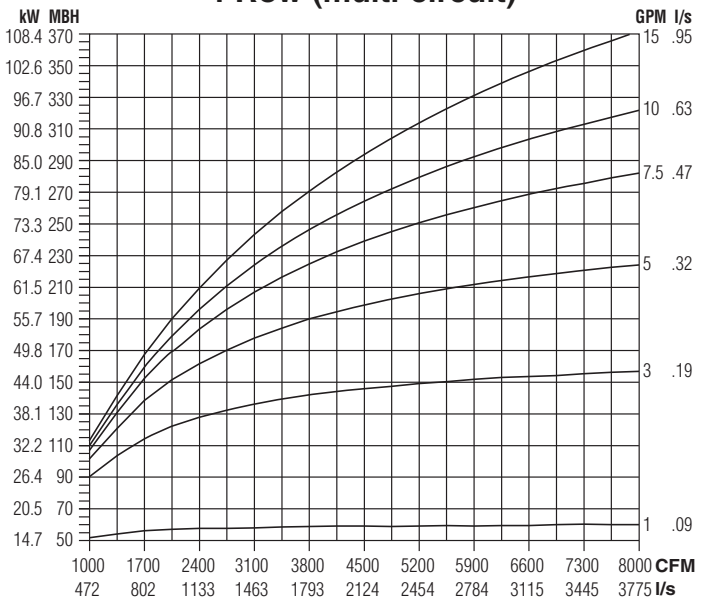
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.
 $ATR (^\circ F) = 927 \times \frac{MBH}{cfm}$, $ATR (^\circ C) = 829 \times \frac{kW}{l/s}$
- Water Temp. Drop.
 $WTD (^\circ F) = 2.04 \times \frac{MBH}{GPM}$, $WTD (^\circ C) = .224 \times \frac{kW}{l/s}$
- Connections: 1 and 2 Row 7/8" (22). 3 and 4 Row 1 3/8" (35); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

A

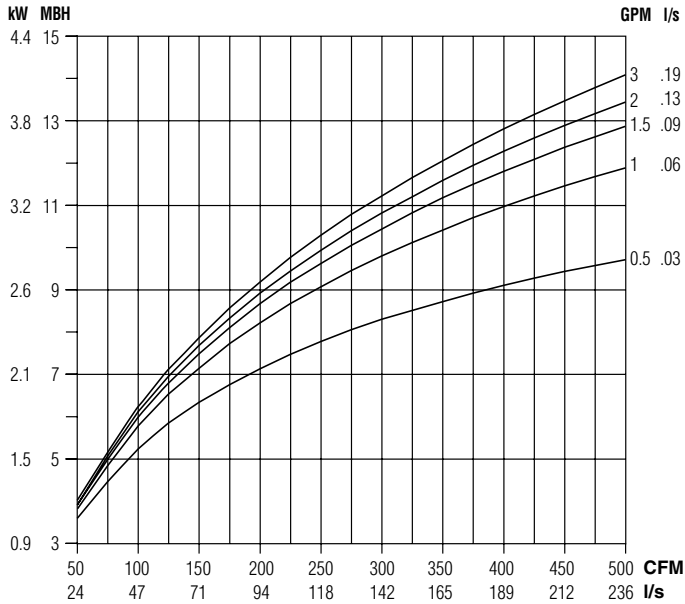
SINGLE DUCT TERMINAL UNITS

Performance Data • Hot Water Coil

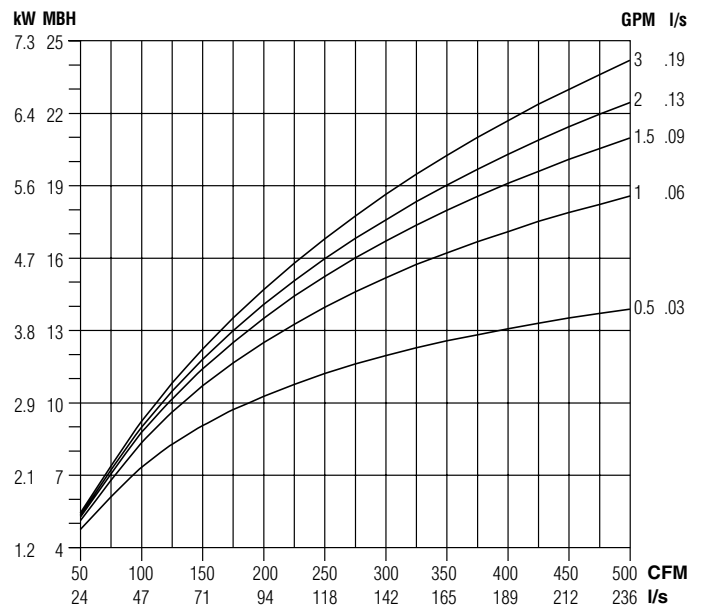
Models: 30RW, 30RWQ and 30HQW

Unit Sizes 4, 5 and 6

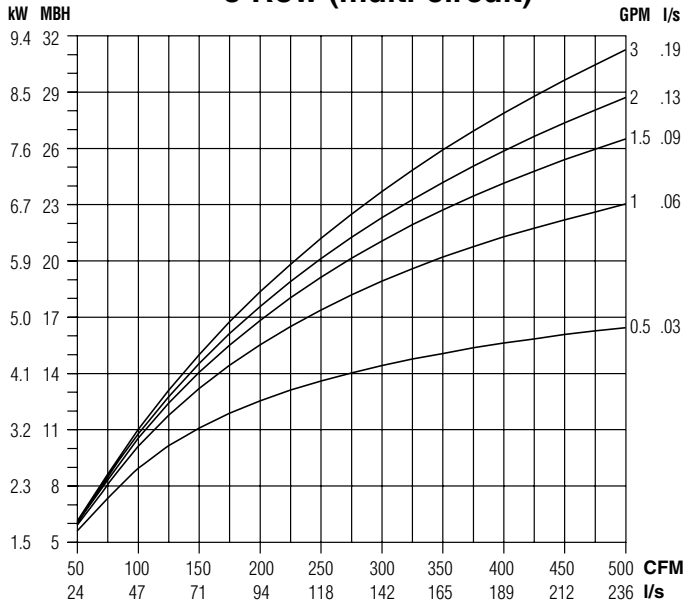
1 Row (single circuit)



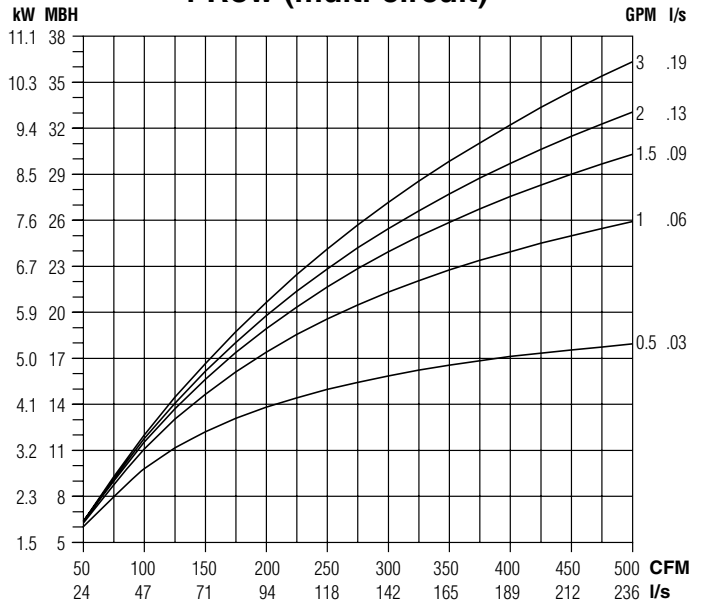
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.
 $ATR (^\circ F) = 927 \times \frac{MBH}{cfm}$, $ATR (^\circ C) = 829 \times \frac{kW}{l/s}$
- Water Temp. Drop.
 $WTD (^\circ F) = 2.04 \times \frac{MBH}{GPM}$, $WTD (^\circ C) = .224 \times \frac{kW}{l/s}$
- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

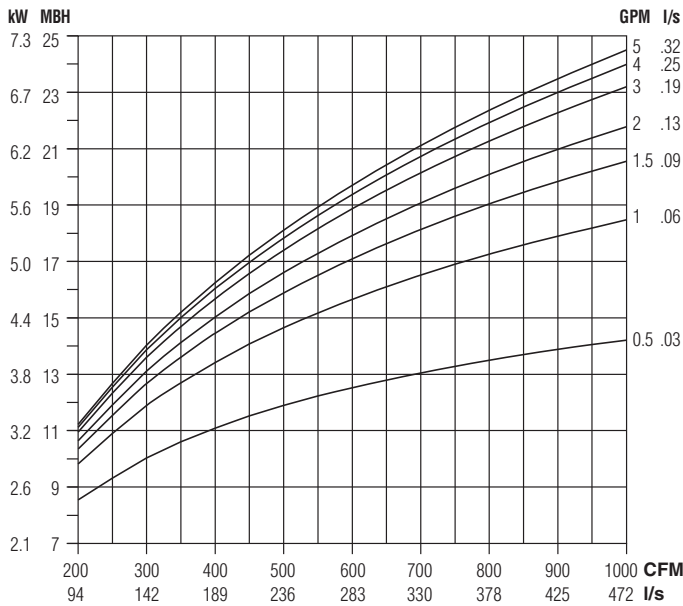
Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

Performance Data • Hot Water Coil

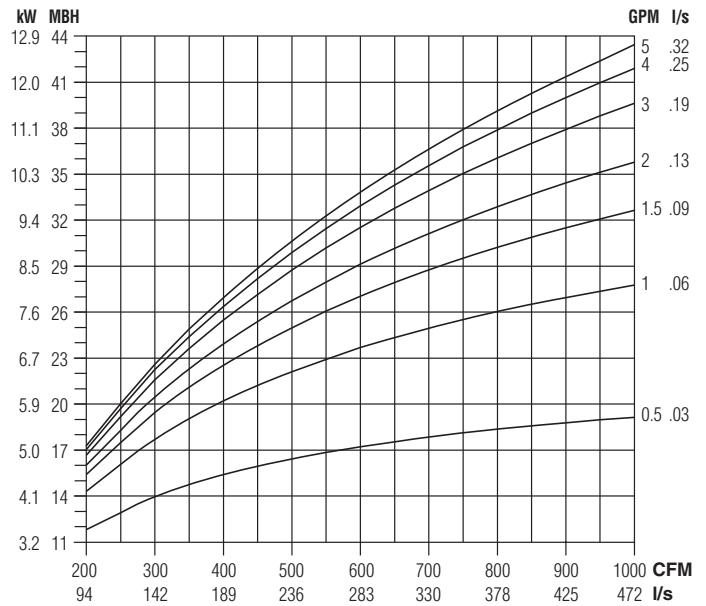
Models: 30RW, 30RWQ and 30HQW

Unit Sizes 7 and 8

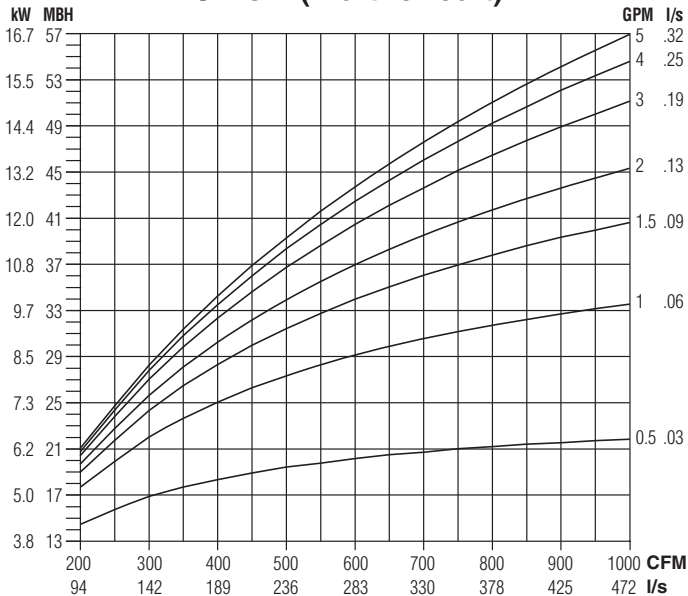
1 Row (single circuit)



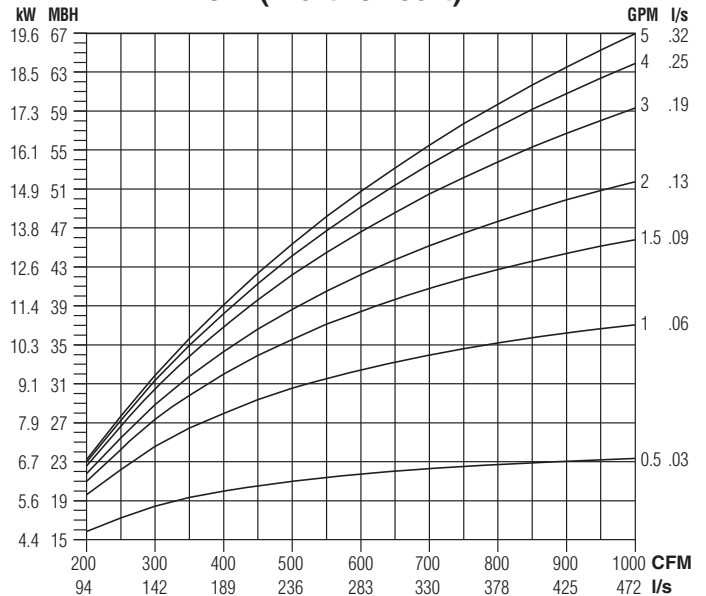
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), **thousands of Btu per hour (kiloWatts)**.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$\text{ATR (°F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \text{ ATR (°C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

- Water Temp. Drop.

$$\text{WTD (°F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \text{ WTD (°C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

A

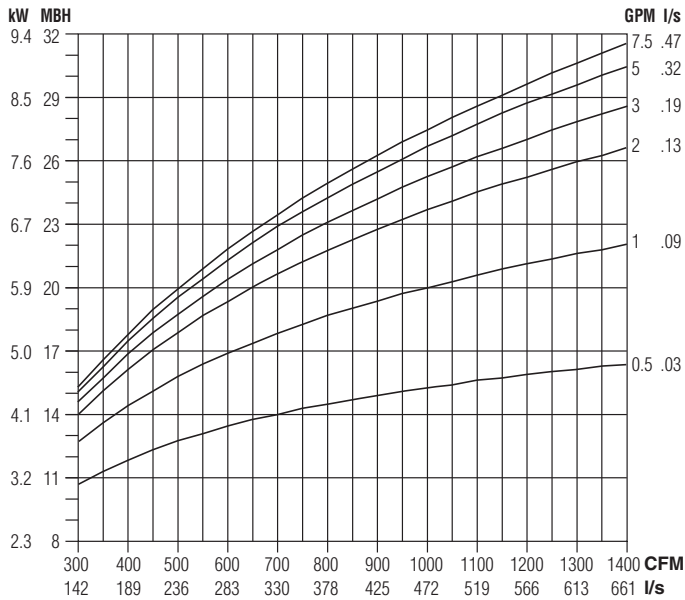
SINGLE DUCT TERMINAL UNITS

Performance Data • Hot Water Coil

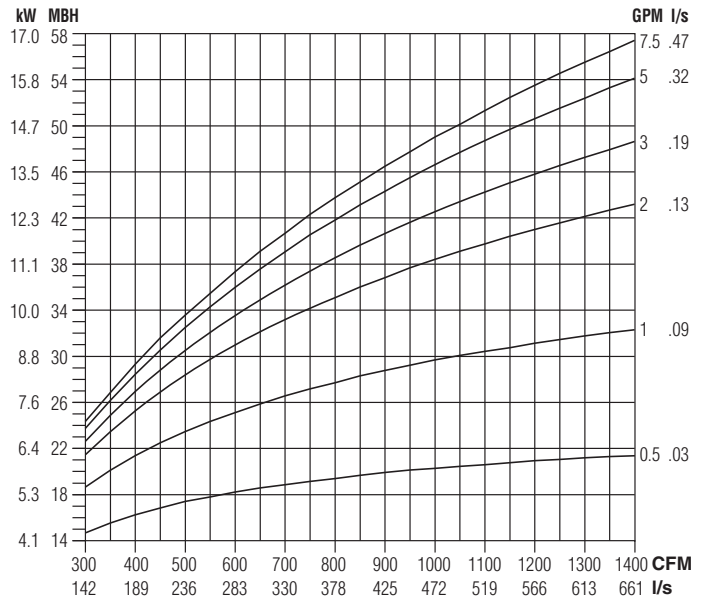
Models: 30RW, 30RWQ and 30HQW

Unit Sizes 9 and 10

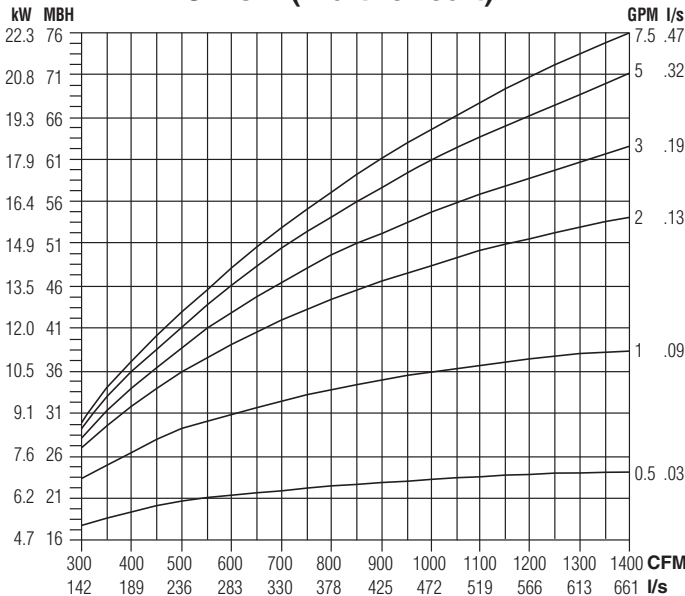
1 Row (single circuit)



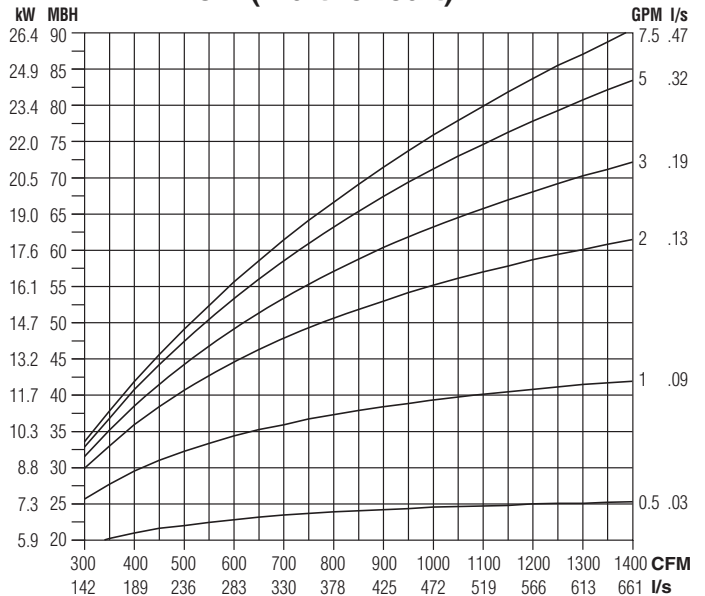
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.
 $ATR (^\circ F) = 927 \times \frac{MBH}{cfm}$, $ATR (^\circ C) = 829 \times \frac{kW}{l/s}$
- Water Temp. Drop.
 $WTD (^\circ F) = 2.04 \times \frac{MBH}{GPM}$, $WTD (^\circ C) = .224 \times \frac{kW}{l/s}$
- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

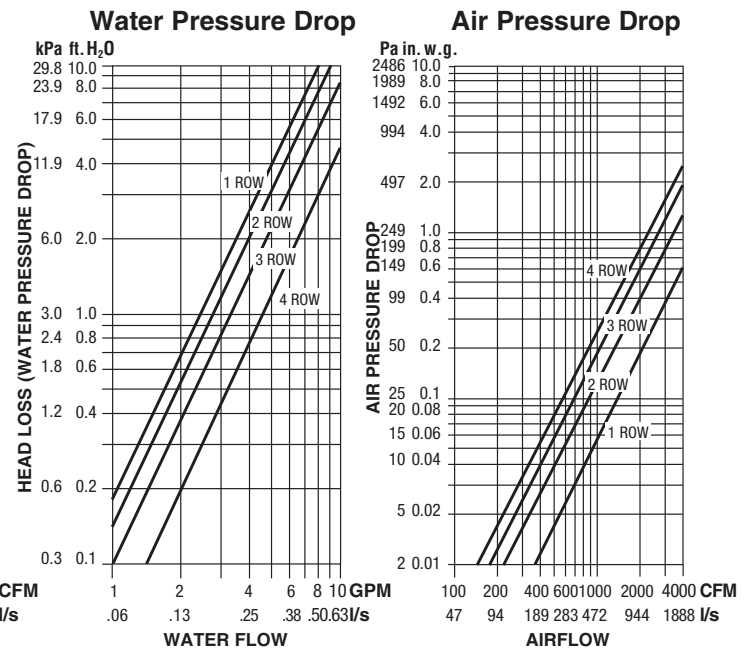
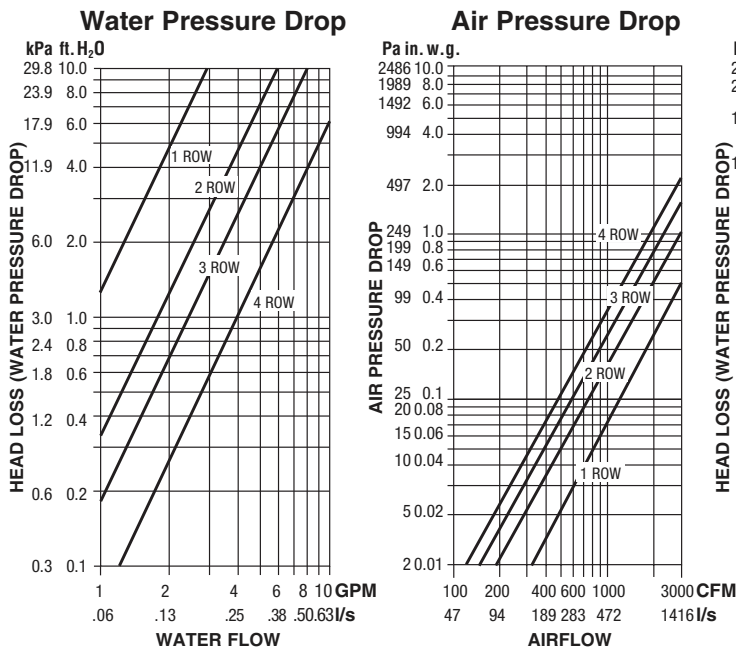
Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

Performance Data • Hot Water Coil • Pressure Drop

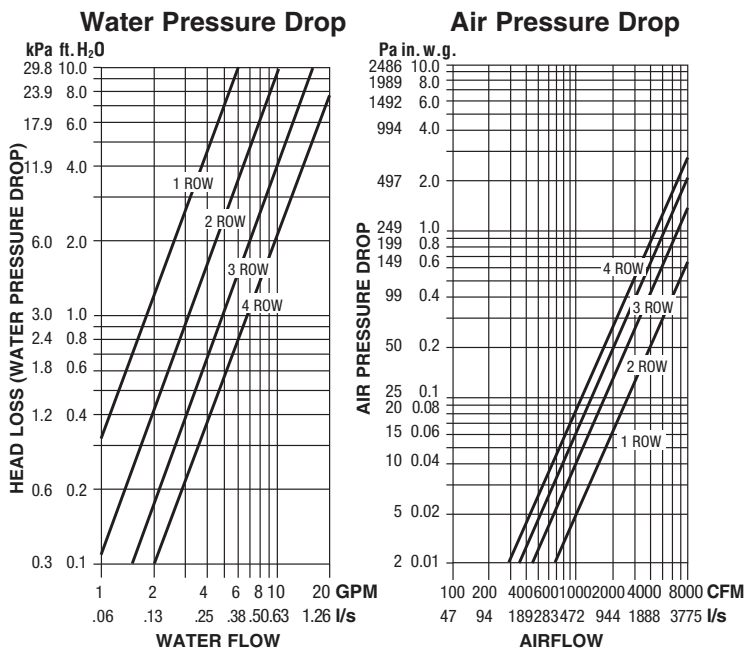
Models: 30RW, 30RWQ and 30HQW

Unit Size 14

Unit Size 16



Unit Size 24 x 16



NOTES:

- Capacities are in MBH (kW), **thousands of Btu per hour (kiloWatts)**.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.
- Air Temperature Rise.
 $ATR (^\circ F) = 927 \times \frac{MBH}{cfm}$, $ATR (^\circ C) = 829 \times \frac{kW}{l/s}$
- Water Temp. Drop.
 $WTD (^\circ F) = 2.04 \times \frac{MBH}{GPM}$, $WTD (^\circ C) = .224 \times \frac{kW}{l/s}$
- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Performance Data • Hot Water Coil • Pressure Drop

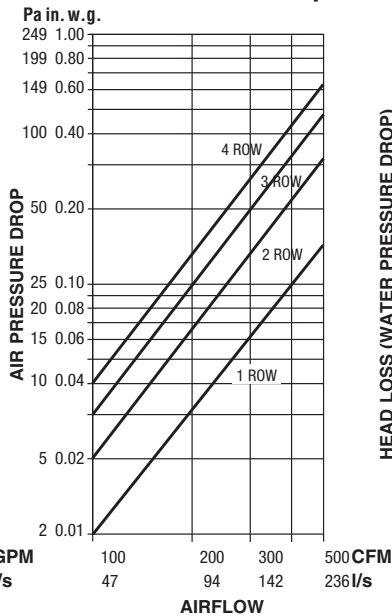
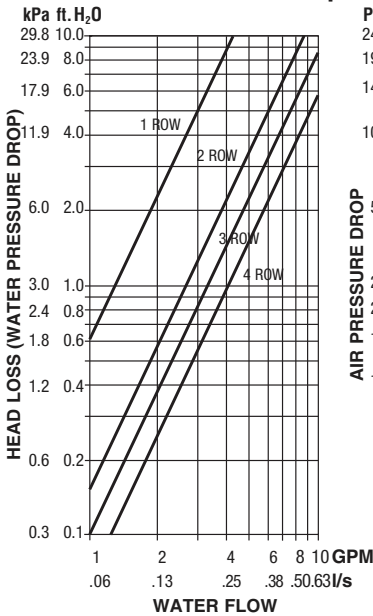
Models: 30RW, 30RWQ and 30HQW

Unit Sizes 4, 5 & 6

Unit Sizes 7 & 8

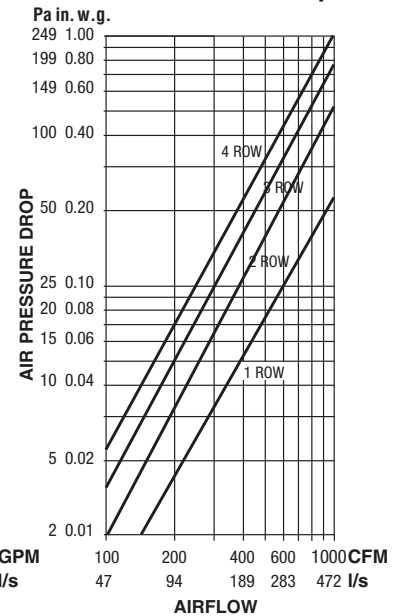
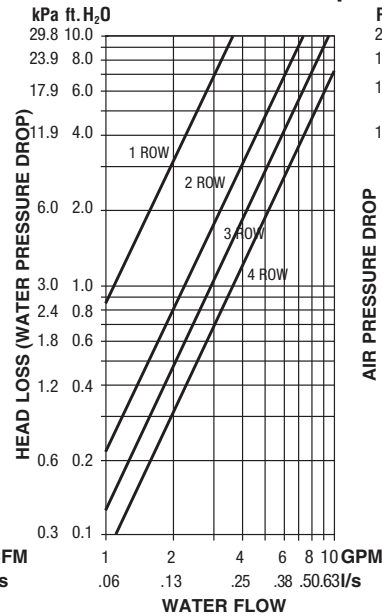
Water Pressure Drop

Air Pressure Drop



Water Pressure Drop

Air Pressure Drop

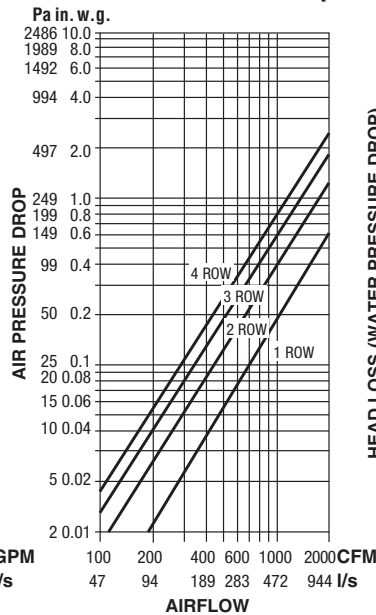
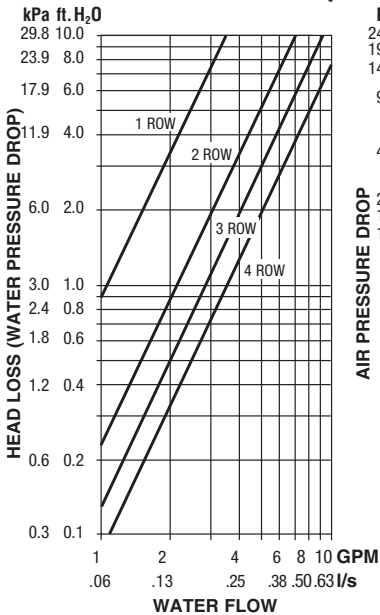


Unit Sizes 9 & 10

Unit Size 12

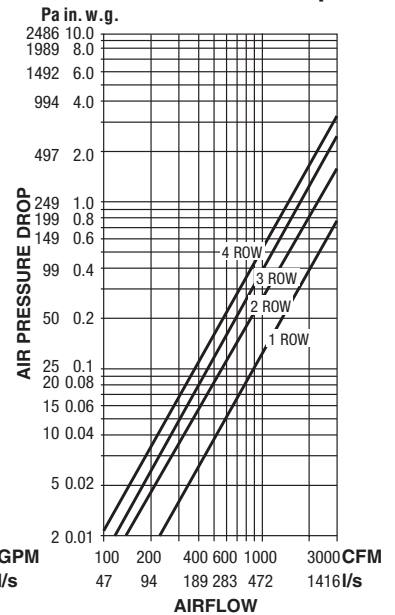
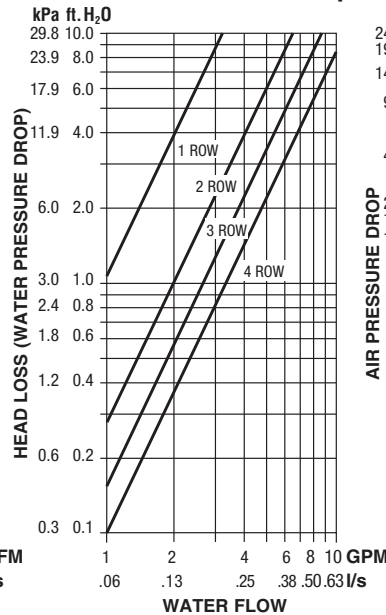
Water Pressure Drop

Air Pressure Drop



Water Pressure Drop

Air Pressure Drop



NOTES:

1. Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.

2. MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

3. Air Temperature Rise.

$$\text{ATR (}^\circ\text{F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \quad \text{ATR (}^\circ\text{C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

4. Water Temp. Drop.

$$\text{WTD (}^\circ\text{F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \quad \text{WTD (}^\circ\text{C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

5. Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

A

SINGLE DUCT TERMINAL UNITS

Recommended Airflow Ranges For Single Duct Pressure Independent Terminal Units

The recommended airflow ranges below are for 3100 Series single duct terminal units with pressure independent controls and are presented as ranges for total and controller specific minimum and maximum airflow. Airflow ranges are based upon maintaining reasonable sound levels and controller limits using Nailor's Diamond Flow Sensor as the airflow measuring device. For a given unit size, the minimum, auxiliary minimum (where applicable) and the maximum flow setting must be within the range limits to ensure pressure independent operation, accuracy, and repeatability.

Actual minimum airflow limits are based upon the sensitivity of the pressure transducer on the controller. Values for .004" (1 Pa) and .02" w.g. (5 Pa) differential pressure signal from Diamond Flow Sensor on digital controls are provided as a reference. For analog controls we show .02" (5 Pa) and .03" (7.5) for pneumatic controllers. These are realistic low limit pressure readings for many transducers used in the digital controls industry. Check your controls supplier for minimum limits. Setting airflow minimums lower than what the transducer will sense, may cause damper hunting and result in a failure to meet minimum ventilation requirements. Factory settings will therefore not be made outside these ranges; however, a minimum setting of zero (shut-off) is an available option on pneumatic units. Where an auxiliary setting is specified, the value must be greater than the minimum setting.

Imperial Units, Cubic Feet per Minute

Unit Size	Inlet Type	Total Airflow Range, cfm	Airflow at 2000 fpm Inlet Velocity (nom.), cfm	Range of Minimum and Maximum Settings, cfm							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
				Transducer Differential Pressure ("w.g.)							
				Min.	Max.	Min.	Max.	Min.		Max.	
		.03	1.0	.02	1.0	.004	.002	1.0	1.5		
4	Round	0 – 225	150	30	180	26	182	12	26	182	223
5		0 – 400	250	55	325	46	325	21	46	325	398
6		0 – 550	400	80	450	64	455	29	64	455	557
7		0 – 800	550	115	650	93	657	42	93	657	805
8		0 – 1100	700	155	900	127	899	57	127	899	1101
9		0 – 1400	900	200	1150	164	1158	73	164	1158	1418
10		0 – 1840	1100	260	1500	212	1497	95	212	1497	1833
12		0 – 2500	1600	355	2050	290	2048	130	290	2048	2508
14		0 – 3370	2100	440	2550	388	2742	173	388	2742	3358
16		0 – 4510	2800	525	3040	521	3683	233	521	3683	4511
24 x 16	Rect.	0 – 8330	5350	1180	6800	961	6797	430	961	6797	8325

Metric Units, Liters per Second

Unit Size	Inlet Type	Total Airflow Range, l/s	Airflow at 10.2 m/s Inlet Velocity (nom.), l/s	Range of Minimum and Maximum Settings, l/s							
				Pneumatic 3000 Controller		Analog Electronic Controls		Digital Controls			
				Transducer Differential Pressure (Pa)							
				Min.	Max.	Min.	Max.	Min.		Max.	
		7.5	249	5	249	1	5	249	374		
4	Round	0 – 106	71	14	85	12	86	6	12	86	105
5		0 – 189	118	26	153	22	153	10	22	153	188
6		0 – 260	189	38	212	30	215	14	30	215	263
7		0 – 378	260	54	307	44	310	20	44	310	380
8		0 – 519	330	73	425	60	425	27	60	425	520
9		0 – 661	425	94	543	77	547	34	77	547	670
10		0 – 868	519	123	708	100	707	45	100	707	866
12		0 – 1180	755	168	967	137	967	61	137	967	1184
14		0 – 1590	991	208	1203	183	1295	82	183	1295	1586
16		0 – 2128	1321	248	1435	246	1739	110	246	1739	2130
24 x 16	Rect.	0 – 3931	2525	557	3209	454	3210	203	454	3210	3931



Model 31RW

The high end of the tabulated Total Airflow Range on pneumatic and analog electronic controls represents the Diamond Flow Sensor's differential pressure reading at 1" w.g. (249 Pa). The high end airflow range for digital controls is represented by the indicated transducer differential pressure.

ASHRAE 130 "Performance Rating of Air Terminals" is the method of test for the certification program. The "standard rating condition" (certification rating point) airflow volumes for each terminal unit size are tabulated below per AHRI Standard 880. These air volumes equate to an approximate inlet velocity of 2000 fpm (10.2 m/s).

When digital or other controls are mounted by Nailor, but supplied by others, these values are guidelines only, based upon experience with most controls currently available. Controls supplied by others for factory mounting are configured and calibrated in the field. Airflow settings on pneumatic and analog controls supplied by Nailor are factory preset when provided.

SINGLE DUCT TERMINAL UNITS

A

Performance Data • AHRI Certification and Performance Notes

3100 Series • Basic Unit • AHRI Certification Rating Points

Fiberglass Liner

Inlet Size	Airflow		Min. Inlet ΔPs		Discharge Sound Power Levels @ 1.5" w.g. (375 Pa) ΔPs							Radiated Sound Power Levels @ 1.5" w.g. (375 Pa) ΔPs						
					Octave Band							Octave Band						
	cfm	l/s	"w.g.	Pa	2	3	4	5	6	7	2	3	4	5	6	7		
4	150	71	0.10	25	74	66	59	54	51	44	57	49	44	41	38	32		
5	250	118	0.05	12	68	68	65	57	52	47	60	52	46	40	36	30		
6	400	189	0.01	2	68	68	65	57	52	47	61	58	52	41	37	32		
7	550	260	0.01	2	71	71	64	59	55	52	61	57	53	44	40	34		
8	700	330	0.01	2	72	71	65	60	56	51	63	59	51	44	39	37		
9	900	425	0.01	2	71	68	64	59	56	52	61	56	52	43	40	34		
10	1100	519	0.01	2	70	68	66	62	59	54	59	54	52	44	39	31		
12	1600	755	0.01	2	75	69	68	64	61	57	65	58	53	47	43	35		
14	2100	991	0.01	2	75	68	67	64	61	57	61	56	49	45	42	35		
16	2800	1321	0.02	5	77	69	68	63	60	56	67	62	58	50	46	41		
24 x 16	5350	2525	0.01	2	87	81	79	76	72	69	72	70	70	65	60	55		



Ratings are certified in accordance with AHRI Standards.

Performance Notes for Sound Power Levels:

- Discharge sound power is the noise emitted from the unit discharge into the downstream duct. Discharge Sound Power Levels (SWL) now include duct end reflection energy as part of the standard rating. Including the duct end correction provides sound power levels that would normally be transmitted into an acoustically, non-reflective duct. The effect of including the energy correction to the discharge SWL, is higher sound power levels when compared to previous AHRI certified data. For more information on duct end reflection calculations see AHRI Standard 880.
- Radiated sound power is the breakout noise transmitted through the unit casing walls.
- Sound power levels are in decibels, dB re 10⁻¹² watts.
- All sound data listed by octave bands is raw data without any corrections for room absorption or duct attenuation. Dash (-) in space indicates sound power level is less than 20 dB or equal to background.
- Minimum inlet ΔPs is the minimum operating pressure requirement of the unit (damper full open) and the difference in static pressure from inlet to discharge of the unit.
- Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.
- Data derived from independent tests conducted in accordance with ANSI/ASHRAE Standard 130 and AHRI Standard 880.

Performance Data • Discharge Sound Power Levels

3100 Series • Basic Unit

Fiberglass Liner



SINGLE DUCT TERMINAL UNITS

Inlet Size	Airflow		Min. inlet ΔPs		Sound Power Octave Bands @ Inlet Pressure (ΔPs) shown																																			
					Minimum ΔPs		0.5" wg (125Pa) ΔPs					1.0" wg (250Pa) ΔPs					1.5" wg (375Pa) ΔPs					2.0" wg (500Pa) ΔPs					3.0" wg (750Pa) ΔPs													
					"w.g.	Pa	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5
4	225	106	0.53	133	78	72	60	53	51	40	*	*	*	*	*	*	79	73	63	57	54	45	79	74	65	59	56	49	80	74	67	61	58	51	80	75	69	63	60	54
	200	94	0.43	106	76	69	57	50	48	37	76	69	58	51	49	38	77	71	62	55	53	44	78	71	64	58	55	47	78	72	65	59	56	50	79	73	67	62	58	53
	150	71	0.10	25	70	61	46	38	36	21	72	64	54	48	45	35	73	65	57	52	48	40	74	66	59	54	51	44	74	66	61	56	52	46	75	67	63	58	54	50
	100	47	0.11	28	64	53	40	34	31	17	67	56	48	43	39	30	68	57	51	47	43	36	68	58	53	49	45	39	69	58	55	51	46	41	69	59	57	53	49	45
	75	35	0.06	16	60	46	33	27	24	9	63	50	43	39	35	27	64	51	47	43	39	32	64	52	49	46	41	36	65	53	50	47	42	38	65	53	53	50	44	41
5	400	189	0.19	48	64	65	58	51	43	35	69	70	64	57	50	43	72	74	69	61	55	49	74	76	71	63	58	52	76	79	76	67	62	58						
	300	142	0.11	28	58	58	51	44	37	27	65	65	60	53	47	40	69	69	65	57	52	45	71	71	68	59	54	49	72	72	69	61	56	51	74	74	72	63	59	55
	250	118	0.05	12	52	51	43	37	29	18	63	62	58	51	45	37	66	66	63	55	50	43	68	68	65	57	52	47	70	69	67	59	54	49	71	71	70	61	57	53
	200	94	0.05	13	49	47	41	34	27	15	60	58	55	48	42	35	63	62	60	52	47	41	65	64	62	54	50	44	67	65	64	56	52	47	69	67	67	58	55	50
	125	59	0.02	5	38	34	29	23	15	2	54	50	49	41	37	30	57	53	54	45	42	36	59	55	56	48	45	39	60	57	58	49	47	41	62	59	61	52	49	45
6	550	260	0.01	2	48	35	30	31	17	-	67	64	61	55	47	39	70	69	66	59	52	46	72	72	70	61	55	50	74	74	72	63	57	53	76	77	75	65	60	57
	450	212	0.01	2	45	32	27	28	15	-	65	62	58	52	45	37	68	67	63	56	50	44	70	70	66	58	53	48	71	72	69	60	55	51	73	75	72	63	59	55
	400	189	0.01	2	44	31	25	27	14	-	63	60	56	50	44	36	67	65	61	54	49	43	68	68	65	57	52	47	70	70	67	59	54	50	72	74	70	61	58	54
	200	94	0.01	2	36	22	15	17	8	-	55	51	45	41	38	30	58	57	51	45	43	37	60	60	54	47	46	41	62	62	56	49	48	44	64	65	59	52	51	48
	100	47	0.01	2	28	14	4	8	1	-	47	43	34	31	31	25	50	48	40	36	37	31	52	51	43	38	40	36	54	53	45	40	42	38	56	56	49	42	45	42
7	800	378	0.01	2	45	26	29	40	14	2	68	63	61	59	48	44	72	70	67	63	55	51	75	73	70	65	58	56	76	76	72	66	61	59	79	80	76	68	64	63
	650	307	0.01	2	43	25	26	37	12	-	66	62	58	56	46	42	70	68	64	60	53	49	73	72	67	62	56	54	75	75	69	63	59	57	77	78	73	65	62	61
	550	260	0.01	2	42	24	24	34	11	-	65	60	56	53	45	41	69	67	61	57	51	46	71	71	64	59	55	52	73	73	67	60	57	56	75	77	70	62	61	60
	335	158	0.01	2	38	20	17	26	6	-	61	57	48	45	40	36	65	63	54	49	46	44	67	67	57	51	50	48	69	70	60	52	52	51	71	74	63	54	56	56
	225	106	0.01	2	34	17	11	20	2	-	57	54	42	39	36	33	61	60	48	42	43	41	63	64	51	44	46	45	65	67	54	46	49	48	68	71	57	48	52	52
8	1100	519	0.01	2	52	34	26	32	20	5	71	66	60	59	51	43	74	72	66	63	57	50	76	75	70	66	60	54	77	77	72	68	62	57	79	81	76	71	66	61
	900	425	0.01	2	50	32	24	30	19	3	69	64	58	56	50	42	72	70	64	61	55	49	74	73	68	64	58	53	75	75	70	65	61	56	77	79	74	68	64	60
	700	330	0.01	2	48	29	22	27	17	2	67	61	56	53	48	40	70	67	62	58	53	47	72	71	65	60	56	51	73	73	68	62	59	54	75	76	71	65	62	58
	600	283	0.01	2	47	27	20	25	16	1	65	60	54	51	46	39	68	66	60	56	52	46	70	69	64	58	55	50	72	71	66	60	57	53	74	75	70	63	61	57
	400	189	0.01	2	43	23	17	20	12	-	61	56	51	46	43	36	65	62	57	51	49	43	67	65	60	53	52	47	68	67	63	55	54	50	70	71	66	58	57	54
9	1400	661	0.01	2	55	38	38	38	24	10	72	65	64	60	52	45	74	70	68	63	57	51	76	73	71	65	60	55	77	75	73	67	63	57	79	77	75	69	65	61
	1250	590	0.01	2	54	37	36	37	23	9	70	64	62	58	51	44	73	69	66	62	56	50	75	71	69	64	59	54	76	73	71	65	61	56	78	76	74	68	64	60
	900	425	0.01	2	50	33	32	32	20	7	66	60	57	53	48	42	69	65	62	57	53	48	71	68	64	59	56	52	72	70	66	61	58	54	74	72	69	63	61	58
	675	319	0.01	2	46	30	28	28	17	5	63	57	53	49	45	40	65	62	58	53	50	46	67	64	60	55	53	50	68	66	62	57	56	52	70	69	65	59	59	56
	450	212	0.01	2	41	25	22	23	13	2	58	52	47	44	42	37	60	57	52	48	47	43	62	60	54	50	50	47	63	62	56	51	52	50	65	65	59	54	55	53
10	1850	873	0.01	2	54	38	37	36	23	14	72	65	65	61	54	48	75	70	68	65	59	54	77	73	73	68	63	58	78	75	75	70	65	60	80	78	78	72	68	64
	1650	779	0.01	2	53	36	35	34	22	13	70	64	63	59	53	47	73	69	68	64	59	53	75	72	71	66	62	57	77	74	73	68	64	59	78	77	76	71	67	63
	1100	519	0.01	2	48	32	30	30	19	10	65	60	58	55	50	44	69	65	63	59	55	50	70	68	66	62	59	54	72	70	68	64	61	57	73	73	71	66	64	60
	825	389	0.01	2	44	29	27	26	17	8	62	57	55	51	48	42	65	62	60	56	53	48	67	65	63	58	56	52	68	67	65	60	58	54	70	70	68	63	62	58
	550	260	0.01	2	39	25	22	22	14	5	57	53	50	47	44	39	60	58	55	51	50	45	62	61	58	54	53	49	63	63	60	56	55	51	65	66	63	58	58	55
12	2500	1180	0.01	2	55	37	43	36	30	16	75	66	67	62	57	50	78	71	72	66	62	56	80	74	74	69	65	60	82	76	76	71	67	62	84	79	79	73	69	66
	2000	944	0.01	2	52	35	39	33	28	15	72	63	64	59	55	49	75	68	68	64	60	55	77	71	71	66	63	58	79	73	73	68	65	61	81	76	75	71	67	64
	1600	755	0.01	2	49	32	36	31	26	13	69	61	61	57	53	47	72	66	65	61	58	53	75	69	68	64	61	57	76	71	69	66	63	59	78	74	72	69	65	63
	1200	566	0.01	2	45	29	31	28	24	12	65	57	56	54	51	45	69	62	61	58	55	51	71	65	63	61	58	55	72	67	65									

Performance Data • Discharge Sound Power Levels

3100 Series • With 3 ft. (914) Integral Attenuator

Fiberglass Liner

Inlet Size	Airflow cfm /s		Min. inlet ΔP_s "w.g. Pa	Sound Power Octave Bands @ Inlet Pressure (ΔP_s) shown																																									
				Minimum ΔP_s							0.5" wg (125Pa) ΔP_s							1.0" wg (250Pa) ΔP_s							1.5" wg (375Pa) ΔP_s							2.0" wg (500Pa) ΔP_s							3.0" wg (750Pa) ΔP_s						
				2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7
4	225	106	0.53	133	75	67	51	37	29	20	*	*	*	*	*	*	76	72	59	49	34	26	76	74	62	52	35	30	77	73	63	53	37	32	77	73	64	55	39	35					
	200	94	0.43	106	74	64	48	34	26	18	73	69	53	43	30	20	74	71	57	48	34	27	75	71	60	51	36	31	75	71	61	52	36	32	76	72	63	54	36	33					
	150	71	0.10	25	69	56	37	22	17	7	70	61	50	40	26	-	71	65	53	44	28	22	72	65	55	47	29	27	71	66	56	48	30	28	72	67	58	50	32	31					
	100	47	0.11	28	63	50	32	18	12	3	66	56	45	36	23	21	68	56	47	38	25	21	67	56	48	39	25	22	68	57	50	39	24	23	69	58	52	40	25	25					
	75	35	0.06	16	59	43	25	11	5	-	62	49	38	31	-	-	64	50	42	33	25	-	63	51	44	33	-	-	64	50	47	37	22	-	64	53	51	41	26	23					
5	400	189	0.19	48	61	60	49	35	21	15	66	68	59	48	30	24	69	73	65	53	34	30	71	76	68	56	37	33	73	76	69	57	39	36	75	77	71	59	41	39					
	300	142	0.11	28	56	53	42	28	15	8	62	65	55	45	28	22	66	69	60	50	33	28	68	71	64	52	35	33	69	72	65	54	36	33	71	73	68	55	37	35					
	250	118	0.05	12	51	46	34	21	10	4	61	59	54	43	26	-	64	66	59	47	29	25	66	67	61	50	30	30	67	69	63	51	32	31	68	71	65	53	35	34					
	200	94	0.05	13	48	44	33	18	8	13	59	58	52	41	26	22	63	61	56	43	29	26	64	62	57	44	30	27	66	64	59	44	30	28	69	66	62	45	31	30					
	125	59	0.02	5	37	31	22	7	-	0	53	49	44	33	21	21	57	52	49	35	28	22	58	54	51	35	22	-	59	54	55	39	26	23	61	56	59	44	31	27					
6	550	260	0.01	2	45	28	21	15	-	-	64	60	56	46	27	20	67	66	62	51	31	27	69	70	67	54	34	31	71	72	68	55	36	34	73	73	70	57	39	38					
	450	212	0.01	2	43	25	18	12	-	-	62	60	53	44	26	-	65	65	59	49	31	27	67	68	62	51	34	32	68	69	65	53	35	33	70	72	68	55	37	35					
	400	189	0.01	2	43	24	16	11	-	-	61	59	52	42	25	-	65	63	57	47	29	25	66	65	61	50	30	30	67	68	62	51	32	32	69	72	65	53	36	35					
	200	94	0.01	2	35	17	7	1	-	-	54	49	42	34	22	-	58	54	47	37	25	22	59	56	49	37	26	24	61	58	51	38	26	26	64	62	54	39	27	28					
	100	47	0.01	2	27	13	-	-	-	-	46	40	29	23	-	-	50	46	35	25	23	-	51	48	38	25	-	-	53	52	42	29	22	-	55	56	47	34	27	24					
7	800	378	0.01	2	45	22	23	30	-	-	68	62	57	54	32	26	72	69	63	57	37	33	74	72	67	60	40	37	75	75	69	61	42	40	77	78	71	62	46	44					
	650	307	0.01	2	42	21	20	27	-	-	66	62	54	50	29	24	70	67	60	54	35	31	73	71	63	56	38	36	74	72	66	57	40	38	76	77	69	59	43	42					
	550	260	0.01	2	41	21	18	25	-	-	64	60	52	47	27	21	68	67	58	51	32	29	70	69	61	53	36	35	72	72	63	54	38	37	74	76	66	56	41	41					
	335	158	0.01	2	37	18	11	21	1	-	60	56	45	39	23	-	64	62	50	42	28	27	66	66	53	43	32	31	68	68	56	44	33	34	70	72	59	46	36	37					
	225	106	0.01	2	33	14	10	18	-	-	56	53	38	33	26	20	60	59	44	35	27	25	62	63	48	36	27	27	64	67	51	39	30	30	67	71	54	42	35	34					
8	1100	519	0.01	2	51	33	24	29	6	-	70	65	58	56	38	26	73	70	63	60	42	32	75	73	66	62	45	35	76	76	69	64	47	38	78	80	73	66	50	42					
	900	425	0.01	2	49	30	22	26	5	-	68	63	56	53	35	23	71	68	61	57	39	30	73	72	64	59	42	33	74	74	67	61	44	37	76	78	71	63	47	41					
	700	330	0.01	2	47	28	20	23	3	-	66	59	53	48	30	-	69	66	59	53	36	28	71	70	62	56	40	32	72	71	65	58	42	35	74	73	69	60	45	39					
	600	283	0.01	2	46	26	18	21	2	-	64	58	51	45	27	-	67	64	57	50	34	26	69	67	61	53	39	33	71	69	64	56	41	36	73	71	67	59	44	40					
	400	189	0.01	2	42	20	16	17	-	-	60	56	47	41	26	-	64	61	54	46	32	26	66	64	58	49	36	30	67	65	60	51	38	32	69	68	62	55	41	36					
9	1400	661	0.01	2	54	35	34	31	8	-	71	65	60	54	37	29	73	69	64	58	42	35	75	72	66	60	44	38	76	74	68	61	46	41	79	76	71	63	49	44					
	1250	590	0.01	2	53	34	33	30	7	-	69	61	59	53	36	28	72	69	63	56	40	34	74	70	65	58	43	37	75	73	67	60	45	39	77	76	70	62	47	43					
	900	425	0.01	2	49	31	26	26	4	-	65	59	53	47	30	23	68	64	58	51	36	30	70	68	61	53	39	35	71	69	63	54	41	37	73	70	65	56	43	40					
	675	319	0.01	2	45	28	23	22	3	-	63	56	48	42	27	21	65	60	53	46	33	29	67	62	56	48	36	33	68	64	58	50	38	36	69	68	61	52	41	39					
	450	212	0.01	2	40	25	18	18	-	-	57	52	43	37	24	21	59	56	48	41	29	27	61	59	52	43	32	31	62	61	53	45	34	33	64	64	55	47	37	36					
10	1850	873	0.01	2	54	38	31	26	6	2	70	64	60	53	38	34	74	68	65	57	43	40	75	71	68	60	46	44	77	74	70	61	48	46	79	76	73	64	50	49					
	1650	779	0.01	2	52	33	31	25	6	3	70	61	60	52	37	34	73	69	65	57	42	39	74	70	67	59	45	42	76	72	69	61	47	45	77	75	72	63	50	48					
	1100	519	0.01	2	46	27	22	21	2	-	63	57	53	46	32	27	66	62	58	50	37	34	68	66	62	53	40	38	70	68	64	54	42	40	71	70	66	57	45	43					
	825	389	0.01	2	43	26	20	18	3	2	60	55	49	42	30	26	62	59	55	47	35	32	64	62	58	49	38	36	65	64	60	51	40	38	67	68	63	53	43	41					
	550	260	0.01	2	36	21	16	14	-	-	54	51	45	38	27	24	57	56	50	42	32	30	60	59	54	44	35	33	61	61	55	46	36	35	62	63	58	49	39	38					
12	2500	1180	0.01	2	53	35	35	25	11	3	75	65	63	54	40	37	78	69	68	58	45	43	80	72	70	60	47	46	81	74	72	62	49	48	82	76	74	64	51	52					
	2000	944	0.01	2	51	34	32	23	9	1	71	62	59	51	37	35	74	67	64	55	42	41	76	69	67	58	45	45	77	71	68	60	47	47	79	73	71	62	50	50					
	1600	755	0.01	2	49	32	29	21	8	1	67	60	56	48	36	33	70	64	60	53	40	39	73	66	63	55	43	43	73	68	65	57	45	45	76	72	68	59	48	49					
	1200	566	0.01	2	42	28	26	18	7	1	62	55	52	45	33	31	67	60	56	49	38	37	69	63	58	51	41	41	71	64	60	53	43	43	72	67	63	56	46	46					
	800	378	0.01	2	38	21	19	13	4	-	57	50	45	39	29	28	60	56	49	44	34	34	63	59	52	46	37	38	64	61	54	48	39	40	66	64	56	51	41	43					
14	3125	1475	0.01	2	56	40	45	31	20	9	76	66	64	55	44	39																													

Performance Data • NC Level Application Guide

3100 Series • Basic Unit

Fiberglass Liner

Inlet Size	Airflow cfm l/s		Min. inlet ΔPs "w.g. Pa	NC Levels @ Inlet Pressure (ΔPs) shown																		
				DISCHARGE (basic assembly)					DISCHARGE w/ 36" (914) attenuator					RADIATED								
				Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	Min. ΔPs	0.5" w.g. (125 Pa)	1.0" w.g. (250 Pa)	1.5" w.g. (375 Pa)	2.0" w.g. (500 Pa)	3.0" w.g. (750 Pa)	
4	225	106	0.53	133	37	*	38	39	40	40	33	*	35	35	36	37	25	25	26	26	27	28
	200	94	0.43	106	35	35	36	37	38	38	32	31	33	33	34	35	22	22	23	24	24	26
	150	71	0.10	25	27	30	31	32	33	33	26	28	29	30	29	30	-	-	-	-	-	22
	100	47	0.11	28	20	23	24	25	26	26	-	22	24	24	25	26	-	-	-	-	-	-
	75	35	0.06	16	-	-	-	20	21	22	-	-	-	-	-	20	-	-	-	-	-	-
5	400	189	0.19	48	24	30	34	37	38	41	-	28	33	37	37	38	-	20	26	30	32	35
	300	142	0.11	28	-	25	29	32	33	36	-	25	29	32	33	35	-	-	20	24	27	31
	250	118	0.05	12	-	21	26	28	30	32	-	-	26	27	29	32	-	-	-	22	25	28
	200	94	0.05	13	-	-	21	23	25	27	-	-	-	21	23	26	-	-	-	-	21	25
125	59	0.02	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	550	260	0.01	2	-	23	29	32	35	39	-	-	25	30	32	34	-	25	29	32	34	37
	450	212	0.01	2	-	-	26	29	32	36	-	-	23	27	29	32	-	21	26	29	31	34
	400	189	0.01	2	-	-	24	28	30	34	-	-	22	24	28	31	-	-	24	27	29	32
	200	94	0.01	2	-	-	-	-	21	25	-	-	-	-	-	21	-	-	-	-	-	22
	100	47	0.01	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	800	378	0.01	2	-	20	28	33	36	40	-	-	27	31	35	38	-	23	29	33	36	39
	650	307	0.01	2	-	-	27	32	35	40	-	-	26	31	32	38	-	-	26	30	33	36
	550	260	0.01	2	-	-	26	30	34	38	-	-	26	28	32	37	-	-	24	27	30	34
	335	158	0.01	2	-	-	22	26	29	34	-	-	20	25	27	32	-	-	-	23	25	29
	225	106	0.01	2	-	-	-	24	27	32	-	-	-	23	27	32	-	-	-	-	22	26
8	1100	519	0.01	2	-	24	30	34	37	41	-	22	29	32	36	40	-	26	30	34	37	41
	900	425	0.01	2	-	21	28	32	35	39	-	20	26	31	33	38	-	23	27	31	34	38
	700	330	0.01	2	-	-	26	30	33	37	-	-	25	29	31	34	-	20	24	28	31	35
	600	283	0.01	2	-	-	24	28	31	35	-	-	23	26	28	30	-	-	23	27	30	34
	400	189	0.01	2	-	-	-	24	26	30	-	-	-	22	24	27	-	-	-	22	25	29
9	1400	661	0.01	2	-	23	28	32	34	37	-	23	28	31	33	36	-	26	31	34	36	39
	1250	590	0.01	2	-	21	27	30	33	36	-	20	27	29	33	36	-	24	29	32	34	37
	900	425	0.01	2	-	-	22	26	28	31	-	-	22	26	27	29	-	-	23	26	28	32
	675	319	0.01	2	-	-	-	23	25	29	-	-	-	21	23	27	-	-	-	21	24	29
	450	212	0.01	2	-	-	-	-	-	23	-	-	-	-	-	22	-	-	-	-	20	25
10	1850	873	0.01	2	-	23	29	32	35	38	-	22	26	30	33	36	-	31	35	37	39	41
	1650	779	0.01	2	-	22	27	31	33	37	-	21	27	28	31	34	-	29	33	35	36	39
	1100	519	0.01	2	-	-	22	26	28	32	-	-	-	23	26	28	-	20	24	26	28	30
	825	389	0.01	2	-	-	-	22	25	28	-	-	-	-	22	26	-	-	-	-	23	27
	550	260	0.01	2	-	-	-	-	21	25	-	-	-	-	-	21	-	-	-	-	-	22
12	2500	1180	0.01	2	-	27	32	35	36	39	-	27	31	35	35	36	-	28	33	36	39	42
	2000	944	0.01	2	-	24	28	31	33	36	-	22	26	29	30	33	-	24	30	33	35	38
	1600	755	0.01	2	-	-	24	27	29	33	-	-	21	24	26	30	-	20	26	29	31	35
	1200	566	0.01	2	-	-	-	23	25	29	-	-	-	21	22	25	-	-	22	25	27	30
	800	378	0.01	2	-	-	-	-	-	23	-	-	-	-	-	21	-	-	-	22	24	27
14	3125	1475	0.01	2	-	29	34	36	38	40	-	29	33	35	37	39	-	25	29	32	34	37
	2700	1274	0.01	2	-	26	31	33	35	37	-	25	29	32	34	36	-	22	26	29	31	35
	2100	991	0.01	2	-	21	25	28	29	32	-	21	25	28	29	32	-	-	21	25	27	31
	1550	731	0.01	2	-	-	-	22	24	27	-	-	-	21	22	24	-	-	-	21	23	27
	1050	495	0.01	2	-	-	-	-	-	21	-	-	-	-	-	-	-	-	-	-	-	22
16	3725	1758	0.03	8	-	30	34	37	39	41	-	29	34	36	39	41	-	29	34	38	40	44
	3500	1652	0.03	8	-	28	33	35	37	40	-	25	30	35	37	38	-	28	33	37	39	43
	2800	1321	0.02	6	-	23	27	30	31	34	-	21	26	30	31	34	-	24	30	33	35	40
	2100	991	0.02	4	-	-	-	22	24	26	-	-	-	22	23	25	-	-	25	28	31	36
	1400	661	0.01	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	25	29
24 x 16	8330	3931	0.02	5	49	50	49	52	53	53	48	48	48	51	52	52	43	44	49	51	54	57
	7000	3303	0.02	4	45	45	46	48	50	50	44	44	44	47	49	49	40	41	47	49	51	55
	6000	2831	0.01	2	40	42	43	45	47	48	38	40	42	44	45	47	36	39	45	47	49	52
	5350	2525	0.01	2	35	38	40	43	45	47	34	36	39	42	44	45	32	38	44	46	48	51
	4000	1888	0.01	2	25	31	35	37	40	42	23	30	34	36	39	41	24	35	39	43	45	47
	3000	1416	0.01	2	-	23	29	31	35	38	-	22	28	30	34	37	-	31	36	38	40	44

Performance Notes:

1. NC Levels are calculated based on procedures as outlined on page A101.
2. Dash (-) in space indicates a NC less than 20.
3. Asterisk (*) in space indicates that the minimum inlet static pressure requirement is greater than 0.5" w.g. (125 Pa) at rated airflow.

Performance Data • Radiated Sound Power Levels

3100 Series • Basic Unit

Fiberglass Liner



SINGLE DUCT TERMINAL UNITS

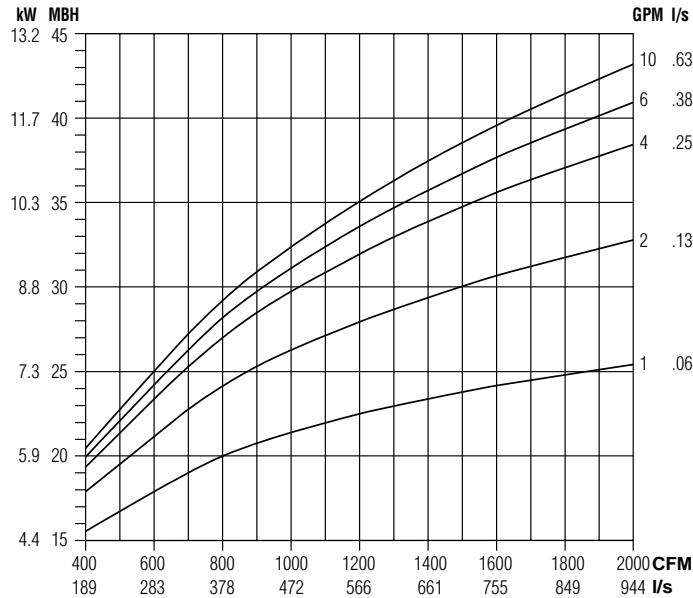
Inlet Size	Airflow		Min. inlet ΔPs		Sound Power Octave Bands @ Inlet Pressure (ΔPs) shown																																			
					Minimum ΔPs		0.5" wg (125Pa) ΔPs					1.0" wg (250Pa) ΔPs					1.5" wg (375Pa) ΔPs					2.0" wg (500Pa) ΔPs					3.0" wg (750Pa) ΔPs													
					"w.g.	Pa	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5
4	225	106	0.53	133	62	54	45	43	42	32	62	54	44	42	42	32	63	55	48	45	44	36	63	56	50	46	45	39	63	57	51	47	46	41	64	58	53	48	47	44
	200	94	0.43	106	60	51	42	40	39	29	60	52	43	41	40	30	61	53	46	43	42	34	61	54	48	44	43	37	61	55	50	45	44	39	62	56	52	47	45	42
	150	71	0.10	25	53	43	31	32	30	14	55	46	39	37	35	25	56	48	42	39	37	30	57	49	44	41	38	32	57	50	46	41	39	34	57	51	48	43	40	37
	100	47	0.11	28	47	35	25	27	24	8	49	39	33	32	28	-	49	41	37	34	30	23	50	42	39	35	32	25	50	42	40	36	32	27	51	43	42	37	34	30
	75	35	0.06	16	42	29	18	21	17	-	44	34	29	28	24	-	45	35	33	30	26	-	45	36	35	31	27	21	46	37	36	32	28	23	46	38	38	34	29	25
5	400	189	0.19	48	49	46	38	38	33	18	56	52	45	43	38	27	62	57	50	46	42	33	65	60	53	48	44	37	67	62	55	49	45	39	70	65	58	51	47	43
	300	142	0.11	28	42	37	29	31	25	9	53	47	40	38	33	23	58	52	45	41	37	29	61	55	48	43	39	33	64	57	51	44	41	35	67	60	54	46	43	39
	250	118	0.05	12	34	28	21	24	18	-	51	44	38	35	30	20	56	49	43	38	34	27	60	52	46	40	36	30	62	53	48	41	38	33	65	56	51	43	40	36
	200	94	0.05	13	32	24	17	21	14	-	49	40	34	31	26	-	54	45	39	34	30	24	57	48	42	36	32	27	59	50	44	37	34	30	62	52	47	39	36	33
	125	59	0.02	5	20	9	3	9	2	-	44	32	27	23	-	-	49	36	32	27	22	-	52	39	35	28	25	21	54	41	37	30	26	23	57	44	40	32	28	27
6	550	260	0.01	2	42	27	27	10	2	-	60	54	50	37	33	25	63	59	55	42	38	32	65	62	57	45	41	36	66	64	59	47	43	40	68	66	61	50	47	44
	450	212	0.01	2	40	25	24	7	-	-	58	52	47	35	30	22	61	56	51	40	35	29	63	59	54	42	38	34	64	61	56	44	41	37	66	64	58	47	44	41
	400	189	0.01	2	39	23	22	5	-	-	56	50	45	33	28	20	60	55	50	38	33	28	61	58	52	41	37	32	63	60	54	43	39	35	64	62	56	46	42	39
	200	94	0.01	2	32	15	11	-	-	-	49	41	35	23	-	-	53	46	39	28	24	-	54	49	41	31	27	22	56	51	43	33	29	25	57	54	45	36	32	30
	100	47	0.01	2	25	6	0	-	-	-	42	33	24	-	-	-	45	37	28	-	-	-	47	40	30	21	-	-	49	42	32	23	-	-	50	45	34	26	22	-
7	800	378	0.01	2	37	19	16	19	15	-	59	51	49	43	39	29	63	56	55	47	43	35	65	60	58	49	45	39	67	62	61	51	47	42	69	65	64	54	49	46
	650	307	0.01	2	35	18	13	16	12	-	57	49	46	40	35	26	61	55	52	44	40	33	63	58	55	46	42	36	64	61	58	48	44	39	67	64	61	51	46	43
	550	260	0.01	2	33	17	11	14	10	-	55	48	44	37	33	24	59	54	50	42	37	30	61	57	53	44	40	34	62	60	56	46	41	37	65	63	59	48	44	40
	335	158	0.01	2	40	23	4	7	2	-	49	45	37	30	26	-	53	51	43	34	30	23	55	54	46	37	32	27	57	56	49	39	34	30	59	60	52	41	36	34
	225	106	0.01	2	22	11	-	1	-	-	44	42	32	24	-	-	48	48	38	29	24	-	50	51	41	31	26	22	52	54	44	33	28	24	54	57	47	35	30	28
8	1100	519	0.01	2	45	21	6	13	5	-	63	54	45	41	35	30	66	60	52	46	40	37	68	63	56	49	43	41	69	66	59	51	45	44	71	69	63	53	48	48
	900	425	0.01	2	43	19	4	11	3	-	61	52	43	39	33	28	64	58	50	44	38	35	66	61	54	46	41	39	67	64	57	48	43	42	69	67	61	51	46	46
	700	330	0.01	2	41	17	2	8	1	-	58	50	41	36	30	26	61	56	47	41	36	33	63	59	51	44	39	37	64	61	54	46	41	40	66	65	58	48	44	44
	600	283	0.01	2	39	15	0	7	-	-	57	48	39	34	29	24	60	54	46	39	34	31	62	57	50	42	37	35	63	60	53	44	39	38	65	63	57	47	42	42
	400	189	0.01	2	35	11	-	2	-	-	53	44	35	30	25	20	56	50	42	35	30	27	58	54	46	38	33	31	59	56	49	40	35	34	61	59	53	42	38	38
9	1400	661	0.01	2	41	14	28	19	7	-	60	50	52	42	36	23	64	56	56	46	41	31	66	60	59	48	44	36	67	62	61	50	47	40	69	66	63	52	50	44
	1250	590	0.01	2	40	13	26	18	6	-	59	49	50	41	35	23	63	55	55	45	40	31	65	59	57	47	43	36	66	61	59	49	46	39	68	65	61	51	49	44
	900	425	0.01	2	36	10	21	14	3	-	55	46	45	37	32	21	59	52	49	41	37	29	61	56	52	43	40	34	62	58	54	45	43	37	64	62	56	47	46	42
	675	319	0.01	2	33	7	16	11	-	-	52	43	40	34	30	-	55	49	45	38	35	28	57	53	47	40	38	32	59	56	49	42	40	36	61	59	52	44	43	41
	450	212	0.01	2	28	4	9	7	-	-	47	39	34	29	26	-	50	46	38	33	31	25	52	49	41	36	34	30	54	52	42	37	36	34	56	56	45	40	39	38
10	1850	873	0.01	2	22	15	37	16	-	-	56	50	57	44	33	-	62	56	60	49	41	31	65	60	62	52	46	38	68	62	64	54	49	43	71	66	66	56	54	49
	1650	779	0.01	2	21	14	35	15	-	-	54	49	54	42	31	-	60	55	58	47	39	30	64	58	60	50	44	36	66	61	61	52	48	41	70	65	63	55	53	48
	1100	519	0.01	2	16	9	27	8	-	-	49	44	46	36	26	-	55	51	50	41	34	25	59	54	52	44	39	31	61	57	53	46	43	36	65	61	55	49	47	43
	825	389	0.01	2	12	6	21	4	-	-	46	42	41	32	22	-	51	48	44	37	31	21	55	51	46	39	35	28	57	54	48	41	39	33	61	58	50	44	44	39
	550	260	0.01	2	7	2	13	-	-	-	40	37	33	26	-	-	46	44	36	30	25	-	50	47	38	33	30	23	52	50	40	35	34	28	56	53	42	38	39	34
12	2500	1180	0.01	2	40	27	26	23	15	-	64	53	52	46	42	31	68	58	56	51	46	37	71	61	59	53	49	40	73	63	61	55	51	43	75	65	63	57	54	46
	2000	944	0.01	2	37	26	23	20	12	-	61	52	49	44	39	29	66	57	53	48	43	34	68	59	56	50	46	38	70	61	58	52	48	40	72	64	60	54	51	44
	1600	755	0.01	2	34	24	20	17	9	-	58	51	46	41	36	26	63	55	50	45	41	32	65	58	53	47	43	35	67	60	55	49	45	38	69	63	58	51	48	41
	1200	566	0.01	2	31	23	17	14	6	-	55	49	42	37	32	23	59	53	47	41	37	29	62	56	49	43	40	32	63	58	51	45	42	34	66	61	54	47	44	38
	800	378	0.01	2	25	20																																		

Performance Data • Hot Water Coil • Capacities

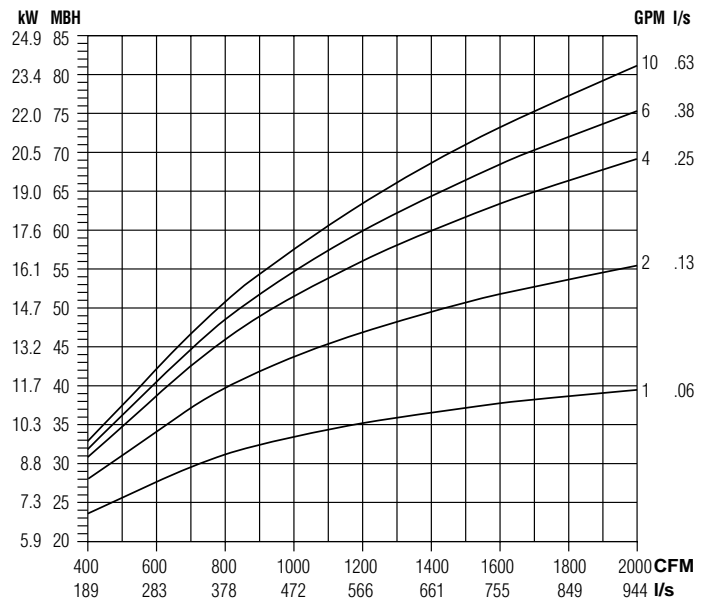
Model: 31RW

Unit Size 12

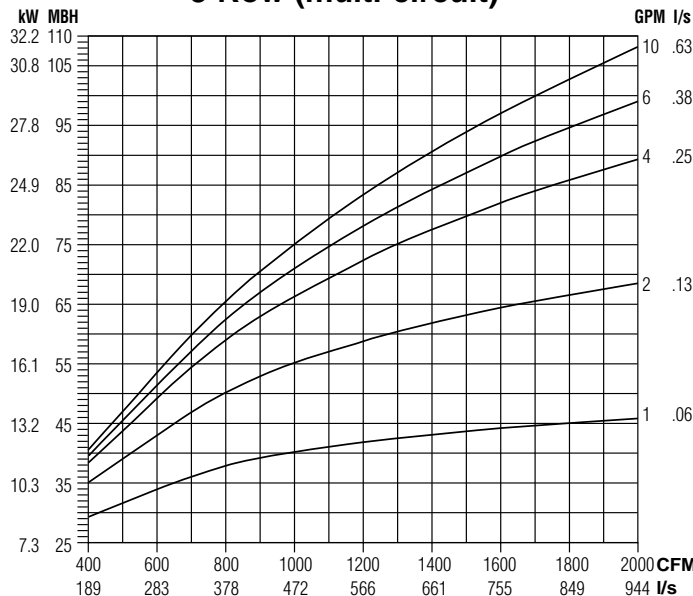
1 Row (single circuit)



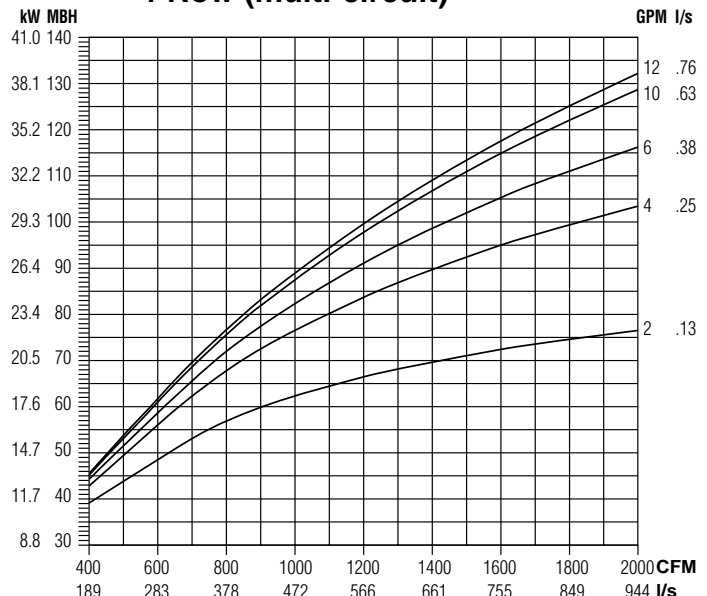
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.
 $ATR (^\circ F) = 927 \times \frac{MBH}{cfm}$, $ATR (^\circ C) = 829 \times \frac{kW}{l/s}$
- Water Temp. Drop.
 $WTD (^\circ F) = 2.04 \times \frac{MBH}{GPM}$, $WTD (^\circ C) = .224 \times \frac{kW}{l/s}$
- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

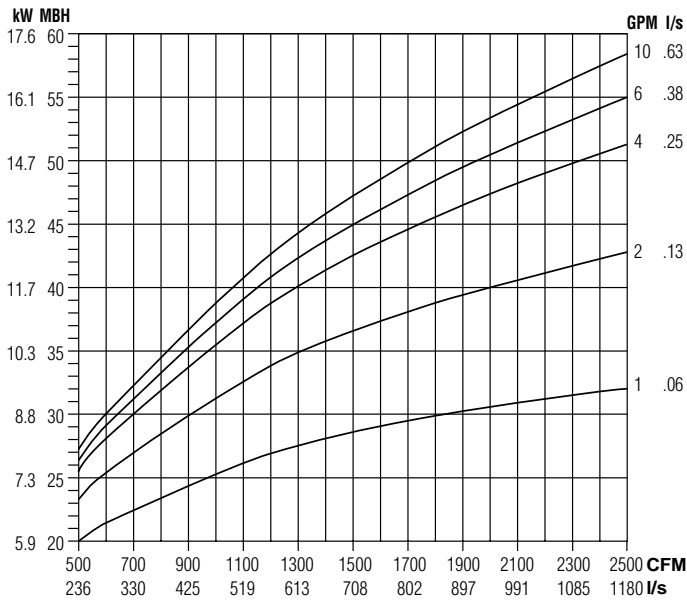
Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

Performance Data • Hot Water Coil • Capacities

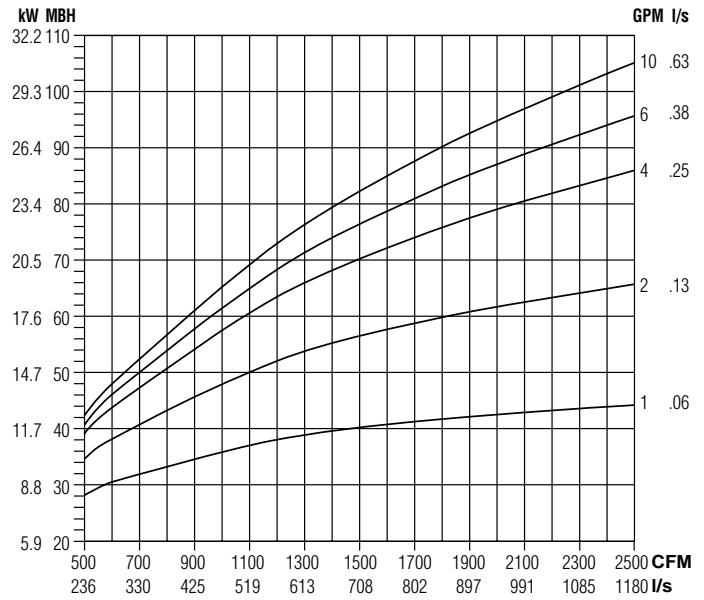
Model: 31RW

Unit Size 14

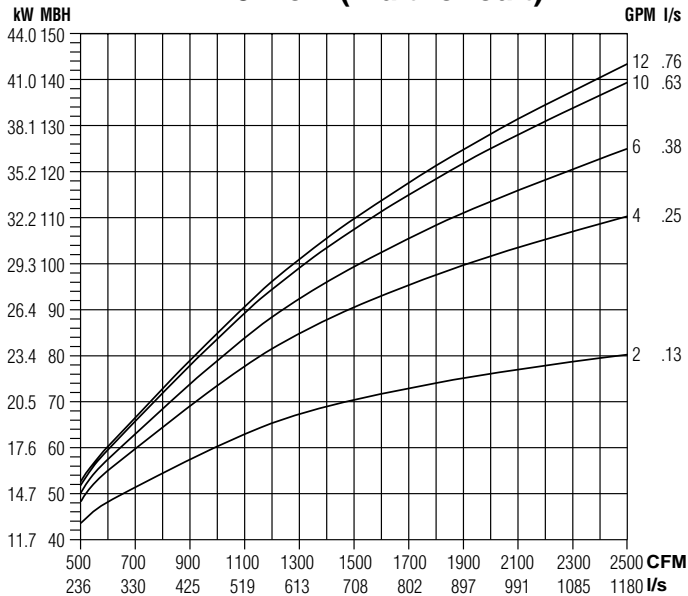
1 Row (single circuit)



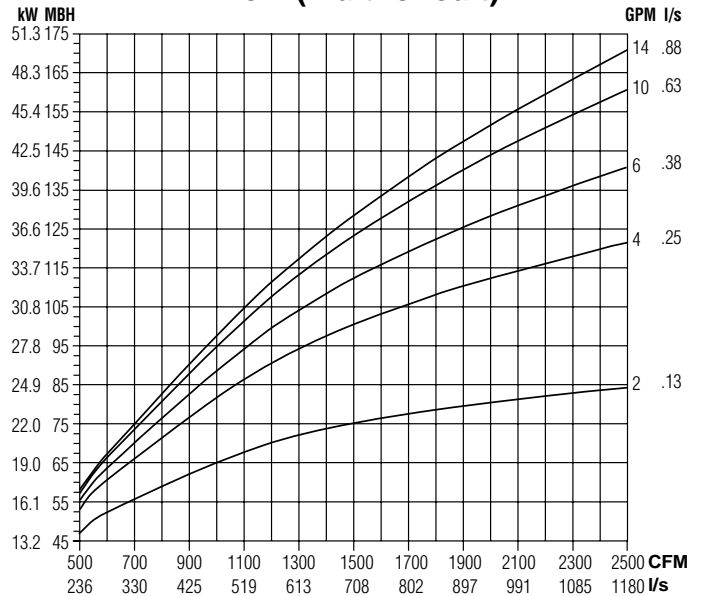
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$\text{ATR (}^\circ\text{F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \text{ ATR (}^\circ\text{C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

- Water Temp. Drop.

$$\text{WTD (}^\circ\text{F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \text{ WTD (}^\circ\text{C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

A

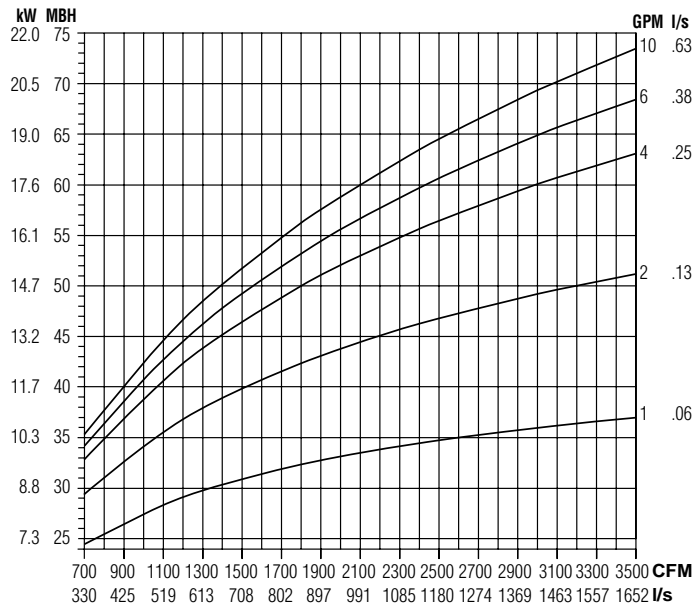
SINGLE DUCT TERMINAL UNITS

Performance Data • Hot Water Coil • Capacities

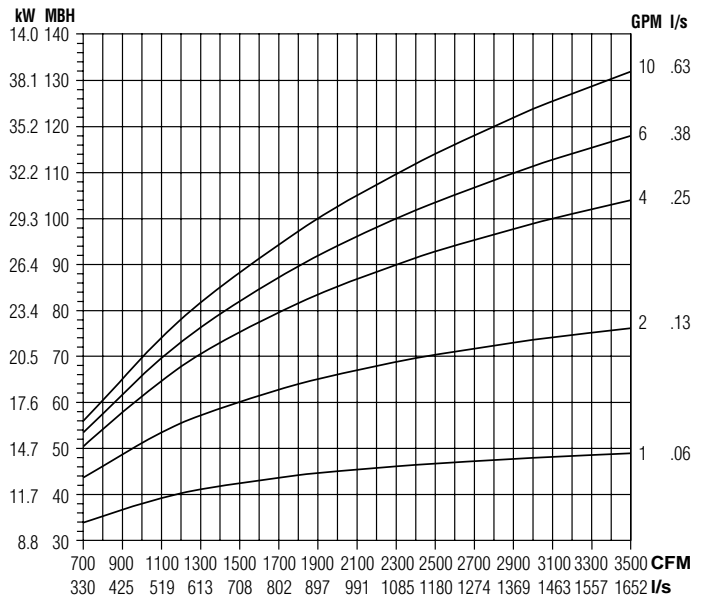
Model: 31RW

Unit Size 16

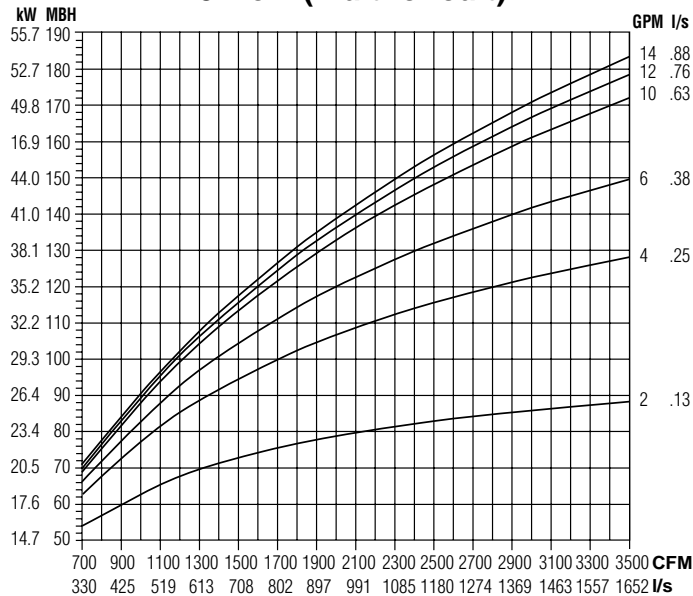
1 Row (single circuit)



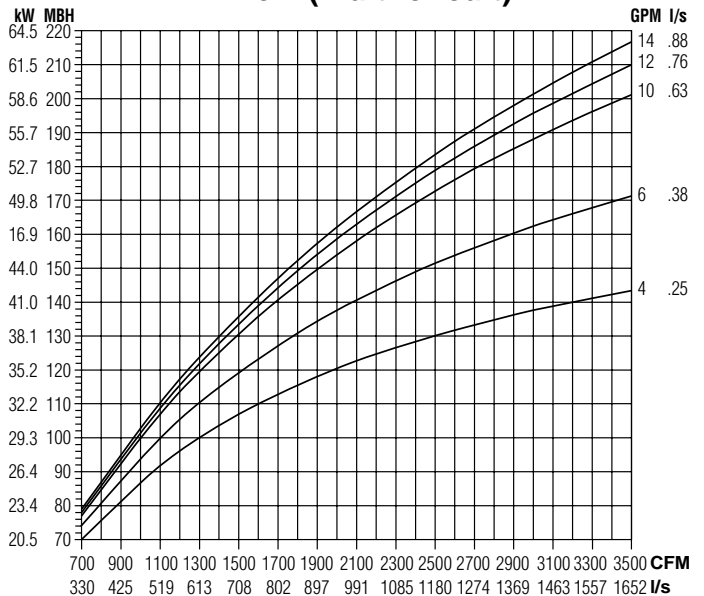
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$\text{ATR (}^\circ\text{F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \text{ ATR (}^\circ\text{C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

- Water Temp. Drop.

$$\text{WTD (}^\circ\text{F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \text{ WTD (}^\circ\text{C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1, 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

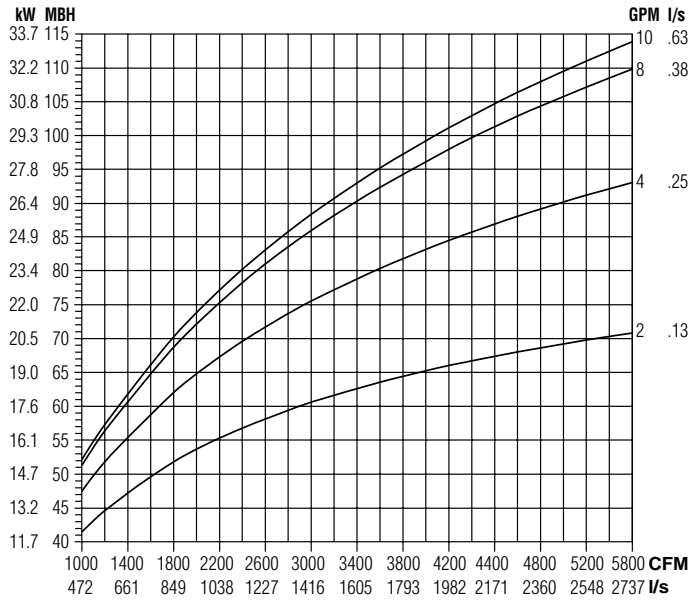
Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

Performance Data • Hot Water Coil • Capacities

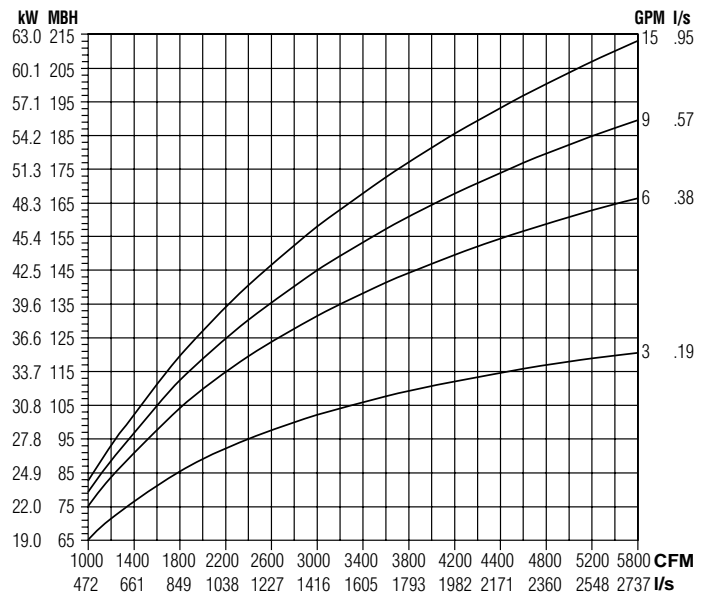
Model: 31RW

Unit Size 24 x 16

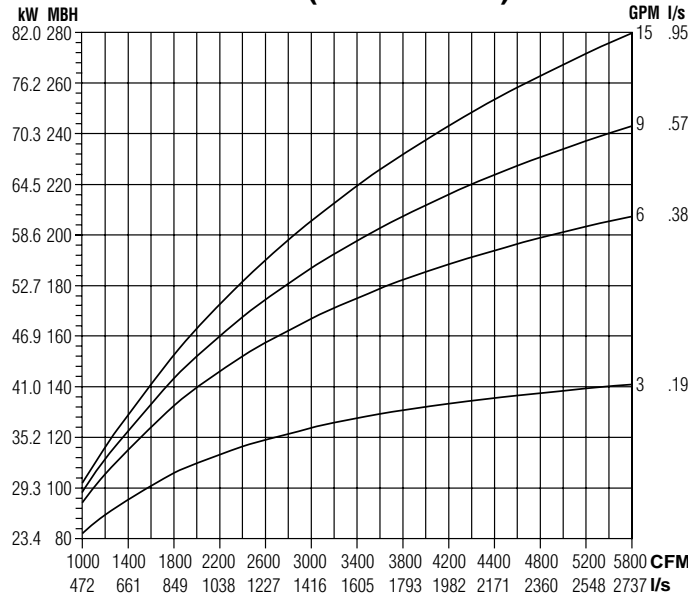
1 Row (single circuit)



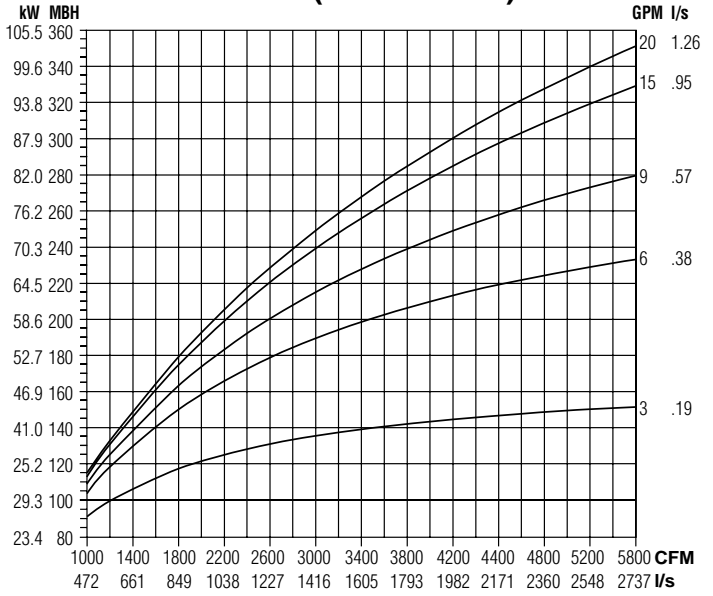
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.
 $ATR (^\circ F) = 927 \times \frac{MBH}{cfm}$, $ATR (^\circ C) = 829 \times \frac{kW}{l/s}$
- Water Temp. Drop.
 $WTD (^\circ F) = 2.04 \times \frac{MBH}{GPM}$, $WTD (^\circ C) = .224 \times \frac{kW}{l/s}$
- Connections: 1 and 2 Row 7/8" (22), 3 and 4 Row 1 3/8" (35); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

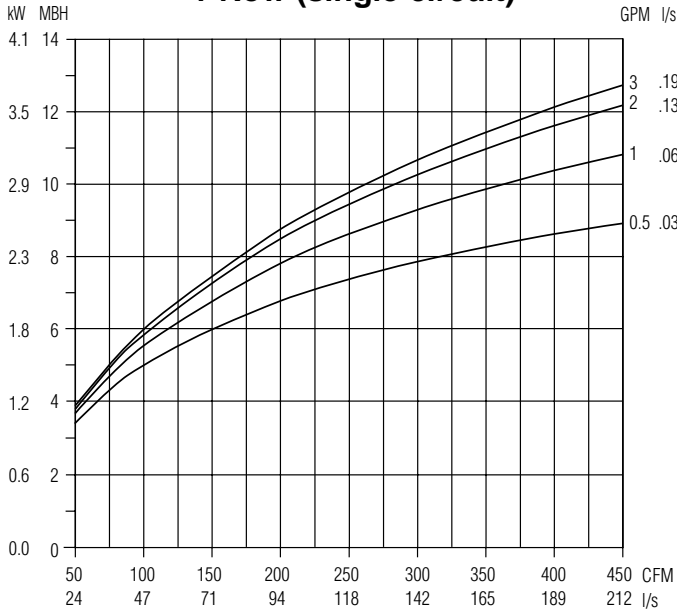
A SINGLE DUCT TERMINAL UNITS

Performance Data • Hot Water Coil • Capacities

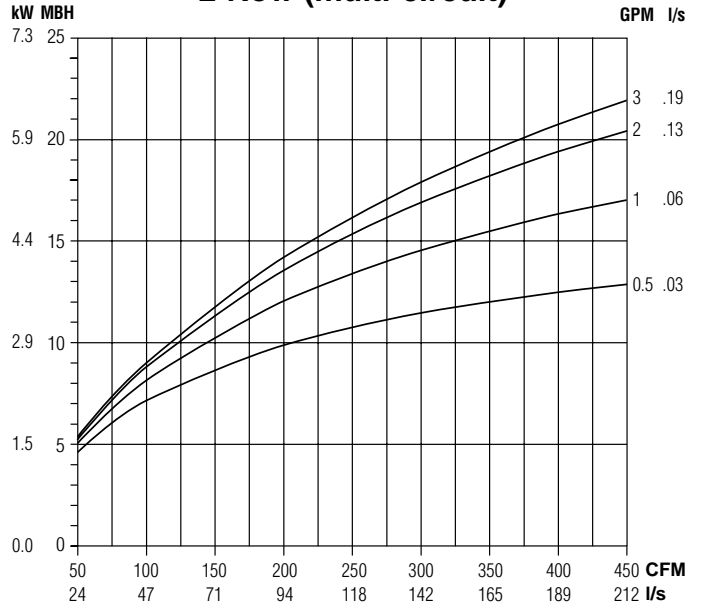
Model: 31RW

Unit Sizes 4, 5 and 6

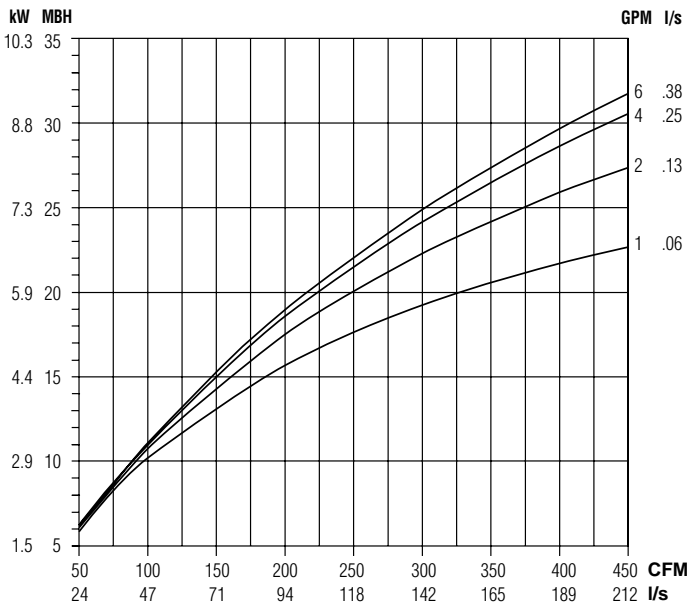
1 Row (single circuit)



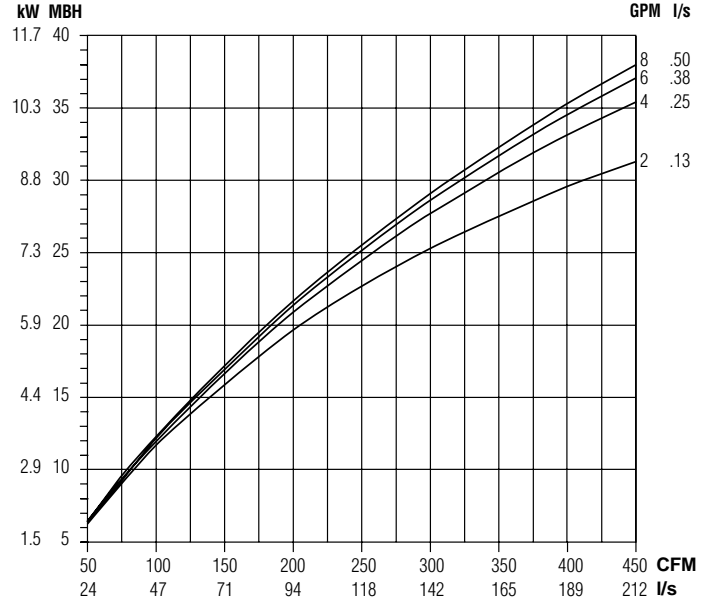
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$\text{ATR (}^\circ\text{F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \text{ ATR (}^\circ\text{C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

- Water Temp. Drop.

$$\text{WTD (}^\circ\text{F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \text{ WTD (}^\circ\text{C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

SINGLE DUCT TERMINAL UNITS

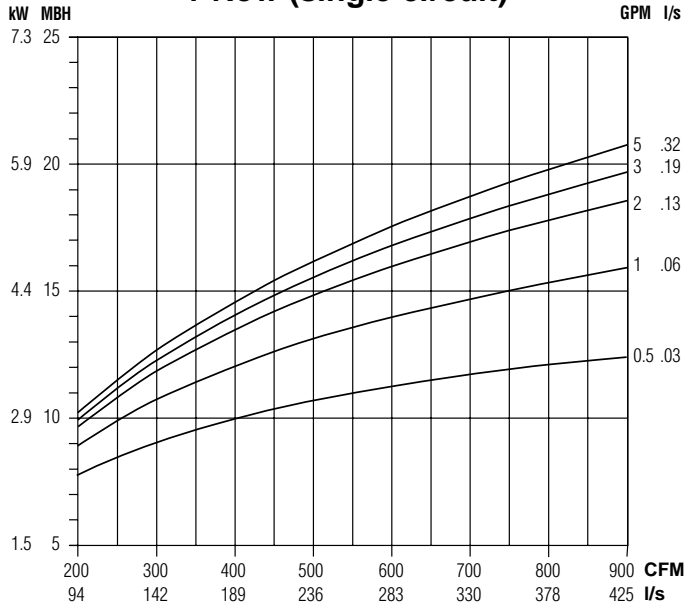
A

Performance Data • Hot Water Coil • Capacities

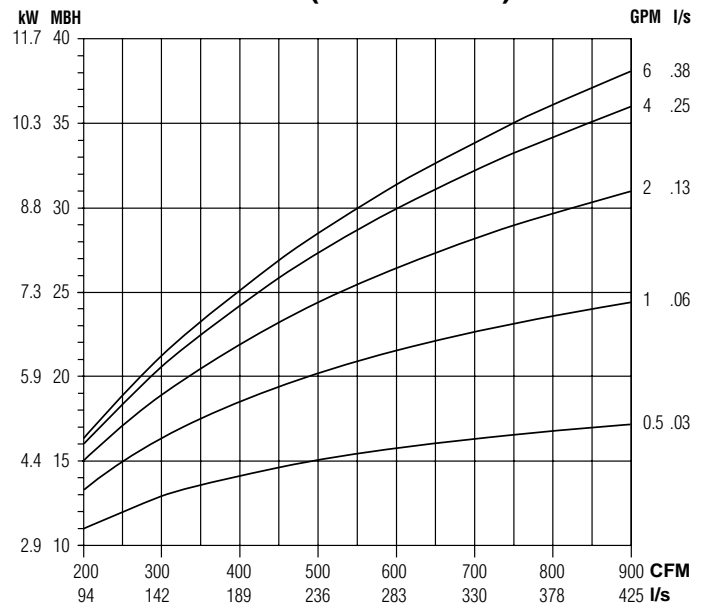
Model: 31RW

Unit Sizes 7 and 8

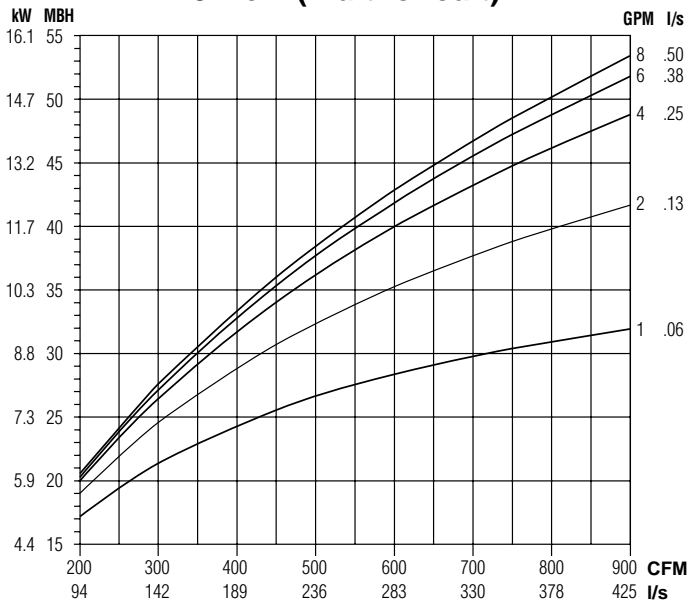
1 Row (single circuit)



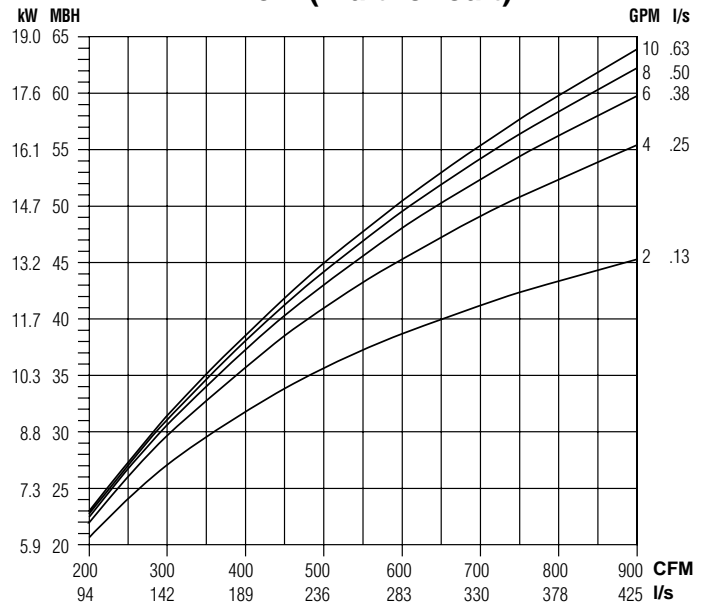
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$\text{ATR (°F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \quad \text{ATR (°C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

- Water Temp. Drop.

$$\text{WTD (°F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \quad \text{WTD (°C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

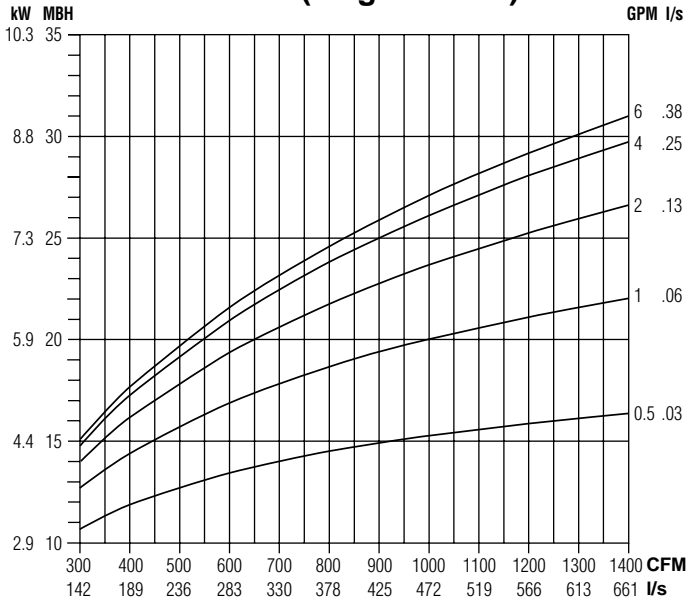
Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

Performance Data • Hot Water Coil • Capacities

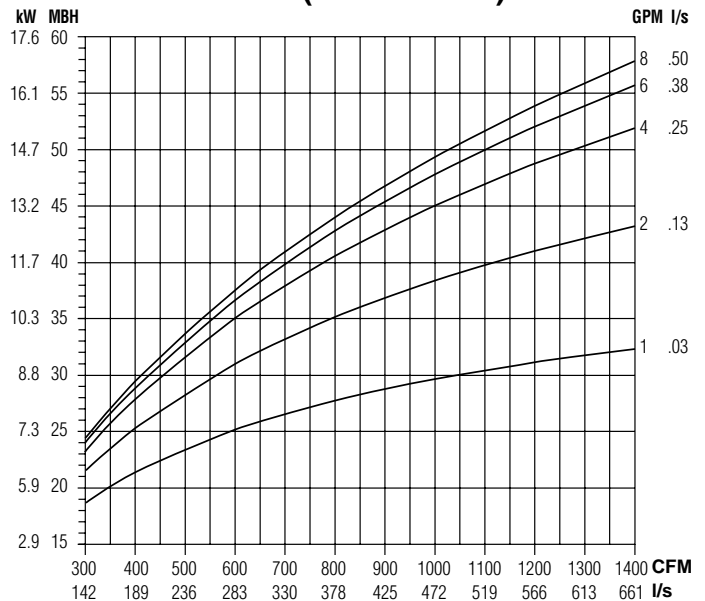
Model: 31RW

Unit Sizes 9 and 10

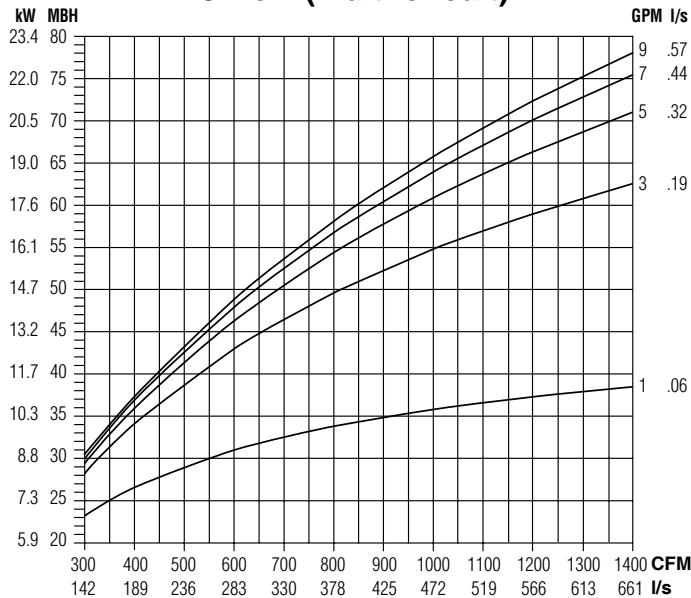
1 Row (single circuit)



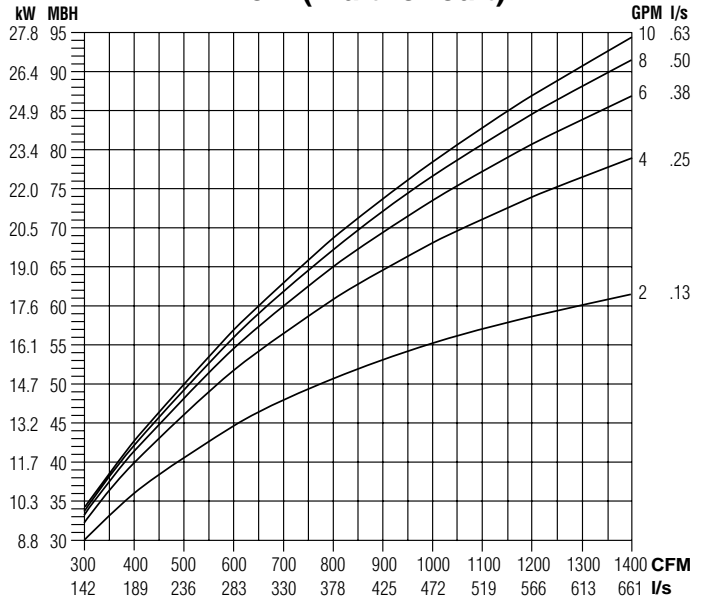
2 Row (multi-circuit)



3 Row (multi-circuit)



4 Row (multi-circuit)



NOTES:

- Capacities are in MBH (kW), *thousands of Btu per hour (kiloWatts)*.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

3. Air Temperature Rise.

$$\text{ATR (°F)} = 927 \times \frac{\text{MBH}}{\text{cfm}}, \text{ ATR (°C)} = 829 \times \frac{\text{kW}}{\text{l/s}}$$

4. Water Temp. Drop.

$$\text{WTD (°F)} = 2.04 \times \frac{\text{MBH}}{\text{GPM}}, \text{ WTD (°C)} = .224 \times \frac{\text{kW}}{\text{l/s}}$$

- Connections: 1 Row 1/2" (13), 2, 3 and 4 Row 7/8" (22); O.D. male solder.

Altitude Correction Factors:

Altitude ft. (m)	Sensible Heat Factor
0 (0)	1.00
2000 (610)	0.94
3000 (914)	0.90
4000 (1219)	0.87
5000 (1524)	0.84
6000 (1829)	0.81
7000 (2134)	0.78

Correction factors at other entering conditions:

Δt °F (°C)	40 (22)	50 (28)	60 (33)	70 (39)	80 (44)	90 (50)	100 (56)	110 (61)	125 (69)	140 (78)	160 (89)	180 (100)
Factor	.320 (.319)	.400 (.406)	.480 (.478)	.560 (.565)	.640 (.638)	.720 (.725)	.800 (.812)	.880 (.884)	1.00 (1.00)	1.12 (1.13)	1.28 (1.29)	1.44 (1.45)

SINGLE DUCT TERMINAL UNITS

A

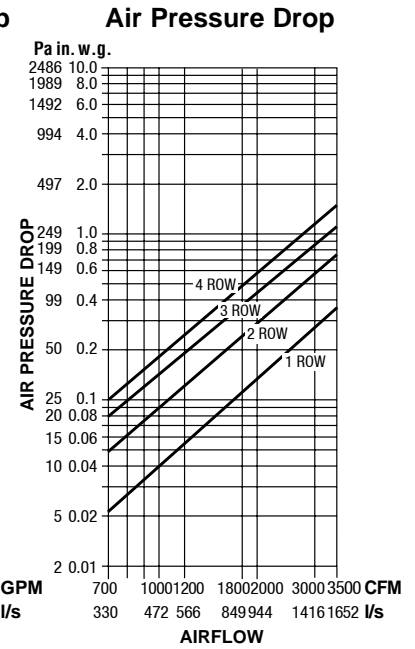
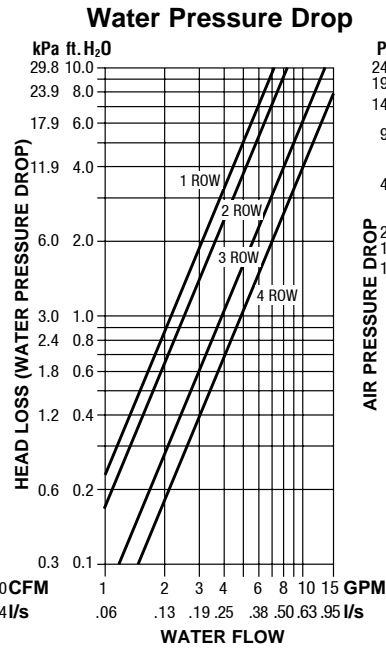
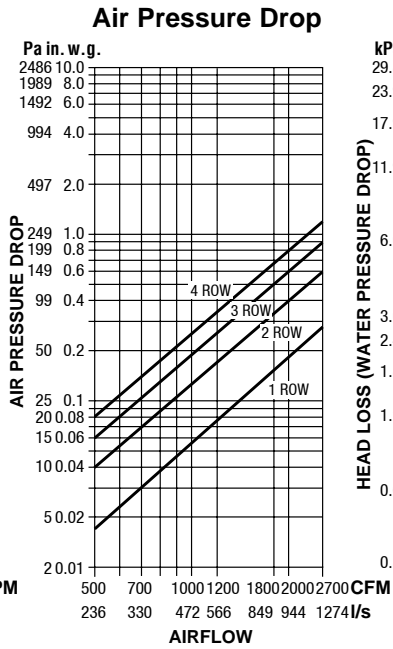
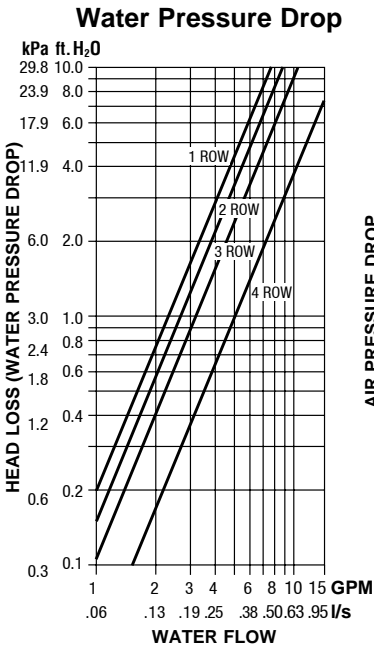
Performance Data • Hot Water Coil • Pressure Drop

Model: 31RW

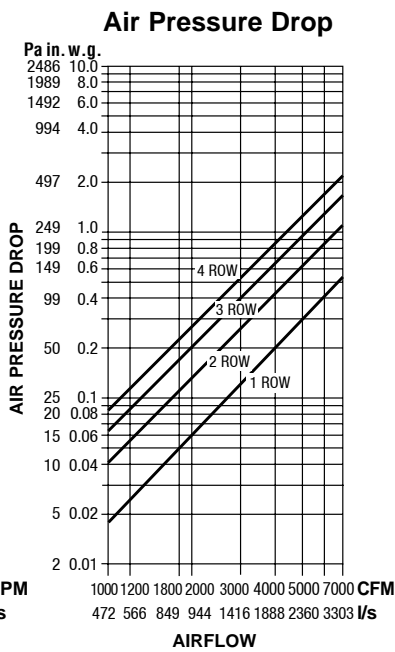
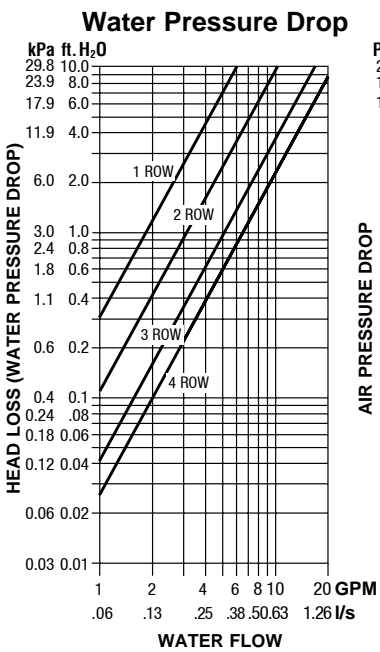
Unit Size 14

Unit Size 16

SINGLE DUCT TERMINAL UNITS



Unit Size 24 x 16



NOTES:

- Capacities are in MBH (kW), **thousands of Btu per hour (kiloWatts)**.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.

$$ATR (^\circ F) = 927 \times \frac{MBH}{cfm}, \quad ATR (^\circ C) = 829 \times \frac{kW}{I/s}$$
- Water Temp. Drop.

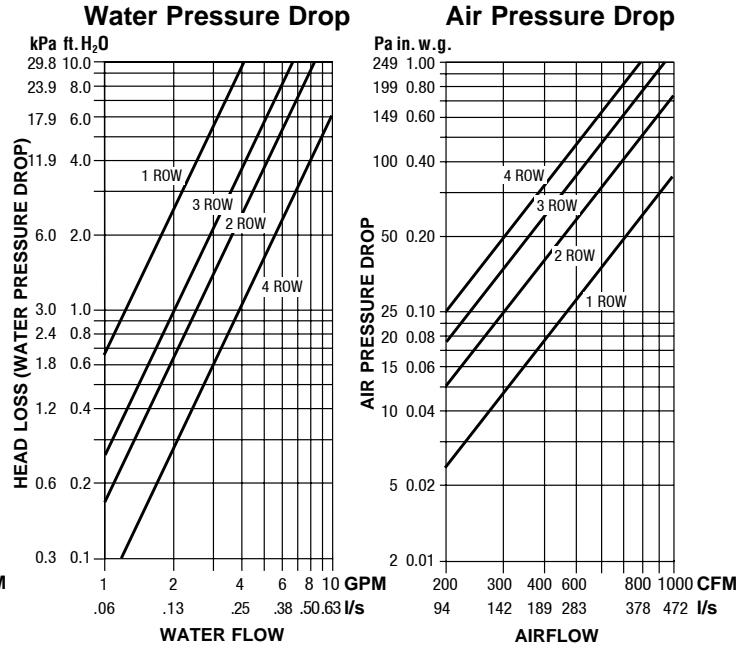
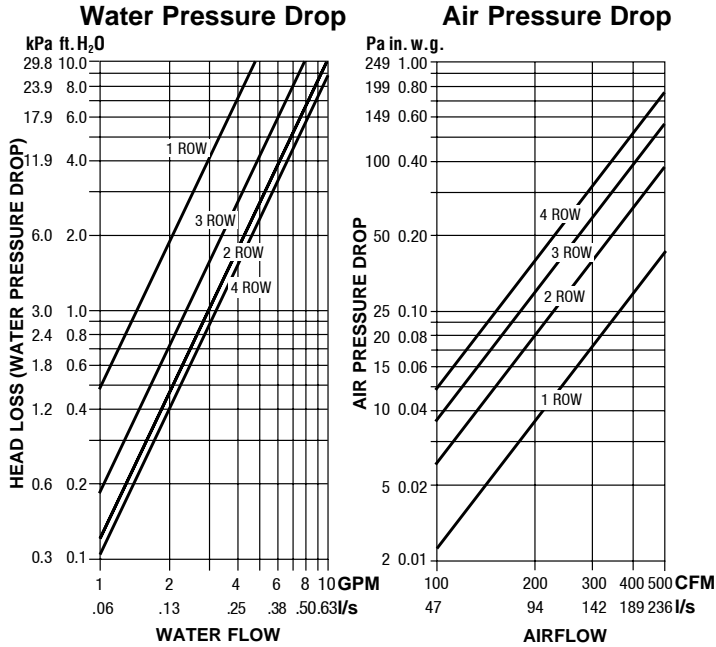
$$WTD (^\circ F) = 2.04 \times \frac{MBH}{GPM}, \quad WTD (^\circ C) = .224 \times \frac{kW}{I/s}$$

Performance Data • Hot Water Coil • Pressure Drop

Model: 31RW

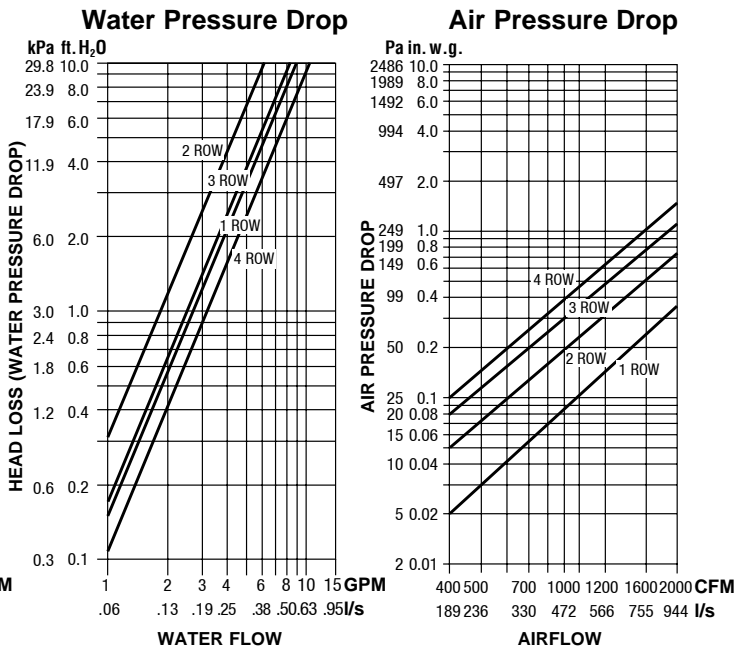
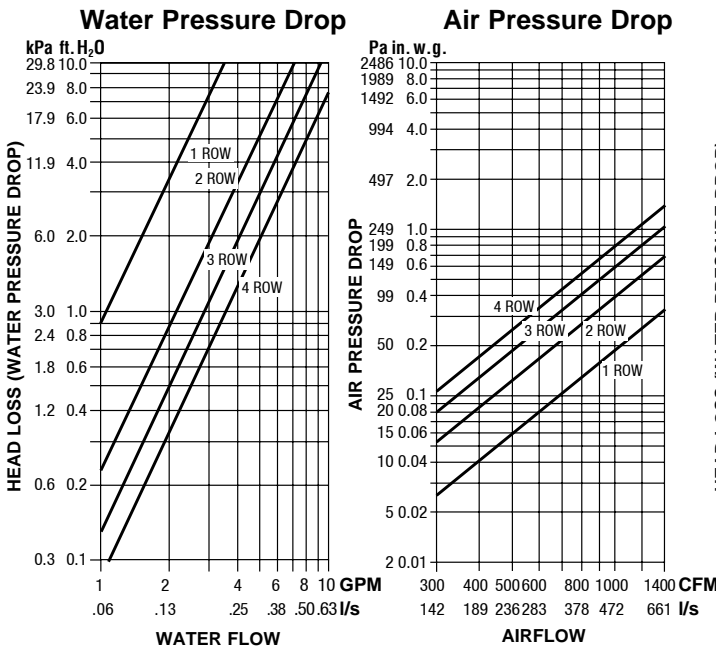
Unit Sizes 4, 5 & 6

Unit Sizes 7 & 8



Unit Sizes 9 & 10

Unit Size 12



NOTES:

- Capacities are in MBH (kW), **thousands of Btu per hour (kiloWatts)**.
- MBH (kW) values are based on a Δt (temperature difference) of 125°F (69°C) between entering air and entering water. For other Δt 's; multiply the MBH (kW) values by the factors below.

- Air Temperature Rise.
 $ATR (^\circ F) = 927 \times \frac{MBH}{cfm}$, $ATR (^\circ C) = 829 \times \frac{kW}{l/s}$
- Water Temp. Drop.
 $WTD (^\circ F) = 2.04 \times \frac{MBH}{GPM}$, $WTD (^\circ C) = .224 \times \frac{kW}{l/s}$