

INDIRECT FIRED UNITS - DRUM AND TUBE

Make-Up Air Units



Typical Applications

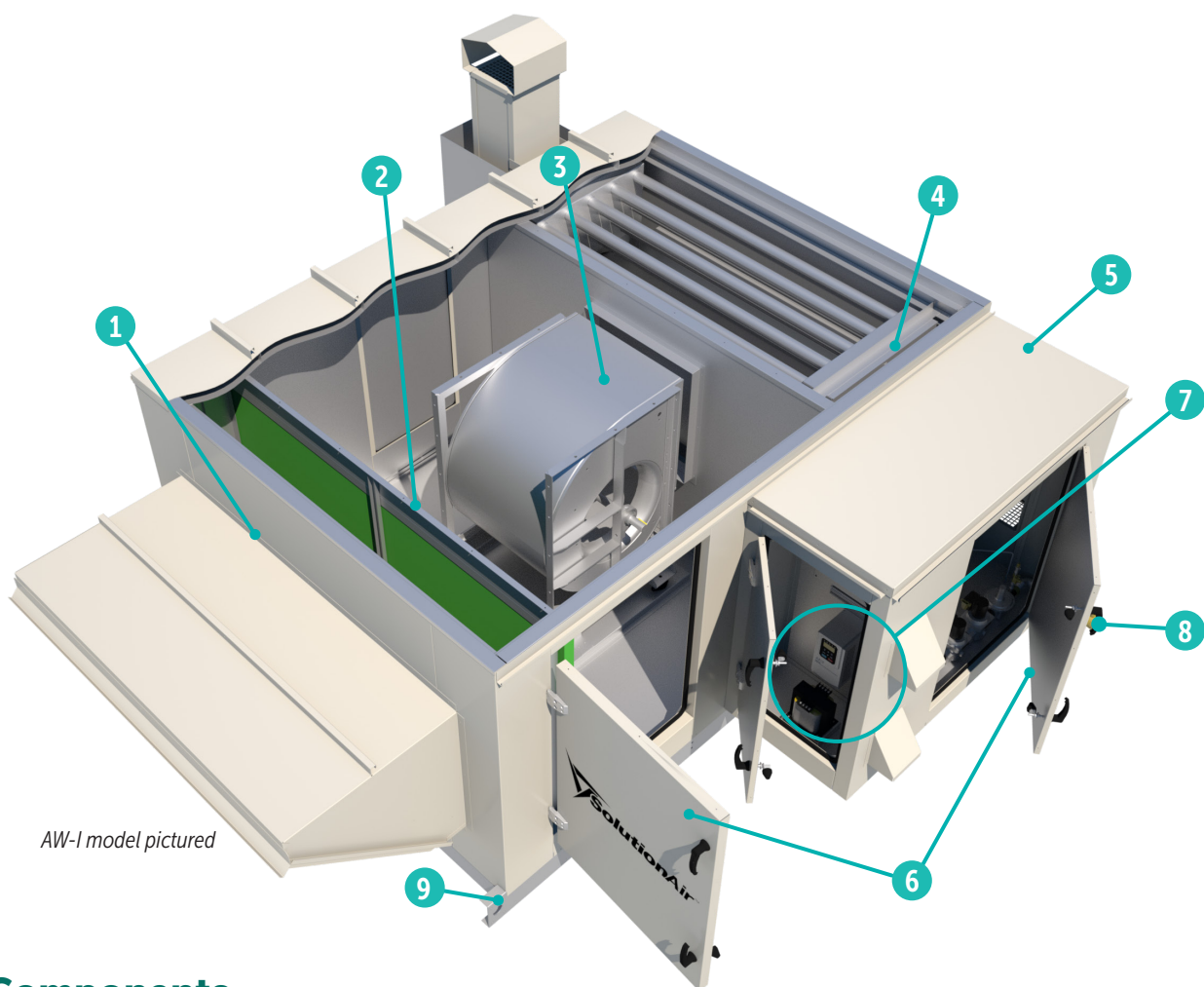
Units equipped with drum and tube heat exchangers are an essential product for heating occupied commercial and industrial spaces during winter months. Mounted indoors or outside on a slab or roof mounted on a curb the SolutionAir Drum and Tube units are an excellent option for providing conditioned air to commercial occupied spaces requiring capacities up to 6,000,000 BTUs, such as hospitals, hotels, condominiums, shopping malls, and factories. SolutionAir offers completely configurable designs to compete in demanding applications and to match your needs and specifications.

Features

- + Output range:
 - 3-Pass: 250-4,000 MBH
 - 4-Pass: 250-6,000 MBH
- + Design airflow ranges:
 - 3-Pass from 1,684 to 61,728 CFM
 - 4-Pass from 1,684 to 92,593 CFM
- + Turn down: 15:1
- + Design temperature rises from 110°F to 60°F
- + Maximum discharge temperatures of 180°F
- + Thermal Efficiency: 80%
- + Automatic season changeover
- + CSA approved design

INDIRECT FIRED UNITS - DRUM AND TUBE

Make-Up Air Units



Components

1 Inlets

- + 100% Outdoor Air Hood
 - Half inch expanded metal bird screen
 - Motorized two position damper
 - Optional modulating inlet damper
 - Optional inlet louver

2 Filters

- + 2" MERV 8, 11 or 13
- + 12" MERV 13, 14, 15, or 16

3 Fans

- + Direct drive backward curve or airfoil plenum fans
- + High efficiency forward curved DWDI fans
- + Greasable pillow block bearings
- + Adjustable motor mount base
- + Fan skid mounted on RIS isolators, spring isolation optional
- + Available VFD's

4 Heat Exchanger

- + Constructed with 409SS material
- + 3-pass or 4-pass drum and tube construction
- + 15:1 turndown
- + Operates down to -40°F ambient
- + Single point piping connection
- + CSA certified for Canada and USA

5 Cabinet

- + Double wall construction
- + 1" or 2" polyurethane foam or fiberglass insulation
- + 16 to 18 gauge galvanized, 304 stainless or 10,000 hour salt spray painted galvaneal steel exterior liners
- + 18 to 22 gauge galvanized or 304 stainless steel inner liner
- + 22 gauge perforated galvanized steel inner liner
- + Available washdown construction and checker plate floors
- + Optional acoustic liner

INDIRECT FIRED UNITS - DRUM AND TUBE

Make-Up Air Units

6 Doors

- + Double walled construction designed with similar construction to unit cabinet
- + Hinged doors and/or lift-off panels

7 Controls

- + Standard unit mounted controls
- + Unit controls provide:
 - Dynamic operational limit control
 - Independently configurable I/O pins
 - Integrated energy saving management
- + Optional BACnet MS/TP or BACnet IP communication

8 Disconnect

- + Non-fused and fused disconnect available
- + Single point power connection

9 Base

- + 6" and 8" formed steel base frame
- + 4" and 6" structural steel base frame

Dampers (not shown)

- + Triple-vee roll formed galvanized steel blades
- + Optional low leak aluminum airfoil or insulated airfoil dampers

INDIRECT FIRED UNITS - DRUM AND TUBE

Make-Up Air Units

Performance Data

Indirect 3-Pass Drum and Tube (AW-I-3-25 to AW-I-3-75)

Model Number	Heat Input (MBH)	Heat Output (MBH)	Gas Inlet Size (NPT)		Turn Down
			8-14 in.w.c.	1-5 psi	
AW-I-3-25	313	250	0.75	0.75	15:1
AW-I-3-30	360	300	0.75	0.75	15:1
AW-I-3-40	500	400	1	1	15:1
AW-I-3-50	625	500	1	1	15:1
AW-I-3-65	813	650	1.25	1	15:1
AW-I-3-75	938	750	1.25	1	15:1

Indirect 3-Pass Drum and Tube (AW-I-3-85 to AW-I-3-400)

Model Number	Heat Input (MBH)	Heat Output (MBH)	Gas Inlet Size (NPT)		Turn Down
			8-14 in.w.c.	1-5 psi	
AW-I-3-85	1,063	850	1.25	1	15:1
AW-I-3-100	1,250	1,000	1.25	1	15:1
AW-I-3-125	1,563	1,250	1.25	1	15:1
AW-I-3-150	1,876	1,500	1.5	1.25	15:1
AW-I-3-175	2,188	1,750	2	1.5	15:1
AW-I-3-200	2,500	2,000	2	1.5	15:1
AW-I-3-250	3,125	2,500	2.5	2	15:1
AW-I-3-300	3,750	3,000	2.5	2	15:1
AW-I-3-400	5,000	4,000	2.5	2	15:1

Indirect 4-Pass Drum and Tube (AW-I-4-25 to AW-I-4-75)

Model Number	Heat Input (MBH)	Heat Output (MBH)	Gas Inlet Size (NPT)		Turn Down
			8-14 in.w.c.	1-5 psi	
AW-I-4-25	313	250	0.75	0.75	15:1
AW-I-4-35	438	350	1	1	15:1
AW-I-4-40	500	400	1	1	15:1
AW-I-4-50	625	500	1	1	15:1
AW-I-4-55	687	550	1.25	1	15:1
AW-I-4-65	813	650	1.25	1	15:1
AW-I-4-75	938	750	1.25	1	15:1

Indirect 4-Pass Drum and Tube (AW-I-4-85 to AW-I-4-225)

Model Number	Heat Input (MBH)	Heat Output (MBH)	Gas Inlet Size (NPT)		Turn Down
			8-14 in.w.c.	1-5 psi	
AW-I-4-85	1,063	850	1.25	1	15:1
AW-I-4-100	1,250	1,000	1.25	1	15:1
AW-I-4-125	1,563	1,250	1.25	1	15:1
AW-I-4-150	1,876	1,500	1.5	1.25	15:1
AW-I-4-175	2,188	1,750	2	1.5	15:1
AW-I-4-200	2,500	2,000	2	1.5	15:1
AW-I-4-225	2,813	2,250	2	1.5	15:1

Indirect 4-Pass Drum and Tube (AW-I-4-250 to AW-I-4-600)

Model Number	Heat Input (MBH)	Heat Output (MBH)	Gas Inlet Size (NPT)		Turn Down
			8-14 in.w.c.	1-5 psi	
AW-I-4-250	3,125	2,500	2.5	2	15:1
AW-I-4-275	3,438	2,750	2.5	2	15:1
AW-I-4-300	3,750	3,000	2.5	2	15:1
AW-I-4-350	4,375	3,500	2.5	2	15:1
AW-I-4-400	5,000	4,000	2.5	2	15:1
AW-I-4-500	6,250	5,000	N/A	2.5	15:1
AW-I-4-600	7,500	6,000	N/A	2.5	15:1

INDIRECT FIRED UNITS - CONVOLUTED TUBE

Roof Top Units (Make-up Air)



INDIRECT FIRED UNITS - CONVOLUTED TUBE

Make-Up Air Units

Typical Applications

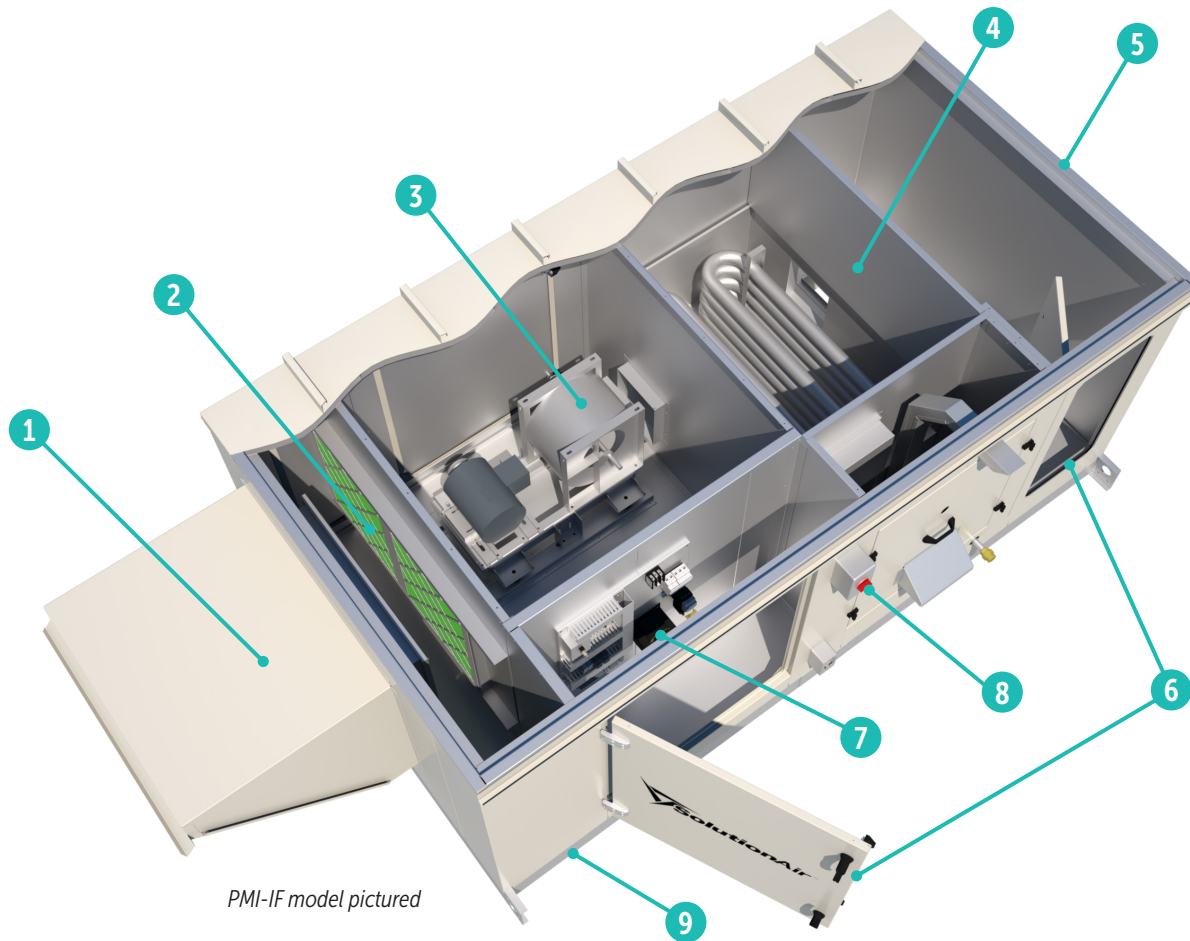
The Convoluted Tube series of indirect fired make-up air units are ideal for applications where indoor air quality is paramount: schools, offices and institutional projects. The high efficiency gas-heating design reduces operating costs and climate change impact.

Features

- + Models
 - IFC: Standard 80% Efficiency Convoluted Tube
 - IFC-H: 93% Efficiency Convoluted Tube
- + Performance
 - IFC:
 - 60 – 1200 MBH
 - Design airflow from 505 to 44,444 CFM
 - From 4:1 to 18:1 turndown
 - IFC-H:
 - 160 – 1440 MBH
 - Design airflow from 1,136 to 29,630 CFM
 - From 5:1 to 20:1 turndown
- + Design temperature rises from 20°F to 110°F
- + Maximum discharge temperatures of 180°F
- + CSA approved design
- + Options
 - Integrated DX cooling
 - Dehumidification/humidification
 - Filtration
 - Mixing boxes to utilize return air

INDIRECT FIRED UNITS - CONVOLUTED TUBE

Make-Up Air Units



Components

1 Inlets

- + 100% Outdoor Air Hood
 - Half inch expanded metal bird screen
 - Motorized two position damper
 - Optional modulating inlet damper
 - Optional inlet louver

2 Filters

- + 2" MERV 8, 11 or 13
- + 12" MERV 13, 14, 15, or 16

3 Fans

- + Available direct drive backward curved or airfoil plenum fans
- + Adjustable motor mount base
- + Fan skid mounted on RIS isolators, spring isolation optional
- + Available VFD's

4 Heat Exchanger

- + Stainless steel construction
- + 80% or 93% efficient
- + 4:1 to 20:1 turndowns
- + Operates down to -40°F ambient
- + Single point piping connection
- + CSA certified for Canada and USA

INDIRECT FIRED UNITS - CONVOLUTED TUBE

Make-Up Air Units

5 Cabinet

- + Double wall construction
- + 1" or 2" polyurethane foam or fiberglass insulation
- + Multiple inner and outer liner options
 - 16 to 18 gauge galvanized, 304 stainless or 10,000 hour salt spray painted galvaneal steel exterior liners
 - 18 to 22 gauge galvanized or 304 stainless steel inner liner
 - 22 gauge perforated galvanized steel inner liner
- + Available washdown construction and checker plate floors
- + Optional acoustic liner

6 Doors

- + Double walled construction designed with similar construction to unit cabinet
- + Hinged doors and/or lift-off panels

7 Controls

- + Standard unit mounted controls
- + Unit controls provide:
 - Dynamic operational limit control
 - Independently configurable I/O pins
 - Integrated energy saving management
- + Available with BACnet IP, BACnet MS/TP, or Modbus communication

8 Disconnect

- + Non-fused and fused disconnect available
- + Single point power connection

9 Base

- + 6" and 8" formed steel base frame
- + 4" and 6" structural steel base frame

Dampers (not shown)

- + Triple-vee roll formed galvanized steel blades
- + Optional low leak aluminum airfoil or insulated airfoil dampers

DIRECT FIRED UNITS

Make-Up Air Units



Typical Applications

The SolutionAir Direct Fire Unit series provides continuous superior control for maintaining space temperature for demanding ventilation applications.

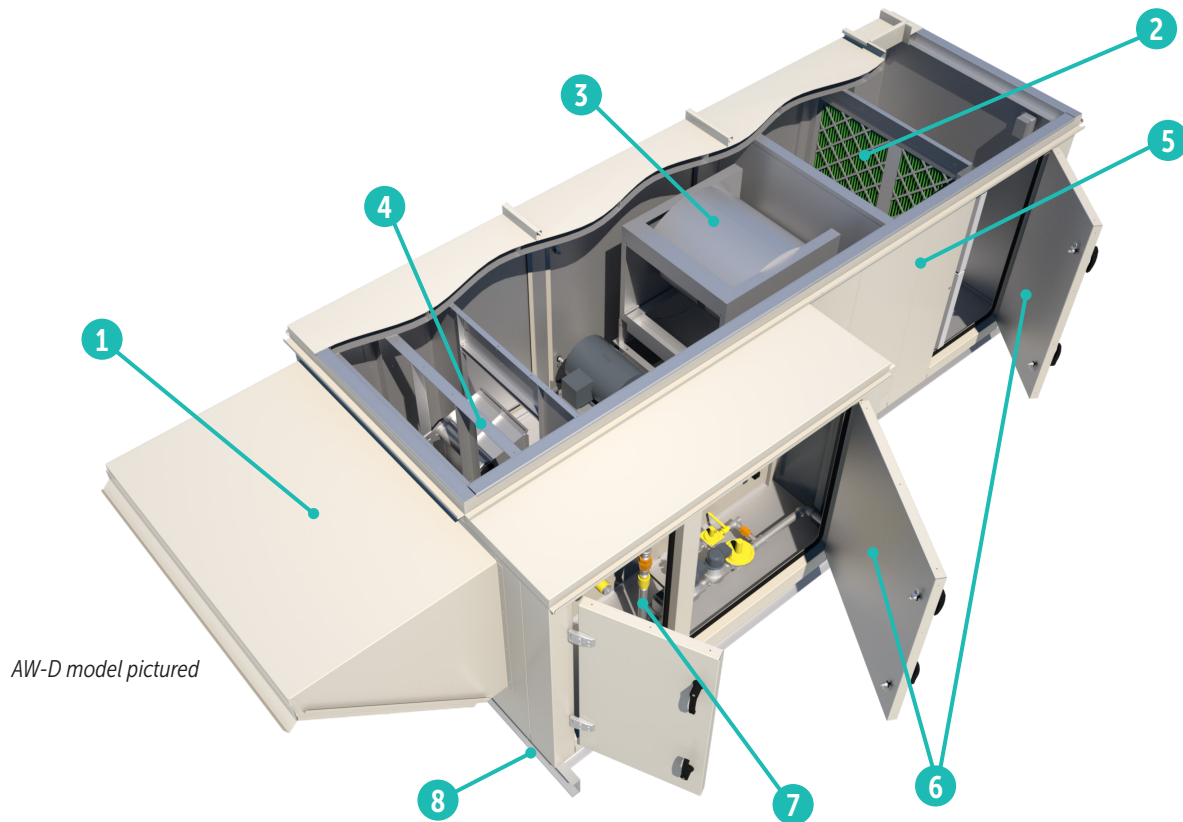
The high turndown ratio makes these units ideal for commercial and industrial applications, while its configurable flexibility provides the perfect retrofit solution by fitting directly on existing curbs and ducts.

Features

- + Output Range: 42 - 6,500 MBH
- + Airflow Range: 1,950 - 50,000 CFM
- + Turndown: From 6:1 to 30:1
- + Minimum Thermal Efficiency: 92%
- + Design temperature rises from 120°F to 20°F
- + Maximum discharge temperatures of 160°F
- + Factory tested
- + Automatic season changeover
- + CSA approved design
- + CSA certified in accordance with ANSI Z83.25/CSA 3.7, ANSI 83.18

DIRECT FIRED UNITS

Make-Up Air Units



Components

1 Inlets

- + 100% Outdoor Air Hood
 - Half inch expanded metal bird screen
 - Motorized two position damper
 - Optional modulating inlet damper
 - Optional inlet louver

2 Filters

- + 2" MERV 8, 11 or 13
- + 12" MERV 13, 14, 15, or 16

3 Fans

- + High efficiency forward curved DWDI fans
- + Greasable pillow block bearings
- + Adjustable motor mount base
- + Fan skid mounted on RIS isolators, spring isolation optional
- + Available VFD's

4 Burner

- + Stainless steel construction
- + Up to 30:1 turndown
- + Operates down to -40°F ambient
- + Single point piping connection
- + CSA certified for Canada and USA

5 Cabinet

- + Double wall construction
- + 1" or 2" polyurethane foam or fiberglass insulation
- + Multiple inner and outer liner options
 - 16 to 18 gauge galvanized, 304 stainless or 10,000 hour salt spray painted galvaneal steel exterior liners
 - 18 to 22 gauge galvanized or 304 stainless steel inner liner
 - 22 gauge perforated galvanized steel inner liner
- + Available washdown construction and checker plate floors
- + Optional acoustic liner

DIRECT FIRED UNITS

Make-Up Air Units

6 Doors

- + Double walled construction designed with similar construction to unit cabinet
- + Hinged doors and/or lift-off panels

7 Controls

- + Standard unit mounted controls
- + Unit controls provide:
 - Dynamic operational limit control
 - Independently configurable I/O pins
 - Integrated energy saving management
- + Optional BACnet MS/TP or BACnet IP communication

8 Base

- + 6" and 8" formed steel base frame
- + 4" and 6" structural steel base frame

Dampers (not shown)

- + Triple-vee roll formed galvanized steel blades
- + Optional low leak aluminum airfoil or insulated airfoil dampers

DIRECT FIRED UNITS


Make-Up Air Units

Performance Data

Single Fan Configuration

Model Number	Maximum Design Airflow (cfm)	Gas Inlet Size (NPT)		Turn Down Up To
		7-14 in. w.c.	1-5 psi	
AW-D-1-10	2,000	0.75	0.5-0.75	30:1
AW-D-1-12	4,000	0.75-1	0.5-1	30:1
AW-D-1-15	7,000	1-1.25	0.75-1	30:1
AW-D-1-18	10,000	1-1.25	1	30:1
AW-D-1-20	13,000	1-1.5	1-1.25	30:1
AW-D-1-22	18,000	1.25-2	1-1.5	30:1
AW-D-1-25	22,000	1.5-2.5	1-2	30:1
AW-D-1-27	25,000	1.5-2.5	1.25-2	30:1
AW-D-1-30	32,000	2-2.5	1.25-2	30:1
AW-D-1-33	35,000	2-2.5	1.5-2	30:1
AW-D-1-40	50,000	2 - NA	1.5-2.5	30:1

Performance and Dimensions subject to change.

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