

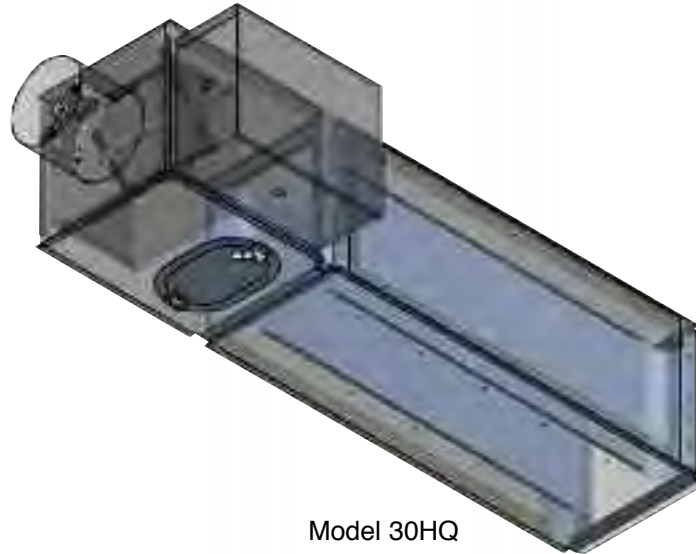
## SINGLE DUCT VARIABLE OR CONSTANT AIR VOLUME

### 30HQ SERIES

- HOSPITAL GRADE
- DISSIPATIVE SILENCER
- SUPER QUIET

#### Models:

- 30HQ** Cooling or Heating only
- 30HQW** Cooling with Hot Water Reheat
- 30HQE** Cooling with Electric Reheat



Model 30HQ

Hospital system designs have to contend with the presence of infectious diseases, chemical hazards, biological contaminants and low sound level requirements. The 30HQ hospital grade terminal unit has been purposely designed to address these parameters by using innovative options and construction methods, resulting in simplified maintenance and improved sound performance.

Each unit includes a factory mounted dissipative silencer that maximizes acoustical attenuation, minimizes pressure loss and reduces self-generated sound. Acoustic insulation in the silencer is wrapped in mylar, which acts to isolate the media from the airstream. Mylar also works as a vapor barrier preventing mold and bacterial growth in the acoustic media. FSK (Foil-Scrim-Kraft) faced Steri-Liner is the only liner available on the 30HQ series. This insulation offers a durable, cleanable surface throughout the VAV section and exposed silencer portions. By fully lining the silencer, there is no need to field apply external thermal duct wrap. Optional components such as access doors and removable flow sensors enhance the functionality of the 30HQ Series units to provide optimum performance and flexibility in hospital environments.

#### STANDARD FEATURES:

- Designed for hospital and other critical environment applications where IAQ (Indoor Air Quality) is a concern.
- 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. (746 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 and is determined looking into direction of airflow. Optional left hand controls mounting is available.
- Available in 11 sizes ranging from 0 to 8330 cfm (0-3931 l/s) for 30HQ and 30HQW units. 25-8330 cfm (12-3931 l/s) on 30HQE.

#### Silencer Section:

- Designed to mate with VAV section for optimum performance and quiet operation.
- Optimized internal baffle geometry reduces self-generated noise, 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.

#### Options and Accessories:

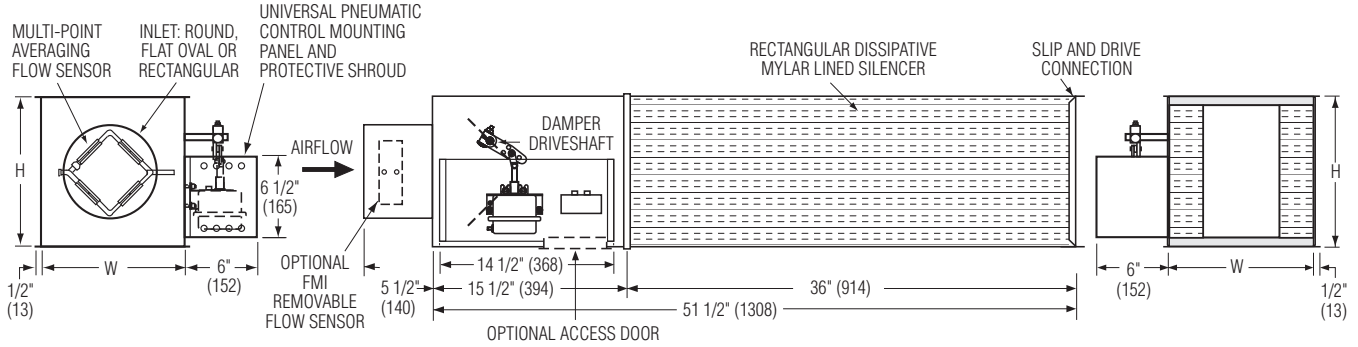
- Bottom access door
- FMI Removable insert type Diamond Flow Sensor.
- 24 VAC control transformer.
- Toggle disconnect switch.
- Hanger brackets.
- Controls enclosure for field mounted controls.
- Dust tight enclosure seal.
- 20 ga. (1.00) construction

## Dimensions

### Model Series 30HQ

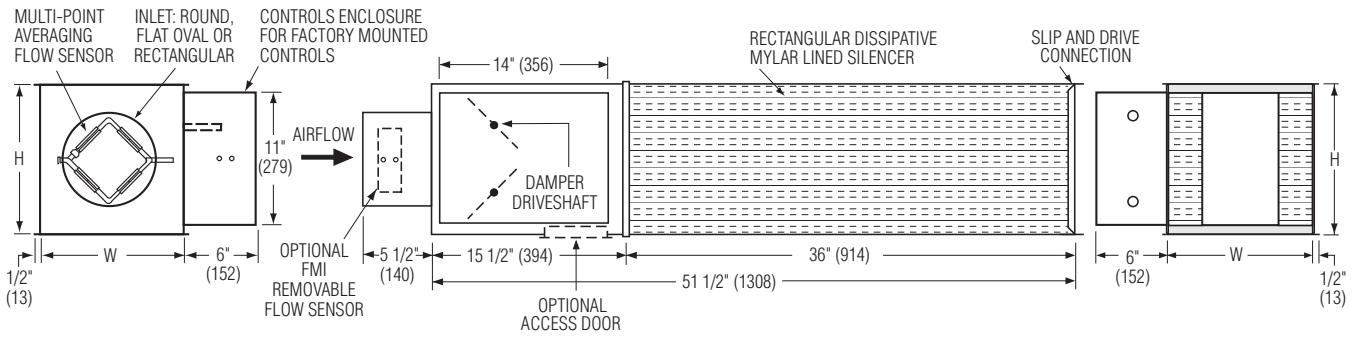
#### 30HQ • Hospital Grade • Dissipative Silencer Pneumatic Controls

- Universal pneumatic control mounting panel features double wall stand-off construction for strength and rigidity. Controls mounting screws do not penetrate terminal casing.



#### Analog Electronic and Digital Controls

- A full NEMA 1 controls enclosure is provided for factory mounted controls. Optional for field mounted controls.



### Dimensional Data

Unit Size	W	H	Inlet Size
4	10 (254)	10 (254)	3 7/8 (98) Round
5	10 (254)	10 (254)	4 7/8 (124) Round
6	10 (254)	10 (254)	5 7/8 (149) Round
7	12 (305)	12 1/2 (318)	6 7/8 (175) Round
8	12 (305)	12 1/2 (318)	7 7/8 (200) Round
9	14 (356)	12 1/2 (318)	8 7/8 (225) Round
10	14 (356)	12 1/2 (318)	9 7/8 (251) Round
12	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval
14	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval
16	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval
24 x 16	38 (965)	18 (457)	23 7/8 x 15 7/8 (606 x 403) Rect.

B

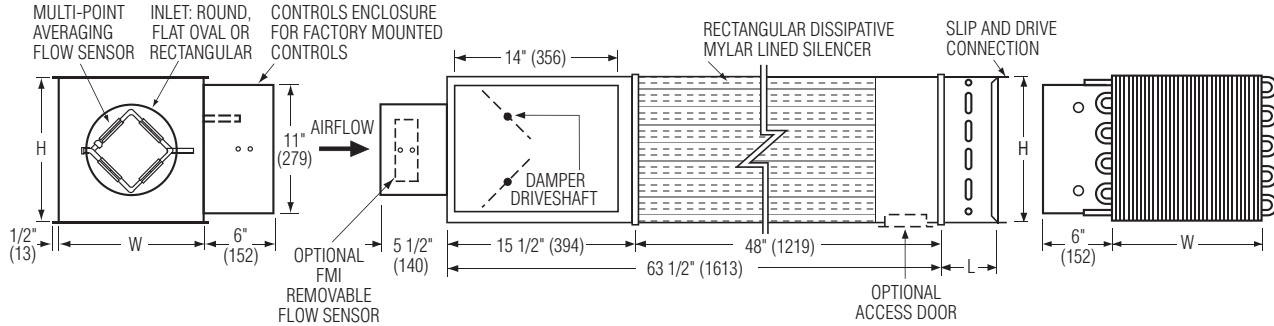
SINGLE DUCT TERMINAL UNITS

## Dimensions

### Model Series 30HQ

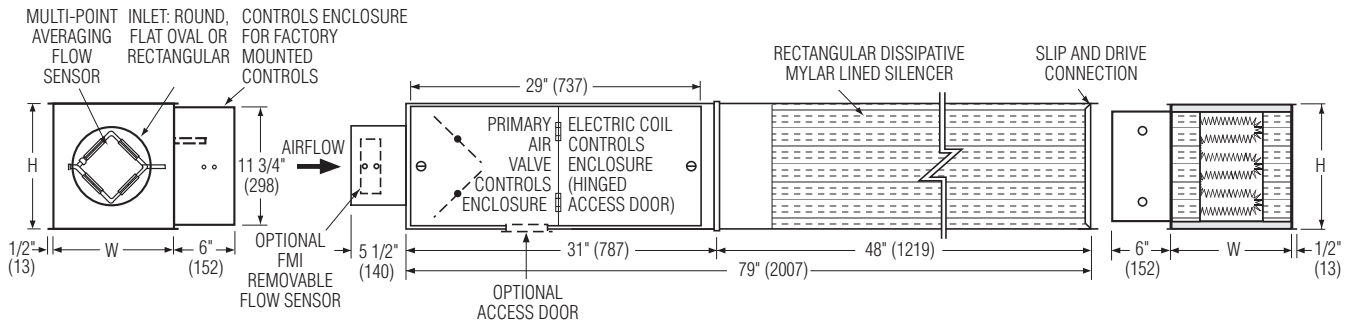
#### 30HQW • Hospital Grade • Dissipative Silencer • Hot Water Reheat Coil

- One, two, three and four row available.
- Hot water coils have copper tubes and aluminum ripple fins.
- Coils have 1/2" (13), 7/8" (22) or 1 3/8" (35) O.D. sweat connections.
- Right or left hand coil connection is determined by looking through the terminal inlet in the direction of airflow.
- Galvanized steel casing with slip and drive discharge duct connection.
- Optional low leakage gasketed access door is recommended for coil access and cleaning.
- AHRI Certified.
- Coil Performance data on pages B??-B??.



#### 30HQE • Hospital Grade • Dissipative Silencer • Integral Electric Reheat

- Electric coil is factory mounted in an integral extended plenum section.
- Full details and selection guide on page B39?.



### Dimensional Data

Unit Size	W	H	Inlet Size	Hot Water Coil	
				L (1 & 2 Row)	L (3 & 4 Row)
4	10 (254)	10 (254)	3 7/8 (98) Round	5 (127)	7 1/2 (191)
5	10 (254)	10 (254)	4 7/8 (124) Round	5 (127)	7 1/2 (191)
6	10 (254)	10 (254)	5 7/8 (149) Round	5 (127)	7 1/2 (191)
7	12 (305)	12 1/2 (318)	6 7/8 (175) Round	5 (127)	7 1/2 (191)
8	12 (305)	12 1/2 (318)	7 7/8 (200) Round	5 (127)	7 1/2 (191)
9	14 (356)	12 1/2 (318)	8 7/8 (225) Round	5 (127)	7 1/2 (191)
10	14 (356)	12 1/2 (318)	9 7/8 (251) Round	5 (127)	7 1/2 (191)
12	18 (457)	12 1/2 (318)	12 15/16 x 9 13/16 (329 x 249) Oval	5 (127)	7 1/2 (191)
14	24 (610)	12 1/2 (318)	16 1/16 x 9 13/16 (408 x 249) Oval	5 (127)	7 1/2 (191)
16	28 (711)	12 1/2 (318)	19 3/16 x 9 13/16 (487 x 249) Oval	5 (127)	7 1/2 (191)
24 x 16	38 (965)	18 (457)	23 7/8 x 15 1/2 (606 x 403) Rect.	5 (127)	7 1/2 (191)

## Recommended Airflow Ranges For Single Duct VAV Terminal Units

The recommended airflow ranges below are for model series 30HQ 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. 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



Model 30HQ

indicated transducer differential pressure.

AHRI Standard 880 "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. 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	400	55	325	45	325	45	325	365	400
6		0 - 550	500	80	450	65	450	65	450	500	550
7	Round	0 - 800	800	115	650	95	650	95	650	725	800
8		0 - 1100	1100	155	900	125	900	125	900	1000	1100
9		0 - 1285	1285	200	1050	165	1050	165	1050	1175	1285
10		0 - 1655	1655	260	1350	215	1350	215	1350	1510	1655
12	Flat Oval	0 - 2450	2450	355	2000	290	2000	290	2000	2235	2450
14		0 - 3125	3125	440	2550	360	2550	360	2550	2850	3125
16		0 - 3725	3725	525	3040	430	3040	430	3040	3400	3725
24 x 16	Rect.	0 - 8330	8330	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	189	26	153	21	153	21	153	172	189
6		0 - 260	260	38	212	31	212	31	212	236	260
7	Round	0 - 378	378	54	307	45	307	45	307	342	378
8		0 - 519	519	73	425	59	425	59	425	472	519
9		0 - 606	606	94	495	78	495	78	495	554	606
10		0 - 781	781	123	637	101	637	101	637	713	781
12	Flat Oval	0 - 1156	1156	168	944	137	944	137	944	1055	1156
14		0 - 1475	1475	208	1203	170	1203	170	1203	1345	1475
16		0 - 1758	1758	248	1435	203	1435	203	1435	1604	1758
24 x 16	Rect.	0 - 3931	3831	557	3209	453	3209	453	3209	3586	3931