

# GLOBAL IFS®

Underfloor Air Distribution System

Fan Powered Box (FPB)



## SYSTEM OVERVIEW

The Underfloor Fan Powered Box (FPB) is available in various sizes and configurations to deliver plenum air to the perimeter. In cooling mode, plenum air is pulled through the fan and delivered to the perimeter to meet envelope loads. In heating mode, hot water or electric reheat coils can be used to warm the air up to meet heating demand. In interior spaces the fan powered box can be ducted to supply grilles or used to pressurize a small sub-plenum. The fan powered box will ramp up and down to meet the space cooling requirement.

### Features

- Electric or water coils
  - 1-3 stage and SCR electric heat
  - 2-pipe, 4-pipe, or HCCO water coils
- Multi-circuit cooling coils with up to 6 rows available
- Galvanized or stainless steel drain pans
- 1 in. thick throw away filter
- 1/2 in. fiber free liner
- Inlet damper
- Deluxe ECM speed controller with digital RPM readout and feedback

### *Energy Efficient Systems*

Superior Acoustical Performance - Equipped with ECM motors as standard for quiet, energy efficient operation.

Acoustic lining and attenuators can be provided to meet the most stringent noise requirements.

Capacity Range - 115 to 2400 CFM airflow range to meet the demands of a wide range of applications.

### *Modular Design*

Compact Design - Units as low as 7.5 in. tall to fit within short plenum heights.

FPB and accessories are designed to fit within standard 2 ft. x 2 ft. floor pedestal grid.

Global IFS Controls - DDC controller comes factory mounted and pre-programmed, for a quick and easy installation.

Equipped with two plug-and-play connections for controlling up to 12 VAV cooling units.

### *Flexibility in Design*

ECM Program Options – The FPB provides added flexibility by allowing the user to select an ECM program to best suit the application.

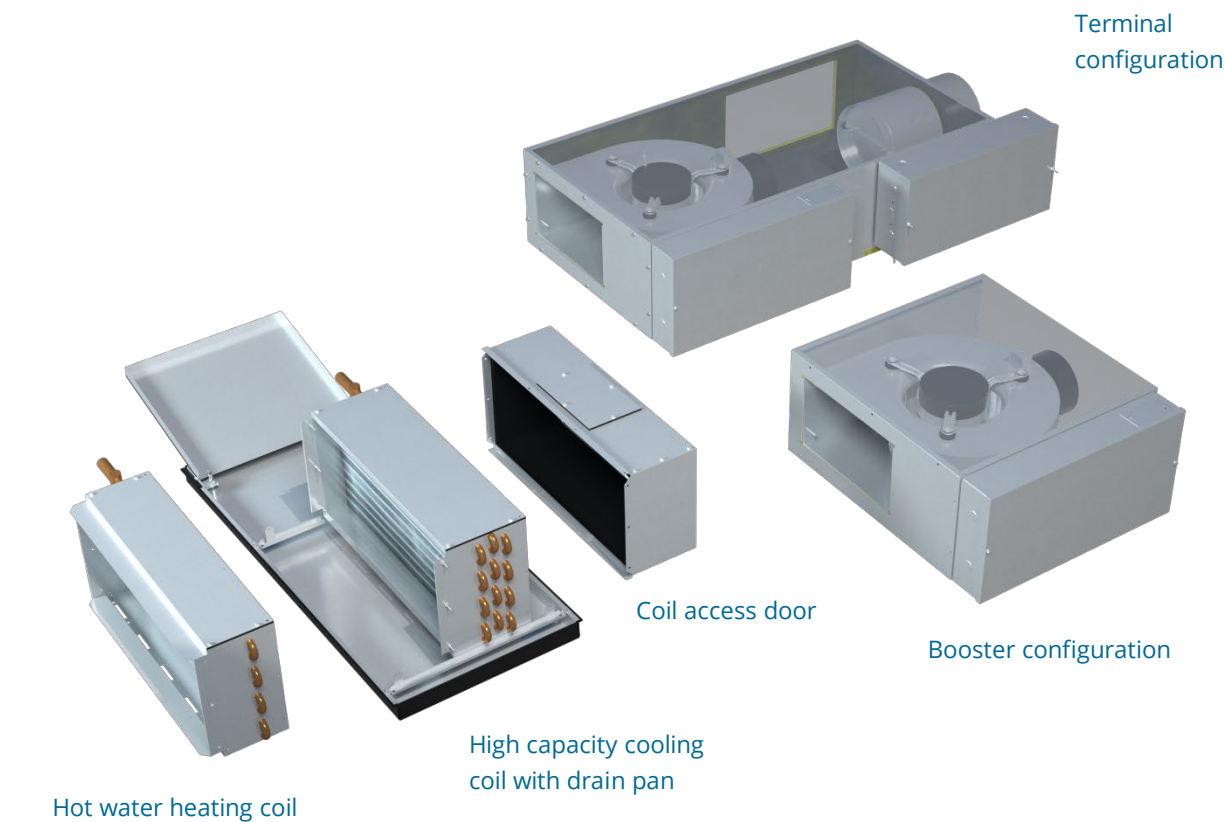
- High Turndown Flow – This program enables lower minimum fan speeds and often results in a 10:1 turndown ratio.
- Pressure Independent Flow – This program ensures that the motor maintains the fan flow within 5% of the flow setpoint across varying static pressures.

Five different unit sizes and two different configurations available to select from.

PRODUCT APPLICATION

The FPB is a low-profile fan powered box designed specifically for underfloor applications. This unit provides forced air to a space, independent of plenum static pressure. The FPB is well suited for perimeter zones and spaces with rapid changes in demand such as large conference rooms and training rooms. In perimeter applications the fan powered box is ducted to floor grilles.

FPB Exploded View



## PRODUCT APPLICATION

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### *Versatile Box Configurations*

#### **Booster Configuration**

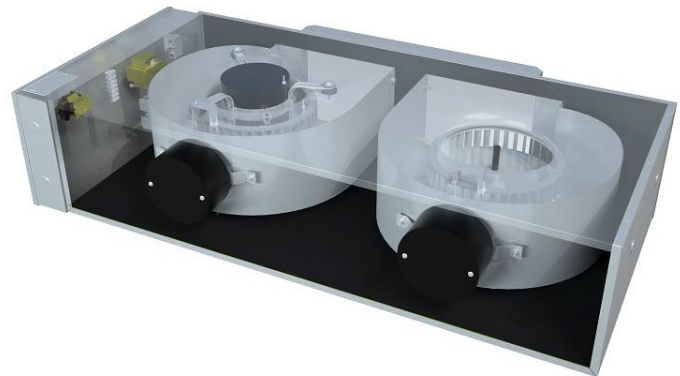
The booster configuration is designed to provide forced air to the space from the plenum.

The underfloor fan powered box allows for controlling the air delivery to a space independent of static pressure within the common plenum.

The fan powered box can come equipped with a heating or cooling coil to efficiently warm or cool the supply air for an individual space.



Booster configuration inlet



Dual blower configuration

## PRODUCT APPLICATION

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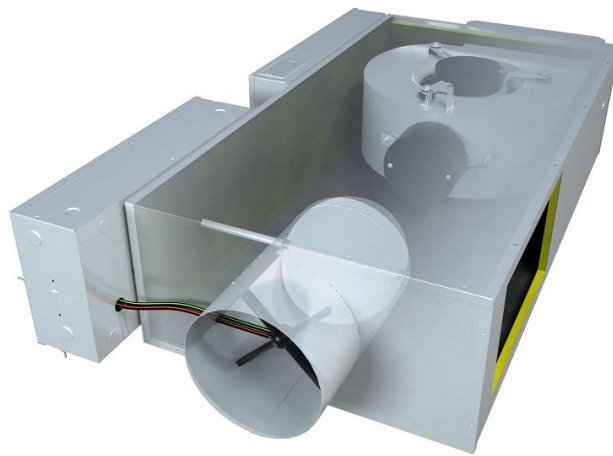
### Terminal Configuration

This mixing box configuration is designed to provide forced air to the space using both primary and return air inlets.

The primary inlet is supplied with an SP300 airflow sensor and damper which can be open to the plenum or ducted directly to the fresh air supply.

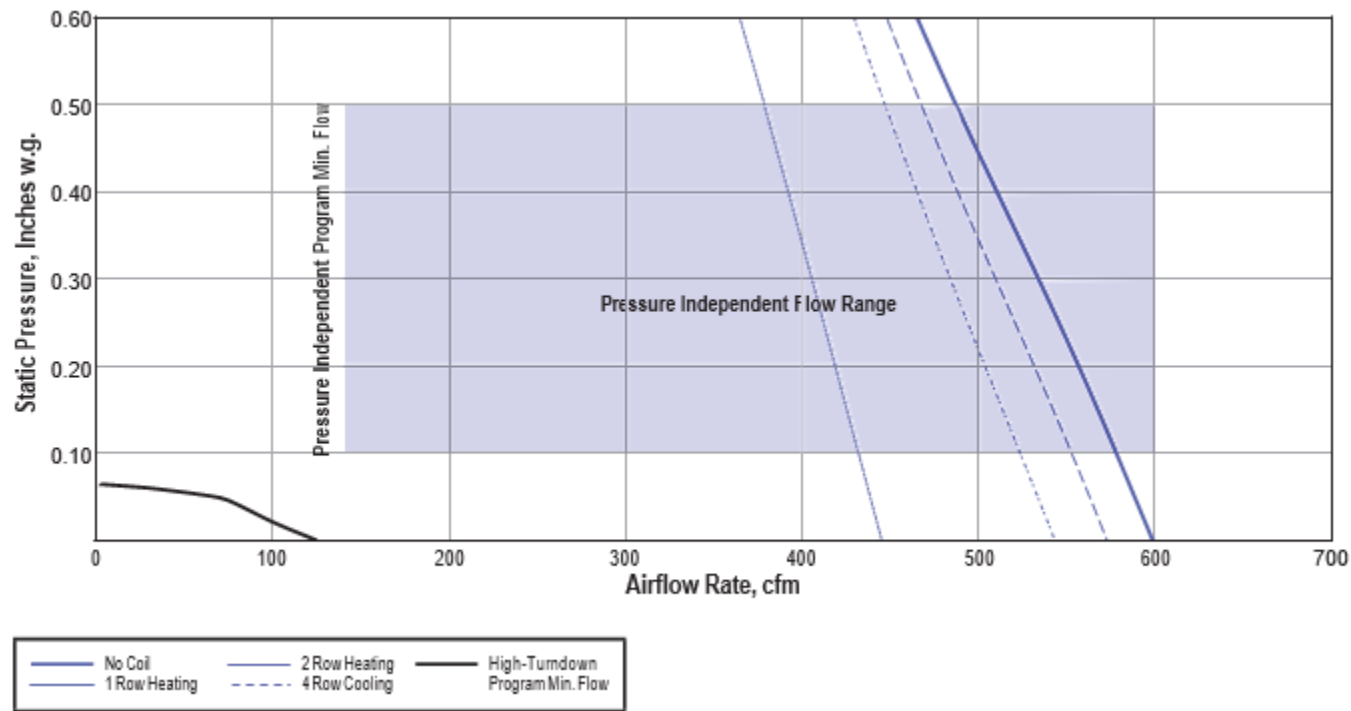
The return inlet pulls air from the room, which can sometimes be drawn from high level, taking advantage of stratification.

This configuration can be fitted with a cooling coil to bring the mixed air stream to the desired temperature.

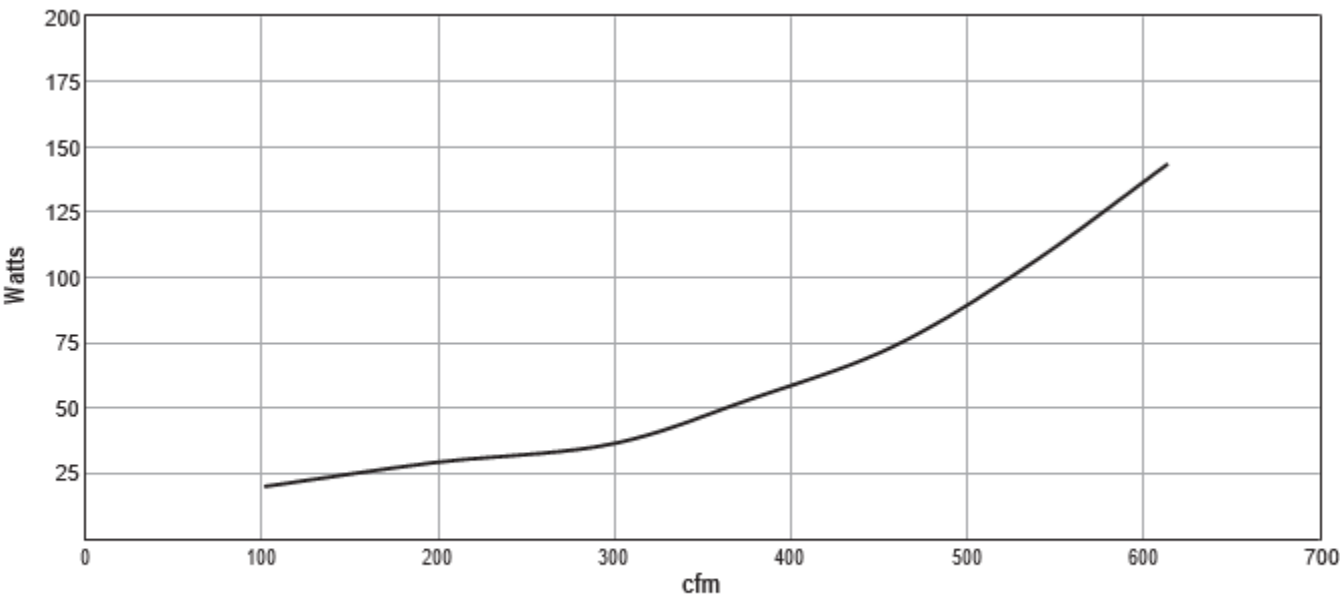


PERFORMANCE DATA

FPB Booster Size 10 ECM



FPB Booster Size 10 ECM-Power Consumption<sup>1</sup>

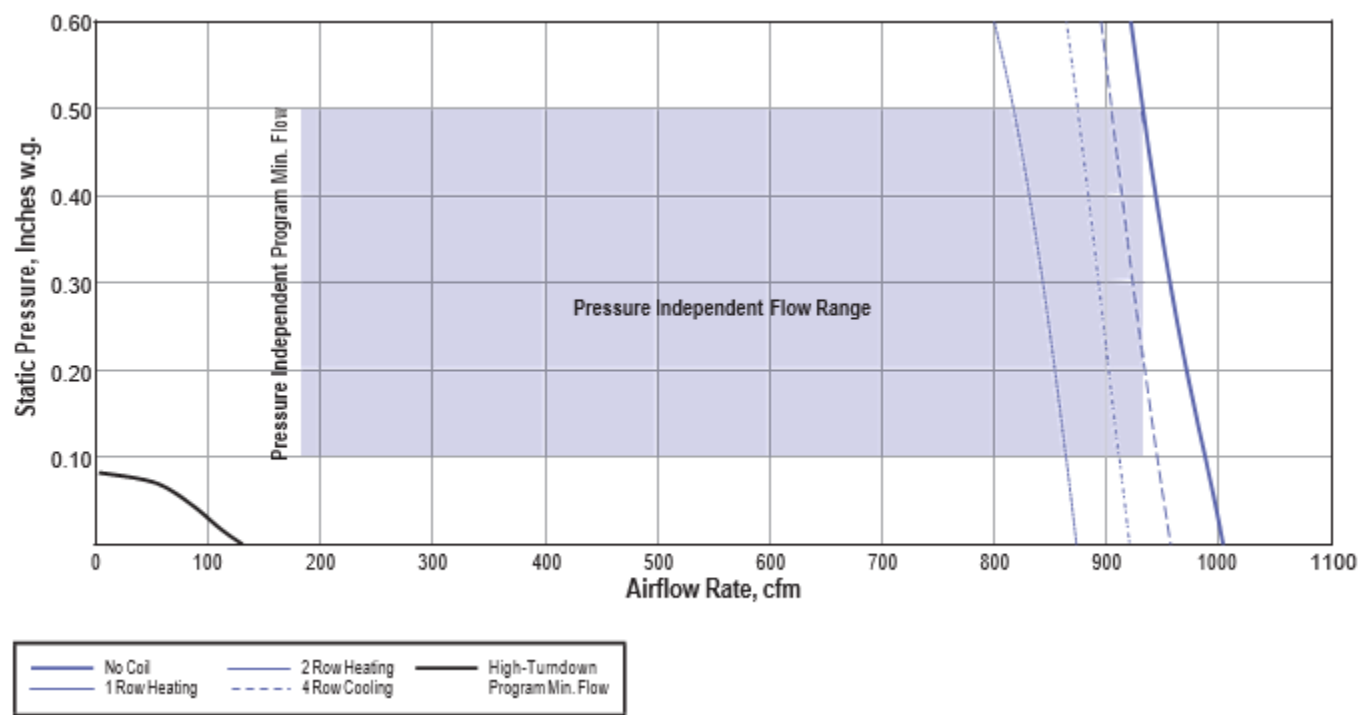


Note:  
1. Power consumption curves tested at 0.25 in. w.g. and 277V input voltage.

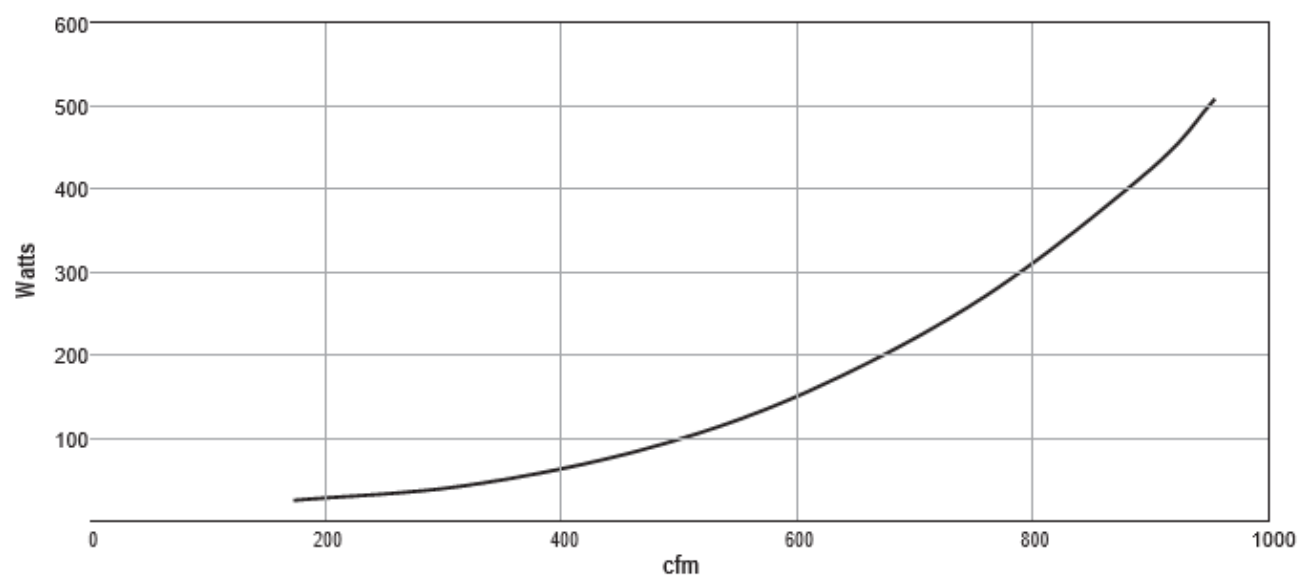


PERFORMANCE DATA

FPB Booster Size 20 ECM-Power Consumption<sup>1</sup>



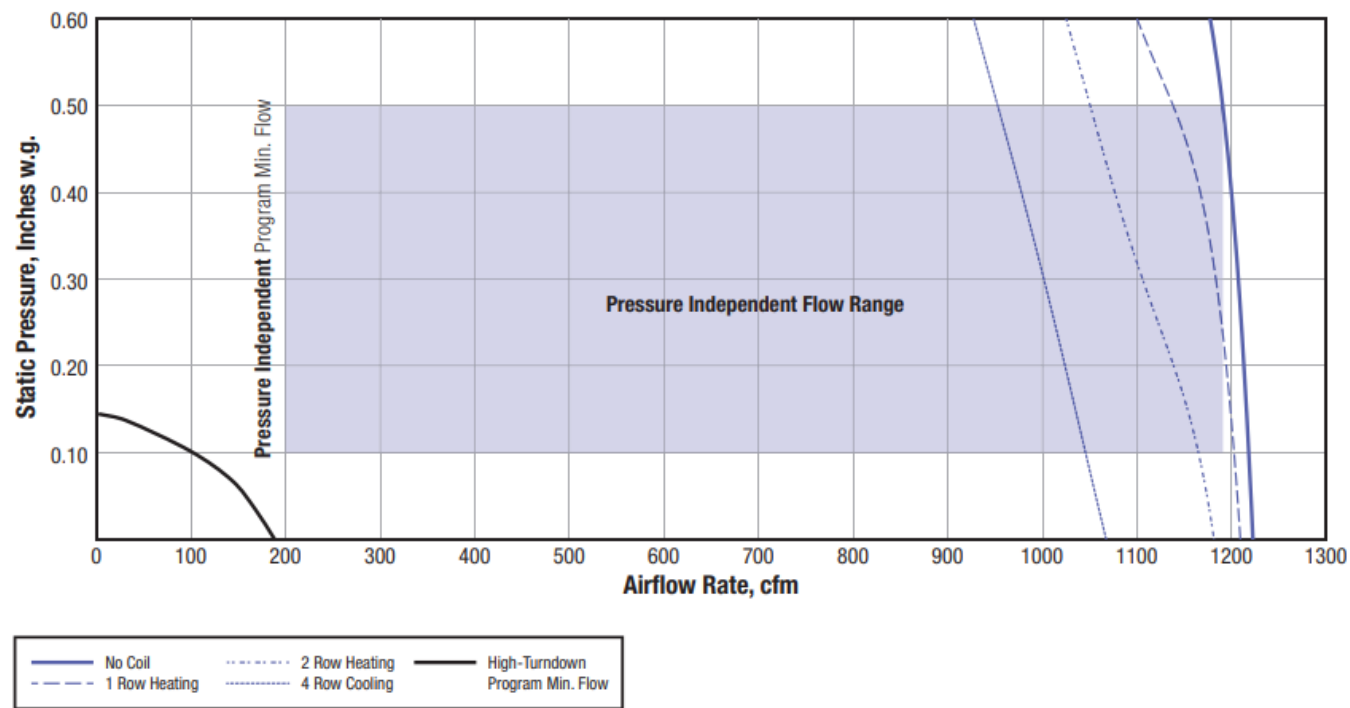
FPB Booster Size 20 ECM-Power Consumption<sup>1</sup>



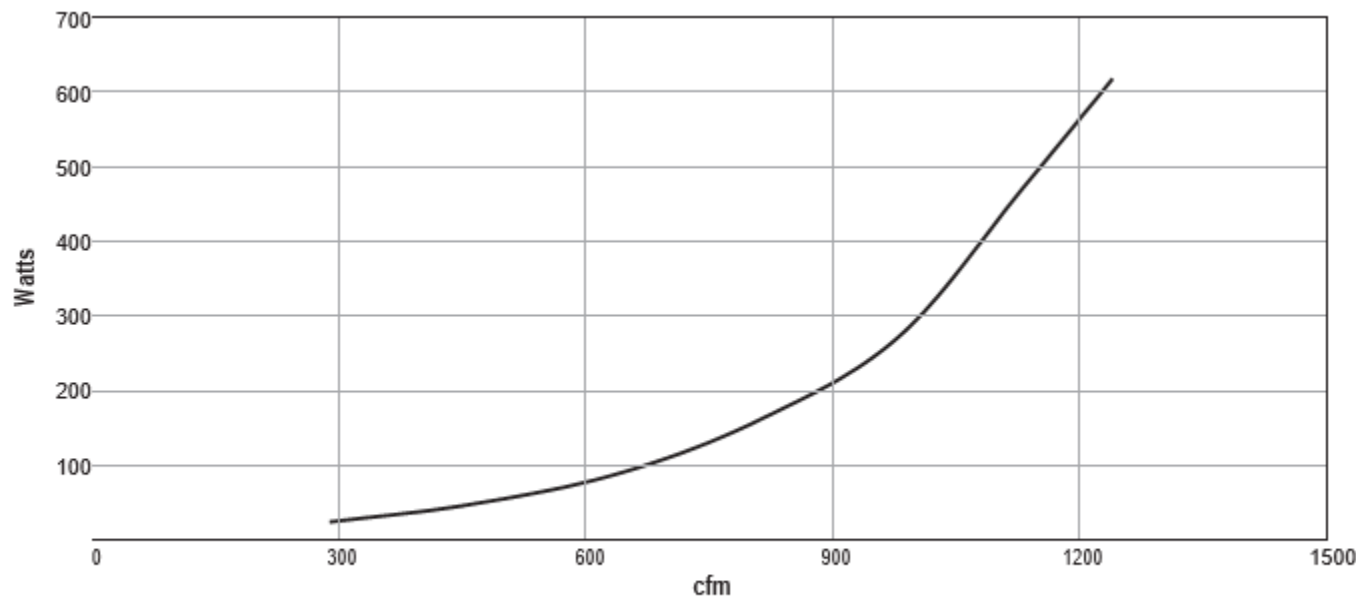
Note:  
1. Power consumption curves tested at 0.25 in.w.g. and 277V input voltage.

PERFORMANCE DATA

FPB Booster Size 30 ECM



FPB Booster Size 30 ECM-Power Consumption<sup>1</sup>

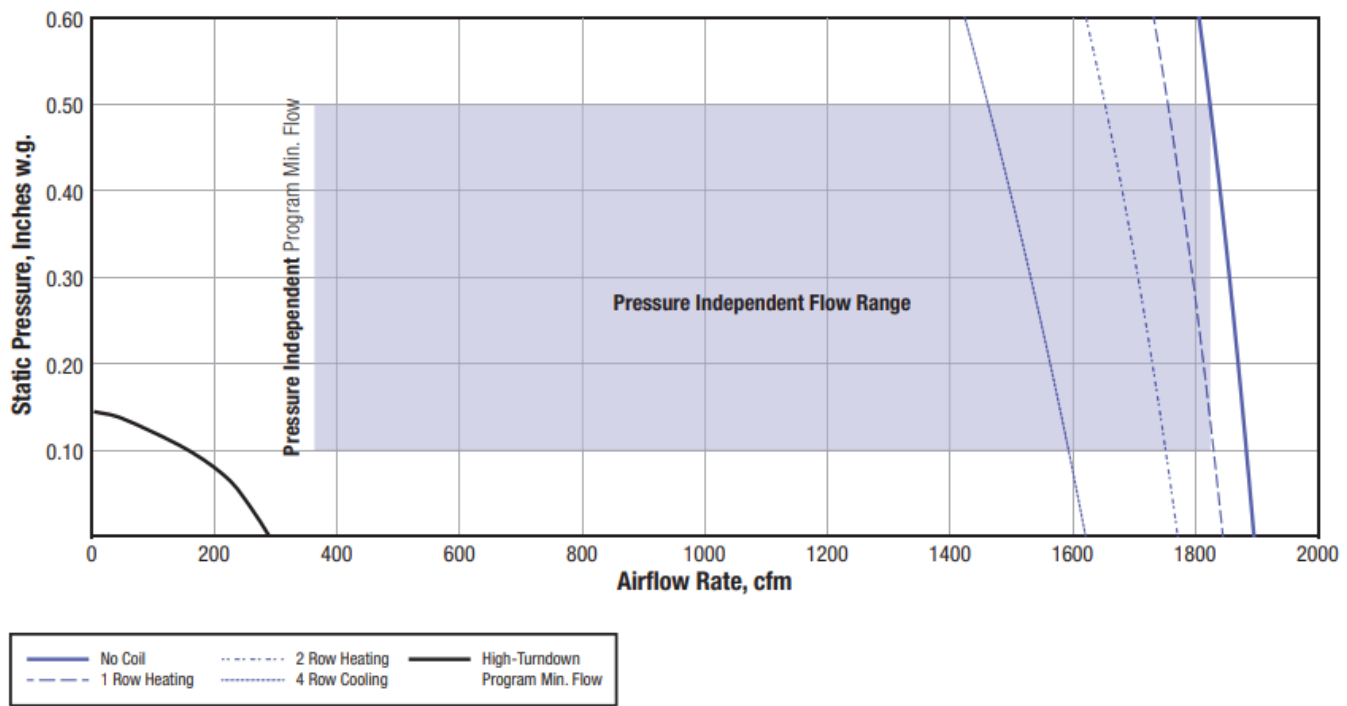


Note:  
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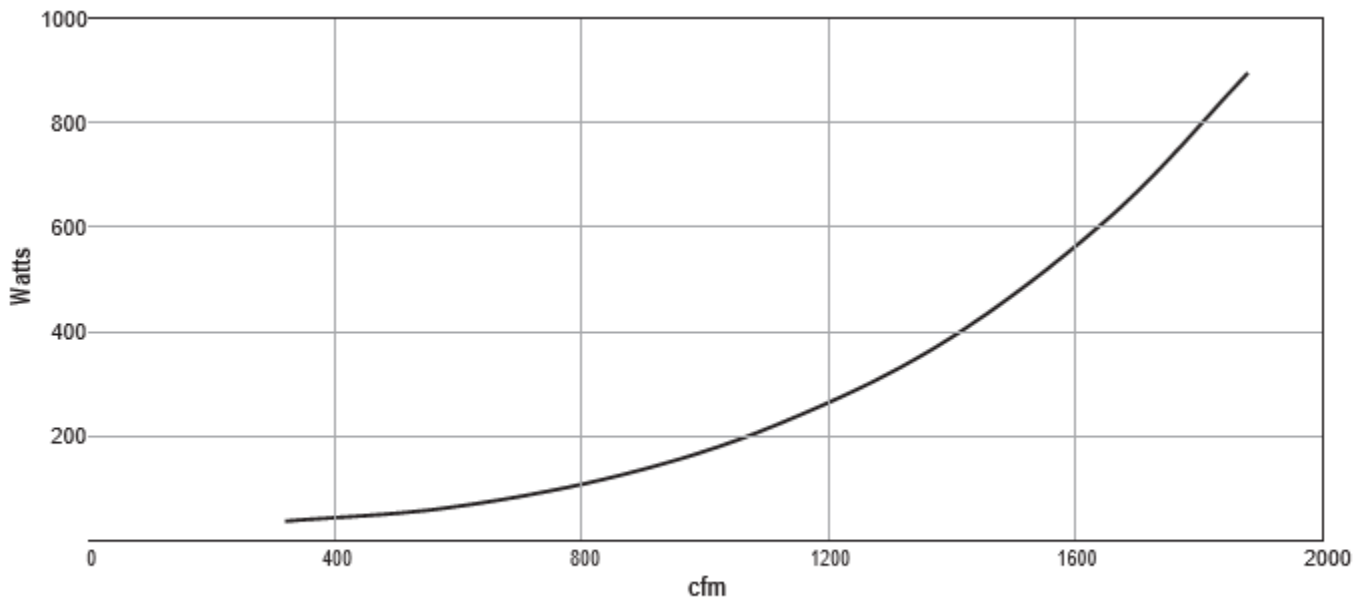


PERFORMANCE DATA

FPB Booster Size 40 ECM



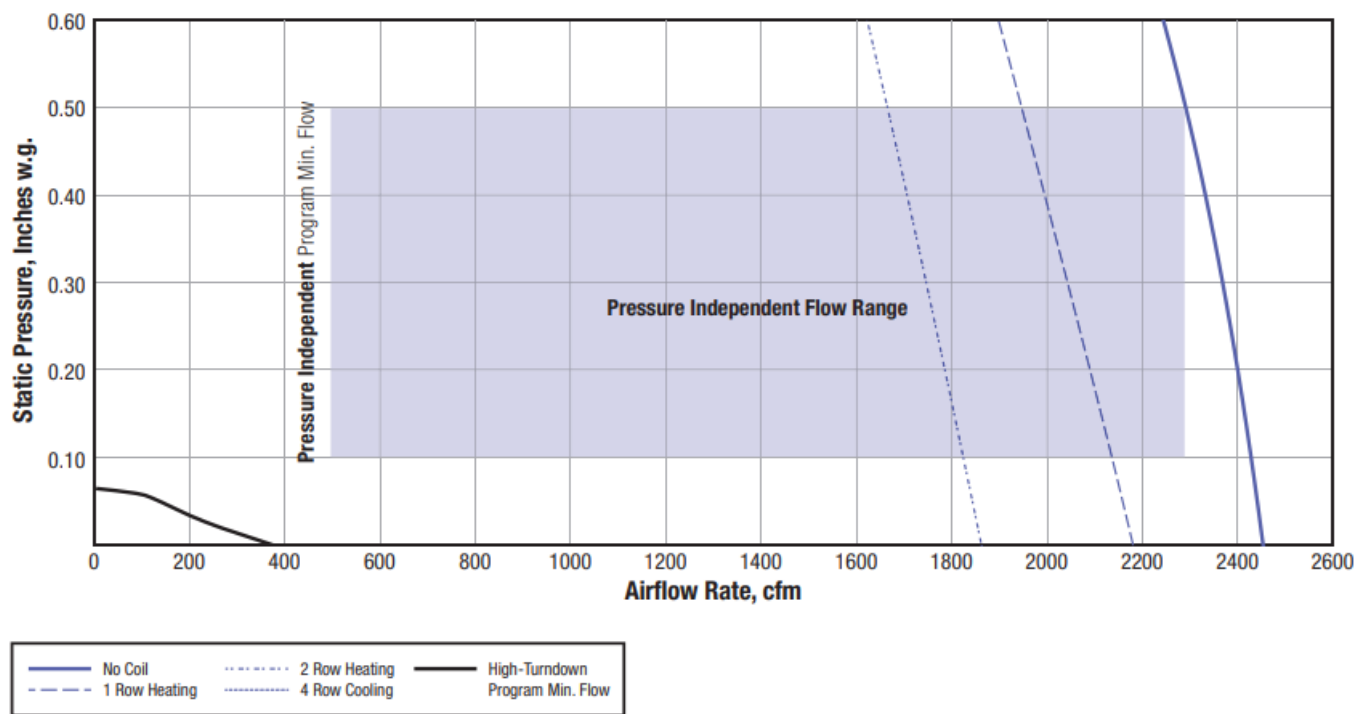
FPB Booster Size 40 ECM-Power Consumption<sup>1</sup>



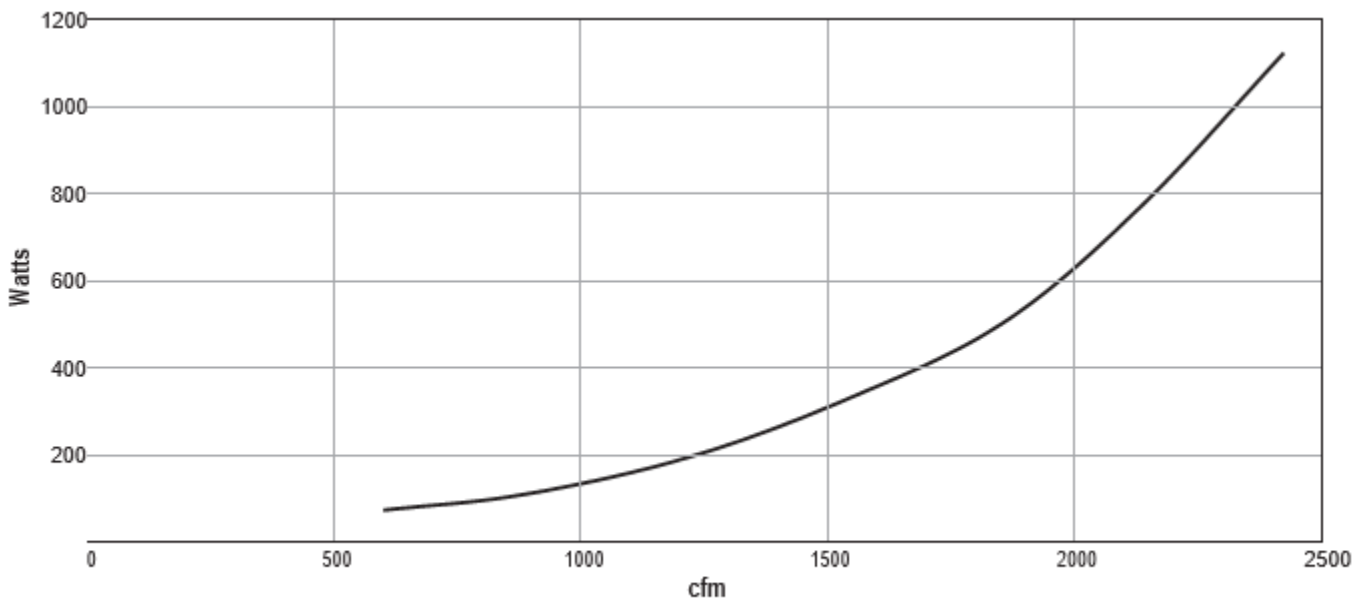
Note:  
1. Power consumption curves tested at 0.25 in.w.g. and 277V input voltage.

PERFORMANCE DATA

FPB Booster Size 50 ECM



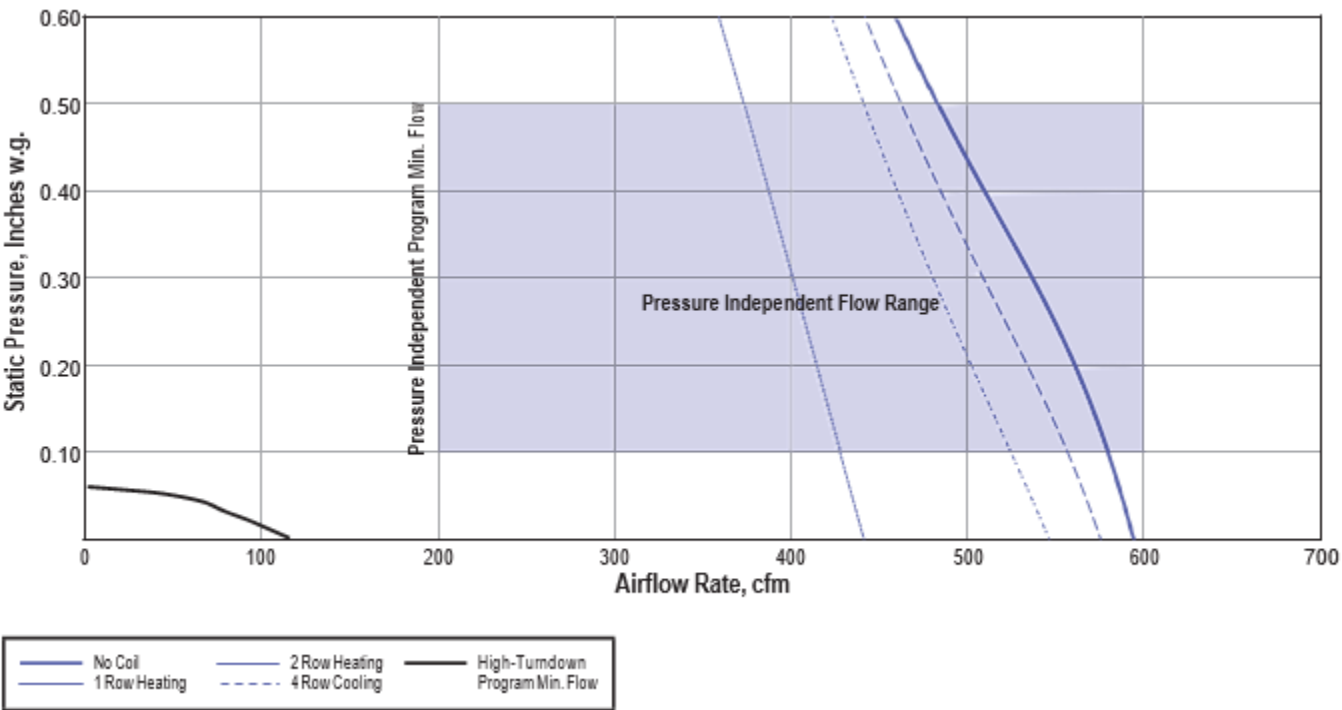
FPB Booster Size 50 ECM-Power Consumption<sup>1</sup>



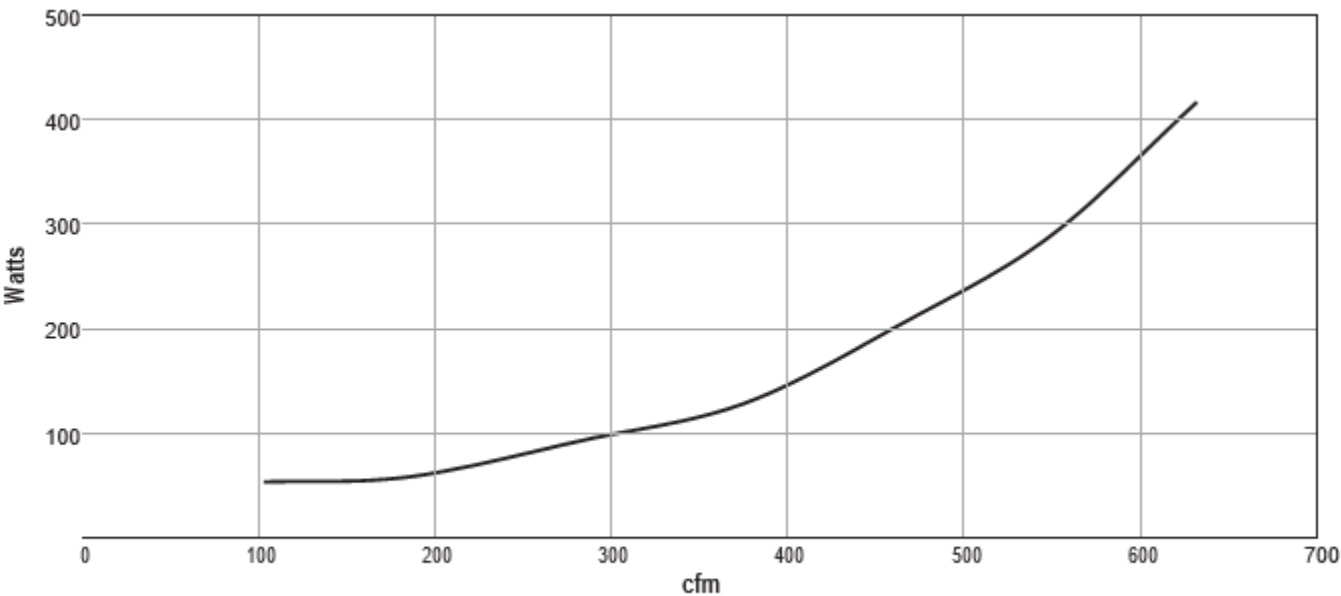
Note:  
1. Power consumption curves tested at 0.25 in. w.g. and 277V input voltage.

PERFORMANCE DATA

FPB Terminal Size 10 ECM



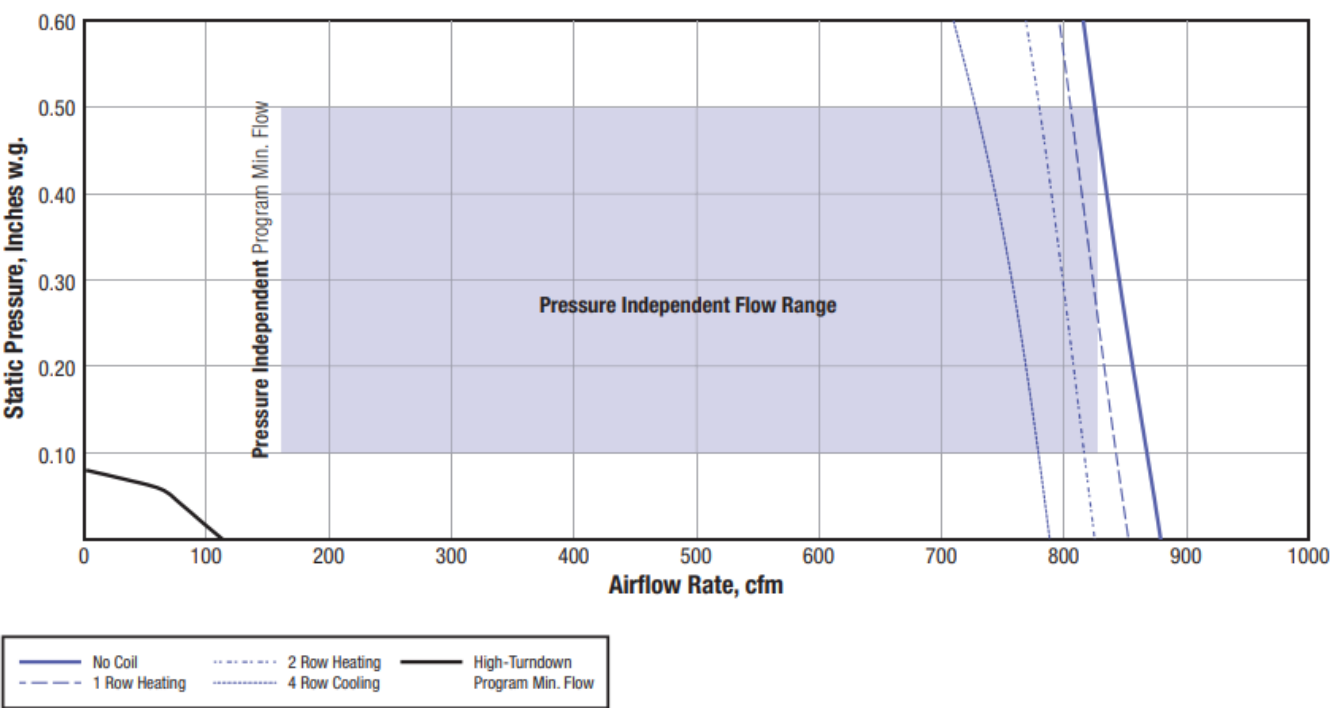
FPB Terminal Size 10 ECM-Power Consumption<sup>1</sup>



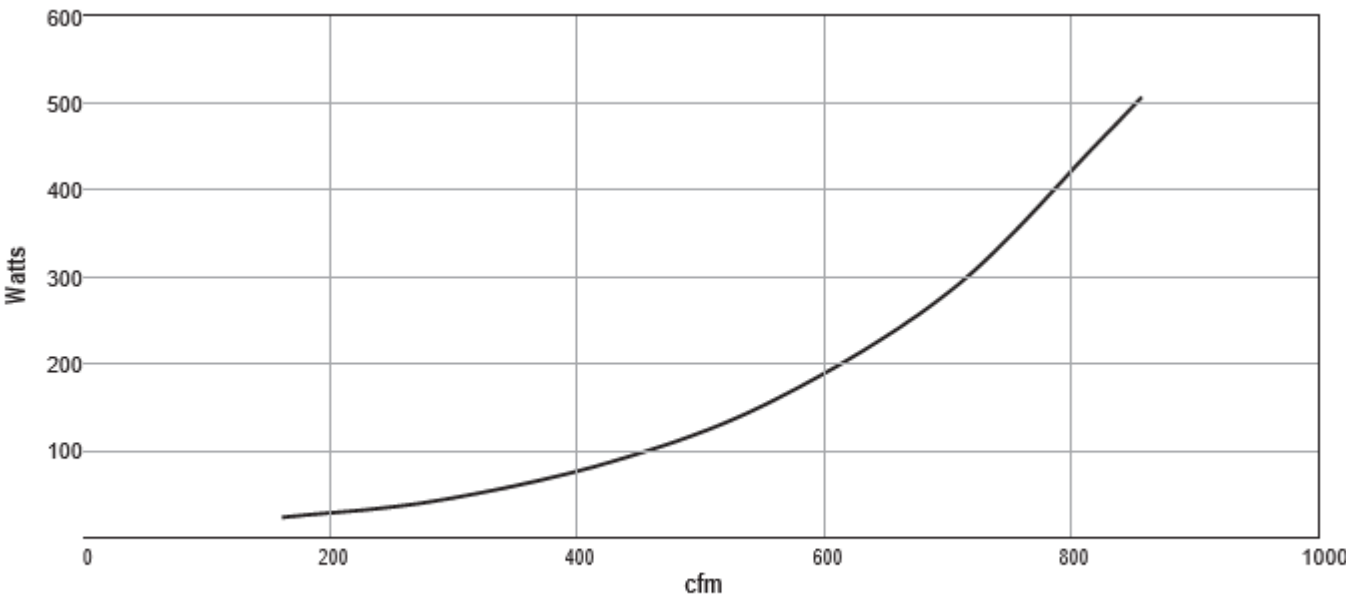
Note:  
1. Power consumption curves tested at 0.25 in.w.g. and 277V input voltage.

PERFORMANCE DATA

FPB Terminal Size 20 ECM



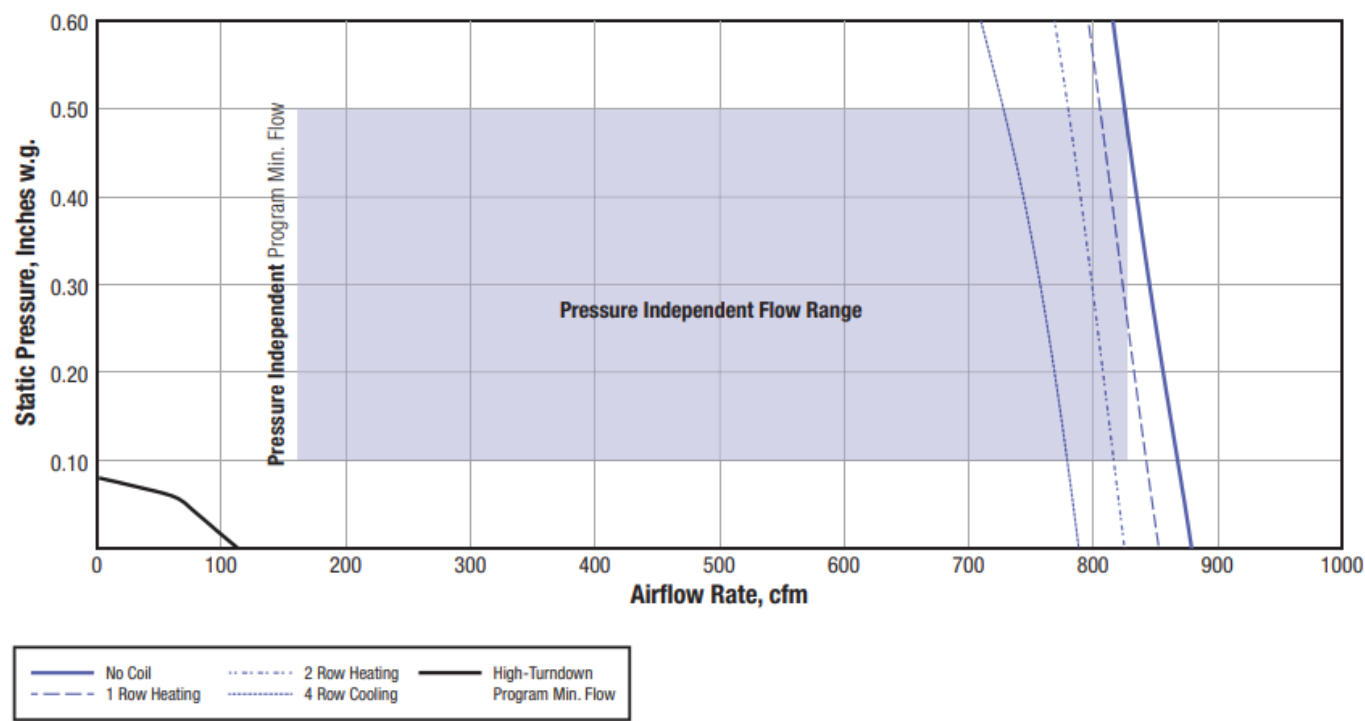
FPB Terminal Size 20 ECM-Power Consumption<sup>1</sup>



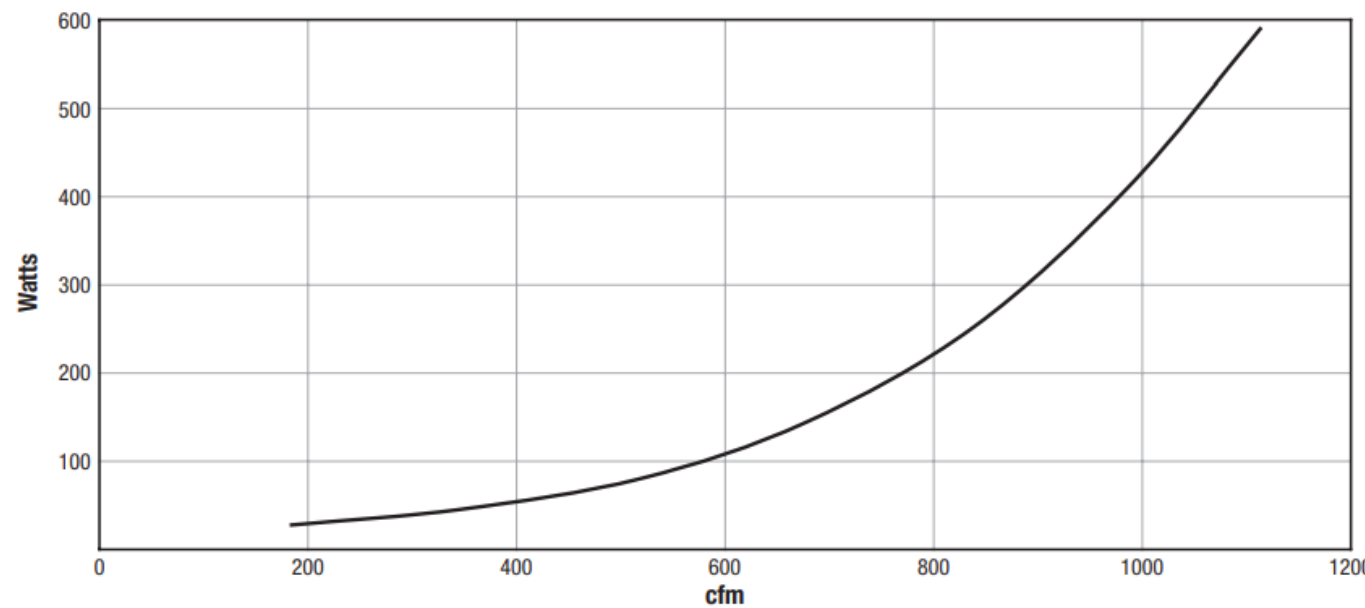
Note:  
1. Power consumption curves tested at 0.25 in. w.g. and 277V input voltage.

PERFORMANCE DATA

FPB Terminal Size 30 ECM



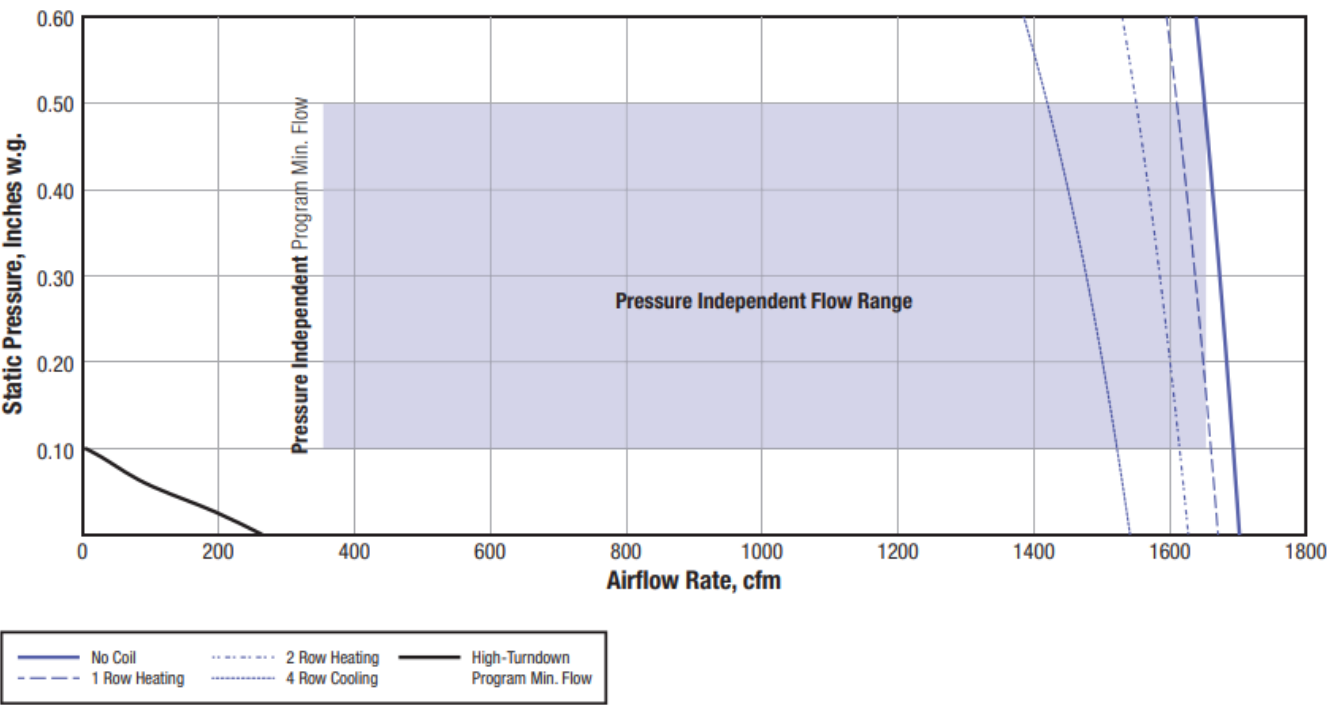
FPB Terminal Size 30 ECM-Power Consumption<sup>1</sup>



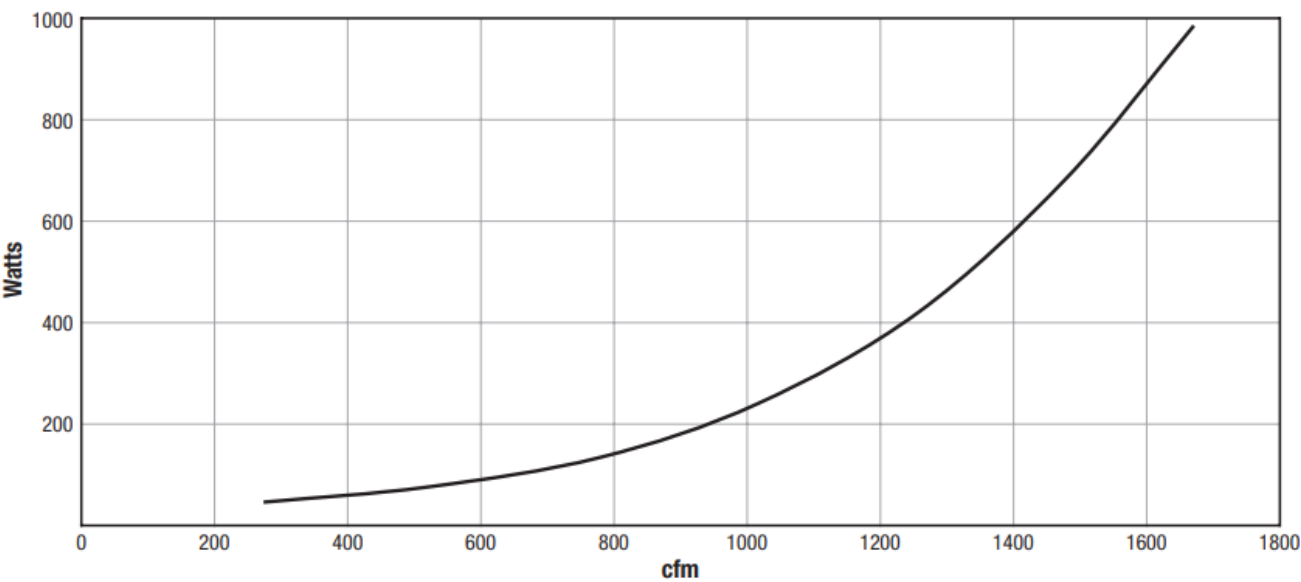
**Note:**  
1. Power consumption curves tested at 0.25 in.w.g. and 277V input voltage.

PERFORMANCE DATA

FPB Terminal Size 40 ECM



FPB Terminal Size 40 ECM-Power Consumption<sup>1</sup>



**Note:**  
1. Power consumption curves tested at 0.25 in.w.g. and 277V input voltage.

## PERFORMANCE DATA

### FPB Booster Configuration

#### ECM Capacities

Unit Size	Fan Airflow(CFM)		Motor HP	Full Load Amps(FLA)			
	Minimum <sup>2</sup>	Maximum <sup>3</sup>		115V	208V	240V	277V
10	125	600	1/3	2.85	1.87	1.65	1.47
20	130	995	1/3	6.7	4.23	3.73	3.52
30	185	1230	1/2	7.55	5.2	4.59	4.2
40	275	1880	3/4	10.97	7	6.18	5.85
50	375	2400	2X 1/2	13.33	9.2	8.12	7.49

#### EC Max KW<sup>4</sup> – Single Point Power

Unit Size	1 Phase Voltage					3 Phase Voltage		
	120	208	240	277	480	208	480	600 <sup>5</sup>
10	5.4	8.5	8.5	8.5	8.5	8.5	8.5	DP
20	4.9	9.1	10.6	12	12.5	13.2	13.2	DP
30	4.8	8.9	10.4	12.1	17.1	15.4	17.1	DP
40	4.4	8.5	10	11.7	20.2	14.7	23.7	DP
50	4.1	8	9.5	11.2	19.4	13.9	32.9	DP

#### EC Max KW<sup>4</sup> – Dual Point Power

Unit Size	1 Phase Voltage					3 Phase Voltage		
	120	208	240	277	480	208	480	600 <sup>5</sup>
10	5.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5
20	5.7	9.9	11.5	12	12.5	13.2	13.2	13.2
30	5.7	9.9	11.5	13.2	17.1	17.1	17.1	17.1
40	5.7	9.9	11.5	13.2	23	17.2	25.9	25.9
50	5.7	9.9	11.5	13.2	23	17.2	32.9	32.9

### FPB Terminal Configuration

#### ECM Capacities

Unit Size	Inlet Size	Primary Airflow (CFM)		Fan Airflow (CFM)		Motor HP	Full Load Amps (FLA)			
		Minimum <sup>2</sup>	Maximum	Minimum <sup>2</sup>	Maximum <sup>3</sup>		115V	208V	240V	277V
10	4"	50	400	115	600	1/3	2.92	1.88	1.66	1.59
	5"	63	500							
	6"	66	550							
20	4"	50	400	110	880	1/3	6.74	4.26	3.76	3.57
	5"	63	500							
	6"	66	550							
30	5"	63	500	165	1150	1/2	7.39	4.72	4.17	4.04
	6"	66	550							
	8"	132	1100							
40	6"	66	550	265	1700	3/4	11.08	7.06	6.23	5.74
	8"	132	1100							
	10"	221	1700 <sup>1</sup>							

#### EC Max KW<sup>4</sup> – Single Point Power

Unit Size	1 Phase Voltage					3 Phase Voltage		
	120	208	240	277	480	208	480	600
10	5.4	8.5	8.5	8.5	8.5	8.5	8.5	DP
20	4.9	9	10.6	11.8	11.8	11.8	11.8	DP
30	4.8	9	10.5	12.1	15	15	15	DP
40	4.4	8.5	10	11.7	20.2	14.7	23.7	DP



## PERFORMANCE DATA

### EC Max KW<sup>4</sup> – Dual Point Power

Unit Size	1 Phase Voltage					3 Phase Voltage		
	120	208	240	277	480	208	480	600 <sup>5</sup>
10	5.7	8.5	8.5	8.5	8.5	8.5	8.5	8.5
20	5.7	9.9	11.5	11.8	11.8	11.8	11.8	11.8
30	5.7	9.9	11.5	13.2	15	15	15	15
40	5.7	9.9	11.5	13.2	23	17.2	23.7	23.7

#### Performance Notes:

- Maximum primary airflow is limited by maximum fan airflow.
- Minimum fan airflow is with High Turndown Flow (HTF) motor program
- Maximum fan airflow values is with base assembly (no coil, no filter) and downstream static pressure of 0.1 in. w.g
- EC max kW shown is for 1 stage. Up to 3 stage EC is also available.
- DP means that voltage only offered with dual point power.

## FPB Booster Configuration

### Radiated Sound Power Levels

Unit Size	Fan Airflow	Sound Power Levels, Lw, dB re 10 <sup>-12</sup> Watts					
		Fan Only					
	CFM	2	3	4	5	6	7
10	150	48	52	54	50	47	37
	250	51	54	56	53	50	42
	350	56	56	58	57	54	48
	450	60	59	60	60	58	53
20	300	54	54	54	51	43	33
	500	62	61	59	58	51	42
	700	69	67	64	64	58	49
	900	73	72	69	69	64	56
30	300	51	52	54	49	41	29
	600	60	59	60	58	50	39
	900	69	68	66	65	59	49
	1100	75	73	70	70	64	55
40	300	55	52	55	49	40	27
	700	63	58	61	57	49	38
	1100	71	65	66	65	57	48
	1500	79	72	70	71	65	57
50	600	55	55	58	54	45	33
	1000	61	59	62	59	51	40
	1400	66	63	65	64	56	46
	1700	70	66	68	67	60	50

#### Performance Notes:

- Test data obtained in accordance with AHRI Standard 880-2011 and ASHRAE Standard 130-2016.
- Sound Power Levels expressed in decibels (dB) re 10<sup>-12</sup> watts
- Data is raw without any corrections for Room Absorption, duct attenuation, or ceiling transmission loss.
- Fan external static pressure is 0.25" W.G. in all cases.

## PERFORMANCE DATA

### Discharge Sound Power Levels

Unit Size	Fan Airflow	Sound Power Levels, Lw, dB re 10 <sup>-12</sup> Watts					
		Fan Only Octave Band					
	CFM	2	3	4	5	6	7
10	150	53	53	53	50	45	38
	250	58	57	57	55	51	47
	350	62	61	60	59	55	53
	450	66	65	64	62	59	58
20	300	61	59	56	55	51	47
	500	69	67	64	63	60	59
	700	76	74	70	70	68	67
	900	81	80	76	76	74	74
30	300	56	56	55	53	48	43
	600	66	65	63	61	58	55
	900	75	75	70	70	67	66
	1100	81	80	75	75	73	72
40	300	59	55	55	51	47	40
	700	68	64	62	60	56	54
	1100	78	73	69	68	65	64
	1500	86	80	75	75	73	73
50	600	56	55	58	54	50	44
	1000	63	61	63	60	57	53
	1400	69	67	67	66	63	61
	1700	73	71	71	69	67	65

#### Performance Notes:

1. Test data obtained in accordance with AHRI Standard 880-2011 and ASHRAE Standard 130-2016.
2. Sound Power Levels expressed in decibels (dB) re 10<sup>-12</sup> watts
3. Data is raw without any corrections for Room Absorption, duct attenuation, or ceiling transmission loss.
4. Fan external static pressure is 0.25" W.G. in all cases.

## FPB Terminal Configuration AHRI 880 Certification Rating Points

### Discharge

Unit Size	(2) Fan CFM	(3) Input Watts	(4) Min. Δ Ps Inlet	FAN ONLY (5)					
				2	3	4	5	6	7
1006	375	66	0.01	65	62	62	60	56	53
2006	550	160	0.55	73	70	67	67	64	64
3008	800	201	0.27	75	73	69	68	65	64
4010	900	152	0.13	74	70	66	64	61	59

### Radiated

Unit Size	(1) Primary CFM	(2) Fan CFM	(3) Input Watts	(4) Min. Δ Ps Inlet	(5) Fan Only						(6) 1.5" Inlet Static w.g.					
					2	3	4	5	6	7	2	3	4	5	6	7
1006	375	375	66	0.01	56	53	51	50	44	34	65	62	58	54	51	50
2006	550	550	160	0.55	64	58	56	54	46	39	70	67	64	59	54	54
3008	800	800	201	0.27	67	61	58	57	48	39	71	67	63	60	57	57
4010	900	900	152	0.13	70	60	57	56	47	36	71	63	60	58	57	56

#### ARI Certification Notes:

1. Primary CFM is the standard rated air volume for the inlet.
2. Fan CFM is the maximum rated fan volume at 0.25" w.g. downstream static pressure.
3. Input watts is the maximum electrical power input at the maximum rated fan volume.
4. Minimum operating pressure inlet is the minimum operating pressure requirement of the primary air valve at the rated primary CFM.
5. Fan only sound power levels are at the maximum rated fan volume.
6. Power levels at the maximum rated fan volume and rated primary CFM at 1.5" w.g. inlet static.

# PERFORMANCE DATA

## FPB Terminal Configuration

### Radiated Sound Power Levels

Unit Size	Inlet Size	Primary Airflow	Fan Airflow	Sound Power Levels, Lw, dB re 10 <sup>-12</sup> Watts																													
				Fan Only							Primary Air																						
											0.5" w.g.							1.0" w.g.							1.5" w.g.								
	Octave Band							Octave Band							Octave Band							Octave Band											
Inch	CFM	CFM	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	
10	4	150	150	49	48	47	43	37	27	60	55	49	46	43	39	62	57	52	48	47	44	64	58	54	50	49	47						
		250	250	51	50	48	46	40	30	67	62	55	51	48	44	69	64	58	54	52	49	70	65	60	55	54	53						
		375	375	56	53	51	50	44	34	72	67	60	55	51	48	74	69	63	58	55	54	76	70	64	59	57	57						
		375	450	59	56	53	53	46	38	72	67	60	55	51	48	74	69	63	58	55	54	76	70	64	59	57	57						
10	5	150	150	49	48	47	43	37	27	56	52	48	45	42	36	59	54	51	48	46	43	60	56	52	49	49	47						
		250	250	51	50	48	46	40	30	62	58	53	49	45	40	64	60	56	52	49	47	66	61	57	53	52	51						
		375	375	56	53	51	50	44	34	67	62	56	52	48	43	69	65	59	55	52	50	70	66	61	56	54	54						
		375	450	59	56	53	53	46	38	67	62	56	53	48	43	69	65	59	55	52	50	70	66	61	56	54	54						
10	6	150	150	49	48	47	43	37	27	53	50	48	45	40	33	55	52	50	47	45	42	56	53	52	48	48	46						
		250	250	51	50	48	46	40	30	58	54	51	47	42	36	60	56	53	50	47	44	61	58	54	51	50	49						
		375	375	56	53	51	50	44	34	62	57	53	50	44	38	64	60	55	52	49	46	65	62	58	54	51	50						
		375	450	59	56	53	53	46	38	62	57	53	50	44	38	64	60	55	53	49	46	65	61	57	54	52	50						
20	4	200	200	48	47	45	42	31	24	65	55	50	46	43	40	67	58	53	49	47	45	69	60	54	50	48	47						
		300	300	53	50	48	45	35	27	70	61	56	53	48	46	72	64	59	55	51	50	74	66	61	56	53	53						
		400	400	57	53	51	49	39	31	73	66	61	57	52	50	76	69	64	59	55	54	77	71	66	60	57	57						
		400	800	70	65	61	60	53	47	73	66	61	57	52	50	76	69	64	59	55	54	77	71	66	60	57	57						
20	5	200	200	48	47	45	42	31	24	57	49	45	42	38	33	58	52	48	45	44	41	59	53	50	46	47	46						
		375	375	56	52	50	48	38	30	66	58	54	50	44	40	67	61	57	53	49	48	68	63	59	54	53	53						
		500	500	61	56	53	52	43	35	70	63	58	54	46	43	71	65	61	57	52	51	72	67	63	58	55	56						
		500	800	70	65	61	60	53	47	70	63	61	60	53	47	71	65	61	60	53	51	72	67	63	60	55	56						
20	6	200	200	48	47	45	42	31	24	54	48	45	43	39	34	55	51	48	45	43	40	56	53	50	46	46	44						
		375	375	56	52	50	48	38	30	62	56	53	50	44	40	63	59	56	52	48	46	64	61	57	53	51	50						
		550	550	64	58	56	54	46	39	67	61	57	54	47	44	68	64	60	56	51	50	70	67	64	59	54	54						
		550	800	70	65	61	60	53	47	70	65	61	60	53	47	70	64	60	60	53	50	70	66	62	60	54	54						
30	5	350	350	55	50	48	45	35	26	60	57	52	50	44	43	64	61	56	53	48	48	66	64	59	54	51	52						
		500	500	59	54	52	49	39	30	63	61	57	55	48	47	67	66	62	58	52	53	69	68	64	60	55	56						
		500	800	67	61	58	57	48	39	67	61	58	57	48	47	67	66	62	58	52	53	69	68	64	60	55	56						
		500	1000	72	66	62	61	53	45	72	66	62	61	53	47	72	66	62	61	53	53	72	68	64	61	53	56						
30	6	350	350	55	50	48	45	35	26	58	55	52	49	44	41	62	59	56	52	49	48	64	62	58	54	52	52						
		550	550	60	55	53	51	41	31	63	60	56	54	47	45	66	64	60	57	52	52	69	67	63	59	55	56						
		550	800	67	61	58	57	48	39	67	61	58	57	48	45	67	64	60	57	52	52	69	67	63	59	55	56						
		550	1000	72	66	62	61	53	45	72	66	62	61	53	45	72	66	62	61	53	52	72	67	63	61	55	56						
30	8	350	350	55	50	48	45	35	26	55	51	48	46	43	38	58	54	51	48	46	43	59	56	52	49	48	46						
		550	550	60	55	53	51	41	31	62	57	54	52	48	44	64	60	56	54	51	49	66	62	58	55	53	52						
		800	800	67	61	58	57	48	39	67	63	58	57	52	48	70	65	61	59	55	54	71	67	63	60	57	57						
		800	1000	72	66	62	61	53	45	72	66	62	61	53	48	72	66	62	61	55	54	72	67	63	61	57	57						
40	6	350	350	56	49	48	44	34	26	60	55	52	49	45	43	62	59	55	52	51	51	64	61	57	54	54	55						
		550	550	61	53	52	48	38	29	63	59	55	52	48	47	66	62	59	55	53	54	67	65	61	57	57	59						
		550	1100	72	63	60	58	49	39	72	63	60	58	49	47	72	63	60	58	53	54	72	65	61	58	57	59						
		550	1600	81	72	67	66	59	50	81	72	67	66	59	50	81	72	67	66	59	54	81	72	67	66	59	59						
40	8	600	600	62	54	52	49	39	29	65	58	54	52	47	44	66	61	58	55	53	52	67	62	59	57	56	57						
		900	900	68	59	57	55	45	35	70	62	57	55	50	47	72	64	60	58	55	55	72	6	6	62	60	58						
		1100	1100	72	63	60	58	49	39	73	64	59	57	51	49	75	66	62	60	56	57	75	68	63	62	60	61						
		1100	1600	81	72	67	66	59	50	81	72	67	66	59	50	81	72	67	66	59	57	81	72	67	66	60	61						
40	10	600	600	62	54	52	49	39	29	62	55	53	51	46	41	63	58	56	54	52	49	64	59	5	7	55	54						
		900	900	70	60	57	56	47	36	68	59	55	54	49	44	69	61	58	57	54	52	71	63	60	58	57	56						
		1100	1100	72	63	60	58	49	39	71	61	57	56	50	46	72	63	60	59	55	54	73	65	62	60	59	59						
		1100	1600	81	72	67	66	59	50	81	72	67	66	59	50	81	72	67	66	59	54	81	72	67	66	59	59						

# PERFORMANCE DATA

## Discharge Sound Power Levels

Unit Size	Inlet Size	Primary Airflow	Fan Airflow	Sound Power Levels, Lw, dB re 10 <sup>-12</sup> Watts																									
				Fan Only							Primary Air																		
											0.75" w.g.							1.0" w.g.							1.5" w.g.				
				Octave Band							Octave Band							Octave Band							Octave Band				
Inch	CFM	CFM	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7	2	3	4	5	6	7			
10	4	150	150	55	54	53	50	45	38	63	59	53	50	45	38	65	62	54	51	46	39	67	63	55	51	46	40		
		250	250	60	58	57	55	50	45	69	66	58	55	50	45	71	68	59	55	51	46	73	70	59	56	51	47		
		375	375	65	62	62	60	56	53	74	71	61	59	54	51	76	73	62	59	55	52	78	75	63	59	55	53		
		375	450	67	65	64	62	58	56	74	71	64	62	58	56	76	73	64	62	58	56	78	75	64	62	58	56		
10	5	150	150	55	54	53	50	45	38	59	57	53	50	45	38	61	59	54	51	46	39	62	60	54	51	46	40		
		250	250	60	58	57	55	50	45	65	62	58	55	50	45	67	64	58	55	51	46	68	65	59	55	51	47		
		375	375	65	62	62	60	56	53	70	66	61	59	54	51	71	69	62	59	54	52	72	70	62	59	55	53		
		375	450	67	65	64	62	58	56	70	66	64	62	58	56	71	69	64	62	58	56	72	70	64	62	58	56		
10	6	150	150	55	54	53	50	45	38	56	54	53	50	45	38	57	56	54	50	46	39	58	57	54	51	46	39		
		250	250	60	58	57	55	50	45	61	58	57	55	50	45	62	60	58	55	50	46	63	61	58	55	51	47		
		375	375	65	62	62	60	56	53	65	62	60	58	54	51	67	64	61	59	54	52	67	65	61	59	55	52		
		375	450	67	65	64	62	58	56	67	65	64	62	58	56	67	65	64	62	58	56	67	65	64	62	58	56		
20	4	200	200	55	54	53	52	48	42	70	65	53	50	46	39	68	63	52	50	46	39	67	62	52	50	46	39		
		300	300	61	59	57	56	53	49	75	71	58	56	52	48	73	69	58	56	52	48	72	68	58	56	52	48		
		400	400	65	63	61	60	57	55	78	75	62	60	57	54	77	73	62	60	57	54	75	72	61	60	57	54		
		400	800	79	77	74	74	72	72	78	75	74	74	72	72	77	73	74	74	72	72	75	72	74	74	72	72		
20	5	200	200	55	54	53	52	48	42	62	58	52	50	45	39	62	59	52	50	45	39	62	60	52	50	46	39		
		375	375	64	62	60	59	56	54	71	67	61	59	56	53	71	68	61	59	56	53	72	69	61	59	56	53		
		500	500	69	67	64	64	61	60	75	71	64	64	61	60	76	72	65	64	61	60	76	73	65	64	61	59		
		500	800	79	77	74	74	72	72	79	77	74	74	72	72	79	77	74	74	72	72	79	77	74	74	72	72		
20	6	200	200	55	54	53	52	48	42	56	54	52	50	45	39	56	55	52	49	45	39	57	56	52	49	45	39		
		375	375	64	62	60	59	56	54	66	62	60	59	56	53	66	63	60	59	56	53	66	64	60	59	56	53		
		550	550	73	70	67	67	64	64	72	67	65	65	62	61	72	69	65	65	62	61	72	69	65	65	62	61		
		550	800	79	77	74	74	72	72	79	77	74	74	72	72	79	77	74	74	72	72	79	77	74	74	72	72		
30	5	350	350	60	58	57	54	50	46	63	61	56	53	49	43	65	64	57	54	49	44	67	66	57	54	50	44		
		500	500	66	63	61	59	55	52	67	64	60	58	54	51	69	68	61	59	54	51	71	70	62	59	55	52		
		500	800	75	72	68	68	65	63	75	72	68	68	65	63	75	72	68	68	65	63	75	72	68	68	65	63		
		500	1000	80	78	73	73	70	70	80	78	73	73	70	70	80	78	73	73	70	70	80	78	73	73	70	70		
30	6	350	350	60	58	57	54	50	46	63	60	57	55	51	46	65	63	58	55	51	46	67	65	58	56	51	47		
		550	550	67	65	62	61	57	54	68	65	61	59	55	53	70	68	62	60	55	53	71	70	62	60	56	53		
		550	800	75	72	68	68	65	63	75	72	68	68	65	63	75	72	68	68	65	63	75	72	68	68	65	63		
		550	1000	80	78	73	73	70	70	80	78	73	73	70	70	80	78	73	73	70	70	80	78	73	73	70	70		
30	8	350	350	60	58	57	54	50	46	61	58	56	53	49	45	62	59	56	53	49	45	63	59	56	53	49	45		
		550	550	67	65	62	61	57	54	69	66	63	61	58	55	70	67	63	61	58	55	70	68	63	61	58	55		
		800	800	75	73	69	68	65	64	75	73	69	68	65	63	76	74	69	68	65	63	77	75	69	68	65	64		
		800	1000	80	78	73	73	70	70	80	78	73	73	70	70	80	78	73	73	70	70	80	78	73	73	70	70		
40	6	350	350	60	56	55	51	46	39	63	58	55	52	48	43	65	61	56	53	48	44	66	63	56	53	49	44		
		550	550	65	61	59	56	52	47	66	61	57	55	51	47	68	64	58	55	51	48	69	66	58	55	51	48		
		550	1100	77	73	69	67	64	62	77	73	69	67	64	62	77	73	69	67	64	62	77	73	69	67	64	62		
		550	1600	86	83	77	76	74	73	86	83	77	76	74	73	86	83	77	76	74	73	86	83	77	76	74	73		
40	8	600	600	66	62	60	57	53	49	68	65	60	58	54	51	69	66	60	58	54	51	70	66	61	58	55	52		
		900	900	73	69	65	63	60	57	74	71	64	63	60	60	76	72	65	64	61	60	76	72	65	64	61	60		
		1100	1100	77	73	69	67	64	62	77	74	66	66	63	64	79	74	67	66	64	64	79	75	67	66	64	65		
		1100	1600	86	83	77	76	74	73	86	83	77	76	74	73	86	83	77	76	74	73	86	83	77	76	74	73		
40	10	600	600	66	62	60	57	53	49	66	63	60	57	53	50	68	63	61	58	54	50	68	64	61	58	54	50		
		900	900	74	70	66	64	61	59	73	68	64	63	60	58	74	69	65	63	60	59	74	70	65	64	60	59		
		1100	1100	77	73	69	67	64	62	76	71	66	66	63	63	72	67	66	63	63	72	67	67	66	63	64			
		1100	1600	86	83	77	76	74	73	86	83	77	76	74	73	86	83	77	76	74	73	86	83	77	76	74	73		

## PERFORMANCE DATA

### FPB Booster & Terminal - Heating Water Coil Data

Size 10 & 20

Rows	Coil GPM	WPD (ft. w.g) Loss	Capacity (MBH)	Airflow Rate (CFM)			
				150	300	450	600
1 Row Multi Circuit	1	0.62	Total	8.6	11.8	13.8	15.5
	2	2.16	Total	9.6	13.9	16.8	18.9
	4	7.62	Total	10.3	15.4	19.0	21.7
	6	16.02	Total	10.4	15.7	19.4	22.2
APD, ΔPs (in. w.g)				0.015	0.045	0.088	0.141
2 Row Multi Circuit	1	0.16	Total	13.1	19.2	22.8	25.2
	2	0.55	Total	14.4	22.7	28.3	32.4
	4	1.92	Total	15.0	24.7	31.7	37.1
	6	4.02	Total	15.3	25.5	33.1	39.1
APD, ΔPs (in. w.g)				0.032	0.100	0.194	0.311

Size 30 & 50

Rows	Coil GPM	WPD (ft. w.g) Loss	Capacity (MBH)	Airflow Rate (CFM)			
				200	500	800	1100
1 Row Multi Circuit	1	0.11	Total	10.6	15.5	17.9	19.4
	2	0.39	Total	12.3	19.5	23.5	26.2
	4	1.37	Total	13.4	22.2	27.5	31.3
	6	2.87	Total	13.8	23.4	29.4	33.7
APD, ΔPs (in. w.g)				0.014	0.065	0.141	0.238
2 Row Multi Circuit	1	0.21	Total	16.2	24.9	28.9	31.2
	2	0.71	Total	18.5	31.9	39.3	44.0
	4	2.48	Total	19.7	36.5	46.9	54.2
	6	5.18	Total	20.1	38.4	50.3	58.9
APD, ΔPs (in. w.g)				0.032	0.143	0.309	0.522



## PERFORMANCE DATA

Size 40

Rows	Coil GPM	WPD (ft. w.g) Loss	Capacity (MBH)	Airflow Rate (CFM)			
				300	750	1200	1650
1 Row Multi Circuit	1	0.14	Total	13.4	18.5	20.8	22.2
	2	0.47	Total	16.3	24.5	28.8	31.5
	4	1.64	Total	18.2	29.0	35.2	39.4
	6	3.44	Total	18.9	31.1	38.3	43.4
APD, ΔPs (in. w.g)				0.019	0.087	0.189	0.321
2 Row Multi Circuit	1	0.09	Total	20.9	29.5	33.0	34.9
	2	0.32	Total	25.2	40.6	48.1	52.8
	4	1.13	Total	27.7	48.9	61.0	69.2
	6	2.35	Total	28.5	52.0	66.3	76.3
APD, ΔPs (in. w.g)				0.043	0.192	0.415	0.703

## Correction Factors - FPB Hot Water Coils

EAT (°F)	EWT (°F)								
	130	140	150	160	170	180	190	200	210
60	0.65	0.74	0.83	0.91	0.99	1.08	1.17	1.24	1.33
65	0.61	0.69	0.78	0.87	0.95	1.04	1.12	1.20	1.29
70	0.56	0.65	0.74	0.83	0.91	1.00	1.08	1.16	1.25
75	0.52	0.61	0.70	0.79	0.87	0.96	1.04	1.12	1.21
80	0.48	0.57	0.65	0.70	0.83	0.92	1.00	1.08	1.17

### Performance Notes:

1. Tabulated values are in MBH (thousands of BTU/h) and using an arbitrary circuit option. Other circuit options are available.
2. Tables are based on 180°F EWT & 70°F EAT for heating, and 80°F FDB / 67°F FWBEAT & 45°F EWT for cooling.
3. Multiply MBH values by correction factors listed for other temperature difference conditions.
4. Minimum flows are based on ASHRAE recommendation for coil selection. For further selections please contact your local GIFS representative.
5. Water pressure drop (WPD) or head loss is in feet of water.
6. Air pressure drop (APD) is the pressure drop in inches of water across the coil.
7. See fan curves for fan capacity with coils.
8. Air temperature rise =  $ATR (°F) = 927 \times \text{MBH} / \text{CFM}$
9. Water temperature drop =  $WTD (°F) = 2.04 \times \text{MBH} / \text{GPM}$
10. Values in tables are listed for 0 ft. of altitude and no glycol in the system.
11. For information outside the ranges in these tables, consult the current GIFS software of your local GIFS representative for accurate information.
12. Connections: 7/8 in. OD male solder.
13. Coils used have been performance rated and certified in accordance with the current edition of AHRI Standard 410



## PERFORMANCE DATA

### Size 10

Rows	Coil GPM	WPD (ft. w.g) Loss	Capacity (MBH)				
				50	100	200	300
1RowMulti Circuit	1	0.58	Total	1.5	2.0	2.4	2.7
			Sensible	0.9	1.3	2.0	2.7
	2	1.98	Total	1.7	2.5	3.2	3.7
			Sensible	1.0	1.5	2.3	3.0
	4	6.86	Total	1.9	3.0	4.2	4.9
			Sensible	1.1	1.7	2.7	3.5
APD, ΔPs (in. w.g)				0.004	0.014	0.043	0.080
2RowMulti Circuit	1	1.46	Total	2.2	3.2	4.1	4.7
			Sensible	1.3	2.1	3.3	4.3
	2	4.94	Total	2.5	3.9	5.5	6.3
			Sensible	1.4	2.4	3.8	5.1
	4	16.99	Total	2.6	4.5	6.9	8.4
			Sensible	1.5	2.7	4.5	5.9
APD, ΔPs (in. w.g)				0.099	0.030	0.092	0.180
3RowMulti Circuit	1	0.26	Total	2.5	3.7	4.9	5.6
			Sensible	1.5	2.4	3.9	5.1
	2	0.87	Total	2.7	4.5	6.4	7.5
			Sensible	1.6	2.8	4.5	5.9
	4	2.96	Total	2.8	5.0	7.8	9.6
			Sensible	1.7	3.0	5.1	6.8
APD, ΔPs (in. w.g)				0.014	0.044	0.139	0.267
4RowMulti Circuit	1	0.34	Total	2.7	4.2	5.8	6.7
			Sensible	1.6	2.7	4.4	5.7
	2	1.12	Total	2.8	5.0	7.4	8.9
			Sensible	1.7	3.1	5.1	6.7
	4	3.81	Total	2.9	5.4	9.0	11.2
			Sensible	1.7	3.3	5.8	7.7
APD, ΔPs (in. w.g)				0.018	0.058	0.183	0.361
6RowMulti Circuit	1	0.48	Total	2.8	4.9	7.0	8.2
			Sensible	1.7	3.0	5.0	6.6
	2	1.61	Total	2.9	5.5	8.9	10.9
			Sensible	1.8	3.4	5.8	7.8
	4	5.47	Total	2.9	5.7	10.3	13.5
			Sensible	1.8	3.5	6.5	8.9
APD, ΔPs (in. w.g)				0.028	0.088	0.277	0.540

#### Performance Notes:

- Tabulated values are in MBH (thousands of BTU/h) and using an arbitrary circuit option. Other circuit options are available.
- Tables are based on 180°F EWT & 70°F EAT for heating, and 80°F FDB / 67°F FWBEAT & 45°F EWT for cooling.
- Multiply MBH values by correction factors listed for other temperature difference conditions.
- Minimum flows are based on ASHRAE recommendation for coil selection. For further selections please contact your local GIFS representative.
- Water pressure drop (WPD) or head loss is in feet of water.
- Air pressure drop (APD) is the pressure drop in inches of water across the coil.
- See fan curves for fan capacity with coils.
- Air temperature rise =  $ATR(^{\circ}F) = 927 \times \text{MBH/CFM}$
- Water temperature drop =  $WTD(^{\circ}F) = 2.04 \times \text{MBH/GPM}$
- Values in tables are listed for 0 ft. of altitude and no glycol in the system.
- For information outside the ranges in these tables, consult the current GIFS software of your local GIFS representative for accurate information.
- Connections: 7/8 in. OD male solder.
- Coils used have been performance rated and certified in accordance with the current edition of AHRI Standard 410

## PERFORMANCE DATA

### Size 20

Rows	Coil GPM	WPD (ft. w.g) Loss	Capacity (MBH)	100	200	300	400
1RowMulti Circuit	1	1.03	Total	2.3	2.9	3.2	3.5
			Sensible	1.4	2.2	3.1	3.4
	2	3.49	Total	2.9	3.9	4.5	4.8
			Sensible	1.7	2.6	3.3	3.9
	4	12.03	Total	3.5	5.0	6.0	6.7
			Sensible	1.9	3.0	3.9	4.6
APD, ΔPs (in. w.g)				0.007	0.022	0.041	0.066
2RowMulti Circuit	1	0.26	Total	3.5	4.5	5.1	5.6
			Sensible	2.1	3.4	4.4	5.5
	2	0.88	Total	4.2	6.0	6.7	7.5
			Sensible	2.5	4.0	5.3	6.3
	4	2.99	Total	4.8	7.4	9.0	10.0
			Sensible	2.8	4.6	6.0	7.2
APD, ΔPs (in. w.g)				0.015	0.058	0.092	0.148
3RowMulti Circuit	1	0.8	Total	4.2	5.7	6.6	7.3
			Sensible	2.6	4.1	5.5	6.5
	2	1.26	Total	5.0	7.5	8.8	9.9
			Sensible	2.9	4.8	6.4	7.7
	4	4.29	Total	5.4	9.0	11.4	13.0
			Sensible	3.2	5.5	7.4	9.0
APD, ΔPs (in. w.g)				0.023	0.071	0.136	0.220
4RowMulti Circuit	1	0.49	Total	4.7	6.6	7.7	8.5
			Sensible	2.8	4.6	6.0	7.4
	2	1.64	Total	5.4	8.5	10.4	11.6
			Sensible	3.2	5.4	7.1	8.8
	4	5.57	Total	5.7	10.1	13.1	15.1
			Sensible	3.4	6.1	8.3	10.2
APD, ΔPs (in. w.g)				0.030	0.094	0.184	0.292
6RowMulti Circuit	1	0.71	Total	5.3	7.9	9.3	10.2
			Sensible	3.2	5.1	6.8	8.3
	2	2.38	Total	5.8	9.9	12.4	14.2
			Sensible	3.4	6.1	8.2	10.0
	4	8.06	Total	5.9	11.2	15.2	18.1
			Sensible	3.5	6.7	9.4	11.7
APD, ΔPs (in. w.g)				0.045	0.141	0.285	0.440

#### Performance Notes:

1. Tabulated values are in MBH (thousands of BTU/h) and using an arbitrary circuit option. Other circuit options are available.
2. Tables are based on 180°F EWT & 70°F EAT for heating, and 80°F FDB/67°F FWB EAT & 45°F EWT for cooling.
3. Multiply MBH values by correction factors listed for other temperature difference conditions.
4. Minimum flows are based on ASHRAE recommendation for coil selection. For further selections please contact your local GIFS representative.
5. Water pressure drop (WPD) or head loss is in feet of water.
6. Air pressure drop (APD) is the pressure drop in inches of water across the coil.
7. See fan curves for fan capacity with coils.
8. Air temperature rise =  $ATR(^{\circ}F) = 927 \times \text{MBH/CFM}$
9. Water temperature drop =  $WTD(^{\circ}F) = 2.04 \times \text{MBH/GPM}$
10. Values in tables are listed for 0 ft. of altitude and no glycol in the system.
11. For information outside the ranges in these tables, consult the current GIFS software of your local GIFS representative for accurate information.
12. Connections: 7/8 in. OD male solder.
13. Coils used have been performance rated and certified in accordance with the current edition of AHRI Standard 410

## PERFORMANCE DATA

### Size 30

Rows	Coil GPM	WPD (ft. w.g) Loss	Capacity (MBH)				
				200	300	400	500
1RowMulti Circuit	1	0.18	Total	2.9	3.2	3.6	3.9
			Sensible	2.2	3.2	3.6	3.9
	3	1.27	Total	4.5	5.3	5.7	6.1
			Sensible	2.8	3.6	4.3	5.0
	6	4.36	Total	5.6	6.8	7.7	8.3
			Sensible	3.3	4.3	5.1	5.8
APD, ΔPs (in. w.g)				0.014	0.025	0.041	0.059
2RowMulti Circuit	1	0.34	Total	4.8	5.5	6.1	6.5
			Sensible	3.6	4.6	6.1	6.5
	3	2.34	Total	7.3	8.8	9.8	10.3
			Sensible	4.5	5.9	7.2	8.4
	6	8.00	Total	8.7	11.1	12.9	14.3
			Sensible	5.2	6.9	8.4	9.8
APD, ΔPs (in. w.g)				0.029	0.057	0.090	0.129
3RowMulti Circuit	1	0.16	Total	5.8	6.7	7.4	8.0
			Sensible	4.1	5.5	6.6	8.0
	3	1.23	Total	8.7	10.7	12.0	13.1
			Sensible	5.4	7.1	8.6	10.0
	6	4.16	Total	9.9	13.0	15.2	17.0
			Sensible	5.9	8.1	10.0	11.6
APD, ΔPs (in. w.g)				0.044	0.084	0.136	0.196
4RowMulti Circuit	1	0.2	Total	6.7	7.8	8.6	9.3
			Sensible	4.6	6.0	7.5	8.5
	3	1.56	Total	9.7	12.3	14.1	15.5
			Sensible	5.9	8.0	9.7	11.3
	6	5.3	Total	10.7	14.6	17.5	19.7
			Sensible	6.5	9.0	11.2	13.2
APD, ΔPs (in. w.g)				0.058	0.114	0.181	0.263
6RowMulti Circuit	1	0.29	Total	7.9	9.4	10.4	11.1
			Sensible	5.1	6.8	8.3	9.9
	3	2.22	Total	10.8	14.4	16.9	18.8
			Sensible	6.6	9.0	11.1	13.0
	6	7.51	Total	11.4	16.3	20.2	23.4
			Sensible	6.9	10.0	12.7	15.1
APD, ΔPs (in. w.g)				0.087	0.171	0.273	0.394

#### Performance Notes:

- Tabulated values are in MBH (thousands of BTU/h) and using an arbitrary circuit option. Other circuit options are available.
- Tables are based on 180°F EWT & 70°F EAT for heating, and 80°F FDB/67°F FWBEAT & 45°F EWT for cooling.
- Multiply MBH values by correction factors listed for other temperature difference conditions.
- Minimum flows are based on ASHRAE recommendation for coil selection. For further selections please contact your local GIFS representative.
- Water pressure drop (WPD) or head loss is in feet of water.
- Air pressure drop (APD) is the pressure drop in inches of water across the coil.
- See fan curves for fan capacity with coils.
- Air temperature rise =  $ATR(^{\circ}F) = 927 \times \text{MBH/CFM}$
- Water temperature drop =  $WTD(^{\circ}F) = 2.04 \times \text{MBH/GPM}$
- Values in tables are listed for 0 ft. of altitude and no glycol in the system.
- For information outside the ranges in these tables, consult the current GIFS software of your local GIFS representative for accurate information.
- Connections: 7/8 in. OD male solder.
- Coils used have been performance rated and certified in accordance with the current edition of AHRI Standard 410

## PERFORMANCE DATA

### Size 40

Rows	Coil GPM	WPD (ft. w.g) Loss	Capacity (MBH)				
				300	400	500	600
1RowMulti Circuit	1	0.22	Total	3.5	3.9	4.3	4.5
			Sensible	3.4	3.8	4.2	4.4
	3	1.54	Total	5.9	6.4	6.9	7.2
			Sensible	3.8	4.6	5.3	5.9
	6	5.29	Total	7.6	8.6	9.4	10.0
			Sensible	4.5	5.4	6.2	7.0
APD, ΔPs (in. w.g)				0.017	0.028	0.041	0.055
2RowMulti Circuit	1	0.14	Total	5.7	6.4	6.8	7.2
			Sensible	4.6	6.3	6.7	7.1
	3	1.06	Total	9.3	10.3	11.0	11.8
			Sensible	6.1	7.6	8.6	9.6
	6	3.6	Total	11.5	13.3	14.7	15.8
			Sensible	7.0	8.5	9.9	11.1
APD, ΔPs (in. w.g)				0.039	0.062	0.089	0.121
3RowMulti Circuit	1	0.19	Total	7.2	8.0	8.5	9.1
			Sensible	5.7	6.8	8.4	9.0
	3	1.49	Total	11.6	13.1	14.4	15.4
			Sensible	7.3	8.9	10.4	11.8
	6	5.05	Total	14.0	16.6	18.7	20.3
			Sensible	8.4	10.4	12.1	13.7
APD, ΔPs (in. w.g)				0.058	0.094	0.135	0.181
4RowMulti Circuit	1	0.25	Total	8.4	9.2	9.9	10.4
			Sensible	6.1	7.6	8.7	10.3
	3	1.91	Total	13.2	15.2	16.8	18.0
			Sensible	8.2	10.0	11.7	13.4
	6	6.47	Total	15.5	18.8	21.4	23.5
			Sensible	9.3	11.6	13.6	15.6
APD, ΔPs (in. w.g)				0.078	0.125	0.181	0.244
6RowMulti Circuit	1	0.36	Total	9.9	11.0	11.8	12.4
			Sensible	6.8	8.4	10.0	11.1
	3	2.73	Total	15.2	18.1	20.1	21.9
			Sensible	9.2	11.4	13.3	15.1
	6	9.23	Total	17.0	21.4	25.0	27.9
			Sensible	10.2	13.0	15.5	17.8
APD, ΔPs (in. w.g)				0.118	0.188	0.272	0.366

#### Performance Notes:

- Tabulated values are in MBH (thousands of BTU/h) and using an arbitrary circuit option. Other circuit options are available.
- Tables are based on 180°F EWT & 70°F EAT for heating, and 80°F FDB/67°F FWBEAT & 45°F EWT for cooling.
- Multiply MBH values by correction factors listed for other temperature difference conditions.
- Minimum flows are based on ASHRAE recommendation for coil selection. For further selections please contact your local GIFS representative.
- Water pressure drop (WPD) or head loss is in feet of water.
- Air pressure drop (APD) is the pressure drop in inches of water across the coil.
- See fan curves for fan capacity with coils.
- Air temperature rise =  $ATR(^{\circ}F) = 927 \times \text{MBH/CFM}$
- Water temperature drop =  $WTD(^{\circ}F) = 2.04 \times \text{MBH/GPM}$
- Values in tables are listed for 0 ft. of altitude and no glycol in the system.
- For information outside the ranges in these tables, consult the current GIFS software or your local GIFS representative for accurate information.
- Connections: 7/8 in. OD male solder.
- Coils used have been performance rated and certified in accordance with the current edition of AHRI Standard 410