XG-FVL-600 AHRI CERTIFIED RATING POINTS

AHRI CERTIFIED™ www.ahridirectory.org
VAV Terminals
AHRI Standard 880

RADIATED AND DISCHARGE SOUND - PSC MOTOR - FAN ONLY HEATING

Case-Inlet Size	CFM	Discharge Ps	OCTAVE BAND SOUND POWER, Lw, dB											
			RADIATED SOUND FAN ONLY						DISCHARGE SOUND FAN ONLY					
			2	3	4	5	6	7	2	3	4	5	6	7
2-06	500	0.25	68	58	60	55	44	36	58	54	50	50	42	39
4-08	700	0.25	66	61	64	59	50	44	62	61	58	60	51	50
6-10	1200	0.25	74	70	67	62	54	46	70	63	64	64	55	57

RADIATED AND DISCHARGE SOUND - PSC MOTOR - PRIMARY AIR ONLY COOLING

Case-Inlet Size	CFM	Min ΔPs	OCTAVE BAND SOUND POWER, Lw, dB											
			ΔPs = 1.5 in. wg.											
			RADIATED SOUND						DISCHARGE SOUND					
			2	3	4	5	6	7	2	3	4	5	6	7
	400	0.10	62	56	51	48	46	44	63	59	57	51	45	41
	700	0.09	65	54	50	45	42	42	64	60	55	50	48	44
	1100	0.05	62	57	53	49	46	46	69	63	62	56	56	51

PERFORMANCE NOTES

1) *Radiated sound is the noise transmitted through the unit casing*
2) *Discharge sound is noise emitted from unit discharge into downstream ductwork*
3) *Sound power levels expressed in decibels, (dB) re 10^{-12} Watts*
4) *Min ΔPs is the min. operating pressure requirement of the unit with the damper full open and is the static pressure drop from the unit inlet to the unit discharge*
5) *Performance data based on laboratory tests conducted in accordance with ASHRAE 130-2016 and AHRI 880-2017*
6) *Discharge sound power levels include duct end reflection corrections per AHRI Standard 880-2017*
7) *Sound performance based on units lined with standard dual density fiberglass insulation*
8) *Discharge (external) static pressure is 0.25" w.g. for all cases*

XG-FVL RADIATED AND DISCHARGE SOUND - PSC MOTOR - FAN ONLY HEATING

OCTAVE BAND SOUND POWER, Lw, dB															
Case-Inlet Size	CFM	Discharge Ps	RADIATED SOUND FAN ONLY							DISCHARGE SOUND FAN ONLY						
			2	3	4	5	6	7	NC	2	3	4	5	6	7	NC
2-06	400	0.25	67	56	58	53	42	34	33	54	51	48	48	38	35	<15
	450		68	57	59	54	43	35	34	56	52	49	49	40	37	<15
	500		**68**	**58**	**60**	**55**	**44**	**36**	35	**58**	**54**	**50**	**50**	**42**	**39**	15
	550		69	59	60	56	45	38	35	61	55	52	51	43	41	15
	600		70	60	61	58	46	40	36	62	56	54	52	44	42	16
4-08	600	0.25	64	59	62	57	47	41	37	61	59	57	58	49	48	16
	650		65	60	63	58	49	43	38	62	60	58	59	50	49	18
	700		**66**	**61**	**64**	**59**	**50**	**44**	39	**62**	**61**	**58**	**60**	**51**	**50**	18
	750		68	62	64	60	52	46	39	62	62	59	60	52	51	19
	800		69	63	65	61	54	48	40	63	63	60	61	53	52	20
6-10	1000	0.25	73	70	66	61	54	48	41	68	60	61	60	52	52	24
	1100		74	70	66	62	54	47	41	69	62	62	62	54	54	25
	1200		**74**	**70**	**67**	**62**	**54**	**46**	42	**70**	**63**	**64**	**64**	**55**	**57**	26
	1300		74	70	67	62	54	46	42	71	63	64	64	55	57	27
	1400		74	70	67	62	54	46	42	72	63	64	64	55	57	28

1) *AHRI certified data is highlighted while all other data are application ratings*
2) *Radiated sound is the noise transmitted through the unit casing*
3) *Sound power levels expressed in decibels, (dB) re 10^{-12} Watts*
4) *Min ΔPs is the minimum operating pressure requirement of the unit with the damper full open and is the static pressure drop from the unit inlet to the unit discharge*
5) *Performance data based on laboratory tests conducted in accordance with ASHRAE 130-2016 and AHRI 880-2017*
6) *NC values are calculated using attenuation credits outlined in AHRI 885-2008 Appendix E*
7) *Blank spaces indicate Minimum Ps if unit exceeds the ΔPs across the unit*
8) *Sound performance based on units lined with standard dual density fiberglass insulation*
9) *Discharge (external) static pressure is 0.25" w.g. for all cases*
10) *Discharge sound power levels include duct end reflection corrections per AHRI Standard 880-2017*

XG-FVL RADIATED SOUND - PSC MOTOR - PRIMARY AIR ONLY COOLING

OCTAVE BAND SOUND POWER, Lw, dB																							
Case-Inlet Size	CFM	Min ΔPs	ΔPs = 0.50 in. wg.							ΔPs = 1.0 in. wg.							ΔPs = 1.5 in. wg.						
			2	3	4	5	6	7	NC	2	3	4	5	6	7	NC	2	3	4	5	6	7	NC
2-06	300	0.05	50	44	42	34	30	31	**32**	56	52	47	44	41	40	**32**	60	54	50	48	46	44	**32**
	350	0.08	52	46	43	36	32	32	**32**	58	53	48	44	42	40	**32**	61	55	50	48	46	44	**32**
	400	**0.10**	54	48	44	38	33	33	**33**	60	54	49	45	42	40	**33**	**62**	**56**	**51**	**48**	**46**	**44**	**33**
	450	0.13	56	50	45	39	34	34	**34**	62	55	50	46	42	41	**34**	64	57	52	48	46	45	**34**
	500	0.15	58	51	46	40	36	36	**35**	64	56	50	46	42	42	**35**	66	58	52	49	46	46	**35**
4-08	500	0.04	53	42	38	34	30	30	**35**	58	48	44	40	38	37	**35**	60	51	48	44	42	42	**35**
	600	0.06	56	44	40	35	31	30	**37**	60	50	45	41	38	37	**37**	62	52	49	44	42	42	**37**
	700	**0.09**	58	56	41	36	32	30	**39**	62	51	46	42	38	37	**39**	**65**	**54**	**50**	**45**	**42**	**42**	**39**
	800	0.11	60	48	42	38	34	32	**40**	64	52	48	43	39	38	**40**	67	56	51	46	43	43	**40**
	900	0.13	62	50	44	41	36	34	**40**	66	54	49	44	40	39	**40**	69	58	52	48	44	44	**40**
6-10	700	0.02	47	43	42	40	35	31	**40**	49	47	45	44	41	40	**40**	53	51	48	46	45	45	**40**
	900	0.03	50	46	44	41	36	32	**41**	54	51	48	45	42	40	**41**	58	54	51	47	46	46	**41**
	1100	**0.05**	53	48	45	42	36	32	**41**	58	54	50	46	42	40	**41**	**62**	**57**	**53**	**49**	**46**	**46**	**41**
	1300	0.08	54	49	46	43	37	32	**42**	61	55	51	47	43	40	**42**	66	60	54	50	47	45	**42**
	1500	0.11	56	50	47	44	38	32	**42**	64	57	52	48	44	40	**42**	70	62	56	52	47	45	**42**

1) *AHRI certified data is highlighted while all other data are application ratings*
2) *Radiated sound is the noise transmitted through the unit casing*
3) *Sound power levels expressed in decibels, (dB) re 10^{-12} Watts*
4) *Min ΔPs is the minimum operating pressure requirement of the unit with the damper full open and is the static pressure drop from the unit inlet to the unit discharge*
5) *Performance data based on laboratory tests conducted in accordance with ASHRAE 130-2016 and AHRI 880-2017*
6) *NC values are calculated using attenuation credits outlined in AHRI 885-2008 Appendix E*
7) *Blank spaces indicate Minimum Ps if unit exceeds the ΔPs across the unit*
8) *Sound performance based on units lined with standard dual density fiberglass insulation*
9) *Discharge (external) static pressure is 0.25" w.g. for all cases*

XG-FVL DISCHARGE SOUND - PSC MOTOR - PRIMARY AIR ONLY COOLING

OCTAVE BAND SOUND POWER, Lw, dB																							
Case-Inlet Size	CFM	Min ΔPs	ΔPs = 0.50 in. wg.							ΔPs = 1.0 in. wg.							ΔPs = 1.5 in. wg.						
			2	3	4	5	6	7	NC	2	3	4	5	6	7	NC	2	3	4	5	6	7	NC
2-06	300	0.05	56	52	49	46	40	36	<15	58	54	51	48	42	38	<15	60	56	53	50	44	40	<15
	350	0.08	58	54	51	46	40	36	<15	60	56	53	48	42	38	<15	62	58	55	50	44	40	15
	400	**0.10**	59	55	53	47	41	37	<15	61	57	55	49	43	39	<15	**63**	**59**	**57**	**51**	**45**	**41**	16
	450	0.13	60	56	54	48	42	38	<15	62	58	56	50	44	40	15	64	60	58	52	46	42	18
	500	0.15	61	57	54	49	43	39	<15	63	59	56	51	45	41	16	65	61	58	53	47	43	19
4-08	500	0.04	57	50	46	42	40	36	15	59	53	48	44	42	38	15	60	56	52	47	44	42	15
	600	0.06	58	52	48	44	42	37	16	61	56	50	46	44	40	16	62	58	54	48	46	43	16
	700	**0.09**	60	54	50	46	44	38	18	63	58	52	48	46	42	18	**64**	**60**	**55**	**50**	**48**	**44**	18
	800	0.11	62	58	54	50	48	42	20	65	62	56	52	51	46	20	66	64	58	54	53	48	21
	900	0.13	64	62	57	54	52	46	20	67	66	59	56	56	50	24	68	68	61	58	58	52	26
6-10	700	0.02	56	50	47	44	42	36	<15	59	54	53	48	47	41	<15	62	57	57	51	51	48	<15
	900	0.03	59	51	48	45	44	37	19	62	57	55	51	50	44	19	65	60	60	54	54	48	19
	1100	**0.05**	61	53	50	47	46	39	19	65	59	57	53	52	47	19	**69**	**63**	**62**	**56**	**56**	**51**	20
	1300	0.08	62	55	51	48	47	40	21	68	60	58	54	54	48	21	72	64	63	58	58	54	24
	1500	0.11	64	57	53	50	48	42	21	71	62	59	56	56	50	22	76	66	64	60	60	56	29

1) *AHRI certified data is highlighted while all other data are application ratings*
2) *Radiated sound is the noise transmitted through the unit casing*
3) *Sound power levels expressed in decibels, (dB) re 10^{-12} Watts*
4) *Min ΔPs is the minimum operating pressure requirement of the unit with the damper full open and is the static pressure drop from the unit inlet to the unit discharge*
5) *Performance data based on laboratory tests conducted in accordance with ASHRAE 130-2016 and AHRI 880-2017*
6) *NC values are calculated using attenuation credits outlined in AHRI 885-2008 Appendix E*
7) *Blank spaces indicate Minimum Ps if unit exceeds the ΔPs across the unit*
8) *Sound performance based on units lined with standard dual density fiberglass insulation*
9) *Discharge (external) static pressure is 0.25" w.g. for all cases*
10) *Discharge sound power levels include duct end reflection corrections per AHRI Standard 880-2017*

XG-FVL-600 HOT WATER COILS MBH SELECTION DATA

Case Size	Rows	Connection OD	GPM	Head Loss (ft-H_2O)	CFM							
					200	250	300	350	400	450	500	550
2	One	0.625	1	0.63	8.2	9.1	9.9	10.5	11.1	11.6	12.1	12.5
			2	2.40	8.9	10.0	10.9	11.7	12.4	13.1	13.7	14.2
			3	5.25	9.3	10.3	11.3	12.2	12.9	13.7	14.3	14.9
			4	9.15	9.5	10.5	11.5	12.4	13.2	14.0	14.7	15.3
			Airside Ps (in. wg)		0.02	0.03	0.04	0.06	0.07	0.09	0.11	0.13
2	Two	0.875	1	0.17	12.3	13.8	15.1	16.1	17.1	17.9	18.6	19.2
			2	0.63	13.8	15.7	17.4	18.9	20.2	21.4	22.5	23.4
			4	2.39	14.7	17.0	18.9	20.7	22.3	23.8	24.2	26.4
			6	5.22	15.1	17.4	19.5	21.4	23.2	24.7	25.1	27.6
			Airside Ps (in. wg)		0.05	0.07	0.10	0.13	0.16	0.19	0.23	0.27

Case Size	Rows	Connection OD	GPM	Head Loss (ft-H_2O)	CFM							
					500	600	700	800	1000	1200	1400	1600
4	One	0.500	0.5	0.24	12.5	12.9	13.3	13.7	14.3	14.8	15.2	15.6
			1	0.93	15.4	16.1	16.7	17.3	18.3	19.2	19.9	20.6
			2	3.52	17.4	18.3	19.1	19.9	21.3	22.5	23.5	24.5
			3	7.71	18.3	19.2	20.1	21.0	22.5	23.8	25.1	26.2
			Airside Ps (in. wg)		0.03	0.04	0.04	0.05	0.07	0.09	0.10	0.12
4	Two	0.875	1	0.24	22.4	23.4	24.4	25.2	26.7	27.9	29.0	29.9
			2	0.91	26.8	28.4	29.8	31.1	33.4	35.5	37.3	38.9
			4	3.45	29.7	31.7	33.5	35.1	38.2	40.9	43.5	45.7
			6	7.53	30.9	33.0	34.9	36.8	40.2	43.2	46.0	48.6
			Airside Ps (in. wg)		0.07	0.08	0.10	0.11	0.15	0.19	0.23	0.27

Case Size	Rows	Connection OD	GPM	Head Loss (ft-H_2O)	CFM							
					500	600	700	800	1000	1200	1400	1600
6	One	0.500	0.5	0.27	13.1	13.8	14.4	14.9	15.7	16.3	16.9	17.3
			1	1.03	16.3	17.5	18.5	19.4	20.8	22.0	23.0	23.8
			2	3.91	18.5	20.1	21.5	22.7	24.8	26.5	28.0	29.3
			3	8.54	19.4	21.2	22.7	24.1	26.5	28.5	30.2	31.7
			Airside Ps (in. wg)		0.04	0.05	0.07	0.08	0.12	0.16	0.21	0.27
6	Two	0.875	1	0.27	23.6	25.4	26.9	28.1	30.1	—	—	—
			2	1.01	28.6	31.3	33.7	35.8	39.2	—	—	—
			4	3.83	31.9	35.4	38.5	41.3	46.1	—	—	—
			6	8.37	33.2	37.1	40.5	43.6	49.0	—	—	—
			Airside Ps (in. wg)		0.08	0.11	0.14	0.18	0.26	—	—	—

Heating capacity data in tables assume an entering water temperature (EWT) of 180°F, and an entering air temperature (EAT) of 65°F, which corresponds to a temperature difference of 115°F. Smaller temperature differences will result in a decrease of heating capacity. To obtain the heating capacity at another temperature difference, refer to the hot water coil notes located in the Reference Section.

XG-FVL-600 PSC FAN MOTOR AMPERAGE RATINGS

Case Size	Motor HP	Standard PSC Motor Amperage Ratings		
		120v-1 Phase 60 Hz Rated Amps	208-240v-1 Phase 60 Hz Rated Amps	277V-1 Phase 60 Hz Rated Amps
2	1/8	2.6	0.8	1.1
4	1/4	4.8	1.9	1.9
6	1/3	8.8	3.0	3.6

Motors also available: 208-240 V, 50 / 60 Hz.
Contact your Greenheck Representative for details.

XG-FVL-600 DAMPER LEAKAGE

Standard Construction			
Inlet Diameter	Static Pressure " w.g.	Maximum Airflow	Max Damper Leakage
4	3	300	5
5	3	375	5
6	3	540	5
7	3	760	7
8	3	990	9
9	3	1250	12
10	3	1640	16
12	3	2350	22
14	3	3250	32
16	3	4100	41
20	3	6430	64
24	3	7270	72

PERFORMANCE NOTES

1) *Leakage testing conducted in accordance with ASHRAE 130-2016*
2) *Per ASHRAE Standard 130-2016 "terminal damper leakage: the amount of air in ft 3/min (L/s) leaking through a fully closed damper/valve of a supply/exhaust terminal unit at a given inlet pressure"opened"*
3) *Damper leakage shall not exceed 1% of the maximum rated airflow at 3" w.g.*
4) *4" and 5" inlets are built with 6" casings*

XG-FVL-600 ELECTRIC HEATER CAPACITIES

Single Phase XG-FVL kW Limits				
Case Size	Heater Voltage	Min. kW Per Step	Max. kW	Max. Steps
2	120	1	5.5	2
2	208	0.5	7.5	2
2	240	0.5	7.5	2
2	277	0.5	7.5	2
2	480	1.5	7.5	2
4	120	1	5.5	3
4	208	0.5	9.5	3
4	240	0.5	11	3
4	277	0.5	12	3
4	480	1	12	3
6	120	0.5	5.5	3
6	208	0.5	9.5	3
6	240	0.5	11	3
6	277	1	13	3
6	480	1	20	3

Three Phase XG-FVL kW Limits				
Case Size	Heater Voltage	Min. kW Per Step	Max. kW	Max. Steps
2	208	0.5	7.5	2
2	480	1.5	7.5	2
4	208	1.5	12	3
4	480	1.5	12	3
6	208	1.5	17	3
6	480	1.5	20	3

NOTES:

1. *Heaters less than 10 kW are specifiable to nearest 0.5 kW. Heaters greater than 10.0 kW are specifiable to nearest 1.0 kW.*
2. *Minimum flow rate for electric heat is 70 CFM / kW.*
   Lower CFM's can cause nuisance tripping, excessive discharge temperatures, rapid cycling, and rapid element failure.
   Electric Heat units running below 70 CFM / kW will void all warranties.
3. *For optimum thermal comfort, the suggested discharge temperature should not exceed 20°F above room set point.*
4. *We do not recommend discharge temperatures in excess of 115°F to protect heater coils.*
5. *Maximum number of steps at Min kW per step is one step.*
6. *If more than 1 heater is wired into a building's circuit breaker (multi-outlet branch circuit) each heater will require the addition of power side fusing.*

ELECTRIC HEAT SELECTION:

A. Specify electric duct heaters using voltage, phase, kW, and number of steps.

B. Use above chart to select voltage. Calculate required kW using following equations:

$$kW = \frac{BTU / HR}{3413} \qquad kW = \frac{CFM \times \Delta \times 1.085}{3413} \qquad \Delta = \frac{kW \times 3413}{CFM \times 1.085}$$

$$CFM = \frac{kW \times 3413}{\Delta \times 1.085} \qquad CFM = \frac{kW \times 3413}{\Delta \times 1.085}$$

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

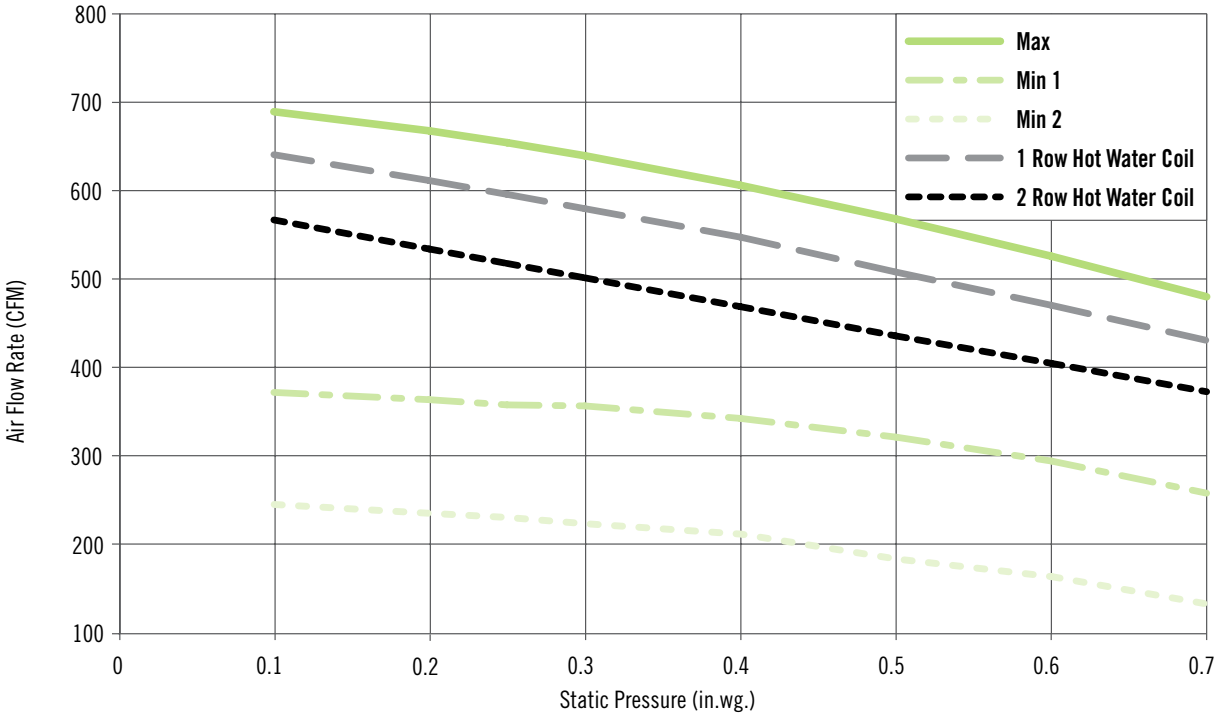
Where: BTU / Hr = Required heating capacity

CFM = volume of air during heating. Typically 100% of maximum cooling air volume

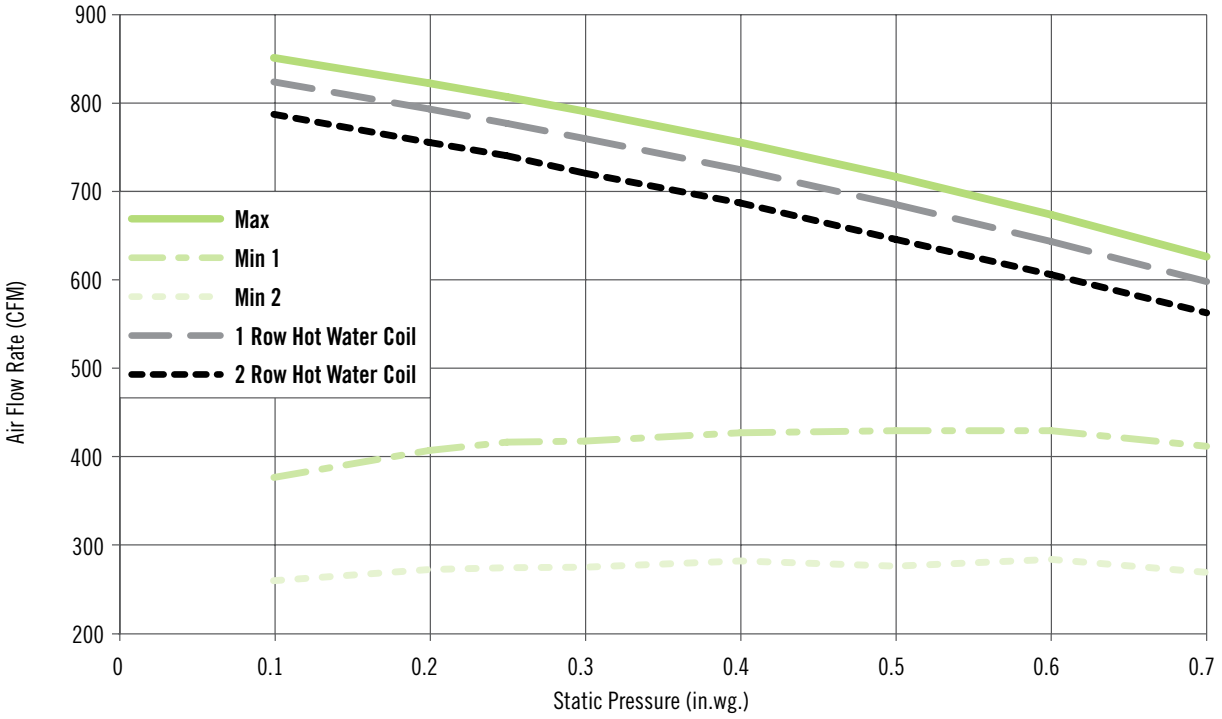
Δ = desired air temperature rise across the electric heater

Inlet air temperature = primary air temperature, usually 55°F

XG-FVL-600 FAN PERFORMANCE CURVES
CASE SIZE 2 - STANDARD HW COIL



XG-FVL-600 FAN PERFORMANCE CURVES
CASE SIZE 4 - STANDARD HW COIL



XG-FVL-600 FAN PERFORMANCE CURVES
CASE SIZE 6 - STANDARD HW COIL