



ENGINEERING DATA

FPS

Minimum Pressure Requirement Primary Only

UNIT SIZE	INLET SIZE	PRIMARY CFM	MIN Ps
2	06	200	0.02
		250	0.04
		300	0.06
		350	0.08
		400	0.10

UNIT SIZE	INLET SIZE	PRIMARY CFM	MIN Ps
3	06	200	0.02
		275	0.05
		350	0.08
		425	0.11
		500	0.16
	08	375	0.03
		425	0.04
		550	0.06
		625	0.08
		700	0.10

UNIT SIZE	INLET SIZE	PRIMARY CFM	MIN Ps
4	08	400	0.03
		525	0.06
		650	0.09
		775	0.12
		900	0.17
	10	700	0.04
		800	0.05
		900	0.07
		1000	0.08
		1100	0.10
	12	800	0.02
		950	0.04
		1100	0.05
		1250	0.06
		1350	0.07

UNIT SIZE	INLET SIZE	PRIMARY CFM	MIN Ps
5	10	1000	0.08
		1100	0.10
		1200	0.12
		1300	0.14
		1400	0.16
	12	1200	0.06
		1300	0.07
		1400	0.08
		1500	0.09
		1600	0.10

UNIT SIZE	INLET SIZE	PRIMARY CFM	MIN Ps
6	12	1000	0.04
		1250	0.06
		1500	0.09
		1750	0.12
		2000	0.16
	14	1275	0.04
		1450	0.05
		1775	0.07
		1950	0.09
		2100	0.10

UNIT SIZE	INLET SIZE	PRIMARY CFM	MIN Ps
7	16	2000	0.05
		2200	0.06
		2400	0.07
		2600	0.09
		2800	0.10

ENGINEERING DATA

FPS Discharge Sound

Minimum Inlet Static Pressure

Case	Inlet Size	CFM	wBress	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				(in2)	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	57	55	55	48	43	38	-	60	58	57	50	43	38	17
		250	0.040	62	59	58	52	47	43	18	64	62	60	54	49	45	21
		300	0.060	66	62	61	55	51	47	22	68	65	63	57	53	49	25
		350	0.080	69	65	63	58	54	51	26	71	68	66	60	56	53	28
		400	0.100	72	67	65	60	56	54	30	74	70	68	62	58	56	32
3	6	200	0.020	63	53	53	46	46	44	18	63	53	53	46	46	44	18
		275	0.050	63	53	53	46	46	44	18	65	53	53	46	46	44	21
		350	0.080	65	55	55	49	49	46	21	67	55	58	51	49	46	23
		425	0.110	67	59	58	53	52	51	23	69	59	60	55	52	51	26
		500	0.160	69	62	61	56	55	54	26	71	62	63	56	55	54	28
	8	375	0.030	66	57	56	50	50	48	22	68	59	59	50	50	48	24
		425	0.040	67	59	58	53	52	51	23	69	59	60	55	52	51	26
		550	0.060	70	64	62	58	57	56	27	72	66	64	58	57	56	30
		625	0.080	71	66	64	61	59	59	28	74	68	66	63	59	59	32
		700	0.100	73	68	66	63	62	61	31	75	70	68	63	62	61	33
4	8	400	0.030	66	64	62	66	62	52	24	66	64	62	66	62	52	24
		525	0.060	66	64	62	66	62	52	24	68	64	64	66	64	52	24
		650	0.090	67	65	63	66	62	53	25	70	67	66	68	65	55	27
		775	0.120	69	66	65	67	63	55	26	72	69	67	69	65	57	30
		900	0.170	70	68	66	67	64	56	28	74	70	69	69	66	59	32
	10	700	0.040	68	65	63	66	63	53	25	71	68	66	68	65	56	28
		800	0.050	69	67	65	67	63	55	27	72	69	68	69	65	58	30
		900	0.070	70	68	66	67	64	56	28	74	70	69	69	66	59	32
		1000	0.080	71	69	68	68	64	58	30	75	72	70	70	66	60	33
		1100	0.100	72	69	69	68	65	59	30	76	72	71	70	67	61	35
	12	800	0.020	69	67	65	67	63	55	27	72	69	68	69	65	58	30
		950	0.040	71	68	67	67	64	57	28	74	71	69	69	66	60	32
		1100	0.050	72	69	69	68	65	59	30	76	72	71	70	67	61	35
		1250	0.060	74	70	71	68	65	60	32	77	73	73	70	67	63	36
		1350	0.070	75	71	72	68	65	61	33	78	74	74	71	68	63	37
5	10	1000	0.080	70	64	63	59	57	57	27	73	67	65	59	57	57	31
		1100	0.100	70	64	63	59	57	57	27	74	68	66	62	60	57	32
		1200	0.100	72	66	64	61	59	59	30	75	69	67	64	62	59	33
		1300	0.140	73	67	66	63	61	61	31	77	71	69	66	64	61	36
		1400	0.160	74	69	67	65	63	63	32	78	72	70	68	66	63	37
	12	1200	0.060	72	66	64	61	59	59	30	75	69	67	64	62	59	33
		1300	0.070	73	67	66	63	61	61	31	77	71	69	66	64	61	36
		1400	0.080	74	69	67	65	63	63	32	78	72	70	68	66	63	37
		1500	0.090	75	70	68	67	65	65	33	79	74	71	69	67	67	39
		1600	0.100	77	71	69	69	66	66	36	80	75	72	71	69	66	40
6	12	1000	0.040	69	66	58	53	50	50	26	71	68	58	53	52	50	28
		1250	0.060	72	68	62	58	55	55	30	75	71	62	58	57	57	33
		1500	0.090	75	71	66	63	60	60	33	78	73	66	63	62	60	37
		1750	0.120	77	73	70	68	65	65	36	80	76	70	70	67	67	40
		2000	0.160	80	74	73	72	69	68	40	83	77	73	74	71	68	44
	14	1275	0.040	72	69	62	59	55	55	30	75	71	62	61	58	57	33
		1450	0.050	74	70	65	62	59	59	32	77	73	65	62	61	61	36
		1775	0.070	78	73	70	68	65	65	37	81	76	70	68	67	65	41
		1950	0.090	79	74	72	71	68	68	39	82	77	72	73	70	70	42
		2100	0.100	80	75	74	73	70	70	40	83	78	74	73	72	72	44
7	16	2000	0.050	77	72	70	67	64	64	36	77	72	70	67	64	64	36
		2200	0.060	77	73	70	67	65	65	36	77	73	70	67	65	65	36
		2400	0.070	78	74	71	69	66	66	37	78	74	71	69	66	66	37
		2600	0.090	79	75	72	70	67	67	39	79	75	72	70	67	67	39
		2800	0.100	80	75	73	71	68	68	40	80	75	73	71	68	68	40



ENGINEERING DATA

FPS Discharge Sound

0.5" Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	55	53	47	36	34	26	21	59	58	51	41	38	26	27
		250	0.040	57	55	49	39	36	28	24	61	61	53	44	40	28	31
		300	0.060	59	57	50	42	38	30	26	64	63	55	46	42	32	33
		350	0.080	60	59	51	44	40	31	28	65	65	56	48	44	34	35
		400	0.100	62	60	51	47	41	33	29	67	67	57	50	46	36	38
3	6	200	0.020	46	45	42	39	27	18	15	58	55	47	39	32	18	24
		275	0.050	46	45	42	39	27	18	15	61	58	50	42	36	23	27
		350	0.080	46	45	42	39	27	18	15	64	61	52	44	39	26	31
		425	0.110	50	49	44	42	31	22	18	65	63	54	47	41	29	33
		500	0.160	54	53	47	44	34	26	21	67	65	56	49	44	32	35
	8	375	0.030	47	46	42	40	28	19	15	62	60	51	44	38	25	29
		425	0.040	50	49	44	42	31	22	18	63	61	52	46	40	27	31
		550	0.060	56	55	49	46	36	29	24	66	65	55	50	44	33	35
		625	0.080	59	57	51	47	39	32	26	68	66	56	52	46	36	37
4	8	700	0.100	62	60	52	49	42	35	29	69	68	58	54	47	38	39
		400	0.030	58	55	54	46	32	29	29	58	55	54	46	35	29	29
		525	0.060	58	55	54	46	32	29	29	62	59	56	48	37	29	31
		650	0.090	58	55	54	46	32	29	29	64	61	58	50	39	31	33
		775	0.120	60	57	54	47	34	31	29	67	64	59	51	42	33	34
	10	900	0.170	62	59	55	48	37	33	30	70	67	60	53	44	33	38
		700	0.040	59	56	54	46	33	30	29	64	61	57	49	38	30	32
		800	0.050	61	57	55	47	35	32	30	66	63	58	51	40	32	33
		900	0.070	62	59	55	48	37	33	30	68	65	59	52	42	33	35
		1000	0.080	63	60	56	48	38	35	31	69	67	60	52	43	35	38
	12	1100	0.100	64	61	56	49	40	36	31	71	68	61	54	45	36	39
		800	0.020	61	57	55	47	35	32	30	65	62	57	50	39	32	32
		950	0.040	63	60	56	48	38	34	31	68	65	59	51	42	34	35
		1100	0.050	64	61	56	49	40	36	31	69	66	60	53	44	36	37
		1250	0.060	66	63	57	49	42	38	33	71	69	61	53	46	38	40
5	10	1350	0.070	66	64	57	49	43	39	34	73	70	62	54	47	39	41
		1000	0.080	65	61	54	46	36	34	31	73	67	59	52	46	38	39
		1100	0.100	65	61	54	46	36	34	31	74	68	59	53	46	38	40
		1200	0.100	65	61	54	46	36	34	31	75	69	60	54	47	39	41
		1300	0.140	66	61	55	47	38	36	31	76	70	61	54	48	40	43
	12	1400	0.160	67	62	56	49	39	38	32	76	71	62	55	49	41	43
		1200	0.060	65	61	54	46	36	34	31	73	67	59	52	46	38	39
		1300	0.070	66	61	55	47	38	36	31	74	68	60	52	47	39	40
		1400	0.080	67	62	56	49	39	38	32	74	69	61	54	48	40	40
6	12	1500	0.090	68	63	57	50	41	39	33	75	70	62	54	49	39	41
		1600	0.100	69	63	58	51	42	41	34	76	70	62	55	49	41	43
		1000	0.040	60	59	51	47	41	36	28	65	61	56	51	47	36	31
		1250	0.060	61	59	52	48	42	37	28	67	64	58	53	49	37	34
		1500	0.090	64	61	54	51	46	41	31	70	66	61	55	51	41	37
	14	1750	0.120	66	62	56	54	49	45	32	73	70	63	58	54	45	41
		2000	0.160	68	63	58	56	51	48	33	75	72	65	60	55	48	44
		1275	0.040	61	59	52	48	43	37	28	66	63	57	52	48	37	33
		1450	0.050	63	60	54	51	45	40	29	68	65	59	54	50	40	35
7	16	1775	0.070	66	62	57	54	49	45	32	71	68	62	57	53	45	39
		1950	0.090	68	63	58	56	51	47	33	73	70	63	58	54	47	41
		2100	0.100	69	63	59	57	52	49	34	74	71	64	59	55	49	42
		2000	0.050	70	68	62	59	53	51	39	76	72	67	64	58	55	44
		2200	0.060	70	68	62	59	54	51	39	77	73	68	64	59	56	45
		2400	0.070	71	70	64	61	55	53	41	78	74	69	65	60	58	46
		2600	0.090	73	71	65	62	57	55	42	79	75	70	66	62	59	47
		2800	0.100	74	72	66	63	58	57	44	80	76	71	67	63	61	48

ENGINEERING DATA

FPS Discharge Sound

1.0" Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	64	60	60	53	49	45	19	64	60	60	53	49	45	19
		250	0.040	64	60	60	53	49	45	19	64	63	62	53	49	45	23
		300	0.060	66	62	61	55	51	47	22	68	66	63	57	53	49	26
		350	0.080	69	65	63	58	54	51	26	71	68	66	60	56	53	28
		400	0.100	72	67	65	60	56	54	30	74	71	68	62	58	56	32
3	6	200	0.020	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		275	0.050	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		350	0.080	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		425	0.110	68	60	58	53	53	52	24	70	60	61	53	53	52	27
	8	500	0.160	69	62	61	56	55	54	26	71	62	63	58	55	54	28
		375	0.030	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		425	0.040	68	60	58	53	53	52	24	70	60	61	53	53	52	27
		550	0.060	70	64	62	58	57	56	27	72	64	64	60	57	56	30
4	8	625	0.080	72	66	64	61	59	59	30	74	68	66	63	59	59	32
		700	0.100	73	69	66	63	62	62	31	75	71	68	65	62	62	33
		400	0.030	69	66	65	66	63	55	26	69	66	65	66	63	55	26
		525	0.060	69	66	65	66	63	55	26	71	66	65	66	63	55	28
		650	0.090	69	66	65	66	63	55	26	72	68	67	68	65	57	30
	10	775	0.120	69	66	65	67	63	55	26	73	69	68	68	65	58	31
		900	0.170	70	67	67	67	64	56	27	74	70	69	69	66	59	32
		700	0.040	69	66	65	66	63	55	26	72	68	67	68	65	57	30
		800	0.050	69	66	65	67	63	55	26	73	69	68	69	66	58	31
		900	0.070	70	67	67	67	64	56	27	74	70	69	69	66	59	32
	12	1000	0.080	71	68	68	67	64	58	28	75	71	70	70	67	61	33
		1100	0.100	72	69	69	68	65	59	30	76	72	71	70	67	62	35
		800	0.020	69	66	65	67	63	55	26	73	69	68	69	66	58	31
		950	0.040	71	68	67	67	64	57	28	75	71	70	69	66	60	33
5	10	1100	0.050	72	69	69	68	65	59	30	76	72	71	70	67	62	35
		1250	0.060	74	70	71	68	65	60	32	78	74	73	70	67	63	37
		1350	0.070	75	71	72	68	65	61	33	79	75	74	71	68	64	39
		1000	0.080	73	68	66	64	62	62	31	75	68	66	64	62	62	33
		1100	0.100	73	68	66	64	62	62	31	76	70	66	64	62	62	35
	12	1200	0.100	73	68	66	64	62	62	31	77	71	69	64	62	62	36
		1300	0.140	73	68	66	64	62	62	31	77	72	69	66	64	62	36
		1400	0.160	74	69	67	65	63	63	32	78	73	70	68	66	63	37
		1200	0.060	73	68	66	64	62	62	31	77	71	69	64	62	62	36
6	12	1300	0.070	73	68	66	64	62	62	31	77	72	69	66	64	62	36
		1400	0.080	74	69	67	65	63	63	32	78	73	70	68	66	63	37
		1500	0.090	75	70	68	67	65	65	33	79	74	72	70	68	65	39
		1600	0.100	76	71	69	69	67	67	35	80	75	73	71	69	69	40
		1000	0.040	74	70	64	61	58	57	32	74	70	64	61	58	57	32
	14	1250	0.060	74	70	64	61	58	57	32	76	72	64	61	58	57	35
		1500	0.090	75	71	66	63	60	60	33	78	73	68	63	62	62	37
		1750	0.120	78	73	69	68	65	64	37	81	75	69	70	67	66	41
		2000	0.160	80	74	72	71	69	68	40	83	77	72	73	71	68	44
7	16	1275	0.040	74	70	64	61	58	57	32	76	72	64	61	58	57	35
		1450	0.050	75	70	65	62	59	59	33	78	73	65	62	61	61	37
		1775	0.070	78	73	70	68	65	65	37	81	76	72	68	67	67	41
		1950	0.090	79	74	72	71	68	67	39	82	77	74	73	70	69	42
		2100	0.100	81	75	73	73	70	70	41	84	78	73	75	72	72	45
7	16	2000	0.050	77	73	70	68	66	66	36	77	73	70	68	66	66	36
		2200	0.060	77	73	70	68	66	66	36	77	73	70	68	66	66	36
		2400	0.070	78	74	71	69	66	66	37	78	74	71	69	66	66	37
		2600	0.090	79	75	72	70	68	68	39	79	75	72	70	68	68	39
		2800	0.100	79	75	73	72	69	69	39	79	75	73	72	69	69	39



ENGINEERING DATA

FPS Discharge Sound

1.5" Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	64	60	60	53	49	45	19	64	60	60	53	49	45	19
		250	0.040	64	60	60	53	49	45	19	66	64	62	53	49	45	24
		300	0.060	66	62	61	55	51	47	22	68	66	64	57	53	49	26
		350	0.080	69	65	63	58	54	51	26	71	69	66	60	56	53	30
		400	0.100	72	67	65	60	56	54	30	74	71	68	63	58	56	32
3	6	200	0.020	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		275	0.050	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		350	0.080	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		425	0.110	68	60	58	53	53	52	24	70	60	61	53	53	52	27
		500	0.160	69	62	61	56	55	54	26	71	62	63	58	55	54	28
	8	375	0.030	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		425	0.040	68	60	58	53	53	52	24	70	60	61	53	53	52	27
		550	0.060	70	64	62	58	57	56	27	72	64	65	60	57	56	30
		625	0.080	72	66	64	61	59	59	30	74	68	66	63	59	59	32
4	8	700	0.100	73	69	66	63	62	62	31	75	71	68	65	62	62	33
		400	0.030	69	66	65	66	63	55	26	69	66	65	66	63	55	26
		525	0.060	69	66	65	66	63	55	26	72	66	65	66	63	55	30
		650	0.090	69	66	65	66	63	55	26	73	69	67	68	65	57	31
		775	0.120	69	66	65	67	63	55	26	74	70	68	69	66	58	32
	10	900	0.170	70	67	67	67	64	56	27	75	71	69	69	66	59	33
		700	0.040	69	66	65	66	63	55	26	73	69	67	68	65	57	31
		800	0.050	69	66	65	67	63	55	26	74	70	68	69	66	58	32
		900	0.070	70	67	67	67	64	56	27	75	71	69	69	66	59	33
		1000	0.080	71	68	68	67	64	58	28	76	72	70	70	67	61	35
	12	1100	0.100	72	69	69	68	65	59	30	77	73	71	70	67	62	36
		800	0.020	69	66	65	67	63	55	26	74	70	68	69	66	58	32
		950	0.040	71	68	67	67	64	57	28	76	72	70	69	66	60	35
		1100	0.050	72	69	69	68	65	59	30	77	73	71	70	67	62	36
		1250	0.060	74	70	71	68	65	60	32	79	74	73	70	68	63	39
5	10	1350	0.070	75	71	72	68	65	61	33	80	75	74	71	68	64	40
		1000	0.080	73	68	66	64	62	62	31	76	70	66	64	62	62	35
		1100	0.100	73	68	66	64	62	62	31	77	71	68	64	62	62	36
		1200	0.100	73	68	66	64	62	62	31	78	72	69	64	62	62	37
		1300	0.140	73	68	66	64	62	62	31	78	73	70	67	65	62	37
	12	1400	0.160	74	69	67	65	63	63	32	79	74	71	68	66	63	39
		1200	0.060	73	68	66	64	62	62	31	78	72	69	64	62	62	37
		1300	0.070	73	68	66	64	62	62	31	78	73	70	67	65	62	37
		1400	0.080	74	69	67	65	63	63	32	79	74	71	68	66	63	39
6	12	1500	0.090	75	70	68	67	65	65	33	80	75	72	70	68	65	40
		1600	0.100	76	71	69	69	67	67	35	81	76	73	72	70	69	41
		1000	0.040	74	70	64	61	58	57	32	74	70	64	61	58	57	32
		1250	0.060	74	70	64	61	58	57	32	76	72	64	61	58	57	35
		1500	0.090	75	71	66	63	60	60	33	78	73	68	63	62	62	37
	14	1750	0.120	78	73	69	68	65	64	37	81	75	69	70	67	66	41
		2000	0.160	80	74	72	71	69	68	40	83	77	72	73	71	68	44
		1275	0.040	74	70	64	61	58	57	32	76	72	64	61	58	57	35
		1450	0.050	75	70	65	62	59	59	33	77	73	65	62	61	61	36
7	16	1775	0.070	78	73	70	68	65	65	37	81	76	72	68	67	67	41
		1950	0.090	79	74	72	71	68	67	39	82	77	74	73	70	69	42
		2100	0.100	81	75	73	73	70	70	41	84	78	75	75	72	72	45
		2000	0.050	77	73	70	68	66	66	36	77	73	70	68	66	66	36
		2200	0.060	77	73	70	68	66	66	36	77	73	70	68	66	66	36
		2400	0.070	78	74	71	69	66	66	37	78	74	71	69	66	66	37
		2600	0.090	79	75	72	70	68	68	39	79	75	74	70	70	68	39
		2800	0.100	79	75	73	72	69	69	39	79	75	75	74	71	69	39

ENGINEERING DATA

FPS Discharge Sound

3.0" Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	64	60	60	53	49	45	19	64	63	60	53	49	45	23
		250	0.040	64	60	60	53	49	45	19	66	65	62	53	49	45	25
		300	0.060	66	62	61	55	51	47	22	68	67	64	58	53	49	27
		350	0.080	69	65	63	58	54	41	26	71	70	66	60	56	53	31
		400	0.100	72	67	65	60	56	54	30	74	72	68	63	58	56	33
3	6	200	0.020	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		275	0.050	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		350	0.080	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		425	0.110	68	60	58	53	53	52	24	70	60	61	53	53	52	27
		500	0.160	69	62	61	56	55	54	26	71	62	63	58	55	54	28
	8	375	0.030	68	60	58	53	53	52	24	68	60	58	53	53	52	24
		425	0.040	68	60	58	53	53	52	24	70	60	61	53	53	52	27
		550	0.060	70	64	62	58	57	56	27	72	64	65	60	57	56	30
		625	0.080	72	66	64	61	59	59	30	74	68	67	63	59	59	32
		700	0.100	73	69	66	63	62	62	31	75	71	68	65	62	62	33
4	8	400	0.030	69	66	65	66	63	55	26	72	66	65	66	63	55	30
		525	0.060	69	66	65	66	63	55	26	73	68	65	66	65	55	31
		650	0.090	69	66	65	66	63	55	26	74	69	67	68	65	57	32
		775	0.120	69	66	65	67	63	55	26	76	70	68	69	66	58	35
		900	0.170	70	67	67	67	64	56	27	78	72	69	69	66	60	37
	10	700	0.040	69	66	65	66	63	55	26	75	70	67	68	65	58	33
		800	0.050	69	66	65	67	63	55	26	77	71	68	69	66	58	36
		900	0.070	70	67	67	67	64	56	27	78	72	69	69	66	60	37
		1000	0.080	71	68	68	67	64	58	28	79	73	70	70	67	61	39
		1100	0.100	72	69	69	68	65	59	30	80	74	71	70	67	62	40
	12	800	0.020	69	66	65	67	63	55	26	77	71	68	69	66	58	36
		950	0.040	71	68	67	67	64	57	28	79	72	70	70	67	60	39
		1100	0.050	72	69	69	68	65	59	30	80	74	71	70	67	62	40
		1250	0.060	74	70	71	68	65	60	32	82	75	73	71	68	63	42
		1350	0.070	75	71	72	68	65	61	33	83	76	74	71	68	64	44
5	10	1000	0.080	73	68	66	64	62	62	31	78	72	68	64	62	62	37
		1100	0.100	73	68	66	64	62	62	31	79	73	69	64	62	62	39
		1200	0.100	73	68	66	64	62	62	31	80	74	70	66	64	62	40
		1300	0.140	73	68	66	64	62	62	31	81	75	71	67	65	62	41
		1400	0.160	74	69	67	65	63	63	32	83	77	72	69	67	63	44
	12	1200	0.060	73	68	66	64	62	62	31	80	74	70	66	64	62	40
		1300	0.070	73	68	66	64	62	62	31	81	75	71	67	65	62	41
		1400	0.080	74	69	67	65	63	63	32	83	77	72	69	67	63	44
		1500	0.090	75	70	68	67	65	65	33	84	78	73	70	68	65	45
		1600	0.100	76	71	69	69	67	67	35	85	79	74	72	70	69	46
6	12	1000	0.040	74	70	64	61	58	57	32	74	70	64	61	58	57	32
		1250	0.060	74	70	64	61	58	57	32	74	72	64	61	58	57	33
		1500	0.090	75	71	66	63	60	60	33	78	73	68	63	62	62	37
		1750	0.120	78	73	69	68	65	64	37	80	75	71	70	67	66	40
		2000	0.160	80	74	72	71	69	68	40	83	77	74	73	71	70	44
	14	1275	0.040	74	70	64	61	58	57	32	76	72	64	61	58	57	35
		1450	0.050	75	70	65	62	59	59	33	77	73	67	62	61	61	36
		1775	0.070	78	73	70	68	65	65	37	81	75	72	68	67	67	41
		1950	0.090	79	74	72	71	68	67	39	82	77	74	73	70	69	42
7	16	2100	0.100	81	75	73	73	70	70	41	84	78	75	75	72	72	45
		2000	0.050	77	73	70	68	66	66	36	77	73	70	68	66	66	36
		2200	0.060	77	73	70	68	66	66	36	77	73	70	68	66	66	36
		2400	0.070	78	74	71	69	66	66	37	78	74	71	69	68	66	37
		2600	0.090	79	75	72	70	68	68	39	79	75	74	72	70	68	39
		2800	0.100	79	75	73	72	69	69	39	79	75	75	74	71	71	39



ENGINEERING DATA

FPS Radiated Sound

Minimum Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	55	53	47	36	34	26	21	59	58	51	41	38	26	27
		250	0.040	57	55	49	39	36	28	24	61	61	53	44	40	28	31
		300	0.060	59	57	50	42	38	30	26	64	63	55	46	42	32	33
		350	0.080	60	59	51	44	40	31	28	65	65	56	48	44	34	35
		400	0.100	62	60	51	47	41	33	29	67	67	57	50	46	36	38
3	6	200	0.020	42	42	39	37	23	14	12	58	55	47	39	32	18	24
		275	0.050	42	42	39	37	23	14	12	61	58	49	41	35	22	27
		350	0.080	46	45	41	39	26	18	14	64	61	52	44	39	26	31
		425	0.110	50	49	45	42	31	22	19	65	63	54	47	41	29	33
		500	0.160	54	53	47	44	34	26	21	67	65	56	49	44	32	35
	8	375	0.030	47	46	43	40	28	19	17	62	60	51	44	38	25	29
		425	0.040	50	49	45	42	31	22	19	63	61	52	46	40	27	31
		550	0.060	56	55	49	46	36	26	24	66	65	55	50	44	33	35
		625	0.080	59	57	51	47	39	32	26	68	66	56	52	46	36	37
4	8	700	0.100	62	60	52	49	42	35	29	69	68	58	54	47	38	39
		400	0.030	58	54	53	46	30	28	27	58	54	53	46	34	28	27
		525	0.060	58	54	53	46	30	28	27	62	58	56	48	36	28	31
		650	0.090	58	55	54	46	31	29	29	64	61	58	50	39	31	33
		775	0.120	60	57	55	47	34	31	30	67	64	59	51	42	33	34
	10	900	0.170	62	59	55	48	37	33	30	70	67	60	53	44	33	38
		700	0.040	59	56	54	47	33	30	29	64	61	57	50	38	30	32
		800	0.050	61	57	55	47	35	32	30	66	63	58	51	40	32	33
		900	0.070	62	59	55	48	37	33	30	68	65	59	52	42	33	35
	12	1000	0.080	63	60	56	48	38	35	31	69	67	60	52	43	35	38
		1100	0.100	64	61	56	49	40	36	31	71	68	61	54	45	36	39
		800	0.020	61	57	55	47	35	32	30	65	62	57	50	39	32	32
		950	0.040	63	60	56	48	38	34	31	68	65	59	51	42	34	35
		1100	0.050	64	61	56	49	40	36	31	69	66	60	53	44	36	37
5	10	1250	0.060	66	63	57	49	42	38	33	71	69	61	53	46	38	40
		1350	0.070	66	64	57	49	43	39	34	73	70	62	54	47	39	41
		1000	0.080	64	60	53	45	34	32	29	73	67	58	52	45	37	39
		1100	0.100	64	60	53	45	34	32	29	74	68	59	53	46	37	40
		1200	0.100	65	61	54	46	36	34	31	75	69	60	54	47	39	41
	12	1300	0.140	66	61	55	47	38	36	31	76	70	61	54	43	40	43
		1400	0.160	67	62	56	49	39	38	32	76	71	62	55	49	41	43
		1200	0.060	66	61	55	47	38	36	31	74	68	60	52	47	39	40
		1300	0.070	66	61	55	47	38	36	31	74	68	60	52	47	39	40
		1400	0.080	67	62	56	49	39	38	32	74	69	61	54	48	40	40
6	12	1500	0.090	68	63	57	50	41	39	33	75	70	62	54	49	39	41
		1600	0.100	69	63	58	51	42	41	34	76	70	62	55	49	41	43
		1000	0.040	59	58	49	45	39	33	27	64	61	55	50	47	33	31
		1250	0.060	61	59	52	48	43	37	28	67	64	58	53	49	37	34
		1500	0.090	64	61	54	52	46	42	31	70	66	61	56	51	42	37
	14	1750	0.120	66	62	57	54	49	45	32	73	70	63	58	54	45	41
		2000	0.160	68	63	58	56	51	48	33	75	72	65	60	55	48	44
		1275	0.040	62	59	52	49	43	38	28	67	63	57	52	48	38	33
		1450	0.050	64	60	54	51	46	41	29	69	65	59	54	50	41	35
7	16	1775	0.070	67	62	57	54	49	45	32	72	68	62	57	53	45	39
		1950	0.090	68	63	58	56	51	47	33	73	70	63	58	54	47	41
		2100	0.100	69	63	59	57	52	49	34	74	71	64	59	55	49	42
		2000	0.050	69	68	62	59	53	51	39	76	72	67	64	58	55	44
		2200	0.060	70	68	62	59	54	51	39	77	73	68	64	59	56	45
	16	2400	0.070	71	70	64	61	55	53	41	78	74	69	65	60	58	46
		2600	0.090	73	71	65	62	57	55	42	79	75	70	66	62	59	47
		2800	0.100	74	72	66	63	58	57	44	80	76	71	67	63	61	48

ENGINEERING DATA

FPS Radiated Sound

0.5" Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	55	53	47	36	34	26	21	59	58	51	41	38	26	27
		250	0.040	57	55	49	39	36	28	24	61	61	53	44	40	28	31
		300	0.060	59	57	50	42	38	30	26	64	63	55	46	42	32	33
		350	0.080	60	59	51	44	40	31	28	65	65	56	48	44	34	35
		400	0.100	62	60	51	47	41	33	29	67	67	57	50	46	36	38
3	6	200	0.020	46	45	42	39	27	18	15	58	55	47	39	32	18	24
		275	0.050	46	45	42	39	27	18	15	61	58	50	42	36	23	27
		350	0.080	46	45	42	39	27	18	15	64	61	52	44	39	26	31
		425	0.110	50	49	44	42	31	22	18	65	63	54	47	41	29	33
		500	0.160	54	53	47	44	34	26	21	67	65	56	49	44	32	35
	8	375	0.030	47	46	42	40	28	19	15	62	60	51	44	38	25	29
		425	0.040	50	49	44	42	31	22	18	63	61	52	46	40	27	31
		550	0.060	56	55	49	46	36	29	24	66	65	55	50	44	33	35
		625	0.080	59	57	51	47	39	32	26	68	66	56	52	46	36	37
		700	0.100	62	60	52	49	42	35	29	69	68	58	54	47	38	39
4	8	400	0.030	58	55	54	46	32	29	29	58	55	54	46	35	29	29
		525	0.060	58	55	54	46	32	29	29	62	59	56	48	37	29	31
		650	0.090	58	55	54	46	32	29	29	64	61	58	50	39	31	33
		775	0.120	60	57	54	47	34	31	29	67	64	59	51	42	33	34
		900	0.170	62	59	55	48	37	33	30	70	67	60	53	44	33	38
	10	700	0.040	59	56	54	46	33	30	29	64	61	57	49	38	30	32
		800	0.050	61	57	55	47	35	32	30	66	63	58	51	40	32	33
		900	0.070	62	59	55	48	37	33	30	68	65	59	52	42	33	35
		1000	0.080	63	60	56	48	38	35	31	69	67	60	52	43	35	38
		1100	0.100	64	61	56	49	40	36	31	71	68	61	54	45	36	39
	12	800	0.020	61	57	55	47	35	32	30	65	62	57	50	39	32	32
		950	0.040	63	60	56	48	38	34	31	68	65	59	51	42	34	35
		1100	0.050	64	61	56	49	40	36	31	69	66	60	53	44	36	37
		1250	0.060	66	63	57	49	42	38	33	71	69	61	53	46	38	40
		1350	0.070	66	64	57	49	43	39	34	73	70	62	54	47	39	41
5	10	1000	0.080	65	61	54	46	36	34	31	73	67	59	52	46	38	39
		1100	0.100	65	61	54	46	36	34	31	74	68	59	53	46	38	40
		1200	0.100	65	61	54	46	36	34	31	75	69	60	54	47	39	41
		1300	0.140	66	61	55	47	38	36	31	76	70	61	54	48	40	43
		1400	0.160	67	62	56	49	39	38	32	76	71	62	55	49	41	43
	12	1200	0.060	65	61	54	46	36	34	31	73	67	59	52	46	38	39
		1300	0.070	66	61	55	47	38	36	31	74	68	60	52	47	39	40
		1400	0.080	67	62	56	49	39	38	32	74	69	61	54	48	40	40
		1500	0.090	68	63	57	50	41	39	33	75	70	62	54	49	39	41
		1600	0.100	69	63	58	51	42	41	34	76	70	62	55	49	41	43
6	12	1000	0.040	60	59	51	47	41	36	28	65	61	56	51	47	36	31
		1250	0.060	61	59	52	48	42	37	28	67	64	58	53	49	37	34
		1500	0.090	64	61	54	51	46	41	31	70	66	61	55	51	41	37
		1750	0.120	66	62	56	54	49	45	32	73	70	63	58	54	45	41
		2000	0.160	68	63	58	56	51	48	33	75	72	65	60	55	48	44
	14	1275	0.040	61	59	52	48	43	37	28	66	63	57	52	48	37	33
		1450	0.050	63	60	54	51	45	40	29	68	65	59	54	50	40	35
		1775	0.070	66	62	57	54	49	45	32	71	68	62	57	53	45	39
		1950	0.090	68	63	58	56	51	47	33	73	70	63	58	54	47	41
		2100	0.100	69	63	59	57	52	49	34	74	71	64	59	55	49	42
7	16	2000	0.050	70	68	62	59	53	51	39	76	72	67	64	58	55	44
		2200	0.060	70	68	62	59	54	51	39	77	73	68	64	59	56	45
		2400	0.070	71	70	64	61	55	53	41	78	74	69	65	60	58	46
		2600	0.090	73	71	65	62	57	55	42	79	75	70	66	62	59	47
		2800	0.100	74	72	66	63	58	57	44	80	76	71	67	63	61	48



ENGINEERING DATA

FPS Radiated Sound

1.0" Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	58	56	49	41	37	29	25	58	56	49	41	37	29	25
		250	0.040	58	56	49	41	37	29	25	58	56	49	41	37	29	25
		300	0.060	59	57	50	42	38	30	26	64	64	55	46	42	32	34
		350	0.080	61	59	50	45	40	32	28	66	66	56	49	44	34	37
		400	0.100	62	60	51	47	41	33	29	67	68	58	50	46	36	39
3	6	200	0.020	51	50	45	42	31	23	19	59	56	49	42	34	23	25
		275	0.050	51	50	45	42	31	23	19	61	59	50	42	36	25	28
		350	0.080	51	50	45	42	31	23	19	63	61	53	46	40	27	31
		425	0.110	51	50	45	42	31	23	19	65	63	55	47	41	29	33
		500	0.160	54	53	47	44	34	26	21	67	65	56	49	44	32	35
	8	375	0.030	51	50	45	42	31	23	19	62	60	51	45	38	27	29
		425	0.040	51	50	45	42	31	23	19	63	61	53	46	40	28	31
		550	0.060	56	55	49	45	36	29	24	66	65	55	50	44	33	35
		625	0.080	59	58	51	47	39	32	27	68	66	56	52	46	36	37
		700	0.100	62	60	52	49	42	35	29	69	68	58	54	47	38	39
4	8	400	0.030	60	57	54	46	34	31	29	60	57	54	46	37	31	29
		525	0.060	60	57	54	46	34	31	29	64	60	57	49	39	31	32
		650	0.090	60	57	54	46	34	31	29	65	62	58	50	41	33	33
		775	0.120	60	57	54	47	34	31	29	69	66	59	52	43	34	37
		900	0.170	62	58	55	47	37	33	30	71	68	61	53	45	35	39
	10	700	0.040	60	57	54	46	34	31	29	65	62	58	50	40	31	33
		800	0.050	60	57	55	47	35	31	30	67	64	59	51	42	31	34
		900	0.070	62	58	55	47	37	33	30	69	66	60	52	43	33	37
		1000	0.080	63	60	56	48	38	34	31	71	68	61	53	45	34	39
		1100	0.100	64	61	56	48	40	36	31	73	70	62	54	46	36	41
	12	800	0.020	60	57	55	47	35	31	30	65	62	58	50	40	31	33
		950	0.040	62	59	55	48	37	34	30	68	65	59	52	42	34	35
		1100	0.050	64	61	56	48	40	36	31	71	68	61	53	45	36	39
		1250	0.060	65	63	57	49	42	38	33	73	70	62	54	47	38	41
		1350	0.070	66	64	57	49	43	39	34	74	72	62	54	48	39	44
5	10	1000	0.080	67	62	55	48	38	37	32	74	68	60	53	47	40	40
		1100	0.100	67	62	55	48	38	37	32	75	69	61	54	48	40	41
		1200	0.100	67	62	55	48	38	37	32	76	70	61	55	48	41	43
		1300	0.140	67	62	55	48	38	37	32	76	71	62	55	49	41	43
		1400	0.160	67	62	56	48	39	38	32	77	72	63	56	50	41	44
	12	1200	0.060	67	62	55	48	38	37	32	74	68	60	53	47	40	40
		1300	0.070	67	62	55	48	38	37	32	74	69	60	53	48	40	40
		1400	0.080	67	62	56	48	39	38	32	75	70	61	54	49	40	41
		1500	0.090	68	63	57	50	41	39	33	76	70	62	55	49	39	43
		1600	0.100	69	63	57	51	42	41	34	76	71	63	56	50	41	43
6	12	1000	0.040	61	59	52	48	42	37	28	65	62	57	52	47	37	32
		1250	0.060	61	59	52	48	42	37	28	68	64	59	53	50	39	34
		1500	0.090	62	60	53	50	44	39	29	71	67	62	55	52	42	38
		1750	0.120	65	61	56	52	47	43	31	74	70	64	57	54	45	41
		2000	0.160	67	62	58	55	50	46	33	76	72	66	60	55	46	44
	14	1275	0.040	61	59	52	48	42	37	28	66	63	58	52	48	37	33
		1450	0.050	62	60	53	49	43	38	29	69	65	59	54	50	40	35
		1775	0.070	65	61	56	53	47	43	31	72	69	62	57	52	43	40
		1950	0.090	66	62	57	54	49	46	32	74	70	63	58	54	46	41
		2100	0.100	67	63	58	55	50	47	33	75	72	64	59	55	47	44
7	16	2000	0.050	70	69	63	60	54	52	40	77	74	68	65	59	57	46
		2200	0.060	70	69	63	60	54	52	40	78	74	69	65	61	57	46
		2400	0.070	71	70	64	61	55	53	41	79	75	70	66	62	58	47
		2600	0.090	73	71	65	62	57	55	42	80	76	71	67	62	60	48
		2800	0.100	74	72	66	63	58	57	44	81	77	72	68	63	61	50



ENGINEERING DATA

FPS Radiated Sound

1.5" Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	58	56	49	41	37	29	25	60	61	52	44	39	29	31
		250	0.040	58	56	49	41	37	29	25	62	63	53	45	41	29	33
		300	0.060	59	57	50	42	38	30	26	64	65	55	46	42	32	35
		350	0.080	61	59	50	45	40	32	28	66	67	56	49	44	34	38
		400	0.100	62	60	51	47	41	33	29	67	69	58	51	45	36	40
3	6	200	0.020	51	50	45	42	31	23	19	59	56	49	42	34	23	25
		275	0.050	51	50	45	42	31	23	19	61	59	50	42	36	25	28
		350	0.080	51	50	45	42	31	23	19	63	61	53	46	39	27	31
		425	0.110	51	50	45	42	31	23	19	65	63	55	47	41	29	33
		500	0.160	54	53	47	44	34	26	21	67	65	56	49	44	32	35
	8	375	0.030	51	50	45	42	31	23	19	62	60	51	45	38	27	29
		425	0.040	51	50	45	42	31	23	19	63	61	53	46	40	28	31
		550	0.060	56	55	49	45	36	29	24	66	65	55	50	44	33	35
		625	0.080	59	58	51	47	39	32	27	68	66	57	52	45	36	37
4	8	400	0.030	60	57	54	46	34	31	29	62	59	57	48	38	31	32
		525	0.060	60	57	54	46	34	31	29	65	62	58	50	40	33	33
		650	0.090	60	57	54	46	34	31	29	68	65	59	51	43	34	35
		775	0.120	60	57	54	47	34	31	29	70	67	62	53	45	35	38
		900	0.170	62	58	55	47	37	33	30	72	70	63	55	47	37	41
	10	700	0.040	60	57	54	46	34	31	29	67	64	59	51	42	33	34
		800	0.050	60	57	55	47	35	31	29	69	66	60	52	44	34	37
		900	0.070	62	58	55	47	37	33	30	71	68	61	53	46	36	39
		1000	0.080	63	60	56	48	38	34	31	73	70	63	54	47	36	41
		1100	0.100	64	61	56	48	40	36	31	74	71	64	56	48	38	42
	12	800	0.020	60	57	55	47	35	31	30	67	64	59	51	42	33	34
		950	0.040	62	59	55	48	37	34	30	70	68	60	53	44	34	39
		1100	0.050	64	61	56	48	40	36	31	73	70	62	54	46	36	41
		1250	0.060	65	63	57	49	42	38	33	75	73	63	55	48	38	45
5	10	1350	0.070	66	64	57	49	43	39	34	76	74	64	56	49	39	46
		1000	0.080	67	62	55	48	38	37	32	75	69	61	55	48	41	41
		1100	0.100	67	62	55	48	38	37	32	76	70	62	56	49	41	43
		1200	0.100	67	62	55	48	38	37	32	77	71	63	57	49	41	44
		1300	0.140	67	62	55	48	38	37	32	77	72	64	57	50	41	44
	12	1400	0.160	67	62	56	48	39	38	32	77	72	65	58	51	42	44
		1200	0.060	67	62	55	48	38	37	32	75	69	61	55	48	40	41
		1300	0.070	67	62	55	48	38	37	32	75	70	62	55	48	40	41
		1400	0.080	67	62	56	48	39	38	32	76	71	63	56	49	41	43
		1500	0.090	68	63	57	50	41	39	33	77	72	64	56	51	41	44
6	12	1600	0.100	69	63	57	51	42	41	34	78	72	64	57	51	41	45
		1000	0.040	61	59	52	48	42	37	28	66	62	58	53	49	37	33
		1250	0.060	61	59	52	48	42	37	28	69	65	61	55	51	40	36
		1500	0.090	62	60	53	50	44	39	29	72	68	63	57	53	43	39
		1750	0.120	65	61	56	52	47	43	31	75	71	66	59	55	46	42
	14	2000	0.160	67	62	58	55	50	46	33	77	73	68	61	57	49	45
		1275	0.040	61	59	52	48	42	37	28	68	64	60	53	50	39	35
		1450	0.050	62	60	53	49	43	38	29	70	66	61	55	51	41	37
		1775	0.070	65	61	56	53	47	43	31	73	70	64	58	53	45	41
7	16	1950	0.090	66	62	57	54	49	46	32	75	72	65	59	54	46	44
		2100	0.100	67	63	58	55	50	47	33	76	73	66	60	55	47	45
		2000	0.050	70	69	63	60	54	52	40	79	75	71	67	62	58	47
		2200	0.060	70	69	63	60	54	52	40	80	76	72	68	63	59	48
		2400	0.070	71	70	64	61	55	53	41	81	77	73	68	64	60	50
		2600	0.090	73	71	65	62	57	55	42	82	78	73	69	65	61	51
		2800	0.100	74	72	66	63	58	57	44	83	79	74	70	65	62	52

Terminal
Units



ENGINEERING DATA

FPS Radiated Sound

3.0" Inlet Static Pressure

Case	Inlet Size	CFM	Press (in. wc)	Fan Only Octave Bands						Fan NC Level	Fan w/ 100% Primary Octave Bands						Pri. NC Level
				2	3	4	5	6	7		2	3	4	5	6	7	
2	6	200	0.020	58	56	49	41	37	29	25	60	62	52	44	39	29	32
		250	0.040	58	56	49	41	37	29	25	62	65	54	45	41	29	35
		300	0.060	59	57	50	42	38	30	26	64	67	55	47	42	32	38
		350	0.080	61	59	50	45	40	32	28	66	69	57	49	44	34	40
		400	0.100	62	60	51	47	41	33	29	67	70	59	51	45	36	41
3	6	200	0.020	51	50	45	42	31	23	19	59	56	49	42	34	23	25
		275	0.050	51	50	45	42	31	23	19	61	59	50	42	36	25	28
		350	0.080	51	50	45	42	31	23	19	63	61	53	46	39	27	31
		425	0.110	51	50	45	42	31	23	19	65	63	55	47	41	30	33
		500	0.160	54	53	47	44	34	26	21	67	65	56	49	44	32	35
	8	375	0.030	51	50	45	42	31	23	19	62	60	52	45	38	27	29
		425	0.040	51	50	45	42	31	23	19	63	61	53	46	40	28	31
		550	0.060	56	55	49	45	36	29	24	66	65	55	50	43	33	35
		625	0.080	59	58	51	47	39	32	27	68	66	57	52	45	36	37
4	8	700	0.100	62	60	52	49	42	35	29	69	68	58	54	47	38	39
		400	0.030	60	57	54	46	34	31	29	64	61	58	50	40	34	33
		525	0.060	60	57	54	46	34	31	29	68	64	60	51	44	35	35
		650	0.090	60	57	54	46	34	31	29	71	67	63	54	46	36	38
		775	0.120	60	57	54	47	34	31	29	74	71	64	56	48	37	42
	10	900	0.170	62	58	55	47	37	33	30	76	73	66	57	50	38	45
		700	0.040	60	57	54	46	34	31	29	70	67	62	53	45	35	38
		800	0.050	60	57	55	47	35	31	30	72	69	63	55	47	36	40
		900	0.070	62	58	55	47	37	33	30	74	71	65	56	48	37	42
		1000	0.080	63	60	56	48	38	34	31	76	73	66	57	50	38	45
	12	1100	0.100	64	61	56	48	40	36	31	78	75	66	58	51	40	47
		800	0.020	60	57	55	47	35	31	30	70	67	61	53	45	35	38
		950	0.040	62	59	55	48	37	34	30	73	70	63	55	47	37	41
		1100	0.050	64	61	56	48	40	36	31	76	73	65	56	50	39	45
		1250	0.060	65	63	57	49	42	38	33	78	75	67	58	52	40	47
5	10	1350	0.070	66	64	57	49	43	39	34	79	77	67	59	53	41	50
		1000	0.080	67	62	55	48	38	37	32	76	71	64	58	50	42	43
		1100	0.100	67	62	55	48	38	37	32	77	72	65	58	51	42	44
		1200	0.100	67	62	55	48	38	37	32	77	72	65	58	52	42	44
		1300	0.140	67	62	55	48	38	37	32	78	73	66	59	52	42	45
	12	1400	0.160	67	62	56	48	39	38	32	79	74	67	60	53	43	46
		1200	0.060	67	62	55	48	38	37	32	76	71	64	57	50	41	43
		1300	0.070	67	62	55	48	38	37	32	77	72	65	58	50	41	44
		1400	0.080	67	62	56	48	39	38	32	77	72	66	58	51	42	44
6	12	1500	0.090	68	63	57	50	41	39	33	78	73	67	59	52	42	45
		1600	0.100	69	63	57	51	42	41	34	79	74	67	60	53	43	46
		1000	0.040	61	59	52	48	42	37	28	68	63	61	55	51	40	36
		1250	0.060	61	59	52	48	42	37	28	71	67	63	57	53	42	38
		1500	0.090	62	60	53	50	44	39	29	73	70	66	60	55	44	42
	14	1750	0.120	65	61	56	52	47	43	31	76	72	68	62	57	48	44
		2000	0.160	67	62	58	55	50	46	33	78	75	70	63	59	50	47
		1275	0.040	61	59	52	48	42	37	28	70	65	62	56	52	41	37
		1450	0.050	62	60	53	49	43	38	29	72	68	63	57	53	43	39
7	16	1775	0.070	65	61	56	53	47	43	31	75	71	66	60	55	47	42
		1950	0.090	66	62	57	54	49	46	32	76	73	67	61	57	49	45
		2100	0.100	67	63	58	55	50	47	33	77	74	68	62	57	50	46
		2000	0.050	70	69	63	60	54	52	40	81	79	74	70	64	61	52
		2200	0.060	70	69	63	60	54	52	40	82	79	75	71	65	62	52
		2400	0.070	71	70	64	61	55	53	41	83	80	76	71	66	63	53
		2600	0.090	73	71	65	62	57	55	42	84	81	76	72	67	65	54
		2800	0.100	74	72	66	63	58	57	44	85	82	77	73	68	66	55

Terminal
Units

ENGINEERING DATA

FPS Sound Data Notes

Performance Data Notes:

1. Test were conducted in accordance with standard ARI 880-94.
2. Sound power levels are referenced to 10^{-12} watt.
3. Octave bands 2-7 correspond to 125 Hz to 4000 Hz.
4. For ARI Certification data:
 - a. The "Fan Only" test is conducted with the fan operating at the specified airflow and no primary inlet airflow (100% delivered through the induction inlet) with 0.25 in. WC downstream static pressure.
 - b. The "Fan & 100% Primary" test is conducted with the fan operating at the specified airflow with 100% of the airflow being supplied through the primary inlet with 0.25 in. WC downstream static pressure.
5. At ARI Certification test points:
 - a. The "Fan Only" test is conducted at the maximum fan airflow capacity (high tap/speed control set at high) with no primary inlet airflow and 0.25 in. WC. downstream static pressure.
 - b. The "Fan & 100% Primary" test is conducted with the fan operating at the maximum fan airflow capacity (high tap/speed control set at high) with a primary inlet airflow corresponding to the max fan airflow or 2000 fpm air velocity, whichever is less. The operating pressure is 1.5 in. WC. with a downstream static pressure of 0.25 in. WC.
 - c. The electric power is measured during the "Fan Only" test.
 - d. The minimum operating pressure test is conducted with the fan operating at the maximum fan airflow capacity (speed control set at high) with a primary inlet airflow corresponding to the max fan airflow or 2000 fpm air velocity, whichever is less. The downstream static pressure is 0.25 in. WC.

Noise Criteria (NC) Notes:

1. A hyphen (-) indicates the NC is lower than 15.
2. Noise Criteria (NC) were found using standard ARI 885-98 Appendix E (2002 Addendum):
 - a. Radiated NC were found using the type 2 ceiling (mineral fiber) condition.
 - b. Discharge NC were found using the large terminal condition due to the multitude of possible discharge duct sizes.
3. Standard ARI 885-98 Appendix E, Table E1. Typical Sound Attenuation Values, dB:

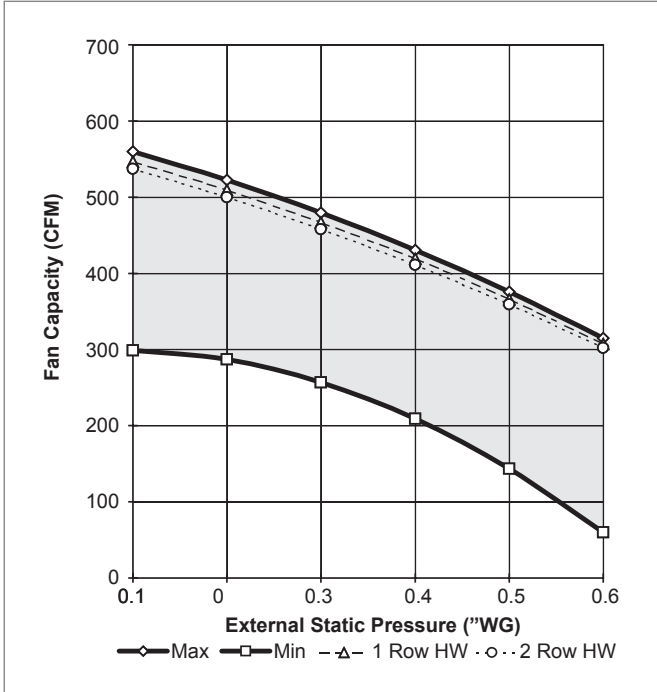
RADIATED	OCTAVE BAND CENTER FREQUENCY (Hz)					
	125	250	500	1000	2000	4000
Type 1 - Glass Fiber	19	19	21	25	29	35
Type 2 - Mineral Fiber	18	19	20	26	31	36
Type 3 - Gypsum Board	23	26	25	27	27	28
DISCHARGE	OCTAVE BAND CENTER FREQUENCY (Hz)					
	125	250	500	1000	2000	4000
Small Terminal	24	28	39	53	59	40
Medium Terminal	27	29	40	51	53	39
Large Terminal	29	30	41	51	52	39



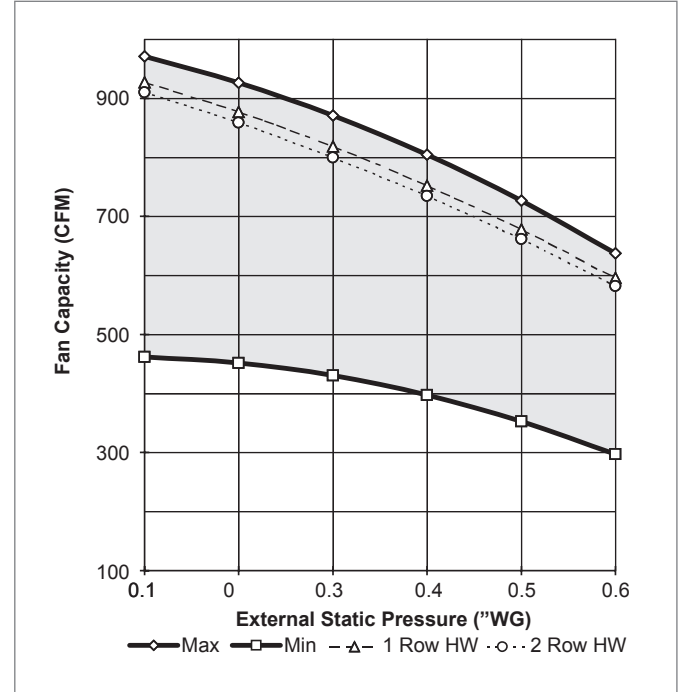
FAN PERFORMANCE

FPS Fan Curves

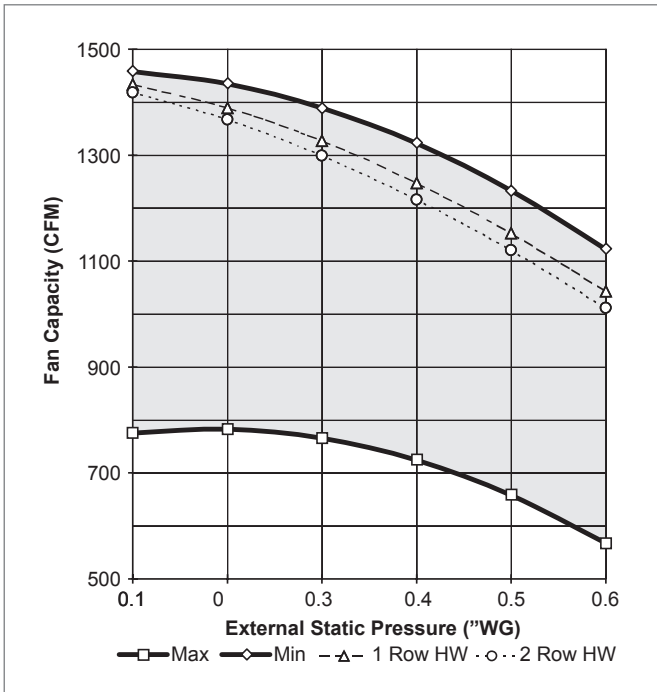
FPS PSC FAN CURVE, UNIT SIZE 2



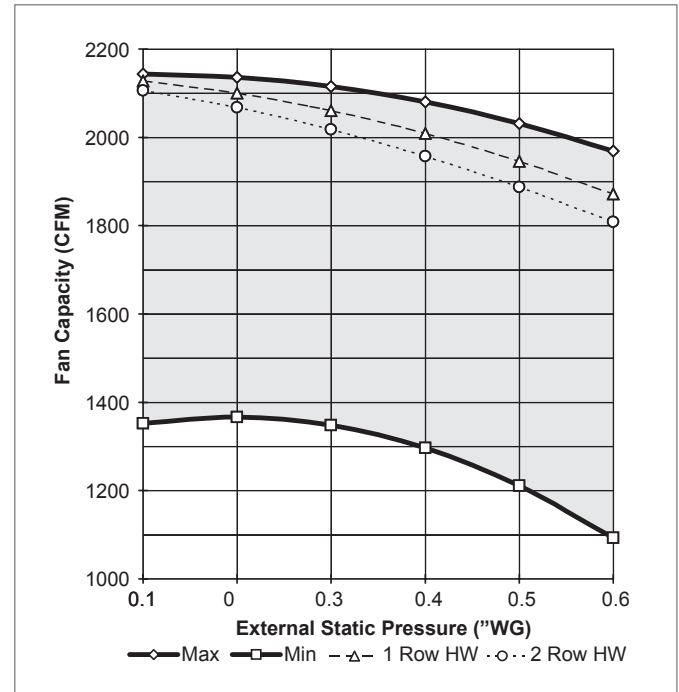
FPS PSC FAN CURVE, UNIT SIZE 3



FPS PSC FAN CURVE, UNIT SIZE 4



FPS PSC FAN CURVE, UNIT SIZE 5



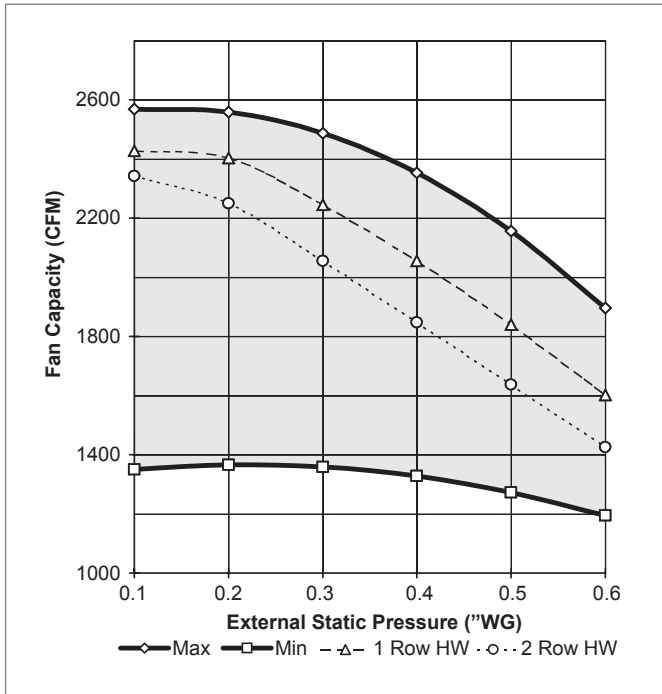
NOTES: Fan speed controller (SCR) is standard with each unit. Fan curves indicate maximum and minimum achievable flow reductions using SCR speed control. Units must be selected to operate within the flow and external static pressure ranges as shown. Fan discharge air volume will be reduced approximately 5% when unit is equipped with optional factory supplied electric heat coils.



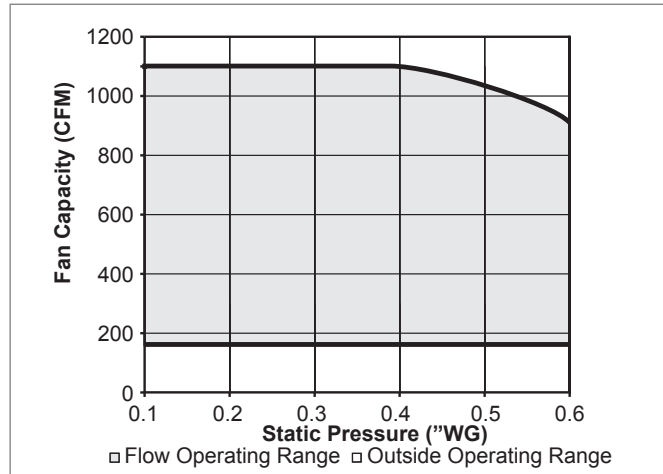
FAN PERFORMANCE

FPS Fan Curves

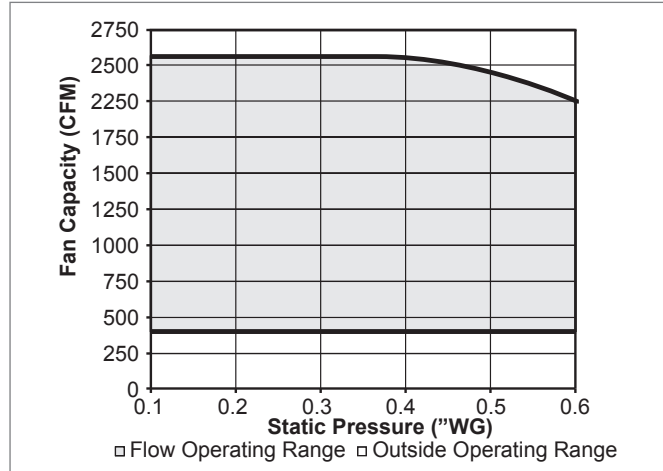
FPS PSC FAN CURVE, UNIT SIZE 7



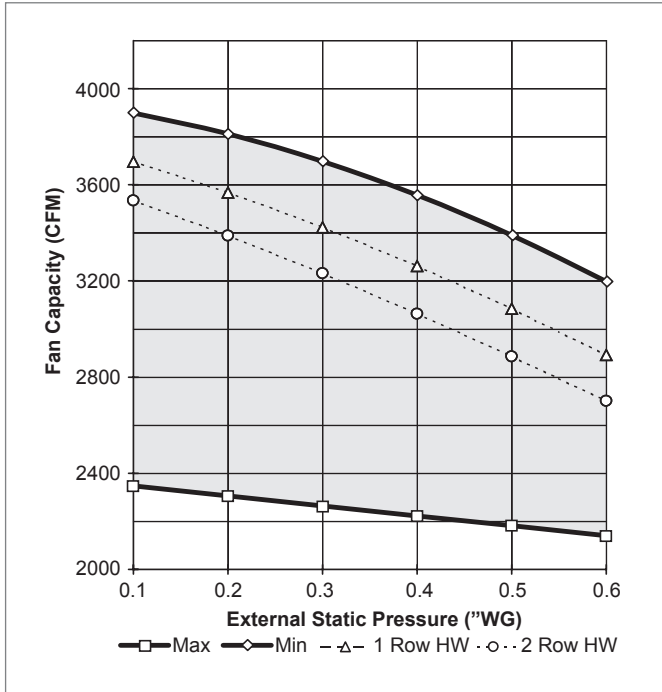
FPS ECM FAN CURVE, UNIT SIZE 3



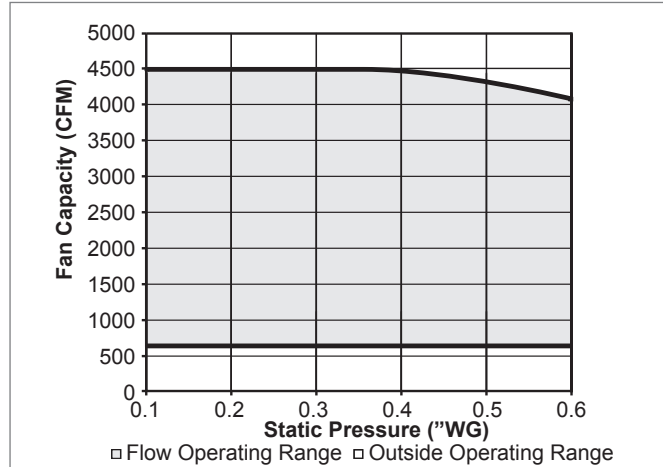
FPS ECM FAN CURVE, UNIT SIZE 6



FPS PSC FAN CURVE, UNIT SIZE 7



FPS ECM FAN CURVE, UNIT SIZE 7



NOTES: Fan speed controller (SCR) is standard with each unit. Fan curves indicate maximum and minimum achievable flow reductions using SCR speed control. Units must be selected to operate within the flow and external static pressure ranges as shown. Fan discharge air volume will be reduced approximately 5% when unit is equipped with optional factory supplied electric heat coils.

NOTES: VCU or ACU fan speed controller is standard with each unit. Fan curves indicate the maximum and minimum achievable flows. Units must be selected to operate within the airflow and external static pressure ranges shown.



FPS HOT WATER COIL PERFORMANCE

FPS Hot Water Coil Performance Data, Sizes 2 - 4, 1 & 2 Rows

Unit Size	Rows	GPM	Head Loss	Airflow, CFM & Resulting MBH							
				300	330	360	390	420	450	480	500
2	1	1.0	0.11	11.4	11.8	12.3	12.6	13.0	13.4	13.7	13.9
		2.0	0.43	12.8	13.4	14.0	14.5	15.0	15.5	15.9	16.2
		3.0	0.94	13.4	14.1	14.7	15.3	15.9	16.4	16.9	17.2
		4.0	1.63	13.8	14.5	15.1	15.7	16.3	16.9	17.4	17.8
		Air Pressure Drop		0.02	0.03	0.03	0.03	0.04	0.04	0.05	0.05
	2	1.0	0.24	17.6	18.4	19.2	19.9	20.6	21.2	21.8	22.2
		2.0	0.91	20.3	21.4	22.5	23.5	24.5	25.4	26.3	26.8
		4.0	3.48	22.0	23.3	24.6	25.9	27.1	28.2	29.3	29.9
		6.0	7.63	22.6	24.1	25.5	26.8	28.1	29.3	30.4	31.2
		Air Pressure Drop		0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11

Unit Size	Rows	GPM	Head Loss	Airflow, CFM & Resulting MBH							
				475	530	585	640	695	750	805	850
3	1	1.0	0.11	13.6	14.2	14.7	15.1	15.5	15.9	16.3	16.5
		2.0	0.43	15.9	16.6	17.3	17.9	18.5	19.1	19.6	20.0
		3.0	0.94	16.8	17.7	18.4	19.2	19.8	20.5	21.1	21.5
		4.0	1.63	17.3	18.2	19.1	19.9	20.6	21.3	21.9	22.4
		Air Pressure Drop		0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12
	2	1.0	0.24	21.7	22.7	23.6	24.4	25.1	25.7	26.3	26.8
		2.0	0.92	26.1	27.6	29.0	30.2	31.3	32.4	33.4	34.2
		4.0	3.49	29.1	30.9	32.7	34.3	35.8	37.2	38.5	39.6
		6.0	7.64	30.2	32.3	34.2	35.9	37.6	39.2	40.7	41.8
		Air Pressure Drop		0.10	0.12	0.14	0.17	0.19	0.22	0.24	0.27

Unit Size	Rows	GPM	Head Loss	Airflow, CFM & Resulting MBH							
				800	875	950	1025	1100	1175	1250	1300
4	1	1.0	0.15	19.6	20.2	20.7	21.2	21.6	22.0	22.4	22.6
		2.0	0.55	23.7	24.6	25.4	26.1	26.8	27.4	28.0	28.4
		3.0	1.20	25.5	26.5	27.5	28.3	29.1	29.9	30.6	31.0
		4.0	2.10	26.6	27.6	28.6	29.6	30.5	31.3	32.1	32.6
		Air Pressure Drop		0.06	0.07	0.08	0.09	0.10	0.11	0.13	0.13
	2	1.0	0.31	30.1	31.0	31.8	32.6	33.2	33.8	34.4	34.7
		2.0	1.17	38.5	40.1	41.5	42.8	44.0	45.2	46.3	46.9
		4.0	4.43	44.5	46.7	48.7	50.6	52.3	54.0	55.6	56.6
		6.0	9.68	47.0	49.4	51.7	53.8	55.8	57.7	59.5	60.7
		Air Pressure Drop		0.13	0.15	0.17	0.19	0.22	0.24	0.27	0.29

NOTE: Hot water capacities are in MBH. Data is based upon 180°F entering water with 0% Glycol and 65°F entering air. Head loss is in feet of water. Air Temperature Rise = 927xMBH/CFM. Water Temperature Drop = 2.04xMBH/GPM. Coils are not for steam application. Contact your local Tuttle & Bailey representative for steam coil information. Tables are based upon a temperature difference of 115°F between entering air and entering water. For other temperature differences, multiply MBH values by correction factors below. Air Pressure Drop is defined as the minimum static pressure at the maximum CFM with the damper full open. See Tuttle & Bailey's selection software for specific hot water coil data.

MBH CORRECTION FACTORS

Δ T	50	60	70	80	90	100	115	125	140	150
Factor	0.44	0.52	0.61	0.70	0.79	0.88	1.00	1.07	1.20	1.30

Terminal
Units



FPS HOT WATER COIL PERFORMANCE

FPS Hot Water Coil Performance Data, Sizes 5 - 7, 1 & 2 Rows

Unit Size	Rows	GPM	Head Loss	Airflow, CFM & Resulting MBH							
				1400	1490	1580	1670	1760	1850	1940	2000
5	1	1.0	0.18	25.2	25.6	26.0	26.3	26.6	27.0	27.2	27.4
		2.0	0.67	31.9	32.6	33.2	33.8	34.4	34.9	35.5	35.8
		3.0	1.47	35.1	35.9	36.7	37.4	38.1	38.8	39.4	39.8
		4.0	2.55	36.9	37.8	38.7	39.5	40.3	41.1	41.8	42.2
		Air Pressure Drop		0.11	0.12	0.14	0.15	0.16	0.18	0.19	0.21
	2	1.0	0.38	37.5	38.0	38.6	39.0	39.5	39.9	40.3	40.5
		2.0	1.42	51.6	52.7	53.8	54.8	55.8	56.7	57.5	58.1
		4.0	5.36	62.9	64.7	66.4	68.0	69.5	71.0	72.4	73.3
		6.0	11.69	67.8	69.9	71.9	73.8	75.6	77.3	79.0	80.1
		Air Pressure Drop		0.24	0.27	0.29	0.32	0.35	0.38	0.41	0.44
Unit Size	Rows	GPM	Head Loss	Airflow, CFM & Resulting MBH							
				1400	1515	1630	1745	1860	1975	2090	2200
6	1	1.0	0.19	26.4	27.0	27.5	27.9	28.3	28.7	29.1	29.4
		2.0	0.73	33.6	34.6	35.4	36.2	36.9	37.6	38.3	38.9
		3.0	1.58	37.0	38.1	39.2	40.2	41.1	42.0	42.8	43.5
		4.0	2.75	39.0	40.2	38.7	42.5	43.5	44.5	45.4	46.3
		Air Pressure Drop		0.09	0.11	0.12	0.14	0.15	0.17	0.18	0.20
	2	1.0	0.40	38.7	39.4	40.1	40.7	41.2	41.7	42.1	42.5
		2.0	1.52	53.5	55.1	56.5	57.8	59.0	60.2	61.2	62.1
		4.0	5.77	65.5	67.9	70.2	72.3	74.3	76.1	77.9	79.5
		6.0	12.57	70.6	73.5	76.2	78.7	81.1	83.3	85.4	87.4
		Air Pressure Drop		0.20	0.23	0.26	0.29	0.32	0.36	0.39	0.43
Unit Size	Rows	GPM	Head Loss	Airflow, CFM & Resulting MBH							
				2400	2530	2660	2790	2920	3050	3180	3300
7	1	1.0	0.25	34.4	34.7	35.1	35.4	35.7	36.0	36.3	36.5
		2.0	0.93	46.6	47.4	48.1	48.7	49.3	49.9	50.5	50.9
		3.0	2.03	52.8	53.7	54.6	55.5	56.3	57.1	57.8	58.5
		4.0	3.52	56.5	57.6	58.6	59.6	60.6	61.5	62.3	63.1
		Air Pressure Drop		0.13	0.15	0.16	0.17	0.19	0.20	0.22	0.23
	2	1.0	0.52	46.7	47.1	47.5	47.8	48.1	48.3	48.6	48.8
		2.0	1.95	70.9	71.9	72.9	73.8	74.7	75.5	76.3	76.9
		4.0	7.34	93.2	95.1	96.9	98.7	100.4	101.9	103.5	104.8
		6.0	15.98	103.5	105.9	108.3	110.5	112.6	114.7	116.6	118.4
		Air Pressure Drop		0.29	0.31	0.34	0.37	0.40	0.43	0.46	0.49

NOTE: Hot water capacities are in MBH. Data is based upon 180°F entering water with 0% Glycol and 65°F entering air. Head loss is in feet of water. Air Temperature Rise = 927xMBH/CFM. Water Temperature Drop = 2.04xMBH/GPM. Coils are not for steam application. Contact your local Tuttle & Bailey representative for steam coil information. Tables are based upon a temperature difference of 115°F between entering air and entering water. For other temperature differences, multiply MBH values by correction factors below. Air Pressure Drop is defined as the minimum static pressure at the maximum CFM with the damper full open. See Tuttle & Bailey's selection software for specific hot water coil data.

MBH CORRECTION FACTORS

Δ T	50	60	70	80	90	100	115	125	140	150
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ENGINEERING DATA

Electric Reheat Coil

Standard Features

- 80/20 NiCr element wire
- Flanged duct connection
- Airflow switch
- Automatic reset thermal cutout switch
- Magnetic contactor (1 per stage)
- Control transformer (except pneumatic controls)
- NEMA 1 enclosure for electric heat controls
- Single point power connection

Optional Features

- Mercury contactors
- Fused door interlocking disconnect
- Fusing
- Non-fused door interlocking disconnect
- Manual reset thermal cutout
- Up to three stages of control

Table 1 - Available kW Ranges

120V / 1 ϕ

Unit Size	KW Min	KW Max
2	0.5	4.5
3	0.5	4.5
4	0.5	4.5
5	0.5	4.5
6	0.5	4.5
7	0.5	3

208V / 1 ϕ

Unit Size	KW Min	KW Max
2	0.5	6
3	0.5	7.5
4	0.5	7.5
5	0.5	7.5
6	0.5	7.5
7	0.5	7.5

240V / 1 ϕ

Unit Size	KW Min	KW Max
2	1.0	6
3	1.0	9
4	1.0	9
5	1.0	9
6	1.0	9
7	1.0	9

277V / 1 ϕ

Unit Size	KW Min	KW Max
2	1.0	6
3	1.0	11
4	1.0	11
5	1.0	11
6	1.0	11
7	1.0	11

208V / 3 ϕ

Unit Size	KW Min	KW Max
2	1.5	6
3	1.5	11
4	1.5	13.5
5	1.5	13.5
6	1.5	13.5
7	1.5	13.5

480V / 3 ϕ (4 wire)

Unit Size	KW Min	KW Max
2	2.5	6
3	2.5	11
4	2.5	15
5	2.5	16
6	2.5	23
7	2.5	32

General Notes on Electric Heat Availability:

1. Minimum 1/2 kW per step
2. Maximum 100°F leaving air temperature
3. For single phase heaters, the motor voltage is equal to the heater voltage
4. For 208V / 3 ϕ heaters, the motor voltage is 208V / 1 ϕ
5. For 480V / 3 ϕ heaters, the motor voltage is 277V / 1 ϕ



ENGINEERING DATA

Electric Reheat Coil

Selection Guidelines

Electric heat kW ranges are shown in Table 1. In all cases, the leaving air temperature of the unit must not exceed 100°F.

Validate Leaving Air Temperature (LAT) - Leaving air must not exceed 100°F

$$LAT = \frac{kW \times 3160}{CFM} + EAT$$

LAT = Leaving air temperature in °F

kW = Electric heat capacity in kW

CFM = Fan airflow in CFM

EAT = Entering air temperature in °F (Note: this is mixture of plenum and primary air)

Determining Mixed Air Temperature

$$EAT_{Total} = EAT_{Primary} \times (CFM_{Primary} / CFM_{Fan}) + EAT_{Plen} \times ((CFM_{Fan} - CFM_{Primary}) / CFM_{Fan})$$

LAT = leaving air temp in °F

CFM_{Primary} = Airflow from inlet in heating mode in CFM

CFM_{Fan} = Airflow from fan in CFM - for FPC this is also the total CFM

EAT_{Total} = Entering air to the heater in °F

EAT_{Primary} = Primary entering air temperature for the heating mode in °F

EAT_{Plen} = Plenum entering air temperature in °F

Minimum Circuit Ampacity (MCA)*

$$MCA = (\text{Motor Current} + \text{Heater Current}) \times 1.25$$

Maximum Overcurrent Protection (MOP)*

$$MOP = (2.25 \times \text{Motor Current of largest motor}) + \text{Sum of other motor current} + \text{Heater current}$$

MOP Rules

1. If MOP is less than 15, MOP shall be set to 15
2. If MOP is greater than the MCA and is between standard fuse sizes, round down to the next standard fuse size
 - a. Exception - If the next lower fuse size is less than 125% of the current rating of the electric heater load, round up to next standard fuse size
3. If MOP is less than the MCA, the MOP shall be set equal to MCA and then rounded up to the next standard fuse size.

Helpful Equations

$$kW = \frac{MBH}{3.414}$$

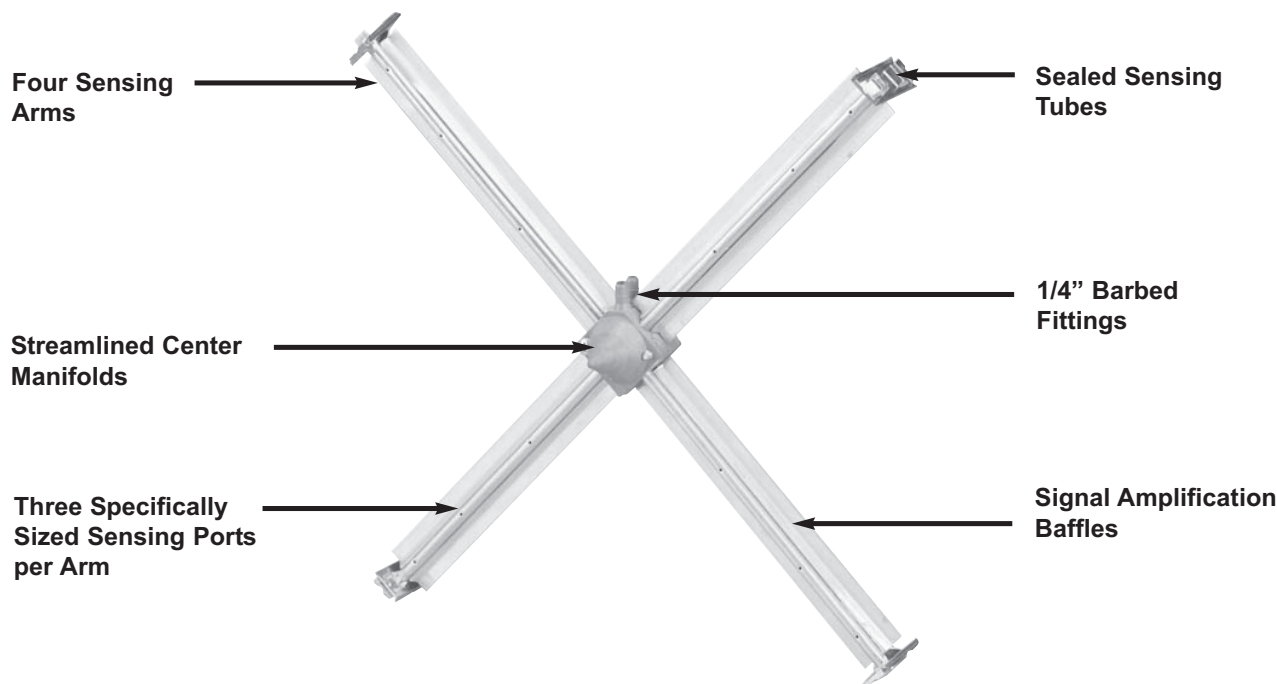
$$\text{Single Phase Amperage Draw} = \frac{kW \times 1000}{\text{Voltage}}$$

$$\text{Three Phase Amperage Draw} = \frac{kW \times 1000}{\text{Voltage} \times 1.732}$$

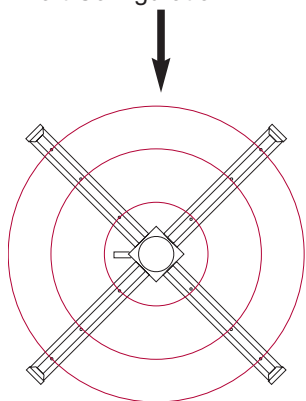
*MCA and MOP equations and rules are intended as an aid in design. See UL 1995 for Heating and Cooling Equipment for complete requirements.

ENGINEERING DATA

FLO-CROSS



Upstream and Downstream Concentric Ring Sensing Port Configuration



Patent No. 4,453,419

- Patented Flo-Cross® (Patent No. 4,453,419) is accurate to $\pm 5\%$ throughout the cataloged operating range
- Sensing arms sample the inlet cross section mitigating turbulent flow effects
- Barbed fittings positively lock plastic tubing
- 24 total sensing ports provide a differential pressure (ΔP) output proportional to the average duct velocity
- Amplification baffles strengthen ΔP signals to levels three times higher than standard Pitot tube readings
- Center manifolds average velocity profiles and reduce pulsations from dynamic ΔP signals
- Sensing tube constructions eliminates signal loss due to leakage
- Concentric ring sensing port configuration imitates major flow testing standards by locating them at the center of equal areas
- Corrosion resistant aluminum construction

Flo-Cross® Sensor Performance Parameters/Formulas

Size	Area (ft ²)	CV	K*
04	0.0819	209	2.8
05	0.1296	315	3
06	0.1883	462	2.9
08	0.3382	817	2.9
10	0.5319	1250	3
12	0.7691	1792	3
14	1.05	2474	3
16	1.3745	3235	3

* "K" is the amplification factor

- Flow (CFM) = $C_v \times \sqrt{\Delta P}$
- ΔP (Inches W.G.) = $K \times \left(\frac{FPM}{4005} \right)^2$
- $FPM = \frac{CFM}{Area (sq.ft)}$
- 500 to 3000 FPM Nominal Velocity Range