



CLIMATEWORX
MISSION CRITICAL CLIMATE CONTROL

P Series

Technical Data – 60Hz

Table of Contents

Table of Contents.....	2
Chilled-Water System	3
Dual-Chilled Water System	15
Electrical Data/ 208V, 3Ph, 60hz	18
Electrical Data/ 380V, 3Ph, 60hz and 50hz.....	20
Electrical Data/ 460V, 3Ph, 60hz	22
Electrical Data/ 480V, 3Ph, 60hz	24
Electrical Data/ 575V, 3Ph, 60hz	26
Guide Specification.....	28
Appendix A: Dimensional Drawings.....	39

Chilled Water System

Model no. PCD / F / S _ _ _		012	015	028	034	042	051
Cooling Capacity: Rated at Standard Air Volume, 45°F Entering Water Temperature							
80°F DB, 50%RH and 10°F rise *							
NET Total	BTUH	72132	102182	159480	209908	250214	324758
NET Sensible	BTUH	57410	70985	116155	139446	181802	216543
Flow Rate	GPM	15.1	21.2	33.6	43.9	52.4	67.7
Unit Pressure Drop	ft-H ₂ O	6.9	15.4	28.1	52.4	16.8	41.4
80°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	59337	90305	139561	192520	220762	301120
NET Sensible	BTUH	52588	66240	109025	132895	171156	207767
Flow Rate	GPM	10.5	15.7	24.5	33.5	38.6	52.2
Unit Pressure Drop	ft-H ₂ O	3.4	8.7	15.3	31.2	9.5	26.1
80°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	46130	77916	118050	172386	189146	271167
NET Sensible	BTUH	46130	61399	100854	124766	159095	195653
Flow Rate	GPM	7.1	11.7	17.9	25.8	28.5	40.4
Unit Pressure Drop	ft-H ₂ O	1.6	5.0	8.3	18.8	5.4	16.5
80°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	66165	91980	144785	189245	227167	294464
NET Sensible	BTUH	60217	72499	120868	142419	188849	221887
Flow Rate	GPM	13.9	19.2	30.4	39.5	47.5	61.2
Unit Pressure Drop	ft-H ₂ O	5.9	12.7	23.2	42.8	14.0	34.5
80°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	56111	82154	126649	172252	200523	269688
NET Sensible	BTUH	56111	68505	113009	134708	177340	210572
Flow Rate	GPM	10.0	14.4	22.6	30.3	35.4	47.3
Unit Pressure Drop	ft-H ₂ O	3.1	7.4	13.0	25.7	8.1	21.8
80°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	45509	72175	110524	156748	176696	254058
NET Sensible	BTUH	45509	64543	107426	129030	168984	205214
Flow Rate	GPM	7.0	10.9	16.8	23.6	26.7	37.9
Unit Pressure Drop	ft-H ₂ O	1.6	4.3	7.3	15.8	4.7	14.0
75°F DB, 50%RH and 10°F rise *							
NET Total Cap Btu/hr (kW)	BTUH	49259	71521	111423	150322	176184	235359
NET Sensible Cap Btu/hr (Kw)	BTUH	48783	59414	98836	117624	155040	183968
Flow Rate usGPM	GPM	10.6	15.1	23.8	31.7	37.3	49.4
Unit PD Feet of H ₂ O	ft-H ₂ O	3.4	8.1	14.3	28.0	8.9	23.6
75°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	38700	61696	94433	134111	151220	211252
NET Sensible	BTUH	38700	55431	92061	110882	145055	173929
Flow Rate	GPM	7.0	11.0	17.0	23.8	27.0	37.2
Unit Pressure Drop	ft-H ₂ O	1.6	4.4	7.5	16.1	4.8	14.2
75°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	31561	51430	75882	117281	124459	186277
NET Sensible	BTUH	31561	51353	75882	104023	124459	163728
Flow Rate	GPM	5.0	7.9	11.9	17.9	19.2	28.3
Unit Pressure Drop	ft-H ₂ O	0.8	2.4	3.7	9.3	2.6	8.7

Model no. PCD / F / S _ _ _		012	015	028	034	042	051
75°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	48169	66350	104733	137055	165359	214672
NET Sensible	BTUH	48169	62199	104720	121447	163955	189852
Flow Rate	GPM	10.3	14.1	22.4	29.1	35.1	45.3
Unit Pressure Drop	ft-H ₂ O	3.3	7.1	12.8	23.7	7.9	20.0
75°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	38792	58828	91496	124593	145932	196153
NET Sensible	BTUH	38792	58828	91496	116199	145932	182042
Flow Rate	GPM	7.1	10.5	16.5	22.2	26.1	34.7
Unit Pressure Drop	ft-H ₂ O	1.6	4.1	7.1	14.1	4.5	12.4
75°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	31595	50731	75495	111518	123370	176780
NET Sensible	BTUH	31595	50731	75495	110776	123370	173993
Flow Rate	GPM	5.0	7.8	11.8	17.1	19.1	26.9
Unit Pressure Drop	ft-H ₂ O	0.8	2.3	3.7	8.5	2.5	7.9
72°F DB, 50%RH and 10°F rise *							
NET Total	BTUH	38750	56625	88251	119610	140379	188020
NET Sensible	BTUH	38750	53316	88251	104981	140175	164488
Flow Rate	GPM	8.5	12.1	19.1	25.6	30.1	39.9
Unit Pressure Drop	ft-H ₂ O	2.3	5.3	9.4	18.5	6.0	16.0
72°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	29185	48211	73149	105752	118409	167458
NET Sensible	BTUH	29185	48211	73149	99172	118409	155856
Flow Rate	GPM	5.5	8.7	13.4	19.0	21.5	29.9
Unit Pressure Drop	ft-H ₂ O	1.0	2.9	4.7	10.5	3.2	9.6
72°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	25944	37473	51174	90708	84235	145342
NET Sensible	BTUH	25944	37473	51174	90708	84235	145342
Flow Rate	GPM	4.2	5.9	8.4	14.1	13.5	22.4
Unit Pressure Drop	ft-H ₂ O	0.6	1.4	1.9	5.9	1.3	5.8
72°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	38820	54658	86357	112171	136863	176169
NET Sensible	BTUH	38820	54658	86357	110705	136863	173252
Flow Rate	GPM	8.5	11.7	18.7	24.1	29.4	37.6
Unit Pressure Drop	ft-H ₂ O	2.3	5.0	9.0	16.5	5.7	14.2
72°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	29214	47798	72925	101873	117963	160938
NET Sensible	BTUH	29214	47798	72925	101873	117963	160938
Flow Rate	GPM	5.5	8.6	13.4	18.4	21.4	28.8
Unit Pressure Drop	ft-H ₂ O	1.0	2.8	4.7	9.8	3.1	8.8
72°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	25968	37557	51227	89395	84564	142741
NET Sensible	BTUH	25968	37557	51227	89395	84564	142741
Flow Rate	GPM	4.2	5.9	8.4	13.9	13.5	22.0
Unit Pressure Drop	ft-H ₂ O	0.6	1.4	1.9	5.8	1.3	5.6

* Capacity data is to be within -5% tolerance

Model no. PCD / F / S _ _ _		012	015	028	034	042	051
Fan Section: EC Plenum Fan							
Standard Air Flow	CFM	3000	3000	5600	5600	8700	8700
External Static Pressure	in WC	0.2	0.2	0.2	0.2	0.2	0.2
Qty of Fans		1	1	1	1	2	2
Individual Fan Motor Power	HP	4.6	4.6	4	4	4	4
Evaporator Coil: 'A' Frame, Copper Tube / Aluminium Fins, Stainless Steel Drain Pan							
Face area	ft ²	6.3	6.3	13.1	13.1	19.0	19.0
Rows Deep		4	6	4	6	4	6
Fin thickness/ fpi		13	13	13	13	13	13
Face Velocity	FPM	480	480	427	427	459	459
Optional Electrical reheat ¹ - Finned Tubular Heaters, SCR Controlled							
Electric Reheat - Finned tubular type heaters, SCR Controlled							
Capacity	kW	6	6	6	6	12	12
Quantity of Heaters		3	3	3	3	3	3
Optional Humidifier Section ¹ - Electrode Steam Boiler Type							
Steam Generation Capacity	lb/hr	10	10	10	10	20	20
Humidifier Power	kW	3.4	3.4	3.4	3.4	6.8	6.8
Filter Section - Rated at ASHRAE Standard 52.2-2007 MERV 8							
Downflow models							
Quantity of Filters		3	3	2 of each	2 of each	4	4
Nominal Size LxWxD	in	20 x 25 x 4	20 x 25 x 4	20 x 25 x 4	16 x 25 x 4	20 x 25 x 4	20 x 25 x 4
Chilled Water Valve - 2 Way Modulating Maximum Design Water Pressure 150 PSI							
Valve Size	in	1	1	1	1	1-1/2	1-1/2
Valve Cv		11.7	11.7	11.7	11.7	29.2	29.2
Pipe Connection Size							
Chilled Water	-OD -in	1-1/8	1-1/8	1-1/8	1-1/8	1-5/8	1-5/8
Steam Humidifier Supply	-OD -in	1/4	1/4	1/4	1/4	1/4	1/4
Condensate Drain	-OD -in	3/4	3/4	3/4	3/4	3/4	3/4
Physical Details							
Length x Width x Height	in	37x35x78	49.8x35x78	60x35x78			

Model no. PCD / F / S _ _ _		057	065	076	087	095	106
Cooling Capacity: Rated at Standard Air Volume, 45°F Entering Water Temperature							
80°F DB, 50%RH and 10°F rise *							
NET Total	BTUH	325845	417833	414030	536290	558567	621799
NET Sensible	BTUH	234865	278532	300760	358126	397426	426986
Flow Rate	GPM	68.2	87.0	87.5	112.6	117.1	130.1
Unit Pressure Drop	ft-H ₂ O	29.7	72.2	19.0	38.4	40.6	40.0
80°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	295396	390735	366065	500170	517056	577704
NET Sensible	BTUH	223827	268388	283512	344971	382681	410661
Flow Rate	GPM	51.6	67.8	64.6	87.4	90.3	100.8
Unit Pressure Drop	ft-H ₂ O	17.6	45.8	10.8	24.0	25.1	24.7
80°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	259925	358839	314553	450621	473416	530568
NET Sensible	BTUH	210353	255427	263865	324839	365617	391873
Flow Rate	GPM	39.0	53.4	47.9	67.7	71.0	79.5
Unit Pressure Drop	ft-H ₂ O	10.4	30.0	6.2	15.0	16.1	15.8
80°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	297864	378677	376175	486444	512159	567325
NET Sensible	BTUH	244549	285088	312946	367679	413661	440813
Flow Rate	GPM	62.2	78.8	79.4	102.0	107.2	118.6
Unit Pressure Drop	ft-H ₂ O	25.0	60.2	15.9	32.0	34.5	33.6
80°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	268148	352334	332654	447971	472895	528432
NET Sensible	BTUH	231459	273020	294094	349953	396030	424779
Flow Rate	GPM	47.3	61.7	59.4	79.2	83.4	92.5
Unit Pressure Drop	ft-H ₂ O	15.0	38.5	9.2	20.0	21.6	21.1
80°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	241469	326323	293983	410300	440814	489413
NET Sensible	BTUH	222179	263426	280607	336334	385044	409055
Flow Rate	GPM	36.4	48.8	44.9	62.0	66.4	73.6
Unit Pressure Drop	ft-H ₂ O	9.1	25.4	5.5	12.7	14.2	13.7
75°F DB, 50%RH and 10°F rise *							
NET Total Cap Btu/hr (kW)	BTUH	235027	309791	291755	390470	411753	456983
NET Sensible Cap Btu/hr (Kw)	BTUH	202285	239196	256656	305300	344876	367296
Flow Rate usGPM	GPM	49.6	65.0	62.5	82.8	87.1	96.5
Unit PD Feet of H ₂ O	ft-H ₂ O	16.4	41.6	10.1	21.7	23.5	22.9
75°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	206823	279481	251143	350833	377392	418806
NET Sensible	BTUH	190917	226669	240413	288808	330877	351535
Flow Rate	GPM	36.7	49.2	45.4	62.5	67.0	74.2
Unit Pressure Drop	ft-H ₂ O	9.3	25.9	5.6	12.9	14.4	13.9
75°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	178188	250570	207743	309827	339661	373837
NET Sensible	BTUH	178188	214787	207743	272067	315724	333264
Flow Rate	GPM	27.3	37.9	32.6	47.6	51.9	57.0
Unit Pressure Drop	ft-H ₂ O	5.4	16.3	3.0	7.8	9.0	8.5

Model no. PCD / F / S _ _ _		057	065	076	087	095	106
75°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	219462	280245	273974	356292	385024	423427
NET Sensible	BTUH	213051	245671	271787	315499	362731	383251
Flow Rate	GPM	46.5	59.1	58.9	75.9	81.8	89.8
Unit Pressure Drop	ft-H ₂ O	14.5	35.5	9.1	18.5	20.9	20.0
75°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	197613	258752	242396	325865	358463	392767
NET Sensible	BTUH	197613	236576	242396	302677	351713	370398
Flow Rate	GPM	35.2	45.7	43.9	58.3	63.8	69.8
Unit Pressure Drop	ft-H ₂ O	8.6	22.5	5.2	11.4	13.2	12.4
75°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	174597	236509	205878	294092	327449	357631
NET Sensible	BTUH	174597	227287	205878	289479	327449	355850
Flow Rate	GPM	26.8	35.9	32.3	45.3	50.1	54.7
Unit Pressure Drop	ft-H ₂ O	5.2	14.6	3.0	7.1	8.4	7.9
72°F DB, 50%RH and 10°F rise *							
NET Total	BTUH	188699	247132	232539	311788	337708	372984
NET Sensible	BTUH	183374	213567	232066	272930	314325	332765
Flow Rate	GPM	40.3	52.4	50.6	67.0	72.3	79.7
Unit Pressure Drop	ft-H ₂ O	11.1	28.9	6.8	14.7	16.6	16.0
72°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	164835	223303	196886	278053	307146	336359
NET Sensible	BTUH	164835	203520	196886	258773	301672	317457
Flow Rate	GPM	29.7	39.8	36.3	50.3	55.2	60.4
Unit Pressure Drop	ft-H ₂ O	6.3	17.6	3.7	8.7	10.1	9.5
72°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	137492	198450	143805	241805	271728	297101
NET Sensible	BTUH	137492	193195	143805	241805	271728	297101
Flow Rate	GPM	21.5	30.5	23.5	37.9	42.2	46.1
Unit Pressure Drop	ft-H ₂ O	3.4	11.0	1.6	5.1	6.1	5.7
72°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	182840	230646	226794	292261	324326	353883
NET Sensible	BTUH	182840	224375	226794	287872	324326	353011
Flow Rate	GPM	39.2	49.1	49.5	63.1	69.6	75.9
Unit Pressure Drop	ft-H ₂ O	10.5	25.5	6.6	13.2	15.5	14.6
72°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	162925	213174	196144	267269	300070	325809
NET Sensible	BTUH	162925	213174	196144	267269	300070	325809
Flow Rate	GPM	29.4	38.1	36.2	48.5	54.0	58.7
Unit Pressure Drop	ft-H ₂ O	6.2	16.2	3.7	8.1	9.7	9.0
72°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	137748	193811	144291	237457	269060	292811
NET Sensible	BTUH	137748	193811	144291	237457	269060	292811
Flow Rate	GPM	21.5	29.8	23.5	37.2	41.8	45.5
Unit Pressure Drop	ft-H ₂ O	3.4	10.4	1.6	5.0	6.0	5.6

* Capacity data is to be within -5% tolerance

Model no. PCD / F / S _ _ _		057	065	076	087	095	106
Fan Section: EC Plenum Fan							
Standard Air Flow	CFM	11200	11200	14700	14700	18000	18000
External Static Pressure	in WC	0.2	0.2	0.2	0.2	0.2	0.2
Qty of Fans		2	2	3	3	3	3
Individual Fan Motor Power	HP	3.9	3.9	4	4	3.9	3.9
Evaporator Coil: 'A' Frame, Copper Tube / Aluminium Fins, Stainless Steel Drain Pan							
Face area	ft ²	22.5	22.5	29.6	29.6	37.1	37.1
Rows Deep		4	6	4	6	4	5
Fin thickness/ fpi		13	13	13	13	13	13
Face Velocity	FPM	498	498	497	497	485	485
Optional Electrical reheat ¹ - Finned Tubular Heaters, SCR Controlled							
Electric Reheat - Finned tubular type heaters, SCR Controlled							
Capacity	kW	12	12	12	12	15	15
Quantity of Heaters		3	3	3	3	3	3
Optional Humidifier Section ¹ - Electrode Steam Boiler Type							
Steam Generation Capacity	lb/hr	20	20	20	20	20	20
Humidifier Power	kW	6.8	6.8	6.8	6.8	6.8	6.8
Filter Section - Rated at ASHRAE Standard 52.2-2007 MERV 8							
Downflow models							
Quantity of Filters		6	6	6	6	9	9
Nominal Size	LxWxD in	20 x 25 x 4			20 x 25 x 4		
Chilled Water Valve - 2 Way Modulating Maximum Design Water Pressure 150 PSI							
Valve Size	in	1-1/2	1-1/2	2	2	2	2
Valve Cv		29.2	29.2	46.8	46.8	46.8	46.8
Pipe Connection Size							
Chilled Water	-OD -in	1-5/8	1-5/8	2-1/8	2-1/8	2-1/8	2-1/8
Steam Humidifier Supply	-OD -in	1/4	1/4	1/4	1/4	1/4	1/4
Condensate Drain	-OD -in	3/4	3/4	3/4	3/4	3/4	3/4
Physical Details							
Length x Width x Height	in	72x35x78			107x35x78		

Model no. PCD / F / S _ _ _		111	119	127	136	147	153
Cooling Capacity: Rated at Standard Air Volume, 45°F Entering Water Temperature							
80°F DB, 50%RH and 10°F rise *							
NET Total	BTUH	670436	679401	752094	810943	876318	941670
NET Sensible	BTUH	448530	478753	510792	537121	588876	618752
Flow Rate	GPM	140.0	143.1	158.8	170.9	183.2	196.4
Unit Pressure Drop	ft-H2O	39.9	64.9	63.1	62.3	89.9	87.1
80°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	625287	628502	702157	759141	824190	888239
NET Sensible	BTUH	431278	458866	492829	517224	571000	598991
Flow Rate	GPM	109.0	110.8	123.5	133.5	143.2	154.2
Unit Pressure Drop	ft-H2O	24.8	40.4	39.4	39.0	56.7	55.2
80°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	573318	577266	647106	702064	763644	826250
NET Sensible	BTUH	410237	438713	470753	493960	546472	573467
Flow Rate	GPM	85.8	87.5	97.8	106.0	113.9	123.1
Unit Pressure Drop	ft-H2O	15.7	26.1	25.5	25.2	37.0	36.1
80°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	609700	619877	686718	737249	800533	856988
NET Sensible	BTUH	460123	494531	527363	550067	607102	632933
Flow Rate	GPM	127.4	131.0	144.9	155.6	166.8	178.5
Unit Pressure Drop	ft-H2O	33.3	55.2	53.2	52.1	75.4	72.7
80°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	567324	573032	637453	688177	745114	802581
NET Sensible	BTUH	441100	472930	504633	527950	580465	607384
Flow Rate	GPM	99.7	102.3	113.4	122.1	131.0	140.7
Unit Pressure Drop	ft-H2O	20.9	34.9	33.6	32.9	48.1	46.4
80°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	524062	536061	596778	644016	701650	755629
NET Sensible	BTUH	424763	460763	490526	511350	566270	590498
Flow Rate	GPM	78.8	81.6	90.6	97.7	105.0	113.0
Unit Pressure Drop	ft-H2O	13.4	23.0	22.1	21.6	31.8	30.7
75°F DB, 50%RH and 10°F rise *							
NET Total Cap Btu/hr (kW)	BTUH	492190	498517	553532	595600	649140	696777
NET Sensible Cap Btu/hr (Kw)	BTUH	383325	411671	438841	457647	507289	529029
Flow Rate usGPM	GPM	103.9	106.7	118.3	127.2	136.5	146.4
Unit PD Feet of H2O	ft-H2O	22.6	37.8	36.3	35.6	51.9	50.1
75°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	448261	458039	509829	549981	600829	646842
NET Sensible	BTUH	364994	395116	420722	438514	487119	507938
Flow Rate	GPM	79.4	82.3	91.4	98.6	105.9	113.9
Unit Pressure Drop	ft-H2O	13.6	23.4	22.5	22.0	32.3	31.2
75°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	399423	418732	465548	498182	552860	596141
NET Sensible	BTUH	344967	379251	402862	417116	467365	486821
Flow Rate	GPM	60.9	64.8	71.8	76.9	83.7	90.2
Unit Pressure Drop	ft-H2O	8.2	15.0	14.3	13.8	20.9	20.1

Model no. PCD / F / S _ _ _		111	119	127	136	147	153
75°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	452868	464174	510816	545908	596502	636387
NET Sensible	BTUH	397348	432213	457015	473566	525489	544908
Flow Rate	GPM	96.0	99.9	109.7	117.3	126.0	134.4
Unit Pressure Drop	ft-H ₂ O	19.5	33.4	31.6	30.5	44.7	42.6
75°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	417448	433000	477473	512009	559674	598294
NET Sensible	BTUH	382370	419242	442987	459538	509910	528268
Flow Rate	GPM	74.2	78.2	86.0	92.1	99.0	105.8
Unit Pressure Drop	ft-H ₂ O	12.0	21.2	20.0	19.3	28.5	27.2
75°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	379726	401906	441463	469681	522880	558069
NET Sensible	BTUH	366631	401906	428000	441294	494505	511273
Flow Rate	GPM	58.1	62.4	68.4	72.8	79.4	84.7
Unit Pressure Drop	ft-H ₂ O	7.5	14.0	13.1	12.4	18.9	17.9
72°F DB, 50%RH and 10°F rise *							
NET Total	BTUH	398198	407589	450538	483175	529201	566588
NET Sensible	BTUH	344701	374217	396541	411504	458066	475839
Flow Rate	GPM	85.1	88.5	97.6	104.7	112.5	120.4
Unit Pressure Drop	ft-H ₂ O	15.5	26.8	25.4	24.7	36.2	34.7
72°F DB, 50%RH and 12°F rise *							
NET Total	BTUH	357987	374308	414396	441787	489811	525112
NET Sensible	BTUH	327765	360390	381369	393982	441678	457923
Flow Rate	GPM	64.3	68.3	75.5	80.5	87.3	93.6
Unit Pressure Drop	ft-H ₂ O	9.1	16.6	15.7	15.0	22.6	21.6
72°F DB, 50%RH and 14°F rise *							
NET Total	BTUH	315389	337493	370934	395213	446597	476364
NET Sensible	BTUH	310098	337493	363350	374532	423410	437420
Flow Rate	GPM	48.9	53.2	58.3	62.2	68.5	73.1
Unit Pressure Drop	ft-H ₂ O	5.4	10.5	9.7	9.2	14.4	13.6
72°F DB, 45%RH and 10°F rise *							
NET Total	BTUH	373915	389394	425522	452078	496569	527604
NET Sensible	BTUH	363429	389394	420100	433362	482559	498717
Flow Rate	GPM	80.2	84.9	92.6	98.5	106.0	112.4
Unit Pressure Drop	ft-H ₂ O	13.9	24.8	23.0	22.0	32.4	30.5
72°F DB, 45%RH and 12°F rise *							
NET Total	BTUH	344354	363667	397840	420939	467393	496690
NET Sensible	BTUH	344354	363667	397840	419537	467393	484531
Flow Rate	GPM	62.0	66.6	72.7	77.0	83.6	88.8
Unit Pressure Drop	ft-H ₂ O	8.5	15.8	14.6	13.8	20.8	19.6
72°F DB, 45%RH and 14°F rise *							
NET Total	BTUH	310195	331521	363532	385103	433394	459497
NET Sensible	BTUH	310195	331521	363532	385103	433394	459497
Flow Rate	GPM	48.3	52.3	57.3	60.7	66.6	70.7
Unit Pressure Drop	ft-H ₂ O	5.3	10.2	9.4	8.8	13.7	12.7

* Capacity data is to be within -5% tolerance

Model no. PCD / F / S _ _ _		111	119	127	136	147	153
Fan Section: EC Plenum Fan							
Standard Air Flow	CFM	18000	21600	21600	21600	24000	24000
External Static Pressure	in WC	0.2	0.2	0.2	0.2	0.2	0.2
Qty of Fans		3	4	4	4	4	4
Individual Fan Motor Power	HP	3.9	4.0	4.0	4.0	3.9	3.9
Evaporator Coil: 'A' Frame, Copper Tube / Aluminium Fins, Stainless Steel Drain Pan							
Face area	ft²	37.1	44.2	44.2	44.2	52.5	52.5
Rows Deep		6	4	5	6	5	6
Fin thickness/ fpi		13	13	13	13	13	13
Face Velocity	FPM	485	489	489	489	457	457
Optional Electrical reheat ¹ - Finned Tubular Heaters, SCR Controlled							
Electric Reheat - Finned tubular type heaters, SCR Controlled							
Capacity	kW	15	24	24	24	30	30
Quantity of Heaters		3	3	3	3	3	3
Optional Humidifier Section ¹ - Electrode Steam Boiler Type							
Steam Generation Capacity	lb/hr	20	20	20	20	20	20
Humidifier Power	kW	6.8	6.8	6.8	6.8	6.8	6.8
Filter Section - Rated at ASHRAE Standard 52.2-2007 MERV 8							
Downflow models							
Quantity of Filters		9	9	9	9	12	12
Nominal Size	LxWxD in	20 x 25 x 4					
Chilled Water Valve - 2 Way Modulating Maximum Design Water Pressure 150 PSI							
Valve Size	in	2	2	2	2	2	2
Valve Cv		46.8	46.8	46.8	46.8	46.8	46.8
Pipe Connection Size							
Chilled Water	-OD -in	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8
Steam Humidifier Supply	-OD -in	1/4	1/4	1/4	1/4	1/4	1/4
Condensate Drain	-OD -in	3/4	3/4	3/4	3/4	3/4	3/4
Physical Details							
Length x Width x Height	in	107x35x78		124x35x78		142x35x78	

Model no. PCD / F / S _ _ _ 180

Cooling Capacity: Rated at Standard Air Volume, 45°F Entering Water Temperature

80°F DB, 50%RH and 10°F rise *

NET Total	BTUH	CONSULT FACTORY
NET Sensible	BTUH	
Flow Rate	GPM	
Unit Pressure Drop	ft-H ₂ O	

80°F DB, 50%RH and 12°F rise *

NET Total	BTUH	1043761
NET Sensible	BTUH	696693
Flow Rate	GPM	181
Unit Pressure Drop	ft-H ₂ O	32

80°F DB, 50%RH and 14°F rise *

NET Total	BTUH	974346
NET Sensible	BTUH	668055
Flow Rate	GPM	145
Unit Pressure Drop	ft-H ₂ O	21

80°F DB, 45%RH and 10°F rise *

NET Total	BTUH	CONSULT FACTORY
NET Sensible	BTUH	
Flow Rate	GPM	
Unit Pressure Drop	ft-H ₂ O	

80°F DB, 45%RH and 12°F rise *

NET Total	BTUH	947706
NET Sensible	BTUH	710504
Flow Rate	GPM	165
Unit Pressure Drop	ft-H ₂ O	27

80°F DB, 45%RH and 14°F rise *

NET Total	BTUH	889682
NET Sensible	BTUH	686380
Flow Rate	GPM	133
Unit Pressure Drop	ft-H ₂ O	18

75°F DB, 50%RH and 10°F rise *

NET Total Cap Btu/hr (kW)	BTUH	816622
NET Sensible Cap Btu/hr (Kw)	BTUH	613930
Flow Rate usGPM	GPM	172
Unit PD Feet of H ₂ O	ft-H ₂ O	29

75°F DB, 50%RH and 12°F rise *

NET Total	BTUH	760867
NET Sensible	BTUH	590307
Flow Rate	GPM	134
Unit Pressure Drop	ft-H ₂ O	19

75°F DB, 50%RH and 14°F rise *

NET Total	BTUH	703576
NET Sensible	BTUH	566529
Flow Rate	GPM	106
Unit Pressure Drop	ft-H ₂ O	12

Model no. PCD / F / S _ _ _		180
75°F DB, 45%RH and 10°F rise *		
NET Total	BTUH	744985
NET Sensible	BTUH	631316
Flow Rate	GPM	157
Unit Pressure Drop	ft-H ₂ O	25
75°F DB, 45%RH and 12°F rise *		
NET Total	BTUH	702233
NET Sensible	BTUH	612546
Flow Rate	GPM	124
Unit Pressure Drop	ft-H ₂ O	16
75°F DB, 45%RH and 14°F rise *		
NET Total	BTUH	658989
NET Sensible	BTUH	594317
Flow Rate	GPM	100
Unit Pressure Drop	ft-H ₂ O	11
72°F DB, 50%RH and 10°F rise *		
NET Total	BTUH	664310
NET Sensible	BTUH	552009
Flow Rate	GPM	141
Unit Pressure Drop	ft-H ₂ O	20
72°F DB, 50%RH and 12°F rise *		
NET Total	BTUH	617506
NET Sensible	BTUH	531692
Flow Rate	GPM	110
Unit Pressure Drop	ft-H ₂ O	13
72°F DB, 50%RH and 14°F rise *		
NET Total	BTUH	570177
NET Sensible	BTUH	511880
Flow Rate	GPM	87
Unit Pressure Drop	ft-H ₂ O	9
72°F DB, 45%RH and 10°F rise *		
NET Total	BTUH	616641
NET Sensible	BTUH	576256
Flow Rate	GPM	131
Unit Pressure Drop	ft-H ₂ O	18
72°F DB, 45%RH and 12°F rise *		
NET Total	BTUH	583445
NET Sensible	BTUH	561557
Flow Rate	GPM	104
Unit Pressure Drop	ft-H ₂ O	12
72°F DB, 45%RH and 14°F rise *		
NET Total	BTUH	548015
NET Sensible	BTUH	545966
Flow Rate	GPM	84
Unit Pressure Drop	ft-H ₂ O	8

* Capacity data is to be within -5% tolerance

Model no. PCD / F / S	180
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Fan Section: EC Plenum Fan

Standard Air Flow	CFM	27460
External Static Pressure	in WC	0.2
Qty of Fans		3
Individual Fan Motor Power	HP	6.2

Evaporator Coil: 'A' Frame, Copper Tube / Aluminium Fins, Stainless Steel Drain Pan

Face area	ft ²	66.7
Rows Deep		6
Fin thickness/ fpi		11.0
Face Velocity	FPM	371

Optional Electrical reheat ¹ - Finned Tubular Heaters, SCR Controlled
Electric Reheat - Finned tubular type heaters, SCR Controlled

Capacity	kW	30
Quantity of Heaters		3

Optional Humidifier Section ¹ - Electrode Steam Boiler Type

Steam Generation Capacity	lb/hr	20.0
Humidifier Power	kW	6.8

Filter Section - Rated at ASHRAE Standard 52.2-2007 MERV 8
Downflow models

Quantity of Filters		12
Nominal Size	LxWxD	in 20 x 25 x 4

Chilled Water Valve - 2 Way Modulating Maximum Design Water Pressure 150 PSI

Valve Size	in	2
Valve Cv		65 qty2

Pipe Connection Size

Chilled Water	-OD -in	3
Steam Humidifier Supply	-OD -in	1/4
Condensate Drain	-OD -in	3/4

Physical Details ²

Length x Width x Height	in	120x48x88
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¹ - Optional Standard Capacity

² - Dimensions do not include return air plenum, shipped separate and field installed

Dual - Chilled Water System

Model no. PJD / F / S _ _ _		012	028	042	057	076
Cooling Capacity: Rated at Standard Air Volume, 45°F Entering Water Temperature						
80°F DB, 50%RH and 10°F rise *						
NET Total	BTUH	72132	159480	250214	325845	414030
NET Sensible	BTUH	57410	116155	181802	234865	300760
Flow Rate	GPM	15.1	33.6	52.4	68.2	87.5
Unit Pressure Drop	ft-H2O	6.9	28.1	16.8	29.7	19.0
80°F DB, 50%RH and 12°F rise *						
NET Total	BTUH	59337	139561	220762	295396	366065
NET Sensible	BTUH	52588	109025	171156	223827	283512
Flow Rate	GPM	10.5	24.5	38.6	51.6	64.6
Unit Pressure Drop	ft-H2O	3.4	15.3	9.5	17.6	10.8
80°F DB, 50%RH and 14°F rise *						
NET Total	BTUH	46130	118050	189146	259925	314553
NET Sensible	BTUH	46130	100854	159095	210353	263865
Flow Rate	GPM	7.1	17.9	28.5	39.0	47.9
Unit Pressure Drop	ft-H2O	1.6	8.3	5.4	10.4	6.2
80°F DB, 45%RH and 10°F rise *						
NET Total	BTUH	66165	144785	227167	297864	376175
NET Sensible	BTUH	60217	120868	188849	244549	312946
Flow Rate	GPM	13.9	30.4	47.5	62.2	79.4
Unit Pressure Drop	ft-H2O	5.9	23.2	14.0	25.0	15.9
80°F DB, 45%RH and 12°F rise *						
NET Total	BTUH	56111	126649	200523	268148	332654
NET Sensible	BTUH	56111	113009	177340	231459	294094
Flow Rate	GPM	10.0	22.6	35.4	47.3	59.4
Unit Pressure Drop	ft-H2O	3.1	13.0	8.1	15.0	9.2
80°F DB, 45%RH and 14°F rise *						
NET Total	BTUH	45509	110524	176696	241469	293983
NET Sensible	BTUH	45509	107426	168984	222179	280607
Flow Rate	GPM	7.0	16.8	26.7	36.4	44.9
Unit Pressure Drop	ft-H2O	1.6	7.3	4.7	9.1	5.5
75°F DB, 50%RH and 10°F rise *						
NET Total Cap Btu/hr (kW)	BTUH	49259	111423	176184	235027	291755
NET Sensible Cap Btu/hr (Kw)	BTUH	48783	98836	155040	202285	256656
Flow Rate usGPM	GPM	10.6	23.8	37.3	49.6	62.5
Unit PD Feet of H2O	ft-H2O	3.4	14.3	8.9	16.4	10.1
75°F DB, 50%RH and 12°F rise *						
NET Total	BTUH	38700	94433	151220	206823	251143
NET Sensible	BTUH	38700	92061	145055	190917	240413
Flow Rate	GPM	7.0	17.0	27.0	36.7	45.4
Unit Pressure Drop	ft-H2O	1.6	7.5	4.8	9.3	5.6
75°F DB, 50%RH and 14°F rise *						
NET Total	BTUH	31561	75882	124459	178188	207743
NET Sensible	BTUH	31561	75882	124459	178188	207743
Flow Rate	GPM	5.0	11.9	19.2	27.3	32.6
Unit Pressure Drop	ft-H2O	0.8	3.7	2.6	5.4	3.0

Model no. PCD / F / S _ _ _		012	028	042	057	076
75°F DB, 45%RH and 10°F rise *						
NET Total	BTUH	48169	104733	165359	219462	273974
NET Sensible	BTUH	48169	104720	163955	213051	271787
Flow Rate	GPM	10.3	22.4	35.1	46.5	58.9
Unit Pressure Drop	ft-H ₂ O	3.3	12.8	7.9	14.5	9.1
75°F DB, 45%RH and 12°F rise *						
NET Total	BTUH	38792	91496	145932	197613	242396
NET Sensible	BTUH	38792	91496	145932	197613	242396
Flow Rate	GPM	7.1	16.5	26.1	35.2	43.9
Unit Pressure Drop	ft-H ₂ O	1.6	7.1	4.5	8.6	5.2
75°F DB, 45%RH and 14°F rise *						
NET Total	BTUH	31595	75495	123370	174597	205878
NET Sensible	BTUH	31595	75495	123370	174597	205878
Flow Rate	GPM	5.0	11.8	19.1	26.8	32.3
Unit Pressure Drop	ft-H ₂ O	0.8	3.7	2.5	5.2	3.0
72°F DB, 50%RH and 10°F rise *						
NET Total	BTUH	38750	88251	140379	188699	232539
NET Sensible	BTUH	38750	88251	140175	183374	232066
Flow Rate	GPM	8.5	19.1	30.1	40.3	50.6
Unit Pressure Drop	ft-H ₂ O	2.3	9.4	6.0	11.1	6.8
72°F DB, 50%RH and 12°F rise *						
NET Total	BTUH	29185	73149	118409	164835	196886
NET Sensible	BTUH	29185	73149	118409	164835	196886
Flow Rate	GPM	5.5	13.4	21.5	29.7	36.3
Unit Pressure Drop	ft-H ₂ O	1.0	4.7	3.2	6.3	3.7
72°F DB, 50%RH and 14°F rise *						
NET Total	BTUH	25944	51174	84235	137492	143805
NET Sensible	BTUH	25944	51174	84235	137492	143805
Flow Rate	GPM	4.2	8.4	13.5	21.5	23.5
Unit Pressure Drop	ft-H ₂ O	0.6	1.9	1.3	3.4	1.6
72°F DB, 45%RH and 10°F rise *						
NET Total	BTUH	38820	86357	136863	182840	226794
NET Sensible	BTUH	38820	86357	136863	182840	226794
Flow Rate	GPM	8.5	18.7	29.4	39.2	49.5
Unit Pressure Drop	ft-H ₂ O	2.3	9.0	5.7	10.5	6.6
72°F DB, 45%RH and 12°F rise *						
NET Total	BTUH	29214	72925	117963	162925	196144
NET Sensible	BTUH	29214	72925	117963	162925	196144
Flow Rate	GPM	5.5	13.4	21.4	29.4	36.2
Unit Pressure Drop	ft-H ₂ O	1.0	4.7	3.1	6.2	3.7
72°F DB, 45%RH and 14°F rise *						
NET Total	BTUH	25968	51227	84564	137748	144291
NET Sensible	BTUH	25968	51227	84564	137748	144291
Flow Rate	GPM	4.2	8.4	13.5	21.5	23.5
Unit Pressure Drop	ft-H ₂ O	0.6	1.9	1.3	3.4	1.6

* Capacity data is to be within -5% tolerance

Model no. PCD / F / S _ _ _		012	028	042	057	076
Fan Section: EC Plenum Fan						
Standard Air Flow	CFM	3000	5600	8700	11200	14700
External Static Pressure	in WC	0.2	0.2	0.2	0.2	0.2
Qty of Fans		1	1	2	2	3
Individual Fan Motor Power	HP	4.6	4	4	3.9	4
Evaporator Coil: 'A' Frame, Copper Tube / Aluminium Fins, Stainless Steel Drain Pan						
Face area	ft ²	6.3	13.1	19.0	22.5	29.6
Rows Deep		4	4	4	4	4
Fin thickness/ fpi		13	13	13	13	13
Face Velocity	FPM	480	427	459	498	497
Optional Electrical reheat ¹ - Finned Tubular Heaters, SCR Controlled						
Electric Reheat - Finned tubular type heaters, SCR Controlled						
Capacity	kW	6	6	12	12	12
Quantity of Heaters		3	3	3	3	3
Optional Humidifier Section ¹ - Electrode Steam Boiler Type						
Steam Generation Capacity	lb/hr	10	10	20	20	20
Humidifier Power	kW	3.4	3.4	6.8	6.8	6.8
Filter Section - Rated at ASHRAE Standard 52.2-2007 MERV 8						
Downflow models						
Quantity of Filters		3	2 of each	4	6	6
Nominal Size	LxWxD	in	20 x 25 x 4	20 x 25 x 4	20 x 25 x 4	20 x 25 x 4
			16 x 25 x 4			
Chilled Water Valve - 2 Way Modulating Maximum Design Water Pressure 150 PSI						
Valve Size	in	1	1	1-1/2	1-1/2	2
Valve Cv		11.7	11.7	29.2	29.2	46.8
Pipe Connection Size						
Chilled Water	-OD -in	1-1/8	1-1/8	1-5/8	1-5/8	2-1/8
Steam Humidifier Supply	-OD -in	1/4	1/4	1/4	1/4	1/4
Condensate Drain	-OD -in	3/4	3/4	3/4	3/4	3/4
Physical Details						
Length x Width x Height	in	37x35x78	49.8x35x78	60x35x78	72x35x78	89x35x78

¹ - Optional Standard Capacity

Electrical Data

Chilled Water Systems = 208V/ 3Ph/ 60Hz

Model	P_ _ 012			P_ _ 015			P_ _ 028			P_ _ 034		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option												
Electric (6 kW)/Boiler	43.3	49.3	60	43.3	49.3	60	42.6	48.4	60	42.6	48.4	60
Electric (6 kW)/None	27.0	32.9	40	27.0	32.9	40	26.3	32.1	40	26.3	32.1	40
Electric (9 kW)/Boiler	51.6	59.7	70	51.6	59.7	70	51.0	58.8	70	51.0	58.8	70
Electric (9 kW)/None	35.3	43.3	50	35.3	43.3	50	34.6	42.5	50	34.6	42.5	50
None, Non-electric/Boiler	26.7	32.5	40	26.7	32.5	40	26.0	31.7	35	26.0	31.7	35
None, Non-electric/None	10.3	12.1	15	10.3	12.1	15	9.6	11.3	15	9.6	11.3	15

Model	P_ _ 042			P_ _ 051			P_ _ 057			P_ _ 065		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option												
Electric (12 kW)/Boiler	70.8	80.8	100	70.8	80.8	100	69.8	79.6	90	69.8	79.6	90
Electric (12 kW)/None	51.9	61.9	70	51.9	61.9	70	50.9	60.8	70	50.9	60.8	70
Electric (15 kW)/Boiler	79.1	91.2	110	79.1	91.2	110	78.1	90	110	78.1	90	110
Electric (15 kW)/None	60.3	72.3	90	60.3	72.3	90	59.3	71.2	80	59.3	71.2	80
None, Non-electric/Boiler	37.5	43.8	50	37.5	43.8	50	36.5	42.7	50	36.5	42.7	50
None, Non-electric/None	18.6	20.3	25	18.6	20.3	25	17.6	19.1	25	17.6	19.1	25

Model	P_ _ 076			P_ _ 087		
	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option						
Electric (12 kW)/Boiler	79.8	89.8	110	79.8	89.8	110
Electric (12 kW)/None	60.9	70.9	80	60.9	70.9	80
Electric (15 kW)/Boiler	88.1	100.2	120	88.1	100.2	120
Electric (15 kW)/None	69.3	81.2	100	69.3	81.2	100
None, Non-electric/Boiler	46.5	52.8	60	46.5	52.8	60
None, Non-electric/None	27.6	29.3	35	27.6	29.3	35

Model	P_ _ 095			P_ _ 106			P_ _ 111		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option									
Electric (15 kW)/Boiler	86.6	98.5	120	86.6	98.5	120	86.6	98.5	120
Electric (15 kW)/None	67.8	79.7	90	67.8	79.7	90	67.8	79.7	90
Electric (24 kW)/Boiler	111.6	129.8	160	111.6	129.8	160	111.6	129.8	160
Electric (24 kW)/None	92.7	110.9	130	92.7	110.9	130	92.7	110.9	130
None, Non-electric/Boiler	45	51.2	60	45	51.2	60	45	51.2	60
None, Non-electric/None	26.1	27.6	30	26.1	27.6	30	26.1	27.6	30

Chilled Water Systems = 208V/ 3Ph/ 60Hz continued

Model	P__ 119			P__ 127			P__ 136		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option									
Electric (24 kW)/Boiler	122.1	140.4	170	122.1	140.4	170	122.1	140.4	170
Electric (24 kW)/None	103.2	121.5	150	103.2	121.5	150	103.2	121.5	150
Electric (30 kW)/Boiler	138.8	161.2	200	138.8	161.2	200	138.8	161.2	200
Electric (30 kW)/None	119.9	142.3	170	119.9	142.3	170	119.9	142.3	170
None, Non-electric/Boiler	55.5	61.8	70	55.5	61.8	70	55.5	61.8	70
None, Non-electric/None	36.6	38.3	45	36.6	38.3	45	36.6	38.3	45

Model	P__ 147			P__ 153			P__ 180		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option									
Electric (30 kW)/Boiler	136.8	159.1	190	136.8	159.1	190	141.7	165.1	200
Electric (30 kW)/None	117.9	140.2	170	117.9	140.2	170	122.8	146.2	180
None, Non-electric/Boiler	53.5	59.7	70	53.5	59.7	70	58.4	65.7	80
None, Non-electric/None	34.6	36.1	45	34.6	36.1	45	39.5	42.2	50

- FLA is based on full load current of individual components that result in maximum electrical load condition during unit normal operation.
- FLA = Full Load Amps MCA = Minimum Circuit Ampacity MFS = Maximum Fuse Size

Chilled Water Systems = 380V/ 3Ph/ 60Hz and 380V/ 3Ph/ 50Hz

Model	P__012			P__015			P__028			P__034		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (6 kW)/Boiler	23.7	27.0	30	23.7	27.0	30	23.3	26.5	30	23.3	26.5	30
Electric (6 kW)/None	14.8	18.0	20	14.8	18.0	20	14.4	17.5	20	14.4	17.5	20
Electric (9 kW)/Boiler	28.3	32.7	40	28.3	32.7	40	27.9	32.2	40	27.9	32.2	40
Electric (9 kW)/None	19.3	23.7	25	19.3	23.7	25	18.9	23.2	25	18.9	23.2	25
None, Non-electric/Boiler	14.6	17.8	20	14.6	17.8	20	14.2	17.3	20	14.2	17.3	20
None, Non-electric/None	5.6	6.6	15	5.6	6.6	15	5.3	6.1	15	5.3	6.1	15

Model	P__042			P__051			P__057			P__065		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (12 kW)/Boiler	38.7	44.2	50	38.7	44.2	50	38.2	43.6	50	38.2	43.6	50
Electric (12 kW)/None	28.4	33.8	40	28.4	33.8	40	27.9	33.3	40	27.9	33.3	40
Electric (15 kW)/Boiler	43.3	49.9	60	43.3	49.9	60	42.8	49.3	60	42.8	49.3	60
Electric (15 kW)/None	33.0	39.5	45	33.0	39.5	45	32.4	39.0	45	32.4	39.0	45
None, Non-electric/Boiler	20.5	24.0	25	20.5	24.0	25	20.0	23.4	25	20.0	23.4	25
None, Non-electric/None	10.2	11.0	15	10.2	11.0	15	9.6	10.5	15	9.6	10.5	15

Model	P__076			P__087		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS
Electric (12 kW)/Boiler	43.6	49.1	60	43.6	49.1	60
Electric (12 kW)/None	33.3	38.7	45	33.3	38.7	45
Electric (15 kW)/Boiler	48.2	54.8	60	48.2	54.8	60
Electric (15 kW)/None	37.9	44.4	50	37.9	44.4	50
None, Non-electric/Boiler	25.4	28.9	35	25.4	28.9	35
None, Non-electric/None	15.1	16.0	20	15.1	16.0	20

Model	P__095			P__106			P__111		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (15 kW)/Boiler	47.4	53.9	60	47.4	53.9	60	47.4	53.9	60
Electric (15 kW)/None	37.1	43.6	50	37.1	43.6	50	37.1	43.6	50
Electric (24 kW)/Boiler	61.1	71.0	80	61.1	71.0	80	61.1	71.0	80
Electric (24 kW)/None	50.8	60.7	70	50.8	60.7	70	50.8	60.7	70
None, Non-electric/Boiler	24.6	28.0	35	24.6	28.0	35	24.6	28.0	35
None, Non-electric/None	14.3	15.1	20	14.3	15.1	20	14.3	15.1	20

Model	P__119			P__127			P__136		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (24 kW)/Boiler	66.8	76.8	90	66.8	76.8	90	66.8	76.8	90
Electric (24 kW)/None	56.4	66.4	80	56.4	66.4	80	56.4	66.4	80
Electric (30 kW)/Boiler	75.9	88.2	110	75.9	88.2	110	75.9	88.2	110
Electric (30 kW)/None	65.6	77.8	90	65.6	77.8	90	65.6	77.8	90
None, Non-electric/Boiler	30.3	33.8	40	30.3	33.8	40	30.3	33.8	40
None, Non-electric/None	20.0	20.9	25	20.0	20.9	25	20.0	20.9	25

Chilled Water Systems = 380V/ 3Ph/ 60Hz and 380V/ 3Ph/ 50Hz continued

Model	P__ 147			P__ 153			P__ 180		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option									
Electric (30 kW)/Boiler	74.9	87.1	100	74.9	87.1	100	77.6	90.4	110
Electric (30 kW)/None	64.5	76.7	90	64.5	76.7	90	67.2	80.1	100
None, Non-electric/Boiler	29.3	32.7	40	29.3	32.7	40	32.0	36.0	40
None, Non-electric/None	18.9	19.8	25	18.9	19.8	25	21.6	23.1	25

- FLA is based on full load current of individual components that result in maximum electrical load condition during unit normal operation.
- FLA = Full Load Amps MCA = Minimum Circuit Ampacity MFS = Maximum Fuse Size

Chilled Water Systems = 460V/ 3Ph/ 60Hz

Model	P__012			P__015			P__028			P__034		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (6 kW)/Boiler	20.5	23.4	25	20.5	23.4	25	20.1	22.9	25	20.1	22.9	25
Electric (6 kW)/None	13.1	16.0	20	13.1	16.0	20	12.7	15.6	20	12.7	15.6	20
Electric (9 kW)/Boiler	24.3	28.1	35	24.3	28.1	35	23.9	27.6	30	23.9	27.6	30
Electric (9 kW)/None	16.9	20.7	25	16.9	20.7	25	16.5	20.3	25	16.5	20.3	25
None, Non-electric/Boiler	13.0	15.9	20	13.0	15.9	20	12.6	15.4	20	12.6	15.4	20
None, Non-electric/None	5.6	6.6	15	5.6	6.6	15	5.2	6.1	15	5.2	6.1	15

Model	P__042			P__051			P__057			P__065		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (12 kW)/Boiler	33.7	38.4	45	33.7	38.4	45	33.2	37.8	45	33.2	37.8	45
Electric (12 kW)/None	24.6	29.3	35	24.6	29.3	35	24.6	29.3	35	24.6	29.3	35
Electric (15 kW)/Boiler	36.9	42.5	50	36.9	42.5	50	36.9	42.5	50	36.9	42.5	50
Electric (15 kW)/None	28.9	34.6	40	28.9	34.6	40	28.4	34.0	40	28.4	34.0	40
None, Non-electric/Boiler	18.6	21.7	25	18.6	21.7	25	18.1	21.1	25	18.1	21.1	25
None, Non-electric/None	10.1	11.0	15	10.1	11.0	15	9.6	10.5	15	9.6	10.5	15

Model	P__076			P__087		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS
Electric (12 kW)/Boiler	38.6	43.3	50	38.6	43.3	50
Electric (12 kW)/None	30.1	34.8	40	30.1	34.8	40
Electric (15 kW)/Boiler	42.4	48.0	60	42.4	48.0	60
Electric (15 kW)/None	33.8	39.5	45	33.8	39.5	45
None, Non-electric/Boiler	23.5	26.6	30	23.5	26.6	30
None, Non-electric/None	15.0	16.0	20	15.0	16.0	20

Model	P__095			P__106			P__111		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (15 kW)/Boiler	41.6	47.2	50	41.6	47.2	50	41.6	47.2	50
Electric (15 kW)/None	33.1	38.6	45	33.1	38.6	45	33.1	38.6	45
Electric (24 kW)/Boiler	52.9	61.3	70	52.9	61.3	70	52.9	61.3	70
Electric (24 kW)/None	44.4	52.8	60	44.4	52.8	60	44.4	52.8	60
None, Non-electric/Boiler	22.8	25.8	30	22.8	25.8	30	22.8	25.8	30
None, Non-electric/None	14.2	15.1	20	14.2	15.1	20	14.2	15.1	20

Model	P__119			P__127			P__136		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (24 kW)/Boiler	58.6	67.1	80	58.6	67.1	80	58.6	67.1	80
Electric (24 kW)/None	50.0	58.5	70	50.0	58.5	70	50.0	58.5	70
Electric (30 kW)/Boiler	66.1	76.5	90	66.1	76.5	90	66.1	76.5	90
Electric (30 kW)/None	57.6	67.9	80	57.6	67.9	80	57.6	67.9	80
None, Non-electric/Boiler	28.5	31.5	35	28.5	31.5	35	28.5	31.5	35
None, Non-electric/None	19.9	20.9	25	19.9	20.9	25	19.9	20.9	25

Chilled Water Systems = 460V/ 3Ph/ 60Hz continued

Model	P__ 147			P__ 153			P__ 180		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option									
Electric (30 kW)/Boiler	65.1	75.4	90	65.1	75.4	90	67.8	78.7	90
Electric (30 kW)/None	56.5	66.8	80	56.5	66.8	80	59.2	70.1	80
None, Non-electric/Boiler	27.4	30.4	35	27.4	30.4	35	30.1	33.7	40
None, Non-electric/None	18.9	19.8	25	18.9	19.8	25	21.6	23.1	25

- FLA is based on full load current of individual components that result in maximum electrical load condition during unit normal operation.
- FLA = Full Load Amps MCA = Minimum Circuit Ampacity MFS = Maximum Fuse Size

Chilled Water Systems = 480V/ 3Ph/ 60Hz

Model	P__012			P__015			P__028			P__034		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (6 kW)/Boiler	19.9	22.7	25	19.9	22.7	25	19.5	22.2	25	19.5	22.2	25
Electric (6 kW)/None	12.8	15.6	20	12.8	15.6	20	12.4	15.2	20	12.4	15.2	20
Electric (9 kW)/Boiler	24.6	28.3	35	24.6	28.3	35	23.1	26.8	30	23.1	26.8	30
Electric (9 kW)/None	16.4	20.2	25	16.4	20.2	25	16.0	19.7	25	16.0	19.7	25
None, Non-electric/Boiler	12.7	15.5	20	12.7	15.5	20	12.3	15.0	20	12.3	15.0	20
None, Non-electric/None	5.6	6.6	15	5.6	6.6	15	5.2	6.1	15	5.2	6.1	15

Model	P__042			P__051			P__057			P__065		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (12 kW)/Boiler	32.7	37.3	45	32.7	37.3	45	32.2	36.7	45	32.2	36.7	45
Electric (12 kW)/None	24.5	29.1	35	24.5	29.1	35	24.0	28.5	35	24.0	28.5	35
Electric (15 kW)/Boiler	36.8	41.8	50	36.8	41.8	50	35.8	41.2	50	35.8	41.2	50
Electric (15 kW)/None	28.1	33.6	40	28.1	33.6	40	27.6	33.0	40	27.6	33.0	40
None, Non-electric/Boiler	18.3	21.3	25	18.3	21.3	25	17.7	20.7	25	17.7	20.7	25
None, Non-electric/None	10.1	11.0	15	10.1	11.0	15	9.6	10.5	15	9.6	10.5	15

Model	P__076			P__087		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS
Electric (12 kW)/Boiler	37.6	42.2	50	37.6	42.2	50
Electric (12 kW)/None	29.4	34.0	40	29.4	34.0	40
Electric (15 kW)/Boiler	41.2	46.7	50	41.2	46.7	50
Electric (15 kW)/None	33.0	38.5	45	33.0	38.5	45
None, Non-electric/Boiler	23.2	26.2	30	23.2	26.2	30
None, Non-electric/None	15.0	16.0	20	15.0	16.0	20

Model	P__095			P__106			P__111		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (15 kW)/Boiler	40.4	45.8	50	40.4	45.8	50	40.4	45.8	50
Electric (15 kW)/None	32.3	37.7	45	32.3	37.7	45	32.3	37.7	45
Electric (24 kW)/Boiler	51.3	59.4	70	51.3	59.4	70	51.3	59.4	70
Electric (24 kW)/None	43.1	51.2	60	43.1	51.2	60	43.1	51.2	60
None, Non-electric/Boiler	22.4	25.3	30	22.4	25.3	30	22.4	25.3	30
None, Non-electric/None	14.2	15.1	20	14.2	15.1	20	14.2	15.1	20

Model	P__119			P__127			P__136		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (24 kW)/Boiler	57.0	65.1	80	57.0	65.1	80	57.0	65.1	80
Electric (24 kW)/None	48.8	57.0	70	48.8	57.0	70	48.8	57.0	70
Electric (30 kW)/Boiler	64.2	74.2	90	64.2	74.2	90	64.2	74.2	90
Electric (30 kW)/None	56.0	66.0	80	56.0	66.0	80	56.0	66.0	80
None, Non-electric/Boiler	28.1	31.1	35	28.1	31.1	35	28.1	31.1	35
None, Non-electric/None	19.9	20.9	25	19.9	20.9	25	19.9	20.9	25

Chilled Water Systems = 480V/ 3Ph/ 60Hz continued

Model	P__ 147			P__ 153			P__ 180		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option									
Electric (30 kW)/Boiler	63.1	73.0	90	63.1	73.0	90	72.9	83.5	100
Electric (30 kW)/None	55.0	64.9	80	55.0	64.9	80	64.8	75.3	90
None, Non-electric/Boiler	27.0	30.0	35	27.0	30.0	35	36.8	40.4	50
None, Non-electric/None	18.9	19.8	25	18.9	19.8	25	28.7	30.2	35

- FLA is based on full load current of individual components that result in maximum electrical load condition during unit normal operation.
- FLA = Full Load Amps MCA = Minimum Circuit Ampacity MFS = Maximum Fuse Size

Chilled Water Systems = 575V/ 3Ph/ 60Hz

Model	P__012			P__015			P__028			P__034		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (6 kW)/Boiler	15.7	17.8	20	15.7	17.8	20	15.4	17.4	20	15.4	17.4	20
Electric (6 kW)/None	9.8	11.9	15	9.8	11.9	15	9.5	11.5	15	9.5	11.5	15
Electric (9 kW)/Boiler	18.7	21.6	25	18.7	21.6	25	18.4	21.2	25	18.4	21.2	25
Electric (9 kW)/None	12.8	15.7	20	12.8	15.7	20	12.5	15.3	20	12.5	15.3	20
None, Non-electric/Boiler	9.6	11.8	15	9.6	11.8	15	9.3	11.4	15	9.3	11.4	15
None, Non-electric/None	3.7	4.4	15	3.7	4.4	15	3.4	4.0	15	3.4	4.0	15

Model	P__042			P__051			P__057			P__065		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (12 kW)/Boiler	25.5	29.1	35	25.5	29.1	35	25.3	28.9	35	25.3	28.9	35
Electric (12 kW)/None	18.7	22.3	25	18.7	22.3	25	18.5	22.0	25	18.5	22.0	25
Electric (15 kW)/Boiler	28.5	32.9	40	28.5	32.9	40	28.3	32.6	40	28.3	32.6	40
Electric (15 kW)/None	21.7	26.0	30	21.7	26.0	30	21.5	25.8	30	21.5	25.8	30
None, Non-electric/Boiler	13.5	15.7	20	13.5	15.7	20	13.3	15.5	20	13.3	15.5	20
None, Non-electric/None	6.6	7.2	15	6.6	7.2	15	6.4	7.0	15	6.4	7.0	15

Model	P__076			P__087		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS
Electric (12 kW)/Boiler	28.7	32.3	40	28.7	32.3	40
Electric (12 kW)/None	21.9	25.5	30	21.9	25.5	30
Electric (15 kW)/Boiler	31.7	36.1	45	31.7	36.1	45
Electric (15 kW)/None	24.9	29.2	35	24.9	29.2	35
None, Non-electric/Boiler	16.7	18.9	20	16.7	18.9	20
None, Non-electric/None	9.8	10.4	15	9.8	10.4	15

Model	P__095			P__106			P__111		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (15 kW)/Boiler	31.4	35.7	40	31.4	35.7	40	31.4	35.7	40
Electric (15 kW)/None	24.6	28.9	35	24.6	28.9	35	24.6	28.9	35
Electric (24 kW)/Boiler	40.5	47.0	50	40.5	47.0	50	40.5	47.0	50
Electric (24 kW)/None	33.6	40.2	50	33.6	40.2	50	33.6	40.2	50
None, Non-electric/Boiler	16.4	18.6	20	16.4	18.6	20	16.4	18.6	20
None, Non-electric/None	9.5	10.1	15	9.5	10.1	15	9.5	10.1	15

Model	P__119			P__127			P__136		
Reheat/Humidifier Option	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Electric (24 kW)/Boiler	44.0	50.6	60	44.0	50.6	60	44.0	50.6	60
Electric (24 kW)/None	37.1	43.7	50	37.1	43.7	50	37.1	43.7	50
Electric (30 kW)/Boiler	50.0	58.1	70	50.0	58.1	70	50.0	58.1	70
Electric (30 kW)/None	43.1	51.3	60	43.1	51.3	60	43.1	51.3	60
None, Non-electric/Boiler	19.9	22.1	25	19.9	22.1	25	19.9	22.1	25
None, Non-electric/None	13.0	13.6	15	13.0	13.6	15	13.0	13.6	15

Chilled Water Systems = 575V/ 3Ph/ 60Hz continued

Model	P__ 147			P__ 153			P__ 180		
	FLA	MCA	MFS	FLA	MCA	MFS	FLA	MCA	MFS
Reheat/Humidifier Option									
Electric (30 kW)/Boiler	49.6	57.7	70	49.6	57.7	70	51.3	59.7	70
Electric (30 kW)/None	42.7	50.8	60	42.7	50.8	60	44.4	52.9	60
None, Non-electric/Boiler	19.5	21.7	25	19.5	21.7	25	21.1	23.8	25
None, Non-electric/None	12.6	13.2	15	12.6	13.2	15	14.3	15.2	20

- FLA is based on full load current of individual components that result in maximum electrical load condition during unit normal operation.
- FLA = Full Load Amps MCA = Minimum Circuit Ampacity MFS = Maximum Fuse Size

1. General

- 1.1 The intelligent precision air-conditioning system shall be a ClimateWorx P Series model _____.
- 1.2 The unit shall be designed specifically for telecommunication, computer and critical room environmental control with automatic monitoring and control of cooling, heating, humidifying, dehumidifying and air filtration functions.
- 1.3 The unit shall be self-contained, factory assembled and tested, arranged for **(down flow)/(up flow)** air delivery.
- 1.4 The system shall have a total NET cooling capacity of _____ kW(Btu/h) and a sensible cooling capacity of _____ kW(Btu/h) rated at an entering air temperature of ____°C (____°F) dry bulb and ____% relative humidity.
- 1.5 The system shall be designed to operate on a _____ V _____ ph _____ Hz electricity supply.

1.5.1 208 volt and 575 volt machines require the use of a transformer which is factory mounted and wired. The transformer adds 18-3/4" to the overall length of the machine. Other options such as humidifiers may share this extra compartment.

2. Mechanical Parts

2.1 *Cabinet*

- 2.1.1 The cabinet of the unit shall be constructed based on a frame and panel principle with removable panels for maximum service access. ***Unit shall be 100 % front accessible for service and maintenance.***
- 2.1.2 The framework shall be fabricated by **14 gauge cold-formed steel** to provide maximum strength.
- 2.1.3 All panels shall be formed and welded from **18 gauge steel** and insulated with 25mm (1") thick, 24kg/m³ (1.5 lb/ft³) density fiber-glass insulation.

2.1.4 (Optional) Double-Skin Panels

- 2.1.4 The panels shall be internally lined with 20 gauge sheet metal, for ease of cleaning.
- 2.1.5 All service panels shall be hinged and locked with ¼-turn captive fasteners to facilitate quickly and easily internal access.
- 2.1.6 The entire unit shall be finished with epoxy powder paint to ensure proper surface adhesion. The color of the panels shall be Canatal standard off-white.
- 2.1.7 The cabinet is arranged for right hand side pipe access (when facing unit).

- 2.1.8 (Optional) The cabinet shall be arranged for left hand pipe access (when facing unit)
- 2.1.9 The pipe access shall be from the bottom on down flow units and top for up flow units.
- 2.1.10 (Optional) The pipe access shall be from the top on down flow units and from the bottom for up flow units. Bottom pipe access on up flow units requires a floor stand.

2.2 ***Blower and EC Motor***

- 2.2.1 The **BACKWARD INCLINED Direct Drive Plenum Fan**, single inlet, single width, centrifugal wheel with an **ELECTRICALLY COMMUTATED** external rotor motor, shall have a static and dynamic balance of the complete assembly. The fan shall operate from within the floor stand for optimum floor pressurization and energy efficiency. The fans shall ship in a raised up position inside the cabinet of the machine and shall PIVOT into the floor stand in the field after the machine is installed. The minimum floor height shall be 18". The fan must be operable in the raised position for test purposes.
- 2.2.2 A floor stand with OSHA guards is required and the OSHA guard shall not exceed 18" when the floor stand is higher to allow pipes to run under the floor stand without special modifications.
- 2.2.3 No jacks or lifting rigs shall be required to raise and lower the fans.
- 2.2.4 (Optional) Fans shall be housed within the machine and shall slide out the front of the machine where raised floor height is less than 18".
- 2.2.5 The complete wheel and motor assembly shall be mounted on resilient neoprene mountings for vibration isolation.
- 2.2.6 Electronic commuted motors (EC motors) are DC motors with shunt characteristics. Contrary to the conventional DC motors with mechanical commutation, no wear and tear elements such as collectors and carbon brushes are required. They are substituted by maintenance-free electronic circuitry in the EC controller. EC motors are characterized by their high efficiency and optimal open-/closed-loop control. An electronic reversal of the motor's direction of rotation is possible.
- 2.2.7 **Rotor** - A rotor with permanent magnets replaces the short-circuit armature. An external electronic commutating unit, the so-called EC-Controller, provides for the electronic commutation. The EC-Controller provides the windings with electrical current so that, the motor rotates continuously and quietly.
- 2.2.8 **Speed control** - Method of fan speed control shall be attained by an analog signal from 0 to 10 volts DC. The speed control offers continuously variable control when connected to an external potentiometer (Accessory). The EC-controller has an internal potentiometer to simplify the initial operation of the fan .

2.3 **Filters**

- 2.3.1 The filter section shall be an integral part of the system, located at the entrance of return air path, except PCD180 and should be serviceable from the top (down flow) and bottom (up flow) of the unit. Face velocity shall not exceed _____ FPM. PCD180 requires an external Plenum and Filter Box on top of the machine. This Plenum and Filter Box is factory assembled and shipped loose for field installation. See 2.3.5
- 2.3.2 The filter section shall have the provision to house 102 mm (4") high efficiency filters.
- 2.3.3 **Standard 4" Filters** - Standard pleated filter is 4" deep, MERV 8. (30-45% ASHRAE 52.1)
- 2.3.4 **(Optional)** High efficiency pleated filter is 4" deep, MERV 11, (60-65% ASHRAE 52.1)
- 2.3.5 **(Optional)** Plenum and Filter Box extends the top of the machine by 36". The Plenum and Filter box shall accept up to six inches of filters and shall have hinged access doors for filter access that match the appearance of the front doors of the machine. The Plenum and Filter Box improves the overall unit efficiency by improving the box losses by allowing more room for air to transition within the machine. The Plenum and Filter Box is factory assembled and shipped loose for field installation.
- 2.3.6 **(Optional)** Plenum and Filter Box Extensions are available in six inch increments. These extensions mount on top of the Plenum and Filter Box. The extensions are shipped knocked down and require field assembly and installation. The Extensions match the finish of the machine.

2.4 **(Optional) Reheat**

- 2.4.1 An **electric resistance heater** shall be provided to offset the sensible cooling effect during dehumidification mode.
- 2.4.2 The heating element shall have a total heating capacity of _____ kW _____ (Btu/h).
- 2.4.3 The electric heaters shall be **Silicon Controlled Rectifier (SCR) controlled**, with an extruded aluminum heat sink, to prevent room temperature gradient from exceeding 1.5°C (2.7°F) in 10 minutes.
- 2.4.4 The heating element shall be of low density, tubular finned construction with a non-corrosive metal sheath.
- 2.4.5 The heating element shall be electrically and thermally protected.
- 2.4.6 Heater shall hinge out of the way for shipping on units with fans that are to be lowered into the floor stand. Once fans are lowered, heaters are rotated up and hooked into normal operating position. A locking screw holds the heaters in the normal position.

(Optional) Hot Water Reheat

- 2.4.7 The hot water reheat coil shall have copper tubes and aluminum fins. The hot water coil shall be factory pre-piped with a two way modulating control valve.

(Optional) Steam Reheat

2.4.8 The steam reheat coil shall have copper tubes and aluminum fins. The steam coil shall be factory pre-piped with a two way modulating control valve.

2.4.9 The steam reheat coil shall be low pressure steam (14 psig)

2.5 (Optional) Humidifier Adds 18-3/4" to Unit Length

2.5.1 The optional humidifier shall be housed in a separate compartment which allows it to be serviced without disturbing the air flow. Humidifiers mounted in the air stream are not acceptable and humidifiers that disrupt air flow for routine inspection and service are not acceptable.

2.5.2 Units with humidifiers shall be 100% front serviceable.

2.5.3 The humidifier shall be a self-contained **electrode boiler type** complete with water level control and auto-drain functions.

2.5.4 The humidifier shall have a steam generation capacity of _____ kg/h
_____ (lbs/h).

2.5.5 The humidifier shall be designed to operate on ordinary tap water and shall be equipped with automatic water supply and flushing system to reduce mineral precipitation.

2.5.6 The humidifier shall have an Auto-Adaptive control system to optimize water conductivity, control automatic drain/flush cycles, minimize energy waste and maximize cylinder life.

2.6 Chilled Water Coil**A-Frame Chilled Water Coil**

2.6.1 The chilled water coil shall be of A-frame configuration (except PCD180 which shall be a split slab configuration) with galvanized steel end plates and 3/8", 1/2" or 5/8" OD copper tubes expanded into aluminum fins. The coil shall be circuited for optimum pressure drop.

2.6.2 The coil shall have a face area _____ m² _____ (ft²) and _____ rows deep in the direction of the airflow and have a maximum face velocity of _____ m/s _____ (fpm).

2.6.3 The coil shall be mounted over a stainless steel, corrosion free condensate drain pan.

2.6.4 The coil shall require _____ l/s _____ (USgpm) of 7.2°C (45°F) chilled-water and the pressure drop across the coil shall not exceed _____ kPa _____ (ft-H₂O).

2.6.5 The unit chilled water hydronic system shall be rated for 150 psig.

2.6.6 (Optional) The unit chilled water hydronic system shall be rated for 400 psig.

Chilled-Water Valve

- 2.6.7 The chilled-water valve shall be a Characterized Control Valve, CCV, ball type with a permanent, parabolic shaped insert that provides equal percentage flow over the entire valve stroke. Two-way is standard and is rated for 580 psig, PN40. The valve has a 200 psig close off pressure rating.
- 2.6.8 (Optional) The three-way chilled-water valve shall be a Characterized Control Valve, CCV, ball type with a permanent, parabolic shaped insert that provides equal percentage flow over the entire valve stroke. The by-pass has a manual ball valve for balancing flow. The valve is rated for 580 psig, PN40. The valve has a 200 psig close off pressure rating.
- 2.6.9 (Optional) The chilled water valve shall be a Pressure Independent Characterized Control Valve, PICCV with a permanent, parabolic shaped insert that provides equal percentage flow over the entire valve stroke as well as maintaining flow regardless of the hydronic system pressure. Two-way is standard and is rated for 580 psig, PN40. The valve has a 200 psig close off pressure rating. PT ports are provided on the internal piping system across the valve for setting the flow rate.
- 2.6.10 The valve actuator shall be of an electric, non-spring type with a totally enclosed dust and water proof enclosure. The actuator shall modulate on a 0-10vdc signal where 0 volts the valve is closed and 10 volts the valve is open. The actuator is powered to open and closed. On power failure the valve will remain in the last position. The valve shall be fail-closed meaning that a loss of the 0-10 vdc signal will cause the valve to drive closed. The actuator shall have a manual operation function that allows the valve to be opened by hand and the valve position shall be indicated by a pointer on the actuator. The stroke time of the valve shall be 60 to 90 seconds.
- 2.6.11 (Optional) The valve actuator shall be of an electric, spring type with a totally enclosed dust and water proof enclosure. The actuator shall modulate on a 0-10vdc signal where 0 volts the valve is closed and 10 volts the valve is open. The actuator is powered to open and closed. On power failure the valve will drive closed by the internal spring. The valve shall be fail-closed meaning that a loss of the 0-10 vdc signal will cause the valve to drive closed. The actuator shall have a manual operation function that allows the valve to be opened by hand and the valve position shall be indicated by a pointer on the actuator. The stroke time of the valve shall be 60 to 90 seconds.
- 2.6.12 (Optional) The chilled water system shall incorporate two chilled water coils for connection to two separate chilled water sources. Not all sizes are available in dual chilled water arrangement. The machine shall switch between sources based on information supplied via the BMS based on water temperature and flow status. The change over temperature is adjustable via the unit mounted microprocessor and the BMS. There is an adjustable time delay that allows both chilled water coils to be active when switching from one source to the other. The system shall allow the choice of which chilled water source is the primary source. When the primary system is restored the system will switch back automatically.

3. Control System

3.1 Microprocessor

- 3.3.3. The unit shall have a microprocessor based control system with automatic control and monitoring capability.
- 3.3.4. The **control system** shall use **Proportional + Integral + Derivative (PID)** control algorithm to maintain the temperature and humidity to a close tolerance of $\pm 0.5^{\circ}\text{C}$ (0.9°F) and 3%RH.
- 3.3.5. The control system shall have a fascia with 240x128 dot resolution touch screen, graphical LCD display located on the front panel of the unit for the display and programming of functions.
- 3.3.6. The control system shall display simultaneously the following information on the fascia.
 - Room temperature in $^{\circ}\text{C}/^{\circ}\text{F}$
 - Room humidity in %RH
 - Unit no.
 - On/Off mode indicator
 - Operating status
 - Active alarms
 - Date & time
- 3.3.7. System configuration and setting shall be stored in non-volatile memory and safeguarded in the event of power failure.
- 3.3.8. The system shall have at least three levels of programmable password access to prevent unauthorized changes of the system configuration and settings.
- 3.3.9. The control system shall have a built-in testing routine to simplify field testing and troubleshooting.
- 3.3.10. The system shall be capable of communicating with a Building Management System (BMS) via an RS485 serial link through an **Optional BMS Interface** (Communications Bridge) for remote monitoring function. The resident protocol shall be MODBUS RTU. Other popular open protocols are available and require an optional external gateway.
- 3.3.11. The system shall have a **manual disconnect switch of the locking type**, which can be accessed outside of the unit while the door is closed. High voltage electrical components will not be accessible unless the switch is off.

3.2 Control Features

- 3.2.1. System set points and configuration shall be programmable only when access is gained by entering the correct password.
- 3.2.2. The following programmable control parameters shall be provided for fine tuning the system to suit the site conditions and requirements:
 - Temperature set point
 - Temperature high limit
 - Temperature low limit
 - Cooling proportional band
 - Heating proportional band
 - Temperature dead band
 - Relax temperature dead band
 - Temperature integral action time
 - Temperature Derivative function
 - Humidity set point
 - Humidity high limit
 - Humidity low limit
 - Humidifying proportional band

- Dehumidifying proportional band
- Humidity derivative function
- Humidity dead band
- Relax humidity dead band
- Humidity integral action time
- EC fan normal speed
- EC fan back up speed
- Chilled water change over temperature
- Chilled water change over time delay

3.2.3. The control system shall have the following programmable On/Off control mode options:

- “Local” mode allows unit on/off control via the “I/O” key on the display
- “Remote” mode allows unit On/Off control via a switched input
- “Timer” mode allows 4 event/day weekly automatic on/off control

3.2.4. A “Standby unit enable” input shall be provided to force the unit to start irrespective of the current On/Off status and On/Off mode setting.

3.2.5. For energy saving and extended system life, a “Relax” feature shall be provided in the “Timer” On/Off mode to allow wider temperature and humidity tolerances when the room is not operational.

3.2.6. The system shall have programmable, manual, or automatic restart option. A programmable startup delay shall be provided for the automatic restart option which allows multiple units to restart progressively when power resumes after a power failure.

3.2.7. The accumulated runtime of the following components shall be logged for energy analysis and planned maintenance:

- Fan
- Compressor
- Heaters
- Humidifier

3.2.8. Components shall be scheduled to activate sequentially to minimize inrush current.

3.2.9. The system shall have a temperature and humidity graph which shows the main temperature and humidity variation in the latest 24 hours. The data for the graph shall be logged in 15 minutes interval.

3.3 Alarms

3.3.1. The control system shall have the following standard alarms:

- High/Low temperature, 1 & 2
- High/Low humidity, 1 & 2
- High/Low voltage
- Filter dirty
- Fan overload
- Low airflow
- Compressor high pressure, 1/2
- Compressor low pressure, 1/2
- Compressor overload 1/2
- Heater overheat
- Humidifier Service
- Fire
- Liquid detected

3.3.2. All alarms shall have programmable reporting / response options which include :

- Polling enable / disable
- Unit shutdown
- Activate standby unit
- Activate common alarm output
- Log alarm event
- 4 warning sound selection

- 3.3.3. Alarm messages, when programmed, shall comprise text description and occurrence time.
- 3.3.4. Messages shall be ranked in the sequence of occurrence for fault analysis.
- 3.3.5. When a programmed alarm condition exists, the audible alarm shall sound and the common alarm output shall close until acknowledged. Active alarm record shall remain until the alarm condition is cleared.
- 3.3.6. A historical event log which maintains the latest 50 system events shall be provided. The text description and occurrence time of the following events shall be logged:

- Power failure
- Power restore
- Unit start
- Unit stop
- Alarm raised
- Alarm acknowledged
- Alarm cleared

3.4 *Co-Work, Multiple Units Configuration*

- 3.4.1. The units shall have **built-in** master and slave inter-networking capability, **Co-Work** which allows a combination of a maximum of 6 master or slave circuits to form a local area network.
- 3.4.2. Co-Work operates on I²C protocol over a field installed communication bus separate from the BMS RS 495 network.
- 3.4.3. To achieve the tightest control tolerance and minimize component on/off, the units shall have a built in **control step expansion** algorithm which uses a multi-step control scheme to coordinate the on/off of cooling, heating, humidifying and dehumidifying steps in multiple units.
- 3.4.4. The units shall have a **sequential load activation control** algorithm to minimize the inrush current when components among multiple units are activated at the same time.
- 3.4.5. The control of a slave circuit shall not be limited to any particular master unit **controller redundancy**. Any master unit can control any slave. In case of a master unit failure or scheduled service, the remaining master units in the same network shall automatically take over the control.
- 3.4.6. The units shall have a **duty sharing control** algorithm which helps maintain the required number of duty units and balancing runtime by automatically coordinating units on/off and providing time based auto-changeover.
- 3.4.7. The units shall have a **data synchronization feature**. Operation data such as set points, time schedule, and alarm status shall be automatically synchronized among all the units under the same local area network.
- 3.4.8. To avoid hunting among multiple units, the units shall have a **control value averaging** algorithm which allows units to exchange sensor readings and control the room based on the common desired average values. Units shall be capable of displaying the network temperature and humidity or the individual unit's temperature and humidity.

3.5 Remote Supervisory Panel

- 3.5.1. Canatal M52 remote monitoring and supervisory panel allows monitoring and control of up to 5 master units and 1 slave unit. Panel is connected to the Co-Work I²C communication bus.

3.6 Communication Cable

- 3.6.1. Four twisted wire pairs, unshielded category 5, 22 AWG similar to Alpha Wire cable number 9504C.
- 3.6.2. Communication Shielding , ½ inch metal EMT or flexible metal BX conduit.
- 3.6.3. Filters(Ferrite) Broad Band EMI Ferrite equivalent to Steward Inc 28A2024-0A0
- 3.6.4. RC Network Arc Suppressor, 0.1uF, 100 ohm , or equivalent to SB Electronics

4. Optional Accessories

4.1. Auto Transfer Switch (ATS) with Dual Primary Power Sources Option

- 4.5.1. The Auto Transfer Switch (ATS) monitors the availability of power from either source to the unit using phase monitor devices and automatically switches to the secondary source of power when the primary source fails using mechanically and electrically interlocked contactors.
- 4.3.1. A selector switch is provided in the electrical panel to allow the operator to choose either A grid as primary and B grid as secondary or B grid as primary and A grid as secondary. Once the primary source of power is restored the ATS will automatically switch back to primary power (i.e. **Automatic transfer switch shall auto reset on a return to normal/clean power**). Independent and interlocked timing relays ensure the components in the unit shut down during the changeover. They allow the microprocessor to perform the normal component sequencing to minimize the load on the power sources during the times of transfer and limit the stress on the components normally associated with transferring power under load.
- 4.3.2. The Auto Transfer Switch, (ATS) feature of the Canatal unit must be powered from two separate independent sources to function properly.
- 4.3.3. There are two non-fused disconnect switches in the electrical panel of the unit, one for the primary power source A and one for primary power source B.
- 4.3.4. 208 volt units may require side access when combined with other options. Please consult factory.

4.2. *Liquid Detection Options*

- 4.2.1. Liquid detection shall consist of a single point liquid sensor. Sensor wires directly into the microprocessor and includes 10 feet of wire for field placement.
- 4.2.2. Liquid detector shall consist of liquid cable sensor. Cable wires directly into the microprocessor and includes 10 feet of wire to extend to the bottom of the unit and 15 or 30 or 50 or 75 feet of sensing cable shall be supplied with the unit for field placement.
- 4.2.3. Remote liquid detection shall consist of **Single Zone Liquid Detection** with discrete alarm. Single Zone Liquid Detection shall detect and report the presence of water or any other conductive liquids. Unit shall be supplied with 15 feet of sensing cable.

4.3. *Floor Stand Options*

- 4.3.1. Floor stand with OSHA guard shall be a welded steel frame with corrosion resistant finish in heights from 18 to 24 inches (other heights available). The stands shall have adjustable legs for leveling with ± 1 inch of adjustment. OSHA guard shall allow for the lowering of the fans into the floor stand and shall prevent anyone from touching the fans. Guards are factory installed and have access holes for water piping and power to pass through the guard. The OSHA guard shall not exceed 18" when the floor stand is higher which allow pipes to run under the floor stand without special modifications. No jacks or lifting rigs shall be required to raise and lower the fans.
- 4.3.2. Floor stand shall be a welded steel frame with corrosion resistant finish in heights from 12 to 24 inches (other heights available). The stands shall have adjustable legs for leveling with ± 1 inch of adjustment.
- 4.3.3. A turning vane shall be provided for down discharge units. Turning vane shall incorporate a stiffening hem at the front and shall be insulated with $\frac{1}{4}$ " foam insulations.
- 4.3.4. The floor stand shall be enclosed on three sides and shall have front discharge grilles to all for air distribution over the floor. The floor stand shall have cosmetic covers on each end which match the finish of the unit panels and are removable for pipe and power access. Floor stand shall be a welded steel frame with corrosion resistant finish in heights from 12 to 24 inches (other heights available). The stands shall have adjustable legs for leveling with ± 1 inch of adjustment. A turning vane shall be incorporated to reduce the air side pressure drop. Turning vane shall incorporate a stiffening hem at the front and shall be insulated with $\frac{1}{4}$ " foam insulations.
- 4.3.5. Floor stand shall be seismically rated.

4.4. *Discharge Plenum Option*

- 4.4.1. Factory plenum matches unit and allows up flow units to supply air directly to space. Plenum has front double deflection grilles and is internally insulated.

4.5. *Firestat Option*

- 4.1.1. Factory mounted and wired firestat will shut the unit down in the event of high heat detection. If programmed it shall generate a fire alarm on the microprocessor.

4.6. *Smoke Detector Option*

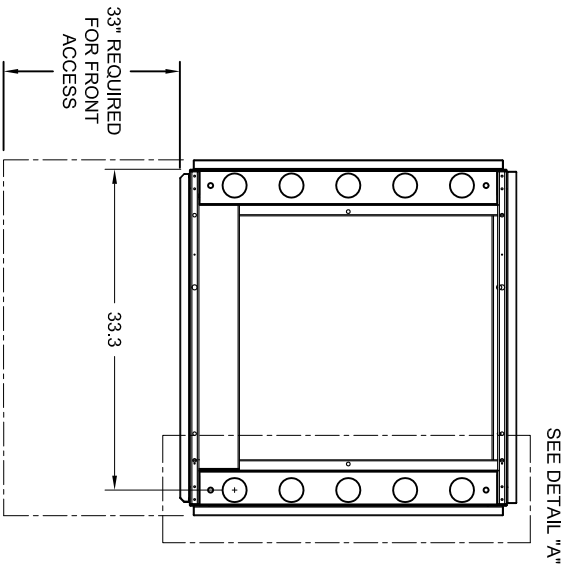
- 4.1.1. Smoke detector is factory mounted and wired to shut unit down in the event of the presence of smoke. If programmed it shall generate a fire alarm on the microprocessor.

4.7. *Condensate Pump Options*

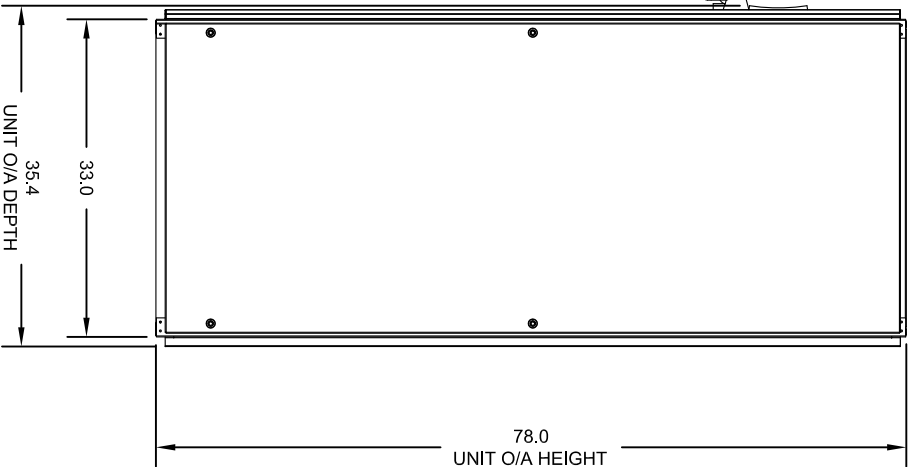
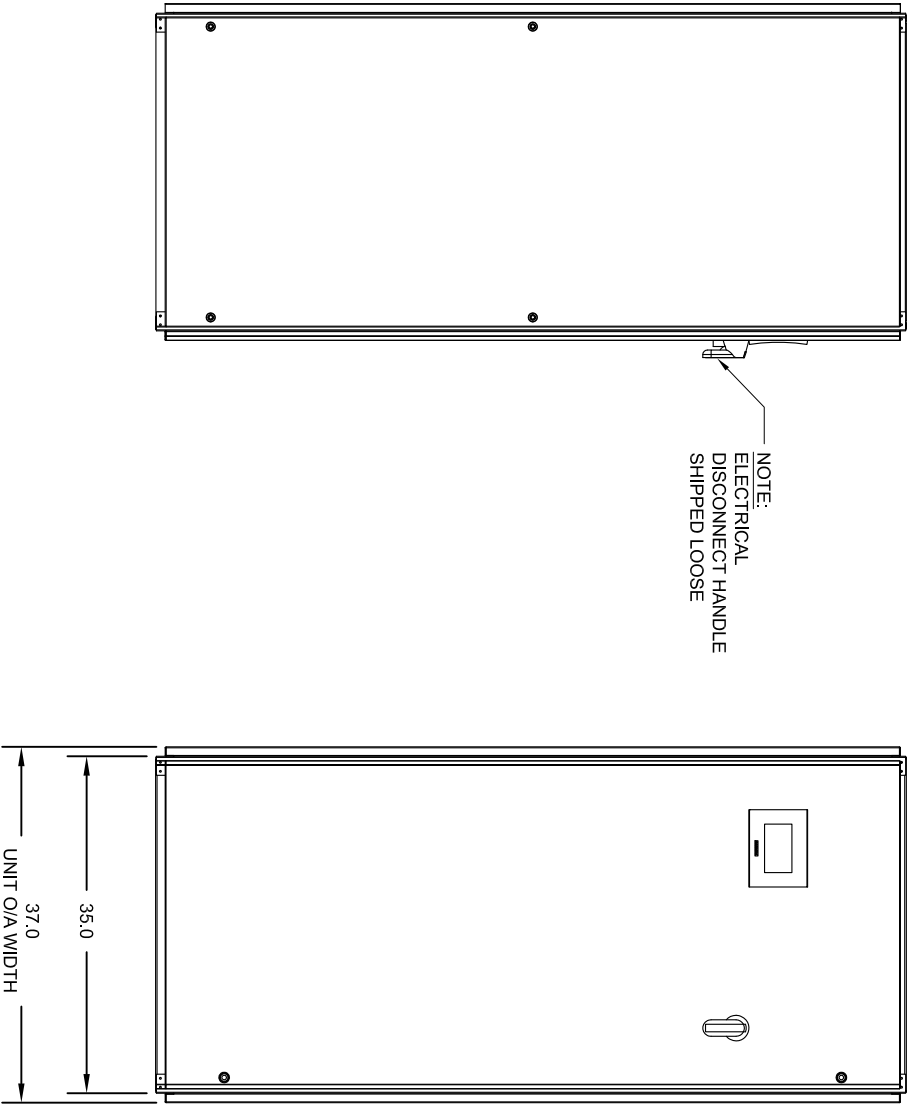
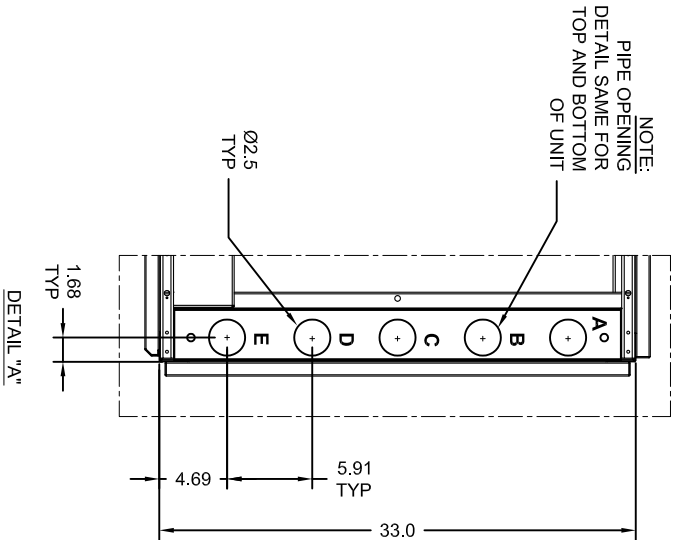
- 4.7.1. Condensate pump shall remove condensate from evaporator and humidifier when a drain is not available nearby. Pump is shipped loose for field installation. Optional factory mounted and wired pumps are available. Pump shall be capable of 37 GPH at 20' of head.
- 4.7.2. Condensate pump shall remove condensate from evaporator and humidifier when a drain is not available nearby. Pump is shipped loose for field installation. Optional factory mounted and wired pumps are available. Pump shall be capable of 180 GPH at 24' of head.

4.8. *Isolation Damper Option*

- 4.7.1. Gravity operated isolation dampers shall be available for units with drop down fans to prevent back flow from the floor when the unit is off or to prevent short circuiting of air in the unlikely event that a fan stops. Dampers are shipped loose and field installed after fans are lowered into positions.

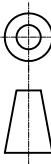


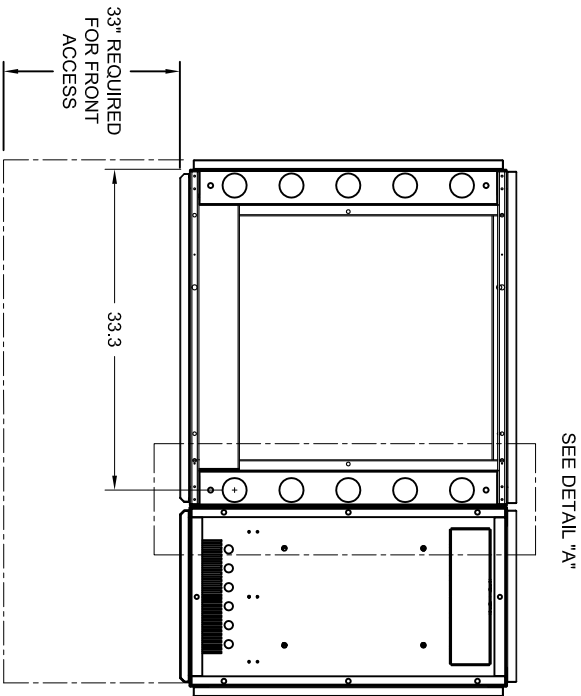
PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 1 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 1 1/8" - RETURN



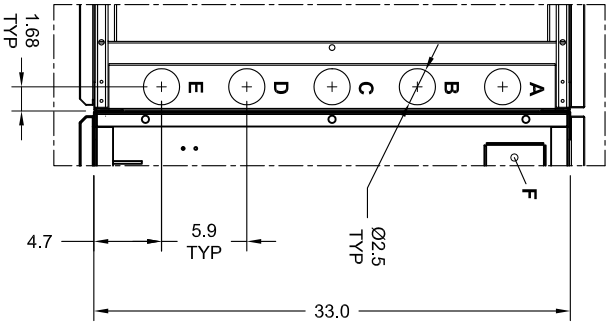
NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE

NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

APPROVALS		ENGINEERING	GJN	DATE	MAY 11/09
THIS DRAWING IS THE PROPERTY OF CANATAL INTERNATIONAL INC. AND MUST NOT BE COPIED OR DISCLOSED FOR ANY PURPOSE EXCEPT AS AUTHORIZED IN WRITING BY CANATAL INTERNATIONAL INC.					
TOLERANCES U.M.O.				IMPERIAL UNITS	
FRACTIONAL : ± 1/32					
ANGULAR : ± 0.5°					
X.XX : ± 0.06"					
X.XXX : ± 0.032"					
X.XXXX : ± 0.0050"					
THIRD ANGLE PROJECTION					
TOLERANCES ARE NOT ACCUMULATIVE					
MATERIAL / FINISH:		-		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994	
DRAWN	HSC	DATE: (MM-DD-YY)	MAY 11/2009		
 CANATAL International 2006 Incorporated					
TITLE: P-SERIES, PCD012, PCD015 CW, DOWNFLOW SUBMITTAL DRAWING					
SIZE	DWG. NO:	REV:			
B	SPDD-C	0			
SCALE: NTS		WT (lbs):	SHEET: 1 OF 1		

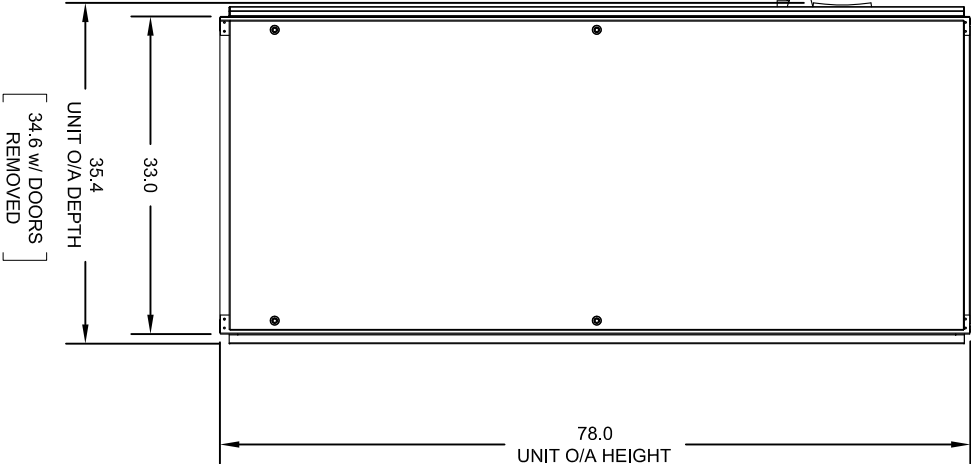
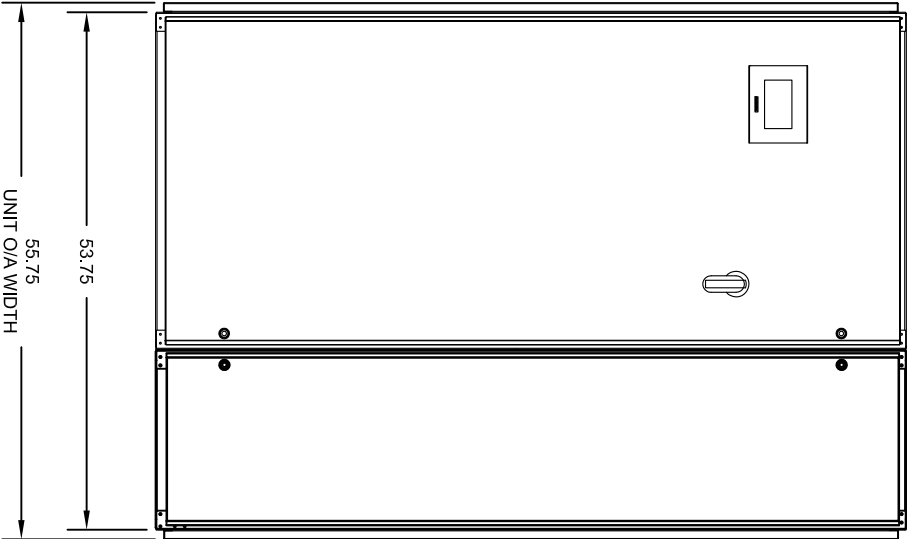
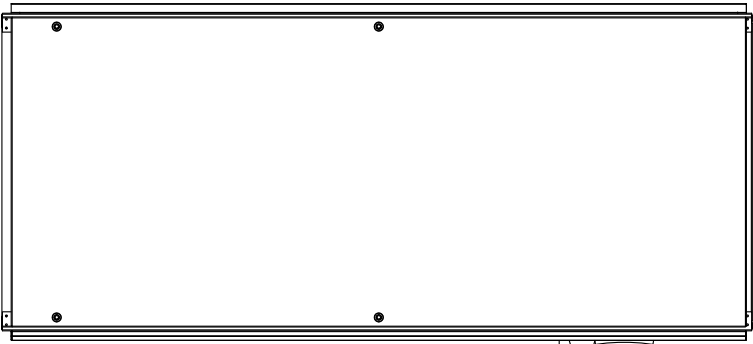


PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 1 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 1 1/8" - RETURN
F	= HUMIDIFIER WATER SUPPLY Ø 1/4"



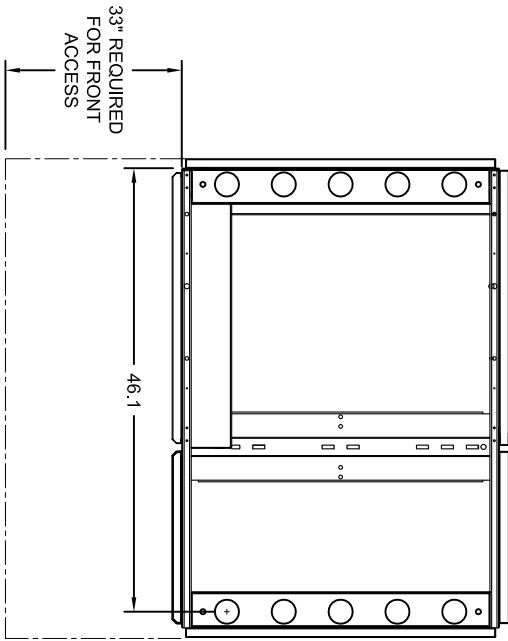
DETAIL "A"

NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE

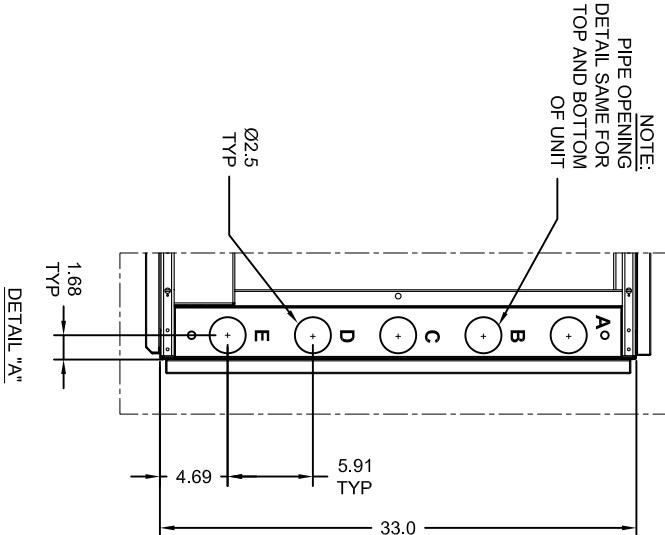


APPROVALS		ENGINEERING	GJN	DATE	MAY 11/09
THIS DRAWING IS THE PROPERTY OF CANATAL INTERNATIONAL INC. AND MUST NOT BE COPIED OR DISCLOSED FOR ANY PURPOSE EXCEPT AS AUTHORIZED IN WRITING BY CANATAL INTERNATIONAL INC.					
TOLERANCES UNQ.		IMPERIAL UNITS			
FRACTIONAL :	±	1/32			
ANGULAR :	±	0.8°			
X.XX :	±	0.06"			
X.XXX :	±	0.032"			
X.XXXX :	±	0.0050"	THIRD ANGLE PROJECTION		
TOLERANCES ARE NOT ACCUMULATIVE					
MATERIAL / FINISH:		INTERPRET GEOMETRIC TOLERANCING PER ASME Y14.5M-1994			
DRAWN:	HSC	DATE: (MM-DD-YY)	MAY 11/2009		
 International 2008 Incorporated					
TITLE:					
P-SERIES, PCD012, PCD015 CW, DOWNFLOW SUBMITTAL DRAWING					
SIZE	IDWG. NO:				REV:
B	SPDD-CA				0
SCALE:NTS	WGT (lbs):				SHEET:10F1

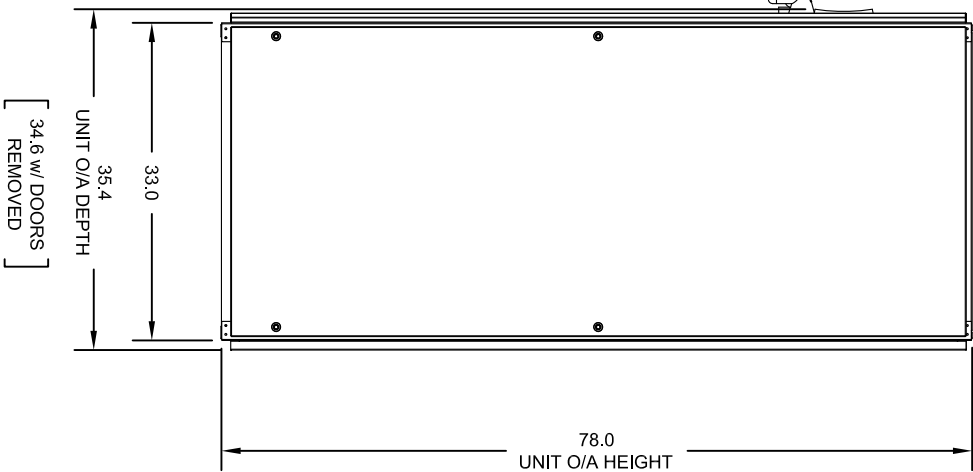
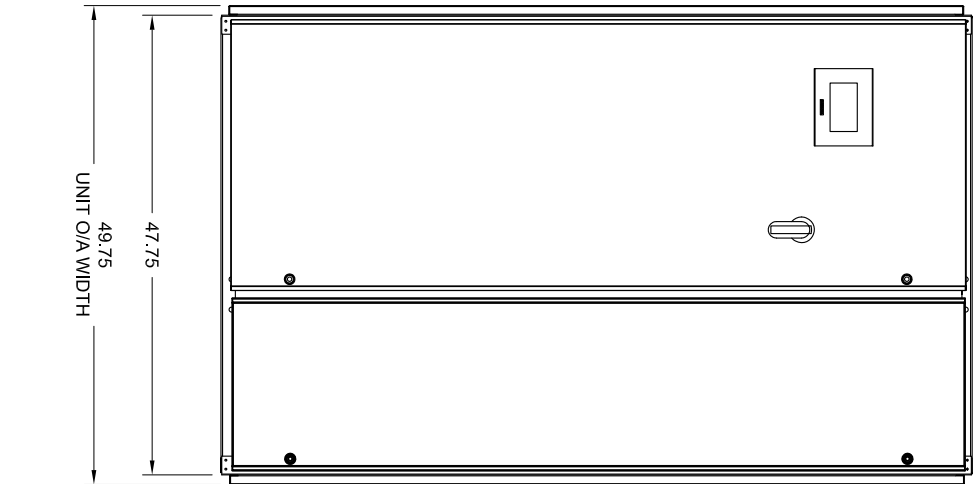
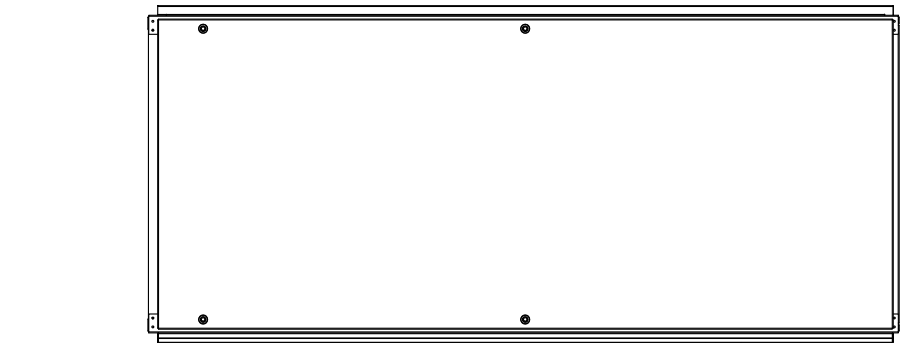
NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE



PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 1 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 1 1/8" - RETURN
F	= HUMIDIFIER WATER SUPPLY Ø 1/4"



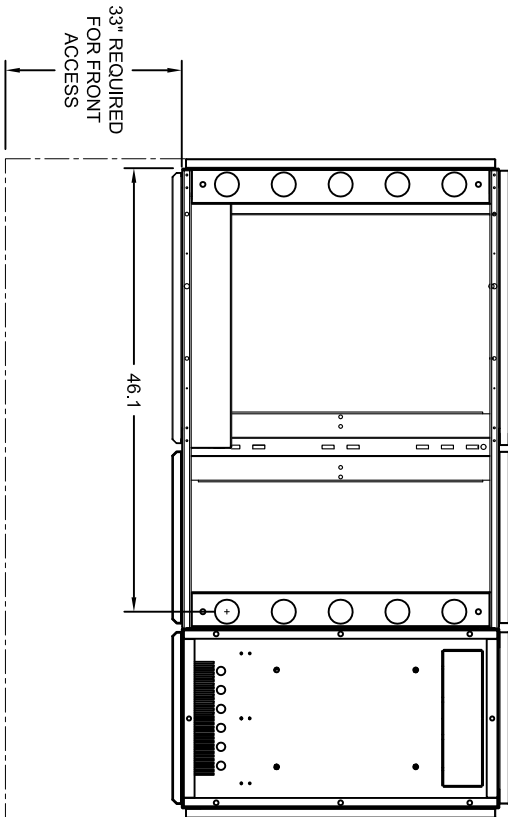
NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE



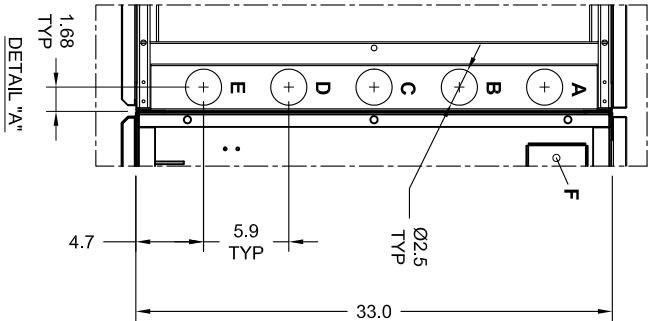
[34.6 w/ DOORS
REMOVED]

APPROVALS		ENGINEERING	GJN	DATE	MAY 11/09
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TOLERANCES UNQ.		IMPERIAL UNITS			
FRACTIONAL :	±	1/32			
ANGULAR :	±	0.8°			
X.XX :	±	0.06"			
X.XXX :	±	0.032"			
X.XXXX :	±	0.0050"	THIRD ANGLE PROJECTION		
TOLERANCES ARE NOT ACCUMULATIVE					
MATERIAL / FINISH:		INTERPRET GEOMETRIC TOLERANCING PER ASME Y14.5M-1994			
DRAWN	HSC	DATE: (MM-DD-YY)	MAY 11/2009		
 International 2006 Incorporated					
TITLE:					
P-SERIES, PCD028, PCD034 CW, DOWNFLOW SUBMITTAL DRAWING					
SIZE	DWG. NO:				REV:
B	SPDD-D				0
SCALE:NTS		WGT (lbs):	SHEET:10F1		

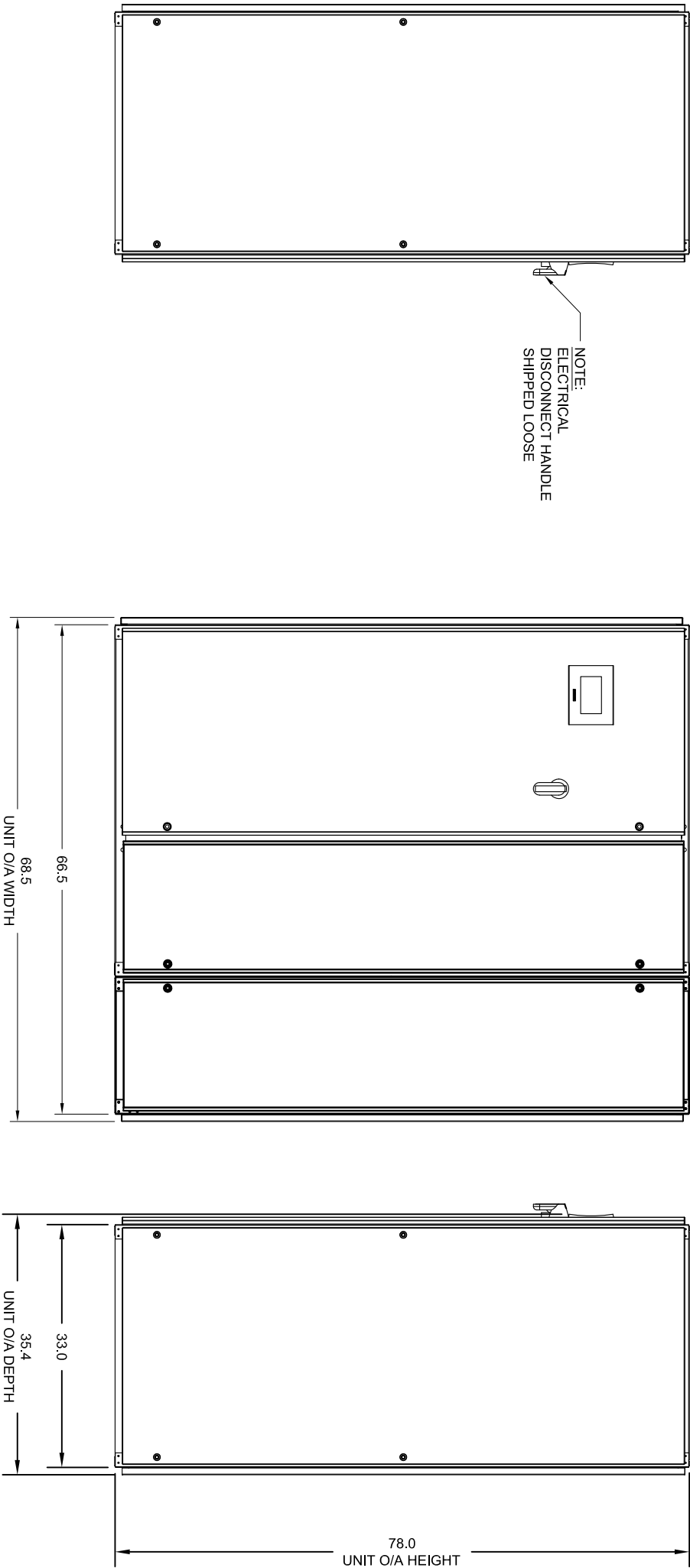
NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE



PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 1 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 1 1/8" - RETURN
F	= HUMIDIFIER WATER SUPPLY Ø 1/4"

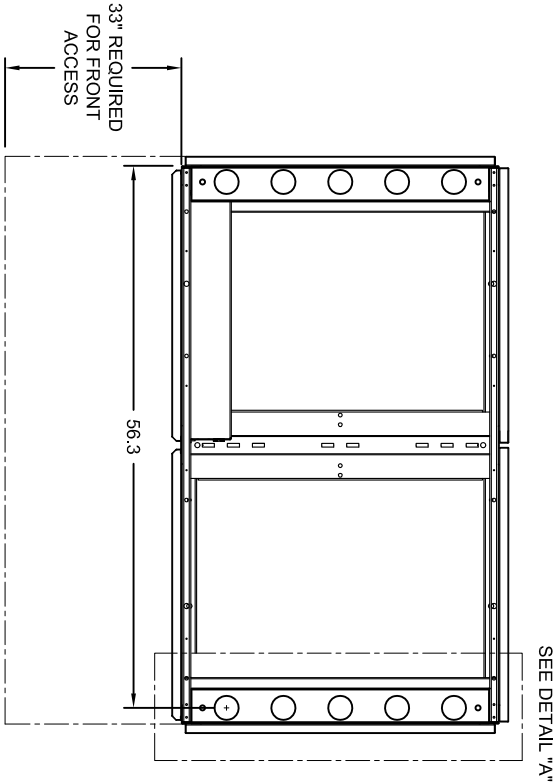


NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE

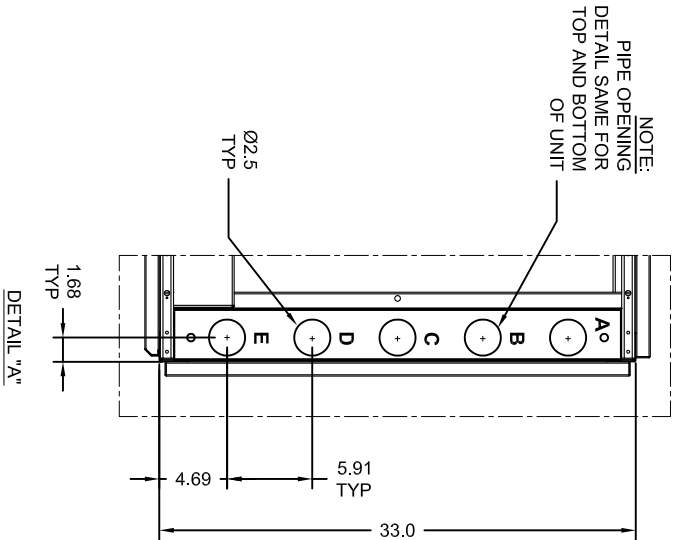


NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

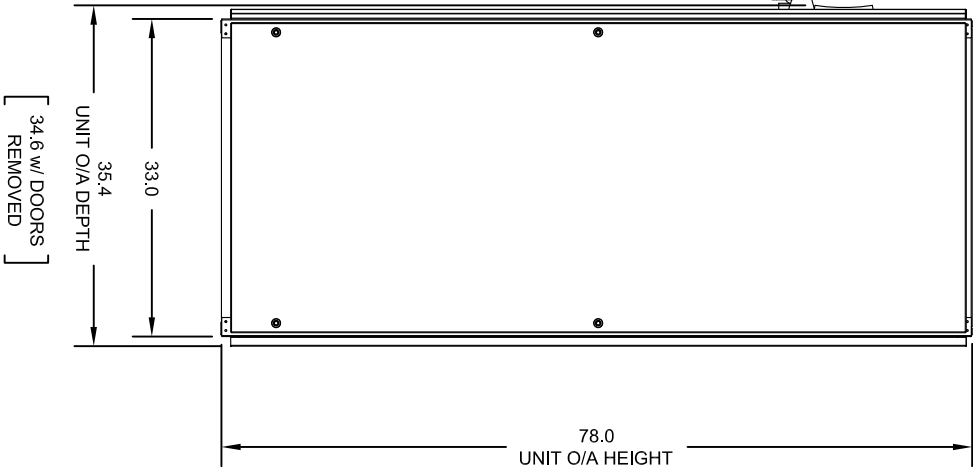
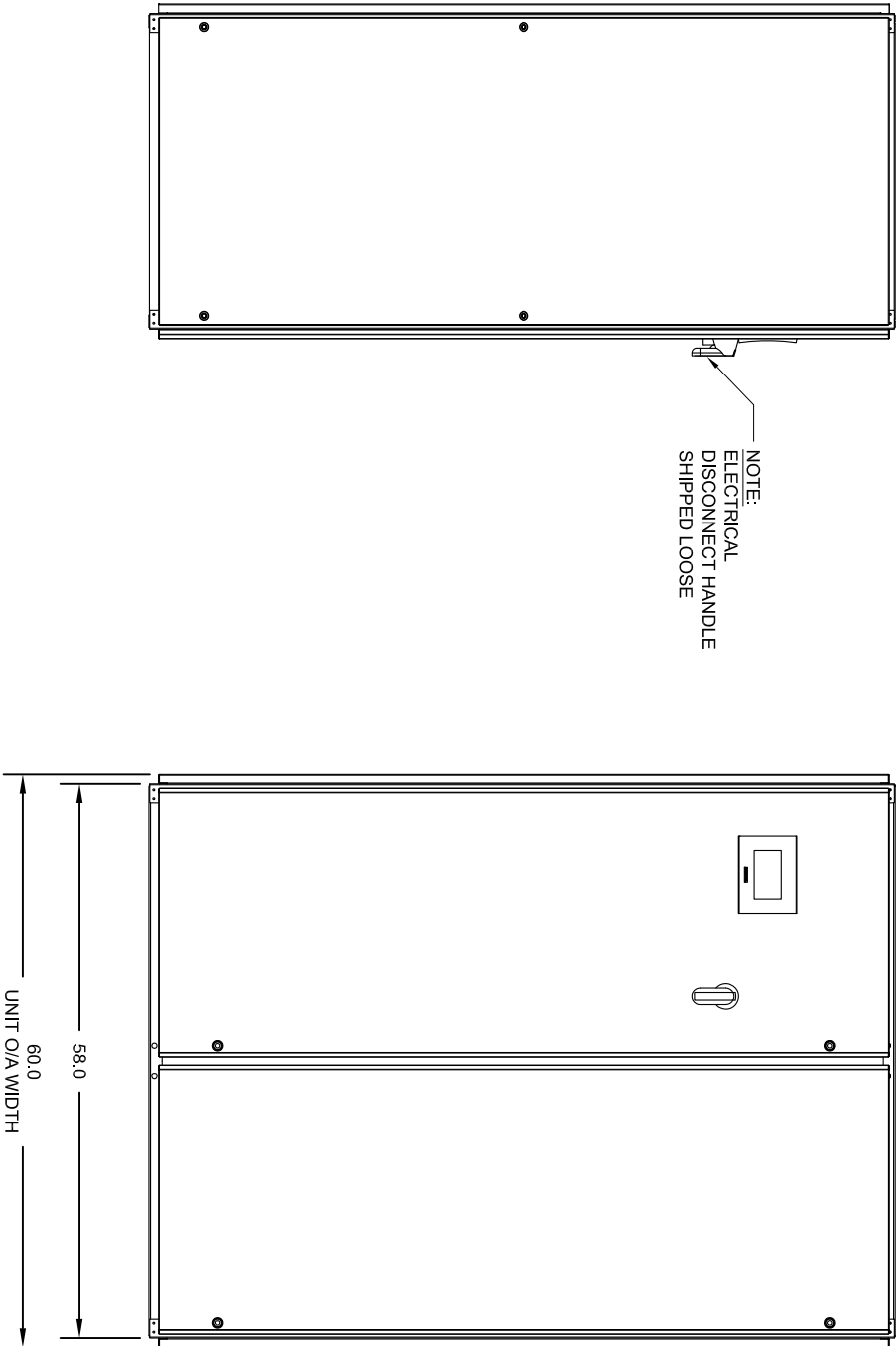
APPROVALS		ENGINEERING	GJN	DATE	MAY11/09
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TOLERANCES U.M.O.				IMPERIAL UNITS	
FRACTIONAL : ± 1/32					
ANGULAR : ± 0.8°					
X.XX : ± 0.06"					
X.XXX : ± 0.032"					
X.XXXX : ± 0.0050"					
THIRD ANGLE PROJECTION					
TOLERANCES ARE NOT ACCUMULATIVE					
MATERIAL / FINISH:		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994			
DRAWN:	HSC	DATE: (MM-DD-YY)	MAY11/2009		
 CANATAL International 2006 Incorporated					
TITLE:					
P-SERIES, PCD028, PCD034 CW, DOWNFLOW SUBMITTAL DRAWING					
SIZE	DWG. NO:				REV:
B	SPDD-DA				0
SCALE:NTS	WGT (lbs):				SHEET:10F1



PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 1 5/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 1 5/8" - RETURN

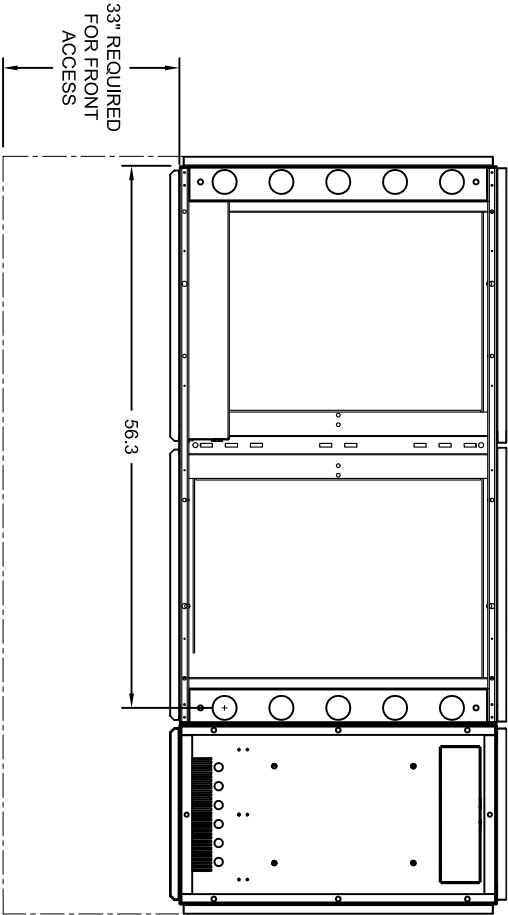


NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE

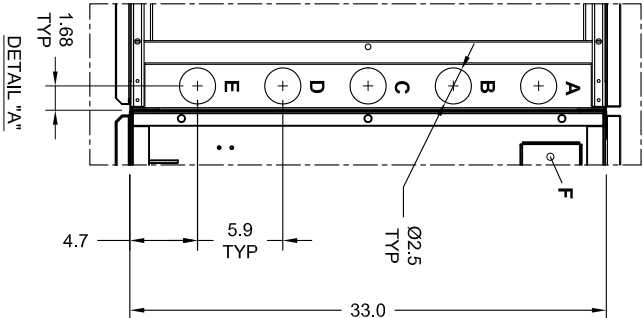


NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

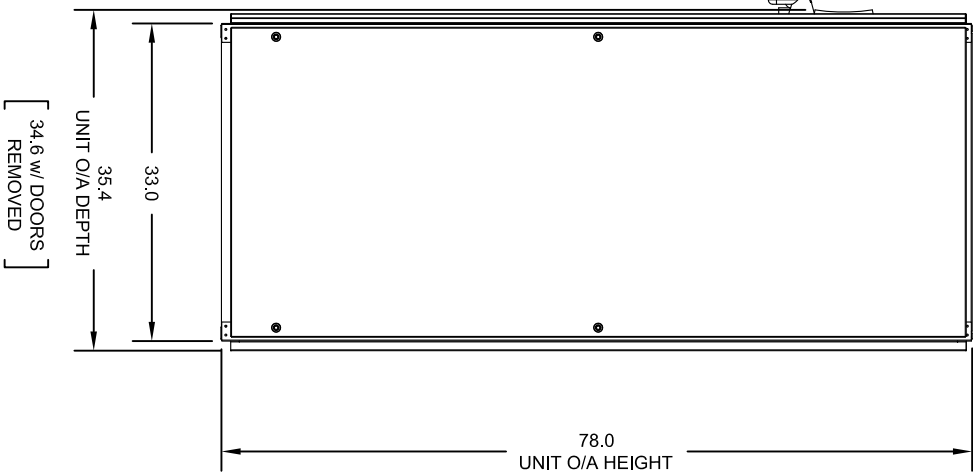
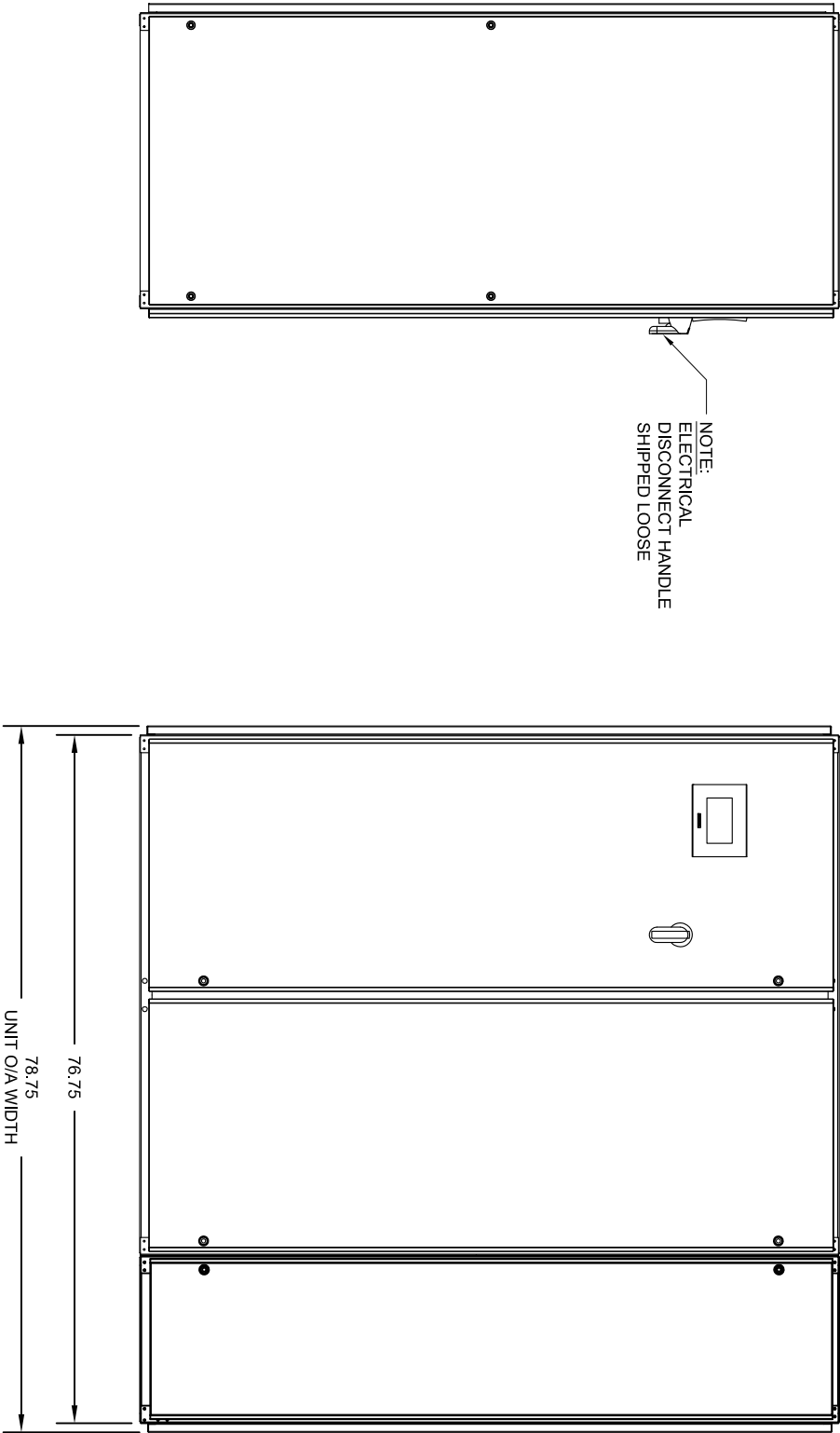
APPROVALS		ENGINEERING	GJN	DATE	MAY11/09
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TOLERANCES U.M.O.				IMPERIAL UNITS	
FRACTIONAL : ± 1/32					
ANGULAR : ± 0.8°					
X.XX : ± 0.06"					
X.XXX : ± 0.032"					
X.XXXX : ± 0.0050"				THIRD ANGLE PROJECTION	
TOLERANCES ARE NOT ACCUMULATIVE					
MATERIAL / FINISH:		-		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994	
DRAWN	HSC	DATE: (MM-DD-YY)	MAY11/2009		
 CANATAL International 2006 Incorporated					
TITLE: P-SERIES, PCD042, PCD051 CW, DOWNFLOW SUBMITTAL DRAWING					
SIZE	DWG. NO:				REV:
B	SPDD-E				0
SCALE: NTS		WT (lbs):	SHEET: 1 OF 1		



PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 1 5/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 1 5/8" - RETURN
F	= HUMIDIFIER WATER SUPPLY Ø 1/4"

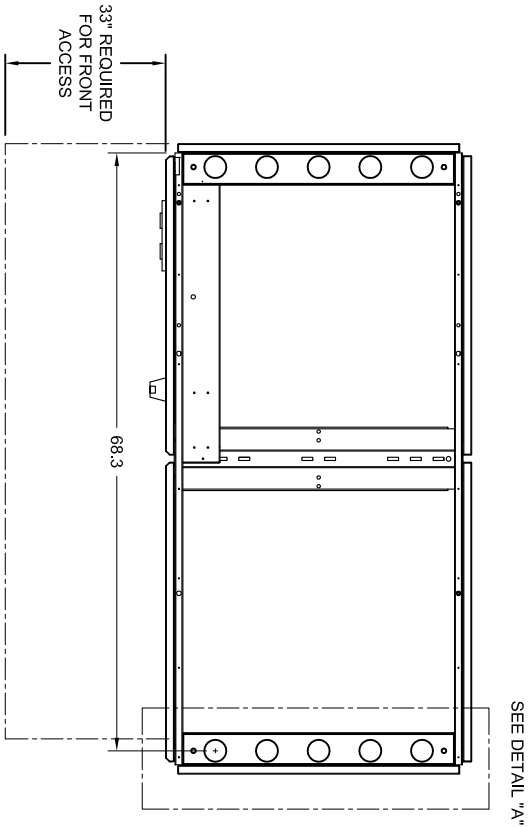


NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE

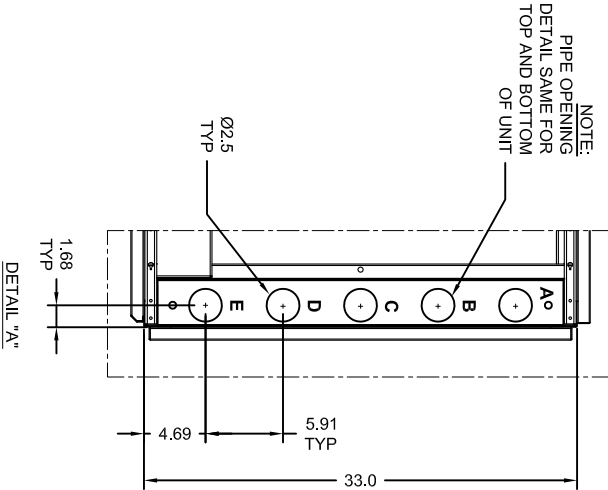


NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

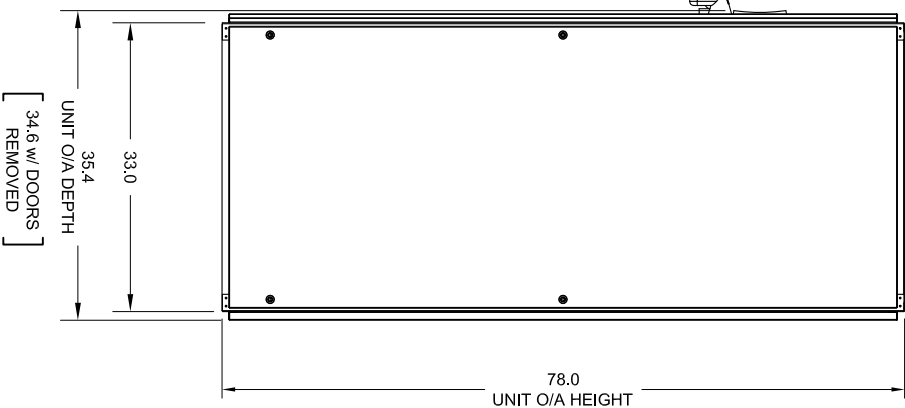
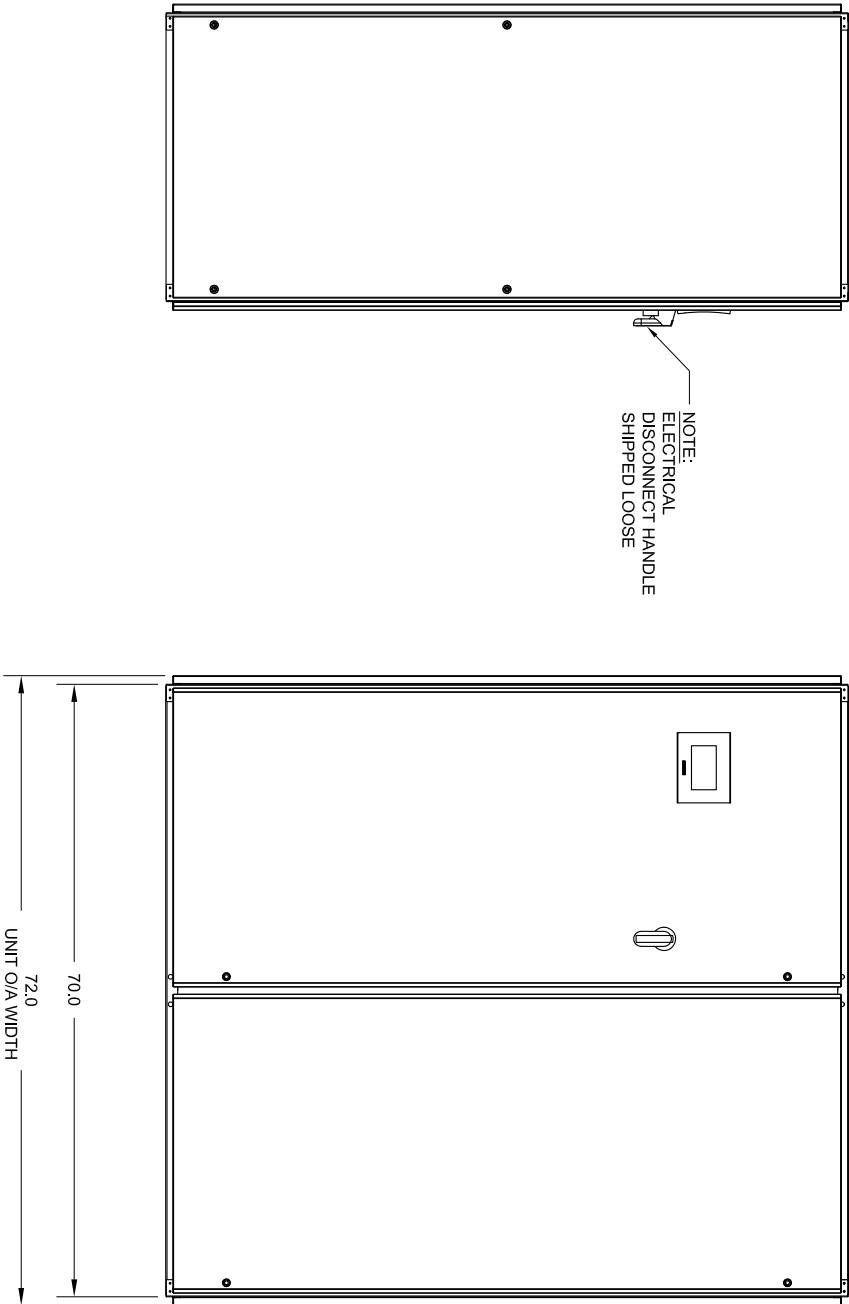
APPROVALS		ENGINEERING	GJN	DATE	MAY 11/09
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TOLERANCES UNQ.		IMPERIAL UNITS			
FRACTIONAL :	±	1/32			
ANGULAR :	±	0.8°			
X.XX :	±	0.06"			
X.XXX :	±	0.032"			
X.XXXX :	±	0.0050"	THIRD ANGLE PROJECTION		
TOLERANCES ARE NOT ACCUMULATIVE					
MATERIAL / FINISH:		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994			
DRAWN	HSC	DATE: (MM-DD-YY)	MAY 11/2009		
 CANATAL International 2006 Incorporated					
TITLE: P-SERIES, PCD042, PCD051 CW, DOWNFLOW SUBMITTAL DRAWING					
SIZE	DWG. NO:				REV:
B	SPDD-EA				0
SCALE:NTS	WT (lbs):				SHEET:10F1



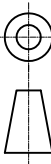
PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 1 5/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 1 5/8" - RETURN

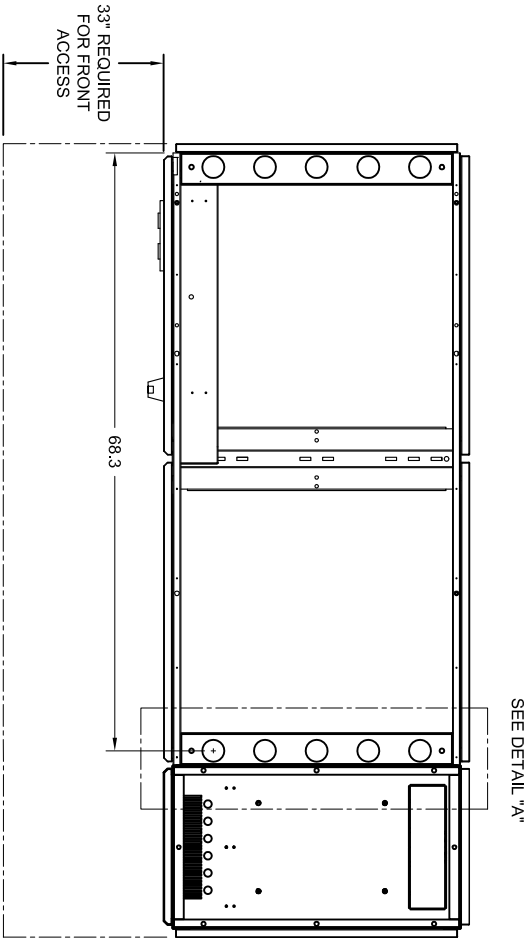


NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE

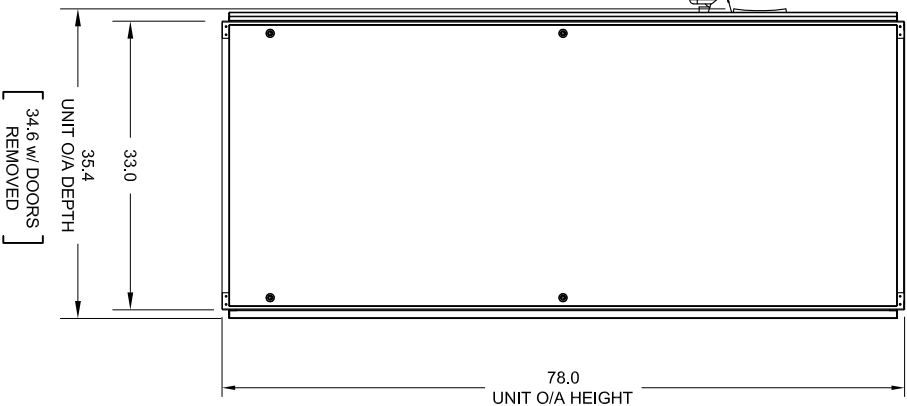
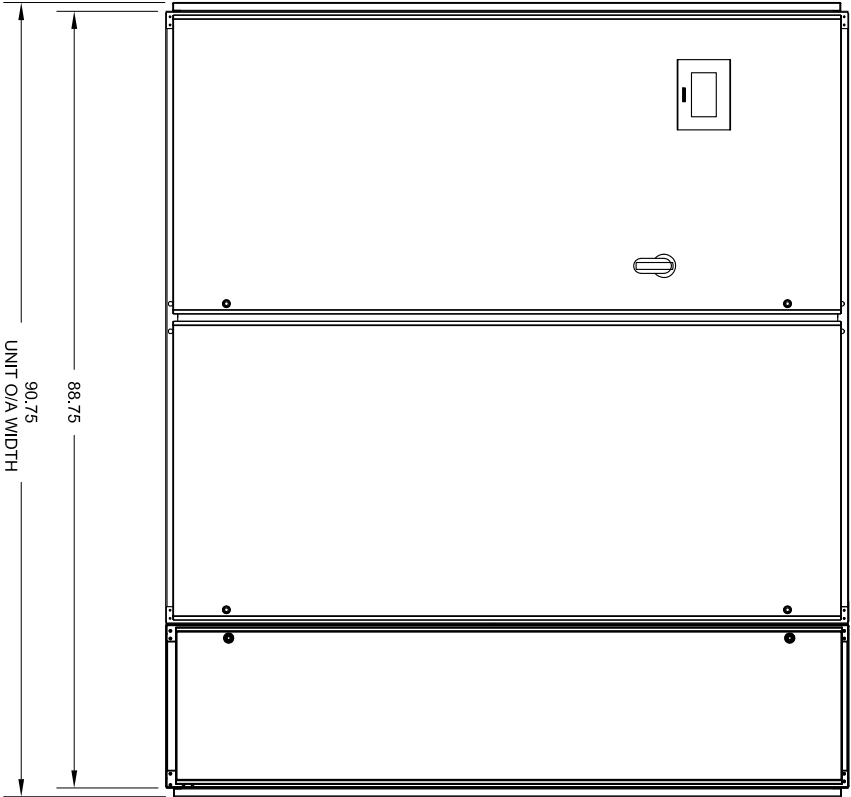
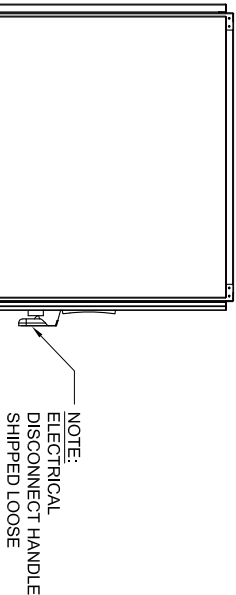
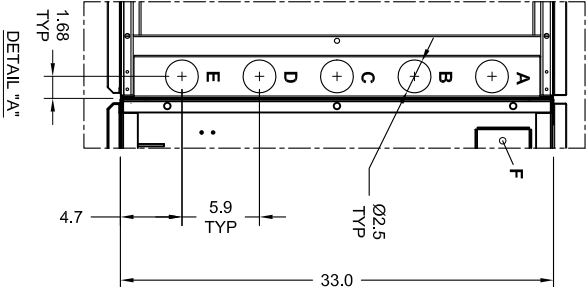


NOTE:
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APPROVALS		ENGINEERING	GJN	DATE	MAY 11/09
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TOLERANCES U.M.O.				IMPERIAL UNITS	
FRACTIONAL : ± 1/32					
ANGULAR : ± 0.8°					
X.XX : ± 0.06"					
X.XXX : ± 0.032"					
X.XXXX : ± 0.0050"					
THIRD ANGLE PROJECTION					
TOLERANCES ARE NOT ACCUMULATIVE					
MATERIAL / FINISH:		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994			
DRAWN	HSC	DATE: (MM-DD-YY)	MAY 11/2009		
 CANATAL International 2006 Incorporated					
TITLE: P-SERIES, PCD057, PCD065 CW, DOWNFLOW SUBMITTAL DRAWING					
SIZE	DWG. NO:	REV:			
B	SPDD-F	0			
SCALE: NTS		WT (lbs):	SHEET: 1 OF 1		

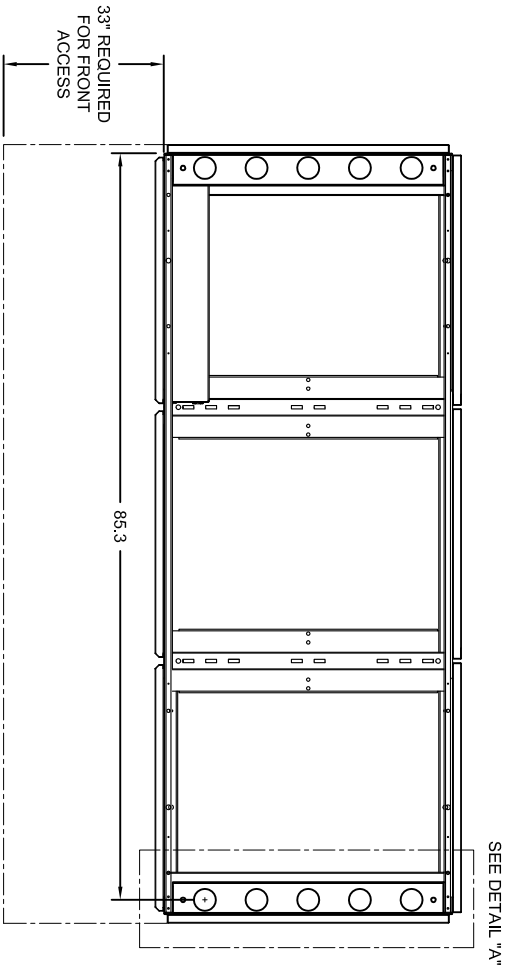


PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 1 5/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 1 5/8" - RETURN
F	= HUMIDIFIER WATER SUPPLY Ø 1/4"

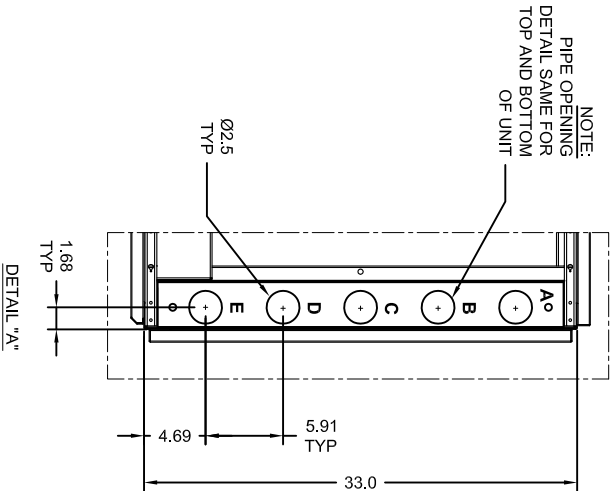
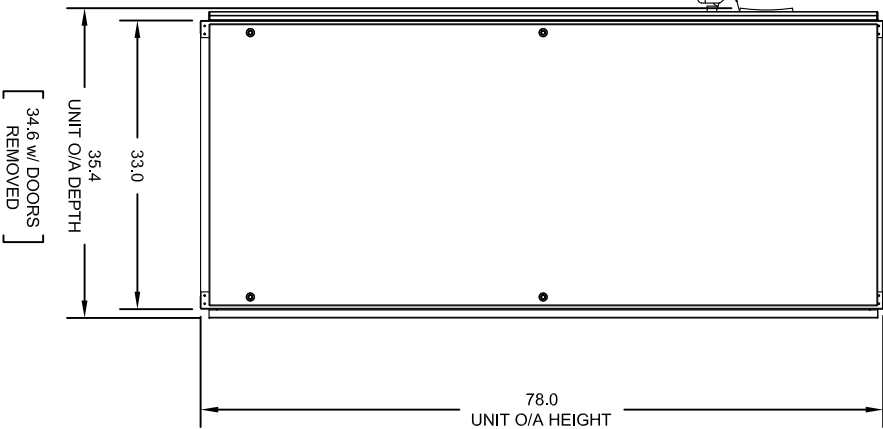
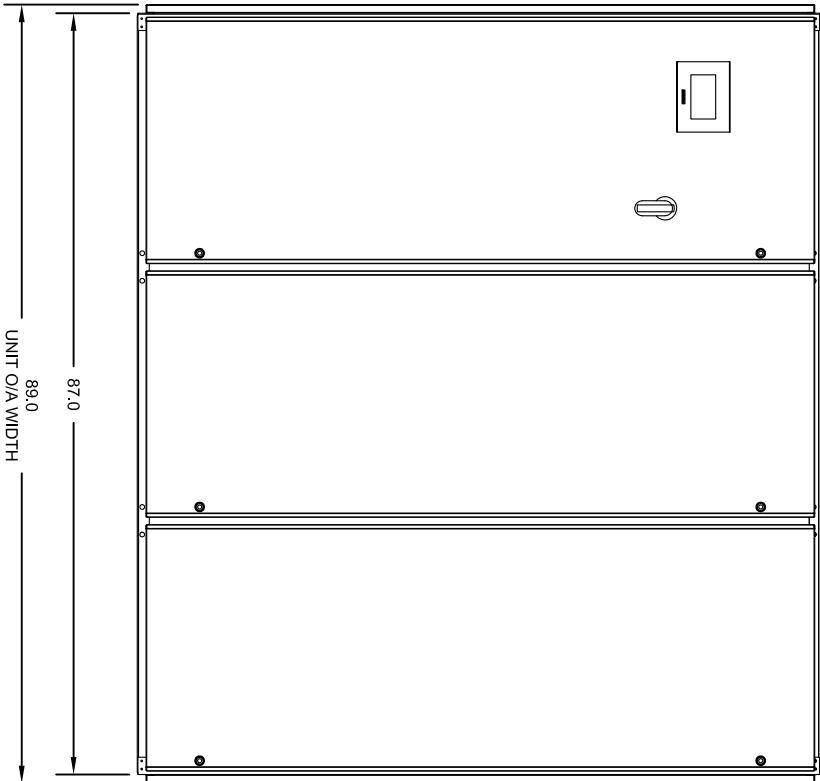
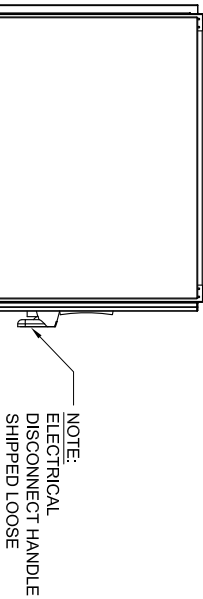


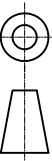
APPROVALS		ENGINEERING	DATE	
		GJN	MAY 11/09	
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TOLERANCES UNQ.		IMPERIAL UNITS		
FRACTIONAL :	±	1/32		
ANGULAR :	±	0.8°		
X.XX :	±	0.06"		
X.XXX :	±	0.032"		
X.XXXX :	±	0.0050"		
TOLERANCES ARE NOT ACCUMULATIVE		THIRD ANGLE PROJECTION		
MATERIAL / FINISH:		-		
DRAWN	HSC	DATE: (MM-DD-YY)	INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994	
		MAY 11/2009		
 CANATAL International 2006 Incorporated				
TITLE: P-SERIES, PCD057, PCD065 CW, DOWNFLOW SUBMITTAL DRAWING				
SIZE	DWG. NO:			REV:
B	SPDD-FA			0
SCALE: NTS		WT (lbs):	SHEET: 1 OF 1	

NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

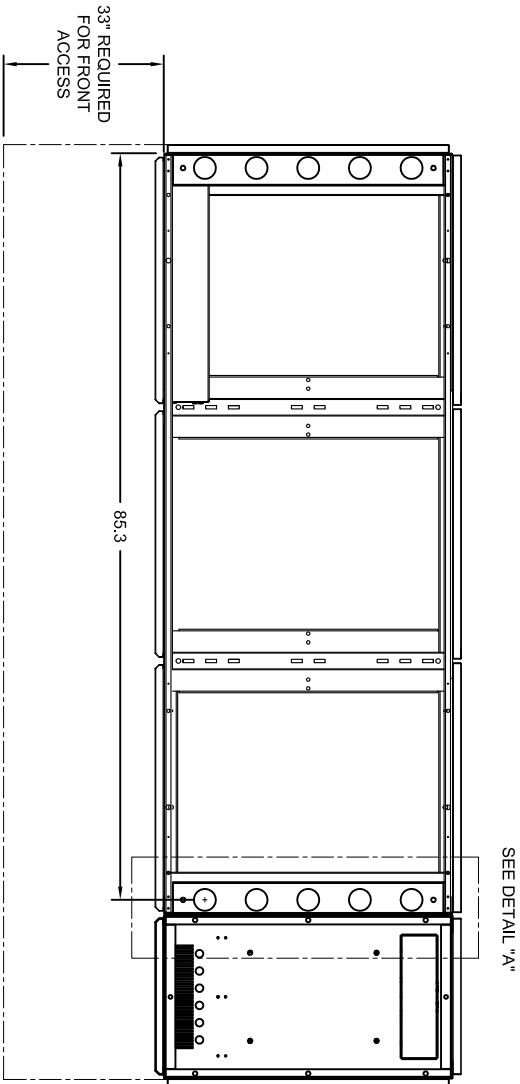


PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 2 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 2 1/8" - RETURN

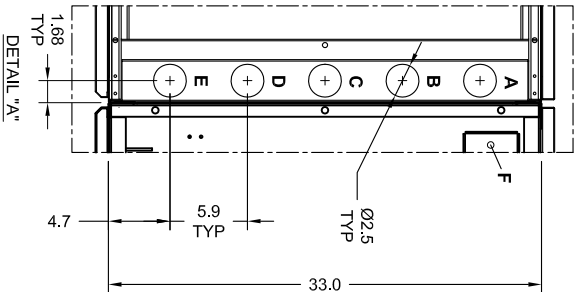


APPROVALS		ENGINEERING	GJN	DATE	MAY 11/09
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TOLERANCES U.M.O.				IMPERIAL UNITS	
FRACTIONAL : ± 1/32					
ANGULAR : ± 0.8°					
X.XX : ± 0.06"					
X.XXX : ± 0.032"					
X.XXXX : ± 0.0050"					
THIRD ANGLE PROJECTION					
TOLERANCES ARE NOT ACCUMULATIVE					
MATERIAL / FINISH:		-		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994	
DRAWN	HSC	DATE: (MM-DD-YY)	MAY 11/2009		
 CANATAL International 2006 Incorporated					
TITLE: P-SERIES, PCD076, PCD087 CW, DOWNFLOW SUBMITTAL DRAWING					
SIZE	DWG. NO:				REV:
B	SPDD-G				0
SCALE: NTS		WT (lbs):	SHEET: 1 OF 1		

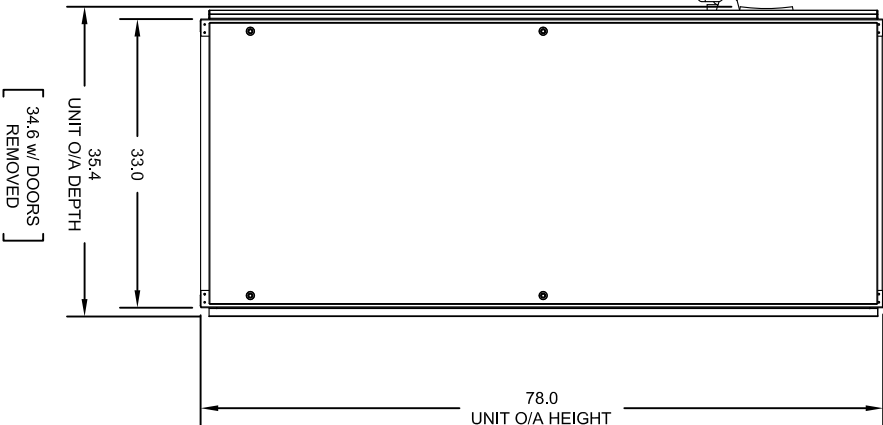
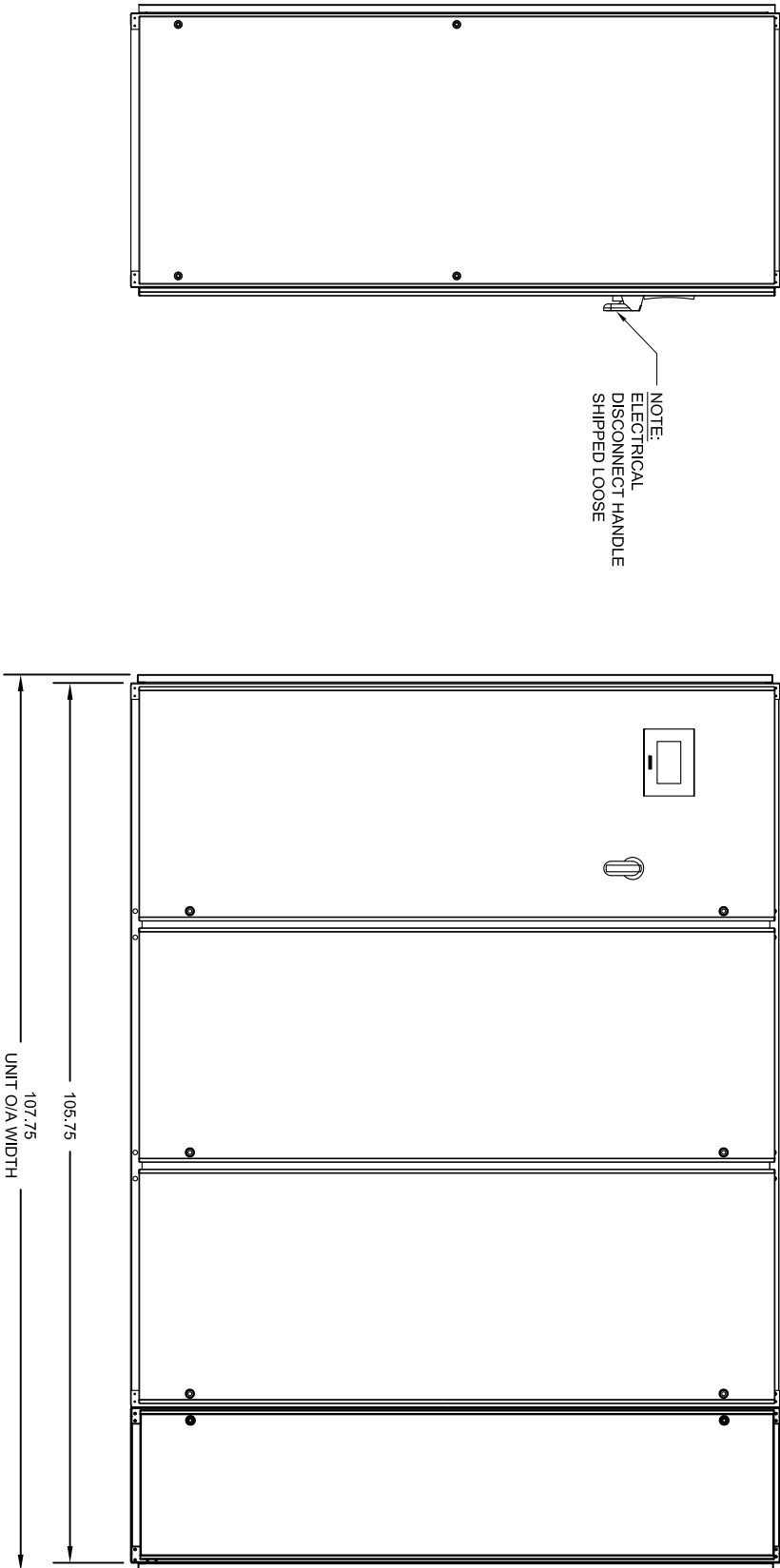
NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE



PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 2 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 2 1/8" - RETURN
F	= HUMIDIFIER WATER SUPPLY Ø 1/4"

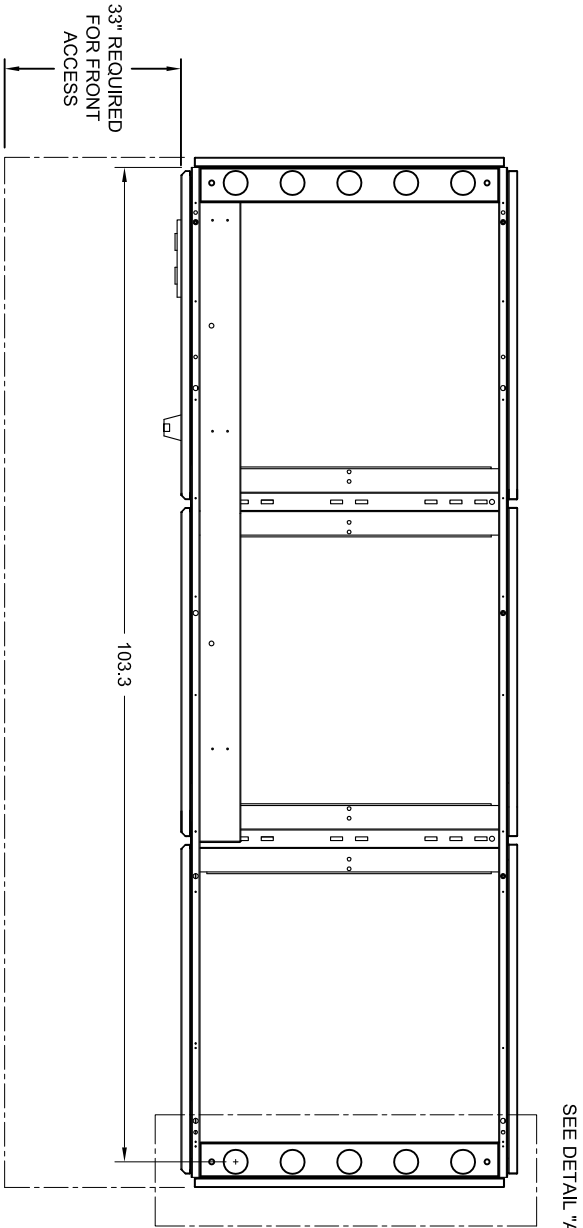


NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE

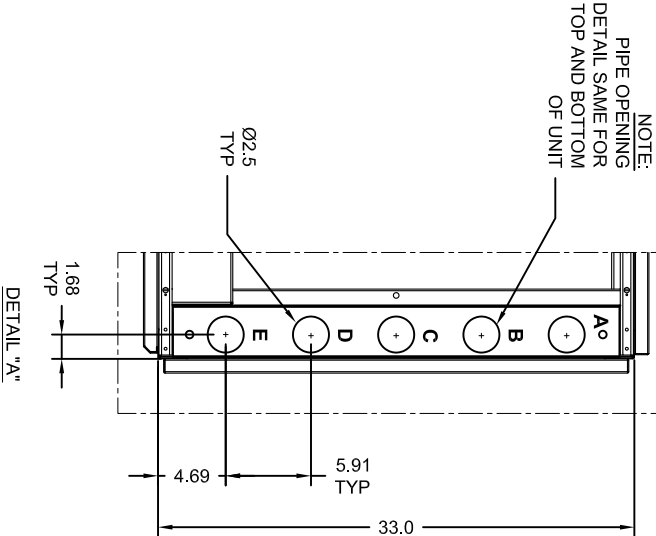


NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

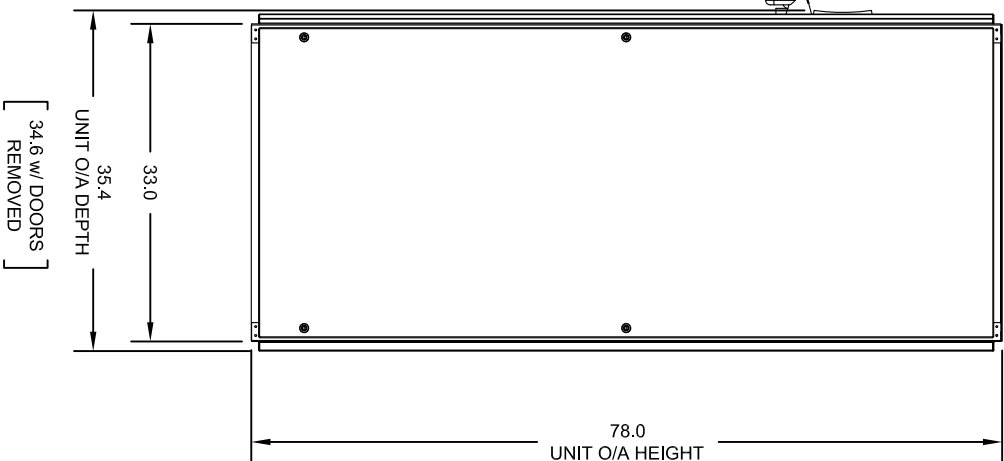
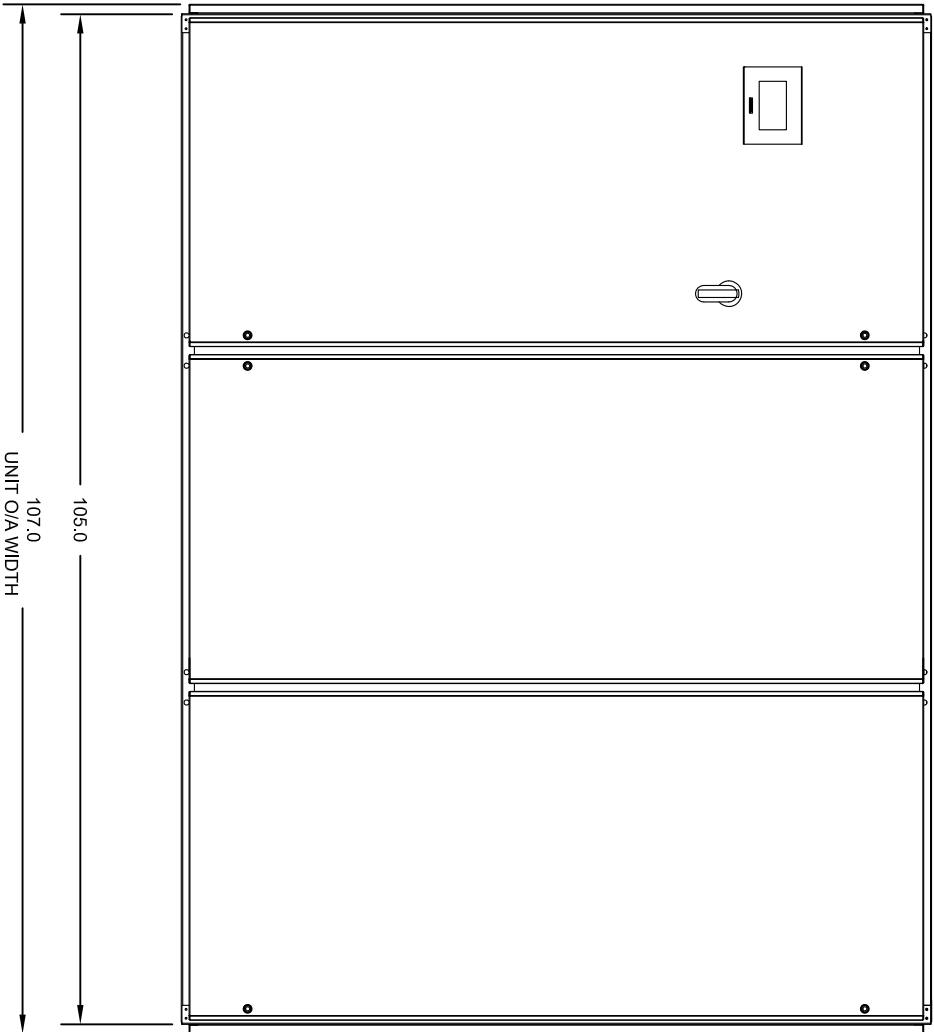
APPROVALS		ENGINEERING	GJN	DATE	MAY 11/09
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TOLERANCES UNQ.		IMPERIAL UNITS			
FRACTIONAL :	±	1/32			
ANGULAR :	±	0.8°			
X.XX :	±	0.06"			
X.XXX :	±	0.032"			
X.XXXX :	±	0.0050"			
TOLERANCES ARE NOT ACCUMULATIVE		THIRD ANGLE PROJECTION			
MATERIAL / FINISH:		-			
DRAWN	HSC	DATE: (MM-DD-YY)	MAY 11/2009		
					
TITLE:					
P-SERIES, PCD076, PCD087					
CW, DOWNFLOW					
SUBMITTAL DRAWING					
SIZE	DWG. NO:				REV:
B	SPDD-GA				0
SCALE:NTS		W/T (lbs):	SHEET:10F1		



PIPING CONNECTION SIZES:	
SINGLE CIRCUIT CHILLED WATER	DUAL CIRCUIT CHILLED WATER
PCDXXX	PDOXXX
A = HOT WATER @ 71°F - RETURN	A = CHILLED WATER @ 62 1/2°F - RETURN
B = HOT WATER @ 71°F - SUPPLY	B = CHILLED WATER @ 62 1/2°F - SUPPLY
C = CHILLED WATER @ 2 1/2" - SUPPLY	C = CHILLED WATER A @ 2 1/2" - SUPPLY
D = CONDENSATE DRAIN @ 3/4"	D = CONDENSATE DRAIN @ 3/4"
E = CHILLED WATER @ 2 1/2" - RETURN	E = CHILLED WATER A @ 2 1/2" - RETURN
F = HANDOFFER WATER SUPPLY @ 1 1/2"	F = HANDOFFER WATER SUPPLY @ 1 1/2"



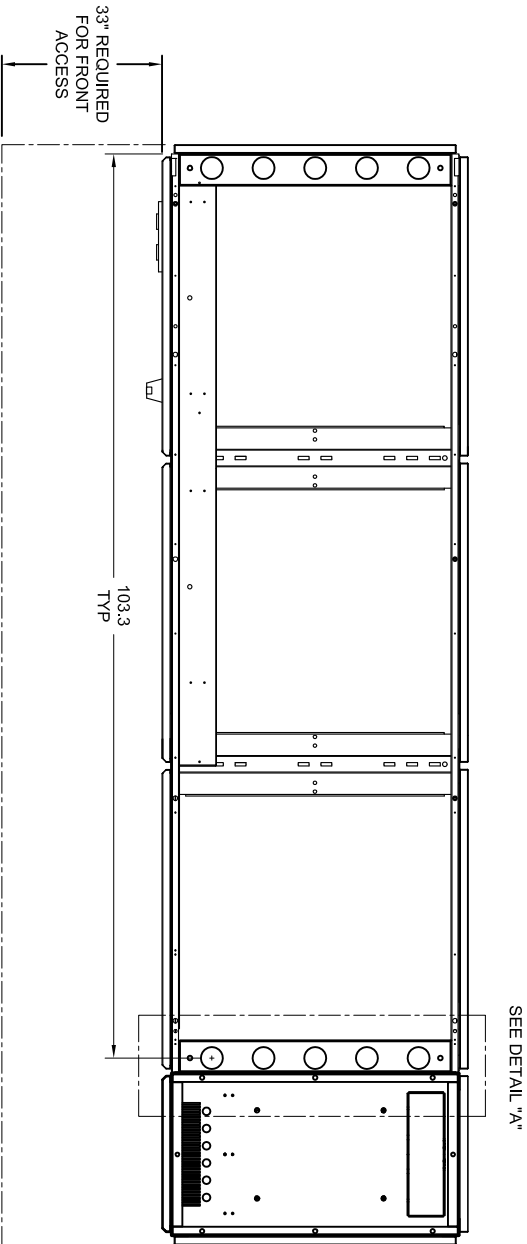
NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE



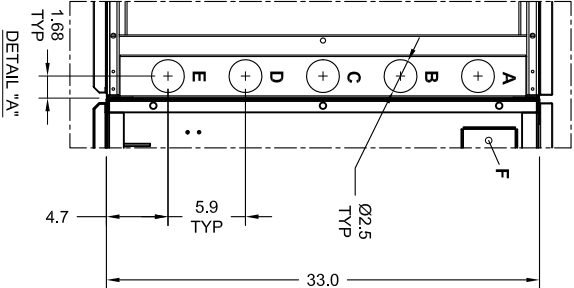
NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

APPROVALS		ENGINEER	DATE
		GJN	MAY11/09
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TOLERANCES UNLESS SPECIFIED:		IMPERIAL UNITS	
FRACTIONAL:	± 1/32		
ANGULAR:	± 0.5°		
XXX:	± 0.002"		
XXXXX:	± 0.0050"		
TOLERANCES ARE NOT ACCUMULATIVE			
MATERIAL / FINISH:		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994	
DRAWN	HSC	DATE: (MM/DD/YYYY)	MAY11/2009
CANATAL International 2008 Incorporated			

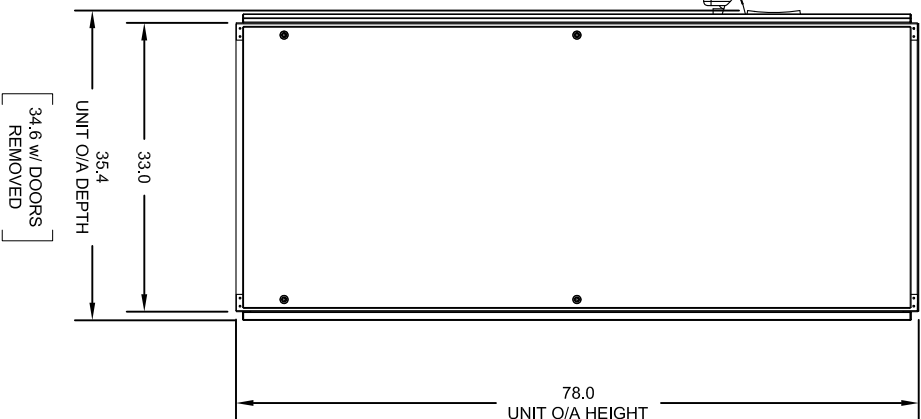
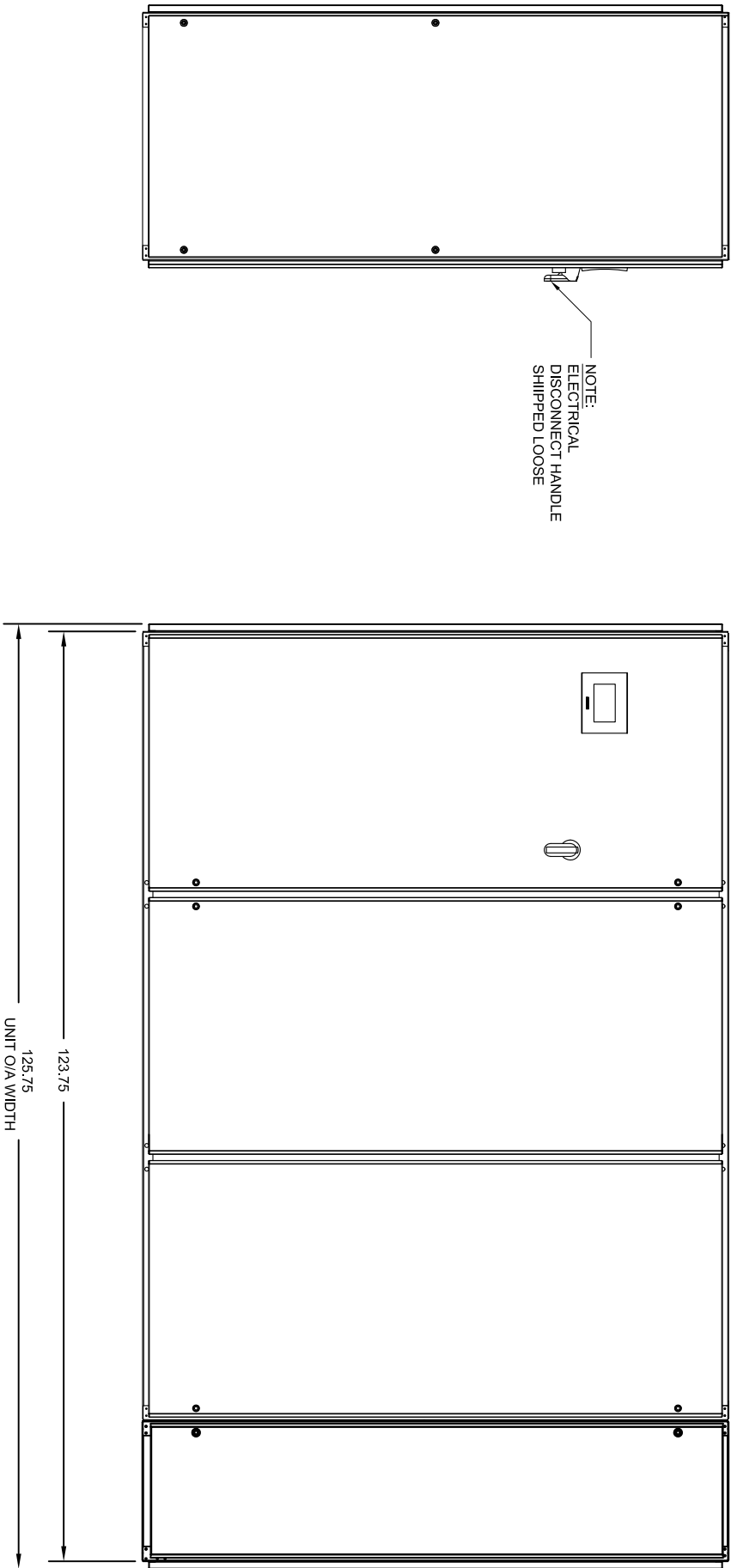
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P-SERIES, PCD095, PCD106, PCD111			
CW, DOWNFLOW			
SUBMITTAL DRAWING			
SIZE	DWG. NO:	REV:	
B	SPDD-H	0	
SCALE: NTS	WT (lbs):	SHEET: 10F1	



PIPING CONNECTION SIZES:	
SINGLE CIRCUIT CHILLED WATER	DUAL CIRCUIT CHILLED WATER
PCDXXX	PDUXXX
A = HOT WATER Ø 7/8" - RETURN	A = CHILLED WATER Ø 2 1/8" - RETURN
B = HOT WATER Ø 7/8" - SUPPLY	B = CHILLED WATER Ø 2 1/8" - SUPPLY
C = CHILLED WATER Ø 2 1/8" - SUPPLY	C = CHILLED WATER A Ø 2 1/8" - SUPPLY
D = CONDENSATE DRAIN Ø 3/4"	D = CONDENSATE DRAIN Ø 3/4"
E = CHILLED WATER Ø 2 1/8" - RETURN	E = CHILLED WATER A Ø 2 1/8" - RETURN
F = HUMIDIFIER WATER SUPPLY Ø 1/4"	F = HUMIDIFIER WATER SUPPLY Ø 1/4"



NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE



APPROVALS	ENGINEERING	DATE
GJN	MAY08/09	
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TOLERANCES U.N.O.		IMPERIAL UNITS
FRACTIONAL :	± 1/32	
ANGULAR :	± 0.5°	
X.XX :	± 0.06"	
X.XXX :	± 0.032"	
X.XXXX :	± 0.0050"	
TOLERANCES ARE NOT ACCUMULATIVE		THIRD ANGLE PROJECTION

MATERIAL / FINISH:		INTERPRET GEOMETRIC TOLERANCES
DRAWN: HSC	DATE: (MM/DD/YY)	PER: ASME Y14.5M-1994
	MAY08/2009	



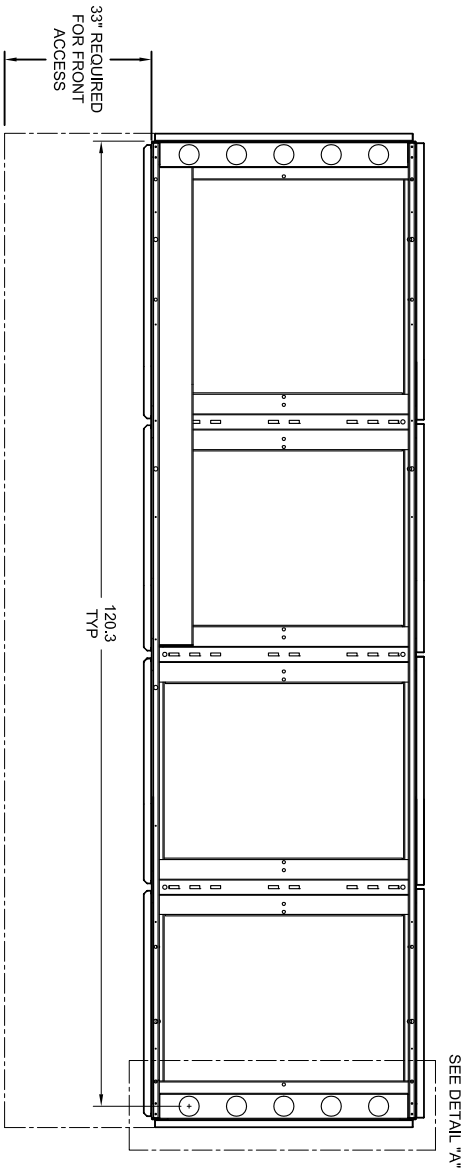
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P-SERIES, PCD095, PCD106, PCD111
CW, DOWNFLOW
SUBMITTAL DRAWING

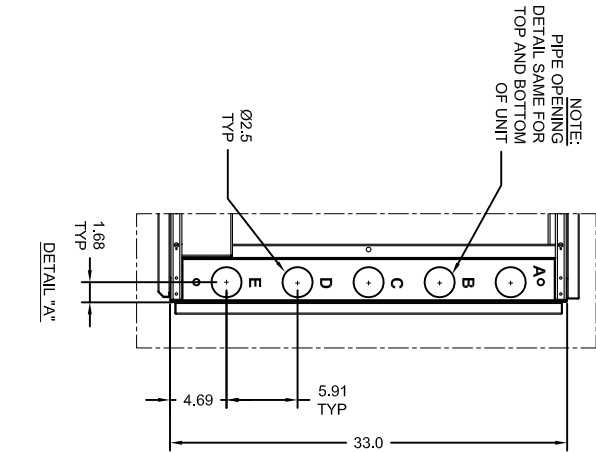
SIZE	DWG. NO:	REV:
B	SPDD-HA	0

SCALE: NTS | WT (lbs): | SHEET: 1 OF 1

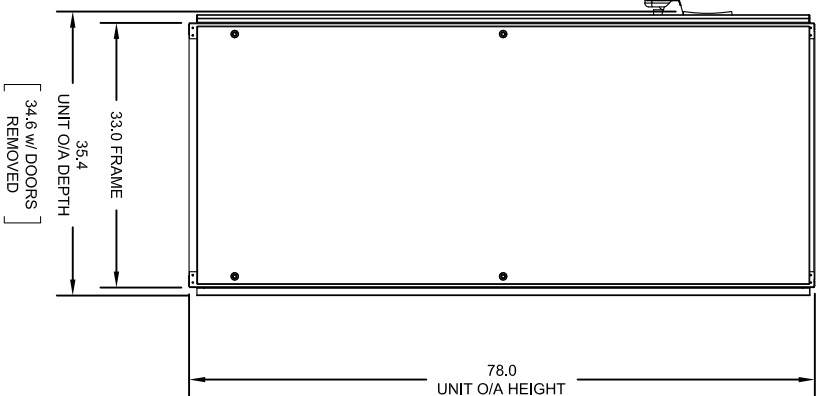
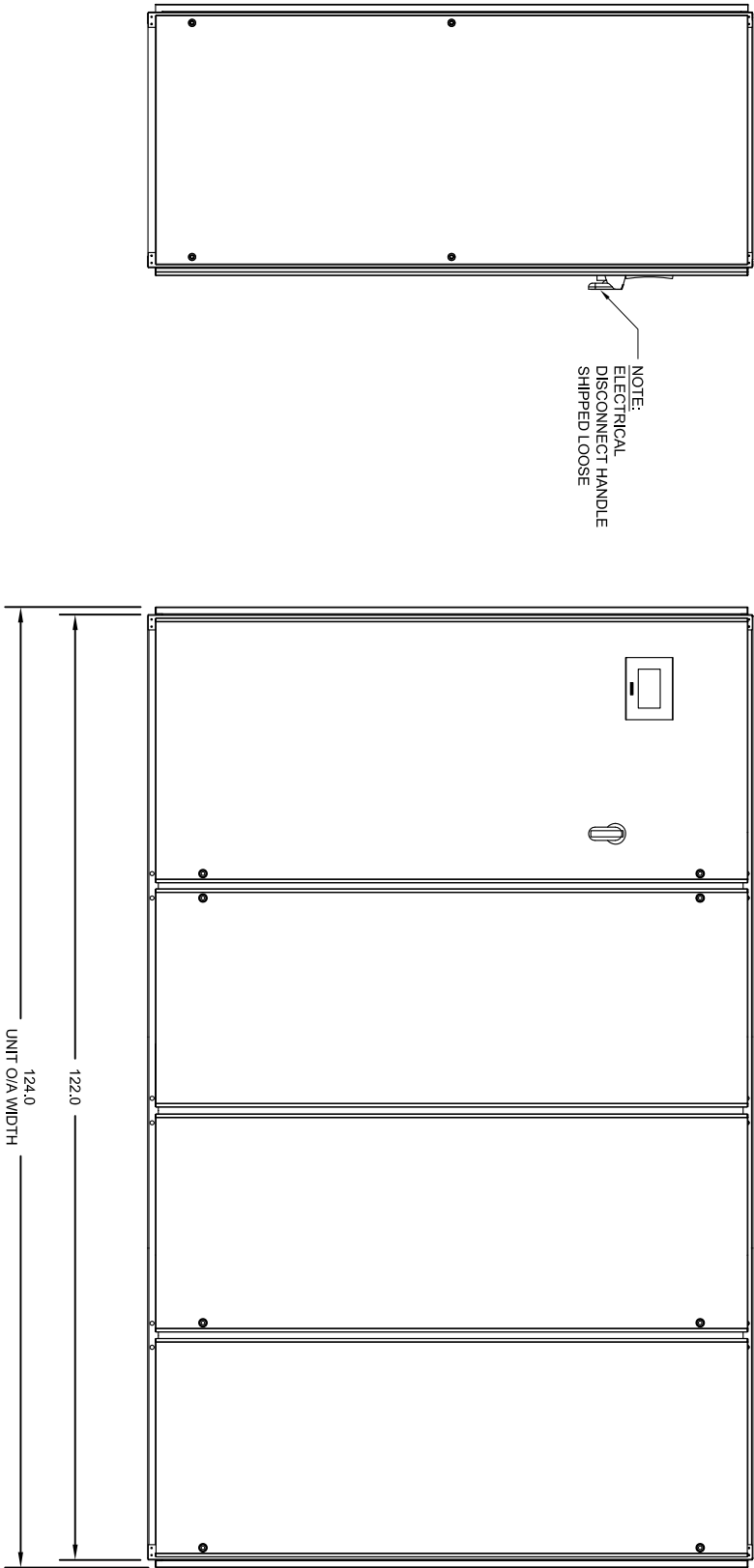
NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE



PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 2 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 2 1/8" - RETURN



NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE



APPROVALS		ENGINEERING		GJN		DATE		MAY08/09	
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TOLERANCES UNLESS SPECIFIED:					IMPERIAL UNITS				
FRACTIONAL :					± 1/32				
ANGULAR :					± 0.5°				
X.XX :					± 0.06"				
X.XXX :					± 0.032"				
X.XXXX :					± 0.0060"				
TOLERANCES ARE NOT ACCUMULATIVE					THIRD ANGLE PROJECTION				
MATERIAL / FINISH:					-				
DRAWN:		HSC		DATE: (MM-DD-YY)		MAY08/2009		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994	



TITLE:

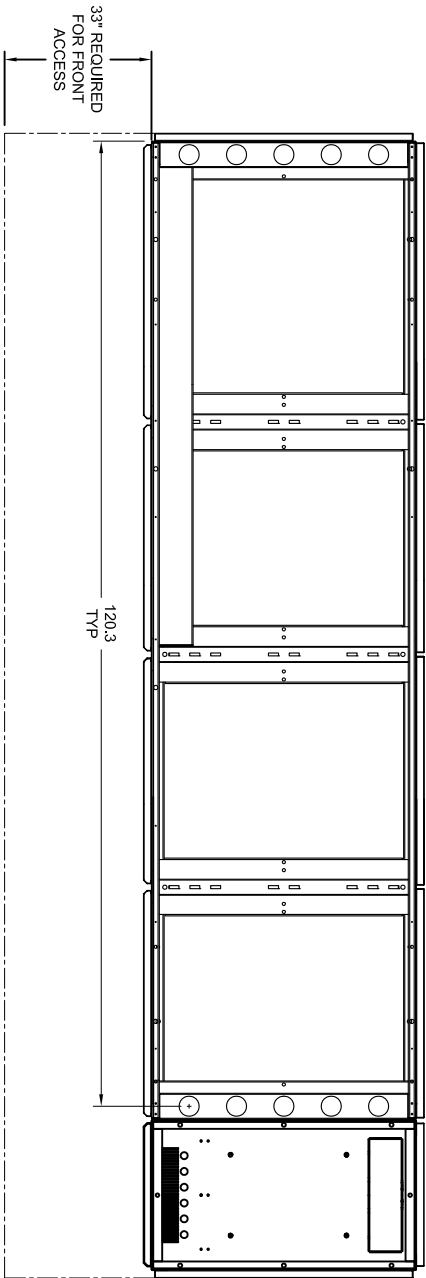
P-SERIES, PCD119, PCD127, PCD136
CW, DOWNFLOW
SUBMITTAL DRAWING

SIZE DWG. NO. REV:

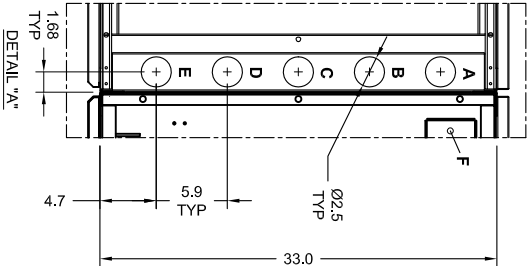
B SPDD-J 0

SCALE:NTS WT (lbs): SHEET:10F1

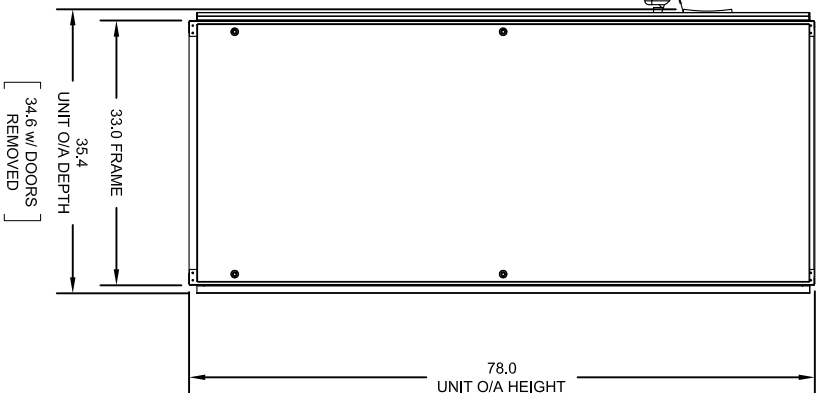
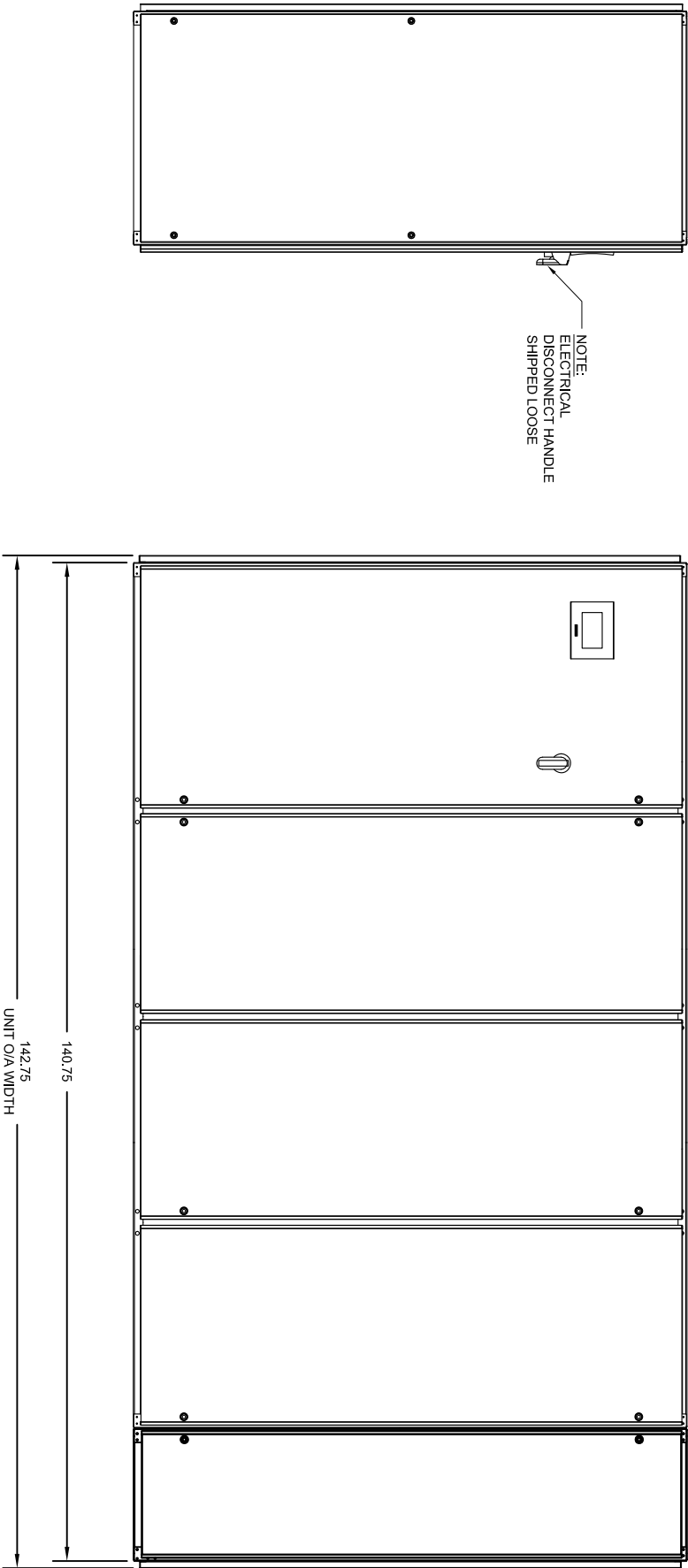
NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE



PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 2 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 2 1/8" - RETURN
F	= HUMIDIFIER WATER SUPPLY Ø 1/4"



NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE



NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

APPROVALS

ENGINEERING

GJN

DATE

MAY08/09

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TOLERANCES UNLESS SPECIFIED:
FRACTIONAL : ± 1/32
ANGULAR : ± 0.5°
X.XX : ± 0.06"
X.XXX : ± 0.032"
X.XXXX : ± 0.0050"

IMPERIAL UNITS
THIRD ANGLE PROJECTION

TOLERANCES ARE NOT ACCUMULATIVE

MATERIAL / FINISH: -

INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994

DRAWN: HSC

DATE: (MM/DD/YYYY)

MAY08/2009

INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M-1994

TITLE:

P-SERIES, PCD119, PCD127, PCD136
CW, DOWNFLOW
SUBMITTAL DRAWING

SIZE

DWG. NO:

B

SPDD-JA

REV:

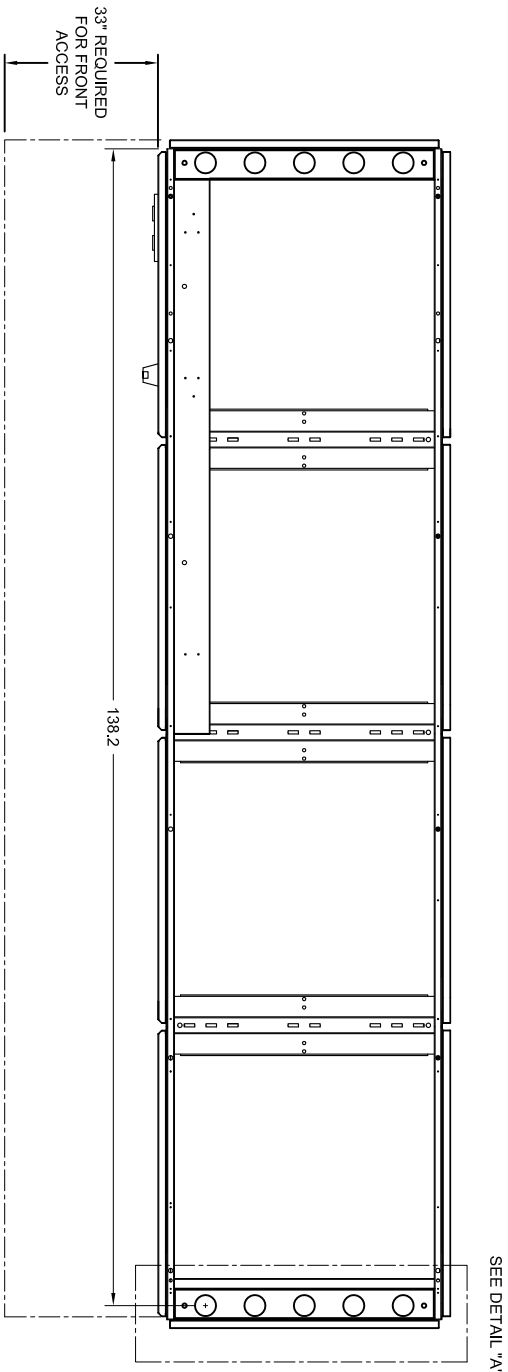
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SCALE:NTS

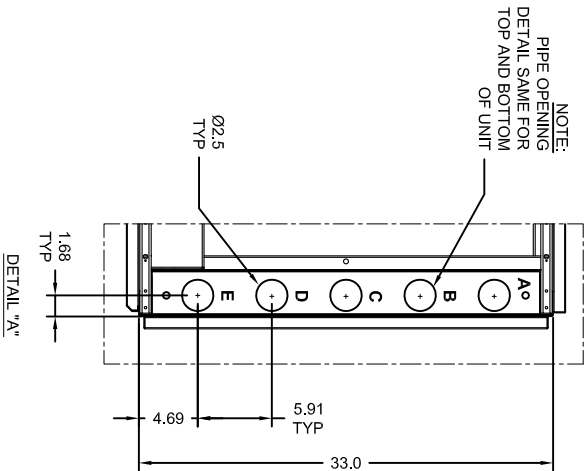
WT (lbs):

SHEET:10F1

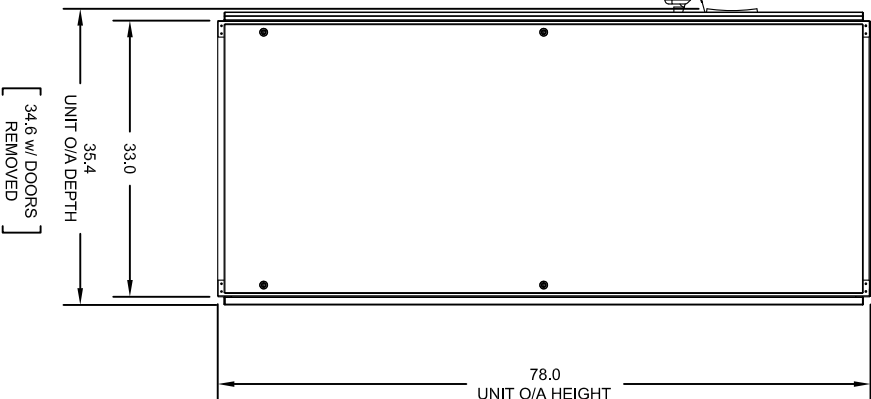
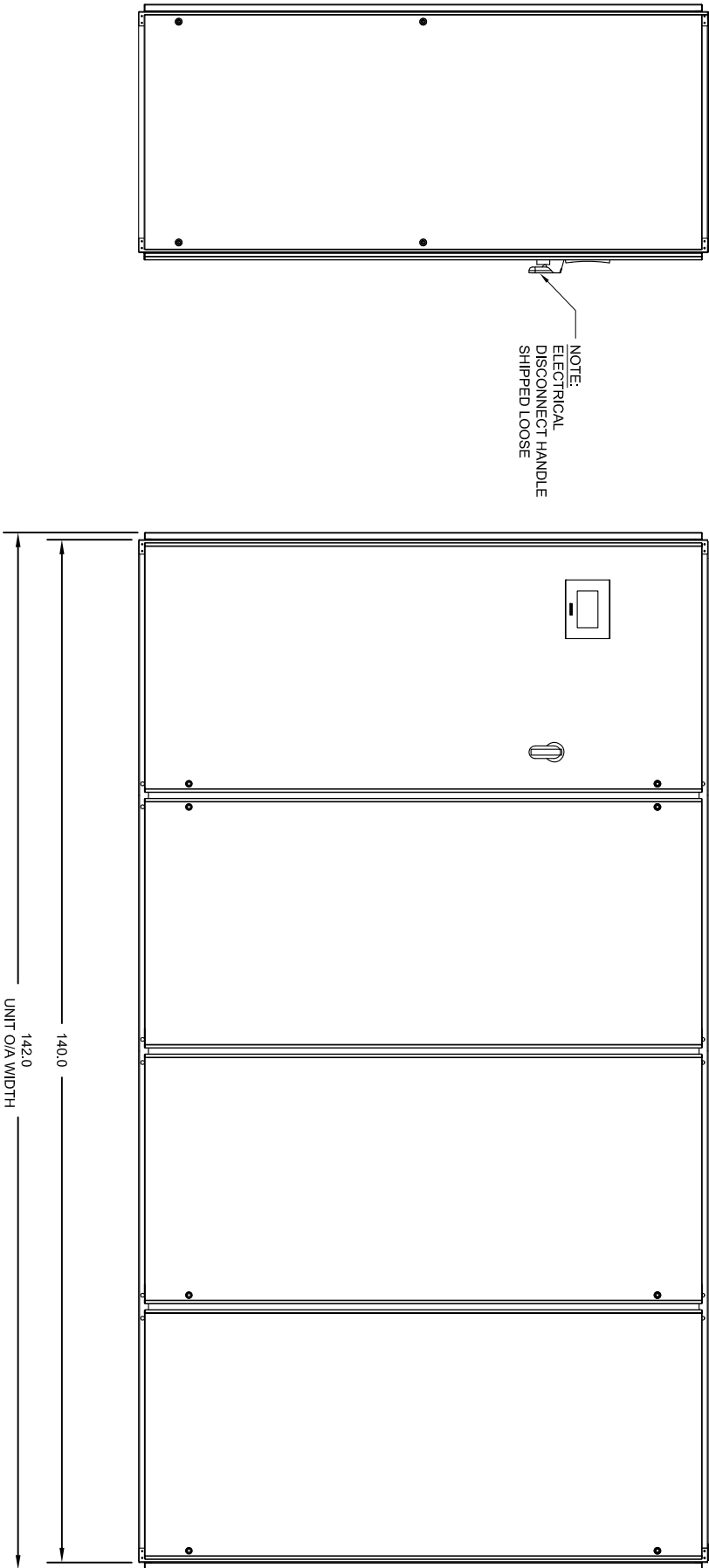




PIPING CONNECTION SIZES:	
A	= HOT WATER REHEAT Ø 7/8" - RETURN
B	= HOT WATER REHEAT Ø 7/8" - SUPPLY
C	= CHILLED WATER Ø 2 1/8" - SUPPLY
D	= CONDENSATE DRAIN Ø 3/4"
E	= CHILLED WATER Ø 2 1/8" - RETURN

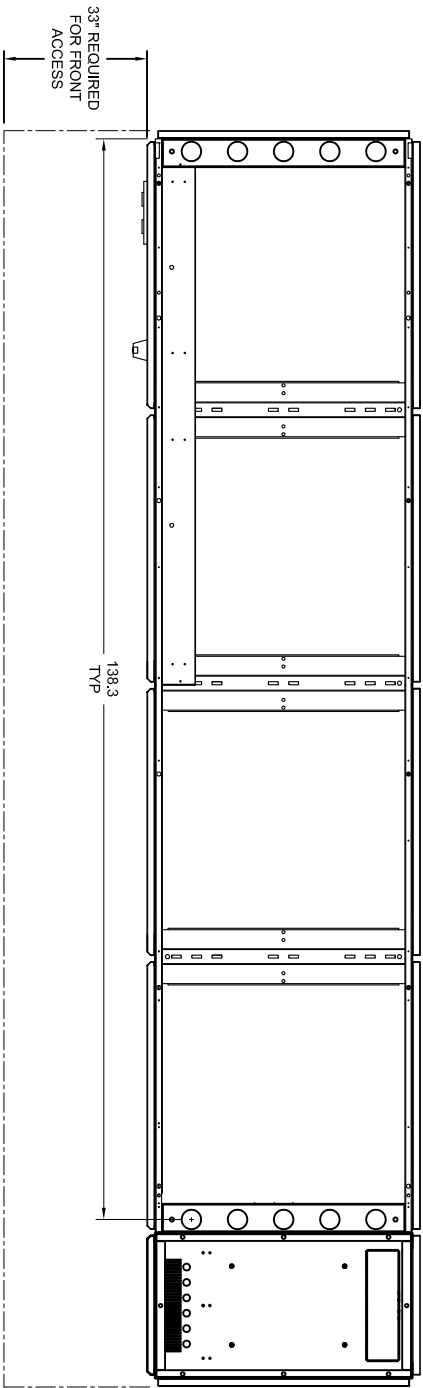


NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE

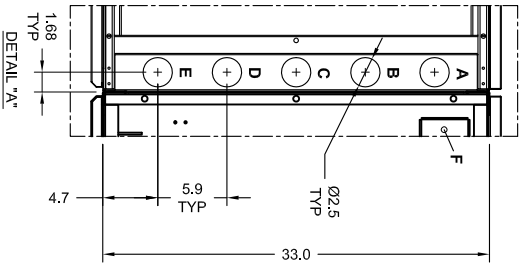


NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

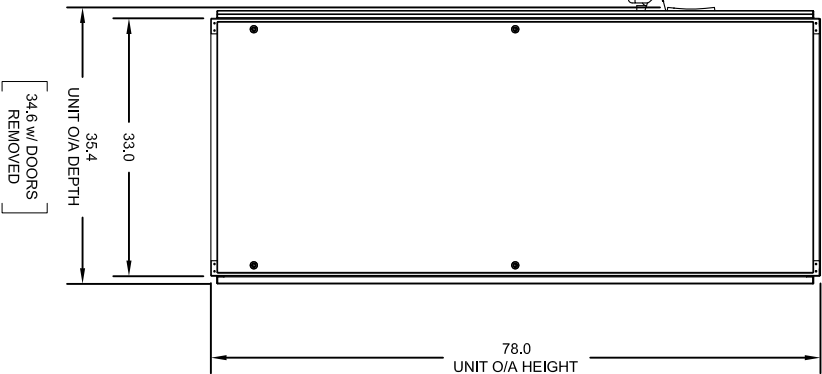
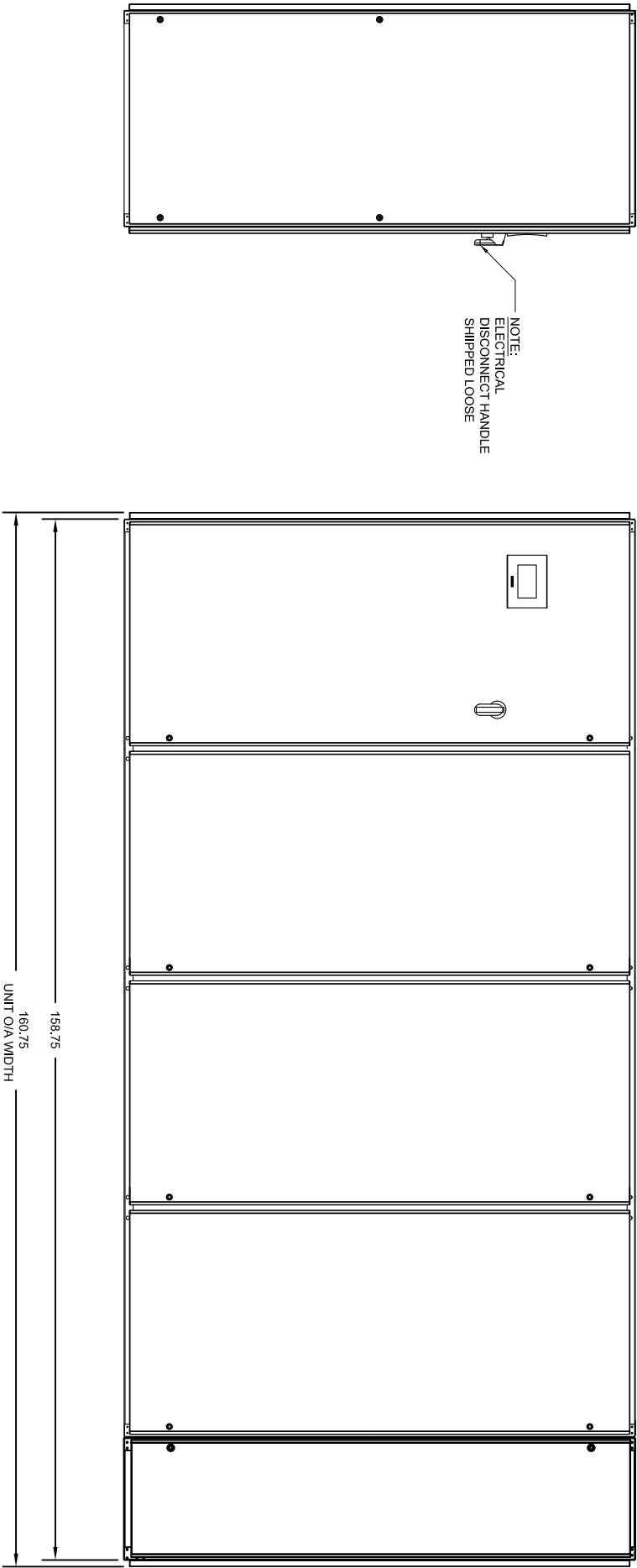
APPROVALS		ENGINEERING		DATE
		GJN		MAY11/09
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TOLERANCES UNLESS OTHERWISE SPECIFIED:			IMPERIAL UNITS	
FRACTIONAL: ± 1/32				
ANGULAR: ± 0.5°				
X.XXX: ± 0.06"				
X.XXXX: ± 0.032"				
X.XXXXX: ± 0.0060"			THIRD ANGLE PROJECTION	
TOLERANCES ARE NOT ACCUMULATIVE				
MATERIAL / FINISH:		-		
DRAWN:	HSC	DATE: (mm/dd/yyyy)	MAY11/2009	INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.4M-1994
CANATAL International 2008 Incorporated				
TITLE: P-SERIES, PCD147, PCD153 CW, DOWNFLOW SUBMITTAL DRAWING				
SIZE	DWG. NO:	REV:		
B	SPDD-K	0		
SCALE: NTS		WT (lbs):		SHEET: 1 OF 1



PIPING CONNECTION SIZES:	
A	HOT WATER REHEAT Ø 7/8" - RETURN
B	HOT WATER REHEAT Ø 7/8" - SUPPLY
C	CHILLED WATER Ø 2 1/8" - SUPPLY
D	CONDENSATE DRAIN Ø 3/4"
E	CHILLED WATER Ø 2 1/8" - RETURN
F	HUMIDIFIER WATER SUPPLY Ø 1/4"



NOTE:
ELECTRICAL
DISCONNECT HANDLE
SHIPPED LOOSE



NOTE:
FANS, MOTORS, VALVES AND ELECTRICAL PANEL ARE FRONT SERVICEABLE

APPROVALS

ENGINEERING

GJN

DATE

MAY08/09

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TOLERANCES UNLESS SPECIFIED OTHERWISE:
FRACTIONAL: ± 1/32
ANGULAR: ± 0.5°
XXX: ± 0.06"
XXXX: ± 0.032"
XXXXX: ± 0.0050"

IMPERIAL UNITS

THIRD ANGLE PROJECTION

MATERIAL / FINISH:

-

INTERPRET GEOMETRIC TOLERANCES PER: ASME Y14.5M-1994

DRAWN: HSC

DATE: (MM/DD/YYYY)

MAY08/2009

PER: ASME Y14.5M-1994

TITLE:

P-SERIES, PCD147, PCD153
CW, DOWNFLOW
SUBMITTAL DRAWING

SIZE

DWG. NO:

B

REV:

0

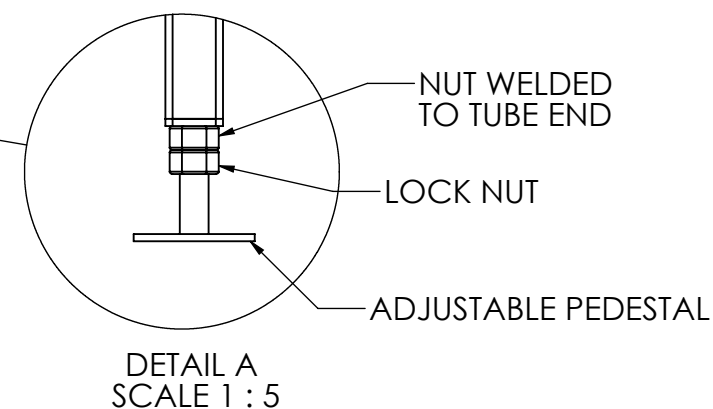
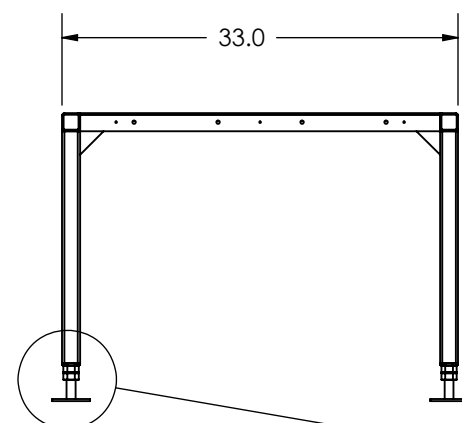
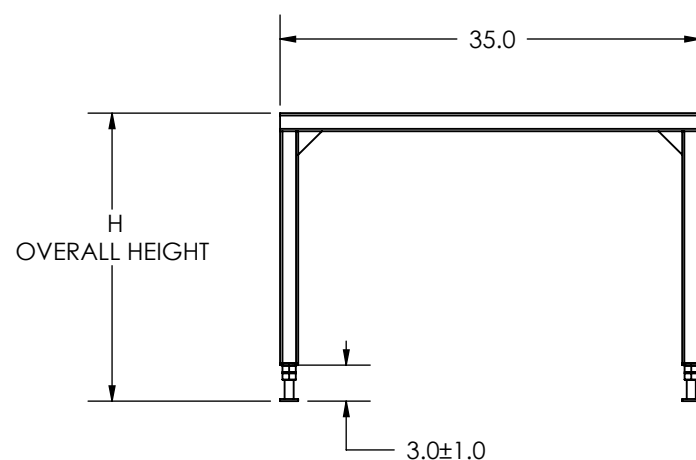
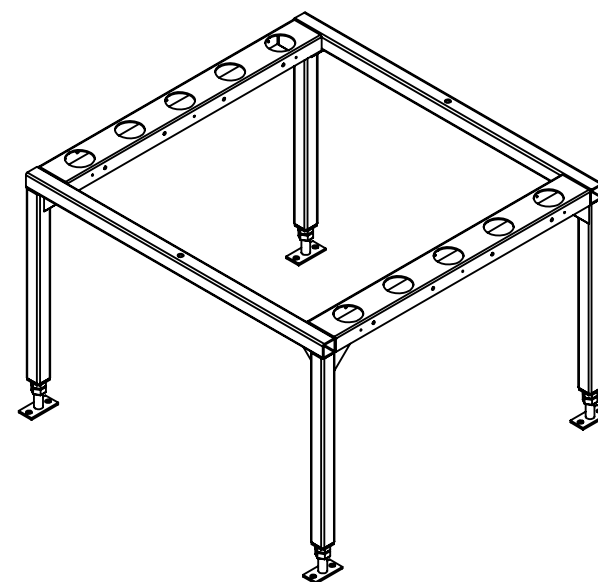
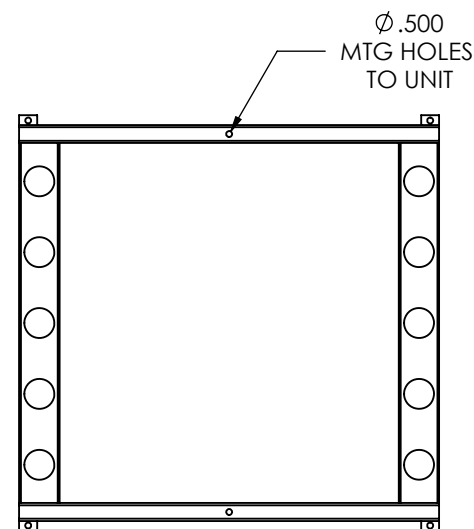
SCALE: NTS

WT (lbs):

SHEET: 1 OF 1



DATE PRINTED: 08/31/2009



FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"	PART NUMBER
12"	780-100-0070
18"	780-100-0080
24"	780-100-0090

IN FOLDER N:\Engineering\Drawings\Submittal Drawings\P-SERIES\P-SERIES FLOOR STANDS\0-24 HEIGHT\

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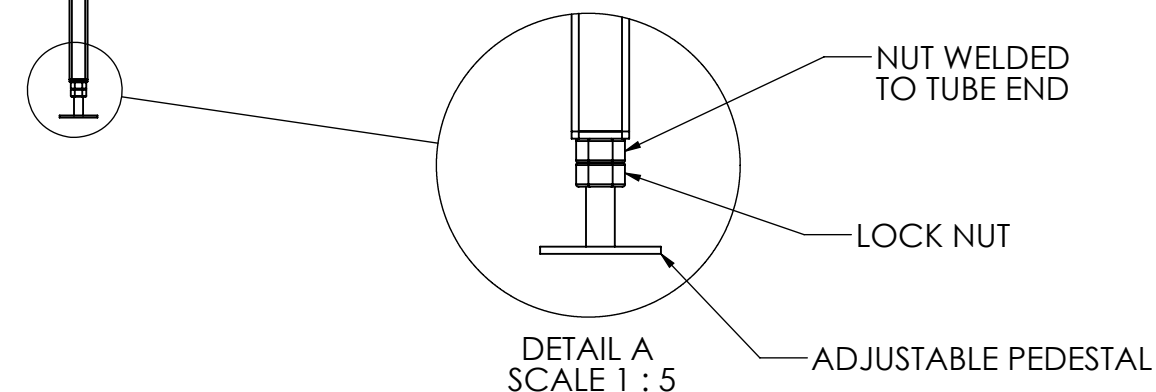
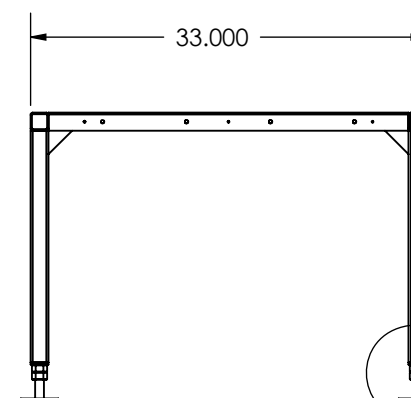
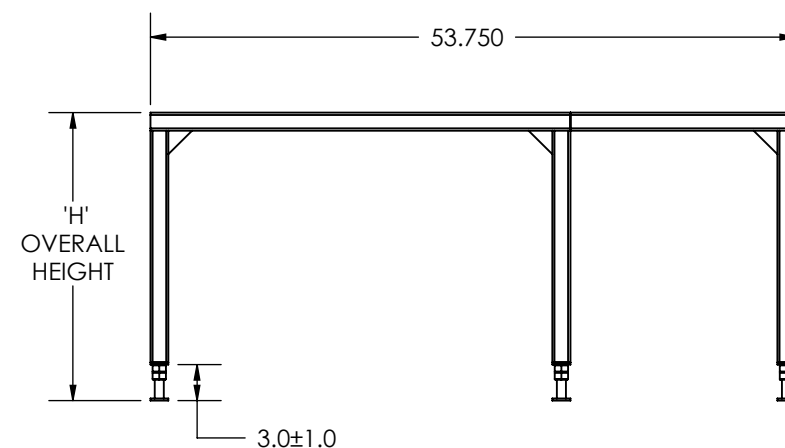
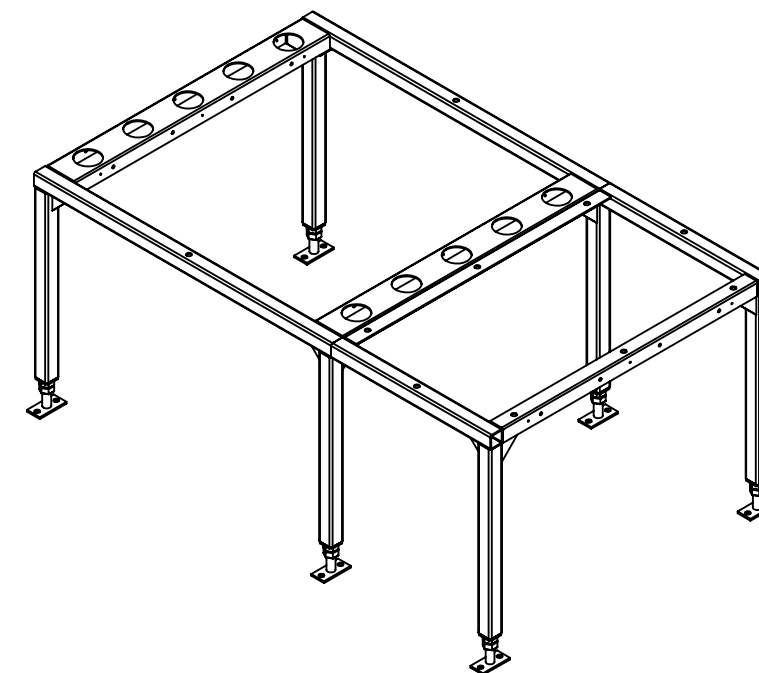
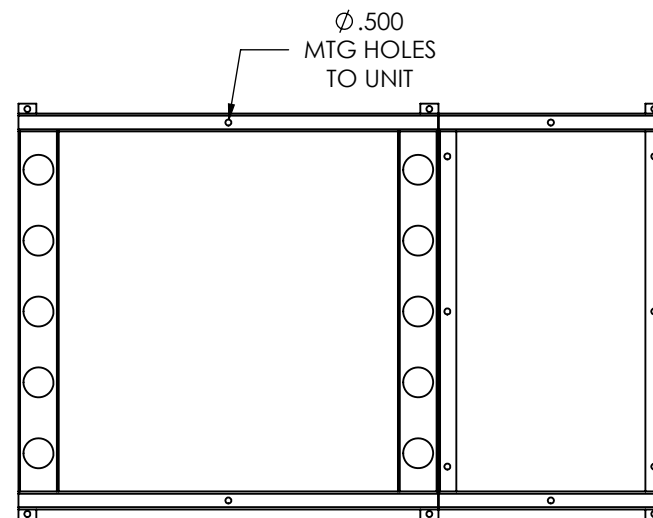
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm$
ANGULAR: MACH $\pm$ BEND $\pm 2^\circ$
DECIMAL
XXX = $\pm .010$
XX = $\pm .020$
X = $\pm .030$
HOLE DIA. +.003/-.000

THIRD ANGLE PROJECTION



	BY	DATE	 CANATAL INTERNATIONAL 2008 INC.				
DRAWN	PS	08/31/2009					
CHECKED	IZ	08/31/2009					
2°	CNC PROGRAM		CUSTOMER	CANATAL INTERNATIONAL 2008			
	--		FINAL ASSEMBLY	FLOOR STAND SPDF-C, PCD012 OR PCD015			
	--		PART NAME	780-100-0070/780-100-0080/780-100-0090			
	--						
	FINISH: BLACK SMOOTH POWDERCOAT		SIZE A	DWG. NO.	SPDF-C		REV. SEE TABLE
	MATERIAL N/A	THICKNESS N/A	BD N/A	K	SCALE: 1:16	55	SHEET 1 OF 1

DATE PRINTED: 08/31/2009



FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"
12"
18"
24"

IN FOLDER N:\Engineering\Drawings\Submittal Drawings\P-SERIES\P-SERIES FLOOR STANDS\0-24 HEIGHT\

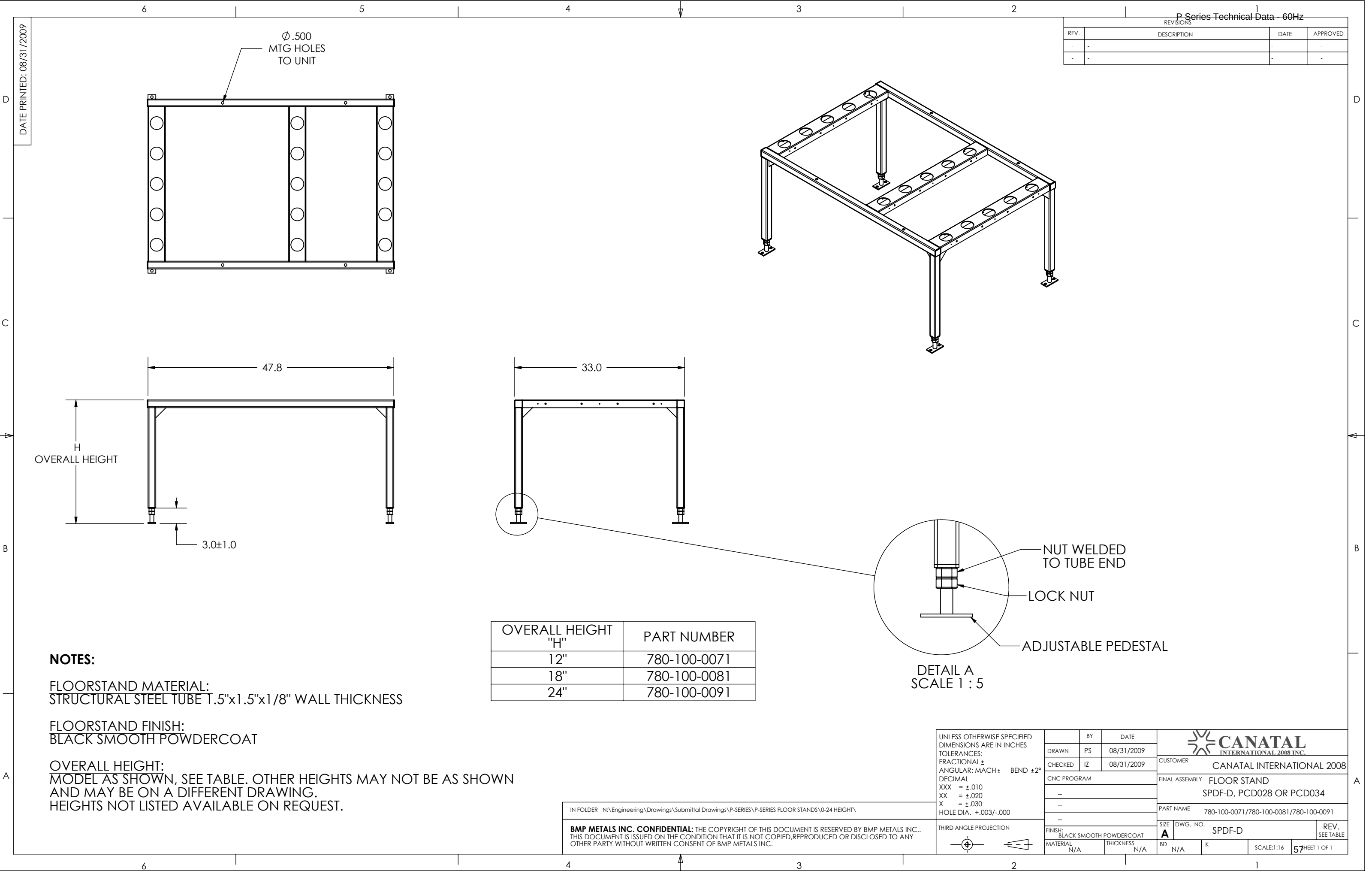
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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
DECIMAL
XXX = ±.010
XX = ±.020
X = ±.030
HOLE DIA. +.003/- .000

THIRD ANGLE PROJECTION



	BY	DATE	 CANATAL INTERNATIONAL 2008 INC.				
DRAWN	PS	08/31/2009					
CHECKED	IZ	08/31/2009	CUSTOMER	CANATAL 2008 INTERNATIONAL			
2°	CNC PROGRAM		FINAL ASSEMBLY	780-100-0090 + -0088			
	--			SPDF-CA			
	--		PART NAME	780-100-0090 + -0088			
	--		SIZE	DWG. NO.	REV.		
	FINISH: BLACK SMOOTH POWDERCOAT		A	SPDF-CA		SEE TABLE	
	MATERIAL	THICKNESS	BD	K	SCALE: 1:16	56 SHEET 1 OF 1	
	N/A	N/A	N/A				



P-Series Technical Data – 60Hz			
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-

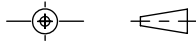
NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

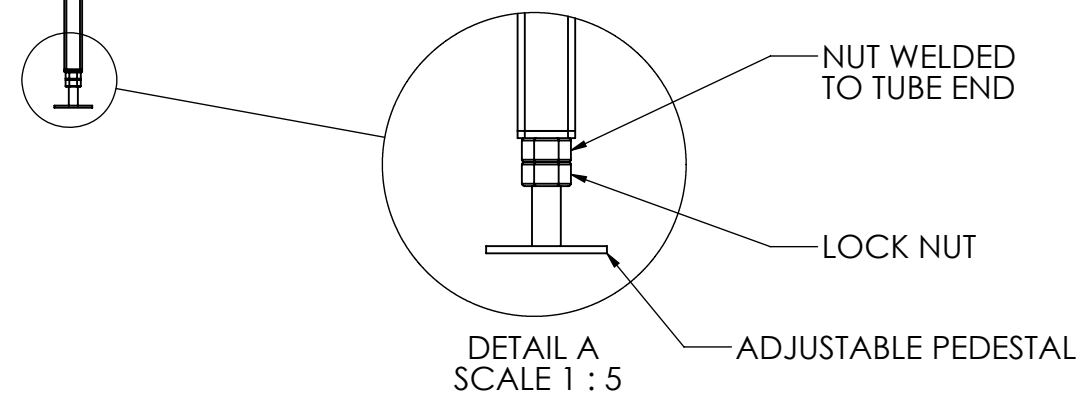
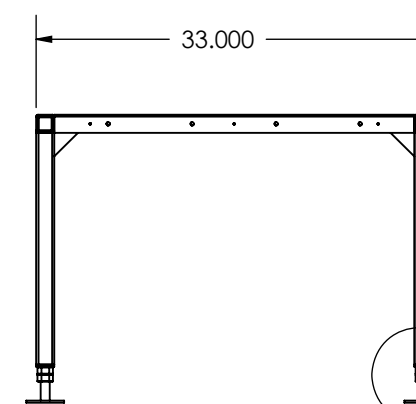
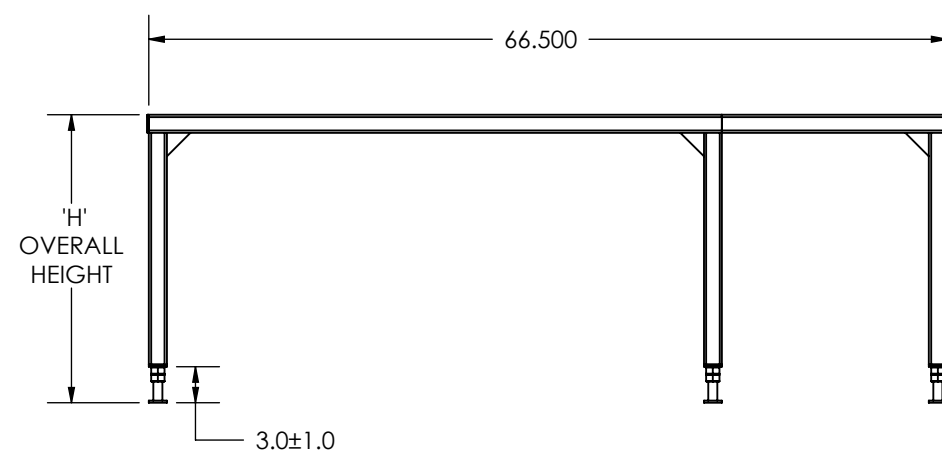
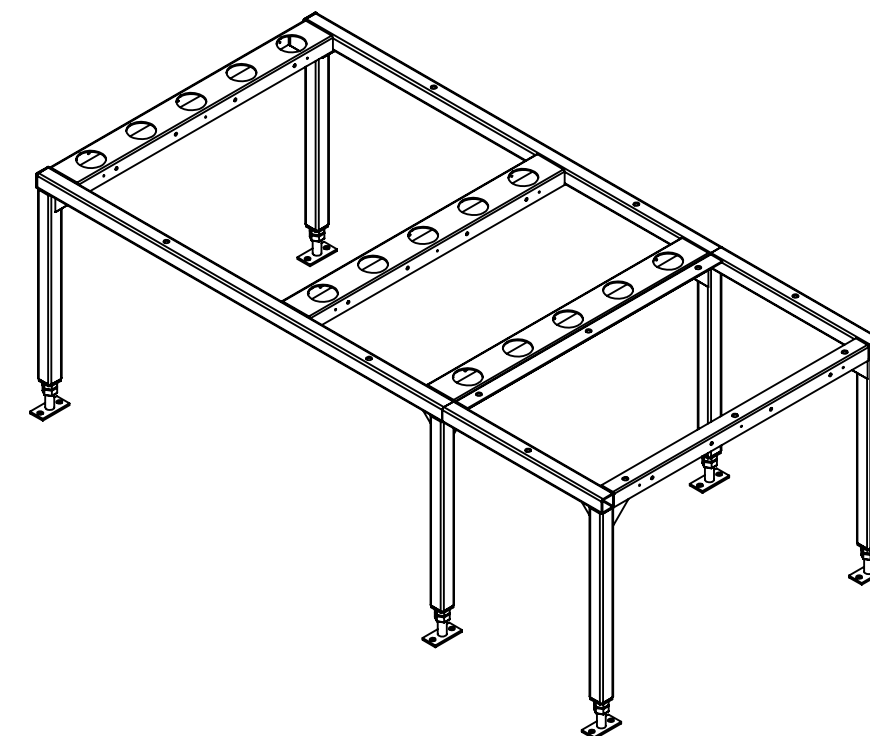
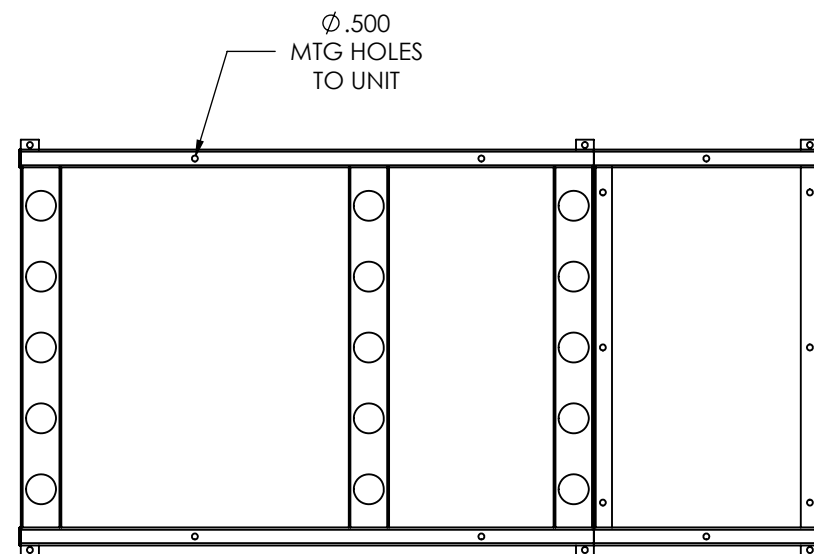
OVERALL HEIGHT "H"	PART NUMBER
12"	780-100-0071
18"	780-100-0081
24"	780-100-0091

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ±2° DECIMAL XXX = ±.010 XX = ±.020 X = ±.030 HOLE DIA. +.003/-0.000		BY	DATE		 CANATAL INTERNATIONAL 2008 INC.			
	DRAWN	PS	08/31/2009		CUSTOMER CANATAL INTERNATIONAL 2008			
	CHECKED	IZ	08/31/2009					
	CNC PROGRAM			FINAL ASSEMBLY FLOOR STAND SPDF-D, PCD028 OR PCD034				
	--							
NC.. Y	THIRD ANGLE PROJECTION 			PART NAME		780-100-0071/780-100-0081/780-100-0091		
	FINISH: BLACK SMOOTH POWDERCOAT			SIZE	DWG. NO.	REV. SEE TABLE		
	MATERIAL N/A			THICKNESS N/A	BD	K	SCALE:1:16	57 SHEET 1 OF 1
				SPDF-D				

IN FOLDER N:\Engineering\Drawings\Submittal Drawings\P-SERIES\P-SERIES FLOOR STANDS\0-24 HEIGHT\

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DATE PRINTED: 08/31/2009



OVERALL HEIGHT "H"
12"
18"
24"

NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± 2° DECIMAL XXX = ±.010 XX = ±.020 X = ±.030 HOLE DIA. +.003/- .000			BY	DATE		 CANATAL INTERNATIONAL 2008 INC.								
	DRAWN		PS	08/31/2009										
	CHECKED		IZ	08/31/2009		CUSTOMER								
	CNC PROGRAM					CANATAL 2008 INTERNATIONAL								
	--					FINAL ASSEMBLY								
THIRD ANGLE PROJECTION 	--					780-100-0091 + -0088								
	--					SPDF-DA								
	--					PART NAME								
	--					780-100-0091 + -0088								
	FINISH: BLACK SMOOTH POWDERCOAT					SIZE A		DWG. NO.		REV.				
MATERIAL			N/A		THICKNESS		N/A		BD	N/A	K	SCALE: 1:16	58	SHEET 1 OF 1

IN FOLDER N:\Engineering\Drawings\Submittal Drawings\P-SERIES\P-SERIES FLOOR STANDS\0-24 HEIGHT

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THIRD ANGLE PROJECTION



FINISH:

FINISH:
BLACK SMOOTH POWDERCOAT

MATERIAL	THICKNESS
N/A	N/A

SIZE	DWG. NO
------	---------

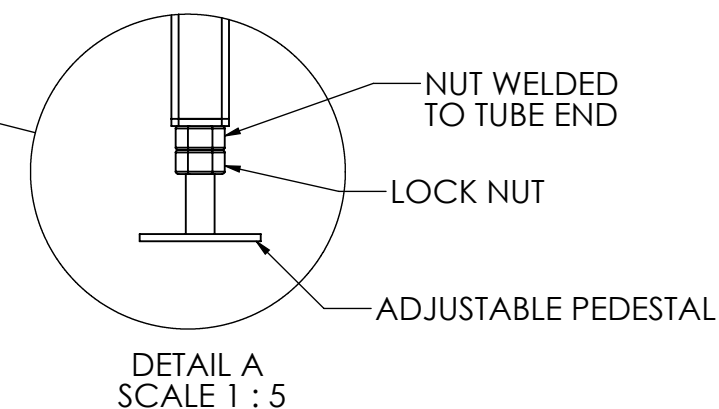
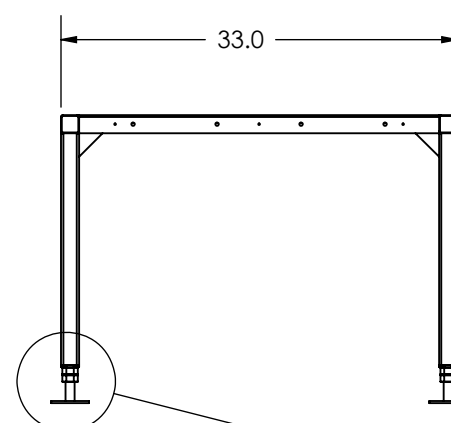
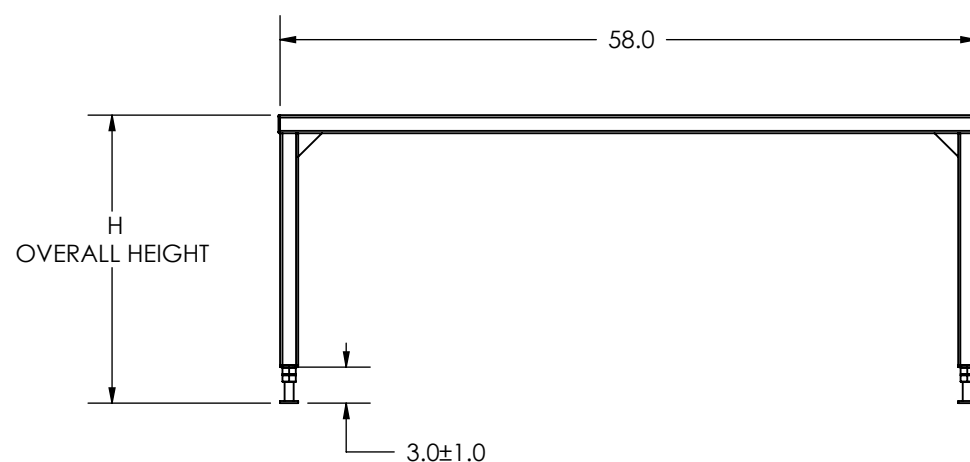
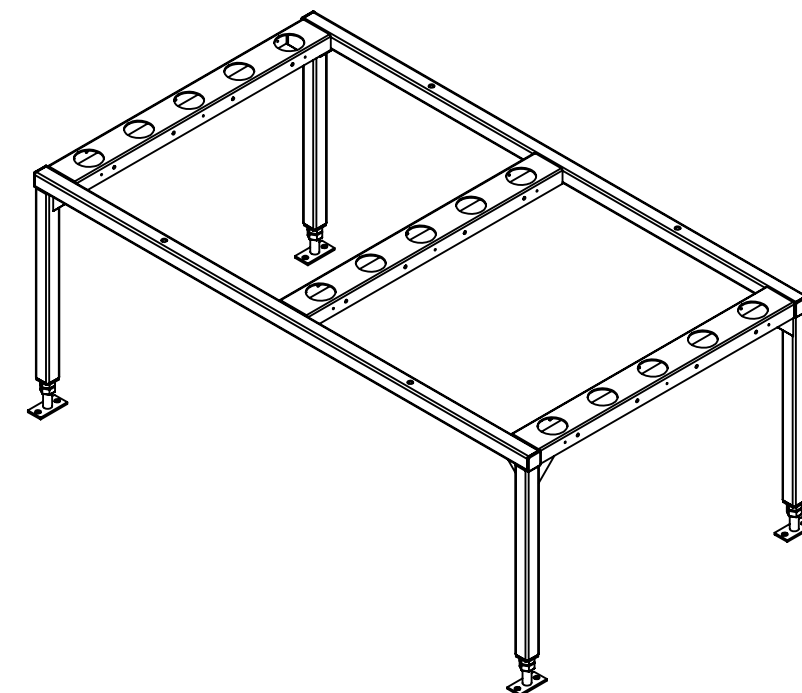
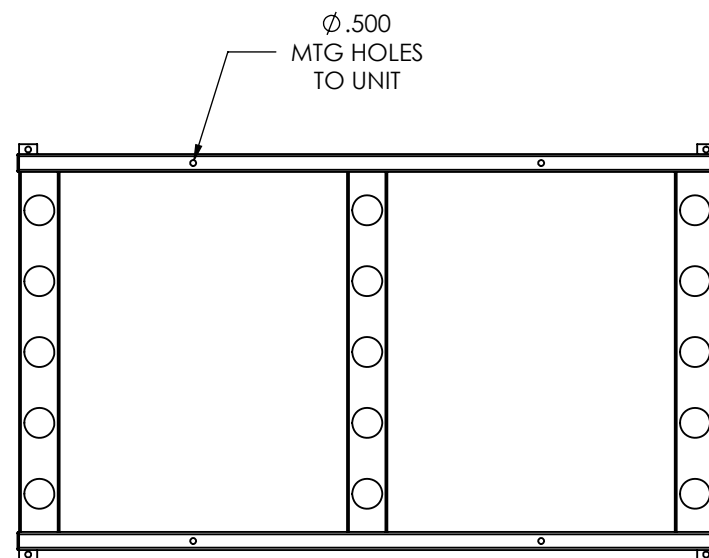
A	$SD \perp DF = DA$
----------	--------------------

A	BD	N/A	K
---	----	-----	---

REV.

SEE TABLE

ET 1 OF 1



FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"	PART NUMBER
12"	780-100-0072
18"	780-100-0082
24"	780-100-0092

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± 2° DECIMAL XXX = ±.010 XX = ±.020 X = ±.030 HOLE DIA. +.003/-000			BY	DATE		 CANATAL INTERNATIONAL 2008 INC.				
	DRAWN		PS	08/31/2009		CUSTOMER CANATAL INTERNATIONAL 2008				
	CHECKED		IZ	08/31/2009						
	CNC PROGRAM					FINAL ASSEMBLY FLOOR STAND SPDF-E, PCD042 OR PCD51				
	--									
--										
THIRD ANGLE PROJECTION 	--					PART NAME 780-100-0072/780-100-0082/780-100-0092				
	FINISH:		BLACK SMOOTH POWDERCOAT			SIZE	DWG. NO.		REV.	
	MATERIAL		THICKNESS		BD	K	SCALE: 1:16		59 SHEET 1 OF 1	
	N/A		N/A		N/A					

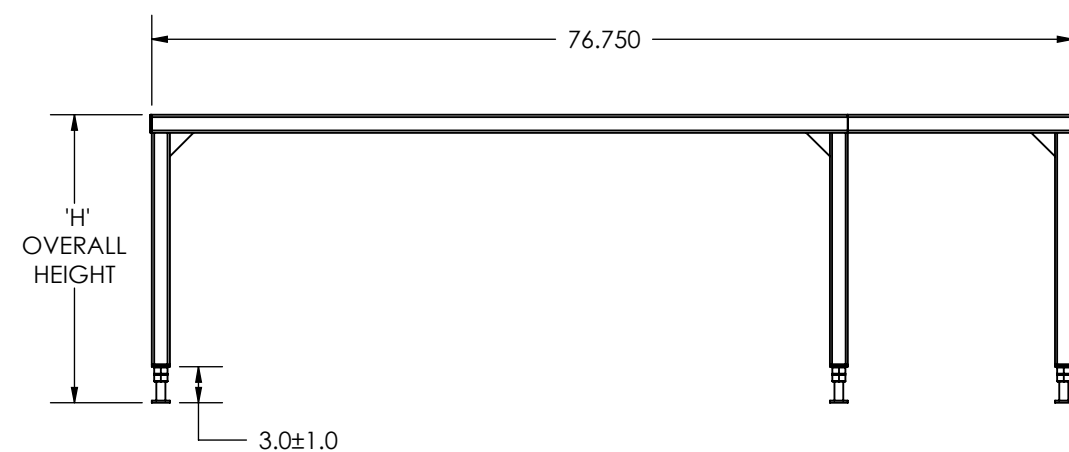
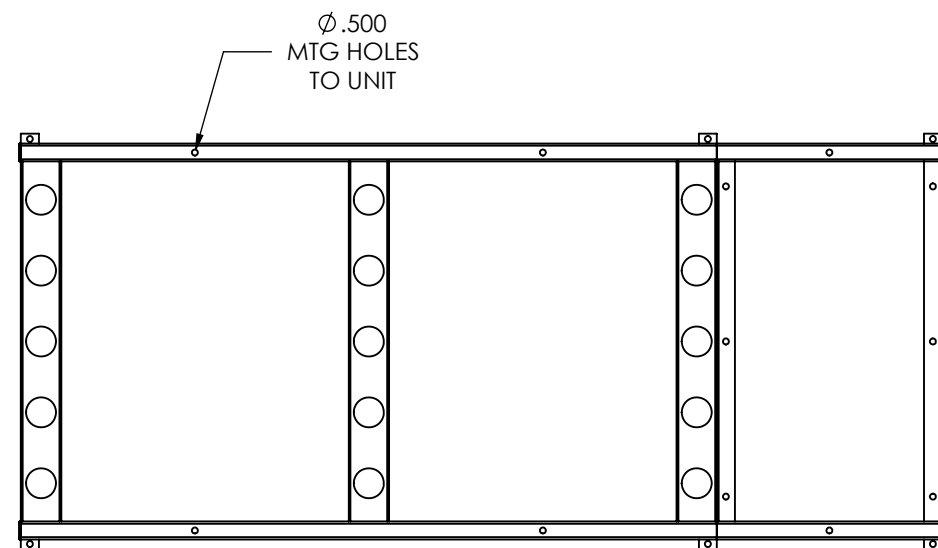
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THIRD ANGLE PROJECTION



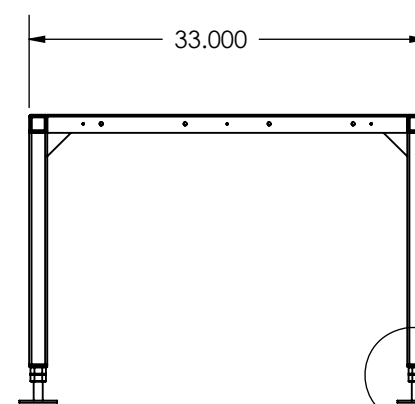
DATE PRINTED: 08/31/2009



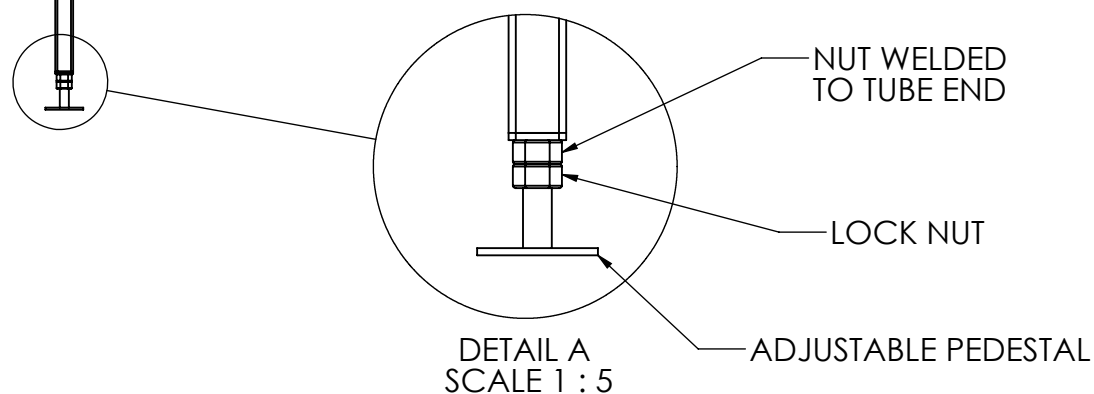
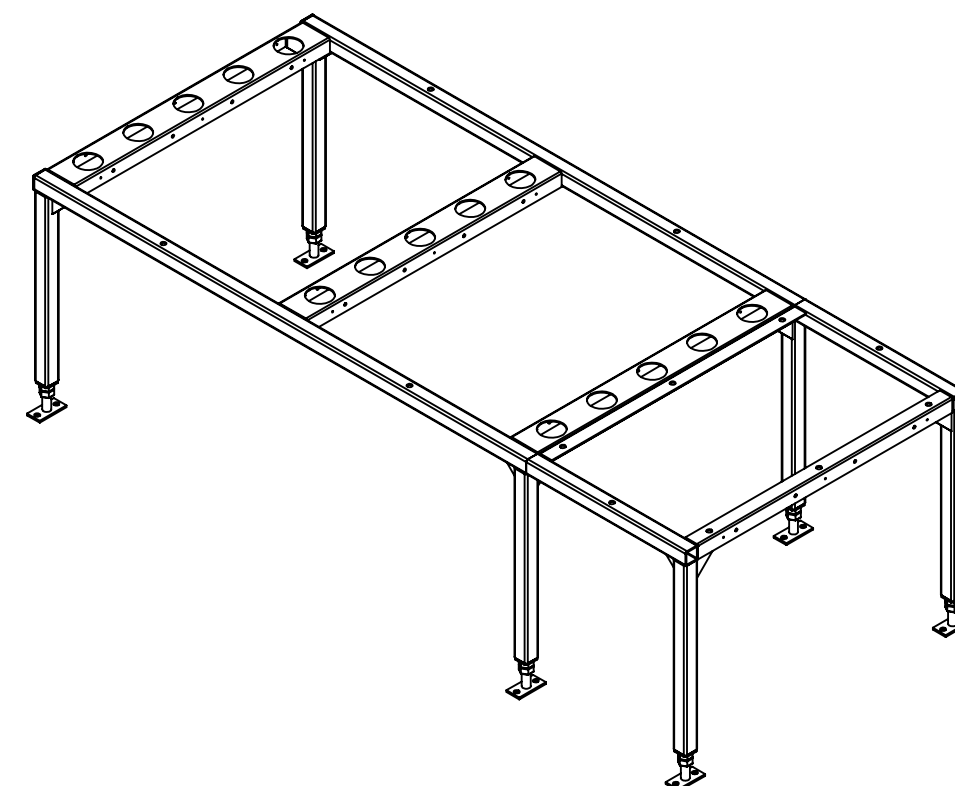
FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

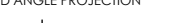
FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.



OVERALL HEIGHT
"H"
12"
18"
24"

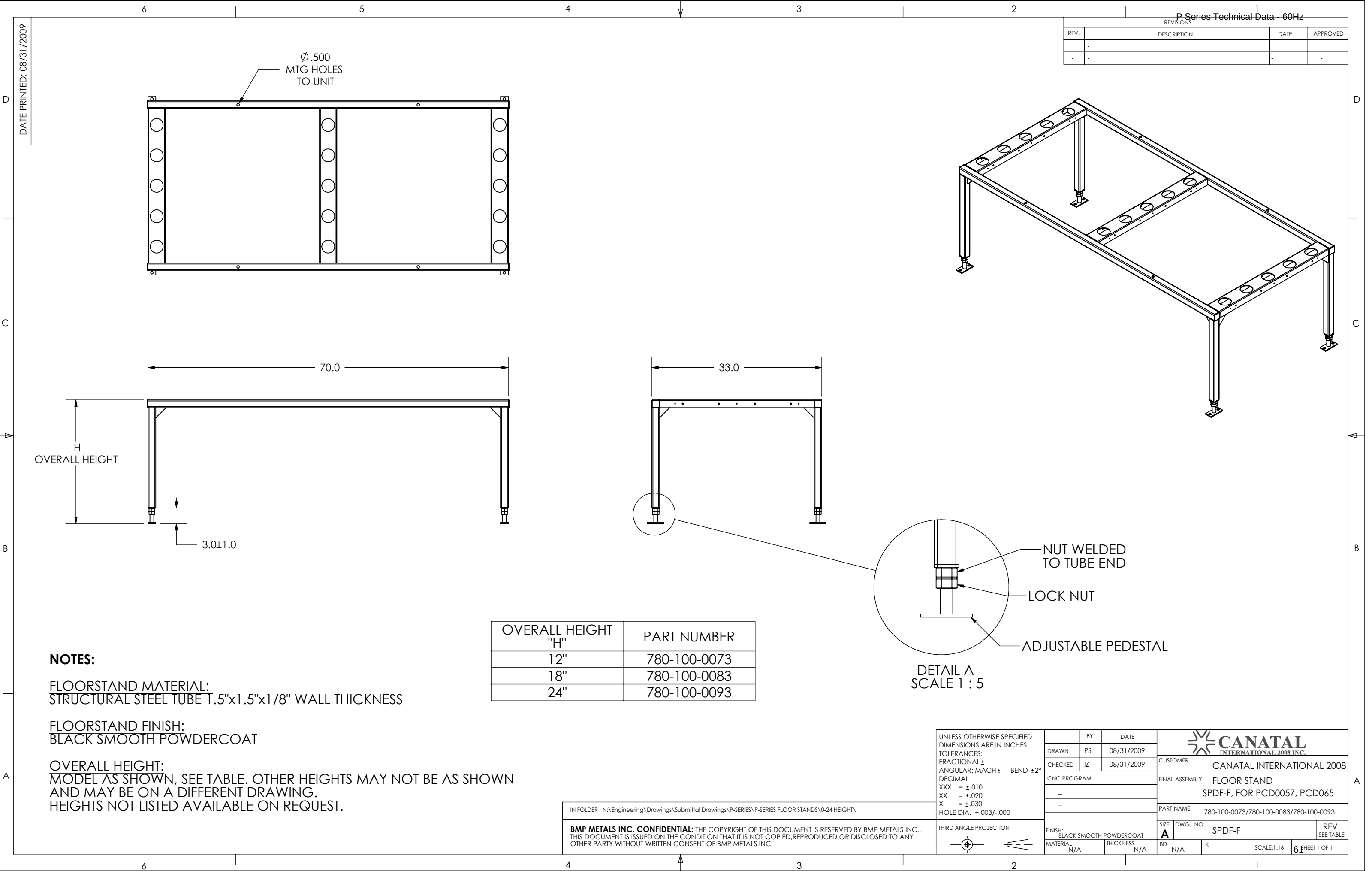


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ±2° DECIMAL XXX = ±.010 XX = ±.020 X = ±.030 HOLE DIA. +.003/-000			BY	DATE		 CANATAL INTERNATIONAL 2008 INC.			
	DRAWN		PS	08/31/2009		CUSTOMER CANATAL 2008 INTERNATIONAL			
	CHECKED		IZ	08/31/2009					
	CNC PROGRAM					FINAL ASSEMBLY 780-100-0092 + -0088 SPDF-EA			
	--								
--					PART NAME 780-100-0092 + -0088				
--									
THIRD ANGLE PROJECTION 	FINISH:		BLACK SMOOTH POWDERCOAT			SIZE	DWG. NO.		REV.
	MATERIAL		N/A		THICKNESS	N/A	SPDF-EA		SEE TABLE
	BD		N/A		K	SCALE: 1:16		60 SHEET 1 OF 1	

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P-Series Technical Data - 60Hz

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-

NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

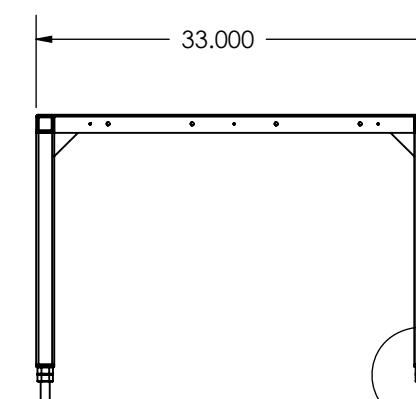
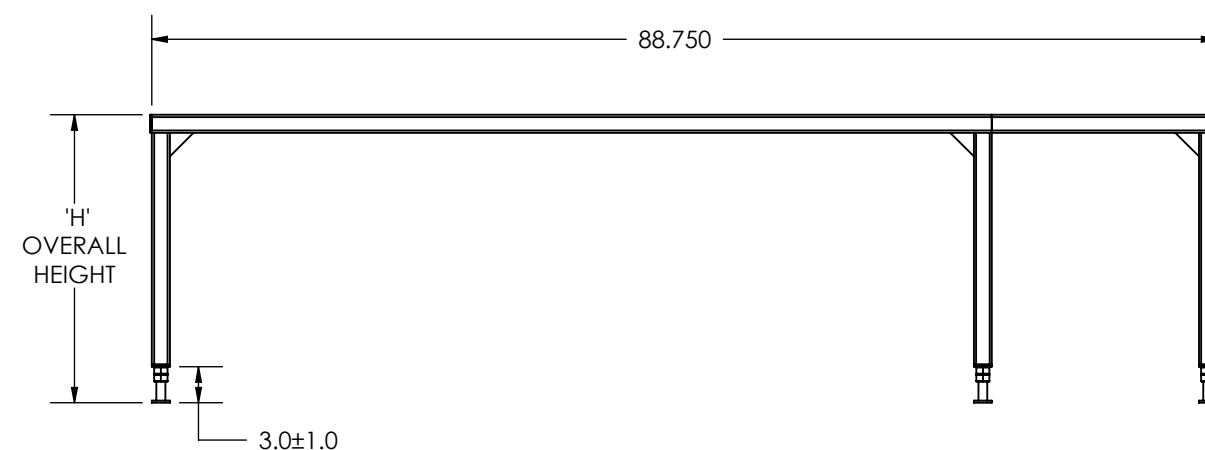
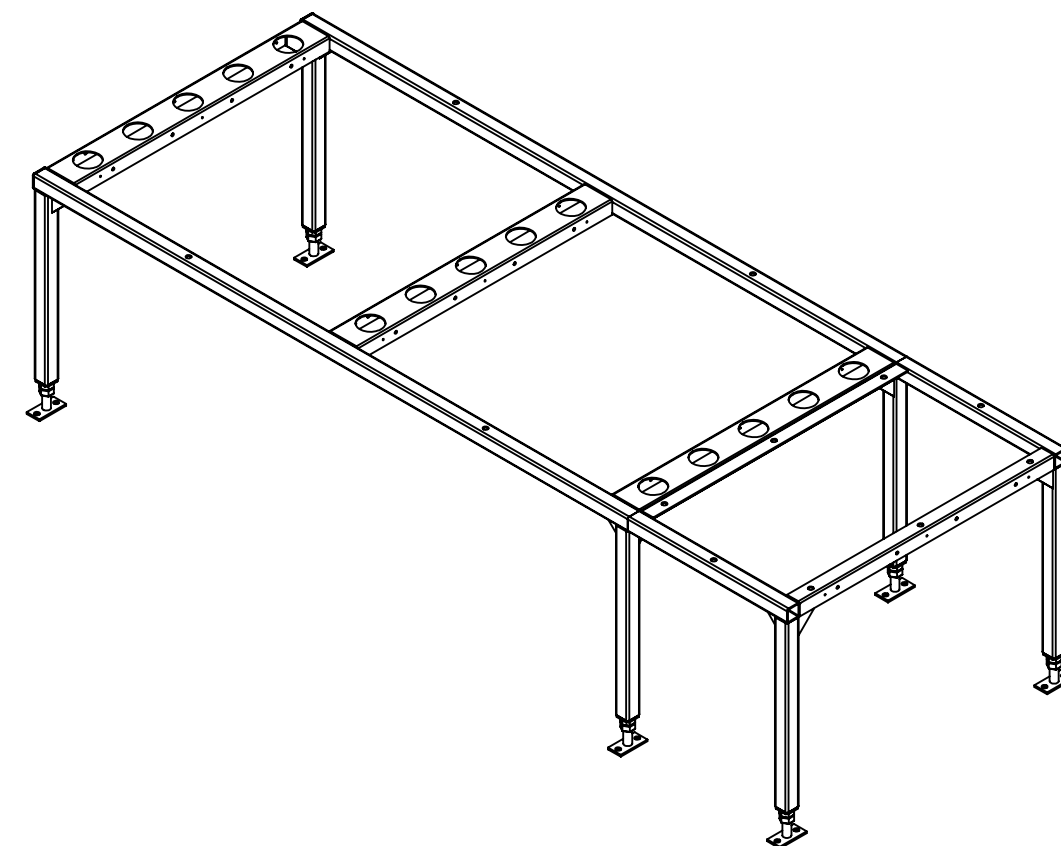
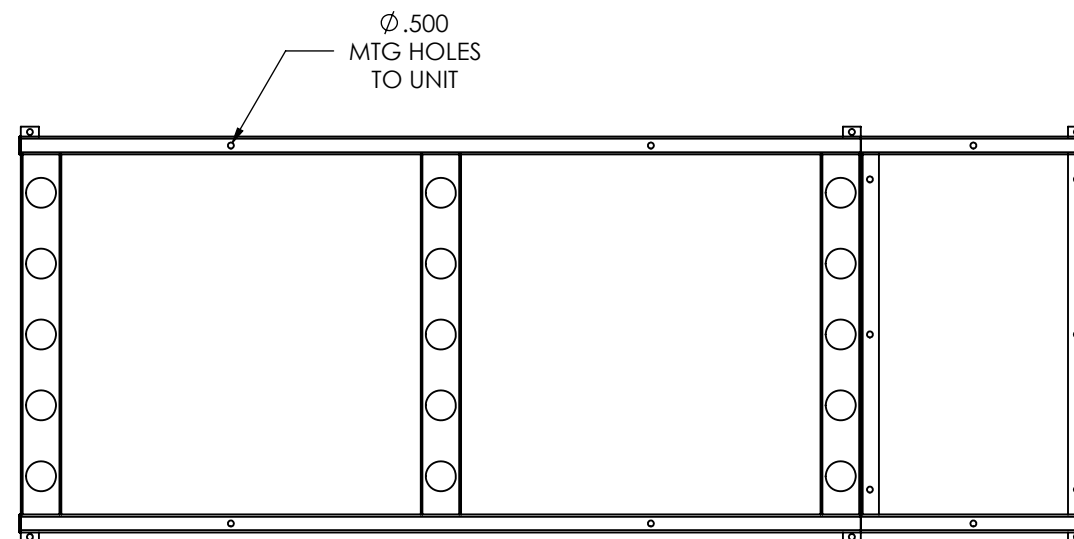
OVERALL HEIGHT "H"	PART NUMBER
12"	780-100-0073
18"	780-100-0083
24"	780-100-0093

DETAIL A
SCALE 1 : 5

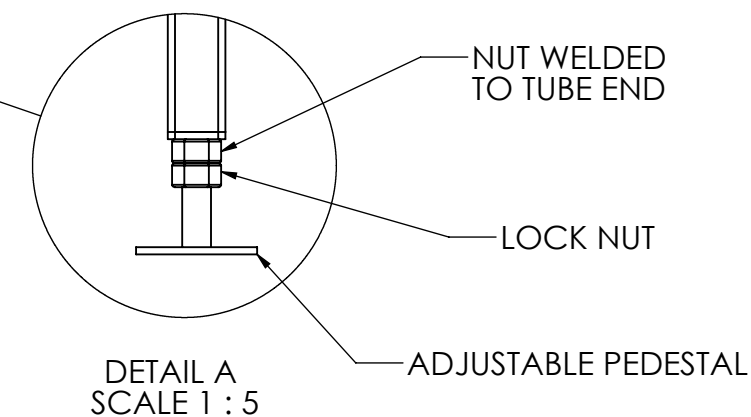
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	DRAWN	PS	08/31/2009	CUSTOMER CANATAL INTERNATIONAL 2008			
	CHECKED	IZ	08/31/2009				
	CNC PROGRAM			FINAL ASSEMBLY FLOOR STAND SPDF-F, FOR PCD0057, PCD065			
	--						
	--			PART NAME 780-100-0073/780-100-0083/780-100-0093			
	--						
THIRD ANGLE PROJECTION 	FINISH: BLACK SMOOTH POWDERCOAT			SIZE A	DWG. NO. SPDF-F	REV. SEE TABLE	
	MATERIAL N/A		THICKNESS N/A	BD N/A	K	SCALE:1:16	
						61	SHEET 1 OF 1

DATE PRINTED: 08/31/2009



OVERALL HEIGHT "H"
12"
18"
24"

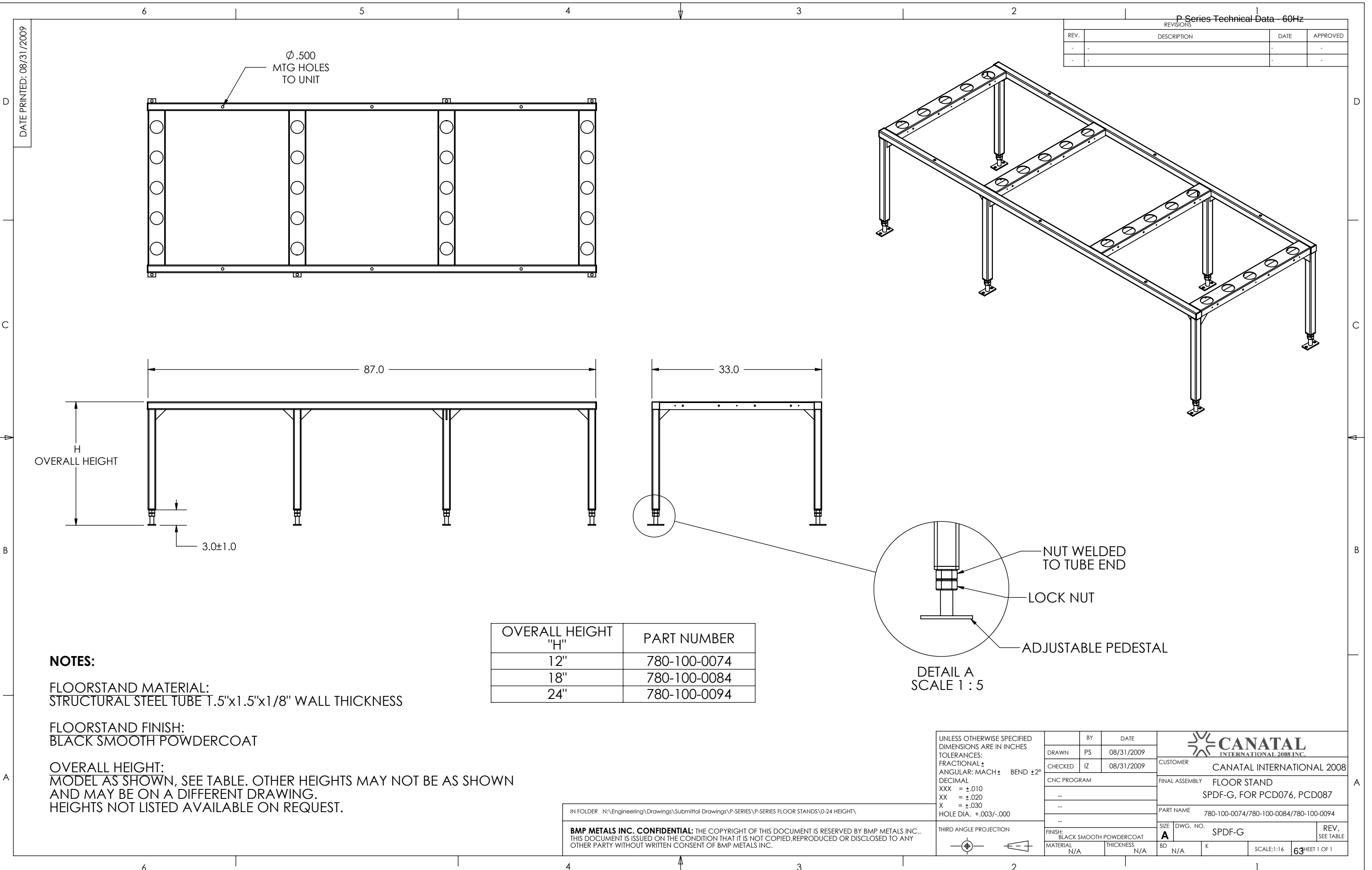


OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

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	DRAWN	PS	08/31/2009	CUSTOMER												
	CHECKED	IZ	08/31/2009	CANATAL 2008 INTERNATIONAL												
	CNC PROGRAM			FINAL ASSEMBLY												
	--			780-100-0093 + -0088												
	--			SPDF-FA												
THIRD ANGLE PROJECTION 	--			PART NAME												
	--			780-100-0093 + -0088												
	FINISH:			SIZE	DWG. NO.					REV.						
	BLACK SMOOTH POWDERCOAT			A	SPDF-FA					SEE TABLE						
MATERIAL		N/A		THICKNESS		N/A		BD	N/A		K	SCALE: 1:16		62	SHEET 1 OF 1	



DATE PRINTED: 08/31/2009

P-Series Technical Data - 60Hz

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-

NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"	PART NUMBER
12"	780-100-0074
18"	780-100-0084
24"	780-100-0094

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TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±2°
DECIMAL
XXX = ±.010
XX = ±.020
X = ±.030
HOLE DIA. +.003/-.000

THIRD ANGLE PROJECTION

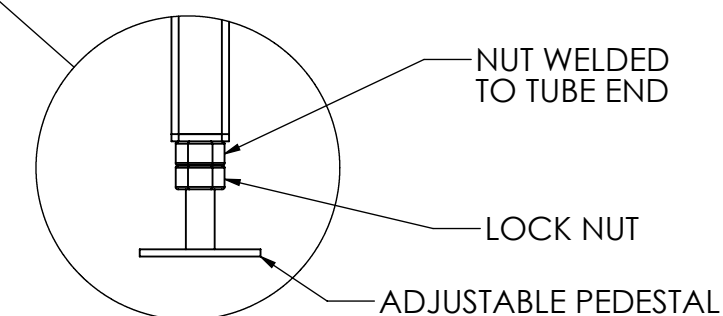
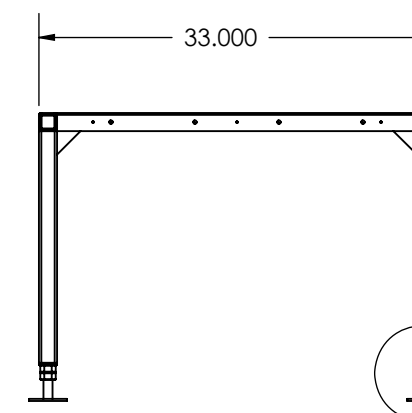
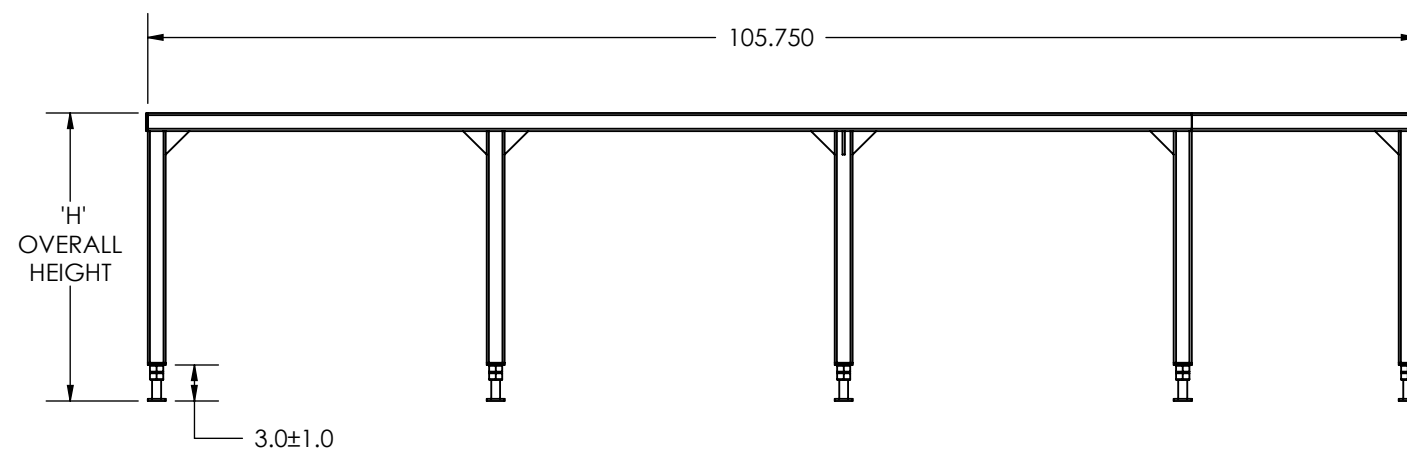
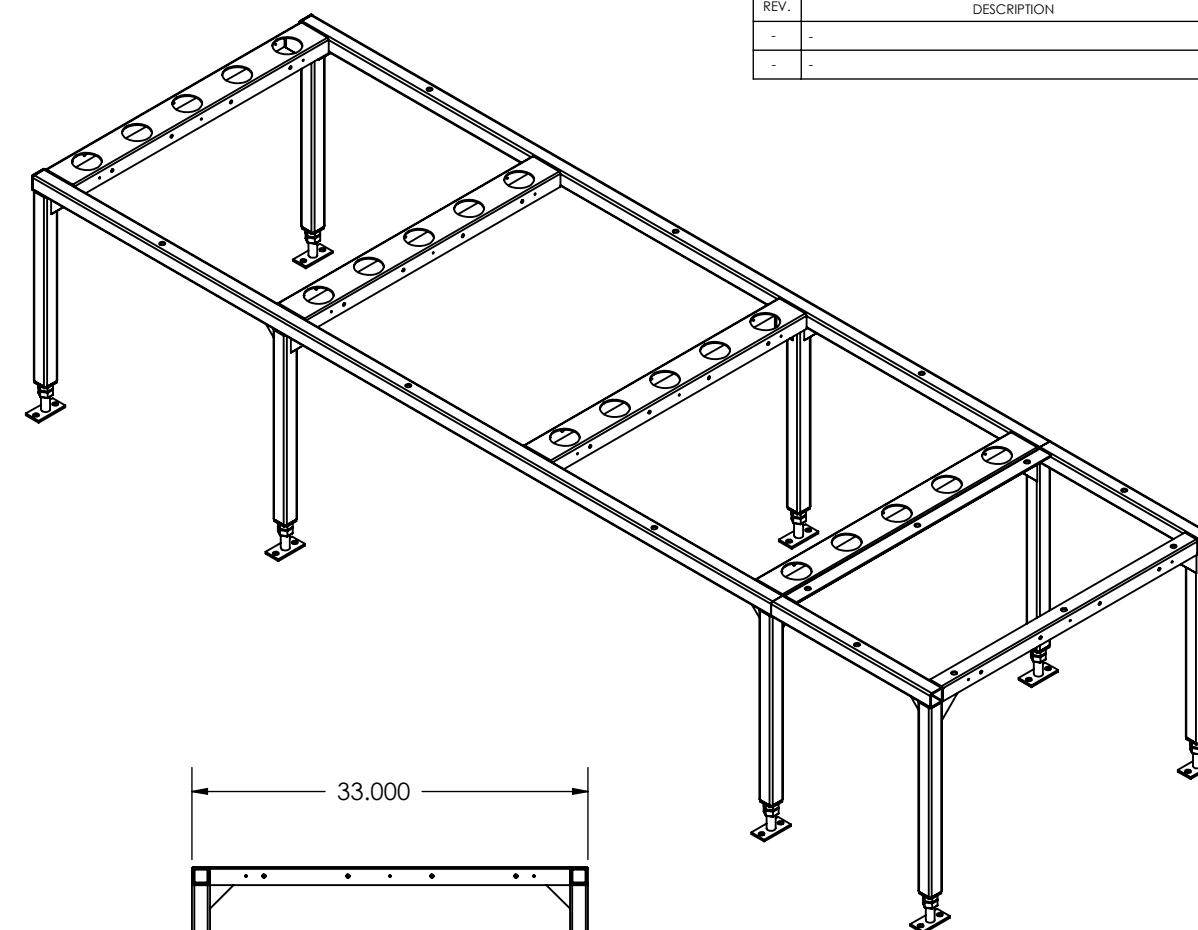
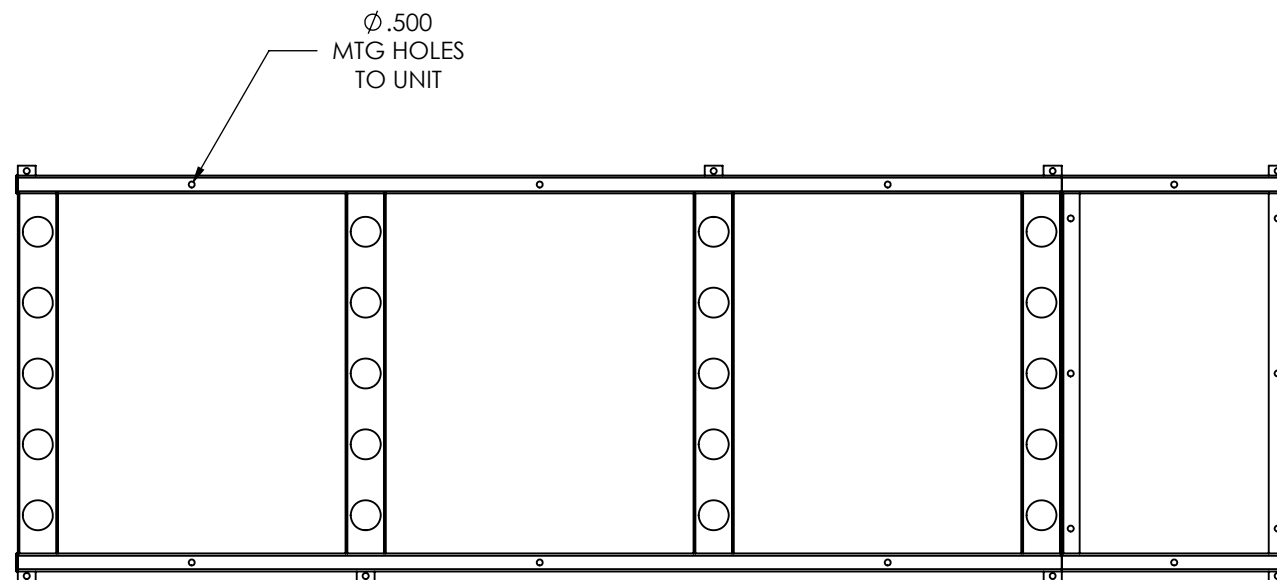


	BY	DATE
DRAWN	PS	08/31/2009
CHECKED	IZ	08/31/2009
CNC PROGRAM		
--		
--		
--		

FINISH: BLACK SMOOTH POWDERCOAT
MATERIAL N/A
THICKNESS N/A

	
CUSTOMER CANATAL INTERNATIONAL 2008	
FINAL ASSEMBLY FLOOR STAND SPDF-G, FOR PCD076, PCD087	
PART NAME 780-100-0074/780-100-0084/780-100-0094	
SIZE A	DWG. NO. SPDF-G
BD N/A	K
SCALE:1:16	63
SHEET 1 OF 1	

DATE PRINTED: 08/31/2009



DETAIL A
SCALE 1 : 5

NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"
12"
18"
24"

IN FOLDER N:\Engineering\Drawings\Submittal Drawings\P-SERIES\P-SERIES FLOOR STANDS\0-24 HEIGHT\

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TOLERANCES:
FRACTIONAL $\pm$
ANGULAR: MACH $\pm$ BEND $\pm 2^\circ$
DECIMAL
XXX = $\pm .010$
XX = $\pm .020$
X = $\pm .030$
HOLE DIA. $+.003/-0.000$

THIRD ANGLE PROJECTION



	BY	DATE
DRAWN	PS	08/31/2007
CHECKED	IZ	08/31/2007
CNC PROGRAM		
--		
--		
--		
FINISH: BLACK SMOOTH POWDERCOAT		
MATERIAL	N/A	THICKNESS
		N/A



CANATAL
INTERNATIONAL 2008 INC.

CUSTOMER	CANATAL 2008 INTERNATIONAL
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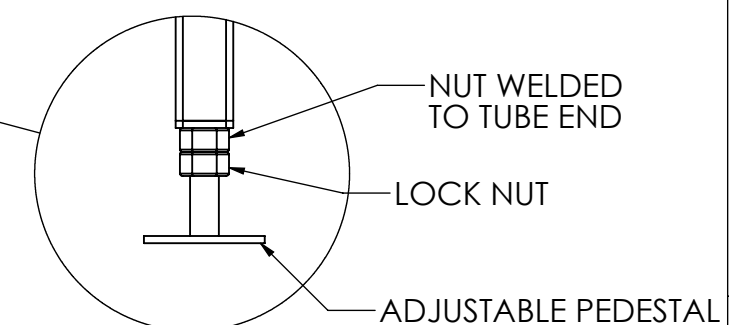
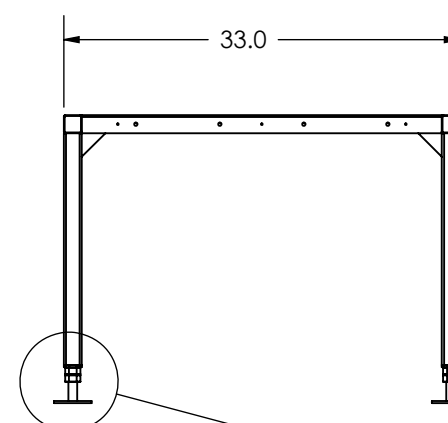
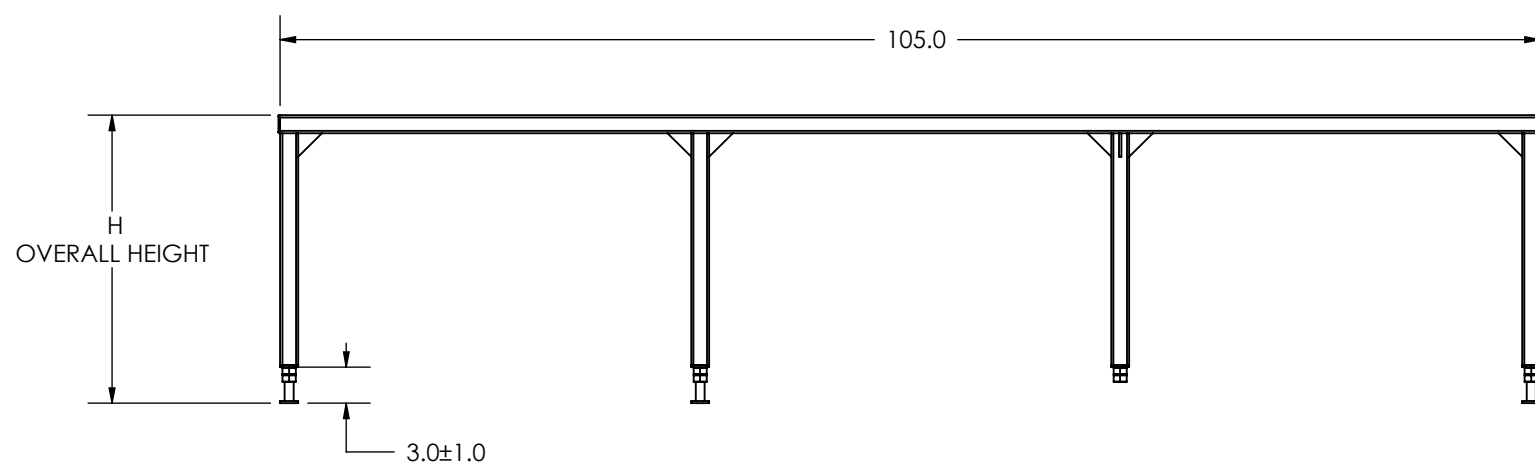
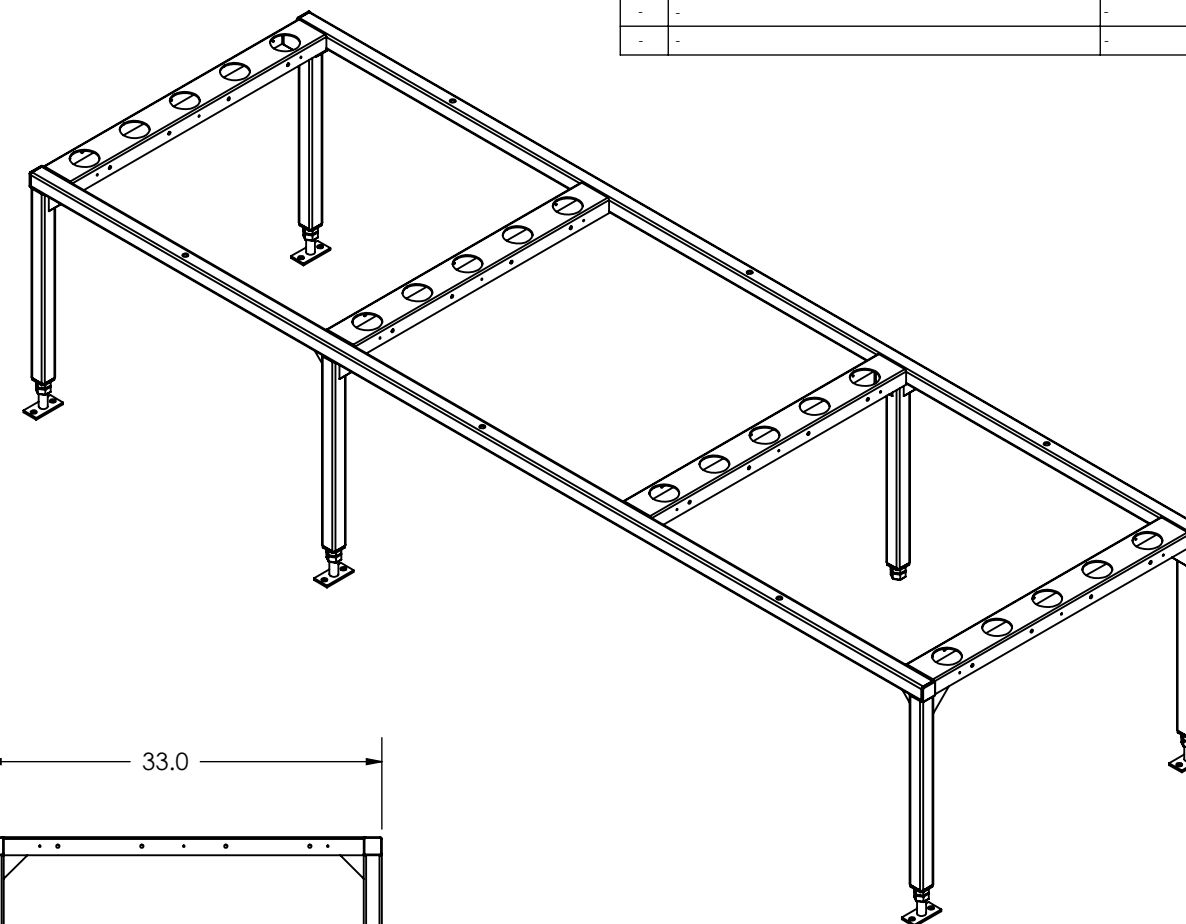
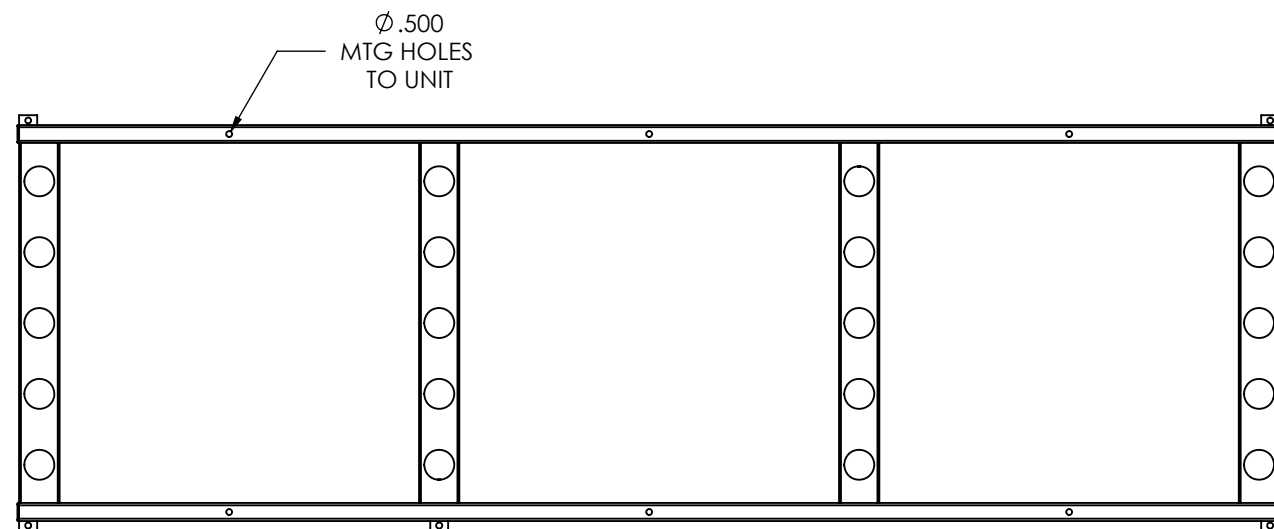
FINAL ASSEMBLY	780-100-0094 + -0088
	SPDF-GA

PART NAME	780-100-0094 + -0088
-----------	----------------------

SIZE A	DWG. NO. SPDF-GA	REV. SEE TABLE
------------------	---------------------	-------------------

BD	N/A	K	SCALE:1:16	64 SHEET 1 OF 1
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DATE PRINTED: 08/31/2009



DETAIL A
SCALE 1 : 5

NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"	PART NUMBER
12"	780-100-0075
18"	780-100-0085
24"	780-100-0095

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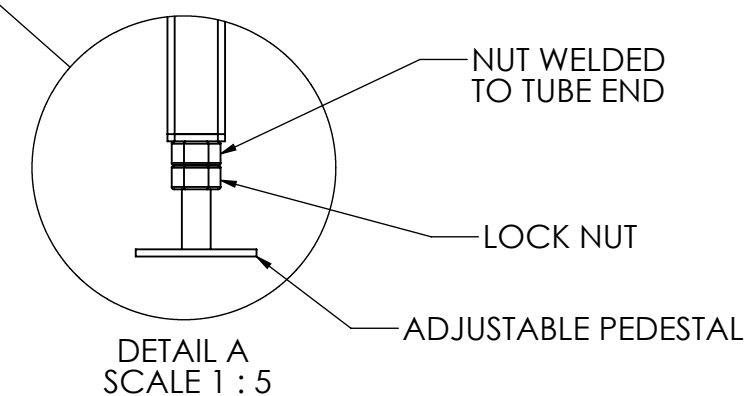
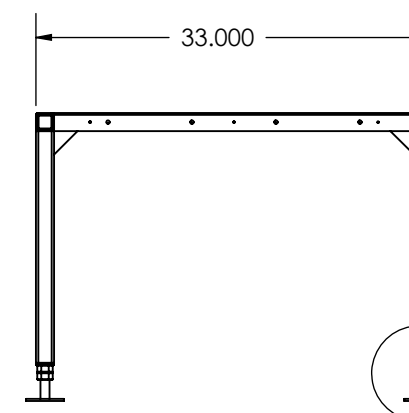
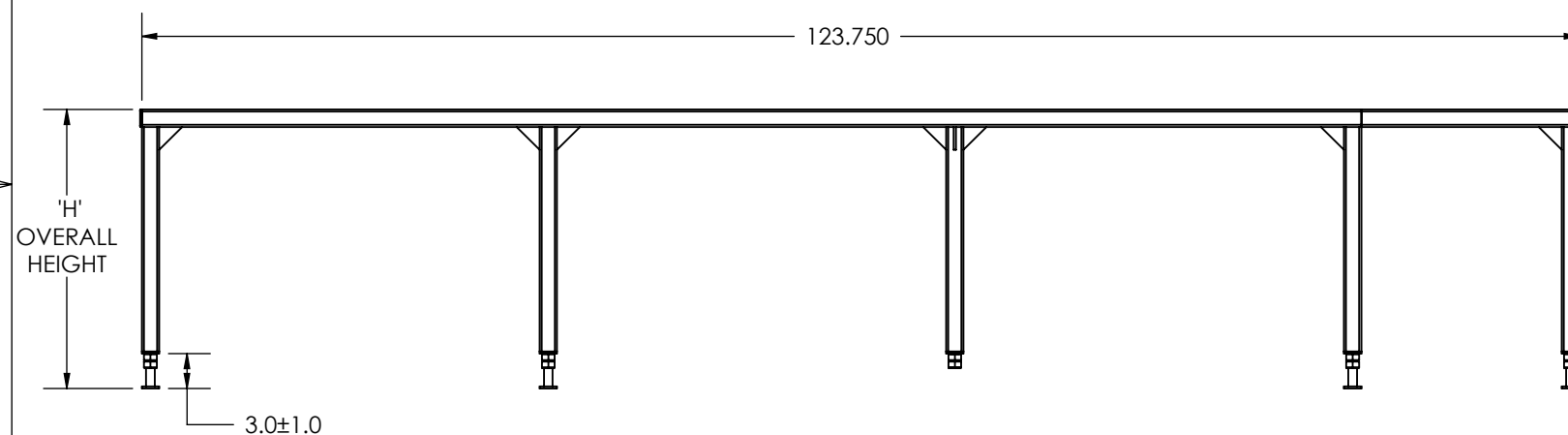
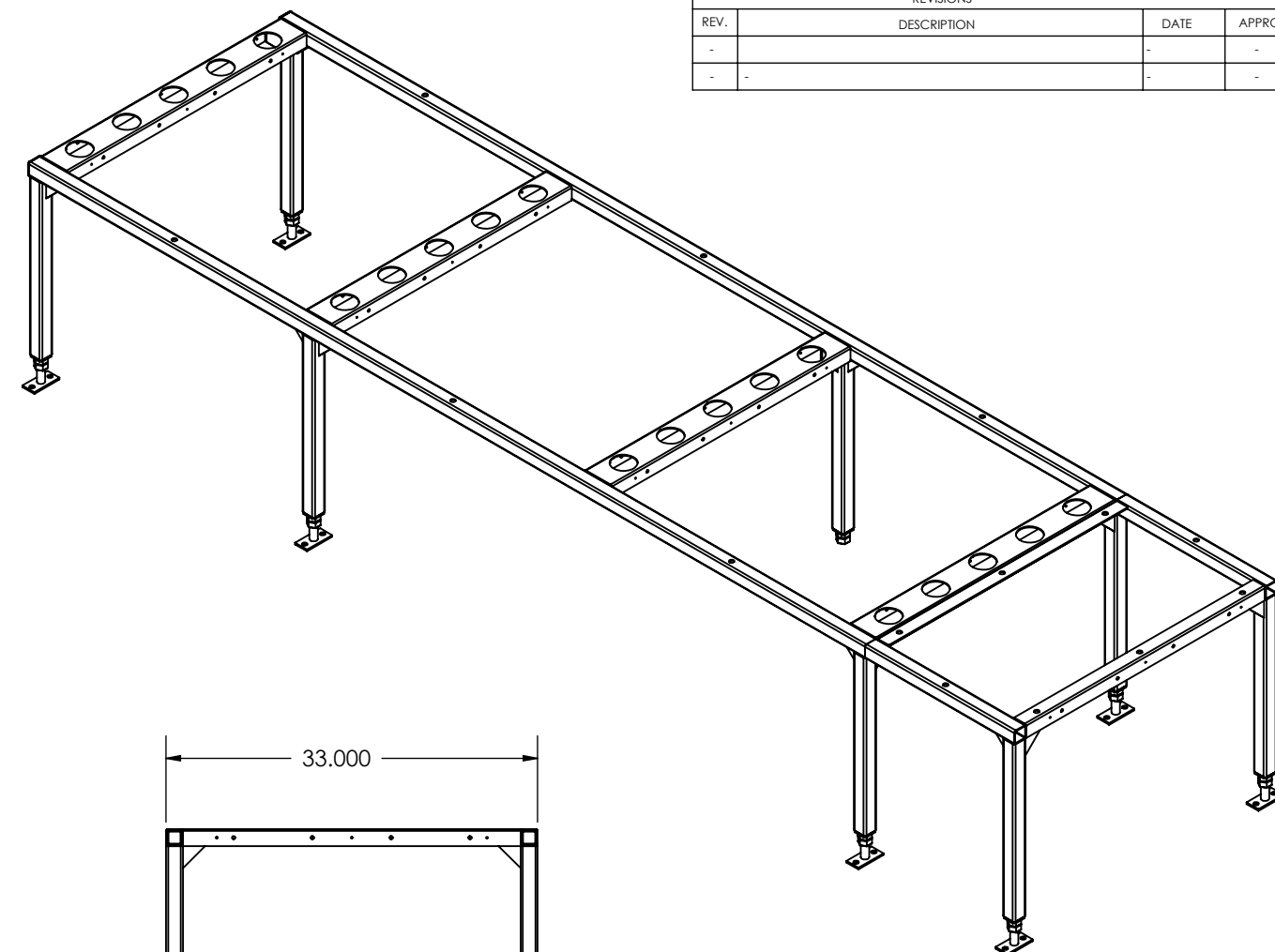
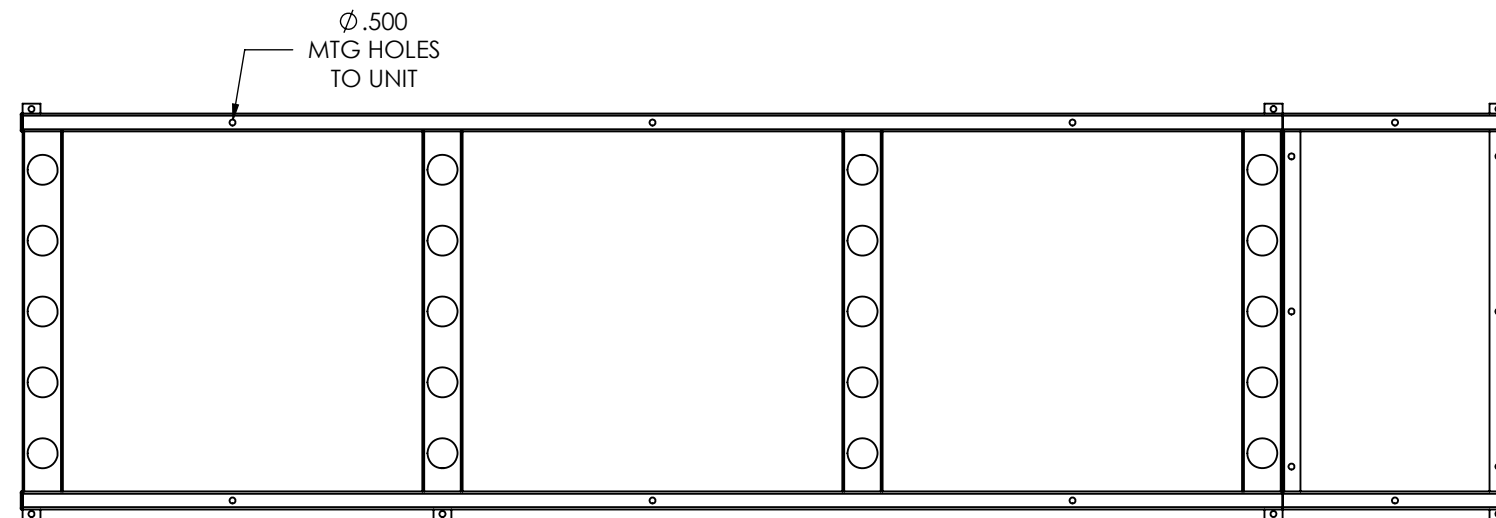
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
DECIMAL
XXX = ±.010
XX = ±.020
X = ±.030
HOLE DIA. +.003/- .000

THIRD ANGLE PROJECTION



	BY	DATE	 CANATAL INTERNATIONAL 2008 INC.					
DRAWN	PS	08/31/2009						
CHECKED	IZ	08/31/2009	CUSTOMER	CANATAL INTERNATIONAL 2008				
2°	CNC PROGRAM		FINAL ASSEMBLY	FLOOR STAND				
	--		SPDF-H, FOR PCD095, PCD106, PCD111					
	--		PART NAME					
	--		780-100-0075/780-100-0085/780-100-0095					
	FINISH: BLACK SMOOTH POWDERCOAT		SIZE	DWG. NO.	SPDF-H			REV.
			A				SEE TABLE	
	MATERIAL	THICKNESS	BD	K	SCALE:1:16	65 SHEET 1 OF 1		
	N/A	N/A	N/A					

DATE PRINTED: 08/31/2009



NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"
12"
18"
24"

IN FOLDER N:\Engineering\Drawings\Submittal Drawings\P-SERIES\P-SERIES FLOOR STANDS\0-24 HEIGHT

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DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm$
ANGULAR: MACH $\pm$ BEND $\pm 2^\circ$
DECIMAL
XXX = $\pm .010$
XX = $\pm .020$
X = $\pm .030$
HOLE DIA. $+.003/-0.000$

THIRD ANGLE PROJECTION



	BY	DATE
DRAWN	PS	08/31/2009
CHECKED	IZ	08/31/2009
CNC PROGRAM		

FINISH: BLACK SMOOTH POWDERCOAT		
MATERIAL N/A		THICKNESS N/A



CANATAL
INTERNATIONAL 2008 INC.

CUSTOMER	CANATAL 2008 INTERNATIONAL
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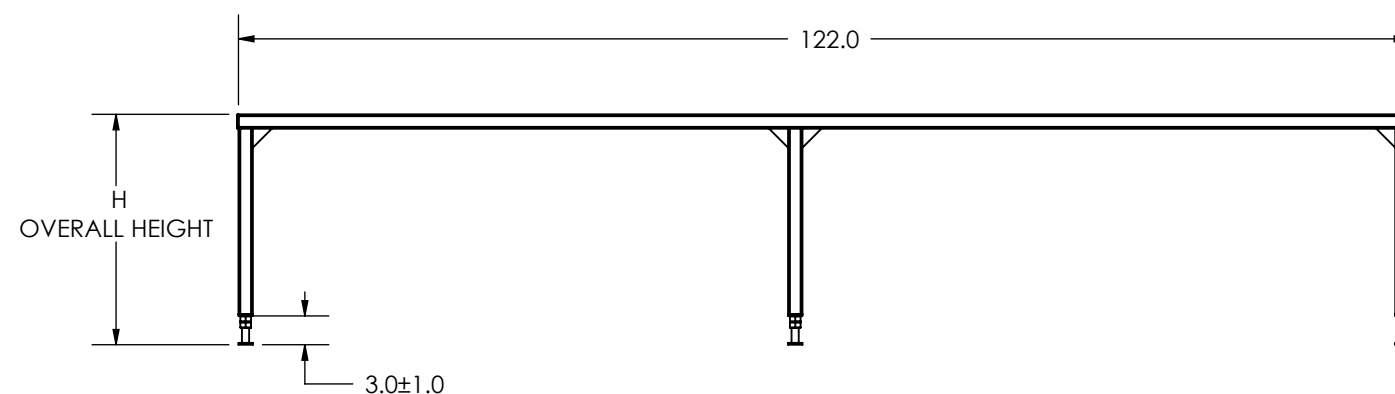
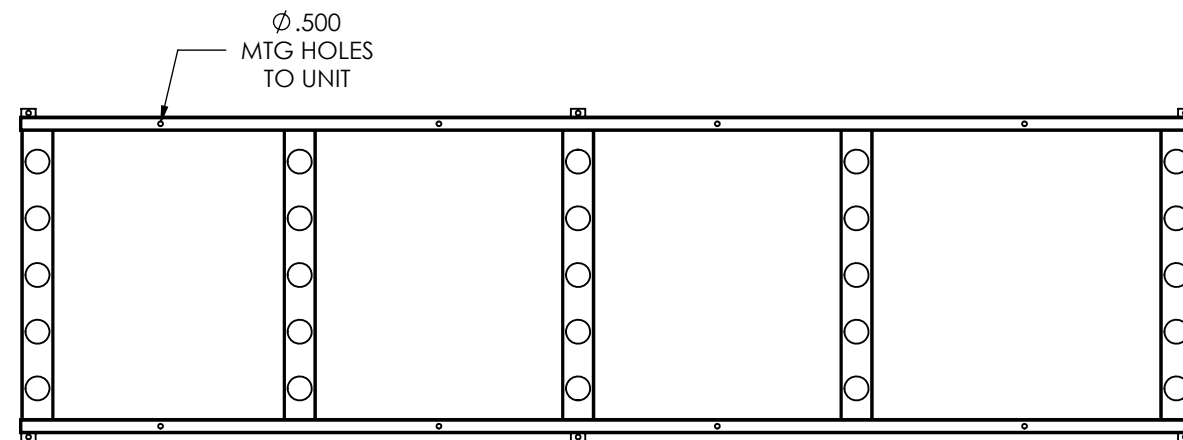
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----------------	---------------------------------

PART NAME	780-100-0095 + -0098

SIZE A	DWG. NO. SPDF-HA	REV. SEE TABLE
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BD	N/A	K	SCALE:1:16	66 SHEET 1 OF 1
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DATE PRINTED: 08/31/2009



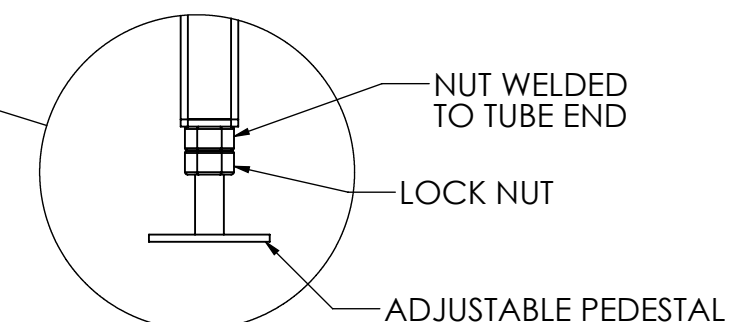
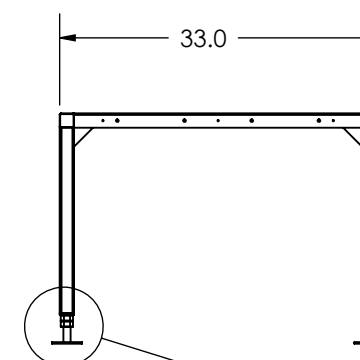
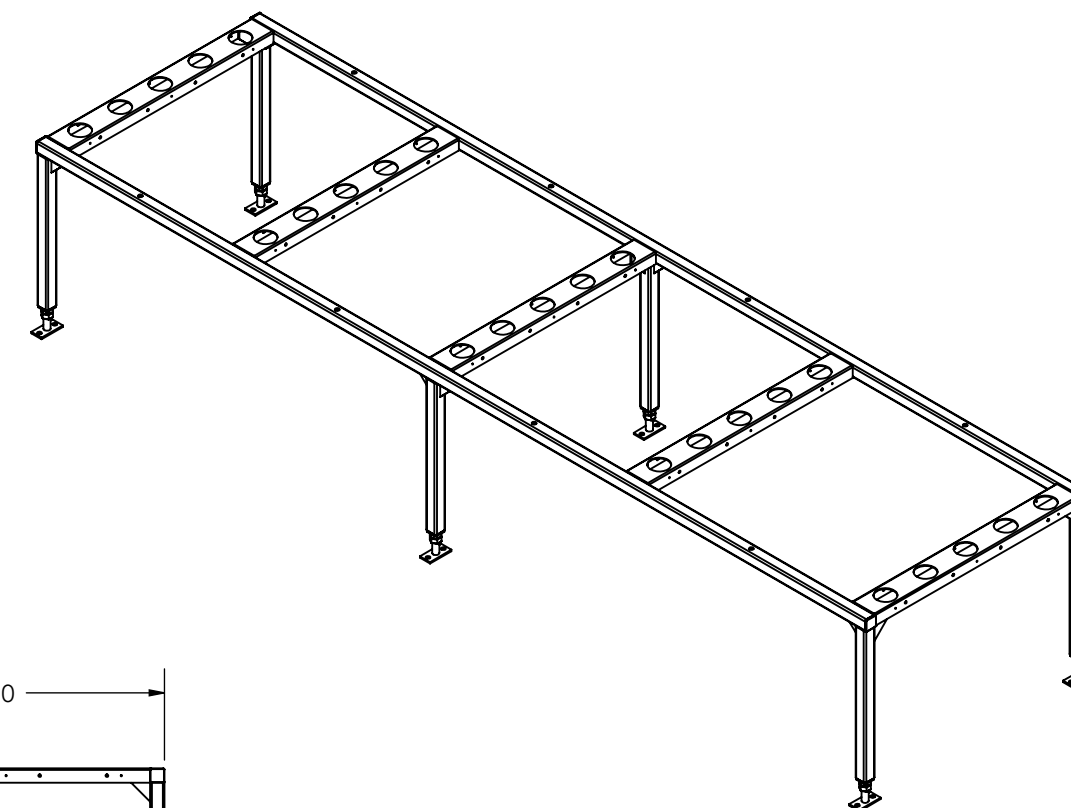
OVERALL HEIGHT "H"	PART NUMBER
12"	780-100-0076
18"	780-100-0086
24"	780-100-0096

NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

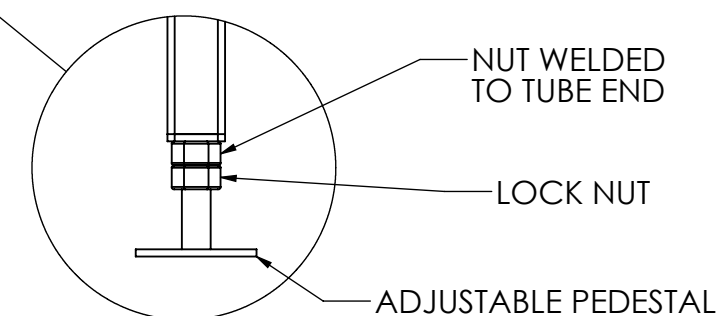
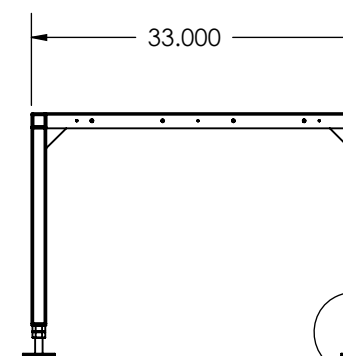
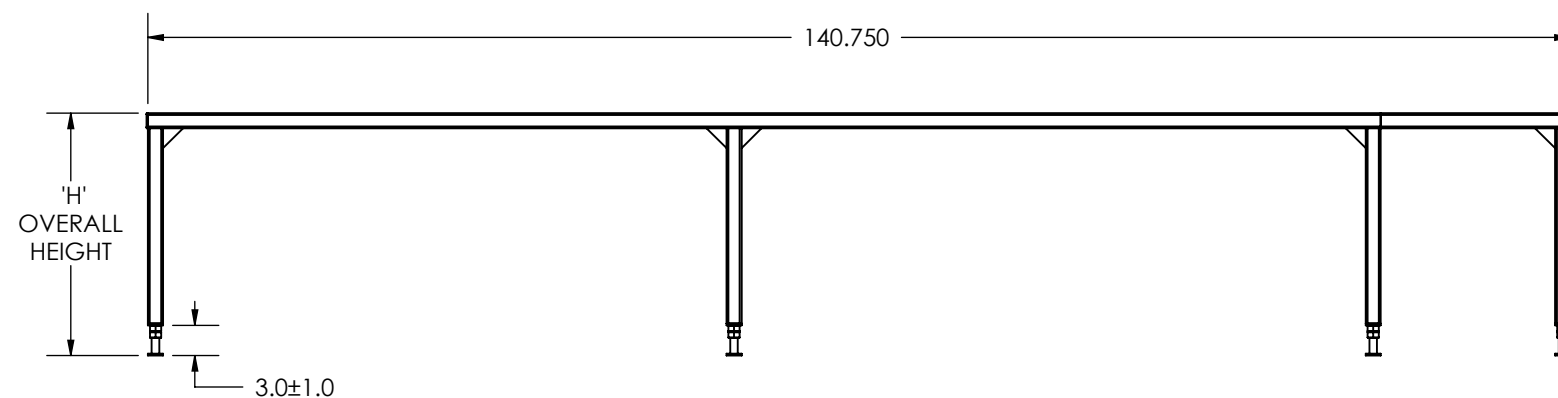
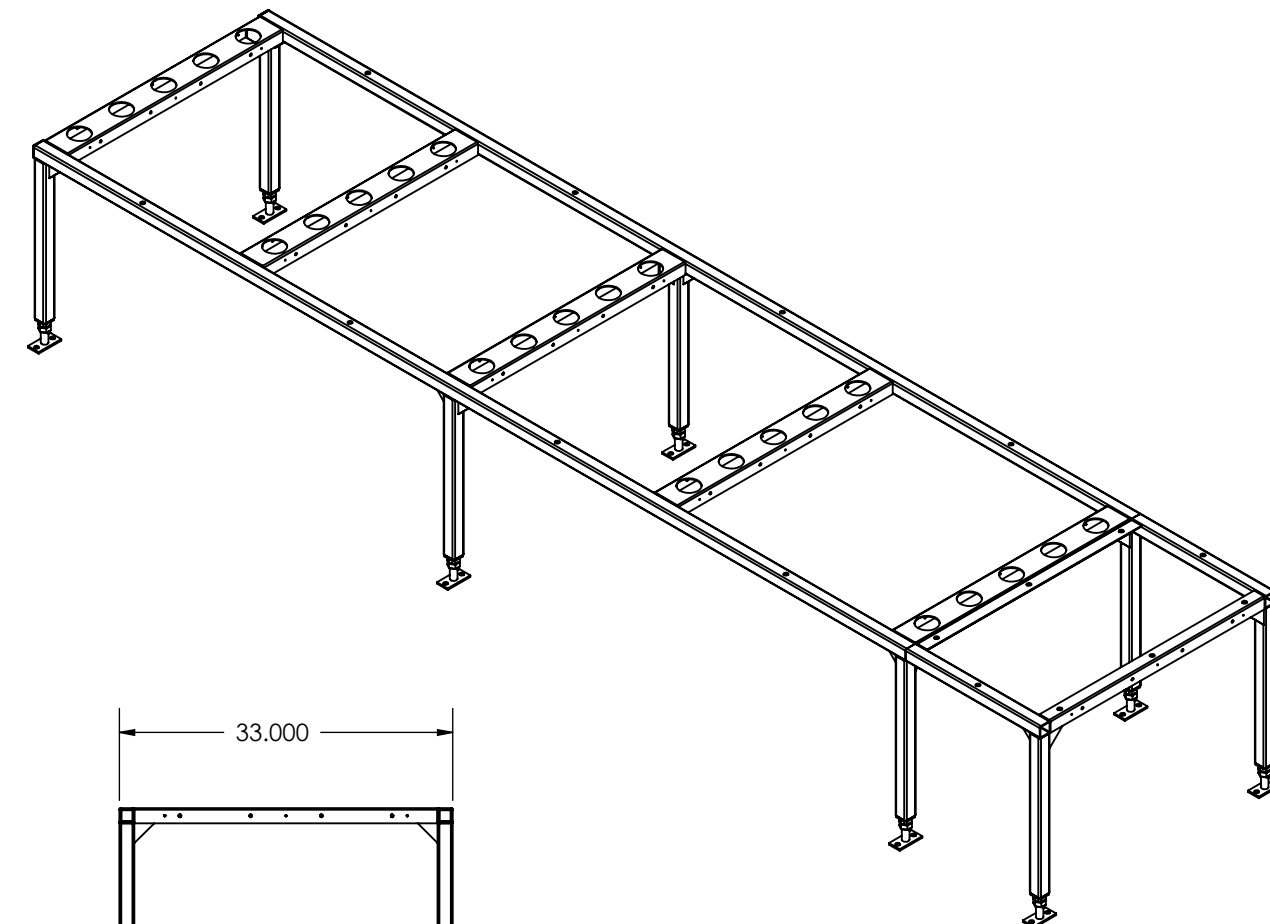
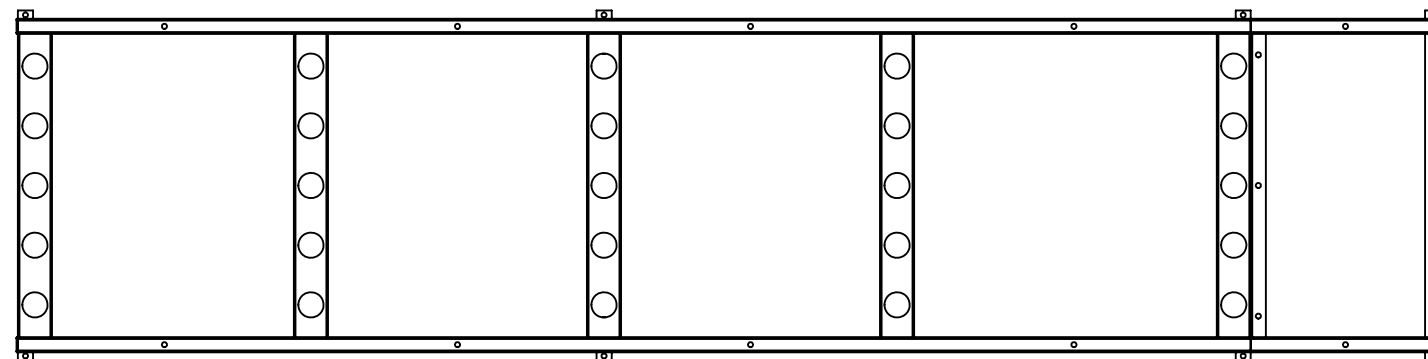
OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.



DETAIL A
SCALE 1 : 5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± 2° DECIMAL XXX = ±.010 XX = ±.020 X = ±.030 HOLE DIA. +.003/- .000			BY	DATE		 CANATAL INTERNATIONAL 2008 INC.			
	DRAWN	PS	08/31/2009		CUSTOMER CANATAL INTERNATIONAL 2008				
	CHECKED	IZ	08/31/2009						
	CNC PROGRAM				FINAL ASSEMBLY FLOOR STAND SPDF-J, FOR PCD119, PCD127, PCD136				
	--								
--									
THIRD ANGLE PROJECTION 					PART NAME 780-100-0076/780-100-0086/780-100-0096				
	FINISH: BLACK SMOOTH POWDERCOAT				SIZE	DWG. NO.		REV. SEE TABLE	
	MATERIAL N/A		THICKNESS N/A		BD	K			
							SCALE: 1:20		67 SHEET 1 OF 1

DATE PRINTED: 08/31/2009



DETAIL A
SCALE 1 : 5

NOTES:

FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"
12"
18"
24"

IN FOLDER N:\Engineering\Drawings\Submittal Drawings\P-SERIES\P-SERIES FLOOR STANDS\0-24 HEIGHT\

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TOLERANCES:
FRACTIONAL $\pm$
ANGULAR: MACH $\pm$ BEND
DECIMAL
XXX = $\pm .010$
XX = $\pm .020$
X = $\pm .030$
HOLE DIA. +.003/- .000

THIRD ANGLE PROJECTION

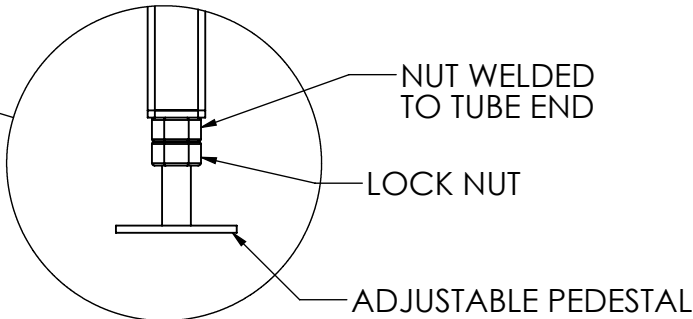
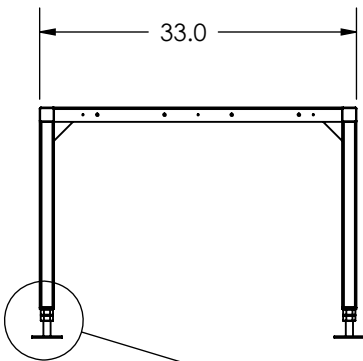
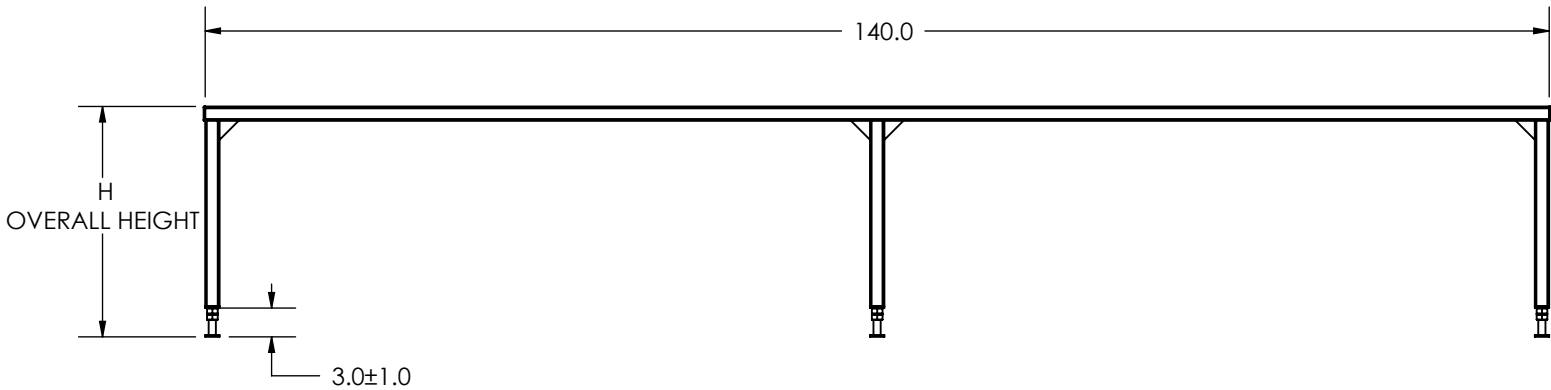
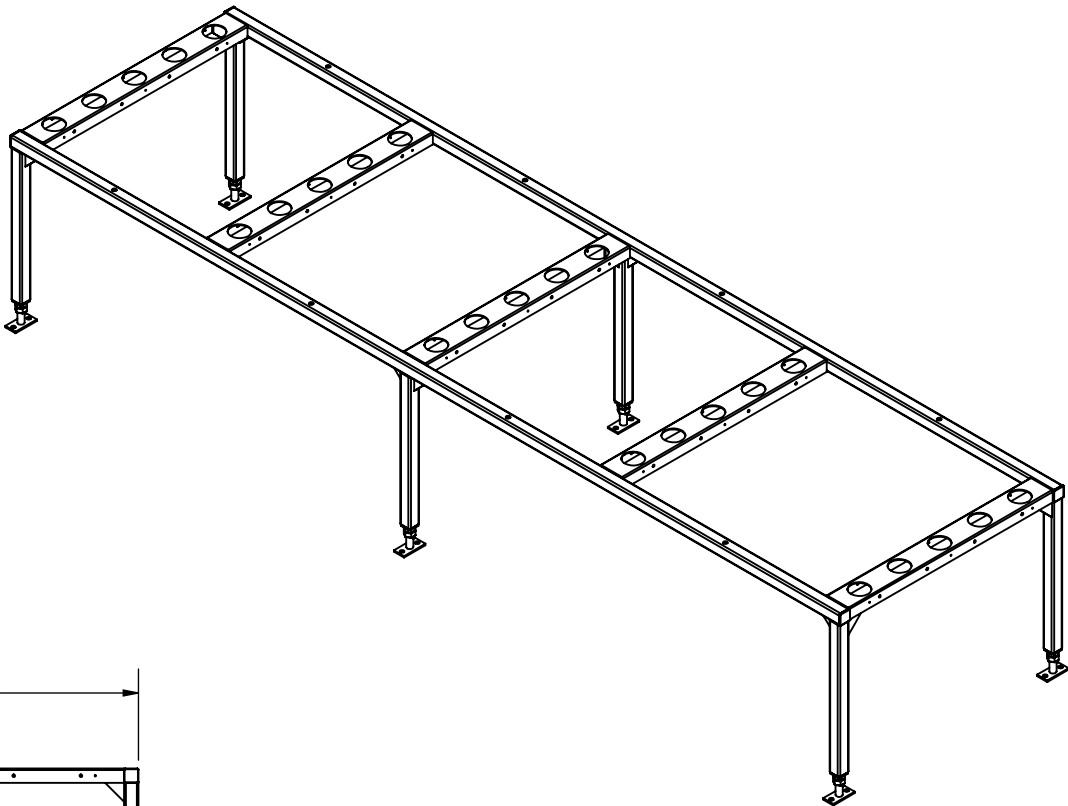
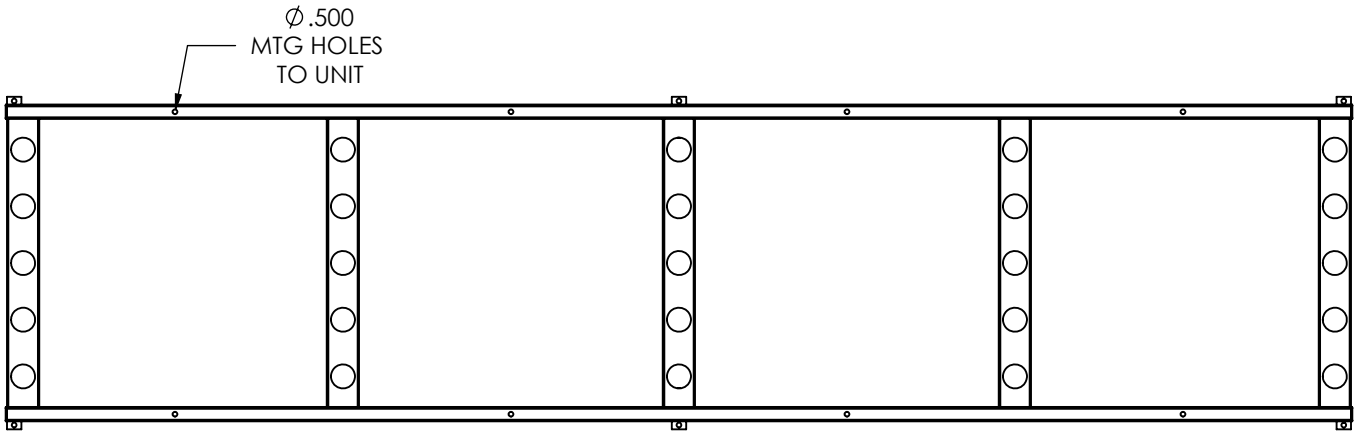


	BY	DATE	 CANATAL INTERNATIONAL 2008 INC.		
DRAWN	PS	08/31/2009			
CHECKED	IZ	08/31/2009	CUSTOMER		
CNC PROGRAM			CANATAL 2008 INTERNATIONAL		
--			FINAL ASSEMBLY		
--			780-100-0096 + -0088		
--			SPDF-JA		
--			PART NAME		
FINISH: BLACK SMOOTH POWDERCOAT			780-100-0096 + -0088		
MATERIAL		THICKNESS	SIZE	DWG. NO.	REV.
N/A		N/A	A	SPDF-JA	SEE TABLE
BD		N/A	K	SCALE:1:19	68 SHEET 1 OF 1

DATE PRINTED: 08/31/2009

P-Series Technical Data - 60Hz

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-



DETAIL A
SCALE 1 : 5

NOTES:
FLOORSTAND MATERIAL:
STRUCTURAL STEEL TUBE 1.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

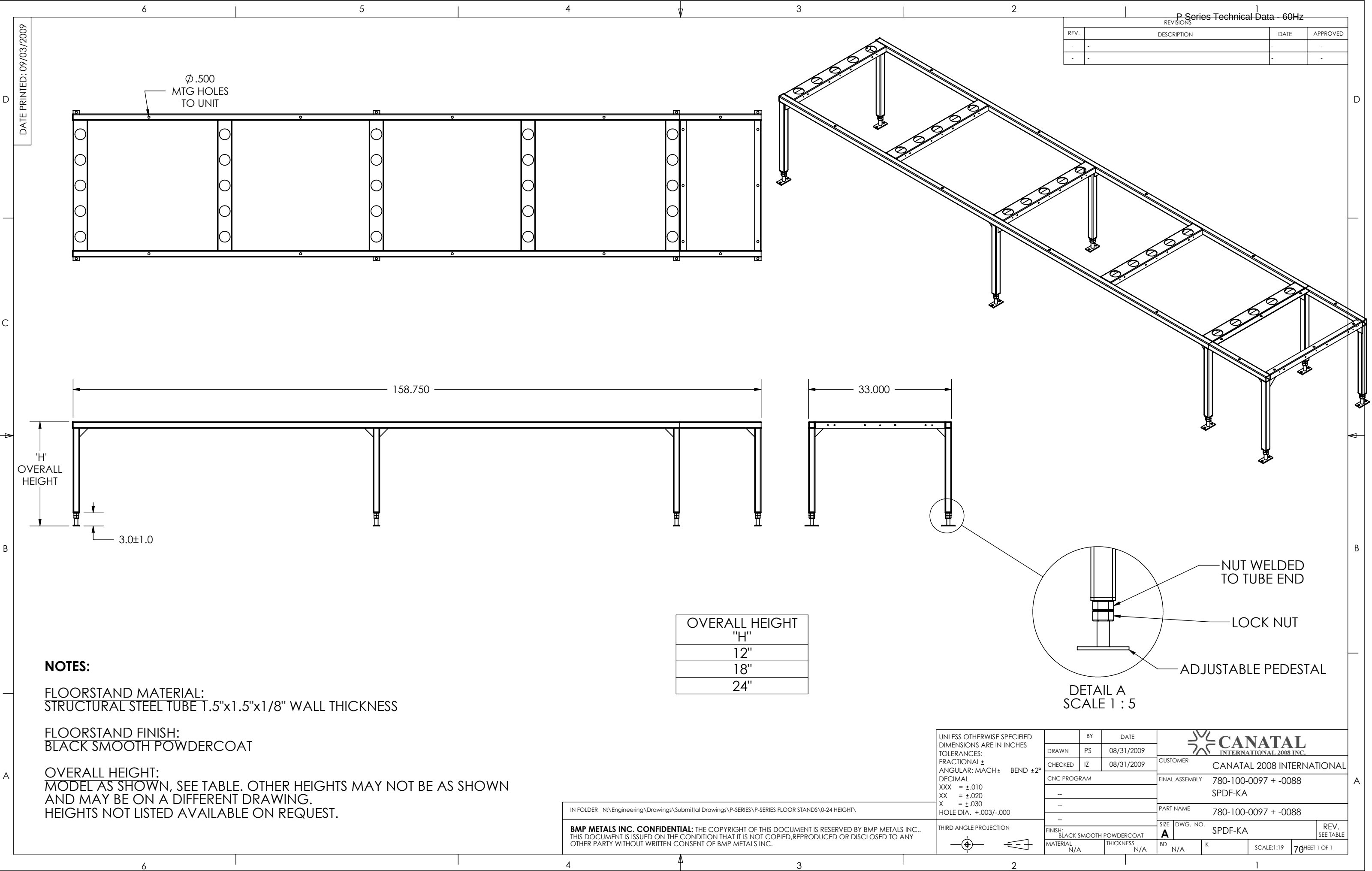
OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"	PART NUMBER
12"	780-100-0077
18"	780-100-0087
24"	780-100-0097

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DRAWN		CHECKED		CNC PROGRAM		CUSTOMER CANATAL INTERNATIONAL 2008	
---		---		---		FINAL ASSEMBLY FLOOR STAND SPDF-K, FOR PCD147, PCD153	
---		---		---		PART NAME 780-100-0077/780-100-0087/780-100-0097	
---		---		---		SIZE A	DWG. NO. SPDF-K
FINISH: BLACK SMOOTH POWDERCOAT		MATERIAL N/A		THICKNESS N/A		BD N/A	K N/A
THIRD ANGLE PROJECTION 		SCALE: 1:20		69		REV. SEE TABLE	



P-Series Technical Data - 60Hz			
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-

NOTES:

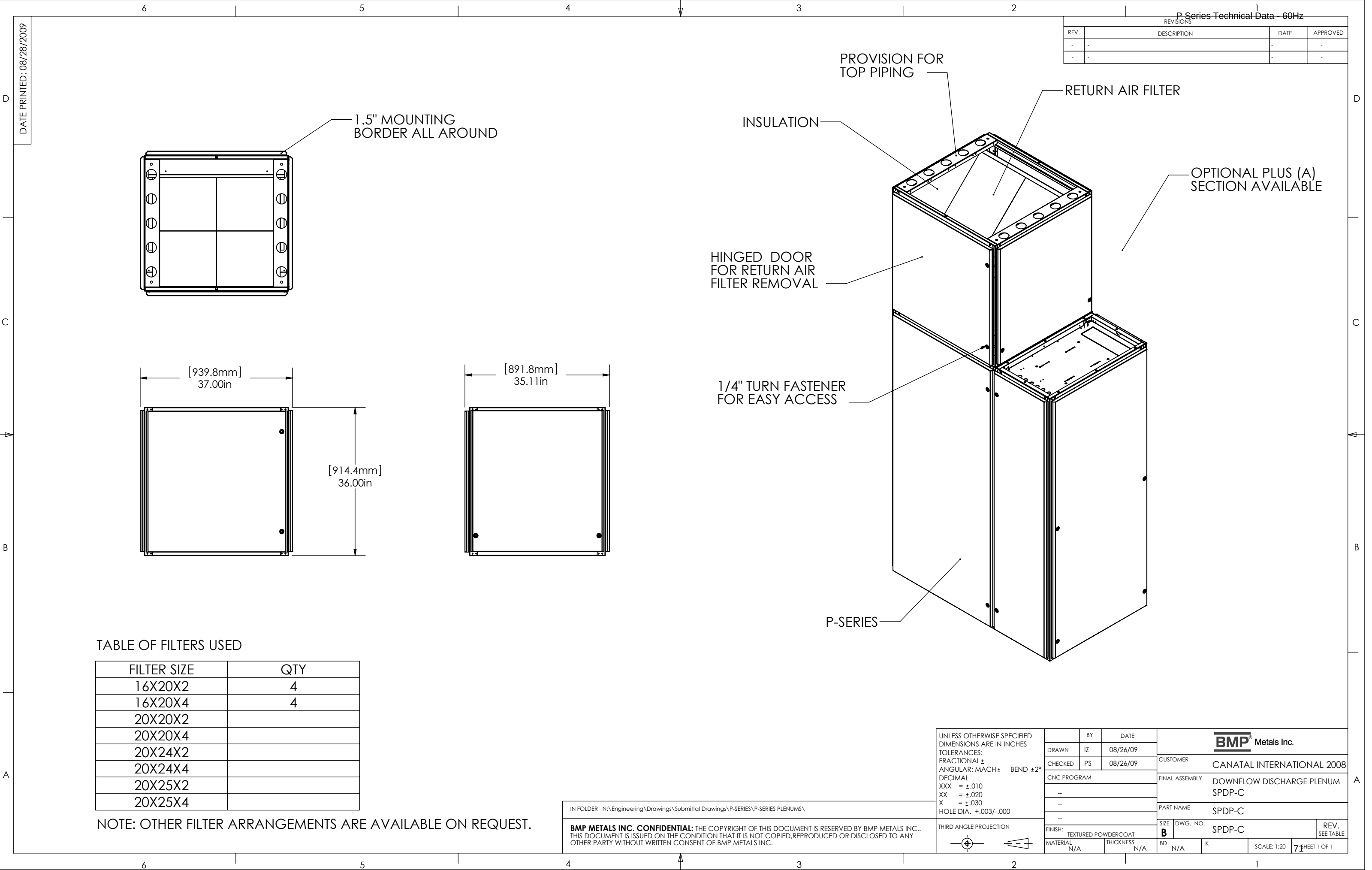
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STRUCTURAL STEEL TUBE T.5"x1.5"x1/8" WALL THICKNESS

FLOORSTAND FINISH:
BLACK SMOOTH POWDERCOAT

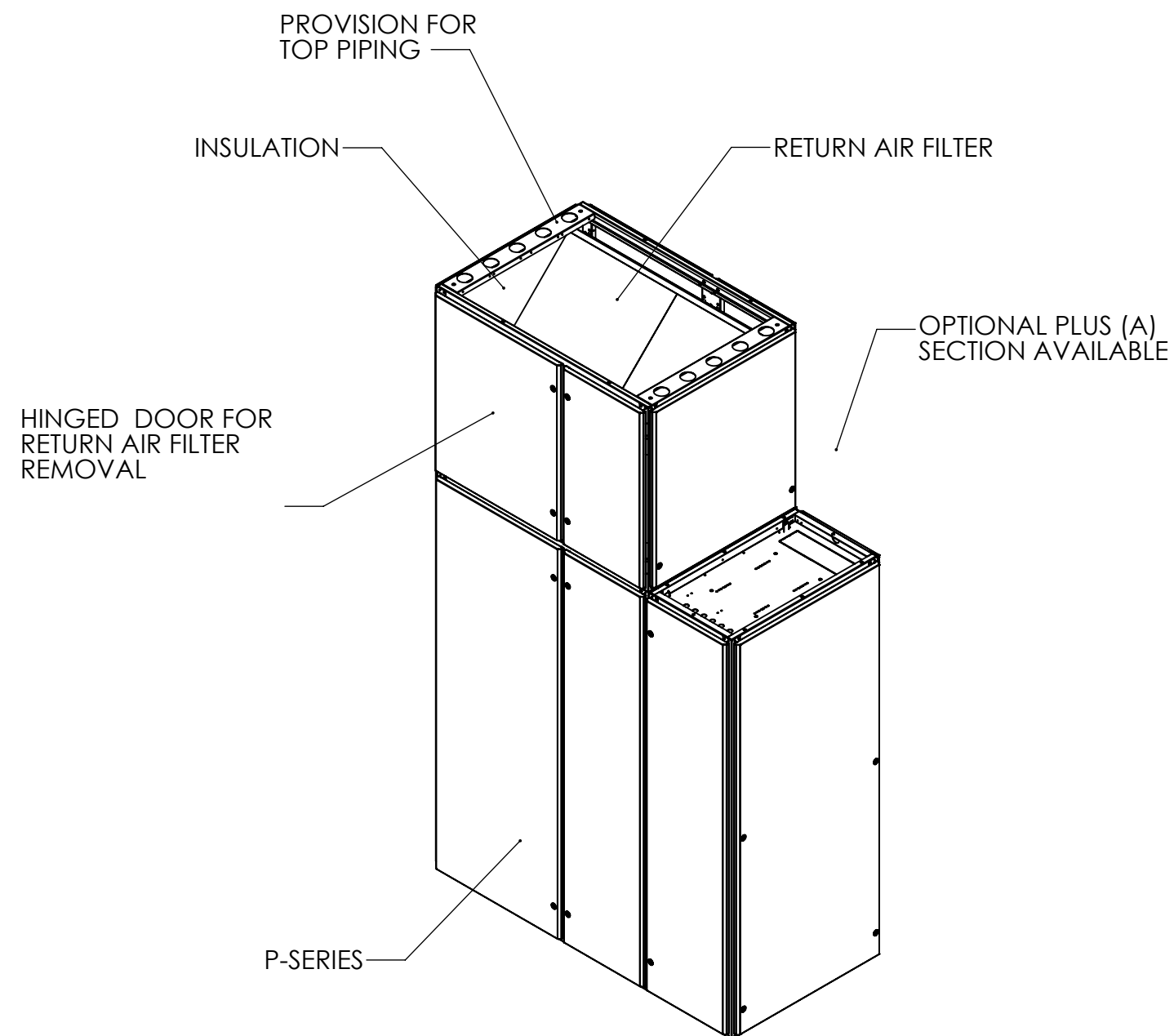
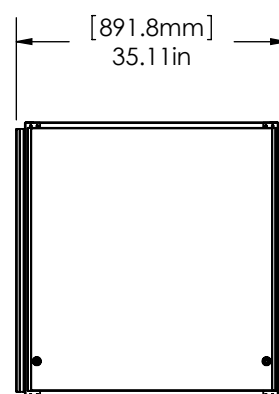
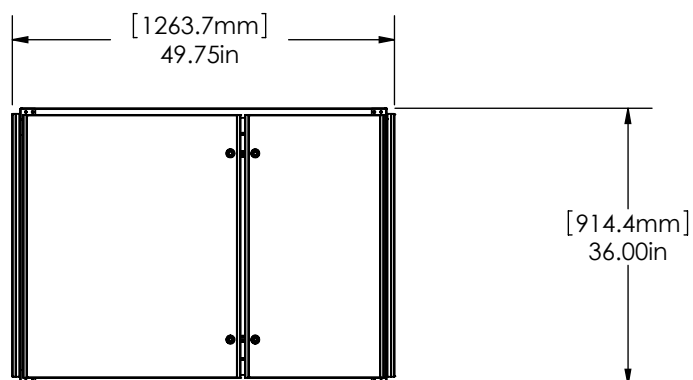
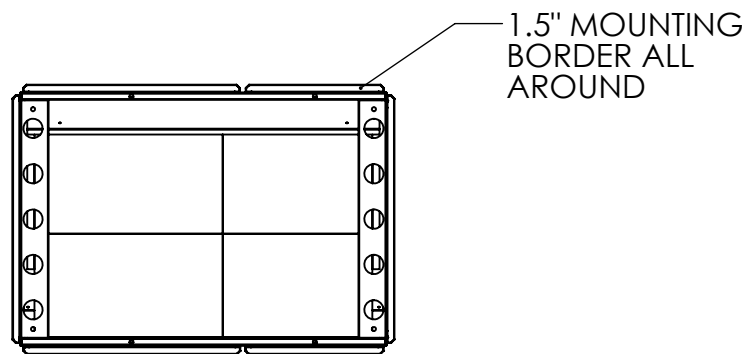
OVERALL HEIGHT:
MODEL AS SHOWN, SEE TABLE. OTHER HEIGHTS MAY NOT BE AS SHOWN
AND MAY BE ON A DIFFERENT DRAWING.
HEIGHTS NOT LISTED AVAILABLE ON REQUEST.

OVERALL HEIGHT "H"
12"
18"
24"

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ±2° DECIMAL XXX = ±.010 XX = ±.020 X = ±.030 HOLE DIA. +.003/- .000		BY	DATE	 CANATAL INTERNATIONAL 2008 INC.			
	DRAWN	PS	08/31/2009				
	CHECKED	IZ	08/31/2009	CUSTOMER CANATAL 2008 INTERNATIONAL			
	CNC PROGRAM			FINAL ASSEMBLY 780-100-0097 + -0088 SPDF-KA			
	--						
	--			PART NAME 780-100-0097 + -0088			
	--						
THIRD ANGLE PROJECTION	FINISH: BLACK SMOOTH POWDERCOAT		SIZE A		DWG. NO. SPDF-KA		REV. SEE TABLE
	MATERIAL N/A		THICKNESS N/A		BD N/A K		SCALE:1:19 70 SHEET 1 OF 1



DATE PRINTED: 08/28/2009



TABEL OF FILTERS USED

FILTER SIZE	QTY
16X20X2	
16X20X4	
20X20X2	2
20X20X4	2
20X24X2	
20X24X4	
20X25X2	2
20X25X4	2

NOTE: OTHER FILTER ARRANGEMENTS ARE AVAILABLE ON REQUEST.

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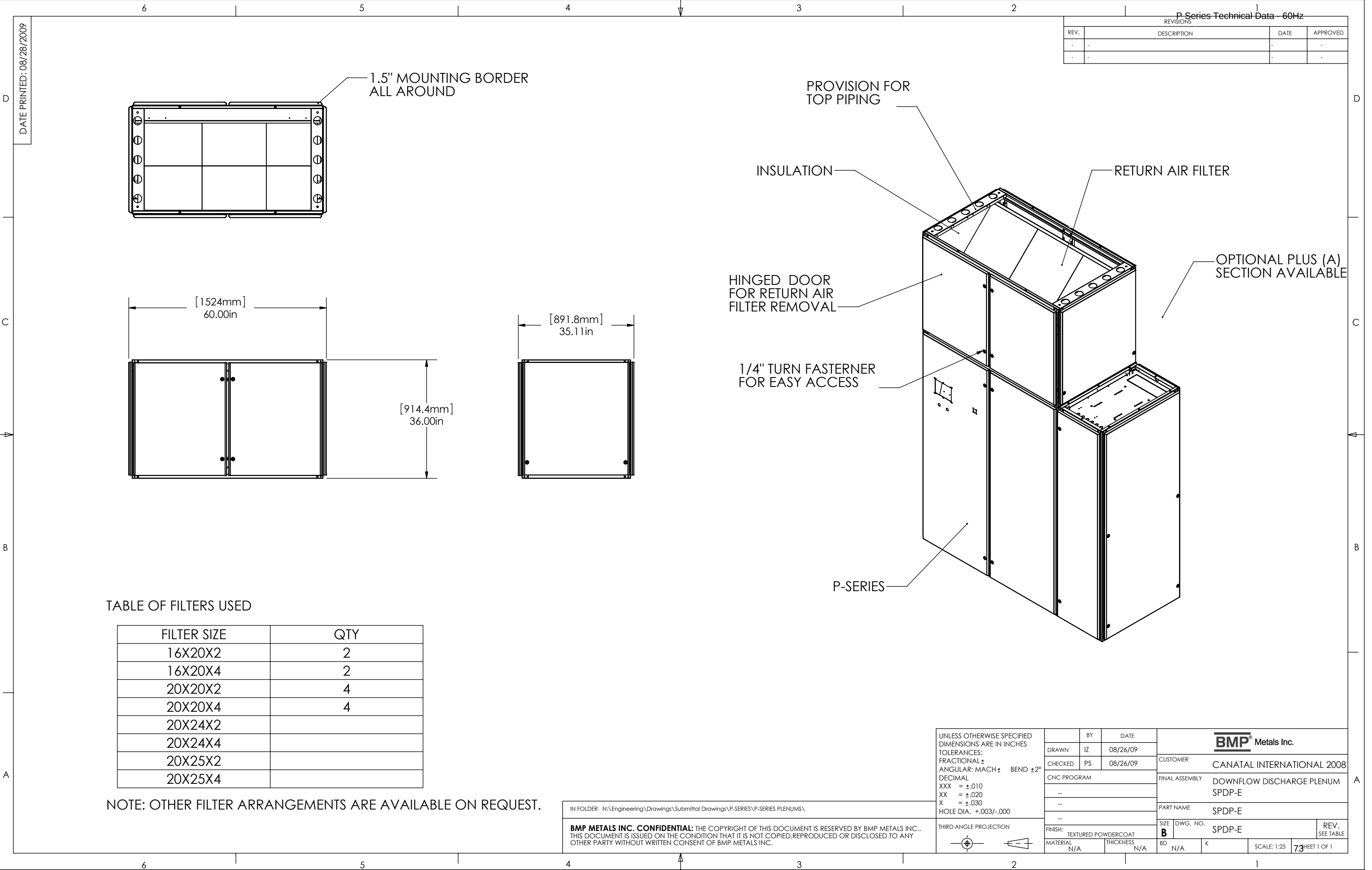
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DECIMAL
XXX = $\pm .010$
XX = $\pm .020$
X = $\pm .030$
HOLE DIA. $+.003/-0.000$

THIRD ANGLE PROJECTION



	BY	DATE									
DRAWN	IZ	08/26/09									
CHECKED	PS	08/26/09	CUSTOMER CANATAL INTERNATIONAL 2008 FINAL ASSEMBLY DOWNFLOW DISCHARGE PLENUM SPDP-D PART NAME SPDP-D								
CNC PROGRAM											
--											
--											
--			SIZE DWG. NO. SPDP-D								
FINISH: TEXTURED POWDERCOAT											
MATERIAL	N/A	THICKNESS	N/A	BD	N/A	K	SCALE: 1:25	72	SHEET 1 OF 1		



DATE PRINTED: 08/28/2009

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-

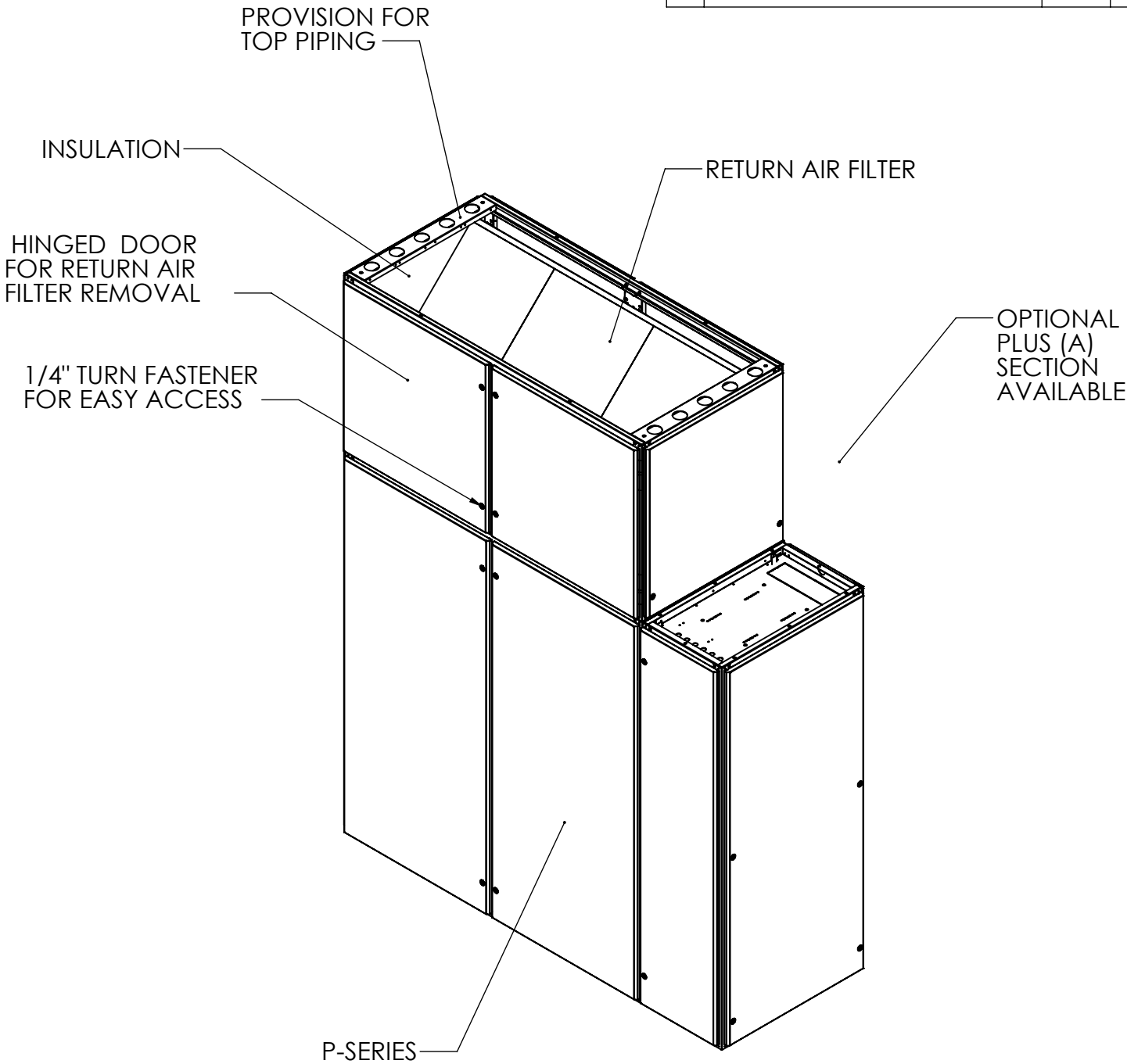
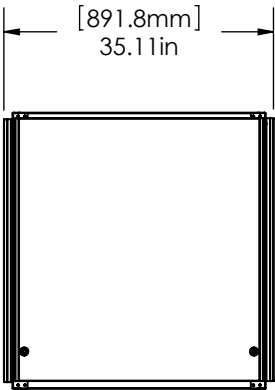
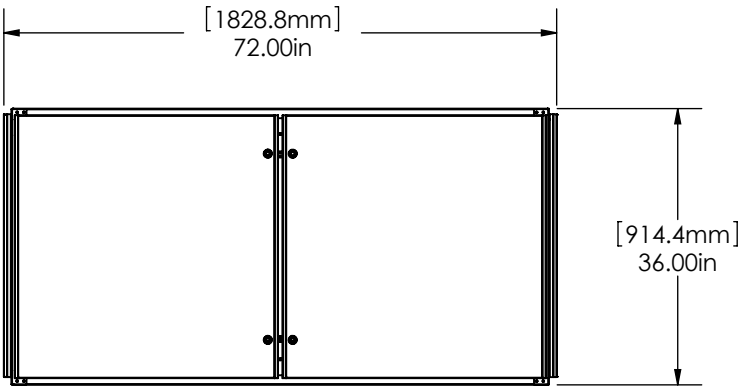
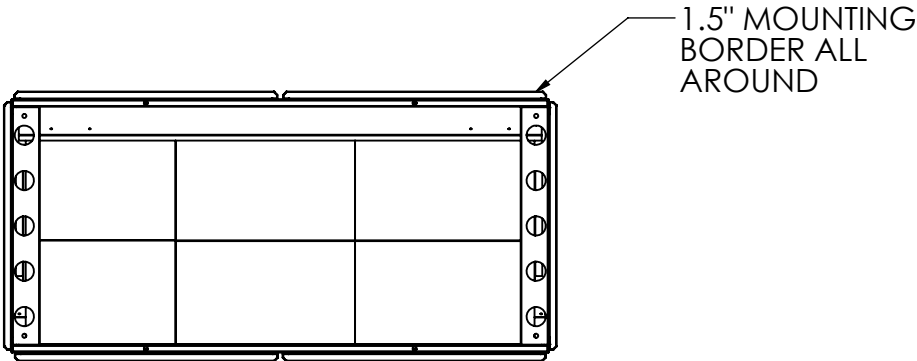


TABLE OF FILTERS USED

FILTER SIZE	QTY
16X20X2	
16X20X4	
20X20X2	2
20X20X4	2
20X24X2	4
20X24X4	4
20X25X2	
20X25X4	

NOTE: OTHER FILTER ARRANGEMENTS ARE AVAILABLE ON REQUEST.

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FRACTIONAL ±
ANGULAR: MACH ± BEND ± 2°
DECIMAL
XXX = ± .010
XX = ± .020
X = ± .030
HOLE DIA. +.003/- .000

THIRD ANGLE PROJECTION

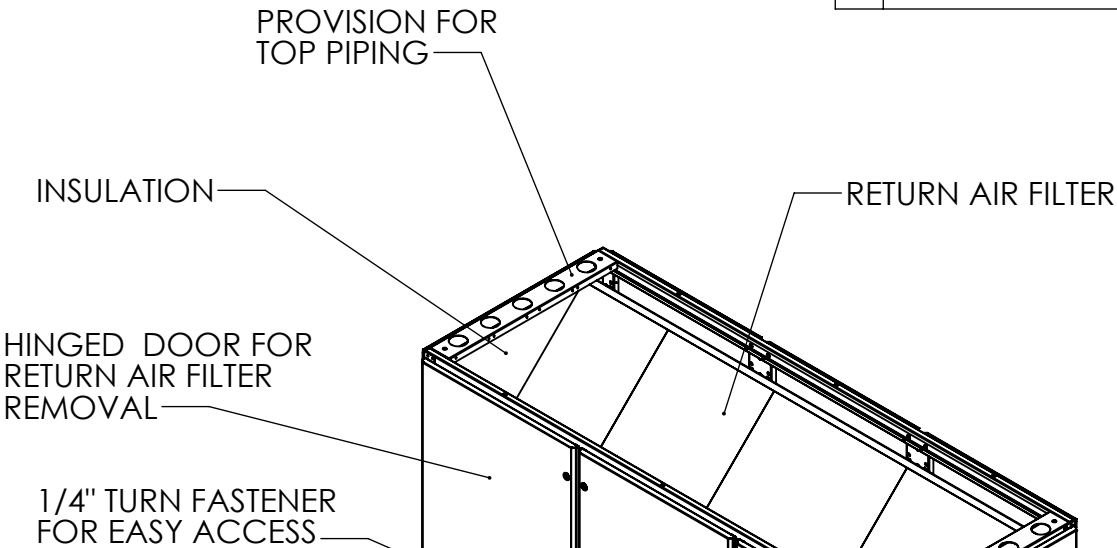
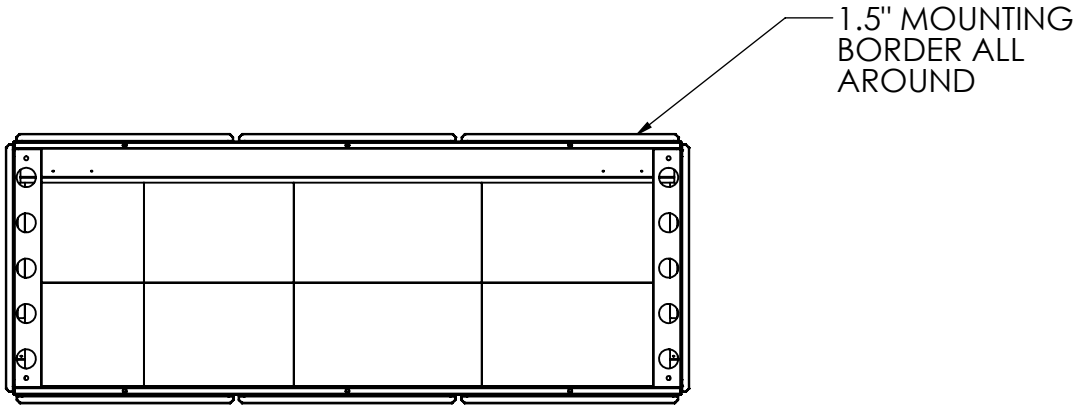
	BY	DATE
DRAWN	IZ	08/26/09
CHECKED	PS	08/26/09
CNC PROGRAM		

FINISH: TEXTURED POWDERCOAT		
MATERIAL	THICKNESS	
N/A	N/A	

BMP Metals Inc.			
CUSTOMER		CANATAL INTERNATIONAL 2008	
FINAL ASSEMBLY		DOWNFLOW DISCHARGE PLENUM SPDP-F	
PART NAME		SPDP-F	
SIZE	DWG. NO.	REV. SEE TABLE	
B	SPDP-F		
BD	N/A	K	SCALE: 1:25
74		SHEET 1 OF 1	

DATE PRINTED: 08/28/2009

P-Series Technical Data - 60Hz			
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-



OPTIONAL
PLUS (A)
SECTION
AVAILABLE

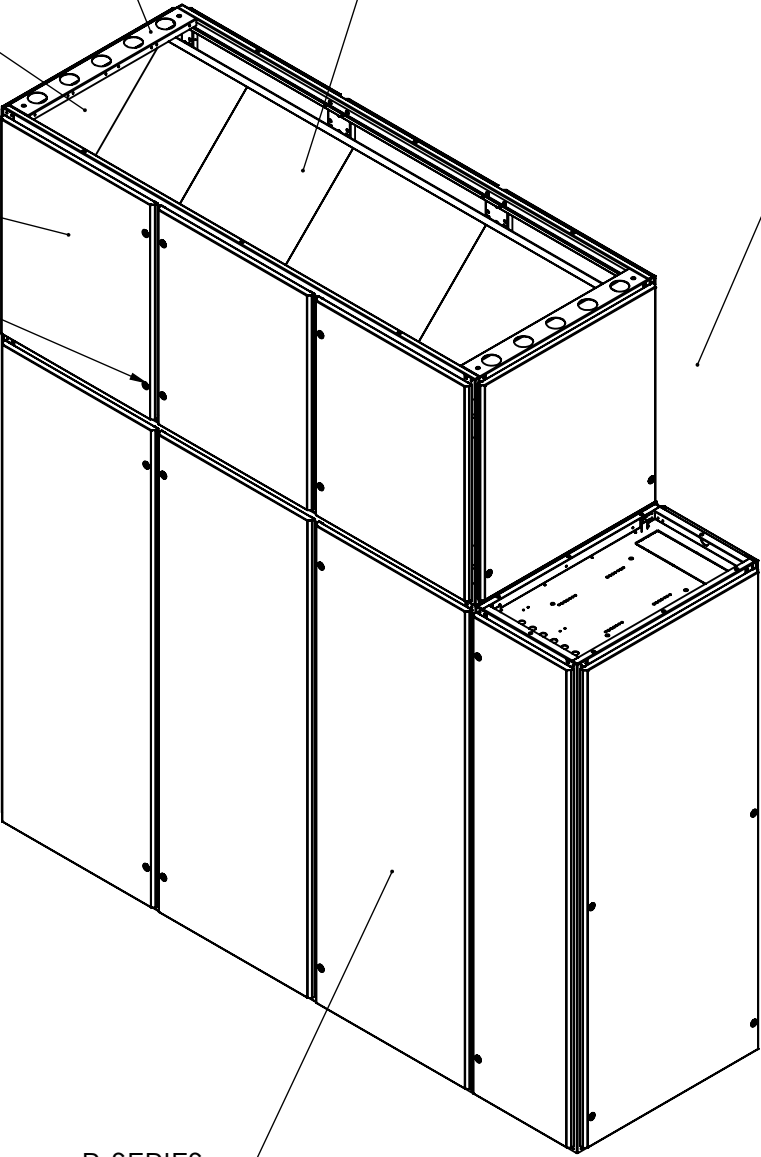
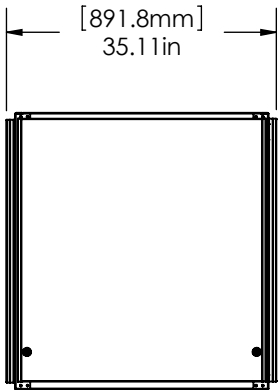
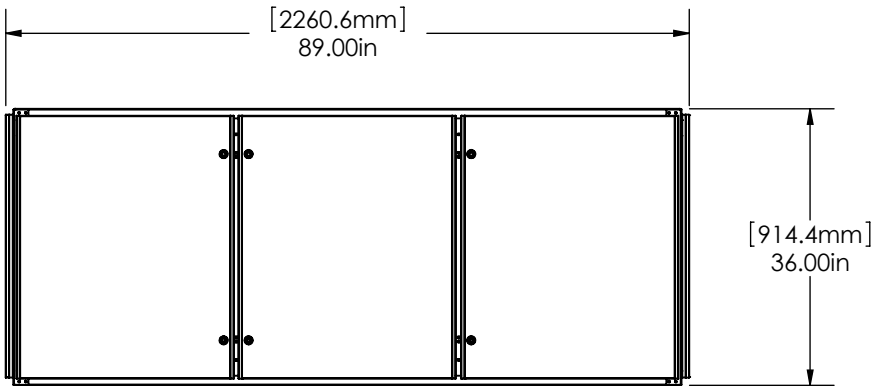


TABLE OF FILTERS USED

FILTER SIZE	QTY
16X20X2	2
16X20X4	2
20X20X2	2
20X20X4	2
20X24X2	
20X24X4	
20X25X2	4
20X25X4	4

NOTE: OTHER FILTER ARRANGEMENTS ARE AVAILABLE ON REQUEST.

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FRACTIONAL ±
ANGULAR: MACH ± BEND ±2°
DECIMAL
XXX = ±.010
XX = ±.020
X = ±.030
HOLE DIA. +.003/-.000

THIRD ANGLE PROJECTION



	BY	DATE
DRAWN	IZ	08/26/09
CHECKED	PS	08/26/09
CNC PROGRAM		
--		
--		
--		
FINISH: TEXTURED POWDERCOAT		
MATERIAL	THICKNESS	
N/A	N/A	

BMP Metals Inc.			
CUSTOMER		CANATAL INTERNATIONAL 2008	
FINAL ASSEMBLY		DOWNFLOW DISCHARGE PLENUM SPDP-G	
PART NAME		SPDP-G	
SIZE	DWG. NO.	REV. SEE TABLE	
B	SPDP-G		
MATERIAL	THICKNESS	BD	K
N/A	N/A	N/A	
SCALE: 1:25		75 SHEET 1 OF 1	

DATE PRINTED: 09/16/2009

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
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-	-	-	-

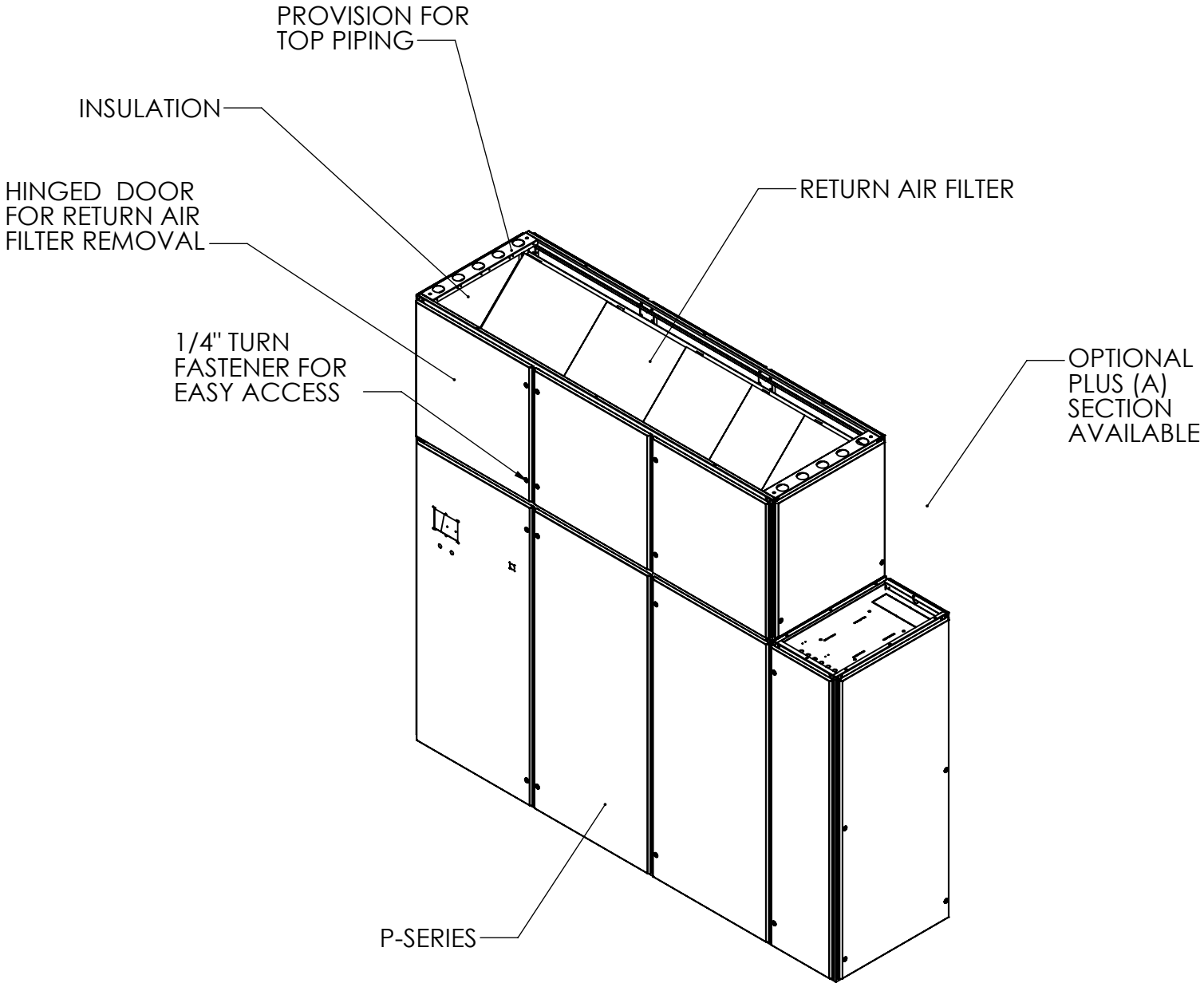
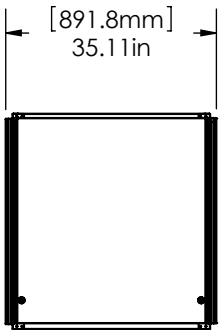
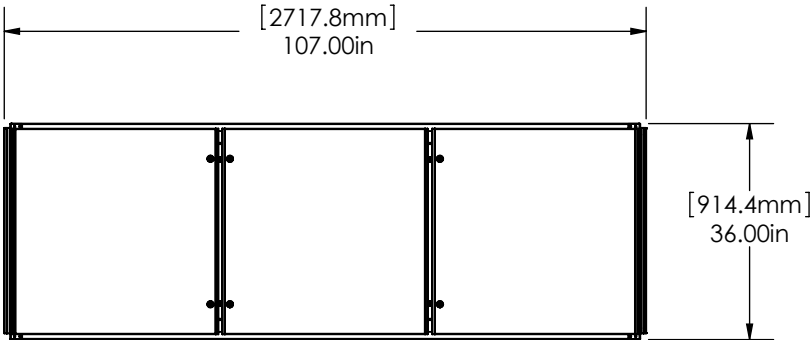
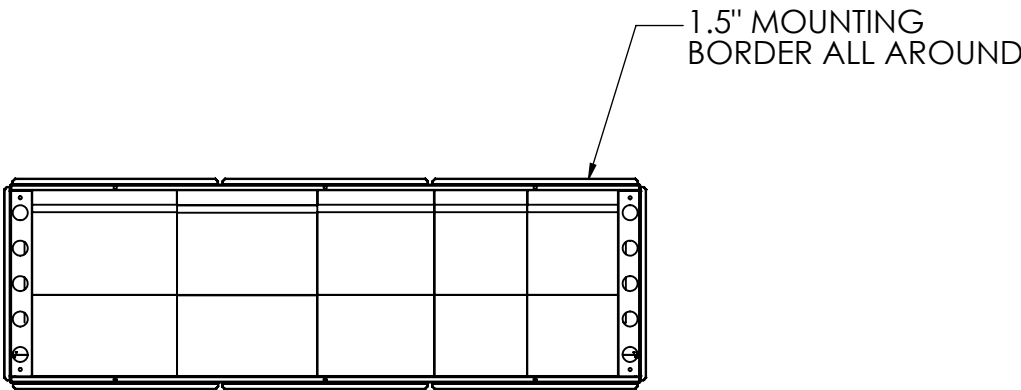


TABLE OF FILTERS USED

FILTER SIZE	QTY
16X20X2	2
16X20X4	2
20X20X2	4
20X20X4	4
20X24X2	4
20X24X4	4
20X25X2	
20X25X4	

NOTE: OTHER FILTER ARRANGEMENTS ARE AVAILABLE ON REQUEST.

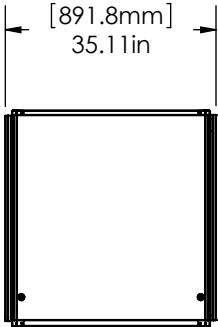
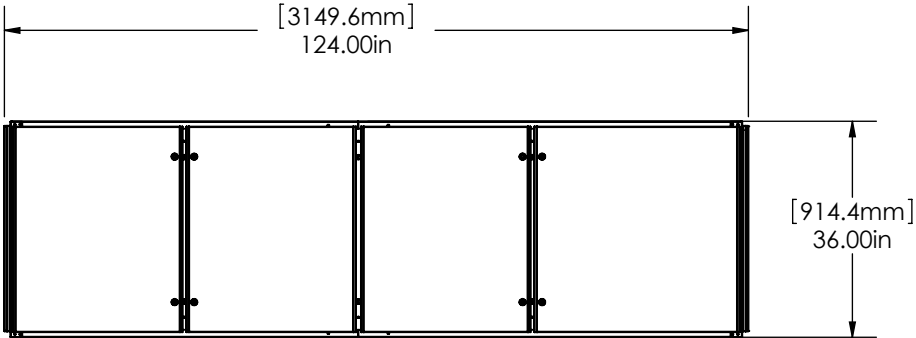
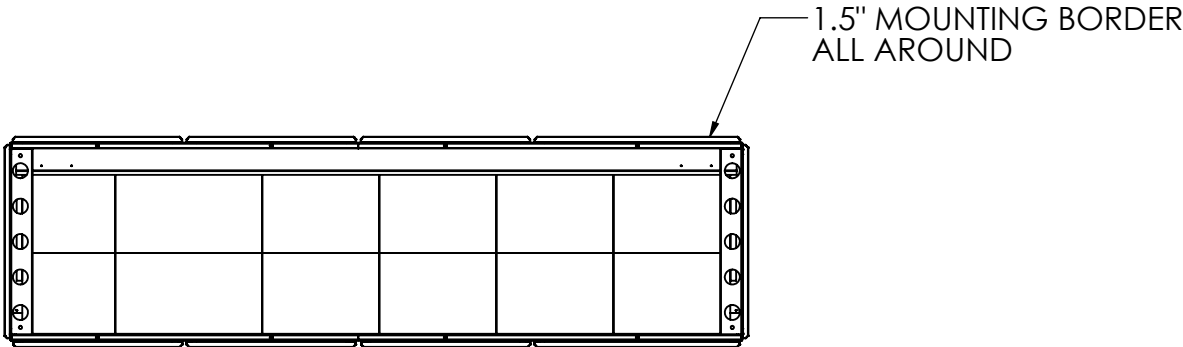
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DRAWN IZ				08/26/09				CUSTOMER CANATAL INTERNATIONAL 2008			
CHECKED PS				08/26/09				FINAL ASSEMBLY DOWNFLOW DISCHARGE PLENUM SPDP-H			
CNC PROGRAM								PART NAME SPDP-H			
---								SIZE DWG. NO. SPDP-H			
---								REV. SEE TABLE			
---								SCALE:1:32 76 SHEET 1 OF 1			
FINISH: TEXTURED POWDERCOAT				MATERIAL N/A				THICKNESS N/A			
THIRD ANGLE PROJECTION				BD N/A				K			

DATE PRINTED: 08/28/2009

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-



INSULATION

HINGED DOOR FOR RETURN AIR FILTER REMOVAL

1/4" TURN FASTENER FOR EASY ACCESS

PROVISION FOR TOP PIPING

RETURN AIR FILTER

OPTIONAL PLUS (A) SECTION AVAILABLE

P-SERIES

TABLE OF FILTERS USED

FILTER SIZE	QTY
16X20X2	2
16X20X4	2
20X20X2	8
20X20X4	8
20X24X2	
20X24X4	
20X25X2	2
20X25X4	2

NOTE: OTHER FILTER ARRANGEMENTS ARE AVAILABLE ON REQUEST.

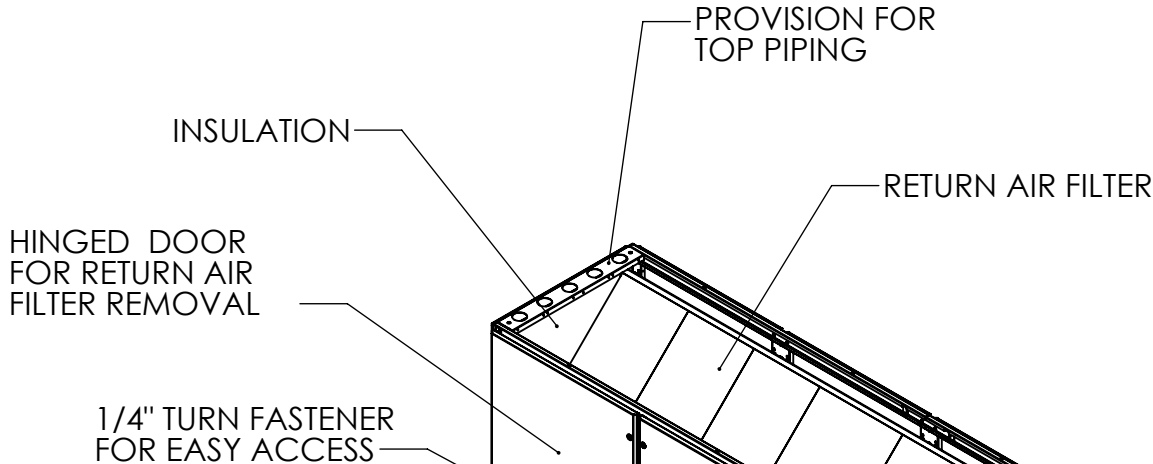
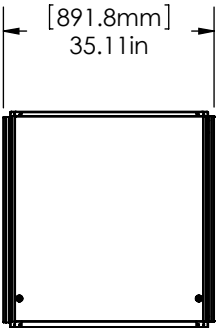
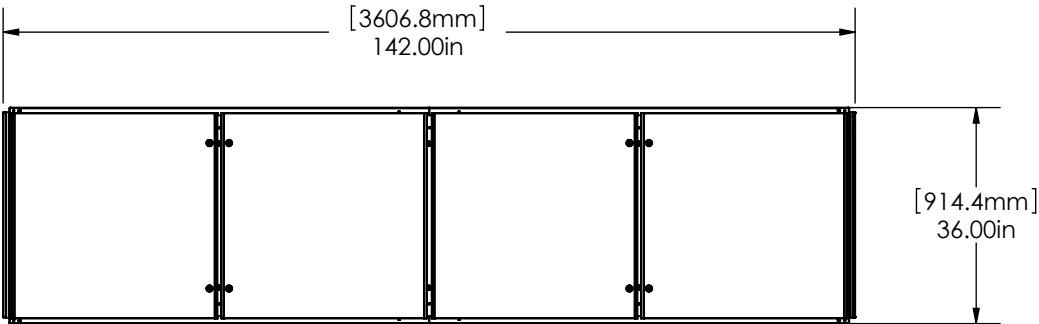
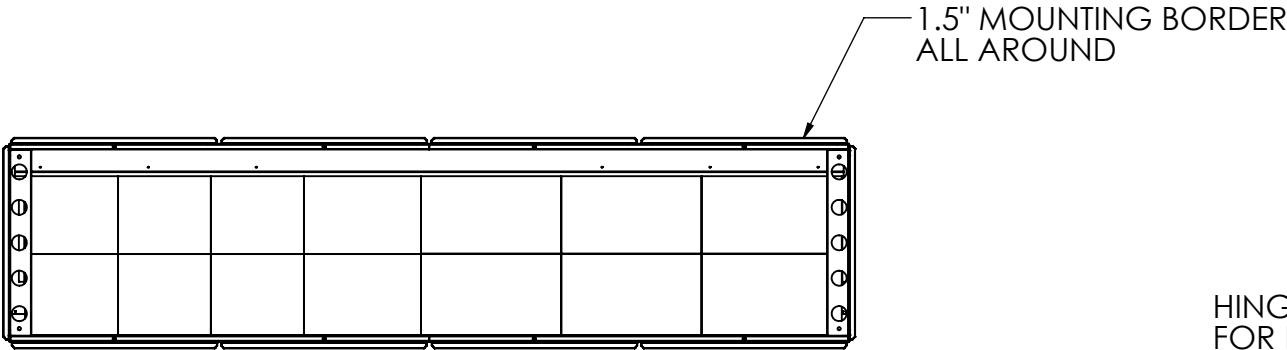
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ±2° DECIMAL XXX = ±.010 XX = ±.020 X = ±.030 HOLE DIA. +.003/- .000		BY	DATE	BMP® Metals Inc.			
	DRAWN	IZ	08/26/09				
	CHECKED	PS	08/26/09	CUSTOMER		CANATAL INTERNATIONAL 2008	
	CNC PROGRAM			FINAL ASSEMBLY		DOWNFLOW DISCHARGE PLENUM SPDP-J	
	--						
	--			PART NAME		SPDP-J	
	--						
THIRD ANGLE PROJECTION	FINISH:		TEXTURED POWDERCOAT		SIZE	DWG. NO.	REV.
					B	SPDP-J	SEE TABLE
	MATERIAL		THICKNESS		BD	K	SCALE:1:32
	N/A		N/A		N/A		77 SHEET 1 OF 1

IN FOLDER N:\Engineering\Drawings\Submittal Drawings\P-SERIES\P-SERIES PLENUMS\

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DATE PRINTED: 08/28/2009

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
-	-	-	-
-	-	-	-



OPTIONAL PLUS (A) SECTION AVAILABLE

P-SERIES

TABLE OF FILTERS USED

FILTER SIZE	QTY
16X20X2	6
16X20X4	6
20X20X2	2
20X20X4	2
20X24X2	6
20X24X4	6
20X25X2	
20X25X4	

NOTE: OTHER FILTER ARRANGEMENTS ARE AVAILABLE ON REQUEST.

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ±2° DECIMAL XXX = ±.010 XX = ±.020 X = ±.030 HOLE DIA. +.003/- .000		BY	DATE	BMP Metals Inc.	
		DRAWN	IZ 08/26/09		
		CHECKED	PS 08/26/09	CUSTOMER CANATAL INTERNATIONAL 2008	
		CNC PROGRAM		FINAL ASSEMBLY DOWNFLOW DISCHARGE PLENUM SPDP-K	
		---		PART NAME SPDP-K	
THIRD ANGLE PROJECTION		FINISH: TEXTURED POWDERCOAT		SIZE B	DWG. NO. SPDP-K
		MATERIAL N/A	THICKNESS N/A	BD N/A	K
				SCALE:1:32	78 SHEET 1 OF 1