

	SUBMITTAL APPROVAL	. FORM			
Subcontractor Works Packag	/ Supplier: Lorne Stewart e: F301		Project: <b>Ce</b>	entre Poir	nt
Tech Sub Ref	No: <b>F301-TS-019</b>	Rev:	2 Date: 20/0	5/16	
Title	Retail Kitchen Air Hai	ndling Units			
Floor/					
Location:	Sub-Basement AHU Plar	ntroom & Level	2 Podium of CPH		
Specification Reference:	Section 7 of the Mechani	cal Specificatio	on rev 11		
Other:					
Submittal Not	I Ies:				L
All attenuators	for these units will be submit	ted for approval	via a separate tech	sub.	
this tech sub a We have carri confirm that the	and structural engineers are nd should be aware of the dir ed out the coordination of th ey all fit within the spaces pro n that Units R01 to 04 are all e	mensions and we e plantrooms for ovided.	eights of the units.		
Signed:		On behalf of:	ARCHITECT	Date:	
Status: Comment:	A B C (circle one,	)			
Signed: GF	Pavey	On behalf of:	GMJ	Date:	31/05/2016
Signed:	A (B) C (circle one) an external static pressu mechanical specification lata to follow.	res shall be re , Section 1_14 <i>On benair or:</i>			
Status: Comment:	A B C (circle one)	)			
Signed:		On behalf o	f: CMT (CP/(RMA)	Date ,	
Status:	A B C (circle one)	)			
Comment:					



### **1 - Technical Submission Front Page**

Trade Contractor:	Lorne	Stewart	From:	P. Sto	one	
Trade Contractor Sub No:	F301		Date:	20-05	-16	
Approval of the following equip	ment is I	required:				
Equipment:	Kitchei	n Air Handling Units	Make :	Halto	n	
Equipment References:	AHU/I	R01 <b>–</b> R06	Areas Used:	As sh	eet above	
Description:				•		
Planned On Site Date:	June	2016	Fully Compliant	Yes		
Attached detail documents: (Tick if included and insert refer	ences w	vithin boxes identifying	supporting documentation included	l within	this submission)	
					,	
Description	Tick	Doc Ref	Description	Tick	Doc Ref	
•	Tick √			Tick ✓		
Description Technical submission front			Description Interfaces and			
Description Technical submission front sheet Specification & Technical	✓		Description Interfaces and Dependencies Schedule	✓		
Description Technical submission front sheet Specification & Technical Schedule Compliance	✓		Description           Interfaces and           Dependencies Schedule           Builders Work Requirements	✓		
Description Technical submission front sheet Specification & Technical Schedule Compliance Certified Performance Levels	✓ ✓		Description         Interfaces and         Dependencies Schedule         Builders Work Requirements         O&M Information         List of recommended	✓ ✓		

Signed by Trade Contractor:	Paul Stone
Date: 20.05.16	

Approval (Note that approval and status of all technical submissions is to be given through the Aconex process. This section is included for cases where it is expedient to provide a paper sign off of the front sheet however in all such cases the consultant must attach this form to the TS on Aconex)

Company	Sign	Date	Status	Comments
BMCE				







### 2 – Specification & Non- Compliance Schedule

The equipment offered is from the specified manufacturer and meets the intention of mechanical specification rev 11, in particular section 7, apart from the following items:

- Plug fans included not belt driven
- Sizes of the units vary from specification
- Weights of the units vary from specification





# 3 – Manufacturers Information

Enclosed





Version: HALTON-AHU 2.20

Version Date: 21 Nov 2012

				PROJECT	DETAILS							
	Date		Project I	No <u>.</u>	Pro	oject l	Reference		Un	it No	•	
25/0	03/2015		22917		CE	ENTR	RE POINT		Κ <b>Ι</b> Τ	CHE	-2	
Cu	stomer		Rev Da	te	Cust	tome	r Reference	e	Air	<b>/ol</b> ur	ne	
LORNE S	TEWART PLC		25/03/20	15	Kite	chen	Extract 05		5.9	) m3/	S	
	al Pressure	Ext	ernal Statio	Pressure	ap-		t Velocity					
3	00 Pa)	<u> </u>	ars low_LS	to review a	& con-	2.0	9 m/s					
		firm	1									
Panel	Thickness		Panel Insu	ation	Aluminium Framework				Frame	e Coa	ting	
0.0	00 mm								Unp	painte	ed 🛛	
Panel Ex	ternal Sheet		Panel Interna	l Sheet		Base	Frame		Unit I	_oca	tion	
							igh Channe		E×	terna	I	
	<u> </u>				Base -		n Sheet Ste	el				
	ess Side		Unit Mod	del			f Туре		Reinfo		Floor	
	Right					_	one		M	lone		
				ON WEIGHTS		ENSI						
Section	1 No.		ngth		dth		Hei	-		Wei	-	
A			0 mm		0 mm		1750		_	529	•	
B			) mm 0 mm		) mm		1750			668		
<u>ر</u>					) mm			mm		669 kg		
·			ERALL UNIT			NTRE			-		<b>a</b>	
Leng			idth		eight Weight 50 mm 1865 kg			-	2387 mm			
4400	mm	193	0 mm				186	5 kg	_	2387	mm	
				1	SECTION			_				
Air F			elocity		re Drop			del			nsion	
5.92 n			9 m/s		Pa 110				183	30 x 1	550 mm	
Dam			Connection		uvre Actuator				_			
Yes	3		No		No No			0		_		
			1	02 PANEL AN	ID BAG FIL	TER						
Velocity	Class	Туре		de	Wit	thdra		Qty Size			Length	
2.26 m/s	G4	Pane		Disposable				6x592x59			100 mm	
2.26 m/s	F8	Bag	Microfine	GF Bag 22"			6x592x59	2 3x592x	292	550 mm		
				002 ACCE	SSORES							
Fitted Touch S	Screen											
				002 ACCE	SS DOOR							
		Dimension						Туре				
	58	0 x 1650 m	m					Liftoff doo	or			
					A FILTER							
Velocity	Class	Туре		Node	Withdra		Qty/Siz		Aty/Size2		Length	
2 <u>.</u> 26 m/s	<b>H</b> 10	HEP		IEPA	Front		6 / 592>	(592 3	/ 592x292		300 mm	
				003 ACCE	SS DOOR			-				
		Dimension						Туре				
	50	0 x 1650 m	m			_		Liftoff doe	or	_		
				004 CARB	1							
Velocity	Class	Туре		Nodel	Withdra	wa	Qty/Si	ze1	Qty/Size2	_	Length	
2.19 m/s	Carbon	Carbo		n Carbon er Matrix	Side		6 / 600>	600 3	/ 600x300		600 mm	



					PRO	JECT	DETAIL	.S					
	Date		Pr	oject N	No.		Р	roje	ct Referen	ce	Unit N	lo <u>.</u>	
25	<b>/03/20</b> 15			22917				CEN	TRE PO <b>I</b> N	Т	K <b>I</b> ⊤CHI	E~2	
C	ustomer		R	lev Dat	te		Cu	iston	ner Refere	ence	Air Volume		
LORNE S	STEWART F	PLC.	25	5/03/20	15		ł	Kitche	en Extract	05	5 <u>.</u> 9 m3/s		
	nal Pressur	eExte	rnal Stat	ic Pre	essure	ap-	E		ust Veloci	ity			
$\sim$	300 Pa	— pear	rs low, LS	S to re	evi <mark>ew</mark> (	& con	ı-  _	2	2 <b>.</b> 09 m/s				
		firm					)0	R					
		Dimens	sion			Т				Тур	5		
		700 x 165	0 mm							Liftoff d	oor		
					005	PLEN		١					
Fan T	уре	Wh	eel Type		Driv	е Туре							
Plen	um	Back	ward Curve		Dire	ct Drive	9						
Мос	lei	Impe	eller Diam.		Abs	Power	r						
0C-4DN.K7.1	R-130549/0	Z01 8	00 mm		10.	17 kW							
Quan	nti <b>ty</b>		% Per Fan		Р	oles							
1			ngle Fan		4								
Air Flow			et Velocity			r Spee	d						
					1.8 m/s 1465 rpm								
			Fan Speed         Power           1234 rpm         15.00 kW										
300.0			234 rpm										
Unit Static 1052.0			Efficiency			LC .55 A							
Fan Total		0	VSD			.55 A s/Ph/Hz	,						
		Auton	natic (DOL/				<u>د</u>						
1117	Ра		Star delta) 380/3/5			)/3/50							
Frequ	ency	63 Hz				500	0 Hz	1	k Hz	2k Hz	4k Hz	8k Hz	
net		45	66						82	83	78	72	
Outle	• •	53	71		77	3	37		88	88	81	75	
	(1) SWL IN:	SIDE The	nlet Duct (d	3B)		<u> </u>			2) SWL IN	SIDE The O	utlet Duct (dB)		
		<b>.</b>			005 /	ACCES	is doo	R		_			
		Dimens 780 x 165								Type Liftoff d			
		760 x 165						IOT				·	
Frequency	125Hz	250Hz	AF 500Hz	10 ACC		kHz		_	SECTION 8kHz	Overa∎ dB(A)	Descri	ption	
	71	77	87	88	3	88	81		75	93	Outlet Sound	Power(dB)	
	66	70	76	82	2	83	78	5	72	87	Inlet Sound		
	71	77	87	88	3	88	81		75	93	Airborne soun	d power (dB	
					SPECI	F <b>IC FA</b>	N POW	/ER					
Su	pp <b>ly</b> Fan							Ex	tract Fan				
	Conditions								Conditio		Clea		
	rbed Powe			NaN Kv					rbed Pow		5.86 k		
	e Efficiency			NaN%					e Efficienc	-	100%		
	er Efficienc	-		NaN%					er Efficier		98%		
	r Efficiency	<u> </u>		NaN%	)		Motor Efficiency			>y	100%		
	r Volume			m³/s				AI	r Vo <b>l</b> ume		5.92 m <sup>3</sup> /s		
A	HU SFP		1.01 Kw/m <sup>3</sup> /s										



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				PROJECT		S					
	Date		Project N				Reference		Unit	No.	
25/	03/2015		22917			-			KITCI	HE~2	
Cu	stomer		Rev Dat	te	Cu	stomer	Reference	•	Air Vo	ume	
LORNE S	TEWART PLC	-	25/03/20	15	Ki	<mark>tchen E</mark>	xtract R04		6 <u>.</u> 8 r	n3/s	
Extern	al Pressure E	xterna <mark>l</mark> S	tatic Press	sure i <mark>s ve</mark> ry	/ low.	Exhaus	t Velocity				
• (	35 Pa	S to revie	w and cor	nfirm		2.3	8 m/s				
				UNIT CONS	TRUCT	ON					
Panel	Thickness		Panel Insul	ation	Aluminium Framework				Frame Coating		
0.	.00 mm								Unpa	inted	
Panel Ex	kternal Sheet		Panel Interna	Sheet			Frame		Unit Lo	ocation	
							igh Channe n Sheet Ste		Inte	rnal	
Acc	ess Side		Unit Mod	le			f Туре		Reinforc	ed Floor	
	Right						one		No	ne	
			SECTI			MENSI	ONS				
Sectio	n No.	Ler	gth	Wi			Hei	ght	1	Neight	
A			) mm	1930	mm		1750	-		529 kg	
В		800	mm	1930	mm		1750	mm		668 kg	
C		2060	) mm	1930	) mm		1750	mm		738 kg	
		OV	ERALL UNIT	DIMENSIONS	S AND CI	ENTRE	OF GRAV	TΥ			
Lenç	gth	Wi	dth	Hei	eight		Weight			COG X	
4400	mm	1930	) mm	1750	mm		193	5 kg	2	339 mm	
				001 INLET	SECTIO	N					
Air F	ow	Air Ve	locity	Pressu	re Drop		Model		Di	mension	
6.75 r	n <sup>3</sup> /s	2,38	m/s	01	Pa		11	0	1830	x 1550 mm	
Dam	per	Flexible C	onnection	Lou	uvre Actuator			ator			
Ye	5	Ν	0	N	No No						
			00	2 PANEL AN	D BAG F	ILTER					
Velocity	Class	Туре		de	N	lithdra	wal	Qty Size	-		
2.57 m/s	G4	Panel		isposable	-		ide 6x592x				
2.57 m/s	F8	Bag	Microfine (	GF Bag 22"		Side		6x592x59	2 3x592x29	92 550 mm	
				002 ACCE	SSOR	S					
itted Touch	Screen										
	-			002 ACCE	SS DOO	R		_			
		Dimension						Type			
	58	0 x 1650 mr						Liftoff doo	۲ 		
Volacity	Class	Tuna		003 HEP	Withd		05/8	201 4	tu/Sizo2	Longth	
Velocity 2.57 m/s	Class H10	Type HEPA		lodel IEPA	Fro		Qty/Siz 6 / 592x		<b>) ty/Size2</b> / 592x292	Length 300 mm	
2,07 11/3	1110			003 ACCE		_	01032	002 0	/ 002X202	000 1111	
		Dimension			30 000			Туре			
		0 x 1650 mr	ń					Liftoff doc	r		
				004 CARB	ON FIL TF	ER					
Velocity	Class	Туре		lode	Withd		/al Otv/Size1		Qty/Size2	Length	
	Carbon	Carbor	30mn	n Carbon	Sic		al Qty/Size1 6 / 600x600		/ 600x300	600 mm	



					PROJ	ECTE	DETAILS						
	Date		Pr	oject No			Proj	ect Refere	nce	Unit N	lo		
25	<b>/03/20</b> 15			22917			CE	NTRE PO <b>l</b> I	NT	KITCH	E~2		
C	ustomer		R	lev Date			Custo	mer Refer	ence	Air Vo	ume		
LORNE S	STEWART F	PLC.	25	5/03/2015			Kitch	en Extract	R04	6 <u>.</u> 8 m	3/s		
Extern	nal Pressur	e Exte	rnal Stat	tic Pres	sure	is	Exh	aust Veloc	;ity				
(	35 Pa	verv	low. LS	to revi	ew an	d L	2.38 m/s						
		conf	ïrm				S DOOR						
		Dimens	ion						Тур	vpe			
		700 x 165							Liftoff c				
					005 6		JM FAN						
Fan T	vne	Wh	eel Type			Туре							
Plen	-		vard Curve			t Drive							
Moc			ller Diam.			Power		2000 1470 1/min					
0C-4DN.K7.1			00 mm			3 kW		1800 -					
Quan			% Per Fan					1600 -					
1			ngle Fan			4		1400 -					
Air Flow	Volume		t Velocity		Motor	-	4	1200 -		$\rightarrow$			
6.75 r			0.0 m/s			5 rpm		1000 -					
Ext Static			n Speed			wer	š	800-					
35.00			201 rpm		15.0	0 kW		600 -			$\mathbf{A}$		
Unit Static			Efficiency			LC		400 -					
	803.00 Pa					55 A		200-215					
Fan Total		5	VSD Volts/Ph				2	0 0 5000	10000 15000	20000 25000 30000 3	5000 40000 450		
887		Autom	atic (DOL/				0 3000	10000	qv [m3/h]	4000 400			
007	га	Sta	Star delta) 380/3/5			3/50							
Frequ		63 Hz	125 H	iz 25	250 Hz 50		) Hz	1k Hz	2k Hz	4k Hz	8k Hz		
nlet		46	67		71		7	83	85	77	75		
Outle		53	<b>7</b> 1		79	8	8	88	90	81	77		
	(1) SWL INS	SIDE The	nlet Duct (d	1B)				(2) SWL IN	SIDE The O	utlet Duct (dB)			
					005 A	CCES	S DOOR						
		Dimens							Тур				
		780 x 165	0 mm						Liftoff c	loor			
			A	IU ACOL	ISTIC E	ATA	EXHAUST	SECTION					
Frequency	125Hz	250Hz	500Hz	1kHz		κ <b>Hz</b>	4kHz	8kHz	Overa∎ dB(A)	Descri	-		
	71	79	88	88	_	90	81	77	94	Outlet Sound	. ,		
	67	71	77	83		35	77	75	88	Inlet Sound	. ,		
	71	79	88	88		90	81	77	94	Airborne soun	d power (dB		
				ę	SPECIF				,				
	pply Fan							xtract Fan					
	Conditions							er Conditio		Clea			
	rbed Powe			NaN Kw				orbed Pov		5.05 k			
	Efficiency			NaN%				ve Efficien	-	100%			
	er Efficienc	-		NaN%				rter Efficie		98%			
	r Efficiency	/		NaN%				or Efficien	-	100%			
Aiı	Air Volume m				<sup>3</sup> /s Air				•	6 <b>.75</b> m	ı³∕s		
	HU SFP			6 Kw/m <sup>3</sup> /s									



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					PROJECT	DET	ALS						
	Date			Project N	lo <u>.</u>		Project	Reference			Unit	No	•
25	/03/2015			22917			CENT	RE PO <b>I</b> NT			KITCI	HE~	2
С	ustomer			Rev Dat	e		Custome	r Referenc	e		Air Vo	un	ne
LORNE S	STEWART PL	C.		25/03/20	15 (		Kitchen	Extract R03			4 <u>.</u> 5 r	n3/s	i
Exteri	nal Pressure	Ex	ternal	Static Pro	essure	Exhaust Velocity							
	350 Pa	_]ap	prears	low. LS	to review a	and	2.3	5 m/s					
		co	nfirm										
Pane	Thickness			Panel Insul	ation	A	luminiun	n Framewo	rk		Frame (	Coa	ting
Ν	laN mm		High	Density Infi	i <b>ll -</b> 50mm			A <b>l</b> uminium Jbe (B-Type	:)		Unpa	inte	d
Panel E	xternal Shee	t	Pa	nel Interna	Sheet		Base	Frame			Unit Lo	ocat	ion
	al Galvanised 20g (1.0mm)			latural Galva Steel 20g (1.		E		ligh Channe n Sheet Ste					
Ac	cess Side			Unit Mod	lei		Roc	oof Type Reinforced Flo				oor	
	Right						Ν	lone			No	ne	
				SECT	ON WEIGHTS	AND	DIMENS	ONS					
Sectio	on No.		Leng	th	Wi	dth		Hei	ight		١	<b>Ve</b> i	ght
ŀ	A		1540 r	nm	1630	) mm		1450	) mm			403	kg
E			800 m	nm	1630	) mm		1450 mm			475 kg		-
(	)		1560 r	nm	1630 mm			1450				405	kg
			OVE	RALL UNIT	DIMENSION	S ANC		OF GRAV	TY				
Len	_		Widt			ght		We	ight			coo	
3900	mm		1630 r	nm	1450	) mm		128	2 kg		2	002	mm
					001 INLET	SEC							
Air F			Air Velo	-	Pressu		op		de				ision
4.49	m³/s		2.35 n	n/s	0	Pa		1	10		1530	x 1:	250 mm
	nper	Flex	cible Co	nnection	Lou	ivre		Actı	lator				
Ye	əs		No			0			lo				
			- T	00	2 PANEL AN	D BA	G FILTER						
Velocity	Class	Ту		Мо	-		Withdra	-	Qty S		Qty Size		Length
2.57 m/s	G4		nel	Pleated D			Side		4×592		2x292x59	-	100 mm
2,57 m/s	F8	Ba	ag	Microfine C			Side		4x592	x592	2x292x59	J2	550 mm
					002 ACCE	SSO	RIES						
Fitted Touch	Screen												
					002 ACCE	SS D	OOR						
		Dime							Ту				
	5	80 x 13	350 mm						Liftoff	door			
			_	_	003 HEP				. 1				
Velocity	Class		Туре		lode		hdrawa	Qty/Si		-	//Size2		Length
2.57 m/s	H10		HEPA		IEPA		Front	4 / 592>	(592	2/2	92x592		300 mm
		D:			003 ACCE	SS D	OOR		_				
	F								Ty	-			
	5		350 mm						Liftoff	uoor		_	
					004 CARB	ON F	LTER						

Туре

Carbon

Mode

30mm Carbon

Filter Matrix

Withdrawa

Side

Qty/Size1

4 / 600x600

Qty/Size2

2/300x600

Velocity

2.49 m/s

Class

Carbon

Length

600 mm



					PROJ	ECTE	DETAILS					
	Date		Pr	oject No	-		P <b>r</b> oj	ect Referer	ice	Unit N	lo_	
	5 <b>/03/20</b> 15			22917			CE	NTRE PO <b>I</b> N	IT	K <b>I</b> ⊤CHI	E~2	
C	ustomer		R	ev Date			Custo	omer Refere	ence	Air Volume		
	STEWART F			5/03/2015				en Extract F	203	4.5 m3/s		
Exteri	nal Pressur						rs Exh	aust Veloc	ity			
(	350 Pa	-low. L	S to revie	w and	confi	m		2.35 m/s				
					004 A	CCES	S DOOR					
		Dimens							Туре			
		700 x 135	0 mm						Liftoff d	oor	I.	
						_	JM FAN					
Fan T	-		eel Type			Туре						
Plen			ward Curve			t Drive						
			eller Diam.			Power						
3C-4DN.17.C			30 mm			5 kW						
Quan 1	-		% Per Fan			es 4						
Air Flow			ngle Fan et Velocity		Motor	-						
4.49 i			3 m/s			5 rpm	<u> </u>					
Ext Static			n Speed			wer						
350.0						0 kW						
	Unit Static Pressure St 1118.00 Pa					35 A						
Fan Tota			3 <u>.</u> 96 % VSD			/Ph/Hz	:					
1200		Autom	natic (DOL/		/3/50							
1200	га		ar d <b>el</b> ta)	360/								
Frequ		63 Hz			0 Hz		) Hz	1k Hz	2k Hz	4k Hz	8k Hz	
Inlet		42	63				3	78	78	76	72	
Outle		51	66		75	8	3	85	83	80	73	
	(1) SWL IN:			л <b>ы</b> ј	005 4	CCES	S DOOR		SIDE THE C	utlet Duct (dB)		
		Dimens	ion		005 A		3 DOOR		Тур	3		
		780 x 135							Liftoff d			
			AH	IU ACOL	JSTIC D		EXHAUST	SECTION				
Frequency	125Hz	250Hz	500Hz	1kHz	2	κHz	4kHz	8kHz	Overa dB(A)	Descri	ption	
	66	75	83	85	_	33	80	73	89	Outlet Sound		
	63	72	73	78	_	78	76	72	83	Inlet Sound	. ,	
	66	75	83	85		33	80	73	89	Airborne soun	d power (dE	
					SPECIF							
	pply Fan							Extract Fan				
	Conditions							er Conditio		Clea		
	rbed Powe			NaN Kw		-+		sorbed Pow		4 <u>.</u> 85 k		
	Efficiency			NaN%				ve Efficieno	-	100%		
invert	er Efficienc r Efficiency	-		NaN%				rter Efficien		98%		
	I FUICIENC\	/	NaN%			1	IVIO1	tor Efficien	⊎y [	100%	0	
Moto	r Volume	——————————————————————————————————————		m <sup>3</sup> /s				Air Vo <b>l</b> ume	·	<b>4.</b> 49 m	3,	



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		PROJECT DE	TAILS		
Date	Project I	No <u>.</u>	Projec	t Reference	Unit No_
25/03/2015	22917	,	CEN		KITCHE~2
Customer	Rev Da	te	Custom	ner Reference	Air Volume
LORNE STEWART P <u>LC.</u>	25/03/20		_ Kitcher	n Extract R02	3.8 m3/s
External Pressure Exte			Exha	ust Velocity	
350 Pa low	LS to review and	d confirm	1	<u>.</u> 97 m/s	
		UNIT CONSTRU			
Panel Thickness	Panel Insu	lation	Alumini	um Framework	Frame Coating
0 <u>.</u> 00 mm •					Unpainted
Panel External Sheet	Panel Interna	a Sheet	Ba	se Frame	Unit Location
				High Channel mm Sheet Steel	Internal
Access Side	Unit Mo	de	Ro	oof Type	Reinforced Floor
Right *				None	None
	SECTI	ON WEIGHTS AN		SIONS	
Section No.	Length	Width		Height	Weight

	Right *					None	None			
			SECTION	ON WEIGHTS		SIONS				
Sectio	n No,	Len	gth	Wi	dth	Height	t	Wei	ght	
A		1540	) mm	1630	) mm	1450 m	m	424	kg	
В		800	mm	1630	) mm	1450 m	m	475 kg		
C		1660	) mm	1630	) mm	1450 m	mm 465 kg			
		OV		DIMENSION	S AND CENT		(			
Leng	gth	Wi	dth	Hei	ght	Weigh	it	COC	G X	
4000	mm	1630	) mm	1450	) mm	1364 k	g	2065	mm	
				001 INLET	SECTION					
Air F	<b>0</b> , W	A in Va	Joaity	Писсон	_	Mode		Dimer	a la n	
	ow	All Ve	locity	Pressu	re Drop	Mode		Dimer	ision	
3.77			m/s		<b>re Dro</b> p Pa	125	1	1530 x 1		
	m <sup>3</sup> /s	1.97	-	4	•					
3.77	m <sup>3</sup> /s <b>per</b>	1.97 Flexible C	m/s	4 <b>L</b> ou	Pa	125				
3.77 m Dam	m <sup>3</sup> /s <b>per</b>	1.97 Flexible C	m/s onnection	4 <b>Lo</b> u N	Pa Ivre	125 Actuato No				
3.77 m Dam	m <sup>3</sup> /s <b>per</b>	1.97 Flexible C	m/s onnection	4 لـمر 2 PANEL AN	Pa Ivre	125 Actuate No				
3.77 r Dam Ye	m <sup>3</sup> /s per s	1.97 Flexible C N	m/s onnection lo 00	4 Lou N 2 PANEL AN del	Pa Ivre Io D BAG FILTE	125 Actuato No R rawal Q	or	1530 x 1	250 mm	

#### 002 ACCESSORIES

**Fitted Touch Screen** 

	002 ACCESS DOOR											
	Di	mension			Ту	ре						
	580	x 1350 mm			Liftof	f door						
	003 HEPA FILTER											
Velocity	Class	Туре	Mode	Withdrawa	Qty/Size1	Qty/Size2	Length					
2.16 m/s	<b>H</b> 10	HEPA	HEPA	Front	<b>4 / 59</b> 2x592	2 / 292x592	300 mm					
			003 ACCE	SS DOOR								
	Di	mension		Туре								
	500	x 1350 mm			Liftoff	f do <b>o</b> r						
	004 CARBON FILTER											
Velocity	Class	⊺уре	Mode	Withdrawa	Qty/Size1	Qty/Size2	Length					
2.09 m/s	Carbon	Carbon	30mm Carbon Fi <b>lter Ma</b> trix	Side	<b>4 /</b> 600x600	2 / 300x600	600 mm					



					PROJ	ECT E	DETAILS					
	Date		Project No_				Pr	oject Refe	rence	Unit I	No.	
25	<b>/03/20</b> 15			22917			С	ENTRE P	NT	KITCH	E~2	
C	ustomer		R	lev Date	е		Customer Reference			Air Vo	ume	
	STEWART F			5/03/201				chen Extra	xt R02	3 <u>.</u> 8 m	3/s	
Exterr	nal Pressur	Externa	al Static Pressure apprea				rs Ex	xhaust Ve	ocity			
(	350 Pa	Flow, LS	S to review	w and	l confir	m		1.97 m/s	;			
					004 4		S DOOR	<b>)</b>				
		Dimens	lion		004 A		3 0000	1	Ту	20		
		700 x 135							Liftoff			
Eese T		1 10/16	a al Tura a	- T		_	JM FAN					
Fan T	-		eel Type			Туре						
Plen			ward Curve			t Drive						
	=	· ·	eller Diam.			Power	, 					
3C-4DN.[7.C			30 mm	-+		3 kW						
Quan	iti <b>ty</b>		% Per Fan	-+		es						
1			ngle Fan			4						
					Motor							
3.77 r		).0 m/s			5 rpm							
Ext Static		-	Fan Speed     Power       45.95 mm     14.00 kM/									
350.0			1586 rpm 11.00 kW Static Efficiency FLC									
				·								
		3 <u>.</u> 90 % VSD			35 A							
Fan Total					vons	/Ph/Hz						
1 <b>15</b> 7	Pa		natic (DOL/ ar de <b>l</b> ta)		380/	/3/50						
Frequ	encv	63 Hz		iz 2	250 Hz	500	) Hz	1k Hz	2k Hz	4k Hz	8k Hz	
inlet	_	43	63		71		3	77	76	73	68	
Outle		52	67		74		32	85	81	77	69	
			nlet Duct (c	JB)						Outlet Duct (dB)	1	
					005 A	CCES	S DOOF	( )				
		Dimens	ion		000 A		0 2001	•	Ту	)e		
		780 x 135							Liftoff			
Frequency	125Hz	250Hz	500Hz	1kHz		kHz	4kHz			Descri	iption	
	67	74	82	85	1	81	77	69	88	Outlet Sound	Power(dB)	
	63	71	73	77		76	73	68	82	Inlet Sound	, ,	
	67	74	82	85		81	77	69	88	Airborne soun		
							N POWE			·	· · ·	
Su	pply Fan							Extract F	an			
	Conditions	<del>s  </del>					Fi	ter Condi		Clea	in	
				NaN Kw	1			bsorbed P		3 <u>.</u> 69 Kw		
	e Efficiency			NaN%				rive Effici		100		
	er Efficienc			NaN%					-	98%		
-				NaN%			Inverter Efficiency Motor Efficiency			100%		
*									÷	100% 3.77 m <sup>3</sup> /s		
	r Volume			m³/s				Air Volun	ne l	3 77 n	n <sup>3</sup> /s	



Version: HALTON-AHU 2.20

					PROJECT	DETAILS					
	Date	Т		Project N	lo <u>.</u>	Projec	t Reference		Unit No	D_	
25/	03/2015			22917		CENT	RE POINT		KITCHE~2		
Cu	stomer			Rev Dat	e Customer Reference				Air Volu	me	
LORNE S	TEWART PL	c.		25/03/20	15	Kitchen	Extract R01		3.9 m3/	/s	
Extern	al Pressur(E	xterna	al Stati	ic Pressi	ure apprea	Irs Exhau	st Velocity				
3	50 Pa	w, LS	S to rev	view and	confirm	2.	02 m/s				
					UNIT CONS						
Panel Thickness Panel Insula					ation	Aluminiu	m Framewo	rk	Frame Coa	ating	
Na	aN mm		High I	Density Infi	<b>   -</b> 50mm		Aluminium ube (B-Type	)	Unpainte	ed	
Panel Ex	xternal Sheet	t 🛛	Par	n <b>el Intern</b> a	Sheet	Bas	e Frame		Unit Loca	ition	
	Galvanised 20g (1.0mm)			atural Galva teel 20g (1.			High Channe nm Sheet Ste		Interna	al	
Acc	ess Side			Unit Mod	lei	Roof Type			Reinforced	Floor	
	Right					None			None		
				SECTI	on weights		BIONS				
Section	Section No. Length				Wi	dth	ght	Weight			
А			1540 m	m	1630	) mm	1450	mm	424	424 kg	
В			800 mr	n	1630	mm	1450	mm	47	5 kg	
С			1560 m	m	1630	mm	1450	mm	45	1 kg	
			OVER		DIMENSION	S AND CENTR	E OF GRAV	ΤY			
Leng	<b>jth</b>		Width	1	Hei	ght	Wei	ight	co	IG X	
3900	mm		1630 m	m	1450	mm	135	0 <b>kg</b>	1988	8 mm	
					001 INLET	SECTION					
Air F	ow	ļ ļ	Air Veloc	city	Pressu	re Drop	Мо	de	Dime	Dimension	
3 <u>.</u> 87 r	n <sup>3</sup> /s		2.02 m/	/s	4	Pa	12	25	1530 x 1	1530 x 1250 mm	
Dam	per	Flexi	ble Con	nection	Lou	ivre	Actu	iator	1		
Ye	s		No		Ν	0	Ν	0			
				00	2 PANEL AN	D BAG FILTE	R				
Velocity	Class	Тур	e	Мо	de	Withdi	awa	Qty Size 1	Qty Size 2	Length	
2.21 m/s	G4	Pane	el	Pleated D	isposable	Sid	e	4x592x592	2 2x292x592	100 mm	
2.21 m/s	F8	Bag		Microfine C	GF Bag 22"	Sid	е	4x592x592	2 2x292x592	550 mm	
					002 ACCE	SSORIES					
tted Touch	Screen										
		D:			002 ACCE	SS DOOR					
		Dimens						Туре			
	5	80 x 138	50 mm		0001155			Liftoff doo			
Velocity	Class		Гуре	6/	ode	Withdrawa	Qty/Si	701   ()	ty/Size2	Length	

	Di	mension		Туре						
	50 <b>0</b>	x 1350 mm			Liftoff	door				
	004 CARBON FILTER									
Velocity	Class	Туре	Mode	Withdrawa	Qty/Size1	Qty/Size2	Length			
2.15 m/s	Carbon	Carbon	30mm Carbon Fi <b>l</b> ter Matrix	Side	4 / 600x600	2 / 300x600	600 mm			



				F	PROJECT	DETAILS					
	Date		Pr	oject No_		Proje	ct Referen	ce	Unit N	lo	
25	/03/2015			22917		CEN	ITRE PO <b>I</b> N	т	KITCH	E~2	
С	ustomer		R	lev Date		Custo	mer Refere	nce	Air Vo <b>l</b> ume		
LORNE S	STEWART F	PLC.	25	5/03/2015		Kitche	en Extract R	201	3.9 m3/s		
Exteri	nal Pressur	Externa	al Static I	Pressure	apprea	rs Exh	aust Veloci	ty			
0	350 Pa	low_LS	to revie	w and co	onfirm		2 <u>.</u> 02 m/s				
				0	04 ACCES						
		Dimens	ion	U				Тур	e		
		700 x 135						Liftoff c			
					005 PLEN						
Fan T	vpe	Wh	ееј Туре		Drive Type						
Plen	-		vard Curve		Direct Drive						
Mod	Model         Impeller Diam.         Abs Power         2500										
3C-4DN.17.C	R-163662/2		30 mm		6.67 kW		1960 1/min				
Quar			% Per Fan		Poles		2000 -				
1			ngle Fan		4						
Air Flow	Volume		t Velocity	N	lotor Spee		1500 -				
3.87			0 m/s		1465 rpm	, i i i i i i i i i i i i i i i i i i i					
Ext Static			n Speed		Power		1000 -		$\land$	<b>\</b>	
350.0			02 rpm		11.00 kW					$\backslash$	
Unit Static			Efficiency						$\backslash$		
1103.0			3.97 %		21.35 A		502 1/min			$\setminus$	
Fan Total			VSD		/olts/Ph/H	z	0 500	0 10000	15000 20000	25000 300	
			atic (DOL/				0 500	0 10000	15000 20000 qv [m3/h]	25000 300	
1164	Ра		ar d <b>el</b> ta)		380/3/50						
Frequ	ency	63 Hz	125 H	lz 250	Hz 50	0 Hz	1k Hz	2k Hz	4k Hz	8k Hz	
Inlet	(1)	43	63	71		73	77	77	73	69	
Outle	t (2)	52	66	74	1 1	83	85	81	77	70	
	(1) SWL IN:	SIDE The	nlet Duct (d	dB)			(2) SWL IN	SIDE The C	utlet Duct (dB)		
				0	05 ACCES	SS DOOR					
		Dimens						Тур			
		780 x 135						Liftoff o	loor		
_					1	EXHAUST	1				
Frequency	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Overa∎ dB(A)	Descri		
	66	74	83	85	81	77	70	89	Outlet Sound	<u>`</u>	
	63	71	73	77	77	73	69	82	Inlet Sound	. /	
	66	74	83	85	81	77	70	89	Airborne sound	a power (dE	
				SP	ECIFIC FA	N POWER					
	pply Fan						xtract Fan				
Filter Conditions						r Condition		Clean			
			NaN Kw			orbed Pow		3.85 Kw			
	Efficiency			NaN%			e Efficienc	-	100%		
	er Efficienc	-		NaN%			ter Efficien		98%		
	r Efficiency	/		NaN%			or Efficienc	>y	100%		
	r Volume			m³/s		A	ir Vo <b>l</b> ume		3.87 m	°∕s	
AHU SFP				2 Kw/m³/s							



					PROJECT	DETA	LS					
	Date			Project N	lo <u>.</u>		Proje	ct Reference		Unit No_		
25	<b>/03/20</b> 15			22917			CEN	TRE POINT		KITCHE~	-1	
Cı	ustomer	Rev Dat	e	C	uston	ner Referenc	e	Air Volun	ne			
LORNE STEWART PLC. 25/03/2015							<u>Kitche</u>	n <mark>Extract</mark> R06		1.9 m3/s	ŝ	
Exterr	al Pressure	Exterr	hal St	atic Press	ure appre	ars	Exha	ust Velocity				
Ģ	300 Pa	S to I	review and	d confirm			1.6 m/s					
					UNIT CONS	STRUC						
Pane	Thickness			Panel Insul	ation	A	umini	um Framewo	rk	Frame Coa	ting	
0	.00 mm									Unpainte	d	
Panel E	xternal Sheet	t	P	anel Interna	Sheet		Ba	se Frame		Unit Locat	ion	
							High Channe mm Sheet Ste		Externa	I		
Acc	Access Side			Unit Model			Roof Type			Reinforced	Floor	
	Right							None		None		
				SECTIO	ON WEIGHTS	AND [		SIONS				
Sectio	n No.		Leng	gth	Wi	dth		He	ight	Wei	ght	
Ą	\		1540	mm	1330 mm			1140	) mm	296	kg	
E	3		800	nm	1330 mm 1140 mm			) mm	319	kg		
C	;		1560	mm	1330 mm 1140 mm			) mm	321	kg		
			OVE		DIMENSION	S AND	CENT	RE OF GRAV	TY			
Len	gth		Wid	th	Hei	ight		We	ight	COG X		
3900	mm		1330	mm	1140 mm 936 kg			∂ kg	1961 mm			
					001 INLET	SECT	ON					
Air F	ow		Air Ve	ocity	Pressu	re Drop	)	Мо	del	Dimer	nsion	
1.85	m³/s		1.60	m/s	0	Pa		1	10	1230 x 9	<b>}40 mm</b>	
Dam	per	Flex	ible Co	nnection	Lou	ıvre		Actı	uator			
Ye	Yes No No			Ν	lo							
				00	2 PANEL AN	D BAG	FILTE	R				
Velocity	Class	Тур	)e	Мо	de		Withd	rawa	Qty Size 1	Qty Size 2	Lengt	
1.77 m/s	G4	Pan	nel	Pleated D	isposable		Si	de	2x592x592	2x592x292	100 m	
1 <b>.77 m/s</b>	F8	Ва	g T	Microfine G	∋F Bag 22"		Si	de	2x592x592	2x592x292	<b>550 m</b> i	

	002 ACCESS DOOR											
	Di	imension			Ту	ре						
	580	x 1040 mm			Liftof	f door						
003 HEPA FILTER												
Velocity	Class	Туре	Mode	Withdrawa	Qty/Size1	Qty/Size2	Length					
1.77 m/s	<b>H</b> 10	HEPA	HEPA	Front	2 / 592x592	2 / 592x292	300 mm					
	003 ACCESS DOOR											
	Di	imension			Ту	ре						
	500	x 1040 mm		Liftoff door								
			004 CARB									
Velocity	Class	Туре	Mode	Withdrawa	Qty/Size1	Qty/Size2	Length					
1.71 m/s	Carbon	Carbon	30mm Carbon Fi <b>lter Ma</b> trix	Side	2 / 600x600	2 / 600x300	600 mm					



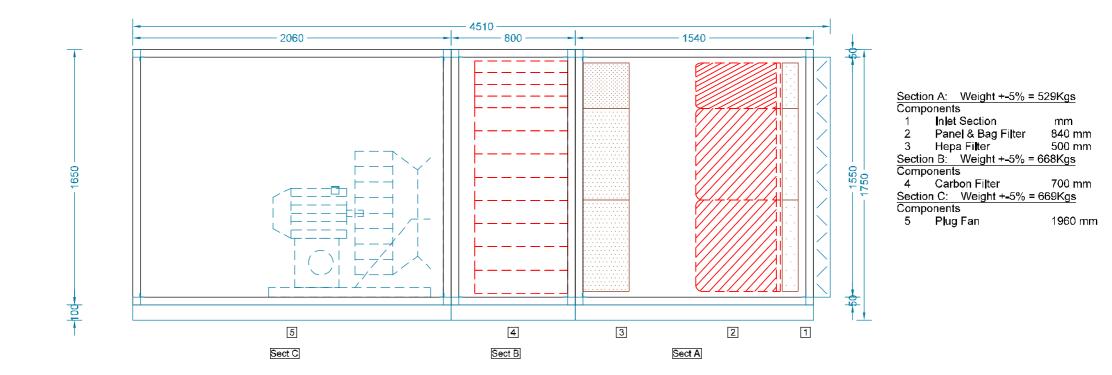
				P	ROJECT	DETAILS					
	Date		Pr	oject No_		Pro	ect Referer	nce	Unit N	lo <u>.</u>	
25	/03/2015			22917		CE		т	KITCHE~1		
C	ustomer		R	lev Date		Cust	omer Refere	ence	Air Vo	ume	
	STEWART F			03/2015			ien Extract I	R06	1.9 m3	3/s	
Exteri	nal Pressur					rs Exi	naust Veloc	ity			
	300 Pa	low, LS	to review	w and co	nfirm		1.6 m/s				
				0	04 ACCES	SS DOOR					
		Dimens	ion					Тур	}		
		700 x 104	0 mm					Liftoff c			
					005 PLEN						
Fan T	vne	Wh	eel Type		Drive Type						
Plen	-		vard Curve		Direct Drive						
Mod			ller Diam.		Abs Powe						
6C-4DN.G7.C		· · · ·	30 mm		3.41 kW						
Quar			% Per Fan		Poles						
1			igle Fan		4						
			t Velocity	м	lotor Spee	ed					
1.85 ו			0.0 m/s 1455 rpm								
Ext Static	Pressure	Far	1 Speed		Power						
300.0	) Pa	15	65 rpm		5.50 kW						
Unit Static	Pressure		Efficiency FLC								
1025.0	0 Pa		55.68 % 11.17 A								
Fan Tota	Pressure	VSD Volts/Ph/Hz									
1047	Pa	Automatic (DOL/ 380/3/50 Star delta)									
Frequ	ency	63 Hz	125 H	lz 250	Hz 50	0 Hz	1k Hz	2k Hz	4k Hz	8k Hz	
net	(1)	53	69	70	)	71	74	72	68	61	
Outle	t (2)	57	72			80	83	78	73	65	
	(1) SWL IN:	SIDE The In	nlet Duct (d	iB)			(2) SWL IN	SIDE The O	utlet Duct (dB)		
				0	05 ACCES	SS DOOR					
		Dimens	ion					Тур	•		
		780 x 104	0 mm					Liftoff c	oor		
			A			EXHAUS	SECTION				
Frequency	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz	Overa dB(A)	Descri	ption	
	72	75	80	83	78	73	65	86	Outlet Sound	Power(dB)	
	69	70	71	74	72	68	61	79	Inlet Sound	Power(dB)	
	72	75	80	83	78	73	65	86	Airborne soun	d power (dB	
				SP	ECIFIC FA	N POWER	र				
	pply Fan						Extract Fan				
Filter Conditions						Filt	er Conditio	ns	Clean		
Absorbed Power NaN				NaN Kw		Absorbed Power			1.59 Kw		
	e Efficiency			NaN%			ve Efficien	-	100%		
	e <mark>r Efficie</mark> nd	-		NaN%		nverter Efficiency			98%		
Moto	r Efficiency	,		NaN%			tor Efficien	cy	100%	6	
Air Volume				m³/s			Air Vo <b>l</b> ume		1.85 m	<sup>13</sup> /s	



# 4- Manufacturers Drawings

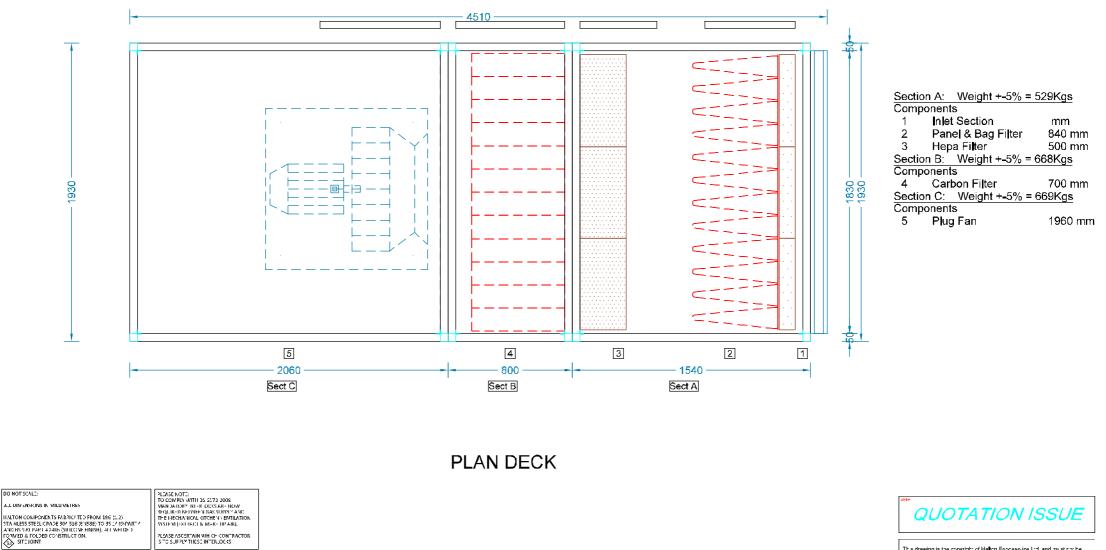
Enclosed

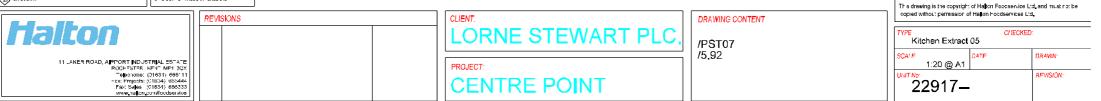


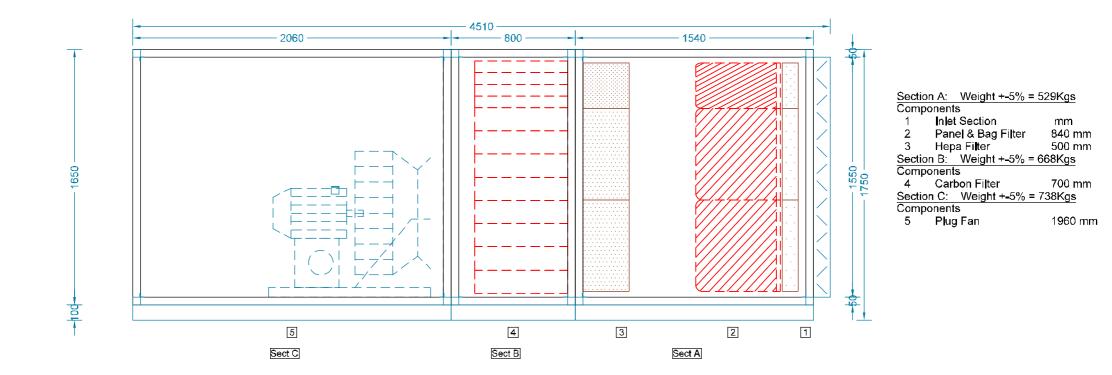


**ELEVATION** 

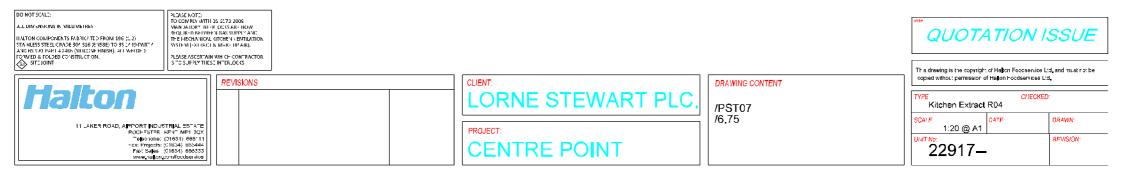


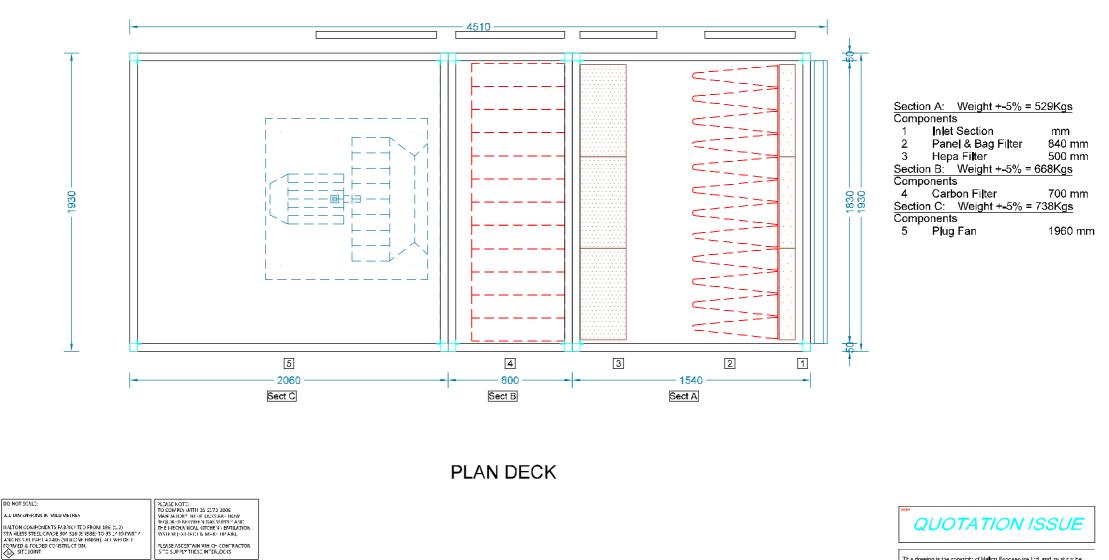




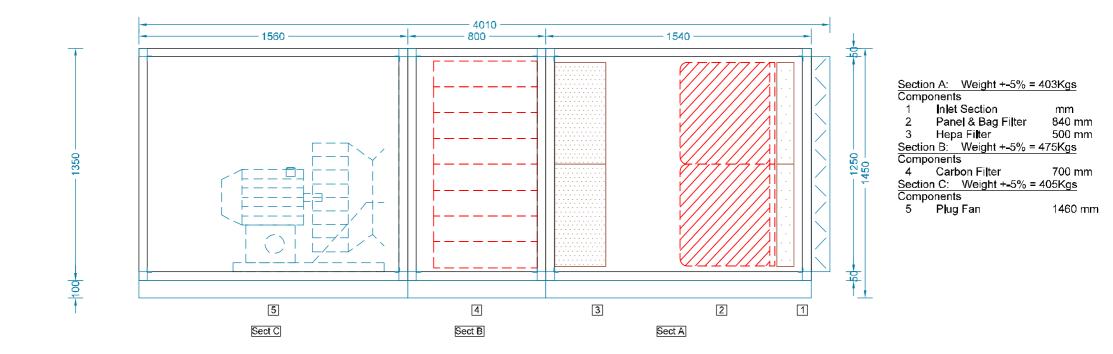


**ELEVATION** 



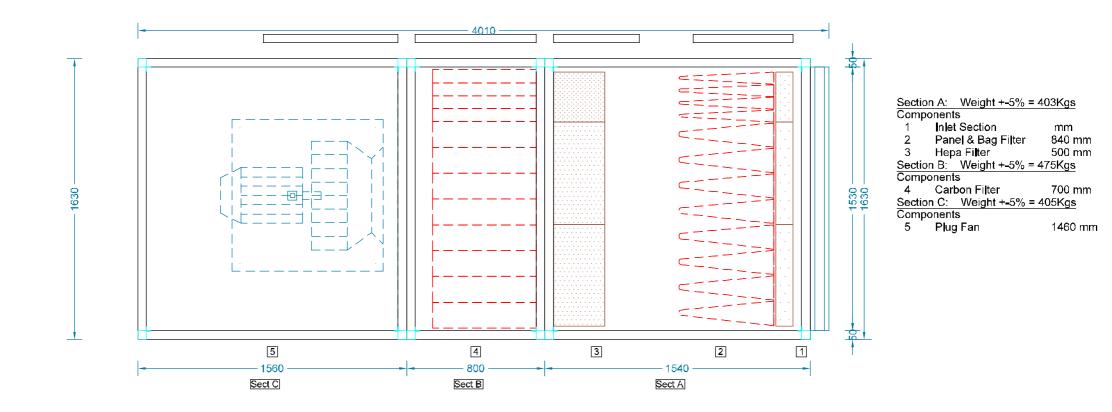






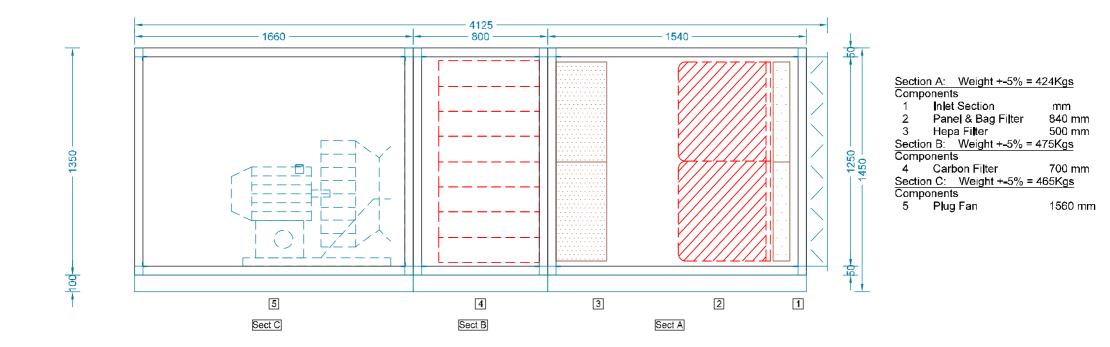
ELEVATION





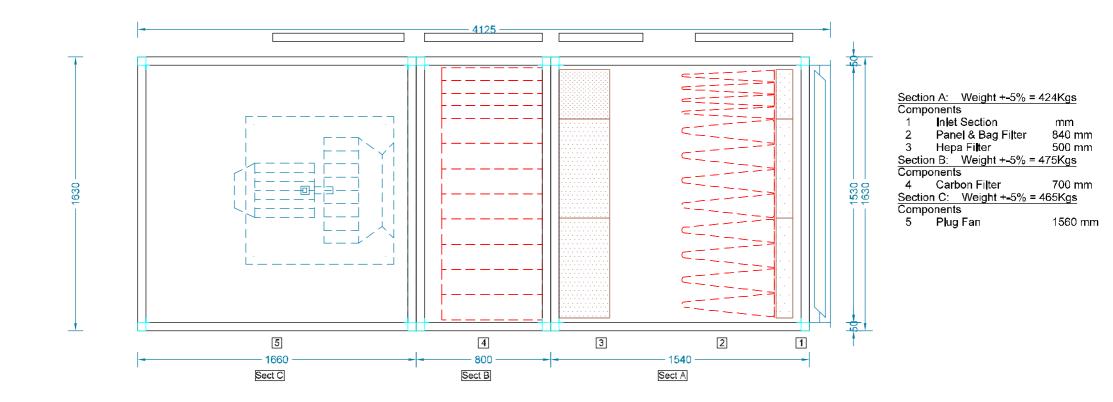
PLAN DECK





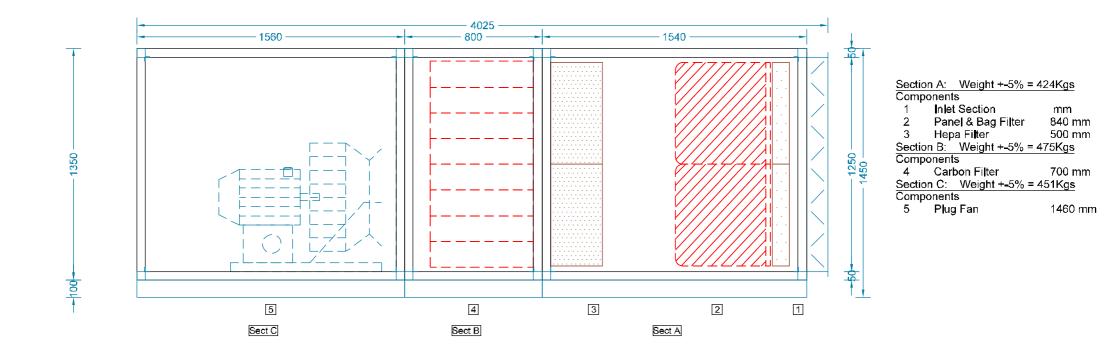


**ELEVATION** 



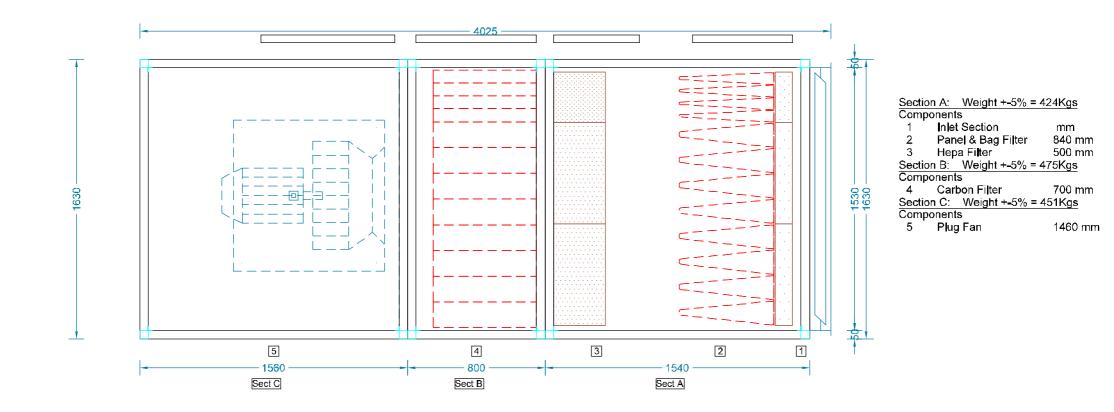
PLAN DECK





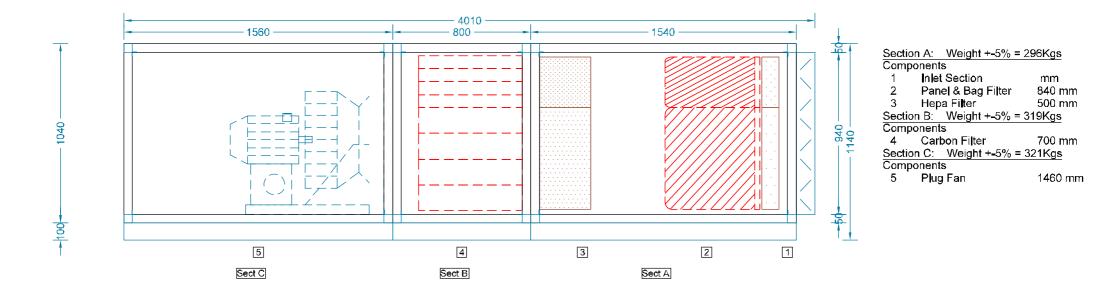
**ELEVATION** 





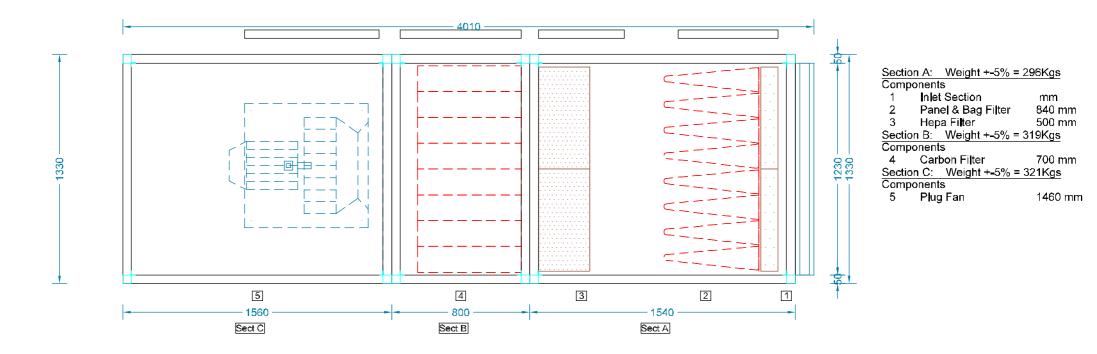
PLAN DECK







**ELEVATION** 



PLAN DECK

DO NOT SCALE: ALL DIV ENSIONS IN VILLI VIETRES INTON COMPONENTS FABILICATE O FROM 186 (11.2) STA VILESS STELL CANCE 300 516 (5 (1882)) AUX INSTAIL PRI 4 24416, VILLI (1894) FOW TO BE 10 2010 (1871) STELL ON TO BE 10 2010 (1871) STELL ON THE STELL ON THE STEL	REQUIRED BETWE THE MECHANICAL SYSTEM [-XTRACT	-R DCX24R-IDAV +V GASSUPPT-AU 			QUOTATION ISSUE
Halton 11_AKER ROAD, APPORT NDJS: ROCH STIFF I Febroine:		REVISIONS	CLIENT: LORNE STEWART PLC PROJECT: CENTRE POINT	DRAWING CONTENT /PST03 /1.85	The drewing is the copyright of Halton Focceservice Ltd, and must not be copied without; parmission of Halton Focceservices Ltd, TYPE C/IECKED: Kitchen Extract R06 SCALF DATE DRAWN: 1:20 @ A1 DATE DRAWN: UNIT No: 22917—



# **5 - Interfaces and Dependencies Schedules**

Interface Required	Detail	Provided By	Final Connection By
Power Supply	Local isolator required	Lorne Stewart	Lorne Stewart
BMS connection	High level BMS interface required	BMS sub-contractor on behalf of Lorne Stewart	BMS sub-contractor on behalf of Lorne Stewart





# 6 - Builders Work Requirements

Concrete plinths required





# 7 - O&M Information

To be issued as part of our contractual obligation during the term of the contract.





# 8 – List of Recommended spares

To be provided with O&M information





### <u>9 - Other</u>

