



SUBMITTAL REVIEW FORM

384 Adelaide Street West, Suite 100
Toronto, ON M5V 1R7

t: 416 862 8800

1050 West Pender Street, Suite 2010
Vancouver, BC V6E 3S7

t: 604 674 0866

1776 Broadway, Suite 2200
New York, NY 10019

t: 212 710 4329

www.dsai.ca
info@dsai.ca

To:	Rafat General Contractor Inc. 8850 George Bolton Parkway Caledon, ON L7E 2Y4	Submittal No:	030
		Project No:	201014
		File No:	4-6-23
Attention:	Pino Antelope, Bashar Mikha	Date:	December-15-23

Project: Chris Gibson Recreation Centre

The Architect's review is for the sole purpose of ascertaining conformance with the general design concept and for general arrangement. This review shall not mean approval of the detail design inherent in the shop drawings, responsibility for which shall remain with the Contractor and such review shall not relieve the Contractor of his responsibility for errors or omissions in the shop drawings or of his responsibility for meeting all requirements of the Contract Documents. The Contractor is responsible for all dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes, quantities or to techniques of construction and installation and for co-ordination with related work.

Contractor Package #	Spec Section	Description	Reviewed by	Status
030	23 30 00	Door Air Curtain	DSA	RN

Status Legend: **R** – Reviewed **RN** – Reviewed As Noted **RR** – Revise and Resubmit **N** – Not Reviewed

Comments: Reviewed for Architectural intent only. Refer to Mechanical/Electrical Consultant's review comments throughout Submittal.

Per: Patrick Johnson



RAFAT

8850 GEORGE BOLTON PARKWAY, CALEDON, ONTARIO L7E 2Y4

**Shop Drawings
Transmittal No:**

Project Name:	Renovation of Chris Gibson Recreation Centre Drive	Project No.	T2023-125
		DATE:	
		Submittal Required Return Date:	
Submittal No:			


Title:	
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To:	Patrick Johnson Contract Administrator Halima Namugga Admin Project Coordinator 384 Adelaide Street West, Suite 100 Toronto, Ontario, Canada M5V 1R7 PJohnson@dsai.ca
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Checked by:	Hasan Zaidi (Rafat General Contractor Inc/Corebuild)	To Be Reviewed By the Following Consultants	1. DSI 2. IG
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Submitted for:	REVIEW
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Consultants Response	
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 SUBMITTAL REVIEW	
For general compliance with the design concept and contract documents. Subcontractor is solely responsible for jobsite correlation and correctness of all ratings, sizings, type, style, dimensions, finish, quantities and satisfactory fitting to other work and equipment. This review does not change the intent of the contract document.	
<input checked="" type="checkbox"/> Reviewed	Per: HassanZaidi
<input type="checkbox"/> Make Corrections	Date: 07-Dec-2023
<input type="checkbox"/> Resubmit	
<input type="checkbox"/> Rejected	

SUBMITTAL REVIEW	
INTROBA 380 Wellington Street West Toronto, ON M5V 1E3	
	
<input type="checkbox"/> REVIEWED	
<input checked="" type="checkbox"/> REVIEWED AS NOTED	
<input type="checkbox"/> REJECTED - REVISE AND RESUBMIT	
<input type="checkbox"/> NOT REVIEWED	
<hr/>	
CHECKED BY: ILITTLE	
DISCIPLINE: M&E	
DATE: 12/14/2023	
<hr/>	
REVIEWED FOR GENERAL DESIGN AND COMPLIANCE WITH CONTRACT DOCUMENTS. DIMENSIONS AND SUITABILITY FOR SITE CONDITIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REVIEW OF THE DRAWING SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS.	

IRB Comments:

- Coordinate finishes with the architect.
- Coordinate with electrical contractor.



200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Package 23-214 - 014

Dec 6, 2023

PROJECT NAME	PROJECT NUMBER	PROJECT ADDRESS	DUE DATE
23-214 CHRIS GIBSON REC CENTRE	23-214	125 McLaughlin Rd N, Brampton, ON, L6X 1N9	Dec 19, 2023

To

NAME	EMAIL
Hassan Zaid	hzaidi@corebuildconstruction.com
COMPANY	ADDRESS
RAFAT GENERAL CON-TRACTOR INC.	8850 GEORGE BOLTON PKWY, BOLTON, ON, L7E 2Y4

From

NAME	EMAIL
JOSHUA STEPHENSON	josh.s@consultmechanical.com
COMPANY	ADDRESS
Consult Mechanical	200 Tesma Way, Vaughan, ON, L4K 5C2

Subject

Door Air Curtains

Package Items

Spec	Subsection	Description	Type
Mechanical	HVAC	Air Curtains AC-1	Shop Drawings



200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Item Information

Dec 6, 2023

Spec Section

Mechanical

Sub Section

HVAC

Type

Shop Drawings

Description

Air Curtains AC-1

**Submittal # 72920****APPROVAL REQUIRED**

Project 22006063-MECH-4- Chris Gibson Recreation Centre
Leader Nevin Wong
Job Site Chris Gipson Recreation Centre
Submission Date 2023-12-06
Sold To CONSULT MECH
Submitted By Dalya Mirlas

Contacts

Role	Customer	Our Rep
Mechanical Contractor	Con-Sult Mechanical Inc.*	Nevin Wong
Designer	Integral Group	Graham Coote

Notes:

Please note that the scheduled 230V is not available - we are providing a model with 208V.

Deliverables

Track #	243758		
Tag	AC-1		
Description	Air Curtains - Biddle		
Quantity	3		
Manufacturer	Biddle Air Systems		
Model #			
Specification	23 34 00		
Production Lead Time	16-18 weeks upon approval/release		
Revision #	0		

Attention:

- 1) HTS will provide equipment in accordance with the attached shop drawings.
- 2) Upon approved submittal and customer release, HTS will release equipment to fabrication per the published lead times. Any storage fees associated with project schedule changes will be the responsibility of the purchaser.
- 3) HTS can provide freight and logistics to the purchaser as an added benefit of doing business with HTS. When freight is received by the purchaser, any noticeable damage must be recorded. Otherwise, HTS is not responsible for subsequent damage claims.

Approval Stamps

Specifications and Drawings

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1. GENERAL

1.1 Related Work:

- .1 This Specification Section forms part of Contract Documents and is to be read, interpreted and coordinated with other parts.

1.2 Quality Assurance:

- .1 Catalogued or published ratings shall be from tests carried out by Manufacturer or from independent testing agency signifying adherence to codes and standards.

1.3 Submittals:

- .1 Fan shop drawings shall include sound rating data and fan curves showing operating point plotted on curves.
- .2 Fan shop drawings shall include motor efficiencies. Refer to Section 23 05 13 for minimum motor efficiencies.

1.4 General:

- .1 Motors powered by variable speed drive controllers shall be EEMAC class B with Type F 'inverter duty' insulation, shall have 1.15 service factor on sine wave power, 1.0 service factor on PWM power and meet NEMA Code MG-1, 1993 Part 31.

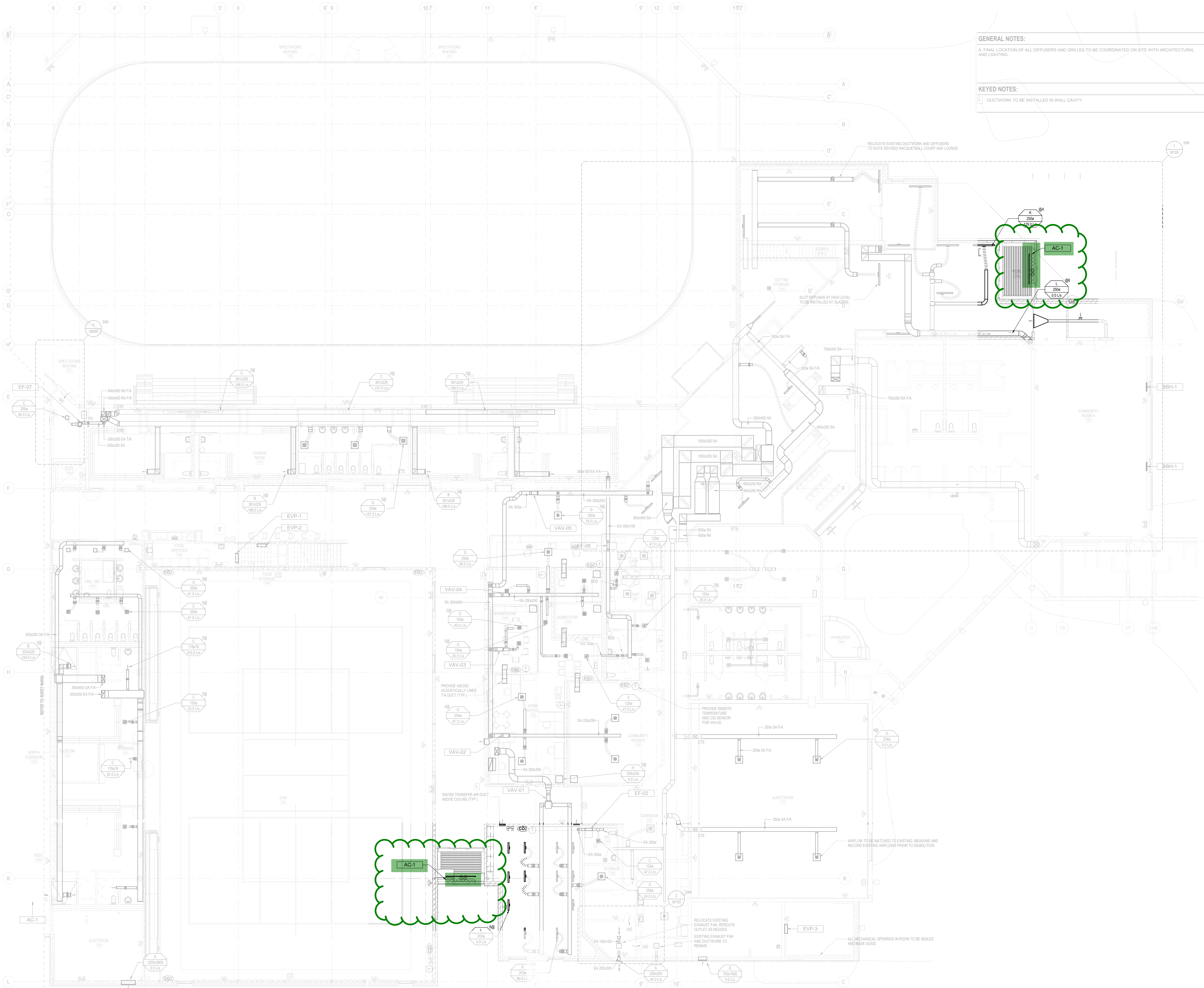
2. PRODUCTS

2.1 Air Curtain Units:

- .1 Base frame of 16 ga (1.61 mm) thick steel.
- .2 2-speed direct driven double inlet forward curved fans.
- .3 Fans balanced and rubber isolated.
- .4 Aluminum cover housing with inlet grille.
- .5 Electric heating coil where scheduled.
- .6 Inlet filters.
- .7 Discharge grille with adjustable vanes integral with the unit or remote mounted in the ceiling. Provide duct extension for ceiling mounted units.
- .8 High-off-low fan switch integral with unit suitable for remote mounting.
- .9 Sound level 10'-0" (3.0 m) in front of the unit in free field shall not exceed 59 dBA on high speed and 54 dBA on low speed.
- .10 Unit shall be ULC listed and shall bear AMCA certified ratings seal.

2.2 Fans – General:

- .1 Provide fans selected for maximum efficiency and generating noise levels on site not exceeding levels indicated. If fans are not specified at maximum efficiency, advise mechanical Consultant before tendering and submit alternate price for maximum efficiency fans. If approval to supply noisier fans is not obtained prior to tendering, provide equipment meeting ASHRAE levels on site without loss in efficiency.
- .2 Submit fan sound power levels with shop drawings measured to applicable AMCA standards, or other data acceptable to Engineer. Provide test data, if requested. Indicate on shop drawings test configuration, including ductwork, and end reflection corrections applied to data and/or if such corrections have been omitted.



GENERAL NOTES:

A. FINAL LOCATION OF ALL DIFFUSERS AND GRILLES TO BE COORDINATED ON SITE WITH ARCHITECTURAL AND LIGHTING.

KEYED NOTES:

1. DUCTWORK TO BE INSTALLED IN WALL CAVITY.

UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED. VERIFY ALL DIMENSIONS, ELEVATIONS, AND DATUM REPORT ANY ERRORS AND/OR DISCREPANCIES TO THE INTERNAL GROUP PRIOR TO CONSTRUCTION.

DO NOT SCALE DRAWINGS.

THIS DRAWING SUPERSEDES PREVIOUS ISSUES.

UNLESS NOTED OTHERWISE, ALL DIMENSIONS REMAIN THE PROPERTY OF THE INTERNAL GROUP. THIS DRAWING AND DRAWING MAY NOT BE REPRODUCED WITHOUT PERMISSION OF THE INTERNAL GROUP.

diamondschmitt

ISSUED

No.	Date	Description
1	2020-12-14	ISSUED FOR 60% DD
2	2021-03-26	ISSUED FOR 100% DD
3	2021-06-17	ISSUED FOR 50% CD REVIEW
4	2021-09-24	ISSUED FOR 90% CD
5	2021-11-01	ISSUED FOR REVIEW
6	2021-11-10	ISSUED FOR 100% CD
7	2022-02-16	ISSUED FOR TENDER
8	2022-06-03	ISSUED FOR BUILDING PERMIT
9	2022-07-20	RESUBMITTED FOR PERMIT
10	2022-08-05	RESUBMITTED FOR PERMIT
11	2023-03-31	ISSUED FOR TENDER
12	2023-05-02	AUDITORIUM M-1
13	2023-09-08	ISSUED FOR CONSTRUCTION

INTEGRAL

Toronto Design Studio
390 Wellington Street West,
Toronto, ON Canada M5V 1E3

t: +1 416.488.4425
e: info@integralgroup.com
www.integralgroup.com

Project North

True North

Chris Gibson Recreation Centre
Renovation and Addition

125 McLaughlin Road North
Brampton, ON
L6Y 1Y7

LEVEL 01 - SOUTH HVAC PLAN

Scale: 1" = 100'
Project No: 210305
Date: 2022-04-06

Manufacturers Data Sheets



Laura Waigh
Vice-President of Sales

C 519-635-3258 / 1-877-227-7822
E laura.waigh@carver-na.com

1210 Balmoral Rd
Cambridge, Ontario
N1T 1A5 Canada

T 705-797-0007
Toll Free 1-866-693-4333
E biddle@carver-na.com
www.biddle.ca

Letter of Transmittal

Date: December 4, 2023

Company: HTS Toronto

Attention: Dalya Mirlas

RE: Chris Gibson Rec Centre Quote 10434

Biddle Electric heated Top Intake Free Hanging Air Curtain model SR M-200-E-F 208/3/60 13.3kW with CHIPS-control technology.

Complete with:

- * I-sense infrared technology
- * Patented air rectifier
- * Accessory set - type "F" - consisting of 1 (one) b-touch [touch screen] controller, 1 (one) 5m and 1 (one) 25m long low voltage communication cable and end cap panels with interchangeable inserts (white and grey)
- * 1 (one) magnetic reed door switch
- * 1 (one) set of ceiling / suspension brackets
- * a set of 2 (two) of standard wall brackets
- * a set of washable filters
- * Standard colour finish is RAL 9006 aluminium (all other RAL colour finishes available as an extra)
- * Grilles are anodized aluminium
- * Unit comes with a 5 (five) year parts and labour warranty



1210 Balmoral Rd
Cambridge, Ontario
N1T 1A5 Canada

T 705-797-0007

Toll Free 1-866-693-4333

E biddle@carver-na.com

www.biddle.ca

*All disconnect switches, t-tats, and threaded rods by others

* See below for threaded rod cover adder.

COMMENTS:

* Maximum door header mounting height is 110"

* For width openings up to 72"

* Biddle units are ESA inspected at our Cambridge, ON facility for use in North America.

One (1) set, Field cuttable 1.5M long Profile Covers - to match colour finish of SR (for 1, 1.5 & 2M units only) to conceal threaded rod (by others) - part # 64092058

ELECTRICAL HEATING - IMPERIAL

SR M-200-E-208/32 - SR M-200-E-480/32 - SR M-200-E-600/32

SR M-200-E-208/32							
Nominal unit length	in	80					
Door height	in	85 - 110					
Electrical supply	V/ph/Hz	208/3/60					
Max. Cable size allowed (solid/stranded)	AWG	2/2					
Max. Current consumption (unit)	A	49,8					
Max. Fan power	kW	0,63					
Max. Power consumption, heating	kW	14					
Max. Heating capacity	kBTU/h	45					
Weight casing style F / R / C	lb	239/285/272					
Air inlet temperature	°F				68		
Discharge air temperature	°F				95		
Speed		1	2	3	4	5	6
Air volume	cfm	530	740	885	1225	1470	1975
Heating capacity	kBTU/h	15	22	26	36	43	57
Sound pressure level at 10ft	dB(A)	26	34	38	45	51	55

MAX CAPACITY OUTPUT (208/3/60): 45 MBH

THE SR MODEL WILL MODULATE CAPACITY OUTPUT VIA VARYING FAN SPEED IN ORDER TO MEET SET TEMPERATURE

Model Dimensions

Model Number: SR M-200-E-F

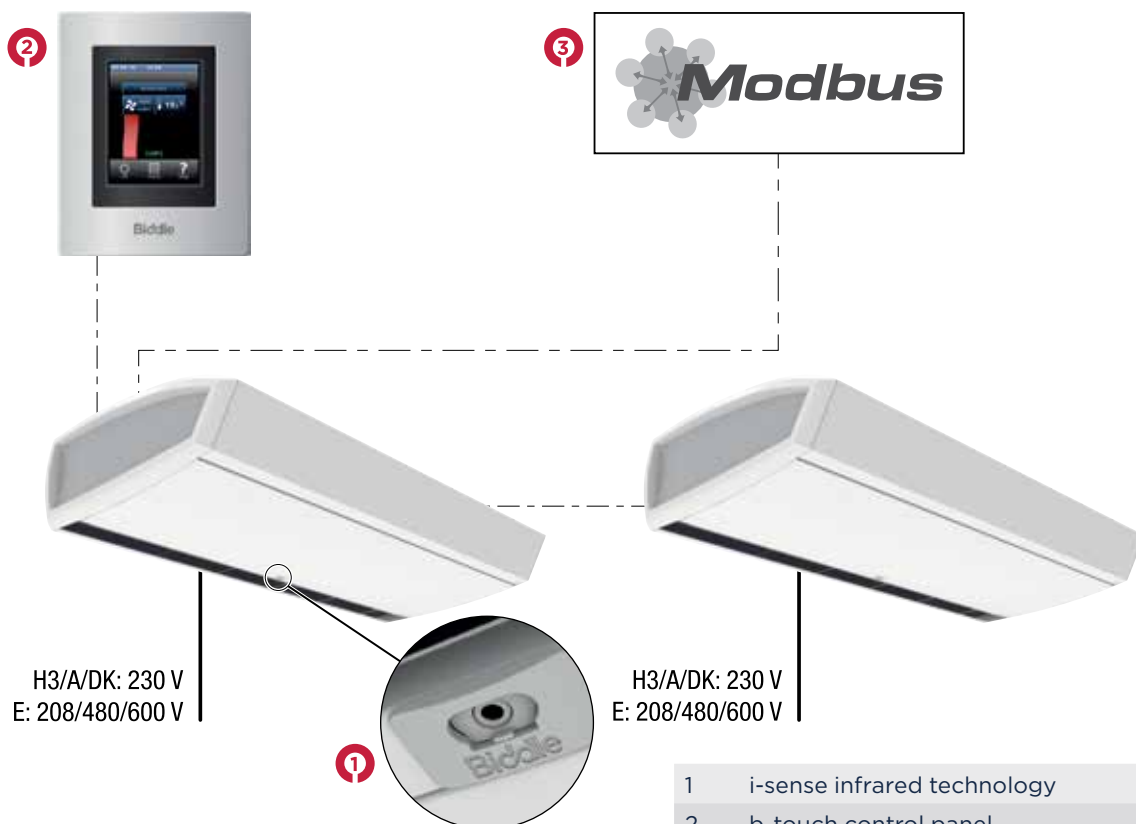
SR	SR
Capacity	
S	Small 200-240 cm (80"-95")
✓ M	Medium 220-280 cm (85"-110")
L	Large 250-330 cm (100"-130")
Length	
100 - 150 - 200 - 250 cm	
40" - 60" - 80" - 100"	
Coil type	
H3	Hot water heating
✓ E	Electrical heating
DX (DK)	In combination with Daikin systems
A	Ambient (no heating)
Model	
✓ F	Free hanging model
R	Recessed model
C	Cassette model

INTELLIGENT CONTROLS

During installation, an air curtain is typically set to operate at a mid-speed setting and rarely adjusted. This results in the air curtain continually operating at a single air volume, velocity and temperature. However, as internal and external conditions constantly vary throughout the day this means the air curtain will only be operating at the optimum setting some of the time and for the rest of the time will be either set too high or too low.

The automatic CHIPS (Corrective Heating & Impulse Prediction System) technology ensures the most appropriate setting at any moment in time. The i-sense in the discharge grille measures the indoor and outdoor temperatures active in the door opening collecting real-time data. This process ensures that the SR is always functioning correctly and yields an ideal, energy-efficient indoor climate without the need for user input.

The auto-active SR device is equipped as standard with the b-touch control panel and i-sense infrared technology. It is also possible to communicate via Modbus, the latter of which is a standard feature on all units.



B-TOUCH

The b-touch control panel has a simple menu structure making it very easy to select preferred settings, such as room temperature and switching the device on/off. Due to the fact the SR's intelligent software is integrated, once the device is installed, it may also function without the b-touch being connected. The b-touch may then be used as a service panel only.

The b-touch can also be used as a component of a complete climate system. For instance, the Modbus BMS local operations via the b-touch and central management actively functions simultaneously. A single b-touch can be used to control a maximum of 10 units.

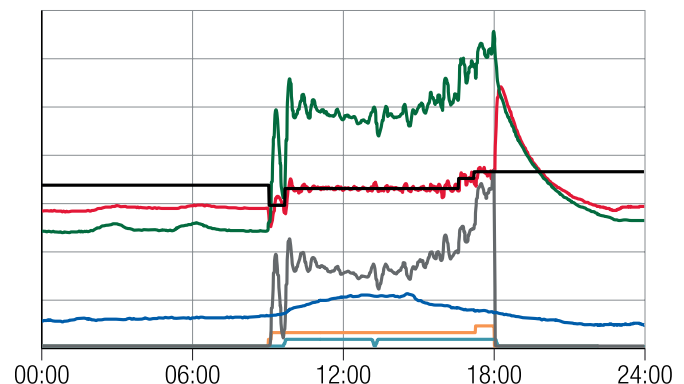


CONTROL FEATURES:

- Touchscreen control panel
- Analytical tool
- Status screen displaying all settings and current values
- Multilingual navigation menu
- Practical installation wizard to achieve preferred settings on site
- Personalization features
- Manual operation also possible

ANALYTICS

A USB connector is located on the underside of the b-touch for exporting data usage, importing or exporting adjustments as well as updating new software. The graph, produced from exported data, shows the degree of comfort by comparing the actual (red line) and programmed indoor temperature (black line) from a particular project installation.



SPECIFICATIONS

CASING

The casing is made of zinc plated sheet steel and has an inspection panel in the bottom. The inlet grilles are made of anodized aluminum with fixed fins. The inlet module, end panels as well as the casing are, as a standard, supplied in silver grey (RAL 9006) or traffic white (RAL 9016). The end panels of the white SR have a grey inlay. Other RAL casing colour finishes are available for an additional charge.

FAN / MOTOR ASSEMBLY

The air curtain is equipped with two or more (depending on type) dual-inlet, vibration free suspended centrifugal fans. Each fan is driven by a rotor motor on bearings, which are seal for life and no maintenance is required. The fan casing and the impeller are made of zinc coated plate steel. The motors, as standard, are fitted with thermal contacts. These thermal contacts break the circuit of the motor when the maximum permissible motor temperature is exceeded.

HEATING COIL

Electric: made up of electric heating elements with aluminum fins. The exchanger is controlled by the electronic control unit and is fitted with overload protection. When the unit is switched off, the fans will continue to run until the heating coils have cooled off sufficiently.

CONNECTIONS

The mains cable to electrically heated units must be connected within the unit. The top of the unit has a cable gland for feeding through the mains cable. A 5-core cable (3 phases + earth + neutral) is required for connection.

STANDARD DELIVERY

Water-side control: 3 way valve and control (water unit)

Modbus communication

Air filters

Ceiling mounting brackets

Duct connections R-model (ducts not included)

TECHNICAL EXPLANATION

Because of the auto-active control of the SR comfort air curtain the outlet temperature varies at all speeds, depending on the situation. The SR is equipped with a low water temperature coil for every water temperature from 45/35°C to 90/70°C (113/95°F to 194/158°F).

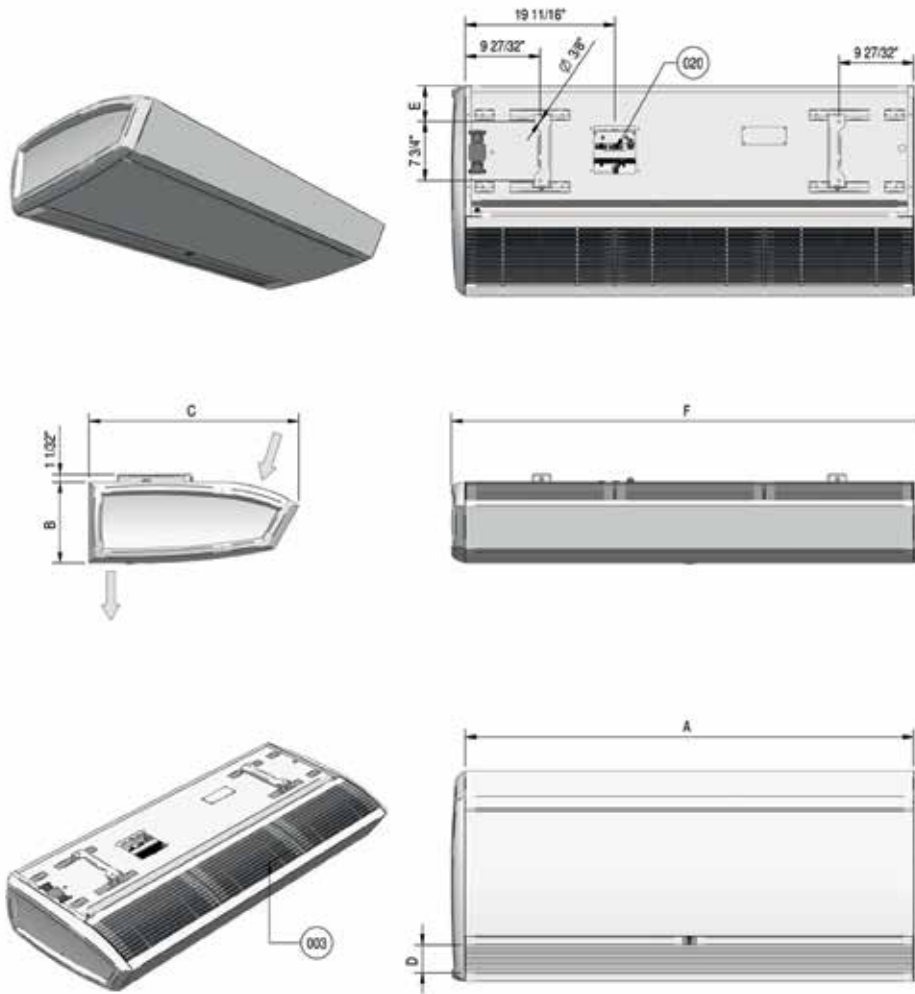
SELECTION BOILER CAPACITY

For the selection of the boiler one can take the heating capacity at speed 6 at a discharge air temperature of 40°C (104°F).

MAXIMUM HEATING CAPACITY

For the maximum heating capacity of water and electric units, the heating capacity has been taken at speed 6 with a discharge air temperature of 50°C (122°F).

FREE HANGING MODEL - IMPERIAL



	A	B	C	D	E	F
SR S / M 100	39 3/8"	10 5/8"	27 5/8"	3 21/32"	4 11/16"	43 1/32"
SR S / M 150	59 1/16"	10 5/8"	27 5/8"	3 21/32"	4 11/16"	62 23/32"
SR S / M 200	78 3/4"	10 5/8"	27 5/8"	3 21/32"	4 11/16"	82 13/32"
SR S / M 250	98 7/16"	10 5/8"	27 5/8"	3 21/32"	4 11/16"	102 3/32"
SR L 100	39 3/8"	14 9/16"	37"	4 21/32"	7 7/8"	44 13/16"
SR L 150	59 1/16"	14 9/16"	37"	4 21/32"	7 7/8"	64 1/2"
SR L 200	78 3/4"	14 9/16"	37"	4 21/32"	7 7/8"	84 3/16"
SR L 250	98 7/16"	14 9/16"	37"	4 21/32"	7 7/8"	103 27/32"

EXPLANATION OF DIMENSIONAL SKETCHES

○ Models

Free hanging: by removing the end panels, the units are easy to interlink.

Cassette: aperture sizes = (A+8) x (C+8) mm.

Recessed: aperture sizes:

- for air discharge (A+8) x (D+8) mm
- for air inlet: (A+8) x (I+8) mm. If the recessed model is to be built into a bulkhead, it is also available in a design that has no inlet air plenum or flexible ducts.

○ Wall suspension brackets and threaded rod covers

- Material of threaded rod covers: zinc coated steel, painted, to a standard colour of RAL 9016 or RAL 9006.

○ Note

- SR 250 units have 3 suspension brackets. All other sizes have 2 suspension brackets.

INDEX

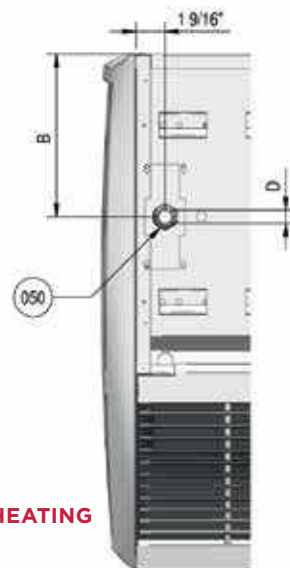
The corresponding numbers in the dimensional sketches are explained here:

3-Air inlet grille with filter. **20**-Connection plate. **35**-Ducts are not supplied. **43**-Finishing sections supplied separately.

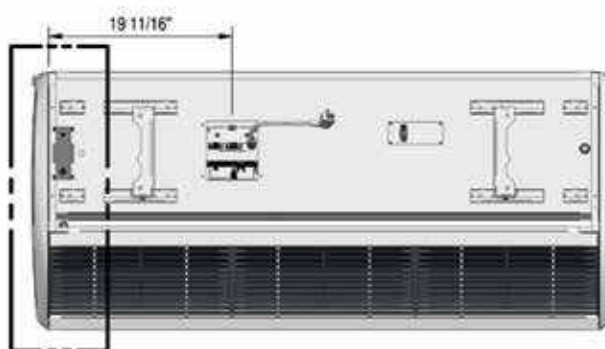
36-Eye bolt M6. **7**-Air vent. **50**-Gland. **97**-Return (S/M). **98**-Return (L). **99**-Supply (S/M). **100**-Supply (L).

12-Pipework. **87**-Threaded rod covers (position is flexible).

CONNECTIONS - IMPERIAL



ELECTRIC HEATING



	A	B	D
SR S 100 / SR S 150	6 1 ¹ / ₁₆ "	8 2 ¹ / ₃₂ "	PG21
SR S 200 / SR S 250	6 1 ¹ / ₁₆ "	8 2 ¹ / ₃₂ "	PG21
SR M 100 / SR M 150	6 1 ¹ / ₁₆ "	8 2 ¹ / ₃₂ "	PG21
SR M 200 / SR M 250	6 1 ¹ / ₁₆ "	8 2 ¹ / ₃₂ "	PG29
SR L 100	9 2 ¹ / ₃₂ "	11 5 ⁵ / ₈ "	PG21
SR L 150	9 2 ¹ / ₃₂ "	11 5 ⁵ / ₈ "	PG29
SR L 200 / SR L 250	9 2 ¹ / ₃₂ "	11 5 ⁵ / ₈ "	PG36

EXPLANATION OF DIMENSIONAL SKETCHES

Models

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Cassette: aperture sizes = (A+8) x (C+8) mm.

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Wall suspension brackets and threaded rod covers

- Material of threaded rod covers: zinc coated steel, painted, to a standard colour of RAL 9016 or RAL 9006.

Note

- SR 250 units have 3 suspension brackets. All other sizes have 2 suspension brackets.

INDEX

The corresponding numbers in the dimensional sketches are explained here:

3-Air inlet grille with filter. **20**-Connection plate. **35**-Ducts are not supplied. **43**-Finishing sections supplied separately.

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12-Pipework. **87**-Threaded rod covers (position is flexible).



RAFAT

8850 GEORGE BOLTON PARKWAY, CALEDON, ONTARIO L7E 2Y4

**Shop Drawings
Transmittal No:**

Project Name:	Renovation of Chris Gibson Recreation Centre Drive	Project No.	T2023-125
		DATE:	
		Submittal Required Return Date:	
Submittal No:			



Title:	
---------------	--

To:	Patrick Johnson Contract Administrator Halima Namugga Admin Project Coordinator 384 Adelaide Street West, Suite 100 Toronto, Ontario, Canada M5V 1R7 PJohnson@dsai.ca
------------	---

Checked by:	Hasan Zaidi (Rafat General Contractor Inc/Corebuild)	To Be Reviewed By the Following Consultants	1. DSI 2. IG
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Submitted for:	REVIEW
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Consultants Response	
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SUBMITTAL REVIEW


For general compliance with the design concept and contract documents. Subcontractor is solely responsible for jobsite correlation and correctness of all ratings, sizings, type, style, dimensions, finish, quantities and satisfactory fitting to other work and equipment. This review does not change the intent of the contract document.

☒ Reviewed
☐ Make Corrections
☐ Resubmit
☐ Rejected

Per:
HasanZaidi
Date:
07-Dec-2023

SUBMITTAL REVIEW

INTROBA
380 Wellington Street West
Toronto, ON
M5V 1E3



☐ REVIEWED
☒ REVIEWED AS NOTED
☐ REJECTED - REVISE AND RESUBMIT
☐ NOT REVIEWED

CHECKED BY: ILITTLE

DISCIPLINE: M&E

DATE: 12/14/2023

REVIEWED FOR GENERAL DESIGN AND COMPLIANCE WITH CONTRACT DOCUMENTS. DIMENSIONS AND SUITABILITY FOR SITE CONDITIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REVIEW OF THE DRAWING SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE CONDITIONS OF THE CONTRACT DOCUMENTS.

IRB Comments:

- Coordinate finishes with the architect.
- Coordinate with electrical contractor.



200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Package 23-214 - 014

Dec 6, 2023

PROJECT NAME	PROJECT NUMBER	PROJECT ADDRESS	DUE DATE
23-214 CHRIS GIBSON REC CENTRE	23-214	125 McLaughlin Rd N, Brampton, ON, L6X 1N9	Dec 19, 2023

To

NAME	EMAIL
Hassan Zaid	hzaidi@corebuildconstruction.com
COMPANY	ADDRESS
RAFAT GENERAL CON-TRACTOR INC.	8850 GEORGE BOLTON PKWY, BOLTON, ON, L7E 2Y4

From

NAME	EMAIL
JOSHUA STEPHENSON	josh.s@consultmechanical.com
COMPANY	ADDRESS
Consult Mechanical	200 Tesma Way, Vaughan, ON, L4K 5C2

Subject

Door Air Curtains

Package Items

Spec	Subsection	Description	Type
Mechanical	HVAC	Air Curtains AC-1	Shop Drawings



200 Tesma Way,
Concord, ON, L4K 5C2
(905) 738-1400

Submittal Item Information

Dec 6, 2023

Spec Section

Mechanical

Sub Section

HVAC

Type

Shop Drawings

Description

Air Curtains AC-1

**Submittal # 72920****APPROVAL REQUIRED**

Project 22006063-MECH-4- Chris Gibson Recreation Centre
Leader Nevin Wong
Job Site Chris Gipson Recreation Centre
Submission Date 2023-12-06
Sold To CONSULT MECH
Submitted By Dalya Mirilas

Contacts

Role	Customer	Our Rep
Mechanical Contractor	Con-Sult Mechanical Inc.*	Nevin Wong
Designer	Integral Group	Graham Coote

Notes:

Please note that the scheduled 230V is not available - we are providing a model with 208V.

Deliverables

Track #	243758		
Tag	AC-1		
Description	Air Curtains - Biddle		
Quantity	3		
Manufacturer	Biddle Air Systems		
Model #			
Specification	23 34 00		
Production Lead Time	16-18 weeks upon approval/release		
Revision #	0		

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- 1) HTS will provide equipment in accordance with the attached shop drawings.
- 2) Upon approved submittal and customer release, HTS will release equipment to fabrication per the published lead times. Any storage fees associated with project schedule changes will be the responsibility of the purchaser.
- 3) HTS can provide freight and logistics to the purchaser as an added benefit of doing business with HTS. When freight is received by the purchaser, any noticeable damage must be recorded. Otherwise, HTS is not responsible for subsequent damage claims.

Approval Stamps

Specifications and Drawings

1. GENERAL

1.1 Related Work:

- .1 This Specification Section forms part of Contract Documents and is to be read, interpreted and coordinated with other parts.

1.2 Quality Assurance:

- .1 Catalogued or published ratings shall be from tests carried out by Manufacturer or from independent testing agency signifying adherence to codes and standards.

1.3 Submittals:

- .1 Fan shop drawings shall include sound rating data and fan curves showing operating point plotted on curves.
- .2 Fan shop drawings shall include motor efficiencies. Refer to Section 23 05 13 for minimum motor efficiencies.

1.4 General:

- .1 Motors powered by variable speed drive controllers shall be EEMAC class B with Type F 'inverter duty' insulation, shall have 1.15 service factor on sine wave power, 1.0 service factor on PWM power and meet NEMA Code MG-1, 1993 Part 31.

2. PRODUCTS

2.1 Air Curtain Units:

- .1 Base frame of 16 ga (1.61 mm) thick steel.
- .2 2-speed direct driven double inlet forward curved fans.
- .3 Fans balanced and rubber isolated.
- .4 Aluminum cover housing with inlet grille.
- .5 Electric heating coil where scheduled.
- .6 Inlet filters.
- .7 Discharge grille with adjustable vanes integral with the unit or remote mounted in the ceiling. Provide duct extension for ceiling mounted units.
- .8 High-off-low fan switch integral with unit suitable for remote mounting.
- .9 Sound level 10'-0" (3.0 m) in front of the unit in free field shall not exceed 59 dBA on high speed and 54 dBA on low speed.
- .10 Unit shall be ULC listed and shall bear AMCA certified ratings seal.

2.2 Fans – General:

- .1 Provide fans selected for maximum efficiency and generating noise levels on site not exceeding levels indicated. If fans are not specified at maximum efficiency, advise mechanical Consultant before tendering and submit alternate price for maximum efficiency fans. If approval to supply noisier fans is not obtained prior to tendering, provide equipment meeting ASHRAE levels on site without loss in efficiency.
- .2 Submit fan sound power levels with shop drawings measured to applicable AMCA standards, or other data acceptable to Engineer. Provide test data, if requested. Indicate on shop drawings test configuration, including ductwork, and end reflection corrections applied to data and/or if such corrections have been omitted.

DOOR AIR CURTAIN SCHEDULE

Tag No.	Level	Room No.	Qty.	Model	Max. Door Width (m)	Weight (kg)	ELECTRICAL				NOTES
							Rated Power Input (kW)	Voltage [V]	Phase	Frequency [Hz]	
AC-1	Ground	Vestibule	3	BIDOLE SENSAR SR M-200-E-F	2.032	108	14	208	3	60	1, 2, 3
Notes:											
1) CWI integral chips control system.											
2) Free Hung											
3) Electric door heater											

HW BOILER SCHEDULE

MARK	MFR	MODEL	LOCATION	SERVICE	OUTPUT (MBH)	ELECTRIC (V)	RV SETTING (PSIG)	VPM	OPER. WEIGHT (LBS)	NOTES
EB-BT	CLEVER BROOKS	HS-201	MECHANICAL ROOM	BACK-UP	1100	24	80	275000	220	

1. INDOOR TYPE UNIT.
2. PROVIDE MFC CONTROLLER FOR WATER TEMPERATURE ADJUSTMENT.
3. PROVIDE WATER FLOW CONTROL AND SAFETY DEVICES.
4. NATURAL GAS CONDENSING MODULATING STAINLESS STEEL BOILER.
5. INSTALL WITH STANDARD INTAKE SILENCER AND EXHAUST MUFFLER.
6. CONCRETE PAD WITH SPRING ISOLATORS.
7. PROVIDE AND INSTALL CONDENSATE VENT KIT.
8. PROVIDE AND INSTALL CONDENSATE NEUTRALIZATION KIT. DRAIN BY PLUMBING.
9. PROVIDE GENERAL VENT AND INTAKE AIR PIPE.
10. XXXXXXX CONTROLLER.

FAN SCHEDULE

MARK	MFR	MODEL	LOCATION	SERVICE	CFM	TYPE	FAN		BHP	BWP	MIN. STATIC P.	MOTOR		VPM/VA	OPER. WEIGHT (LBS)	NOTES
							DIA. (IN.)	HP				DRIVE	HP			
EF-01A	COOK	EWB-36EWHB	ARENA ROOF	ARENA	4000	PROPELLER	42	0.5	720	0.077	0.5	VFD	0.75	275000	300	12
EF-01B	COOK	EWB-36EWHB	ARENA ROOF	ARENA	4000	PROPELLER	42	0.5	720	0.077	0.5	VFD	0.75	275000	300	12
EF-02	COOK	CS200W100T1VF	CHOCOLATE WASHROOM	CHOCOLATE WASHROOM	200	WALVE	16	0.5	1300	0.060	0.5	-	0.125	120000	125	16
EF-03	COOK	CS200W080T1VF	REF. BA	REFERENCE ROOM	200	WALVE	16	0.5	1430	0.144	0.5	-	0.203	120000	125	16
EF-04	COOK	CS200W100T1VF	USE WASHROOM	USE WASHROOM	200	WALVE	16	0.5	1300	0.060	0.5	-	0.125	120000	125	16
EF-05	COOK	CS200W100T1VF	USE WASHROOM	USE WASHROOM	200	WALVE	16	0.5	1300	0.060	0.5	-	0.125	120000	125	16
EF-06	COOK	CS200W080T1VF	ADMIN CHANGEROOM	ADMIN CHANGEROOM	400	WALVE	16	0.5	1470	0.154	0.5	-	0.203	120000	125	16
EF-07	COOK	QW-180	USE JANITOR ROOM	USE JANITOR ROOM	200	WALVE	16	0.25	1228	0.062	0.25	-	0.122	120000	19	1, 2, 3
EF-08	COOK	QW-180	USE JANITOR ROOM	USE JANITOR ROOM	200	WALVE	16	0.25	1228	0.062	0.25	-	0.122	120000	19	1, 2, 3
REF-01	COOK	ACRULS F100B	PLANT ROUGH ROOF	PLANT ROOF	1000-2000	UPRAJST	-	0.5	1247	1.24	0.5	VFD	1.5	275000	100	20, 21
REF-02	COOK	ACRULS F100B	USE RWK MCH ROOF	USE RWK MCH	1000-2000	UPRAJST	-	0.5	1100	1.03	0.5	VFD	1	275000	98	20, 21

1. PAINTED WHITE ENAMEL STEEL GRILLE.
2. FAN INTERNALLY ISOLATED.
3. BACKDRAFT DAMPER INTEGRATED.
4. FAN INTERLOCK WITH LIGHTING, POWER AND WIRING BY ELECTRICAL.
5. FAN CONTROLLED BY WALL EMERGENCY SWITCH WITH LIGHT INDICATOR. BROWN MODEL, WHITE OR EQUAL.
6. PROVIDE WITH AND CONTROL BY LINE VOLTAGE THERMOSTAT SET TO 35 °F.
7. FAN INTERLOCK WITH OVERWINDERS.
8. CONTINUOUS OPERATION/STOP CODE.
9. PROVIDE LAM IN FRAMING. EPDM CHYMUM MATERIAL LAM TO ALL FAN UNIT ACCESS THROUGH TOP AND.
10. NO OVERSPEED PROTECT. UNPLUG LAMING.
11. CONDENSATE DRAINAGE/REMOVING. VACUATED DRAIN.
12. PROVIDE WITH OPEN/CLOSED MOTOR.
13. NOT REVERSE. REVERSAL. REVERSAL.
14. REVERSE. REVERSAL.
15. REVERSE. REVERSAL. REVERSE. REVERSAL. REVERSAL. REVERSAL.
16. FAN INTERLOCK WITH LIGHTING, POWER AND WIRING BY ELECTRICAL.
17. PROVIDE FAN/PURGE/EXHAUST SWITCH INSIDE INDOOR.
18. CONNECT TO BMS SYSTEM TO OPERATE BASED ON OCCUPANCY SENSOR.
19. PROVIDE HIGH-LEVEL AND LOW-LEVEL INLETS COMPLETE WITH BIRD-SCREEN AND MOTORIZED DAMPER AT OUTWORK BELOW FAN. TO BE COORDINATED ON SITE WITH LOCATION OF REFRIGERANT LEAK.
20. FAN TO BE INTERLOCKED TO REFRIGERANT DETECTION PANEL. FAN TO RUN AT HIGH SPEED AT ALL TIMES WITH UPPER INLET UNDER NORMAL OPERATION. ON REFRIGERANT LEAK DETECTION, UPPI INLET TO CLOSE. LOWER INLET TO OPEN AND FAN TO SWITCH TO LOW SPEED.

AIR COOLED CONDENSING UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	LOCATION	SERVICE	COOLING CAPACITY (MBH)	HEATING CAPACITY (MBH)	SEER	REFRIGERANT	COMP. KW	MCA	MDCP	VPM/VA	WEIGHT (LBS)	NOTES
CND-1	DAikin	RTZ50H1400A	HEAT PUMP	EXISTING CHANGEROOM ROOF	EXP. 1 & EXP. 2	31	-	18	R-410a	21.0	NS	25	280000	200	1, 2, 4, 5, 6
CND-2	DAikin	RTZ50H1400A	HEAT PUMP	ROOF	EXP. 3	19	13.6	20	R-410a	15	NS	16	280000	200	1, 2, 4, 5, 6

1. R-410A OR R-410A REFRIGERANT ONLY.
2. HIGH EFFICIENCY VARIABLE REFRIGERANT (DRV) UNIT ONLY.
3. PROVIDE ALL REQUIRED OPTIONS TO MOUNT ON WALL. UNIT TO BE MOUNTED ON WALL 20' ABOVE ROOF LEVEL.
4. CONTRACTOR SHALL PROVIDE OPTIONAL BACKET GATEWAY INTERFAGE UNIT TO ALLOW COMMUNICATIONS BETWEEN RVN AND BMS THROUGH BACKET COMMUNICATIONS.
5. RATED FOR OUTDOOR CONDITIONS OF 80 °F DB.
6. PROVIDE COMPLETE WITH HEATED DRAIN PAN.

SPLIT SYSTEM FAN COIL UNIT SCHEDULE

MARK	MFR	MODEL	TYPE	LOCATION	SERVICE	FAN		HEATING	DX COOL				REFRIGERANT	VPM/VA	FAN MCA	OPER. WEIGHT (LBS)	NOTES
						CFM	HP (W)		SC (MBH)	TC (MBH)	EAT DB (°F)	LAT DB (°F)					
EXP-1	DAikin	FVAG20PLU	WALL HUNG	FOOD	FOOD	200	40	15.3kW	8.0	10	80	50	R-410a	200000	0.4	125	1, 2, 3, 4
EXP-2	DAikin	FVAG20PLU	WALL HUNG	FOOD STORAGE	FOOD STORAGE	200	40	15.3kW	8.0	10	80	50	R-410a	200000	0.4	125	1, 2, 3, 4
EXP-3	DAikin	FVAG20PLU	WALL HUNG	SOUTHWEST STORAGE	SOUTHWEST STORAGE	200	40	15.3kW	8.0	10	80	50	R-410a	200000	0.4	125	1, 2, 3, 4

1. UNIT SELECTED FOR UNIT 1000A AT 91° BELOW DUCTED UNIT.
2. R-410A OR R-410A REFRIGERANT ONLY.
3. HIGH EFFICIENCY MODULATING RVN UNIT.
4. TO CONNECT TO DND1.

STORAGE TANK SCHEDULE

Tag No.	BT-01	BT-02	ST-01	ST-02
Heater Information				
Location	MECH ROOM	MECH ROOM	MECH ROOM	MECH ROOM
Manufacturer	STEELCRAFT	STEELCRAFT	STEELCRAFT	STEELCRAFT
Model	SC3HW178X120	SC3HW178X120	SC3HW178X120	SC3HW178X120
Type	Storage Tank	Storage Tank	Storage Tank	Storage Tank
Design Information				
Storage Volume	(L)	2405.0	2405.0	6790.0
Water Inlet/Outlet Connections NPT	(mm)	50	50	150
Height x dia	(mm)	2400 x 1200a	2400 x 1200a	3048 x 1800a
Operating Weight	(kg)	3000.0	3000.0	14000.0
Notes:				
1) Tank Thermostat with 3/4" well				
2) Relief Valve 1/2 1-inch 120psi				
3) Provide installation kit				

Unit Heaters Schedule

Unit Header Tag No.	Location	Manufacturer	Model	Airflow (L/s)	Capacity (kW)	FLUID TYPE	E.A.T. (°C)	L.A.T. (°C)	E.W.T. (°C)	L.W.T. (°C)	Flow (L/s)	WPD (ft w.g.)	Dimensions				Electrical Data	Notes
													Width (in)	Height (in)	Depth (in)	Weight (lb)	Voltage	
UH-1	Ice Resurfacer Room	Lemnox	UH5B-10B	1800	23	35% PG	12.5	24	49	38	0.49	0.36	18	15	8	75	120/1/60	1, 2, 3
UH-2	Various	Outlet	OAC	151	8								32	22	6	50	600/3/60	1, 4
BBH-1	Multi-Purpose Room	Outlet	CDBA	-	0.4				-				49	6.1	2.5	15	120/1/60	1, 2, 4

- Notes:
- Unit heaters to come complete with integrated thermostat
 - Unit heaters to come with standard OSHA fan guard
 - Hydronic Unit Heater
 - Electric Heater

EXPANSION TANK SCHEDULE

MARK	MFR	MODEL	LOCATION	SERVICE	TYPE	SYSTEM VOLUME (GAL.)	TANK VOLUME (GAL.)	ACCEPTANCE VOLUME (GAL.)	MAX. TEMP. (°F)	MIN. TEMP. (°F)	WORKING PRESSURE (PSIG)	MAX. PRESSURE (PSIG)	MIN. PRESSURE (PSIG)	SIZE DIA. (IN.)	L (IN.)	SHIP WEIGHT (LBS)	OPER. WEIGHT (LBS)	NOTES
ET-01	BELL & GOSSETT	B-100	MECHANICAL ROOM	CHWS	HORIZONTAL BLADDER	300	264	264	75	40	40	80	30	36	76	600	3000	1, 5
ET-02	BELL & GOSSETT	B-100	MECHANICAL ROOM	MHS	HORIZONTAL BLADDER	300	264	264	100	40	40	80	30	36	76	600	3000	1, 5
ET-03	BELL & GOSSETT	P75A-400	MECHANICAL ROOM	DHW	HORIZONTAL BLADDER	400	102	102	140	40	30	80	25	30	27	400	1000	1, 5

1. ASSE REPLACEMENT HEAVY DUTY BUTLE FOR APPROVED BLADDER TYPE.
2. FABRICATED STEEL SHELL.
3. PRE-CHARGE PRESSURE SHALL BE EQUAL TO SYSTEM FILL PRESSURE AT TANK LOCATION.
4. CONTRACTOR TO SET PRE-CHARGE PRESSURE.
5. HEAVY DUTY BUTLE. RUBBER DAMPER/SHAW.
6. DAMPER TYPE. CORROSION RESISTENT CONSTRUCTION. CONTRACTOR TO SET PRE-CHARGE PRESSURE.

UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE TO CENTERLINE OF PIPE UNLESS NOTED OTHERWISE.
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diamondschmitt

ISSUED

No.	Date	Description
1	2021-11-01	ISSUED FOR REVIEW
2	2021-11-10	ISSUED FOR 100% CD
3	2022-02-18	ISSUED FOR TENDER
4	2022-06-03	ISSUED FOR BUILDING PERMIT
5	2022-07-20	RESOLVED FOR PERMIT
6	2023-03-31	ISSUED FOR TENDER
7	2023-09-08	ISSUED FOR CONSTRUCTION

INTEGRAL
Toronto Design Studio
380 Wellington Street West,
Toronto, ON Canada M5V 1E3
t: +1 416.488.4425
e: info@integralgroup.com
www.integralgroup.com

Project North True North

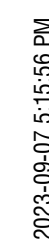
Chris Gibson Recreation Centre
Renovation and Addition

125 McLaughlin Road North
Brampton, ON
L6Y 1Y7

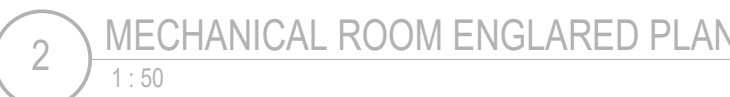
MECHANICAL EQUIPMENT SCHEDULES

Scale:
Project No: 210305
Date: 2022-04-06

M801



1. P.G. = Propylene Glycol
2. Maximum Pressure Drop per Circuit is 10 ft. w.c.
3. 15.8mm dia. Pipe Diameter
4. 225mm pipe spacing on centre
5. Refer to specifications for pressure testing and warranty requirements.
6. Refer to details for installation requirements and minimum concrete cover



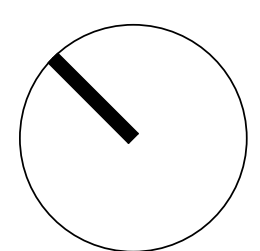
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ISSUED

No.	Date	Description
1	2020-12-14	ISSUED FOR 60% DD
2	2021-03-26	ISSUED FOR 100% DD
3	2021-06-17	ISSUED FOR 90% CD REVIEW
4	2021-09-24	ISSUED FOR 95% CD
5	2021-11-01	ISSUED FOR REVIEW
6	2021-11-10	ISSUED FOR 100% CD
7	2022-02-18	ISSUED FOR TENDER
8	2022-06-03	ISSUED FOR BUILDING PERMIT
9	2022-07-20	REISSUED FOR PERMIT
10	2022-08-05	REISSUED FOR PERMIT
11	2022-10-05	REISSUED FOR PERMIT
12	2023-03-31	ISSUED FOR TENDER
13	2023-05-02	ADDENDUM M-1
14	2023-09-08	ISSUED FOR CONSTRUCTION



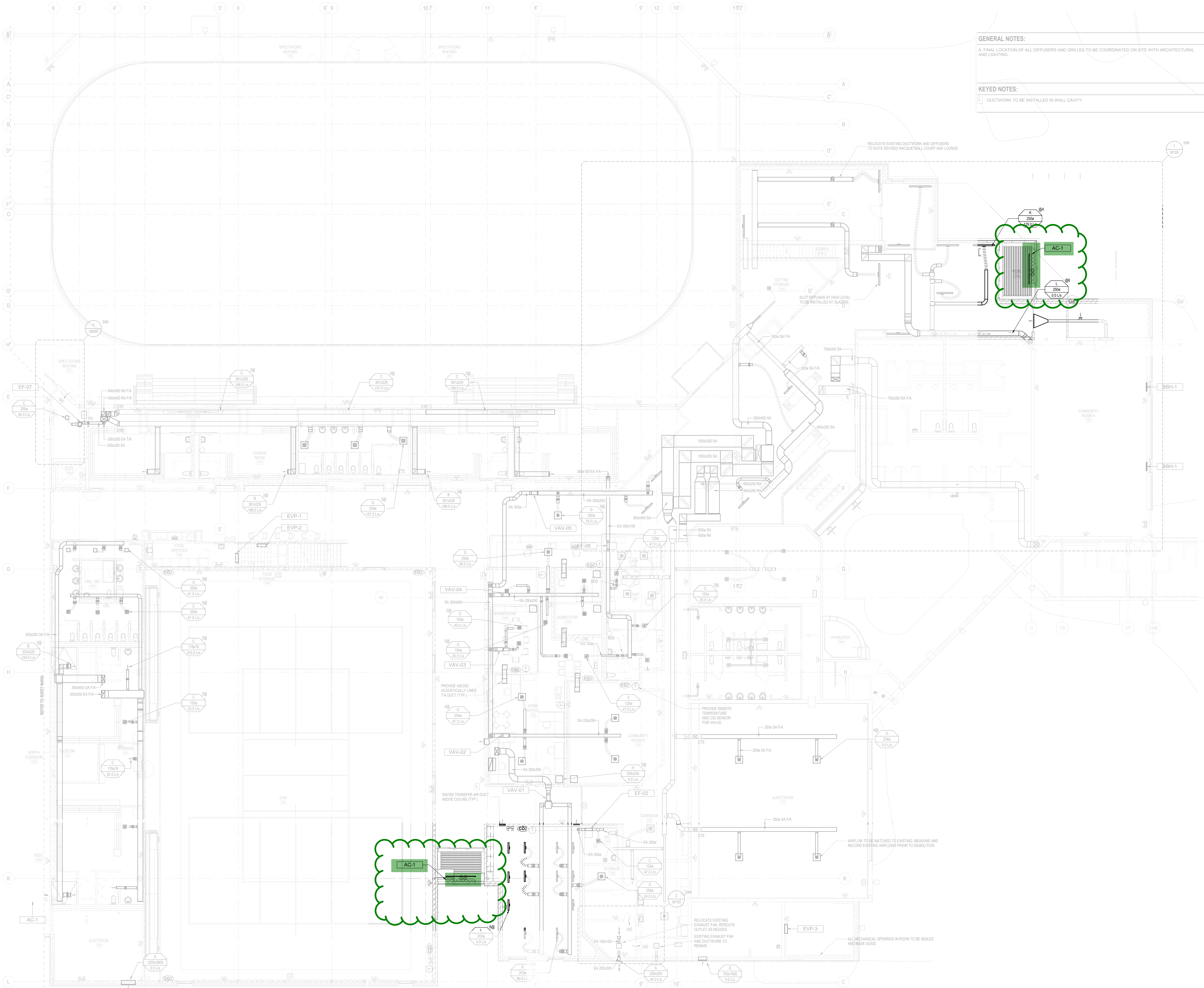
True North

Chris Gibson Recreation Centre
Renovation and Addition

125 McLaughlin Road North
Brampton, ON

Scale: As indicated
Project No: 210305
Date: 2022-04-06

M400A



GENERAL NOTES:

A. FINAL LOCATION OF ALL DIFFUSERS AND GRILLES TO BE COORDINATED ON SITE WITH ARCHITECTURAL AND LIGHTING.

KEYED NOTES:

1. DUCTWORK TO BE INSTALLED IN WALL CAVITY.

UNLESS NOTED OTHERWISE, ALL DIMENSIONS ARE TO CENTERLINE UNLESS NOTED OTHERWISE.

VERIFY ALL DIMENSIONS, ELEVATIONS, AND DATUM REPORT ANY ERRORS AND/OR DISCREPANCIES TO THE DESIGN GROUP PRIOR TO CONSTRUCTION.

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ISSUED

No.	Date	Description
1	2020-12-14	ISSUED FOR 60% DD
2	2021-03-26	ISSUED FOR 100% DD
3	2021-06-17	ISSUED FOR 50% CD REVIEW
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5	2021-11-01	ISSUED FOR REVIEW
6	2021-11-10	ISSUED FOR 100% CD
7	2022-02-18	ISSUED FOR TENDER
8	2022-06-03	ISSUED FOR BUILDING PERMIT
9	2022-07-20	RESUBMITTED FOR PERMIT
10	2022-08-05	RESUBMITTED FOR PERMIT
11	2023-03-31	ISSUED FOR TENDER
12	2023-05-02	AUDITORIUM M-1
13	2023-09-08	ISSUED FOR CONSTRUCTION

INTEGRAL

Toronto Design Studio
380 Wellington Street West,
Toronto, ON Canada M5V 1E3

t: +1 416.488.4425
e: info@integralgroup.com
www.integralgroup.com

Project North

True North

Chris Gibson Recreation Centre
Renovation and Addition

125 McLaughlin Road North
Brampton, ON
L6Y 1Y7

LEVEL 01 - SOUTH HVAC PLAN

Scale: 1" = 100'
Project No: 210305
Date: 2022-04-06

Manufacturers Data Sheets



Laura Waigh
Vice-President of Sales

C 519-635-3258 / 1-877-227-7822
E laura.waigh@carver-na.com

1210 Balmoral Rd
Cambridge, Ontario
N1T 1A5 Canada

T 705-797-0007
Toll Free 1-866-693-4333
E biddle@carver-na.com
www.biddle.ca

Letter of Transmittal

Date: December 4, 2023

Company: HTS Toronto

Attention: Dalya Mirlas

RE: Chris Gibson Rec Centre Quote 10434

Biddle Electric heated Top Intake Free Hanging Air Curtain model SR M-200-E-F 208/3/60 13.3kW with CHIPS-control technology.

Complete with:

- * I-sense infrared technology
- * Patented air rectifier
- * Accessory set - type "F" - consisting of 1 (one) b-touch [touch screen] controller, 1 (one) 5m and 1 (one) 25m long low voltage communication cable and end cap panels with interchangeable inserts (white and grey)
- * 1 (one) magnetic reed door switch
- * 1 (one) set of ceiling / suspension brackets
- * a set of 2 (two) of standard wall brackets
- * a set of washable filters
- * Standard colour finish is RAL 9006 aluminium (all other RAL colour finishes available as an extra)
- * Grilles are anodized aluminium
- * Unit comes with a 5 (five) year parts and labour warranty



1210 Balmoral Rd
Cambridge, Ontario
N1T 1A5 Canada

T 705-797-0007

Toll Free 1-866-693-4333

E biddle@carver-na.com

www.biddle.ca

*All disconnect switches, t-tats, and threaded rods by others

* See below for threaded rod cover adder.

COMMENTS:

* Maximum door header mounting height is 110"

* For width openings up to 72"

* Biddle units are ESA inspected at our Cambridge, ON facility for use in North America.

One (1) set, Field cuttable 1.5M long Profile Covers - to match colour finish of SR (for 1, 1.5 & 2M units only) to conceal threaded rod (by others) - part # 64092058

ELECTRICAL HEATING - IMPERIAL

SR M-200-E-208/32 - SR M-200-E-480/32 - SR M-200-E-600/32

SR M-200-E-208/32							
Nominal unit length	in	80					
Door height	in	85 - 110					
Electrical supply	V/ph/Hz	208/3/60					
Max. Cable size allowed (solid/stranded)	AWG	2/2					
Max. Current consumption (unit)	A	49,8					
Max. Fan power	kW	0,63					
Max. Power consumption, heating	kW	14					
Max. Heating capacity	kBTU/h	45					
Weight casing style F / R / C	lb	239/285/272					
Air inlet temperature	°F				68		
Discharge air temperature	°F				95		
Speed		1	2	3	4	5	6
Air volume	cfm	530	740	885	1225	1470	1975
Heating capacity	kBTU/h	15	22	26	36	43	57
Sound pressure level at 10ft	dB(A)	26	34	38	45	51	55

MAX CAPACITY OUTPUT (208/3/60): 45 MBH

THE SR MODEL WILL MODULATE CAPACITY OUTPUT VIA VARYING FAN SPEED IN ORDER TO MEET SET TEMPERATURE

Model Dimensions

Model Number: SR M-200-E-F

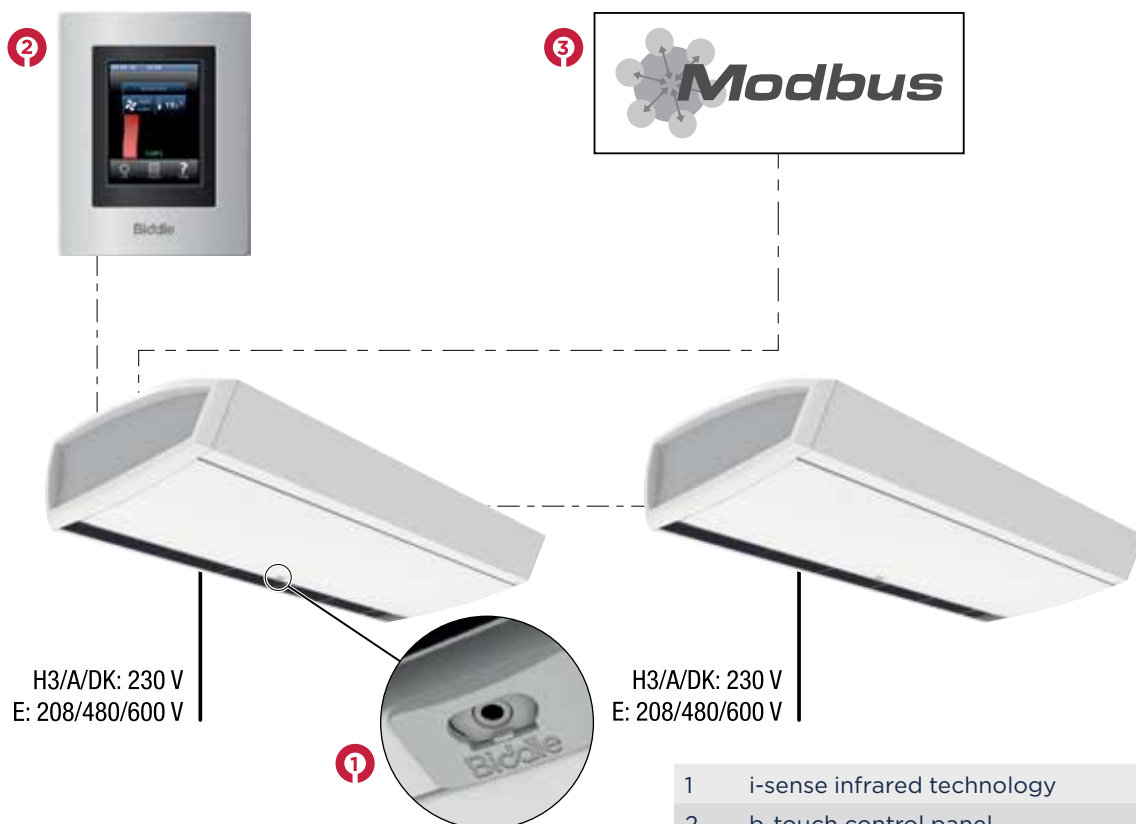
SR	SR
Capacity	
S	Small 200-240 cm (80"-95")
✓ M	Medium 220-280 cm (85"-110")
L	Large 250-330 cm (100"-130")
Length	
100 - 150 - 200 - 250 cm	
40" - 60" - 80" - 100"	
Coil type	
H3	Hot water heating
✓ E	Electrical heating
DX (DK)	In combination with Daikin systems
A	Ambient (no heating)
Model	
✓ F	Free hanging model
R	Recessed model
C	Cassette model

INTELLIGENT CONTROLS

During installation, an air curtain is typically set to operate at a mid-speed setting and rarely adjusted. This results in the air curtain continually operating at a single air volume, velocity and temperature. However, as internal and external conditions constantly vary throughout the day this means the air curtain will only be operating at the optimum setting some of the time and for the rest of the time will be either set too high or too low.

The automatic CHIPS (Corrective Heating & Impulse Prediction System) technology ensures the most appropriate setting at any moment in time. The i-sense in the discharge grille measures the indoor and outdoor temperatures active in the door opening collecting real-time data. This process ensures that the SR is always functioning correctly and yields an ideal, energy-efficient indoor climate without the need for user input.

The auto-active SR device is equipped as standard with the b-touch control panel and i-sense infrared technology. It is also possible to communicate via Modbus, the latter of which is a standard feature on all units.



B-TOUCH

The b-touch control panel has a simple menu structure making it very easy to select preferred settings, such as room temperature and switching the device on/off. Due to the fact the SR's intelligent software is integrated, once the device is installed, it may also function without the b-touch being connected. The b-touch may then be used as a service panel only.

The b-touch can also be used as a component of a complete climate system. For instance, the Modbus BMS local operations via the b-touch and central management actively functions simultaneously. A single b-touch can be used to control a maximum of 10 units.

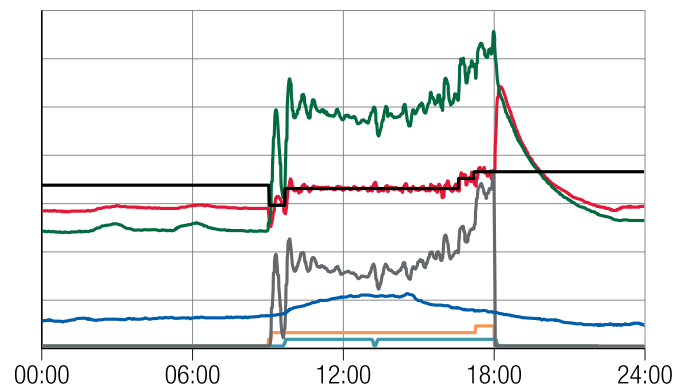


CONTROL FEATURES:

- Touchscreen control panel
- Analytical tool
- Status screen displaying all settings and current values
- Multilingual navigation menu
- Practical installation wizard to achieve preferred settings on site
- Personalization features
- Manual operation also possible

ANALYTICS

A USB connector is located on the underside of the b-touch for exporting data usage, importing or exporting adjustments as well as updating new software. The graph, produced from exported data, shows the degree of comfort by comparing the actual (red line) and programmed indoor temperature (black line) from a particular project installation.



SPECIFICATIONS

CASING

The casing is made of zinc plated sheet steel and has an inspection panel in the bottom. The inlet grilles are made of anodized aluminum with fixed fins. The inlet module, end panels as well as the casing are, as a standard, supplied in silver grey (RAL 9006) or traffic white (RAL 9016). The end panels of the white SR have a grey inlay. Other RAL casing colour finishes are available for an additional charge.

FAN / MOTOR ASSEMBLY

The air curtain is equipped with two or more (depending on type) dual-inlet, vibration free suspended centrifugal fans. Each fan is driven by a rotor motor on bearings, which are seal for life and no maintenance is required. The fan casing and the impeller are made of zinc coated plate steel. The motors, as standard, are fitted with thermal contacts. These thermal contacts break the circuit of the motor when the maximum permissible motor temperature is exceeded.

HEATING COIL

Electric: made up of electric heating elements with aluminum fins. The exchanger is controlled by the electronic control unit and is fitted with overload protection. When the unit is switched off, the fans will continue to run until the heating coils have cooled off sufficiently.

CONNECTIONS

The mains cable to electrically heated units must be connected within the unit. The top of the unit has a cable gland for feeding through the mains cable. A 5-core cable (3 phases + earth + neutral) is required for connection.

STANDARD DELIVERY

Water-side control: 3 way valve and control (water unit)

Modbus communication

Air filters

Ceiling mounting brackets

Duct connections R-model (ducts not included)

TECHNICAL EXPLANATION

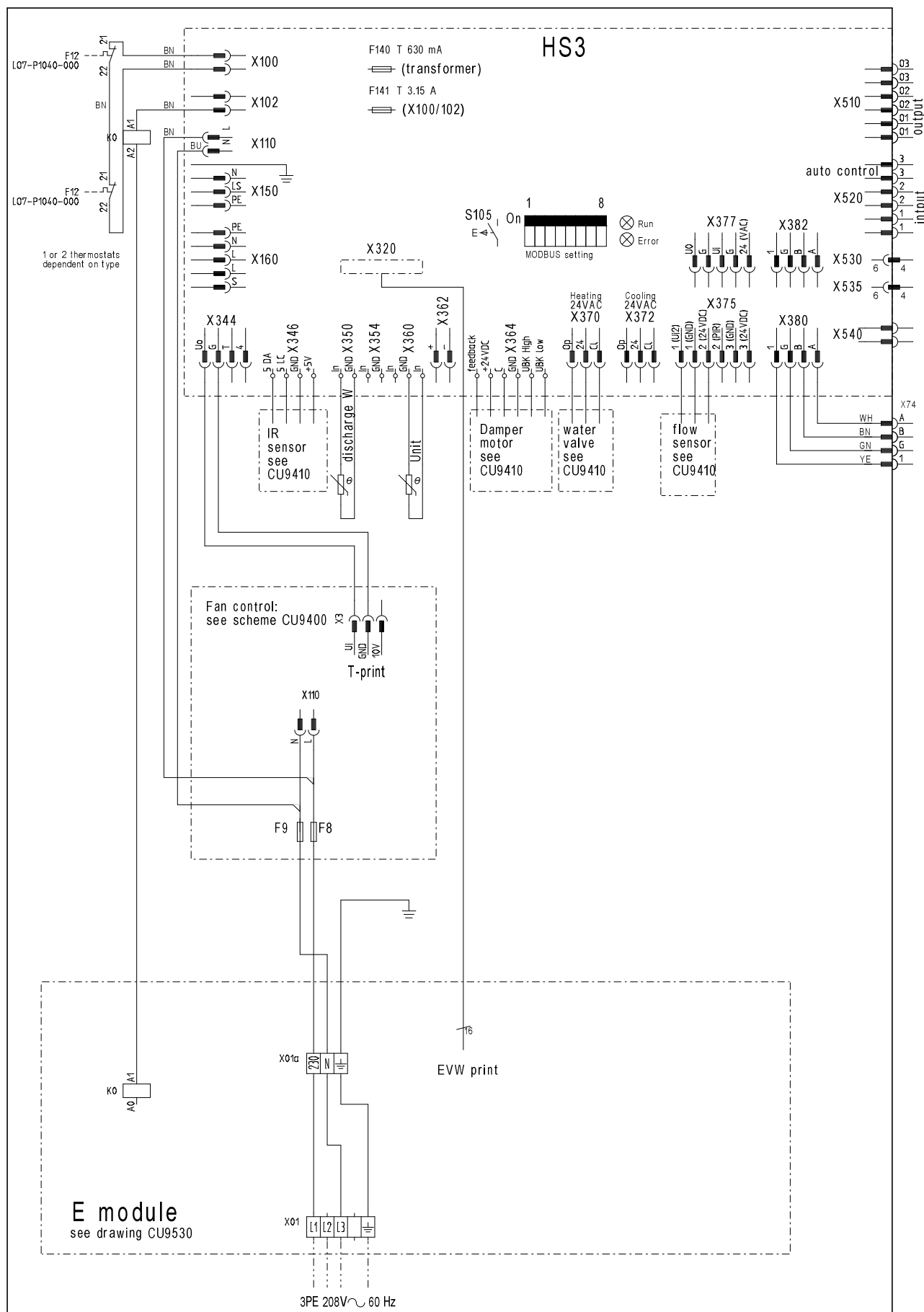
Because of the auto-active control of the SR comfort air curtain the outlet temperature varies at all speeds, depending on the situation. The SR is equipped with a low water temperature coil for every water temperature from 45/35°C to 90/70°C (113/95°F to 194/158°F).

SELECTION BOILER CAPACITY

For the selection of the boiler one can take the heating capacity at speed 6 at a discharge air temperature of 40°C (104°F).

MAXIMUM HEATING CAPACITY

For the maximum heating capacity of water and electric units, the heating capacity has been taken at speed 6 with a discharge air temperature of 50°C (122°F).



Description: **WIRING DIAGRAM -E 208V**
60Hz

Project : COMFORT AIR CURTAIN model SensAir

biddle

Bidde bv
Markwei 4, NL-9288 HA Kootstertille
Postbus 15, NL-9288 ZG Kootstertille
tel : +31 512 335555
fax: +31 512 331424

Drawn : FW

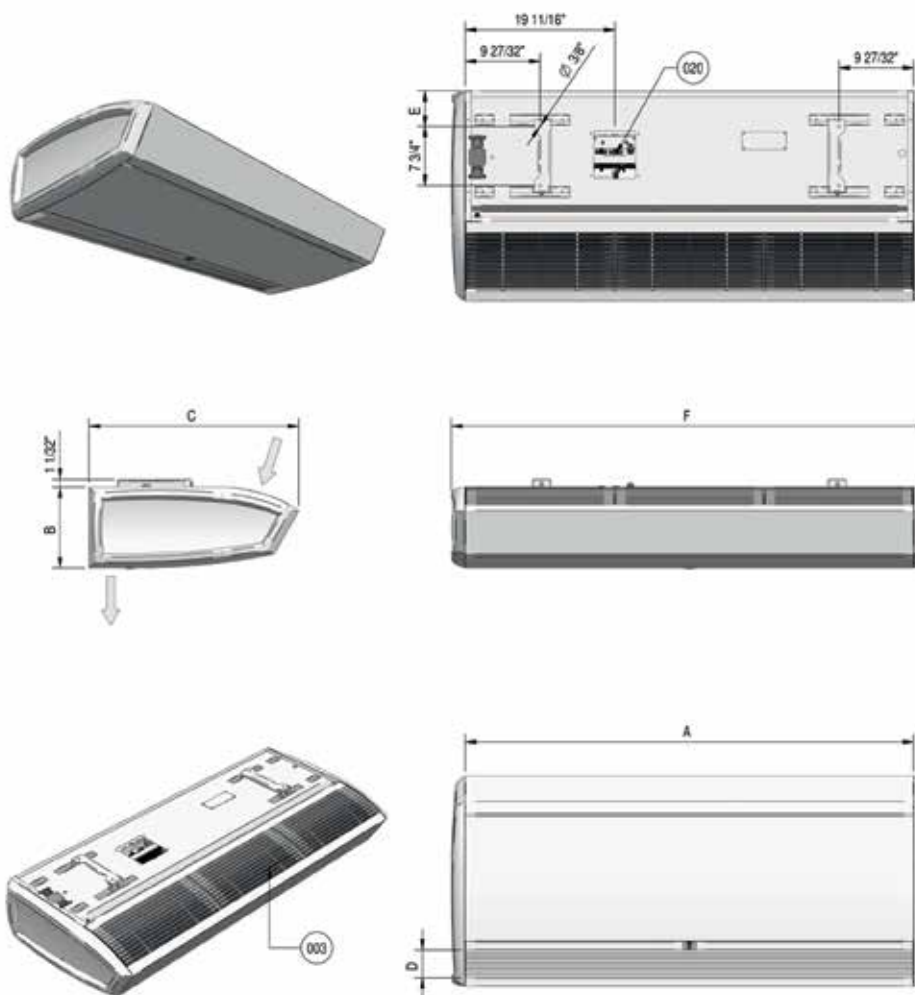
Date : 20-12-2019

Size : A4

Draw. no. : CU9022-01

Order nr. : ..

FREE HANGING MODEL - IMPERIAL



	A	B	C	D	E	F
SR S / M 100	39 3/8"	10 5/8"	27 5/8"	3 21/32"	4 11/16"	43 1/32"
SR S / M 150	59 1/16"	10 5/8"	27 5/8"	3 21/32"	4 11/16"	62 23/32"
SR S / M 200	78 3/4"	10 5/8"	27 5/8"	3 21/32"	4 11/16"	82 13/32"
SR S / M 250	98 7/16"	10 5/8"	27 5/8"	3 21/32"	4 11/16"	102 3/32"
SR L 100	39 3/8"	14 9/16"	37"	4 21/32"	7 7/8"	44 13/16"
SR L 150	59 1/16"	14 9/16"	37"	4 21/32"	7 7/8"	64 1/2"
SR L 200	78 3/4"	14 9/16"	37"	4 21/32"	7 7/8"	84 3/16"
SR L 250	98 7/16"	14 9/16"	37"	4 21/32"	7 7/8"	103 27/32"

EXPLANATION OF DIMENSIONAL SKETCHES

○ Models

Free hanging: by removing the end panels, the units are easy to interlink.

Cassette: aperture sizes = (A+8) x (C+8) mm.

Recessed: aperture sizes:

- for air discharge (A+8) x (D+8) mm
- for air inlet: (A+8) x (I+8) mm. If the recessed model is to be built into a bulkhead, it is also available in a design that has no inlet air plenum or flexible ducts.

○ Wall suspension brackets and threaded rod covers

- Material of threaded rod covers: zinc coated steel, painted, to a standard colour of RAL 9016 or RAL 9006.

○ Note

- SR 250 units have 3 suspension brackets. All other sizes have 2 suspension brackets.

INDEX

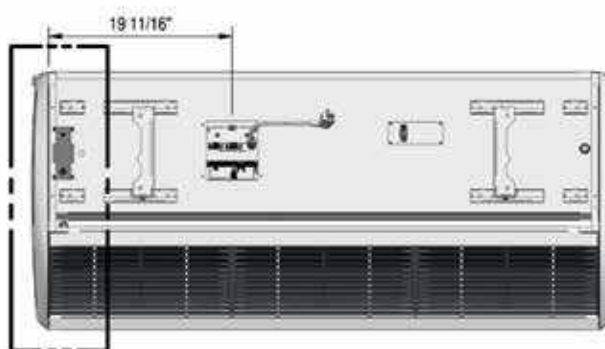
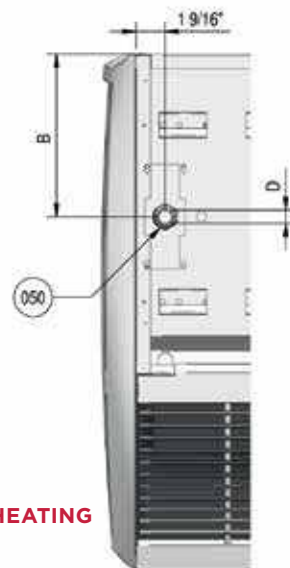
The corresponding numbers in the dimensional sketches are explained here:

3-Air inlet grille with filter. **20**-Connection plate. **35**-Ducts are not supplied. **43**-Finishing sections supplied separately.

36-Eye bolt M6. **7**-Air vent. **50**-Gland. **97**-Return (S/M). **98**-Return (L). **99**-Supply (S/M). **100**-Supply (L).

12-Pipework. **87**-Threaded rod covers (position is flexible).

CONNECTIONS - IMPERIAL



	A	B	D
SR S 100 / SR S 150	6 11/16"	8 21/32"	PG21
SR S 200 / SR S 250	6 11/16"	8 21/32"	PG21
SR M 100 / SR M 150	6 11/16"	8 21/32"	PG21
SR M 200 / SR M 250	6 11/16"	8 21/32"	PG29
SR L 100	9 21/32"	11 5/8"	PG21
SR L 150	9 21/32"	11 5/8"	PG29
SR L 200 / SR L 250	9 21/32"	11 5/8"	PG36

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Models

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Wall suspension brackets and threaded rod covers

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Note

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