

AIR SYSTEMS BALANCE REPORT
FOR
ARMSTRONG ARENA MUA SURVEY
ARMSTRONG, BC



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Prepared For: **Armstrong Spallumcheen Parks & Rec. Commission**
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AIR BALANCE REPORT GENERAL COMMENTS

ARMSTRONG ARENA MUA SURVEY

SYSTEM	COMMENTS
General comments	- The air system was tested using recently calibrated instruments including a Balometer hood and a Rotating Vane Anemometer(RVA). - The measurements and readings were recorded with the available airflows in the system, in it's current operational state.
Make-up Air unit	- The AMU-1 unit was tested running on it's own, without the exhaust fan running. It was cycled a few times prior to testing to confirm sequence of operations, the outdoor air damper stayed shut and the return/exhaust air damper remained open in a call for heating. The Exhaust fan was cycled on while the AMU-1 was running, the dampers did not cycle or change positions. - The above indicates that the air from the locker rooms/bathrooms was in full recirculation while the AMU-1 was in a call for heating. - All of the supply outlets/terminals were tested and measured using an RVA with standard factors for the applicable grilles/diffusers. - The return/exhaust terminals were tested and measured using a Balometer hood.
Exhaust Fan	- The EF-1 Unit was tested while running on it's own, it was controlled by a manual wall timer. It was cycled multiple times to confirm sequence of operations, the exhaust dampers to the outdoor termination would open, but no other dampers would cycle. The building operations contact confirmed with the servicing mechanical contractor, that the fan was not controlled by anything other than the wall timer. This indicates that unless the fan was manually cycled no air would be exhausted to the outdoors. - The exhaust terminals were tested and measured using a Balometer hood.

AIR MOVING EQUIPMENT TEST SHEET

ARMSTRONG ARENA MUA SURVEY

AMU-1

Location: Mechanical room

Service: Washrooms, changerooms and Concession

Make: Keep-Rite

Model: PB-8A

Serial #: 885117

AIR VOLUME

	Design	Actual
Terminals:	--	S:2026/R:1646
Unit Total:	--	--
O/A:	--	Zero
R/A:	--	Zero

SYSTEM PRESSURE DATA

	Design	Actual
Suction:		-0.338" w.c.
Discharge:		0.230" w.c.
Diff:	--	0.568" w.c.

DRIVE DATA INITIAL

Driven Sheave: BK80H - H X 1"
Motor Sheave: VL44-5/8"
Belt(s): (1) B45
VP Position: --
C - to - C: --

DRIVE DATA FINAL

Driven Sheave: Same
Motor Sheave: Same
Belt(s): Same
VP Position: Mid
Center to Center: --

FAN PERFORMANCE DATA

RPM Design	Initial	Final
--	--	836
AMPS:	Initial	Final
(Running)	--	6.95

MOTOR DATA

Make: Leeson
HP: 1.5 Hp
FLA: 8.6

	Nameplate	Actual
Volt/Ph:	240/1	240
RPM:	1760	1781

FILTERS (Number/Type/Size)

(4) Washable 20" X 20" X 2"

NOTES

Tested running on it's own, EF-1 was not running while tested. Outdoor air dampers were not cycling open during testing, all of the indoor air was recirculating through the unit.

EF-1

Location: Mechanical room

Service: Washrooms, changerooms and Concession

Make: Woods

Model: 15JR

Serial #: 7683636/EF1NH

AIR VOLUME

	Design	Actual
Terminals:	--	920 cfm
Unit Total:	--	--
O/A:	--	--
R/A:	--	--

SYSTEM PRESSURE DATA

	Design	Actual
Suction:		-0.267" w.c.
Discharge:		0.191" w.c.
Diff:	--	0.458"

DRIVE DATA INITIAL

Driven Sheave: None
Motor Sheave: None
Belt(s): None
VP Position: --
C - to - C: --

DRIVE DATA FINAL

Driven Sheave: --
Motor Sheave: --
Belt(s): --
VP Position: --
Center to Center: --

FAN PERFORMANCE DATA

RPM Design	Initial	Final
--	--	Tag
AMPS:	Initial	Final
(Running)	--	6.58

MOTOR DATA

Make: OEM
HP: 0.35 Hp
FLA: 7.0

	Nameplate	Actual
Volt/Ph:	120/1	122
RPM:	1700	Tag

FILTERS (Number/Type/Size)

None

NOTES

Tested while running on it's own from wall timer control, without AMU-1 running. Only discharge damper was opening during testing. Negative pressure measured in AMU-1 blower cabinet.

AIR TERMINAL REPORT SHEET

Job Name: **Hassan Arena - Armstrong, BC**

Job #:

Unit or Service	Terminal Designation	Ak Factor	Design Volume cfm	Initial Volume cfm	Final Volume cfm	% of Design	Remarks
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Make-Up Air Unit

AMU-1	S-1	0.80			69		
	S-2	0.80			54		
	S-3	0.90			300		
	S-4	0.90			270		
	S-5	0.90			310		
	S-6	0.90			275		
	S-7	0.80			262		
	S-8	0.85			45		
	S-9	0.80			264		
	S-10	0.80			178		
	Total				2026		

AMU-1 Exhaust/Return

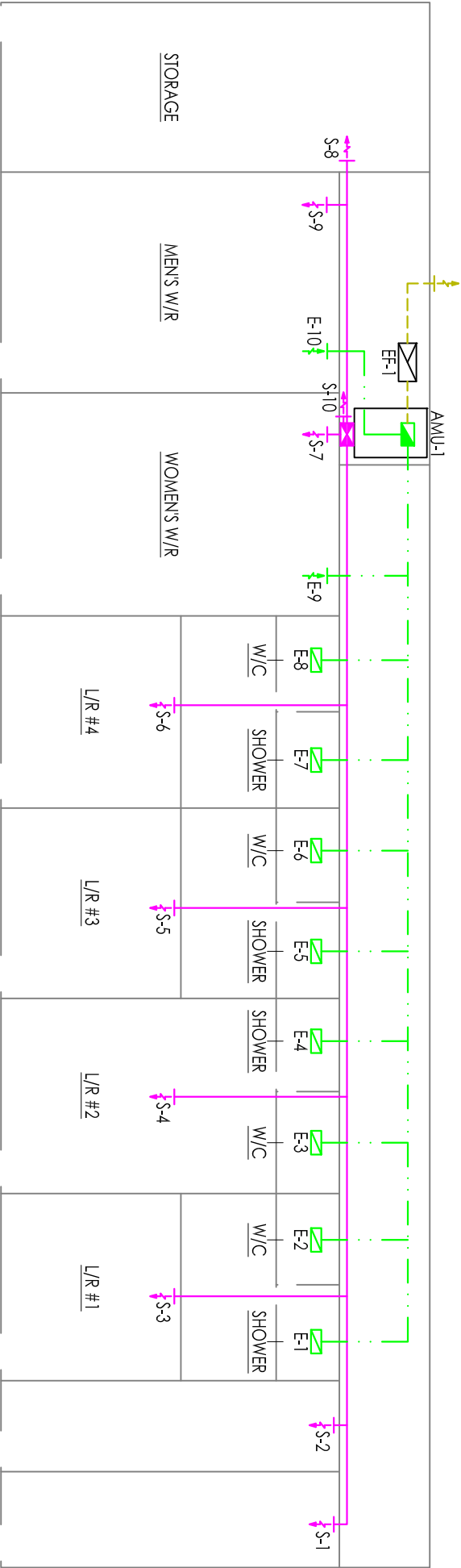
	E-1	Hood			125		
	E-2	Hood			143		
	E-3	Hood			191		
	E-4	Hood			89		
	E-5	Hood			114		
	E-6	Hood			199		
	E-7	Hood			162		
	E-8	Hood			110		
	E-9	Hood			231		
	E-10	Hood			282		
	Total				1646		

Exhaust Fan

EF-1	E-1	Hood			72		
	E-2	Hood			83		
	E-3	Hood			90		
	E-4	Hood			43		
	E-5	Hood			60		
	E-6	Hood			110		
	E-7	Hood			88		
	E-8	Hood			58		
	E-9	Hood			152		
	E-10	Hood			164		
	Total				920		

Remarks Legend:

- 1 - Damper fully closed
- 2 - Damper fully open
- 3 - See comments
- 4 - Noisy diffuser/grille



REVISION:	DATE:	DRAWN BY:	REFERENCE DRAWING :	TITLE:
-	23/10/2024	DAS	HASSAN FIELD MARK-UP DRAWING	ARMSTRONG ARENA MUA SURVEY BALANCE SCHEMATIC (NTS)
RETURN AIR SUPPLY AIR EXHAUST AIR OUTDOOR AIR HOT WATER SUPPLY HOT WATER RETURN DOMESTIC HOT WATER SUPPLY DOMESTIC HOT WATER RETURN A = ACTUAL VOLUME, CFM D = DESIGN VOLUME, CFM				PROJECT #: 224207

