





SKYPLUME G1- ELLV- 30 - DMF 245

Project: 34306-Cenovus ASL & Maintenance Reno	Project Location:
Contractor:	Engineer Location:
SKYPLUME Sales Rep: Midwest Engineering	Fan Tag: EF-1A,B,C

FAN PERFORMANCE DATA			
Volume at Plenum Inlet: 12500 L/S	Wheel Size: 762 mm	Tip Speed: 72.5 m/s	Altitude: 1067 m
Volume at Bypass: 0 L/S	Wheel Width: 100 %	Nozzle Velocity: 18.94 m/s	Actual Density: 1.0572 kg/m ³
Volume at Fan Inlet: 6250 L/S	Fan Power: 8.75 kW	AMCA Drive Arrangement #: 4	Temperature: 21.11 °C
Fan E.S.P.: 600 Pa	Fan Speed: 1817 RPM	Fan Class: Class II	
Efficiency (Mechanical): 48 %	Efficiency (Static): 43 %		

STACK PERFORMANCE DATA		PLENUM REQUIREMENT	
Inlet Volume	6250 L/S	Plenum Required: Yes	
Induced Volume	2401 L/S	Plenum Wall Construction: Single Wall	
Windband Volume	14901 L/S	Energy Recovery Coil: No	
Dilution Ratio Of The System	138.42 %	Plenum Arrangement: Inline	
Nozzle Exit Velocity	18.94 m/s	No. of Operating Fans: 2	
Windband Velocity	13.17 m/s	No. of Standby Fan: 1	
Stack Pressure Loss	116.01 in.Pa	Total No. of Fans: 3	

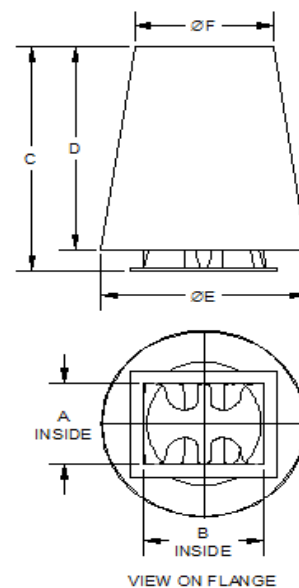
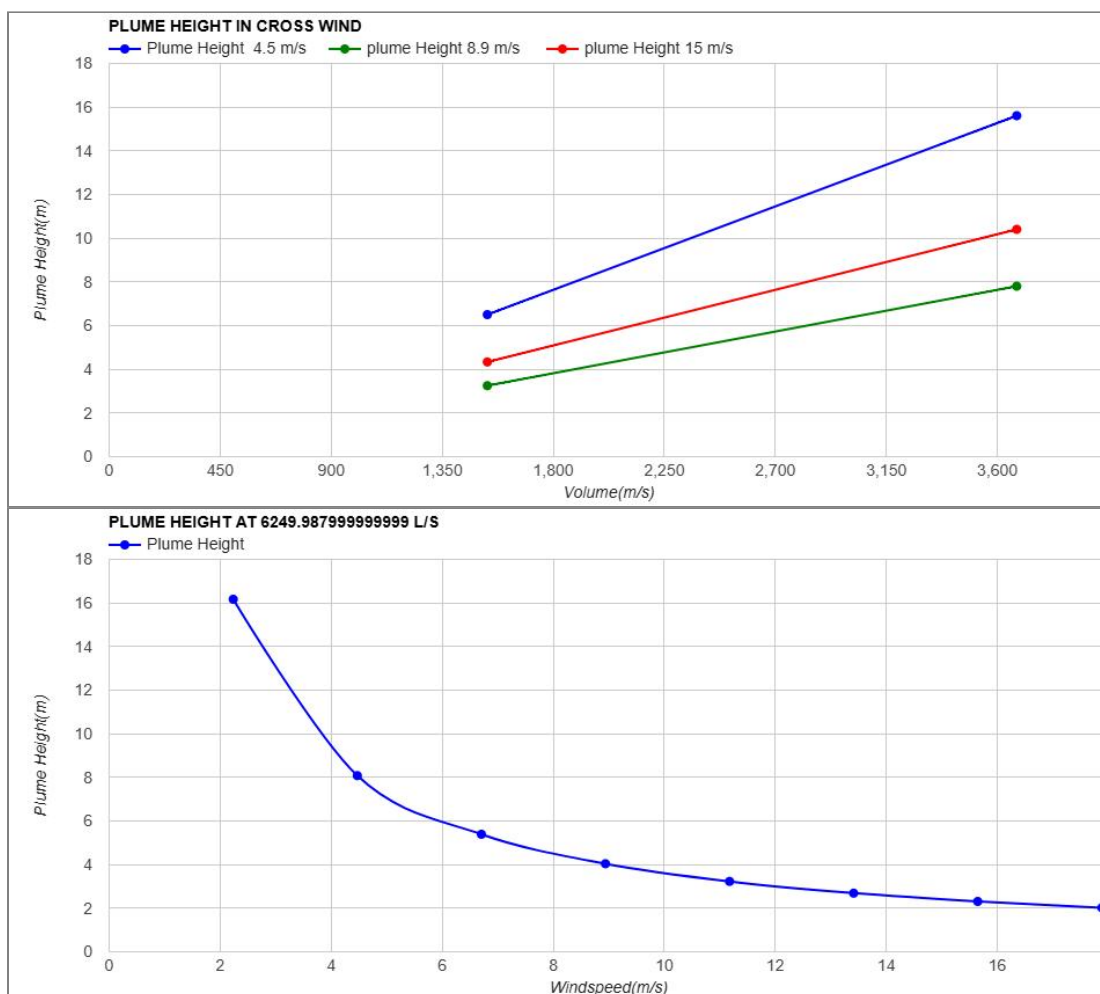
EFFECTIVE PLUME RISE AT INLET VOLUME (DOES NOT INCLUDE EQUIPMENT)	
CROSSWIND	PLUME RISE(m)
4.5 m/s	3.89
6.71 m/s	2.59
8.9 m/s	1.94

EFFECTIVE STACK HEIGHT (INCLUDES EQUIPMENT)	
CROSSWIND	EFFECTIVE STACK HEIGHT(m)
4.5 m/s	16.11
8.9 m/s	14.16
6.71 m/s	14.81



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Stack Dimensions

Dimension	Inches	[mm]
A	23.69	602
B	31.81	808
C	60.05	1525
D	59.5	1511
E	53.6	1361
F	36	914

*Approximate Dimensions

Performance Data

Inlet Volume	6250 L/S
Induced Volume	2401 L/S
Windband Volume	14901 L/S
Dilution Ratio Of The System	138.42 %
Nozzle Exit Velocity	18.94 m/s
Windband Velocity	13.17 m/s
Stack Pressure Loss	116.01 in.Pa

*Tested in still air, crosswinds may effect performance.

Effective Plume Rise at Inlet Volume

CROSSWIND	PLUME RISE(m)
4.5 m/s	3.89
8.9 m/s	1.94
6.71 m/s	2.59

** - Effective Plume rise does not include height of fan and stack.

Information

- *. Performance ratings do not include the effects of appurtenances (accessories).
- *. Power ratings (watts, kW, bhp) does not include transmission losses.
- *. Performance ratings do not include the effects of cross winds.
- *. CATALOG: SKYPLUME DMF 4.0 MAY 2015
- *. Reference Catalog ID (AMCA): PLASTICAIR WEB FAN SELECTOR 5.0 - JUNE 2015

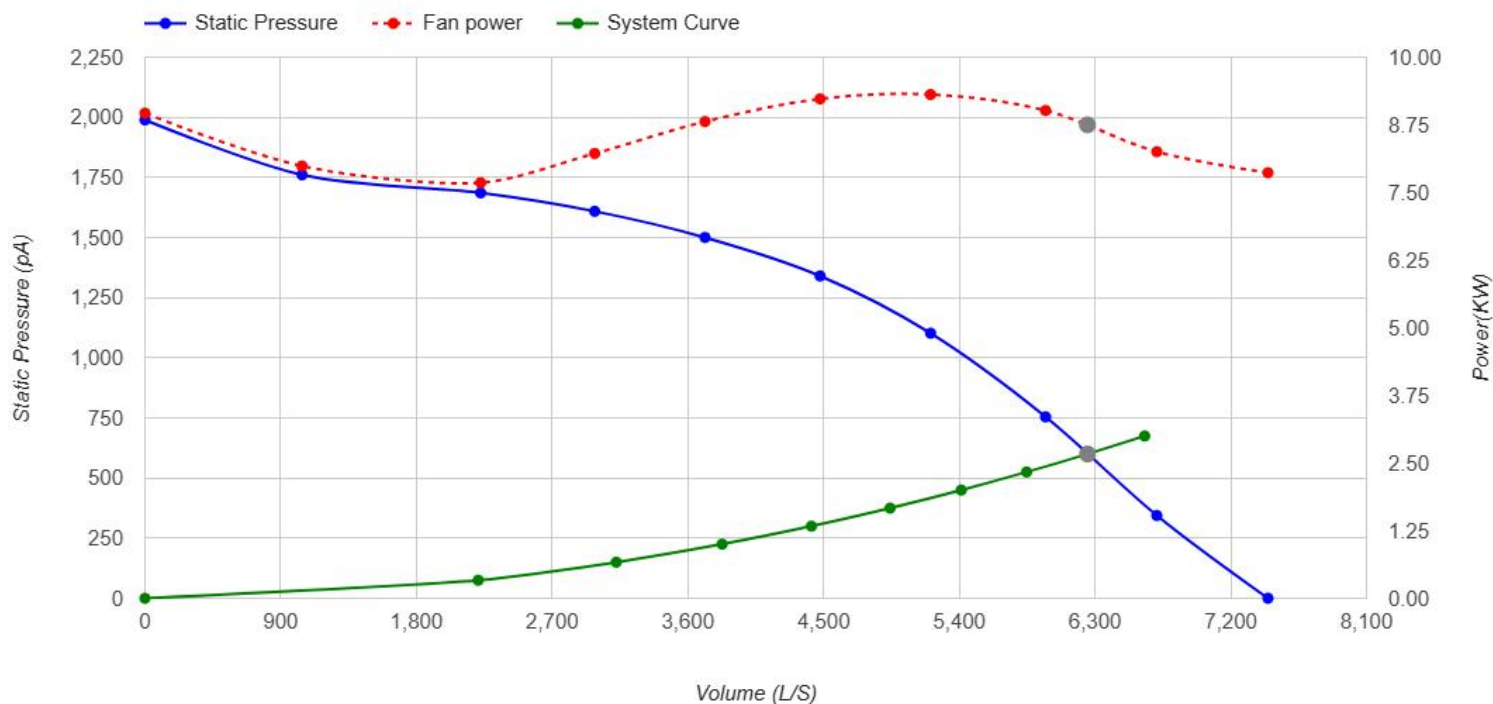
Standard Options

- Solid FRP Nozzle and Windband
- Lifetime Warranty against Rust
- SS316 Fasteners
- If Fan Discharge Dimensions differ from A & B above, use transition between fan and stack



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L/S:6250	RPM: 1817	Static Pressure: 600 Pa	kW: 8.75
Total Pressure: 3.18 in. W.G	FEPact: 7.07kW		FEI: 1.02

Sound Data								
Octave Band Centre Frequency	63	125	250	500	1K	2K	4K	8K
Outlet Sound Power Levels (dB)	93	100	96	95	95	92	83	75
Sound Pressure Levels 1.52 m (A-weighted)	53	70	73	78	80	78	70	60
Total A Weighted Sound Pressure @ 1.52 m from Fan (dBA)	84							

Surrounding Conditions

Temperature (°C)	21.11
Altitude (m)	1067
Actual Density (kg/m ³)	1.0572

Other Performance Data

Tip Speed (m/s)	72.5
Fan Class	Class II
Efficiency (Mech)	48 %
Efficiency (Static)	43 %
Wheel Width (%)	100
Nozzle Exit Velocity (m/s)	18.94



Plasticair Inc. certifies that the SKYPLUME-G1-ELMV - DMF and ELLV - DMF laboratory exhaust model shown herein are licences to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 211 and publication 311 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to Induced Flow Fan Air and Sound Performance (AMCA standard 260).

dBa levels are not licensed by AMCA International.

dBa data is not AMCA International licensed

"Performance ratings do not include the effects of cross winds."

"Power rating (watts, kW, or bhp) does not include transmission losses."

"Performance ratings do not include the effects of appurtenances (accessories)."

*** The Sound Pressure Levels are based on a fan installation next to no reflective surface

Values shown are for (Outlet Lwo) Sound Power levels for: Installation Type C: Ducted Inlet, Free Outlet."

"The sound power level ratings shown are in decibels, referred to 10-12 watts, calculated per AMCA International Standard 301."

* The environment for the fan installation effects the measured sound values, therefore the dBa levels cannot be guaranteed. A fans dBa is influenced by nearby sound reflecting surfaces. A-weighted Octave Band Sound Pressure levels (dBA) are not licensed by AMCA International. Please consult AMCA publication 303 for more information.

FEI Calculation is based on default motor calculation in accordance with ANSI/AMCA Standard 208

Direct drive transmission type used in calculation for FEPact



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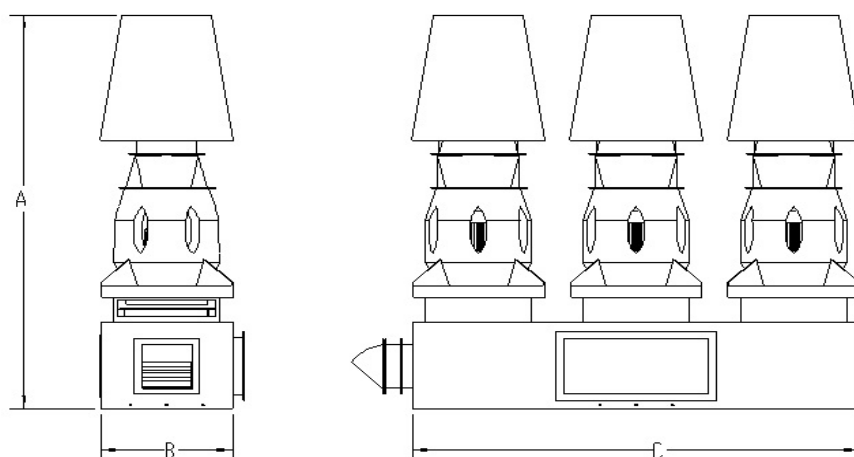
Insertion Loss	0	0	0	0	0	0	0	0
Silencer Size	0	Project Sound Performance						
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Outlet Sound Power Levels (dB)	93	100	96	95	95	92	83	75
Correction for 2 Fans Operating	3	3	3	3	3	3	3	3
Dynamic Insertion Loss for Silencer	0	0	0	0	0	0	0	0
Corrected Outlet Sound Power Levels (dB)	96	103	99	98	98	95	86	78
Correction for 1.52 m - No Reflective Surfaces	-14	-14	-14	-14	-14	-14	-14	-14
Sound Levels at 1.52 m Distance	82	89	85	84	84	81	72	64
A Weighting	-25.5	-15.5	-8.5	-3	0	1	1	-1
dBA Spectrum (1.52 m)	56.5	73.5	76.5	81	84	82	73	63
Net Sound Level at 1.52 m:	88 dBA (at 60 Hz)							



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GENERAL LAYOUT DIMENSIONS (mm) Approximate only:

A: 4648.45	B: 1361.44	C: 4415.79
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Standard Options

Direct drive arrangement #4.
 Motor located out of airstream.
 FRP (Rust Proof) mixed flow wheel design.
 FRP (Rust Proof) UV stable housing design.
 FRP (Rust Proof) SKYPLUME stack
 All FRP 0-25 flame spread per ASTM-E84
 Inlet: FRP roof curb cap
 316/304 ss hardware
 FRP shaft sleeve
 Teflon shaft seal
 Designed to 125 MPH windload.

Motor

kW: 11.2 RPM: 1800 Voltage: 575 Enclosure: TEFC-Mill & Chemical Duty Frame: 215TC Hertz: 60
 Phase: 3
 Notes: Motor to be installed with helwig shaft grounding brush, VFD Required (by others)

Selected Options

Single Wall
 FRP – Rust Proof Construction, UV Stable Exterior
 FRP Construction
 NEMA 3R disconnect - mounted and wired
 Damper Actuator - Mounted
 Bypass dampers - Aluminum epoxy coated construction
 Isolation dampers - Aluminum epoxy coated construction
 Graphite Lined - Spark Resistant Construction c/w Grounding Kit
 Piezometer ring installed at fan inlet - trasnmittter (by others)
 Vibration Isolation only limited to neoprene padding underneath fan only
 C-Channel base frame underneath plenum - epoxy coated
 14" High curb mild steel - epoxy coated
 Extended stack above fan discharge to meeting equipment height of 30 feet
 Guy wires required (by others)