

DESIGN INFORMATION

F.L.A. 232.6amp @ 480v
M.A.P. - 230.7 amp @ 480v
Fan Data:
Manf: Twin City Fans
Quartz (parallel)
Model: TCX
Size: 602 (class-II)
Max RPM for class: 1220
CFM Capacity: 194435 (91715/s)
Op RPM: 1139
Motor Data:
Manf: Baldor
Type: 3000
HP: 100/25
Voltage: 480/360
Type: TEC
RPM: 1200 / 600 (2 SPEED)
Hazard Rating: Class-I/Zone-2-group-IIa/Ib - T2
Coil Data:
Manf: Armstrong
Size: 24" x 20" x 4" in parallel
S/S: 307 x 185W x 8" (20)
[89mm x 2652mm x 203mm]
Heat Cap: 13,222.47 buh, [3872 kW]
APD: 1.65 w/c [421Pa]
Capacity: 3753.5 L/min/dark
Filter Data:
Manf: Camfil-Farr model: 3030-merv-8
S/S: 24" x 20" x 1" [610x50x25mm] x
120 sq ft [37.2m²] surf area)
Filter Velocity @ full volume = 486/s [148.1m/s]
S/S: 16" x 20" x 1"
[407x508x25mm] x 80ps (200 sqft [18.6 m²] surf
area)
Filter Velocity @ full volume = 486/s [148.1m/s]
Unit Data:
S/S: 24" x 20" x 1" w/c 36.500lb [16.556kg]
net Operating weight: 37.250lb [16.894kg]
External Static pressure: 2.0" w/c
[500 pa]

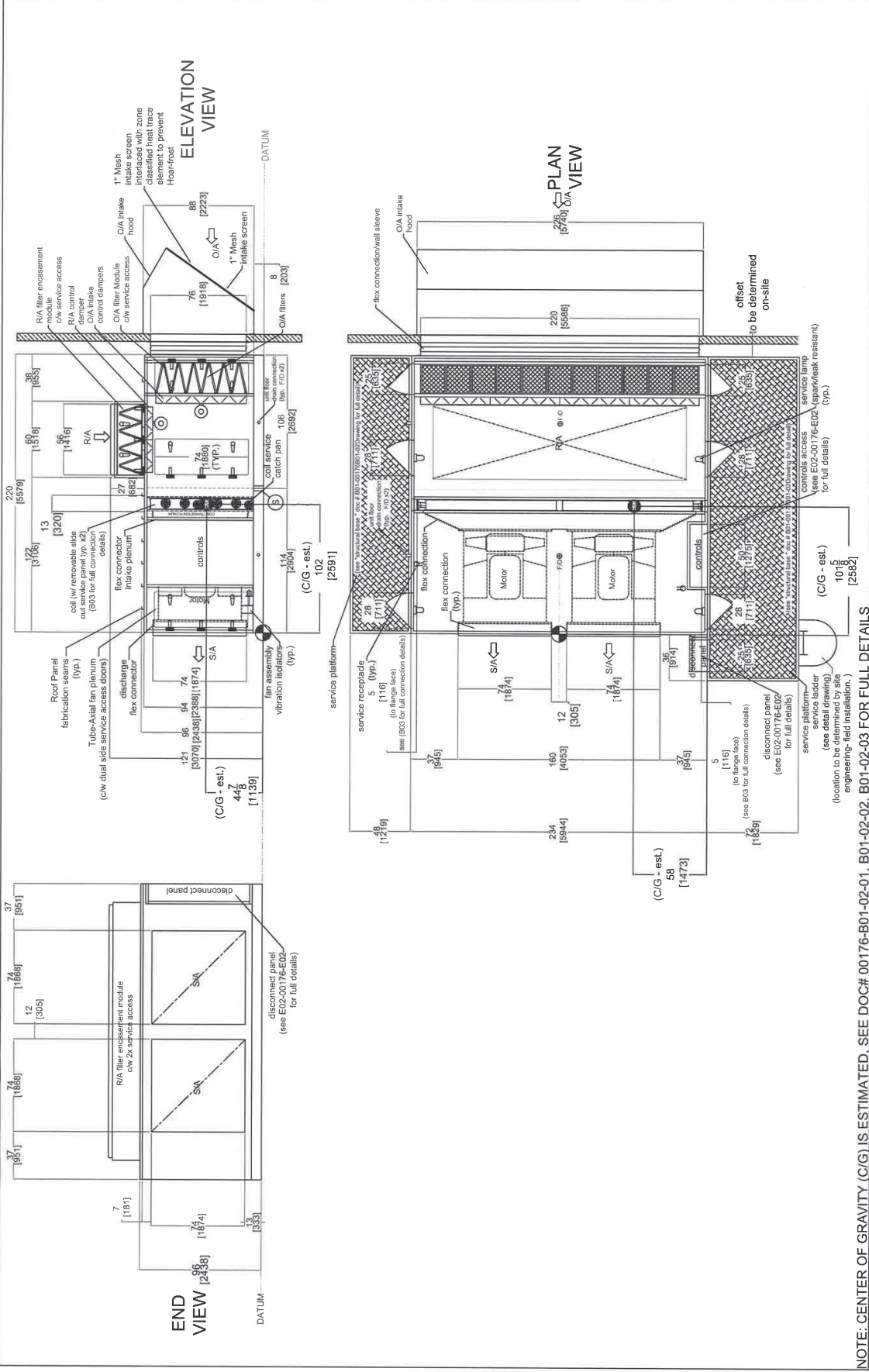
ISSUE

1. Purchase order & Documentation
2. Client mark-up corrections - 12.04.2016
3. Client mark-up corrections - 12.04.2016
4. Client mark-up corrections - 26.05.2016

REVISION

REV-1 - Purchase Order & Documentation
REV-2 - Client mark-up corrections - 12.04.2016
REV-3 - client mark-up corrections - 26.05.2016

Scale: 1:50 plot: 11x17 R-3



Project:	Shell Canada - Absorption	Tag:	HA-6002 (Absorption)
Location:	Waterton facility	Model:	WTA-266-1940-SCI
Service:	Absorption bldg (indoor installation)	Manufacturer:	Westech Air
Engineer:	Worley Parsons	Medium:	Steam Coil

WESTECH

NOTE: CENTER OF GRAVITY (C/G) IS ESTIMATED. SEE DOC# 00176-B01-02-01, B01-02-02, B01-02-03 FOR FULL DETAILS

AIR HANDLING UNIT DATA SHEET

CLIENT: Shell Canada

PROJECT: Waterton Plant Facility

FABR. SPEC: _____

MANUFACTURER: Westech Air

REQ. NO.: _____

TAG NO.: Absorption Bldg-HA-6002

SERVICE: Absorption Building

REGISTRATION NO.: _____

SHT 1 OF 2

Rev 3

THIS MARKED DATA TO BE FILLED IN BY: ☒ ENGINEER/VENDOR ☐ ENGINEER ☐ VENDOR ☐ NOT APPLICABLE

PERFORMANCE		DESIGN	VENDOR INFO	DESIGN CONDITIONS	
▲ TOTAL SUPPLY AIR VOLUME	l / sec	45,857 / 91,715	45,867 / 91,715	● ALTITUDE	m ASL
▲ OUTDOOR AIR VOLUME, MIN / MAX	l / sec	45,857 / 91,715	45,867 / 91,715	● TEMP: SUMMER OUTDOOR DESIGN DB / WB	°C
▲ RETURN AIR VOLUME, MIN / MAX	l / sec	45,857 / 0	45,867 / 0	WINTER OUTDOOR DESIGN DB	°C
▲ EXTERNAL STATIC PRESSURE (ESP)	Pa(g)	250	250	INDOOR DESIGN, SUMMER DB / WB	°C
▲ NOISE @ 1.0m (B3 MAX)	dBa	BY VENDOR	76 (est. ducted exhaust)	INDOOR DESIGN, WINTER DB/RH	°C/%
▲ HEATING LOAD	kW	1,125	3875	● ELECTRIC AREA CLASSIFICATION	Class / Zone / Gas Code / Temp Code
▲ HEATING MEDIUM (GLYCOL/WATER/STEAM/GAS/ELEC)		Steam	Steam		

UNIT CONSTRUCTION		OPERATING CONDITIONS	
▲ MANUFACTURER	BY VENDOR	Westech Air	
▲ MODEL NUMBER	BY VENDOR	WTA-266-1940-SC1	
▲ QUANTITY	BY VENDOR	2	
▲ DIMENSIONS (LENGTH x WIDTH x HEIGHT)	mm	BY VENDOR	5579 x 5944 x 2438
▲ SHIPPING WEIGHT / OPERATING WEIGHT	kg	BY VENDOR	18,212 / 16,556
▲ MATERIAL, THICKNESS	ga	16 GAUGE GAL STEEL	16 Ga Galv. Steel
▲ FINISHED		PRIMER / ENAMEL	Primer / Enamel
▲ INSULATION THICKNESS / DENSITY, TYPE	mm / kg/m³	50 / 46, FIBR. GLASS	RHF Mineral Wool
▲ LINER - MATERIAL THICKNESS		SEE NOTE 1	20 Ga Galv. Steel
▲ DUCT CONNECTION TYPE		FLANGED	FLANGED
▲ BASE CHANNEL - TYPE / SIZE		GAL STEEL / NOTE 2	C8 x 11.5" Struct
▲ ACCESS DOOR - TYPE		SEE NOTE 3	Ventlock
▲ FLOOR DRAIN REQUIRED / Nos			
▲ GROUNDING LUGS		2	2

SUPPLY FAN		PACKAGED EQUIPMENT PLACEMENT AND CONFIGURATION	
▲ REQUIRED FAN TYPE	TUBE AXIAL	TUBE AXIAL	
▲ DRIVE TYPE	DIRECT DRIVE	DIRECT DRIVE	
▲ MANUFACTURER	Tri-Metal (Equivalent)	Twin City	
▲ MODEL NUMBER / PRESS CLASS	666	TCVX / Class II	
▲ FAN SIZE	BY VENDOR	6604	
▲ FAN DIAMETER	mm	1676	1676.4
▲ TYPE OF VIBR ISOLATION / % EFFIC		SPRING / >90 %	Spring/90%& Trust Restraint
▲ AIR FLOW	l / s	45,857 / 91,715	45,857 / 91,715
▲ TOTAL STATIC PRESSURE	Pa(g)	BY VENDOR	996
▲ FAN SPEED	rpm	BY VENDOR	1159
▲ OUTLET VELOCITY	m / s	BY VENDOR	20.6
▲ BRAKE POWER @ DESIGN	Kw	BY VENDOR	59.6
▲ MATERIAL OF CONSTRUCTION - WHEEL		STEEL	Aluminum
▲ MATERIAL OF CONSTRUCTION - CASING		STEEL	STEEL
▲ BEARING TYP (BALL/ROLLER/TAPERED)		ROLLER	ROLLER
▲ BEARING LIFE (MIN.)	L10	200,000	200,001
▲ REQUIRED EXTENDED LUBE LINES (YES / NO)		YES	YES
▲ INLET GUARD		YES	YES

SHEAVES & BELTS		ELECTRICAL	
▲ SHEAVES & BELTS TO 150% SF (YES / NO)	YES	N/A	
▲ FAN SHEAVE DIAMETER	mm	BY VENDOR	N/A
▲ MOTOR SHEAVE DIAMETER	mm	BY VENDOR	N/A
▲ BELT SIZE / QTY (2 BELTS MIN)	mm	BY VENDOR	N/A
▲ BELT TYPE		BY VENDOR	N/A
▲ BELT GUARD		OSHA	N/A

PRE-FILTER SECTION		CONTROL	
△ FILTER TYPE (PLEATED/CARTRIDGE/BAG/ETC.)		The unit vendor to provide the following interface points wired to a terminal strip in the unit control panel:	
△ FILTERS REPLACEMENT DIFFERENTIAL PRESSURE :Pa (g)		Inputs	
△ EFFICIENCY: ASHRAE DST / MERV		1) Unit Enable	
△ TOTAL FACE AREA	m²	2) Supply Air Temp	
△ AIR VELOCITY THROUGH FILTER AREA	m/s	3) Gas Detection	
△ ACCESS LOCATION - FACING AIR FLOW (LEFT / RIGHT)		4) Fire Alarm	
△ PRESSURE DIFFERENTIAL: DWYER MAGNEHELIC c/w		5) Fan Proof x4	
A-605 KIT SERIES 2001 AF WITH ALARM CONTACTOR		6) Filter 1 & 2	
△ SUMMER / WINTER (YES / NO)		Outputs	
		1) Unit On	
		2) Clogged Filter	
		3) Unit TRO	
		4) Unit Fail	
		5) Fan 1 & 2 High/Low	
		6) Heating Coil Control	
		7) Damper Control	
		8) Unit Lights (4) and Receptical	

FINAL FILTER SECTION		KEYED NOTES	
△ FILTER TYPE (PLEATED/CARTRIDGE/BAG/ETC.)		1) 22 GAUGE PERFORATED GALVANIZED STEEL LINER IN THE FAN SECTION, 20 GAUGE SOLID LINER IN ALL OTHER INTERNAL SECTIONS AND OUTSIDE UNDER INSULATION.	
△ FILTERS REPLACEMENT DIFFERENTIAL PRESSURE :Pa (g)		2) 16 GA GALVANIZED STEEL DOOR INSULATED WITH 50mm-48 Kg/m³ FIBERGLASS, COMPLETE WITH SS PIANO HINGE, AUTOMOTIVE TYPE BULB SEAL, TIE-BACKS AND LEVER LOCK HANDLES	
△ EFFICIENCY: ASHRAE DST / MERV		3) STEAM TEMPERATURES AND PRESSURES TO BE VERIFIED POST RFQ.	
△ TOTAL FACE AREA	m²	4) HEATING COIL SHALL MEET DESIGN OF -20 F MDMT	
△ AIR VELOCITY THROUGH FILTER AREA	m/s	5) 2 x 100 HP Motor Starters with fuse protection (480V)	
△ ACCESS LOCATION - FACING AIR FLOW (LEFT / RIGHT)		6) 2 x 25 Hp motor starters with fuse protection (480 V)	
△ PRESSURE DIFFERENTIAL: DWYER MAGNEHELIC c/w		7) 400 Amp Main Disconnect - Disconnect panel externally mounted on rigid support to unit to facilitate footprint requirements	
A-605 KIT SERIES 2001 AF WITH ALARM CONTACTOR		8) Power Distribution Block	
△ SUMMER / WINTER (YES / NO)		9) XP Panels	
		10) HVAC Units shall be designed to the environmental loads as per Alberta Building Code	

REV	DATE	DESCRIPTION	MECH	CHKO	APPR
A	16-Nov-15	Issued for REVIEW	JG	EB	DR
B	7-Dec-15	Issued for QUOTATION	JG	EB	DR
C	21-Dec-15	Re-issued for QUOTATION	JG	EB	DR
D	12-Feb-16	Issued for PURCHASE	JG	EB	TV

MAKE-UP / AIR HANDLING UNIT DATA SHEET

SHT 2 OF 2 REV

CLIENT: Shell Canada REQUISITION NO.: 000
 PROJECT: Waterloo Plant Facility TAG NO.: Absorption Bldg-HA-6002
 FABR. SPEC: SERVICE: Absorption Building
 MANUFACTURER: Westech Air REGISTRATION NO.:

THIS MARKED DATA TO BE FILLED BY: ☒ DESIGN ☒ VENDOR INFO ☒ ENGINEER ☒ VENDOR ☐ NOT APPLICABLE

GLYCOL / WATER HEATING		DESIGN	VENDOR INFO	NATURAL GAS HEATING - DIRECT		DESIGN	VENDOR INFO
△ % BY WEIGHT (GLYCOL)				△ PROPANE CONVERSION REQUIRED (YES / NO)			
△ GLYCOL / WATER TEMP.: SUPPLY / RETURN	°C			△ SUPPLY AIR TEMPERATURE CONTROL (YES / NO)			
△ SYSTEM PRESSURE: OPERATING / UPSET	kPa(g)			△ SUPPLY AIR TEMP. CONTROL RESET (YES / NO)			
△ MAX FINS per INCH / FIN MATERIAL / FIN THICKNESS				△ OPERATION FUEL SUPPLY PRESSURE,	Pa(g)		
△ COIL MATERIAL / DIAMETER	mm			△ BURNER MANUFACTURER			
△ HEADER & FLANGE(S) RATING				△ BURNER MODEL			
△ AIR TEMPERATURE IN / OUT	°C			△ BURNER MATERIAL OF CONSTRUCTION			
△ COIL HEATING CAPACITY	kW			△ CONNECTION FLANGE(S) DIAMETER / RATING	mm		
△ NUMBER OF ROWS / FLOW RATE	l / s			△ HEATING INPUT AT SPECIFIED SITE ELEVATION	kW		
△ COIL PRESSURE DROP: AIR SIDE / LIQUID SIDE	Pa(g)						
△ TEST PRESSURE / CRN CERTIFICATION	kPa(g)						
△ SUPPLY & RETURN RF FLANGE(S) DIA / RATING	mm						
△ VENT TAPPING / DRAIN TAPPING DIAMETER	mm						

STEAM HEATING		DESIGN	VENDOR INFO	NATURAL GAS HEATING - INDIRECT		DESIGN	VENDOR INFO
▲ STEAM TEMP. @ DESIGNED PRESS.	°C	170 (SEE KEYED NOTE 445)	164	△ HEAT EXCHANGER TYPE			
▲ SYSTEM PRESSURE: OPERATING / UPSET	kPa(g)	690 / 1724 (SEE KEYED NOTE 445)	690 / 1792	△ PROPANE CONVERSION REQUIRED (YES / NO)			
▲ MAX FINS per INCH / FIN MATERIAL / FIN THICKNESS		8 / ALUMINUM / 0.25mm	6 / AL / 0.76	△ BURNER CONTROLS (MODULATING / STAGES)			
▲ COIL MATERIAL / DIAMETER	mm	STEEL /	Steel / 25.4	△ SUPPLY AIR TEMPERATURE CONTROL (YES / NO)			
▲ HEADER & FLANGE(S) RATING		SCH 80 ST. / 300# RF	SCH 80 ST. / 300# RFWN	△ SPACE TEMPERATURE CONTROL REQUIRED			
▲ NON-FREEZE DESIGN		REQUIRED	-20F Rated	△ DRAFT TYPE (NATURAL / POWERED)			
▲ AIR TEMPERATURE IN / OUT	°C	/	-30 / 5	△ OPERATION FUEL SUPPLY PRESSURE	Pa(g)		0
▲ COIL HEATING CAPACITY	kW		3875	△ BURNER MANUFACTURER			0
▲ NUMBER OF ROWS			2 per coil, 4 coil per unit	△ BURNER MODEL			0
▲ STEAM FLOW RATE	kg/h		6810	△ BURNER MATERIAL OF CONSTRUCTION			0
▲ CONDENSATE FLOW RATE	l/s			△ RATED HEATING EFFICIENCY	%		0
▲ COIL PRESSURE DROP - AIR SIDE	Pa(g)		306	△ HTG INPUT / HTG OUTPUT AT SPECIFIED SITE ELEV.	kW		0
▲ TEST PRESSURE / CRN CERTIFICATION	kPa(g)	/ REQ'D	3447 / Yes				0
▲ SUPPLY & RETURN RF FLANGE(S) DIA / RATING	mm	mm / 300# RF	63.5 & 50.8 / 300#				0
▲ VENT TAPPING / DRAIN TAPPING DIAMETER	mm	/					0

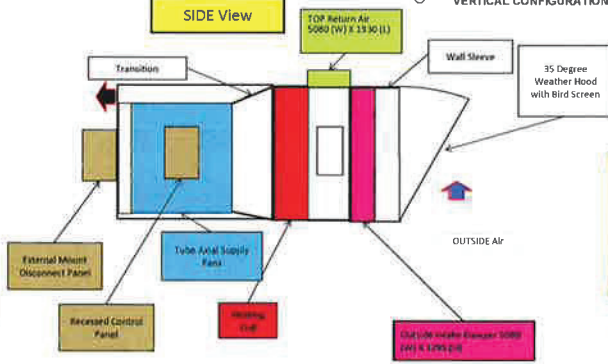
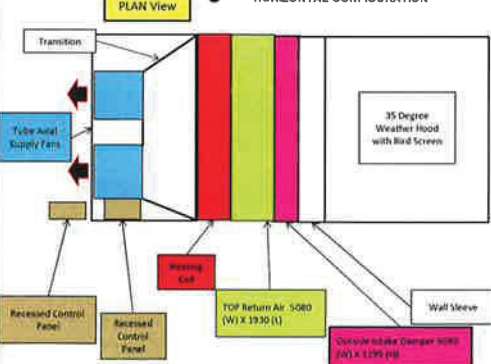
- TECHNICAL NOTES:**
- THE COMPLETE UNIT SHALL BE MOUNTED ON ONE RIGID FRAME SUITABLE FOR ROAD TRANSPORTATION AND ON-SITE STORAGE. PROVIDE ADEQUATE LIFTING LUGS FOR EASE OF INSTALLATION WITHOUT DAMAGE TO THE EQUIPMENT.
 - PROVIDE WEATHER RATED TYPE CONTROL & POWER PANELS COMPLETE WITH ALL TERMINALS PERMANENTLY TAGGED WITH TYPE WRITTEN BLOCK LETTERING.
 - ALL COMPONENTS AND ASSEMBLED PACKAGE(S) SHALL MEET AND HAVE THE SEAL OF APPROVALS FOR CSA, CGA, CECL, NFPA/AMCA, etc. BEFORE SHIPPING FROM THE FACTORY.
 - APPROVED MANUFACTURER EQUIVALENTS:
 - DAMPERS: WESTVENT, RUSKIN
 - ELECTRIC ACTUATORS: BELIMO, HONEYWELL
 - AIR FILTERS: AFF, FARR
 - THE UNIT SHALL BE EQUIPPED WITH INTAKE AIR HOOD CMV HINGED SCREENS FOR OUTDOOR ARRANGEMENT.
 - FAN WHEELS MAY BE EXTRUDED ALUMINUM BELOW 610mm.
 - PROVIDE ADEQUATE FLEX LOOP IN LUBE TUBING FOR PEAK VIBRATION ISOLATORS MOVEMENT. EXTEND EACH MOTOR AND FAN LUBE LINE TO THE EXTERIOR OF THE CABINET TO A COMMON LOCATION. PROVIDE A "LUBE GUIDE" ON LAMECOID LABEL.
 - PROVIDE BUILT-IN SOUND ATTENUATOR, IF REQUIRED, TO MEET NOISE REQUIREMENT OF 83 dBA @ 1.0m FROM INLET / OUTLET LOCATIONS.

REMARK:

PLAN View ☒ HORIZONTAL CONFIGURATION

SIDE View

VERTICAL CONFIGURATION ☐



*** OVERALL DIMENSIONS SHALL NOT BE LARGER THAN 6096 (W) X 4572 (L) X 2438 (H) NOT INCLUDING WEATHERHOOD. ***

Note: Unit meets W and H Exceeds L restriction

PROJECT NO.: 407014-00176

DATASHEET NO.: WAT-0124-MS-2105-00002

REVISION 0