March 24, 2021

Thank you for your inquiry. We are pleased to quote as follows.

ITEM NUMBER	DESCRIPTION	Quantity
1	**DQGAS, Diesel Genset, 60Hz, 1500kW-Standby Rating, Tier4 Final** U.S. EPA, Stationary Nonemergency Application 1500DQGAS, Diesel Genset, 60Hz, 1500kW Emissions Certification, Tier 4 Final, Nonroad Compression Ignition Listing - UL 2200 Vibration Isolators - Normal Duty Voltage - 277 / 480, 3 Phase, Wye, 4 Wire Alternator - 60Hz, 3Phase, 480 Volt, 105 / 80C - Standby / Prime Alternator Bearing - Hardened Cartridge Output Terminals - 2 - Hole Lug, NEMA Fuel Filters - Engine, Duplex Control Mounting - Right Facing PowerCommand 3.3 Generator Controller, Paralleling Capable Gauge - Exhaust Gas Temperature Analog Meters - AC Output LCD Control Display AmpSentryTM UL Listed Protective Relay	3

ITEM NUMBER	DESCRIPTION	Quantity
	Display, Running Time	
	Alarm - Audible, Engine Shutdown	
	Signals - Aux, Input / Output	
	Signals - Auxiliary, 16 Inputs / 16 Outputs	
	Control Display Language - English	
	Circuit Breaker or EB or TB - Left Only	
	Circuit Breaker - 2000, Left, 3P, UL 600, IEC 415, UL Serv Ent, 100%	
	Circuit Breaker or Entrance Box-None - Left	
	Bottom Entry, Left	
	CB or EB or TB-None, Right	
	Bottom Entry Chute, Left	
	Engine Starter - 24 Volt DC Motor	
	Engine Air Cleaner - Heavy Duty	
	Battery Charging Alternator	
	Engine Cooling - Radiator, Enhanced High Ambient Air Temperature, Ship Fitted	
	Warning - Low Coolant Level	
	Coolant Heater - 208 / 240 / 480 Volts AC, Below 40F Ambient Temperature	
	Engine Oil Filters, Full Flow with Bypass	
	Test Record - Strip Chart	
	Cummins Certified Test Record	
	Genset Warranty - Comparable to Competition	
	Literature - English	
	Packing - None	
	Tier4 Final Certified	
	DEF supply lines included	
	Oil Sampling Valve	
	Test - Extended, Prime Load, 4 Hour	

NOTE: Quote Total does not include any tax. Quote includes shipping generator to customers location or their yard. No storage at Cummins Facilities.

Details:

Quoted MLCB are 100% rated.

Exclusions:
Aftertreatment comes mounted to a skid, the support and structure design is by others.
Fuel tank and enclosure are by others.
Fuel fill and DEF fill are by others.
Any and all offloading or rigging. Thank you for choosing Cummins.

Specification sheet

Tier4 certified diesel generator set QSK50 series engine

1500kW 60Hz

Description

Cummins® commercial generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary Standby, Prime and Continuous duty power applications.

Features

Cummins heavy-duty engine - Rugged 4-cycle, industrial diesel delivers reliable power, low emissions and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Cummins aftertreatment system - Fully integrated power generation systems that are certified to EPA Tier 4 standards. They provide optimum performance, reliability and versatility for stationary Standby, Prime Power and Continuous duty applications.

Permanent Magnet Generator (PMG) - Offers enhanced motor starting and fault clearing short-circuit capability.

Control system - The PowerCommand® digital control is standard equipment and provides total genset system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, AmpSentry™ protective relay, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

Cooling system - Standard and enhanced integral set-mounted radiator systems, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

NFPA - The genset accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

	Standby rating	~~Prime rating~~	Continuous rating	Emissions compliance	Data sheets
Model	60 Hz kW (kVA)	~~60 Hz kW (kVA)~~	60 Hz kW (kVA)	EPA	60 Hz
DQGAS	1500 (1875)	~~1365 (1706)~~	1100 (1375)	T4F certified	D-3537

Generator set specifications

Governor regulation class	ISO8528 Part 1 Class G3
Voltage regulation, no load to full load	+/- 0.5%
Random voltage variation	+/- 0.5%
Frequency regulation	Isochronous
Random frequency variation	+/- 0.25%
Radio frequency emissions compliance	IEC 801.2 through IEC 801.5; MIL STD 461C, Part 9

Engine specifications

Bore	159 mm (6.25 in)
Stroke	159 mm (6.25 in)
Displacement	50.3 litres (3067 in^3)
Configuration	Cast iron, V 16 cylinder
Battery capacity	1800 amps minimum at ambient temperature of 0 °C (32 °F)
Battery charging alternator	55 amps
Starting voltage	24 volt, negative ground
Fuel system	Cummins' modular common rail system
Fuel filter	Two stage spin-on fuel filter and water separator system. Stage 1 has a three element 7 micron filter and Stage 2 has a three element 3 micron filter.
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Four spin-on, combination full flow filter and bypass filters
Standard cooling system	High ambient cooling system

Aftertreatment specifications

Model	CA452
Emissions certification	Tier4F certified
Duct diameter	1143 mm (45 in)
Duct quantity	2
Components included	Insulated aftertreatment ducts, saddle supports for aftertreatment, control panel, DEF tank, optional heater with ILB, harness from control panel to engine and AFT, lifting tool. Assembly required at site.

Alternator specifications

Design	Brushless, 4 pole, drip proof, revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible disc
Insulation system	Class H
Standard temperature rise	125 ºC Standby/105 °C Prime
Exciter type	Permanent Magnet Generator (PMG)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform Total Harmonic Distortion (THDV)	< 5% no load to full linear load, < 3% for any single harmonic
Telephone Influence Factor (TIF)	< 50% per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	< 3%

Available voltages

60 Hz Line-Neutral/Line-Line

- 220/380
- 277/480
- 240/416
- 347/600
- 255/440
- 2400/4160

Note: Consult factory for other voltages.

Generator set options and accessories

Engine

- 208/240/480 V thermostatically controlled coolant heater for ambient above and below 4.5 °C (40 °F)
- Dual 120/208/240/480 V 300 W lube oil heaters
- Heavy duty air cleaner
- Triplex fuel filter

Alternator

- 80 °C rise
- 105 °C rise
- 125 °C rise
- 150 °C rise
- 120/240 V 300 W anti-condensation heater
- Increased motor starting capabilities

Control panel

- PowerCommand 3.3
- Multiple language support
- 120/240 V 100 W control anti-condensation heater
- Exhaust pyrometer
- Ground fault indication
- Remote annunciator panel
- Paralleling relay package
- Shutdown alarm relay package
- Audible engine shutdown alarm
- AC output analog meters (bargraph)

Aftertreatment system

- DEF lines
- DEF freeze protection kit
- SCR only configuration
- SCR w/heater configuration
- SCR w/heater and DPF

Cooling system

- Remote cooling
- Enhanced high ambient temperature (50 °C)

Generator set

- Battery
- Battery charger
- Bottom entry chute
- Circuit breaker – skid mounted up to 3000 Amp
- Circuit breaker auxiliary and trip contacts
- IBC and OSHPD seismic certification
- In-skid AVM
- LV and MV entrance box
- Spring isolators
- 2 year warranty
- 5 year warranty
- 10 year major components warranty

Note: Some options may not be available on all models - consult factory for availability.

PowerCommand 3.3 – control system

An integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Refer to document S-1570 for more detailed information on the control.

AmpSentry – Includes integral AmpSentry protection, which provides a full range of alternator protection functions that are matched to the alternator provided.

Power management – Control function provides battery monitoring and testing features and smart starting control system.

Advanced control methodology – Three phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.

Communications interface – Control comes standard with PCCNet and Modbus interface.

Regulation compliant – Prototype tested: UL, CSA and CE compliant.

Service – InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

Easily upgradeable – PowerCommand controls are designed with common control interfaces.

Reliable design – The control system is designed for reliable operation in harsh environment.

Multi-language support

Operator panel features

Operator/display functions

- Displays paralleling breaker status
- Provides direct control of the paralleling breaker
- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- LED lamps indicating genset running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Paralleling control functions

- First Start Sensor™ system selects first genset to close to bus
- Phase lock loop synchronizer with voltage matching
- Sync check relay
- Isochronous kW and kVar load sharing
- Load govern control for utility paralleling
- Extended paralleling (peak shave/base load)
- Digital power transfer control, for use with a breaker pair to provide open transition, closed transition, ramping closed transition, peaking and base load functions

Alternator data

- Line-to-Neutral and Line-to-Line AC volts
- 3-phase AC current
- Frequency
- kW, kVar, power factor kVA (three phase and total)

Engine data

- DC voltage
- Engine speed
- Lube oil pressure and temperature
- Coolant temperature
- Comprehensive FAE data (where applicable)

Other data

- Genset model data
- Start attempts, starts, running hours, kW hours
- Load profile (operating hours at % load in 5% increments)
- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase, 4-wire Line-to-Line sensing
- Configurable torque matching

AmpSentry AC protection

- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse Var shutdown
- Field overload shutdown

Engine protection

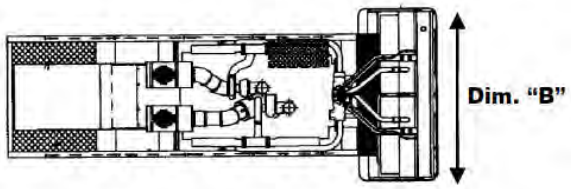
- Battery voltage monitoring, protection and testing
- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (over crank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Fuel-in-rupture-basin warning or shutdown
- Full authority electronic engine protection

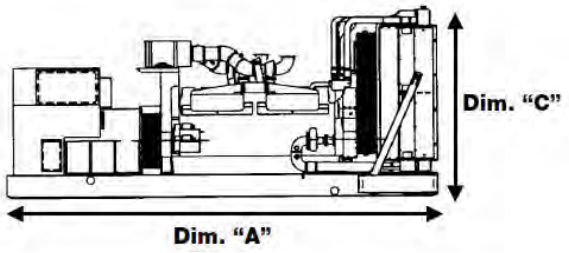
Control functions

- Time delay start and cool down
- Real time clock for fault and event time stamping
- Exerciser clock and time of day start/stop
- Data logging
- Cycle cranking
- Load shed
- Configurable inputs and outputs (4)
- Remote emergency stop

Options

- Auxiliary output relays (2)

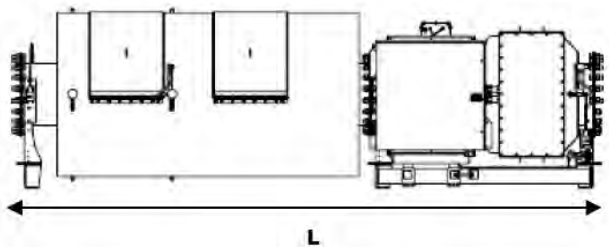


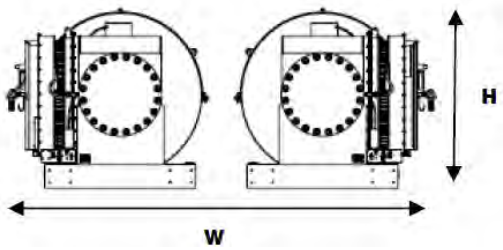


Generator set weights and dimensions

Model	Dim “A” mm (in.)	Dim “B” mm (in.)	Dim “C” mm (in.)	Set weight* dry kg (lbs)	Set weight* wet kg (lbs)
DQGAS	6381 (251)	2285 (90)	2468 (97)	12733 (28071)	13366 (29467)

* Weights represent a set with standard features. See outline drawings for weights of other configurations.





Aftertreatment weights and dimensions

Aftertreatment model number*	Genset model	L (Length) mm (in.)	W (minimum Width) mm (in.)	H (Height) mm (in.)	Weight of aftertreatment system (lbs)
CA452*	DQGAS	4651 (183)	3173 (125)	1260 (50)	8734

* Due to multiple configurations of the CA452 model, maximum weight of the model is shown.
Note: Dimension and weights are subject to change. See submittal data for exact details.

Codes and standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

PTS	The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.	UL	The generator set is available listed to UL 2200 for all 60 Hz low voltage models, Stationary Engine Generator Assemblies. The PowerCommand control is Listed to UL 508 - Category NITW7 for U.S. and Canadian usage. Circuit breaker assemblies are UL 489 Listed for 100% continuous operation and also UL 869A Listed Service Equipment.
CSA	All low and medium voltage models are CSA certified to product class 4215-01.	**U.S. EPA**	Engine certified to US EPA Nonroad 40CFR1039 and Stationary (Emergency and Non-Emergency) US EPA NSPS, 60CFR Subpart IIII Tier4 Emissions Standards.
ETL Intertek	The Aftertreatment System bears the ETL Listed Mark as proof of conformity to NFPA 79, UL 61010C-1, and CSA 22.2 No. 61010-1-12.		
ISO 9001	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.	**International Building Code**	The genset package is certified for seismic application in accordance with the following International Building Code: IBC2015.

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building’s electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor or visit power.cummins.com

Our energy working for you.™

S-1675 (03/18)

Sound data
1500DQGAS 60 Hz

Sound pressure level @ 7 meters, dB(A)

See notes 1-6 listed below

Configuration		Measurement location number								8 Position average
		1	2	3	4	5	6	7	8	
Standard – unhoused high ambient cooling system	Infinite exhaust	94	94	94	95	95	94	95	94	94
Standard – unhoused enhanced high ambient cooling system	Infinite exhaust	91	93	94	96	98	97	95	94	95
Standard – unhoused remote cooled	Infinite exhaust	88	90	92	89	91	90	92	91	90

Sound power level, dB(A)

See notes 2-4, 7, 8 listed below

Configuration		Octave band center frequency (Hz)								Overall sound power level
		31.5	63	125	250	500	1000	2000	4000	8000	
Standard – unhoused high ambient cooling system	Infinite Exhaust	69	85	104	114	118	117	114	110	108	122
Standard – unhoused enhanced high ambient cooling system	Infinite Exhaust	71	90	109	115	121	120	116	112	109	125
Standard – unhoused remote cooled	Infinite Exhaust	66	83	100	107	113	113	112	107	107	119

Exhaust sound power level, dB(A)

See note 2,9 listed below

Open exhaust (no muffler rated load)	Octave band center frequency (Hz)									Overall sound power level
	31.5	63	125	250	500	1000	2000	4000	8000	
	74	97	120	122	128	132	130	130	128	137

Exhaust aftertreatment system insertion loss (IL), dB(A)

Exhaust aftertreatment system - insertion loss (IL)	AT configuration	Octave Band Center Frequency (Hz)									Insertion loss
		31.5	63	125	250	500	1000	2000	4000	8000	
	T4i, 2x45	7	8	8	12	21	24	40	43	40	15
	T4i w/ILB, 2x45	7	12	16	14	27	33	43	45	41	20
	T4fc, 2x45	11	14	26	16	34	46	47	46	41	24

Note:

1. Position 1 faces the generator front per ISO 8528-10. The positions proceed around the generator set in a counter-clockwise direction in 45° increments. All positions are at 7 m (23 ft) from the surface of the generator set and 1.2 m (48”) from floor level.
2. Sound levels are subject to instrumentation, measurement, installation and manufacturing variability.
3. Data based on full rated load. Sound data with remote-cooled generator sets are based on rated loads without cooling fan noise.
4. Sound data for generator set with infinite exhaust do not include exhaust noise.
5. Sound pressure levels are measured per ANSI S1.13 and ANSI S12.18, as applicable.
6. Reference sound pressure is 20 µPa.
7. Sound power levels per ISO 3744 and ISO 8528-10, as applicable.
8. Reference power = 1 pw (10^{-12} W).
9. Exhaust sound power levels are per ISO 6798, as applicable.

2021 EPA Tier4 Certified Exhaust Emission Compliance Statement 1500DQGAS Stationary Non-Emergency

60 Hz Diesel generator set

Compliance Information:

The engine used in this generator set complies with Tier 4 emissions limit of U.S. EPA New Source Performance Standards for stationary non-emergency engines under the provisions of 40 CFR 60 Subpart IIII when tested per ISO8178 D2.

Engine Manufacturer:	Cummins Inc.
EPA Certificate Number:	MCEXL78.0AAA-036
Effective Date:	07/9/2020
Date Issued:	07/9/2020
EPA Engine Family (Cummins Emissions Family):	MCEXL78.0AAA

Engine information:

Model:	QSK50-G8	Bore:	6.25 in. (159 mm)
Engine Nameplate HP:	2220	Stroke:	6.25 in. (159 mm)
Type:	4 cycle, 60°V, 16 Cylinder Diesel	Displacement:	3067 cu. in. (50.3 liters)
Aspiration:	Turbocharged and Low Temperature Aftercooled (2P/2L)	Compression Ratio:	13.9:1
Emission control device:	SCR & DPF		

Diesel Fuel Emissions Limits

D2 Cycle Exhaust Emissions

	Grams per BHP-hr				Grams per kW_m-hr			
	NO_X	NMHC	CO	PM	NO_X	NMHC	CO	PM
Test results	0.40	0.01	1.0	0.00	0.54	0.02	1.4	0.00
EPA Emissions Limit	0.50	0.14	2.6	0.02	0.67	0.19	3.5	0.03

Test methods: EPA emissions recorded per 40 CFR Part 60, 89, 1039, 1065 and weighted at load points prescribed in the regulations for constant speed engines.

Diesel fuel specifications: Cetane number: 40-50. Reference: ASTM D975 No. 2-D, 7-15 ppm Sulfur.

Reference conditions: Air inlet temperature: 25°C (77°F), Fuel inlet temperature: 40°C (104°F). Barometric pressure: 100 kPa (29.53 in Hg), Humidity: 10.7 g/kg (75 grains H2O/lb) of dry air; required for NOx correction, Restrictions: Intake restriction set to a maximum allowable limit for clean filter; Exhaust back pressure set to a maximum allowable limit.

Tests conducted using alternate test methods, instrumentation, fuel or reference conditions can yield different results. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may result in elevated emission levels.

Exhaust emission data sheet
DQGAS
60 Hz Diesel generator set
EPA emission

Engine information:

Model:	Cummins Inc. QSK50-G8	Bore:	6.25 in. (159 mm)
Type:	4 Cycle, 60° V, 16 cylinder diesel	Stroke:	6.25 in. (159 mm)
Aspiration:	Turbocharged and low temperature after-cooled (2 P/2 L)	Displacement:	3067 cu. in. (50.3 liters)
Compression ratio:	15.0:1		
Emission control device:	SCR & DPF		
Emission level:	Stationary non-emergency, Tier4 final (with DPF)		

Performance data	1/4 Standby	1/2 Standby	3/4 Standby	Full Standby	Full Prime	Full Continuous
BHP @ 1800 RPM (60 Hz)	555	1110	1665	2220	1971	1774
Fuel consumption (Gal/Hr)	34.1	61.9	84.1	109.9	98	89
Exhaust gas flow (CFM)	5345	8675	10365	12105	11230	10297
Exhaust gas temperature (°F)	755	815	860	965	905	844
Exhaust emission data						
HC (Total unburned hydrocarbons)	0.03	0.02	0.01	0.01	0.01	0.01
NOx (Oxides of nitrogen as NO2)	0.50	0.38	0.31	0.34	0.33	0.32
CO (Carbon monoxide)	1.86	0.98	0.66	1.05	0.87	0.74
PM (Particular matter)	0.00	0.00	0.00	0.00	0.00	0.00
SO2 (Sulfur dioxide)	0.01	0.01	0.01	0.01	0.01	0.01
Smoke (Bosch)	0.00	0.00	0.00	0.00	0.00	0.00

All values are Grams/HP-Hour, Smoke is Bosch #

Test conditions

Data is representative of steady-state engine speed (± 36 RPM) at designated genset loads. Pressures, temperatures, and emission rates were stabilized.

Fuel specification:	ASTM D975 No. 2-D diesel fuel with ULSD, and 40-48 cetane number.
Fuel temperature	99 ± 9 °F (at fuel pump inlet)
Intake air temperature:	77 ± 9 °F
Barometric pressure:	29.6 ± 1 in. Hg
Humidity:	NOx measurement corrected to 75 grains H2O/lb dry air
Reference standard:	ISO 8178

The NOx, HC, CO and PM emission data tabulated here are representative of test data taken from a single engine under the test conditions shown above. Data for the other components are estimated. These data are subjected to instrumentation and engine-to-engine variability. Field emission test data are not guaranteed to these levels. Actual field test results may vary due to test site conditions, installation, fuel specification, test procedures and instrumentation. Engine operation with excessive air intake or exhaust restriction beyond published maximum limits, or with improper maintenance, may results in elevated emission levels.

Generator set data sheet

Model: DQGAS
Frequency: 60 Hz
Fuel type: Ultra-low sulphur diesel (15 ppm sulphur)
kW rating: 1500 Standby
1365 Prime
1100 Continuous
Emissions level: EPA Stationary non-emergency Tier 4

Exhaust emission data sheet Tier 4F:	EDS-1135
Exhaust emission compliance sheet Tier 4F:	EPA-1197
Sound performance data sheet:	MSP-1121
Cooling performance data sheet:	MCP-219
Prototype test summary data sheet:	PTS-305
Standard set-mounted radiator cooling outline:	A029J185
Optional set-mounted radiator cooling outline:	A029P243
Optional remote radiator cooling outline:	A029P245
After-treatment outline drawing Tier 4F:	A040X345

Fuel consumption

	Standby				Prime				Continuous			
	kW (kVA)				kW (kVA)				kW (kVA)			
Ratings	1500 (1875)				1365 (1706)				1100 (1375)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	36.1	60.2	83.1	104.9	33.9	55.9	77.0	97.2	29.5	47.5	64.8	81.6
L/hr	136.8	227.8	341.5	397.0	128.4	211.7	291.5	367.8	111.8	179.8	245.5	308.9

DEF consumption

	Standby				Prime				Continuous			
	kW (kVA)				kW (kVA)				kW (kVA)			
Ratings	1500 (1875)				1365 (1706)				1100 (1375)			
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full
US gph	0.77	1.65	3.50	5.78	0.72	1.49	3.00	4.96	0.85	1.39	3.05	3.61
L/hr	2.91	6.24	13.23	21.85	2.72	5.63	11.34	18.75	3.21	5.25	11.53	13.65

Engine	Standby rating	Prime rating	Continuous rating
Engine manufacturer	Cummins Inc.		
Engine model	QSK50-G8		
Configuration	Cast iron, V 16 cylinder		
Aspiration	Turbocharged and low temperature after-cooled		
Gross engine power output, kWm (bhp)	1656 (2220)	1470 (1971)	1323 (1774)
BMEP at set rated load, kPa (psi)	2192 (318)	1951 (283)	1744 (253)
Bore, mm (in.)	159 (6.25)		
Stroke, mm (in.)	159 (6.25)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	9.5 (1875)		
Compression ratio	15:1		
Lube oil capacity, L (qt)	235 (248)		205 (216)
Overspeed limit, rpm	2100 ±50		
Regenerative power, kW	168		

Fuel flow	Standby rating	Prime rating	Continuous rating
Maximum fuel flow, L/hr (US gph)	912 (241)		
Maximum fuel inlet restriction, kPa (in Hg)	16.9 (5)		
Maximum fuel inlet temperature, °C (°F)	70 (160)		

Air			
Combustion air, m^3/min (scfm)	134 (4715)	129 (4550)	123 (4345)
Maximum air cleaner restriction, kPa (in H_2O)	3.7 (15)		
Alternator cooling air, m^3/min (cfm)	207 (7300)		

Exhaust			
Exhaust flow at set rated load, m^3/min (cfm)	343 (12105)	318 (11230)	292 (10297)
Exhaust temperature, °C (°F)	518 (965)	485 (905)	451 (844)
Maximum back pressure, kPa (in H_2O)	6.78 (27)		

Standard set-mounted radiator cooling			
Ambient design, °C (°F)	41.2 (106.2)		
Fan load, kW_m (HP)	53.7 (72)		
Coolant capacity (with radiator), L (US gal)	401 (106)		
Cooling system air flow, m^3/min (scfm)	1783 (62983)		
Total heat rejection, MJ/min (Btu/min)	82.7 (78390)	74.4 (70535)	57.5 (54794)
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)		
Heat radiated to room from after-treatment (Btu/min)	150960		

Optional set-mounted radiator cooling			
Ambient design, °C (°F)	50 (122)		
Fan load, kW_m (HP)	45.5 (61)		
Coolant capacity (with radiator), L (US gal)	496 (131)		
Cooling system air flow, m^3/min (scfm)	2094 (73937)		
Total heat rejection, MJ/min (Btu/min)	82.7 (78390)	74.4 (70535)	57.5 (54794)
Maximum cooling air flow static restriction, kPa (in H_2O)	0.12 (0.5)		
Heat radiated to room from aftertreatment (Btu/min)	150960		

Optional remote radiator cooling[1]

Max flow rate at max friction head, jacket water circuit, L/min (US gal/min)	1893 (500)		
Max flow rate at max friction head, after-cooler circuit, L/min (US gal/min)	538 (142)		
Heat rejected, jacket water circuit, MJ/min (Btu/min)	43.04 (40790)	38.83 (36800)	30.28 (28842)
Heat rejected, after-cooler circuit, MJ/min (Btu/min)	26.01 (24655)	23.33 (22110)	18.75 (17858)
Total heat radiated to room, MJ/min (Btu/min)	13.3 (12584.2)	12.2 (11546.2)	10 (9508.7)
Maximum friction head, jacket water circuit, kPa (psi)	69 (10)		
Maximum friction head, after-cooler circuit, kPa (psi)	48 (7)		
Maximum static head, jacket water circuit, m (ft)	18.3 (60)		
Maximum static head, after-cooler circuit, m (ft)	18.3 (60)		
Maximum jacket water outlet temp, °C (°F)	104 (220)	100 (212)	100 (212)
Maximum after-cooler inlet temp at 25 °C (77 °F) ambient, °C (°F)	49 (120)		
Maximum after-cooler inlet temp, °C (°F)	71 (160)	66 (150)	66 (150)
Heat radiated to room from after-treatment (Btu/min)	150960		

[1] For non-standard remote installations contact your local Cummins representative.

After-treatment system	T4F (SCR)	T4F (SCR + DPF)
Pressure drop across after-treatment, kPa (in H_2O)	3 (12)	4 (16)
Available back pressure for exhaust system piping, kPa (in H_2O)	3.7 (15)	2 (11)
Exhaust heater rating (kW)	-	500
Exhaust heater input requirements (Amps at 480 V)	-	600
Minimum unaided ambient operating temperature °C (°F)	2 (35)	2 (35)
Maximum ambient operating temperature (warning) °C (°F)	52 (125)	52 (125)
DEF tank capacity (usable) L (gal)	765 (202)	765 (202)
Heat radiated to room from after-treatment (Btu/min)	150960	150960

DEF flow

Maximum supply flow, L/hr (US gph)	211 (56)
Maximum return flow, L/hr (US gph)	189 (50)
Maximum static head (from pump to injector), m (ft)	6.4 (21)

Weights[1]

Unit dry weight kgs (lbs)	12733 (28071)
Unit wet weight kgs (lbs)	13366 (29467)
After-treatment weight kgs (lbs)	3962 (8734)

Derating factors[2]

Standby	Standard cooling system: Full rated power available up to 1321.6m (4334.9 ft) elevation at ambient temperatures up to 40 °C (104 °F). Above these conditions derate by 3.6% per 305m (1000 ft), and derate by an additional 8.0% per 10 °C (18 °F). Enhanced cooling system: Full rated power available up to 1512.8m (4962.0 ft) elevation at ambient temperatures up to 40 °C (104 °F). Above these conditions derate by 4.6% per 305m (1000 ft). Full rated power available up to 1017.1m (3338.1 ft) elevation at ambient temperatures up to 50 °C (122 °F). Above these conditions derate by 3.6% per 305m (1000 ft). At higher ambient temperatures, derate by additional 8% per 10 °C (18 °F).
Prime	Full rated power available up to 1218.4m (3996 ft) elevation at ambient temperature up to 40 °C (104 °F). Above these elevations, at 40 °C (104 °F), derate by 5.5% per 305m (1000 ft). Full rated power available up to 438.7m (1439 ft) at ambient temperatures up to 50 °C (122 °F). Above these elevations, at 50 °C (122 °F), derate by an additional 5.5% per 305m (1000 ft). At higher ambient temperatures, derate by an additional 14% per 10 °C (18 °F).
Continuous	Full rated power available up to 1393m (4569 ft) elevation at ambient temperature up to 40 °C (104 °F). Above these elevations, at 40 °C (104 °F), derate by 5.3% per 305m (1000 ft). Full rated power available up to 841.3m (2759 ft) at ambient temperatures up to 50 °C (122 °F). Above these elevations, at 50 °C (122 °F), derate by an additional 5.3% per 305m (1000 ft). At higher ambient temperatures, derate by an additional 10% per 10 °C (18 °F).

Notes:

[1] For non-standard remote installations contact your local Cummins representative.

[2] Weights represent a set with standard features. See outline drawing for weights of other configurations.

Ratings definitions

Emergency Standby Power (ESP):	**Limited-Time Running Power (LTP):**	**Prime Power (PRP):**	**Base Load (Continuous) Power (COP):**
Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Alternator data

Voltage	Connection[1]	Temp rise degrees C	Duty[2]	Single phase factor[3]	Max surge kVA[4]	Winding No.	Alternator data sheet	Feature code
380	Wye, 3-phase	150/125	S/P		6716	312	ADS-333	B799-2
380	Wye, 3-phase	125/80	S/P/C		7361	312	ADS-334	B598-2
380	Wye, 3-phase	105/80	S/P		7361	312	ADS-334	B599-2
380	Wye, 3-phase	80	S		7695	312	ADS-335	B660-2
416	Wye, 3-phase	105/80	S/P		6716	312	ADS-333	B715-2
440	Wye, 3-phase	150/125	S/P		5521	312	ADS-331	B691-2
440	Wye, 3-phase	125/80	S/P/C		5743	312	ADS-332	B663-2
440	Wye, 3-phase	105/80	S/P		6716	312	ADS-333	B664-2
440	Wye, 3-phase	80	S		6716	312	ADS-333	B688-2
440	Wye, 3-phase	150/125	S/P		7267	12	ADS-515	B691-2
480	Wye, 3-phase	150	S		5521	312	ADS-331	B816-2
480	Wye, 3-phase	125/105	S/P		5521	312	ADS-331	B276-2
480	Wye, 3-phase	105/80	S/P		5743	312	ADS-332	B600-2
480	Wye, 3-phase	80	S		6716	312	ADS-333	B601-2
480	Wye, 3-phase	80	S/P		7361	312	ADS-334	B903-2
600	Wye, 3-phase	150	S		5521	07	ADS-331	B817-2
600	Wye, 3-phase	125/105/80	S/P/C		5521	07	ADS-331	B602-2
600	Wye, 3-phase	105/80	S/P		5743	07	ADS-332	B603-2
600	Wye, 3-phase	80	S		6716	07	ADS-333	B604-2
600	Wye, 3-phase	80	S/P		7361	07	ADS-334	B904-2
4160	Wye, 3-phase	105	S/P		7005	51	ADS-323	B920-2
4160	Wye, 3-phase	80	S/P		7926	51	ADS-324	B919-2
12470	Wye, 3-phase	80	S		5948	91	ADS-521	B607-2
12470	Wye, 3-phase	80	P		5948	91	ADS-521	B812-2
13200	Wye, 3-phase	80	S		5948	91	ADS-521	B807-2
13200	Wye, 3-phase	80	P		5948	91	ADS-521	B566-2
13800	Wye, 3-phase	80	S		5948	91	ADS-521	B610-2
13800	Wye, 3-phase	80	P		5948	91	ADS-521	B809-2

Notes:

[1] Limited single phase capability is available from some three phase rated configurations. To obtain single phase rating, multiply the three phase kW rating by the Single Phase Factor3. All single phase ratings are at unity power factor.

[2] Standby (S), Prime (P) and Continuous ratings (C).

[3] Factor for the *Single phase output from three phase alternator* formula listed below.

[4] Maximum rated starting kVA that results in a minimum of 90% of rated sustained voltage during starting.

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Single phase output

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

For more information contact your local Cummins distributor or visit power.cummins.com

Our energy working for you.™

D-3537 (09/17)

PTC® Creo® Parametric

DEF LINE INSTALLATION
MODEL- CA451/CA452/CA542
FEATURE CODE- L181-2

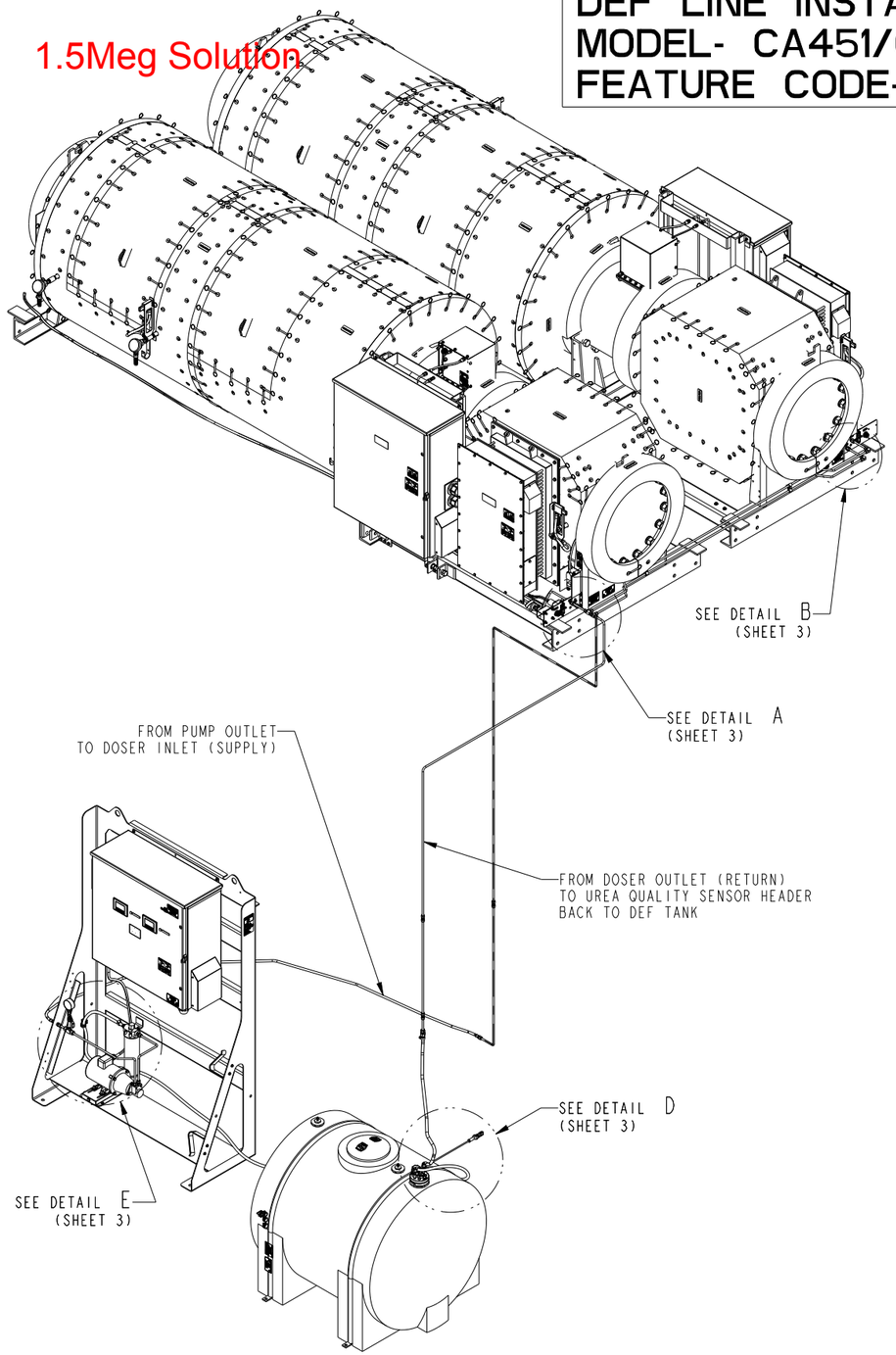
REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-171947	B	1	PRODUCTION RELEASE	LDE	CJF	T.SCHIEBE	28AUG17

NOTE:

1. ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
2. ALL DIMENSIONS IN [ ] ARE INCHES.
3. INSTALL COMPRESSION FITTING AS PER INSTRUCTION BELOW:

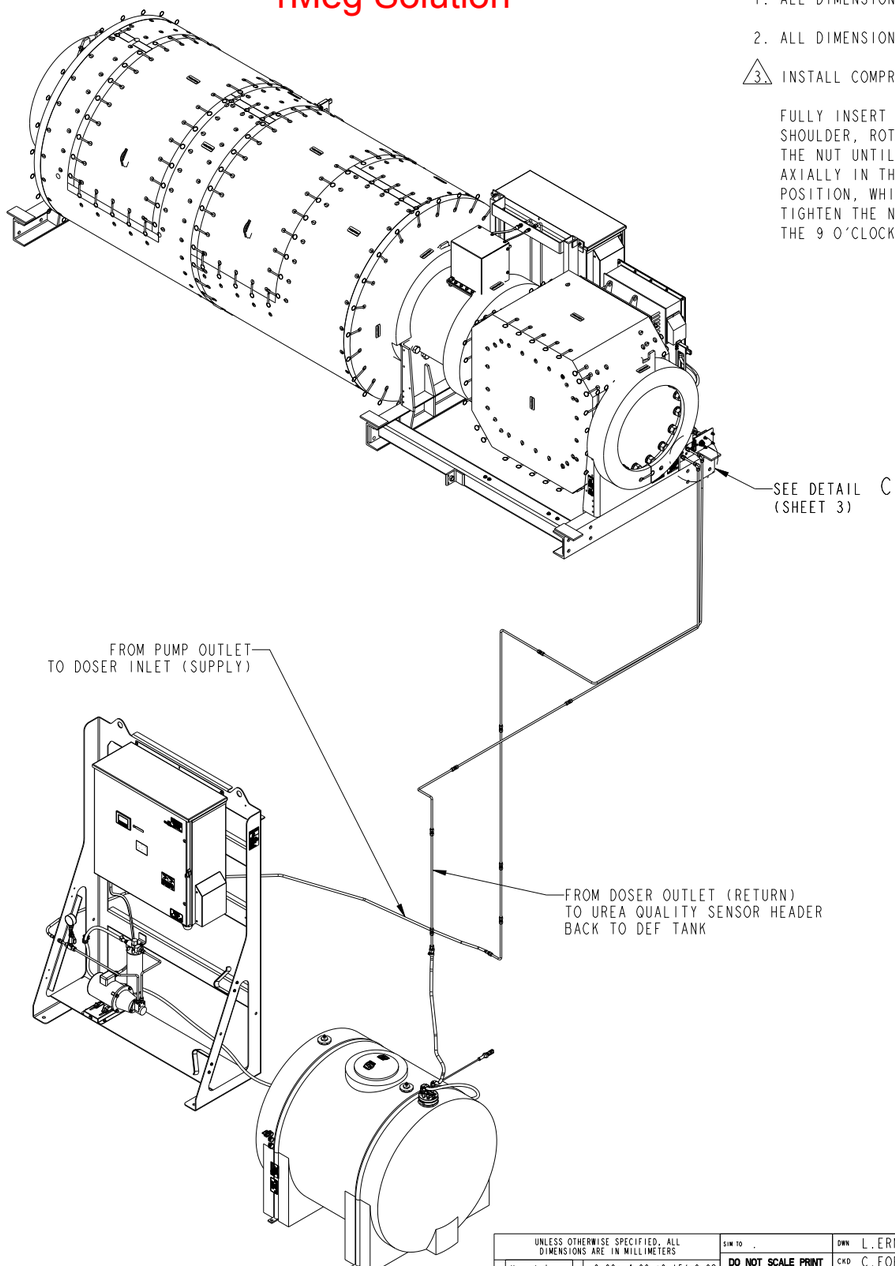
   FULLY INSERT THE TUBE INTO THE FITTING AND AGAINST THE SHOULDER, ROTATE THE NUT FINGER-TIGHT. FURTHER TIGHTEN THE NUT UNTIL THE TUBE WILL NOT TURN BY HAND OR MOVE AXIALLY IN THE FITTING. MARK THE NUT AT THE 6 O'CLOCK POSITION, WHILE HOLDING THE FITTING BODY STEADY, TIGHTEN THE NUT ONE AND ONE-QUARTER TURNS TO THE 9 O'CLOCK POSITION. (SEE SHEET 3)

1.5Meg Solution



CA452 OR CA542

1Meg Solution



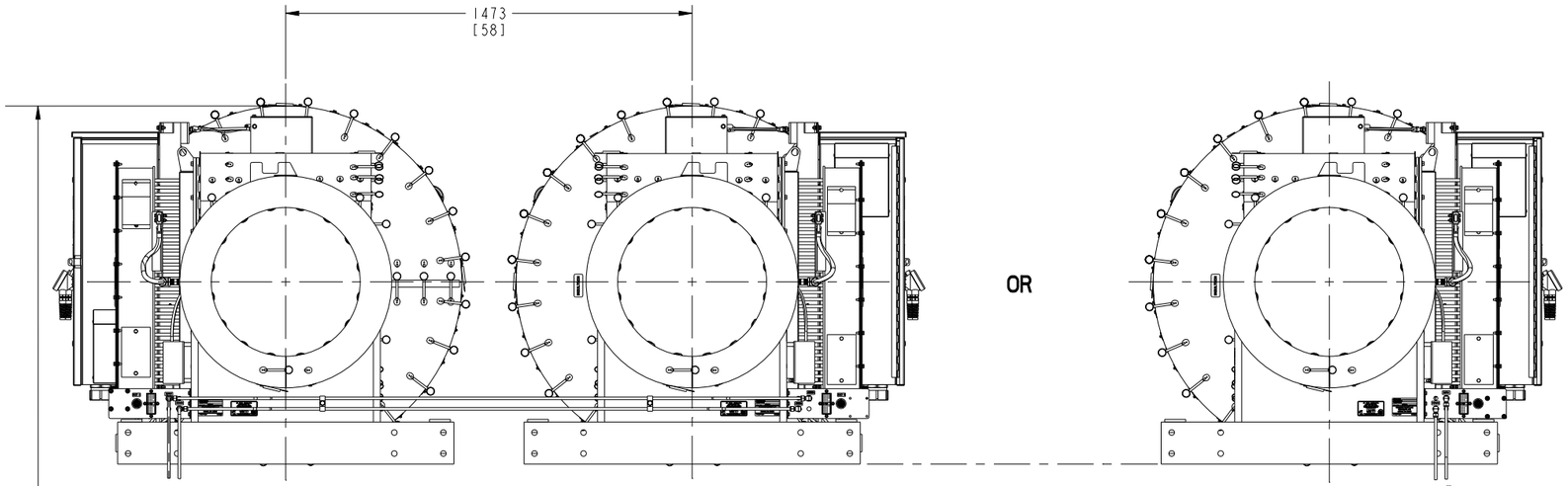
CA451

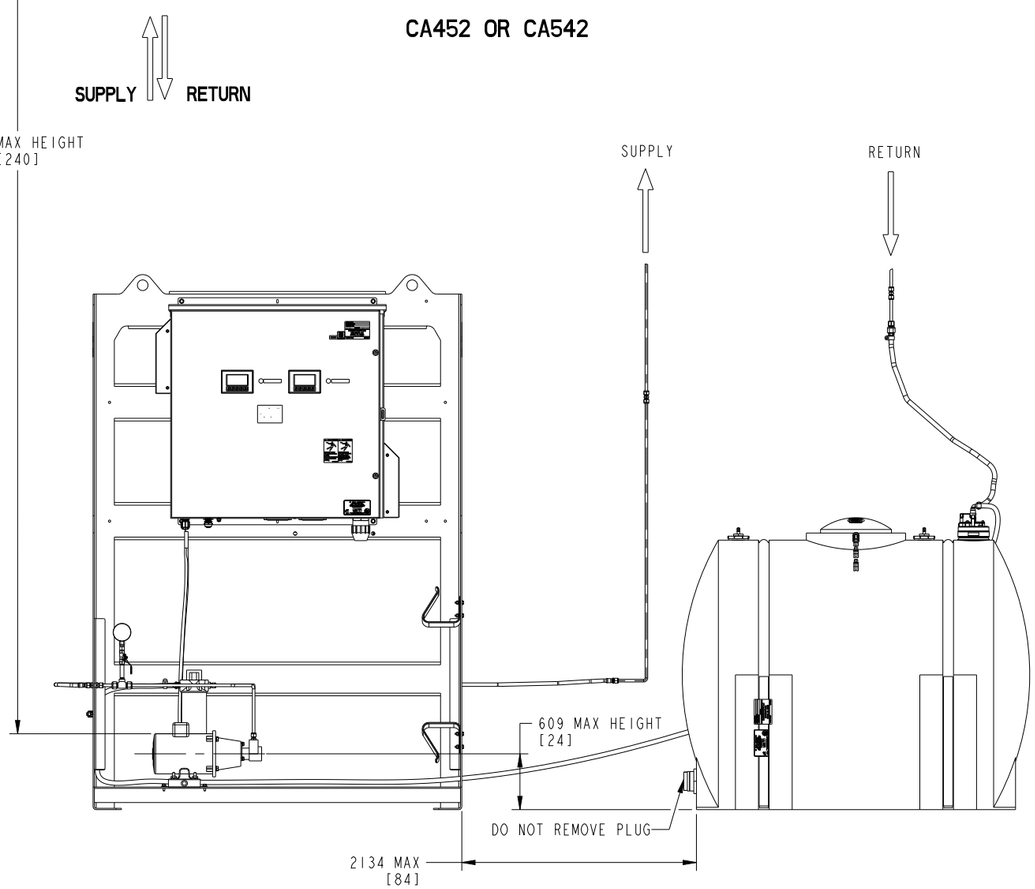
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS	SIM TO .	DWN L.ERNST	CUMMINS POWER GENERATION
DIM: X ±1, .X ±0.8, .XX± 0.38 — HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13	DO NOT SCALE PRINT	CKD C.FORNELL	OUTLINE, AFTERTREATMENT
		APVD T.SCHIEBE	
		DATE 29JUN17	SITE CODE .
ANG TOL ± 1.0°	SCALE 1:16	FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009	FIRST USED ON DQKAM
THIS DOCUMENT (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE DISCLOSED TO OTHERS IN HARD COPY OR ELECTRONIC FORM, REPRODUCED BY ANY MEANS, OR USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.		PGF	DWG SIZE D — A057U252 — CAD SHEET 1 of 3

Drawing Name: A057U253 Revision: B
Part Name: A057U252 Revision: B
ECO-171947 Sheet 1 of 4

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-171947	B	1	PRODUCTION RELEASE	LDE	CJF	T.SCHIEBE	28AUG17

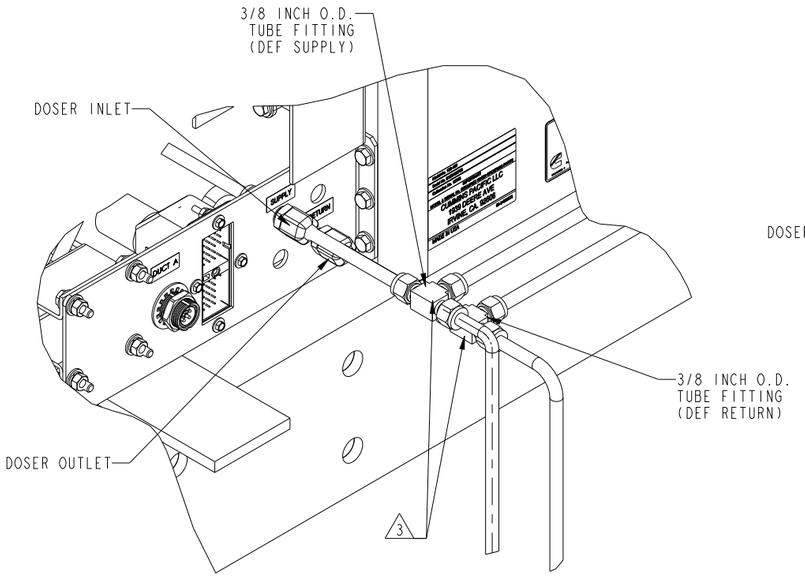




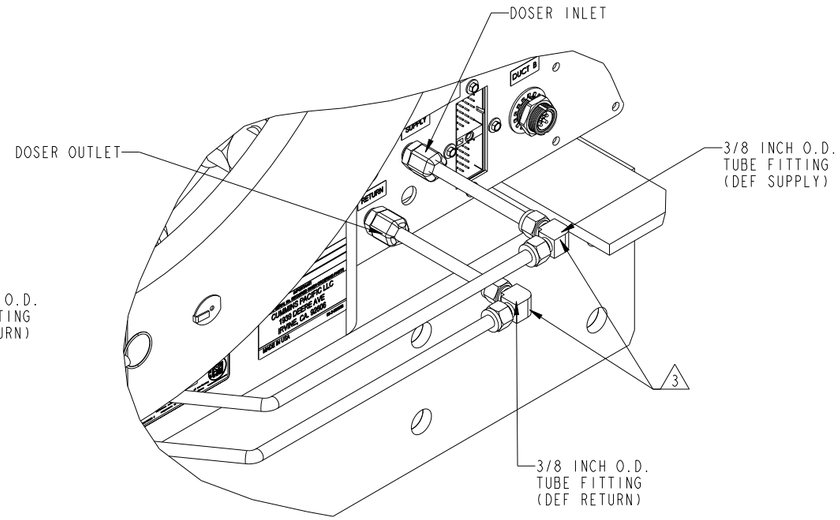
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS			SIM TO .	DWN L.ERNST	CUMMINS POWER GENERATION
DIM	TOLE		DO NOT SCALE PRINT	CKD C.FORNELL	
X ±1	0.00- 4.99 +0.15/-0.08			APVD T.SCHIEBE	OUTLINE, AFTERTREATMENT
.X ±0.8	5.00- 9.99 +0.20/-0.10			DATE 29JUN17	
.XX± 0.38	10.00-17.49 +0.25/-0.13				SITE CODE .
ANG TOL ± 1.0°	SCALE 1:10	THIS DOCUMENT AND THE INFORMATION SHOWN THEREON IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE DISCLOSED TO OTHERS IN HARD COPY OR ELECTRONIC FORM, REPRODUCED BY ANY MEANS, OR USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.	17.50-24.99 +0.30/-0.13	FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009 FIRST USED ON DQKAM	PGF · SIZE D A057U252 CAD SHEET 2 of 3

PTC® Creo® Parametric

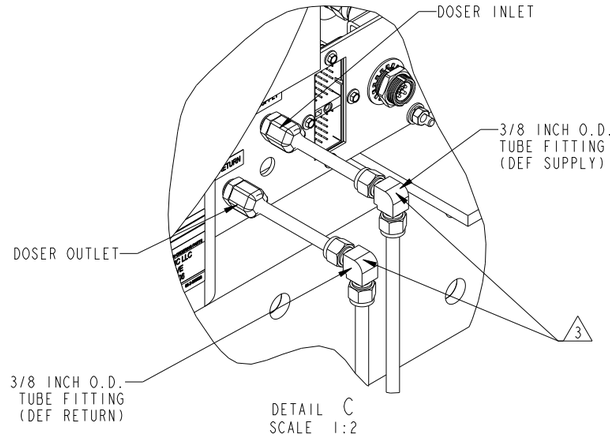
REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-171947	B	1	PRODUCTION RELEASE	LDE	CJF	T.SCHIEBE	28AUG17



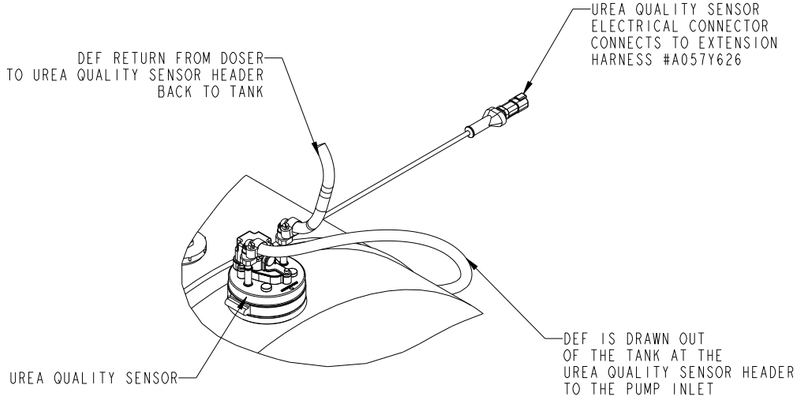
DETAIL A
SCALE 1:2



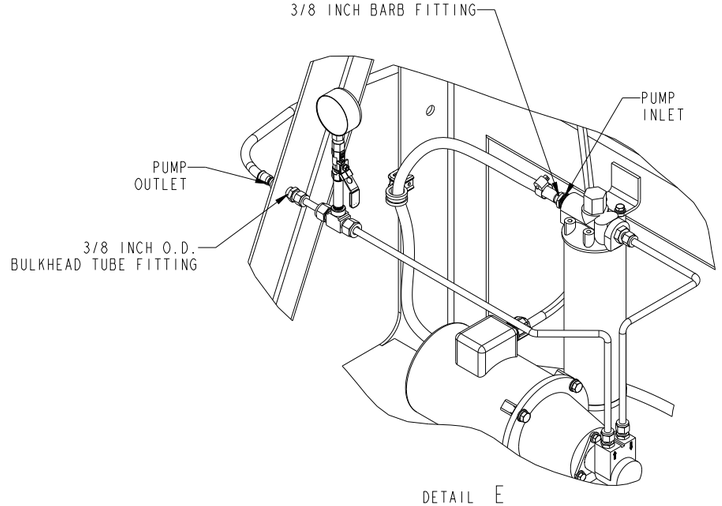
DETAIL B
SCALE 1:2



DETAIL C
SCALE 1:2



DETAIL D
SCALE 1:4



DETAIL E
SCALE 1:4

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		SIM TO .	DWN L.ERNST	Cummins®	CUMMINS POWER GENERATION
DIM: X ±1; .X ±0.8; .XX± 0.38 — HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13		DO NOT SCALE PRINT	CKD C.FORNELL		OUTLINE, AFTERTREATMENT
			APVD T.SCHIEBE	SITE CODE .	
			DATE 29JUN17		
ANG TOL ± 1.0°	SCALE 1:16	THIS DOCUMENT AND THE INFORMATION SHOWN THEREON IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE DISCLOSED TO OTHERS IN HARD COPY OR ELECTRONIC FORM, REPRODUCED BY ANY MEANS, OR USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.	FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009	FIRST USED ON DQKAM	PGF	DWG SIZE D A057U252	CAD SHEET 3 of 3

Part A057U252 B

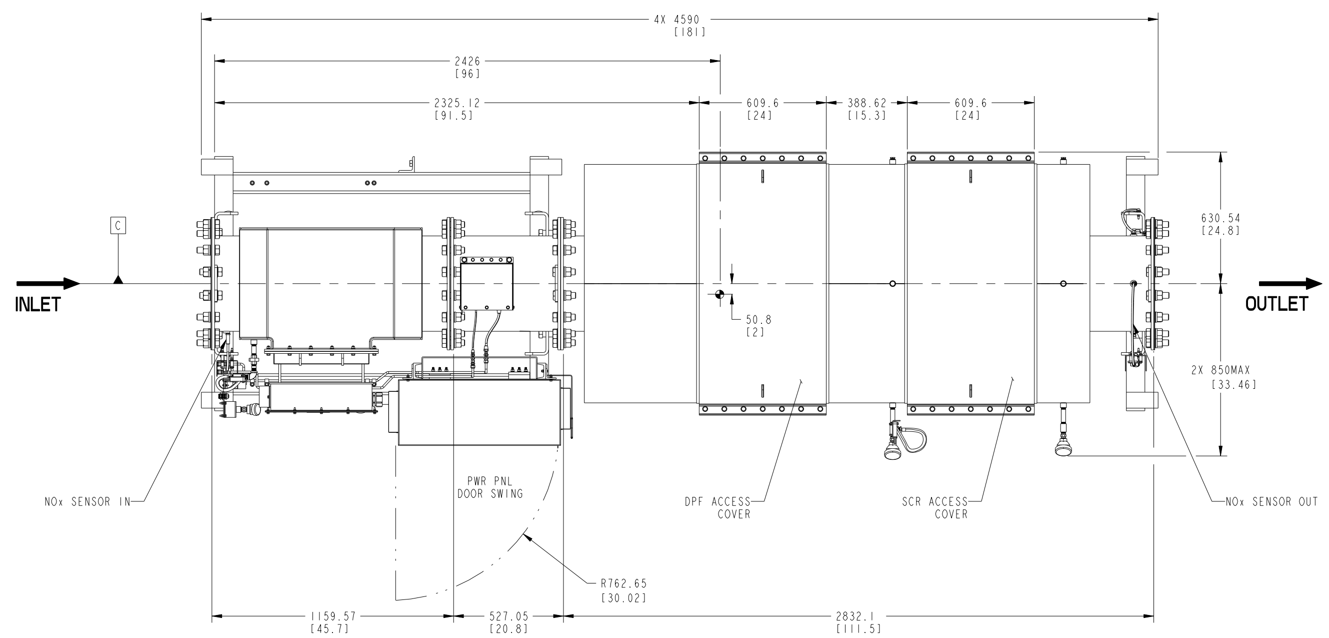
Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
OUTLINE,AFTERTREATMENT	A057U252	No External Regulations Apply	Production & Service	Production	Internal use Only	

Part Specifications :A057U252 B

Name	Description	Legacy Name
A030B356	SPECIFICATION,MATERIAL	CES10903
A057U253	DRAWING,ENGINEERING	A057U253

AFTERTREATMENT T4fc
MODEL - CA451
FEATURE CODE - L178-2

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-137023	D	1	ZONE (D3):DIM 4590[181] WAS 4598[181]	SL	RC	R_CHANGELA	12AUG13
		2	DRAWING HAS BEEN PICTORIALLY UPDATED	SL	RC	R_CHANGELA	12AUG13
		3	SEE SHEET 2	SL	RC	R_CHANGELA	12AUG13
		4	SEE SHEET 2	SL	RC	R_CHANGELA	12AUG13
		5	ZONE(A3): DIM 4463.37[175.72] WAS 4455.67[175.4]	SL	RC	R_CHANGELA	12AUG13
		6	ZONE(A3): RMV DIM 4636.12[182.5]	SL	RC	R_CHANGELA	12AUG13
		7	ZONE(A3): ADD DIM 4666.04[183.7]]	SL	RC	R_CHANGELA	12AUG13



NOTES:-

1. EXHAUST AFTERTREATMENT IS SUPPLIED WITH LISTED BELOW FLANGE MOUNTING HARDWARE.

TOTAL QTY	DESCRIPTION
2	GASKET FLANGE
32	SCREW HEX HEAD 1.125-7X3.5 IN LG
32	SP.LOCK WASHER 1.125 DIA NOM
64	FLAT WASHER 1.125 DIA NOM
32	NUT 1.125-7

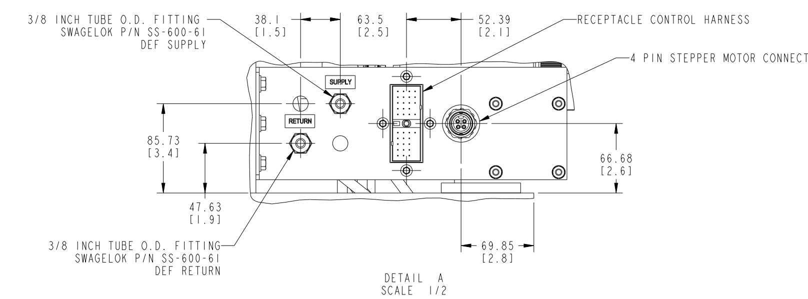
DESCRIPTION	WEIGHT Kg (lbs)
	TOTAL
EXHAUST AFTERTREATMENT	1981 [4367]
COMPONENT WEIGHT	
SCR/DPF COVER	44 (97)
DPF	19.5 (43)
SCR CARTRIDGE	236.8 (522)

DESCRIPTION	WEIGHT Kg (lbs)
UNIVERSAL LIFTING BEAM	242 (533)

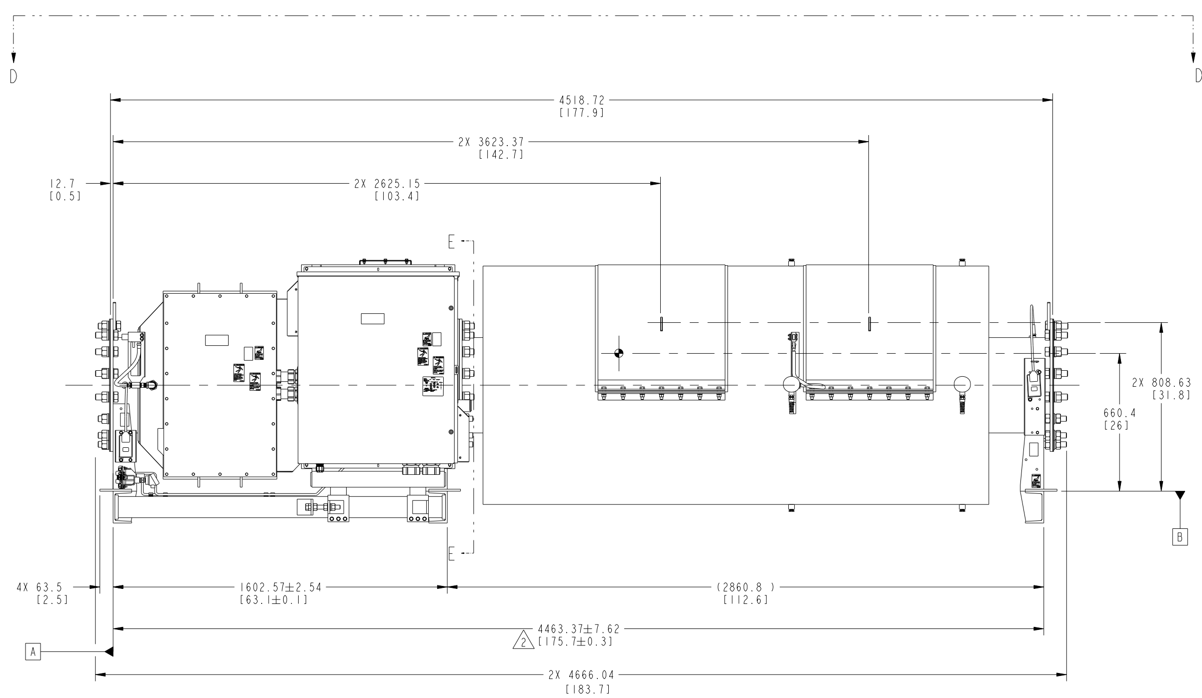
2. FOR TRANSPORTATION DIMENSION WILL BE "4470.90 [176.02]"

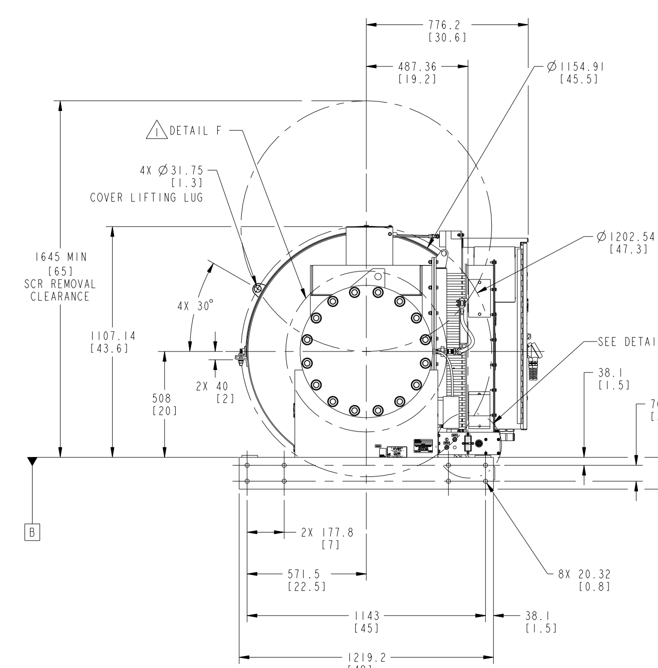
3. VIEWS SHOWN WITHOUT INSULATION & UNIVERSAL LIFTING BEAM FOR CLARITY.

4. DIMENSION SHOWN IN [ ] ARE IN INCHES.



DETAIL A
SCALE 1/2



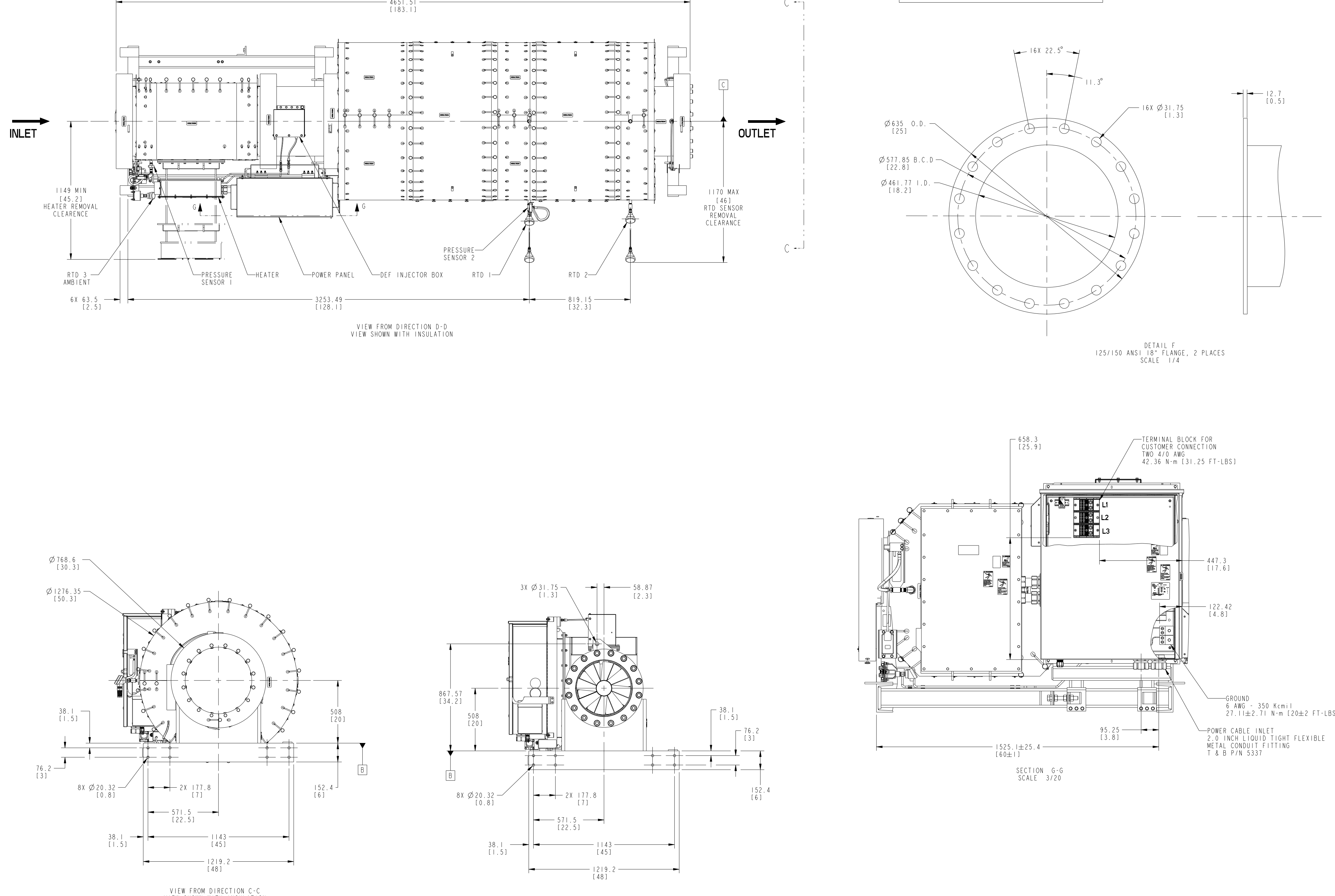


UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS	SIM TO .	DWN P_JOSHI	CUMMINS POWER GENERATION
DIM X ±1, .X ±0.8, .XX± 0.38; HOLE 0.00- 4.99 +0.15/-0.08, 5.00- 9.99 +0.20/-0.10, 10.00-17.49 +0.25/-0.13, 17.50-24.99 +0.30/-0.13	DO NOT SCALE PRINT	CKD R_CHANGELA	OUTLINE,AFTERTREATMENT T4fc 1X45"
ANG TOL: ± 1.0°	- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP	APVD R_CHANGELA	SITE CODE PGF
SCALE: 1/10	FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994	DATE 30MAR12; FIRST USED ON DQKAK-M	DWG SIZE E; A041V017; SHEET 1 OF 3; DWG REV D

Creo Parametric

AFTERTREATMENT T4fc
MODEL - CA451
FEATURE CODE - L178-2

REL NO	LTR	NO	REVISION	DWN	CKD	APVD	DATE
ECO-137023	D	2	DRAWING HAS BEEN PICTORIALLY UPDATED	SL	RC	R_CHANGELA	12AUG13
		3	ZONE(B1): NOTE WAS 'TERMINAL...TWO 4AWG 500 Kcmil..'	SL	RC	R_CHANGELA	12AUG13
		4	ZONE(A1): ADD DIM 95.25[3.8]	SL	RC	R_CHANGELA	12AUG13



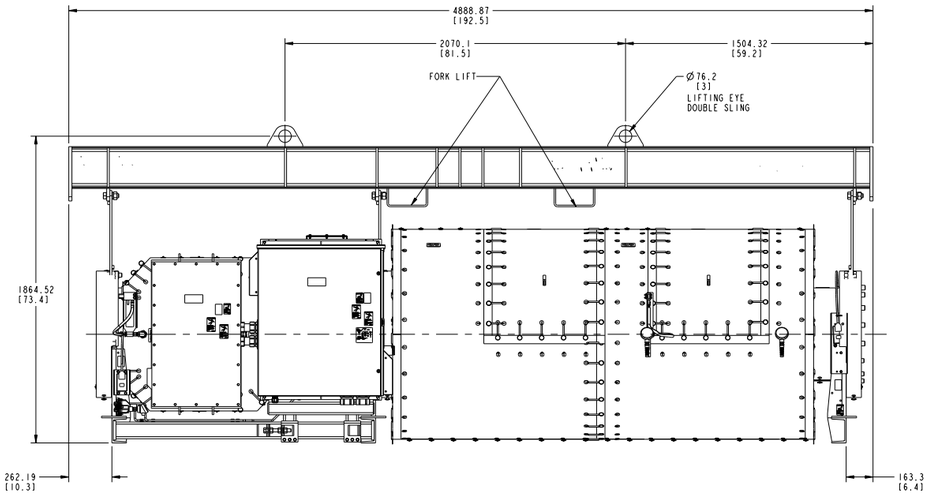
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS	SIM TO .	DWN P_JOSHI	CUMMINS POWER GENERATION
DIM: X ±1; .X ±0.8; .XX± 0.38	DO NOT SCALE PRINT	CKD R_CHANGELA	OUTLINE, AFTERTREATMENT T4fc 1X45"
HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13		APVD R_CHANGELA	SITE CODE: PGF
		DATE 30MAR12	DWG SIZE E
ANG TOL: ± 1.0°	- CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP	FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5M-1994	A041V017
SCALE: 1/10		FIRST USED ON DQKAK-M	SHEET 2 OF 3; DWG REV D

Drawing Name: A041V018 Revision: D
Part Name: A041V017 Revision: D

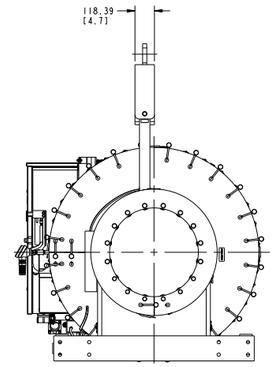
Creo Parametric

REV. NO.	LTR	NO.	REVISION	DRN	CHD	APVD	DATE
ECO-137023	D	2	DRAWING HAS BEEN PICTORIALLY UPDATED	SL	RC	R.CHANGELA	12AUG13

AFTERTREATMENT T4fc
MODEL - CA451
FEATURE CODE - L178-2



VIEW SHOWN WITH INSULATION & UNIVERSAL LIFTING BEAM



VIEW SHOWN WITH INSULATION & UNIVERSAL LIFTING BEAM

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS

X	±1	0.00~4.99 +0.15/-0.00
.X	±0.6	5.00~9.99 +0.20/-0.10
.XX	±0.36	10.00~17.49 +0.25/-0.13
		17.50~24.99 +0.30/-0.13

ANG TOL: ± 1.0°

SCALE: 1/10

DO NOT SCALE PRINT

CONFIDENTIAL - PROPERTY OF CUMMINS POWER GENERATION GROUP

DRN P_JOSHI
CHD R_CHANGELA
APVD R_CHANGELA
DATE 30MAR12

DOKAK-M

CUMMINS POWER GENERATION

OUTLINE, AFTERTREATMENT
T4fc IX45*

SITE CODE: PGF

SIZE: E | DRAWING NO.: A041V017 | SHEET 3 of 3 | REV: D

Part A041V017 D

Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
OUTLINE,AFTERTREATMENT	A041V017	None	Production Only	Production	Proprietary	

Part Specifications :A041V017 D

Name	Description	Legacy Name
A030B356	SPECIFICATION,MATERIAL	CES10903
A041V018	DRAWING,ENGINEERING	A041V018

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-171893	B	1	PRODUCTION RELEASE	LDE	CJF	T.SCHIEBE	28AUG17
		2	ZONE B3; 965 [38] WAS 940 [37]	LDE	CJF	T.SCHIEBE	28AUG17
		3	ZONE A3; DIM "E" WAS 630 [24.8] AND ADD DIM "E" CHART	LDE	CJF	T.SCHIEBE	28AUG17
		4	NOTE 3 WAS "WEIGHT FOR ASSEMBLY OPTION 1: 172 KG [379 LBS]"	LDE	CJF	T.SCHIEBE	28AUG17
		5	NOTE 4 WAS "WEIGHT FOR ASSEMBLY OPTION 2: 190 KG [420 LBS] (SEE SHEET 2)"	LDE	CJF	T.SCHIEBE	28AUG17
		6	SEE SHEET 2	LDE	CJF	T.SCHIEBE	28AUG17

CUSTOMER CABLE INLET			
DESIGNATION	SIZE	CORD RANGE	DESCRIPTION
A	0.5 IN	0.310-0.560 IN	120 VAC INTO PANEL
B	0.5 IN	0.310-0.560 IN	230 VAC OUT TO PUMP
C	0.5 IN	0.310-0.560 IN	STEPPER MOTOR A
D	0.5 IN	0.310-0.560 IN	STEPPER MOTOR B
E	1.25 IN	1.270-1.470 IN	INPUT FOR CUSTOMER CONNECTIONS
F	0.5 IN	0.310-0.560 IN	TESTING INPUT FOR COLD WEATHER OPTION

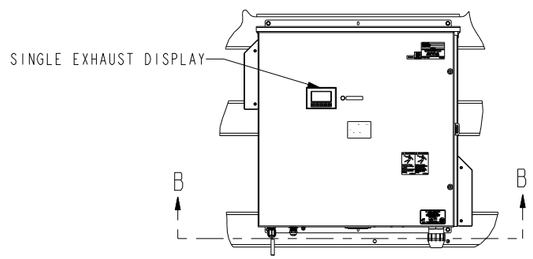
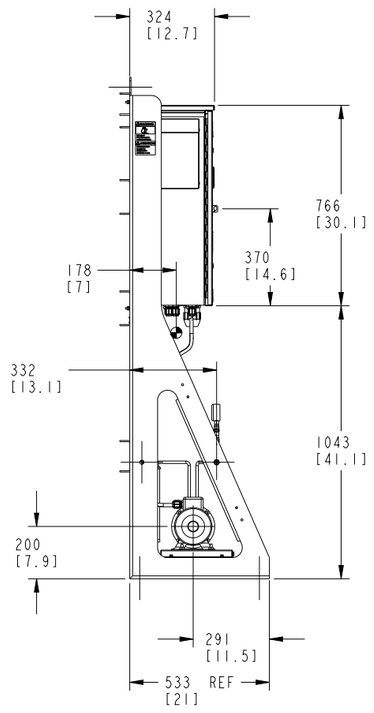
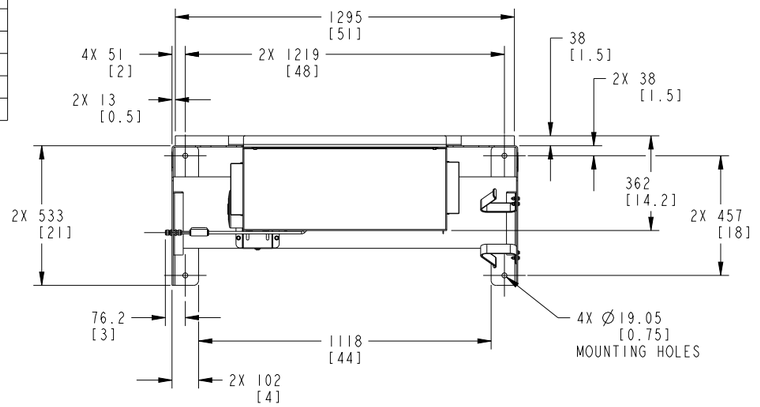
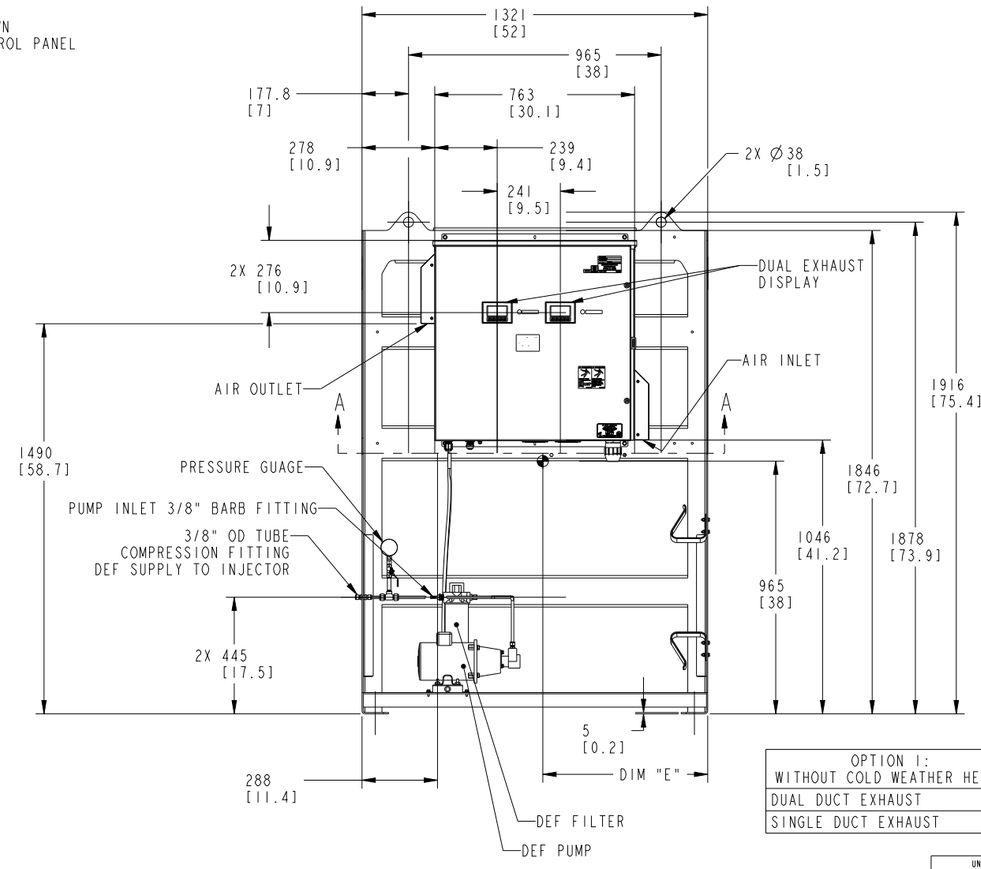


FIGURE 1
SINGLE DUCT EXHAUST CONTROL PANEL SHOWN
ALL DIMENSIONS SAME AS DUAL DUCT EXHAUST CONTROL PANEL
SCALE 3:32



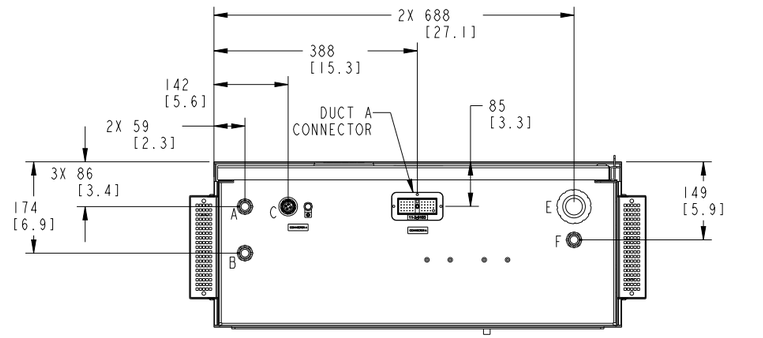




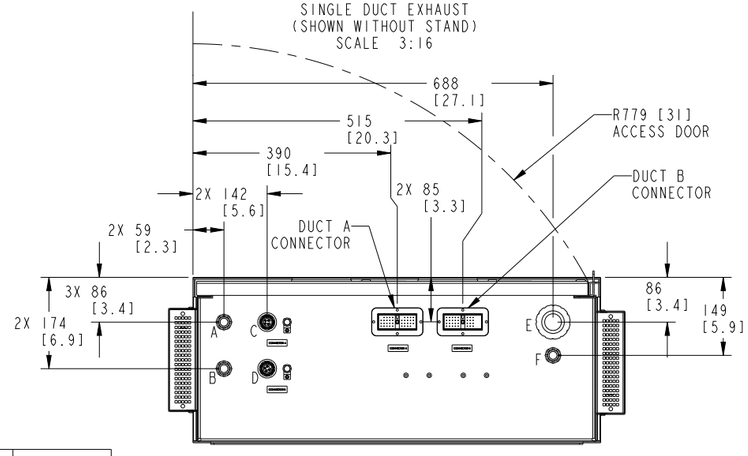
OPTION 1: WITHOUT COLD WEATHER HEATER	DIM "E"
DUAL DUCT EXHAUST	635 [25]
SINGLE DUCT EXHAUST	630 [24.8]

NOTES:

1. ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
2. ALL DIMENSIONS IN [ ] ARE INCHES.
3. WEIGHT FOR ASSEMBLY OPTION 1:
   DUAL DUCT EXHAUST WITHOUT COLD WEATHER HEATER 172 KG [380 LBS]
   SINGLE DUCT EXHAUST WITHOUT COLD WEATHER HEATER 171 KG [378 LBS]
3. WEIGHT FOR ASSEMBLY OPTION 2 (SEE SHEET 2):
   DUAL DUCT EXHAUST WITH COLD WEATHER HEATER 191 KG [421 LBS]
   SINGLE DUCT EXHAUST WITH COLD WEATHER HEATER 190 KG [419 LBS]



SECTION B-B
SINGLE DUCT EXHAUST
(SHOWN WITHOUT STAND)
SCALE 3:16



SECTION A-A
DUAL DUCT EXHAUST
(SHOWN WITHOUT STAND)
SCALE 3:16

OPTION 1: CONTROL PANEL WITHOUT COLD WEATHER HEATER

DUAL DUCT EXHAUST CONTROL PANEL SHOWN
SEE FIGURE 1 FOR SINGLE DUCT EXHAUST CONTROL PANEL

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS		SIM TO	DWN L.ERNST	CUMMINS POWER GENERATION	
DIM: X ± 1; .X ± 0.8; .XX ± 0.38 — HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13		DO NOT SCALE PRINT	CKD C.FORNELL		
			APVD T.SCHIEBE	OUTLINE, CONTROL PANEL (SPEC C)	
			DATE 23JUN17	SITE CODE	
ANG TOL ± 1.0°	SCALE 3:32	THIS DOCUMENT (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE DISCLOSED TO OTHERS IN HARD COPY OR ELECTRONIC FORM, REPRODUCED BY ANY MEANS, OR USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.	FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009	FIRST USED ON DQKAM	PGF
				DWG SIZE D	A057U250
					CAD SHEET 1 OF 2

Drawing Name: A057U251 Revision: B
Part Name: A057U250 Revision: B
ECO-171893 Sheet 1 of 3

PTC® Creo® Parametric

REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-171893	B	1	PRODUCTION RELEASE	LDE	CJF	T.SCHIEBE	28AUG17
		6	ZONE A3/A4; DIM "F" WAS 693 [27.3] AND ADD DIM "F" CHART	LDE	CJF	T.SCHIEBE	28AUG17

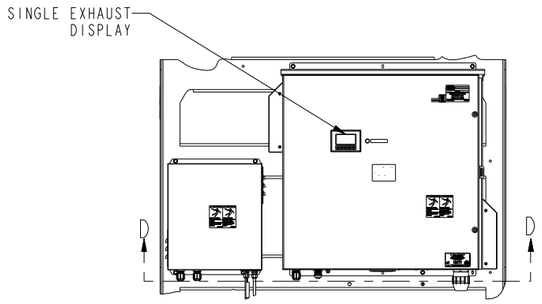
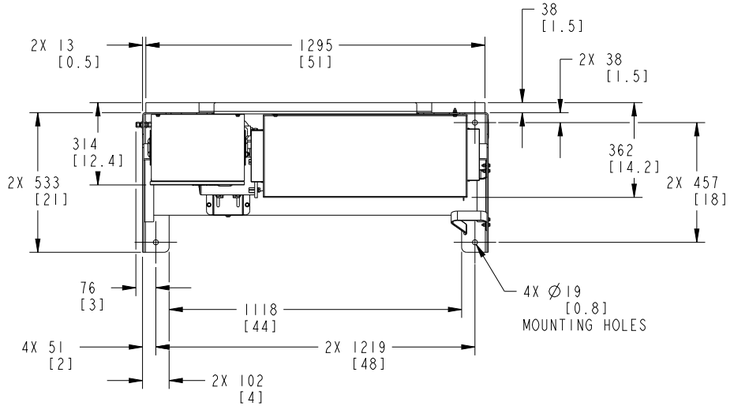
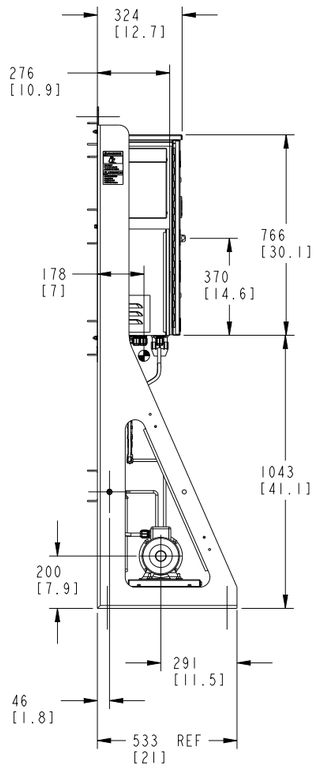
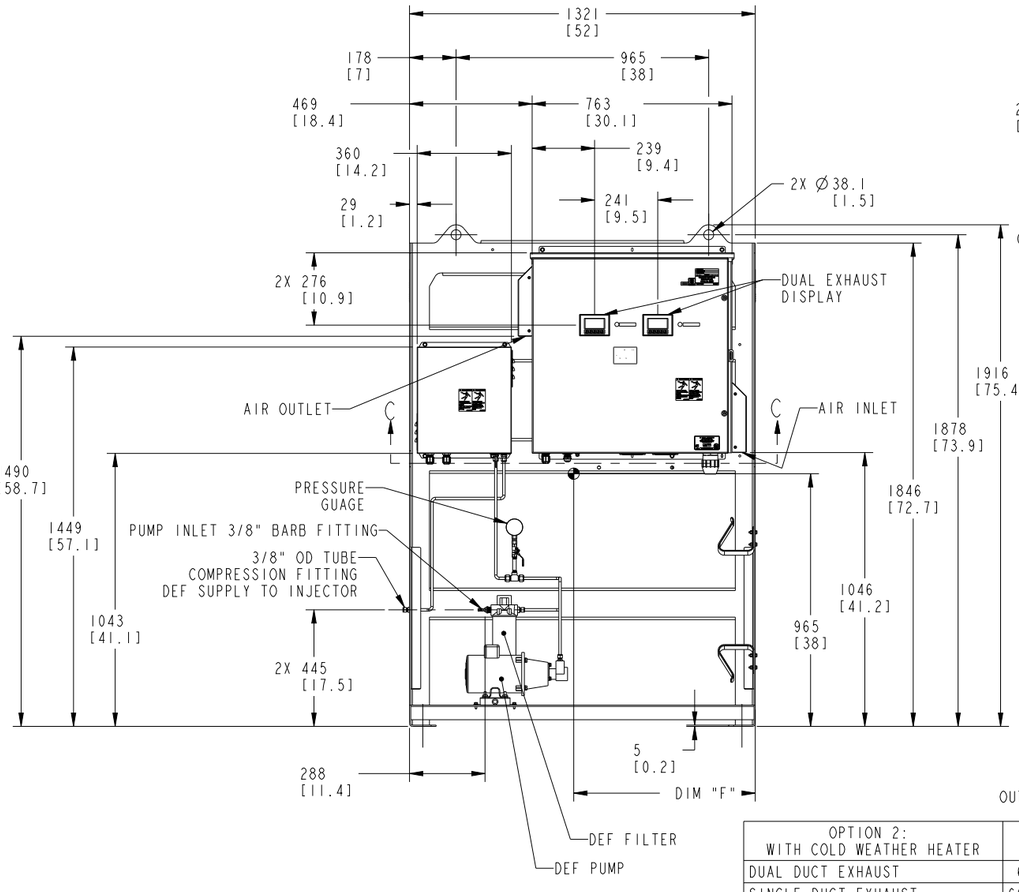


FIGURE 2
SINGLE DUCT EXHAUST CONTROL PANEL
WITH COLD WEATHER HEATER SHOWN
ALL DIMENSIONS SAME AS
DUAL DUCT EXHAUST CONTROL PANEL WITH COLD WEATHER HEATER
SCALE 3:32

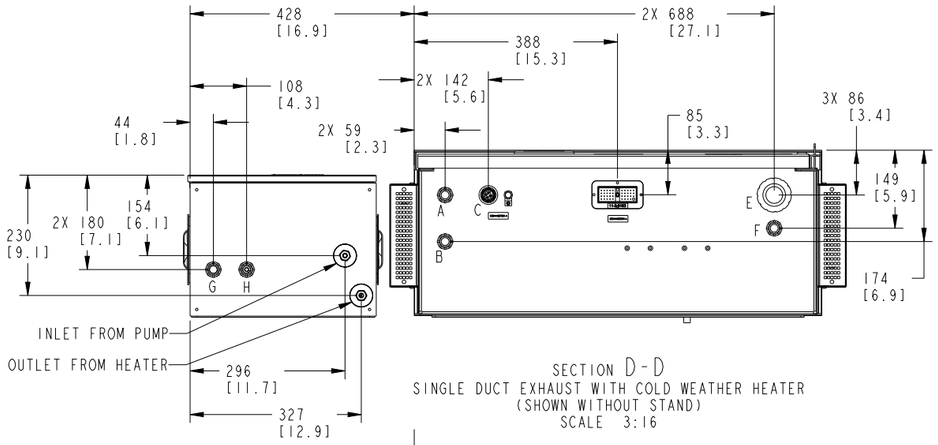


CUSTOMER CABLE INLET			
DESIGNATION	SIZE	CORD RANGE	DESCRIPTION
A	0.5 IN	0.310-0.560 IN	120 VAC INTO PANEL
B	0.5 IN	0.310-0.560 IN	230 VAC OUT TO PUMP
C	0.5 IN	0.310-0.560 IN	STEPPER MOTOR A
D	0.5 IN	0.310-0.560 IN	STEPPER MOTOR B
E	1.25 IN	1.270-1.470 IN	INPUT FOR CUSTOMER CONNECTIONS
F	0.5 IN	0.310-0.560 IN	TESTING INPUT FOR COLD WEATHER OPTION
G	0.5 IN	0.310-0.560 IN	120 VAC IN
H	0.5 IN	0.310-0.560 IN	SIGNAL WIRES FROM PORT C

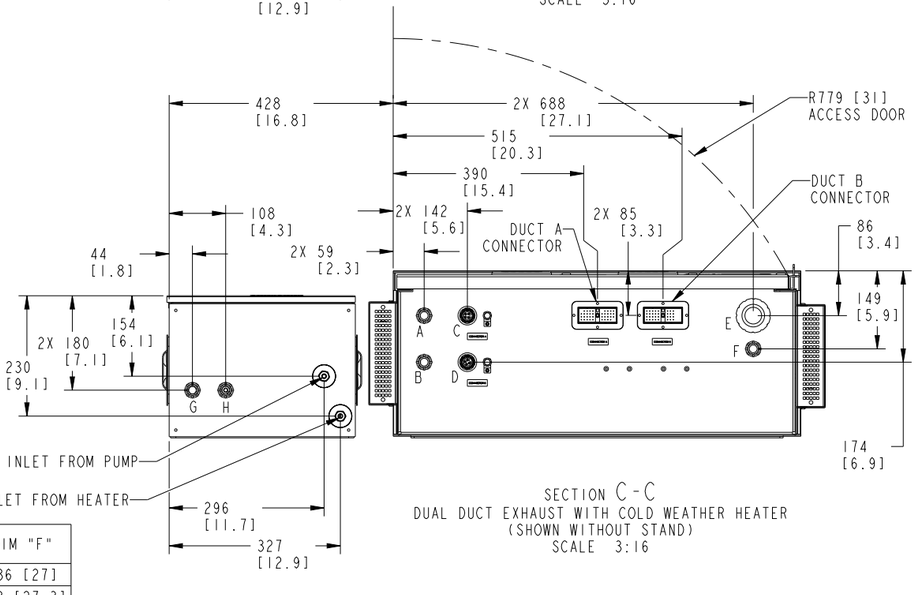




OPTION 2: WITH COLD WEATHER HEATER	DIM "F"
DUAL DUCT EXHAUST	686 [27]
SINGLE DUCT EXHAUST	693 [27.3]



SECTION D-D
SINGLE DUCT EXHAUST WITH COLD WEATHER HEATER
(SHOWN WITHOUT STAND)
SCALE 3:16



SECTION C-C
DUAL DUCT EXHAUST WITH COLD WEATHER HEATER
(SHOWN WITHOUT STAND)
SCALE 3:16

OPTION II: CONTROL PANEL WITH COLD WEATHER HEATER

DUAL DUCT EXHAUST CONTROL PANEL WITH COLD WEATHER HEATER SHOWN
SEE FIGURE 2 FOR SINGLE DUCT EXHAUST CONTROL PANEL WITH COLD WEATHER HEATER

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS
DIM: X ±1 | .X ±0.8 | .XX± 0.38
HOLE: 0.00- 4.99 +0.15/-0.08 | 5.00- 9.99 +0.20/-0.10 | 10.00-17.49 +0.25/-0.13 | 17.50-24.99 +0.30/-0.13
ANG TOL ± 1.0° | SCALE 3:32

SIM TO: DO NOT SCALE PRINT
FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009
FIRST USED ON: DQKAM

DWN L.ERNST | CKD C.FORNELL | APVD T.SCHIEBE | DATE 23JUN17

Cummins

CUMMINS POWER GENERATION

SITE CODE: PGF

OUTLINE, CONTROL PANEL
(SPEC C)

DWG SIZE: D | A057U250 | CAD SHEET 2 of 2

Part A057U250 B

Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
OUTLINE,CONTROL PANEL	A057U250	No External Regulations Apply	Production & Service	Production	Internal use Only	

Part Specifications :A057U250 B

Name	Description	Legacy Name
A030B356	SPECIFICATION,MATERIAL	CES10903
A057U251	DRAWING,ENGINEERING	A057U251

PTC® Creo® Parametric

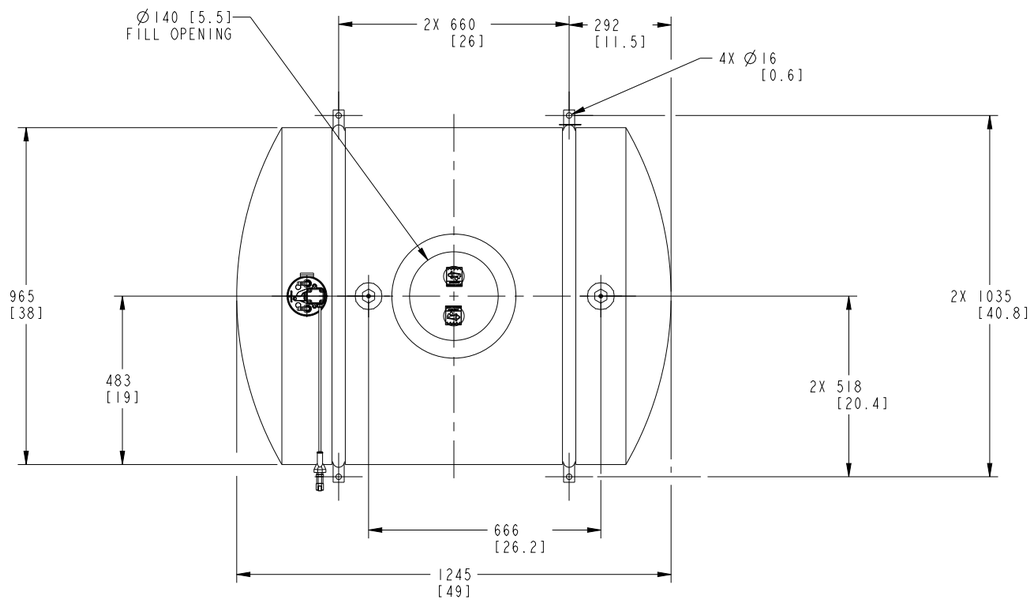
DEF TANK

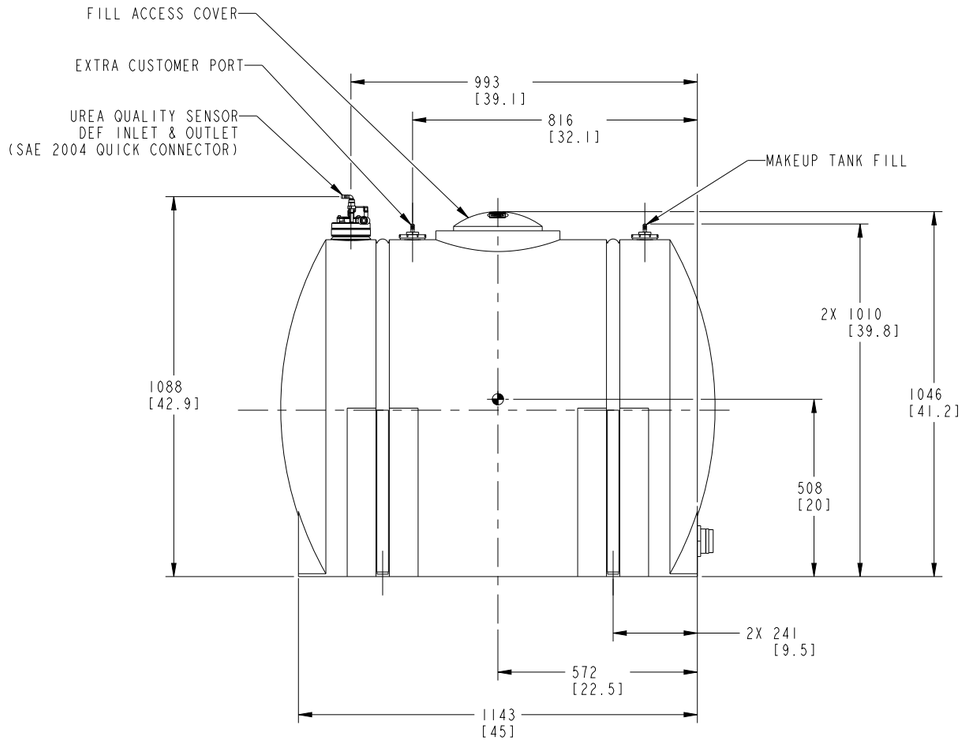
REL NO	REV	NO	REVISION	DWN	CKD	APVD	DATE
ECO-171731	B	1	PRODUCTION RELEASE	LDE	CJF	T.SCHIEBE	23AUG17
		2	REVISE WEIGHT IN TABULATION: DRY WAS 36.3 [80] WET WAS 997.9 [2200]	LDE	CJF	T.SCHIEBE	23AUG17
		3	MODEL FIRST USED ON; WAS DOKAK-M	LDE	CJF	T.SCHIEBE	23AUG17

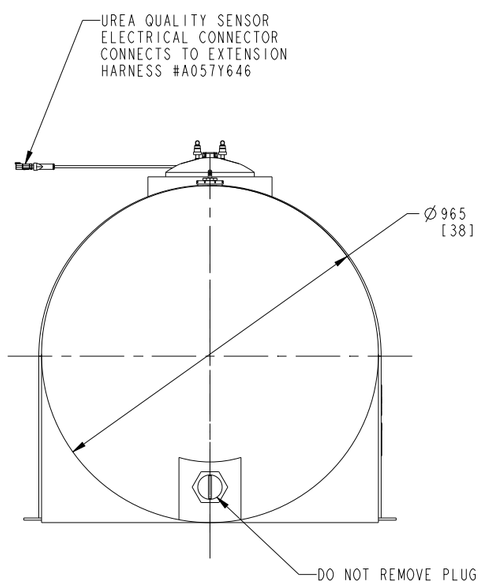
NOTES:

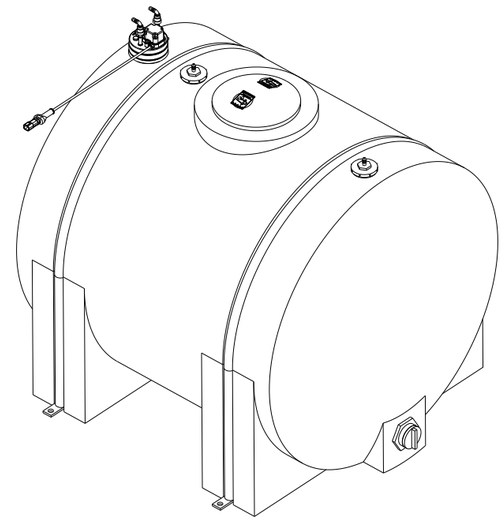
1. ALL DIMENSIONS ARE REFERENCE UNLESS SPECIFICALLY TOLERANCED.
2. ALL DIMENSIONS IN [ ] ARE INCHES.
3. TANK CAPACITY: 225 GALLONS.

DESCRIPTION	WEIGHT KG [LBS]	
	DRY	WET
TANK WEIGHT	37.6 [83]	999.3 [2203]









3D VIEW
SCALE 1:8

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS	SIM TO .	DWN L.ERNST	CUMMINS POWER GENERATION		
DIM: X ±1, .X ±0.8, .XX± 0.38 — HOLE: 0.00- 4.99 +0.15/-0.08; 5.00- 9.99 +0.20/-0.10; 10.00-17.49 +0.25/-0.13; 17.50-24.99 +0.30/-0.13	DO NOT SCALE PRINT	CKD C.FORNELL			
		APVD T.SCHIEBE	OUTLINE, TANK		
		DATE 19JUN17	SITE CODE .		
ANG TOL ± 1.0° — SCALE 1:8	THIS DOCUMENT (AND THE INFORMATION SHOWN THEREON) IS CONFIDENTIAL AND PROPRIETARY AND SHALL NOT BE DISCLOSED TO OTHERS IN HARD COPY OR ELECTRONIC FORM, REPRODUCED BY ANY MEANS, OR USED FOR ANY PURPOSE WITHOUT WRITTEN CONSENT OF CUMMINS INC.	FOR INTERPRETATION OF DIMENSIONING AND TOLERANCING, SEE ASME Y14.5-2009 — FIRST USED ON DQKAM	PGF	DWG SIZE D — A057U248	CAD SHEET 1 OF 1

Part A057U248 B

Description	Legacy Name	External Regulations	Application Status	Release Phase Code	Security Classification	Alternates
OUTLINE,TANK	A057U248	No External Regulations Apply	Production & Service	Production	Internal use Only	

Part Specifications :A057U248 B

Name	Description	Legacy Name
A030B356	SPECIFICATION,MATERIAL	CES10903
A057U249	DRAWING,ENGINEERING	A057U249