3/31/2022

We are pleased to submit this quotation for the following quality equipment:

Model: C175 PGAL
Quantity: 1
Rating: 3620
Certification: U.S. EPA Stationary Emergency Use Only
Excitation: PM
Frequency: 60 Hz
Duty: MISSION CRITICAL STANDBY

The following features will be included:

Quantity	Characteristic Name	Feature Code	Feature Description
1	APPLICATION INDICATOR	MISCRIT_I	MISSION CRITICAL POWER Output available with varying load for duration of the interruption of the normal source power. Average power output is 85 % if the standby power rating. Typical operation is 200 hours per year, with the maximum expected usage of 500 hours per year.
1	PGS EMISSION CERTIFICATION	CERTESE_I	EPA STATIONARY EMERGENCY (EPA Tier 2). Meets USA Environmental Protection Agency (EPA) Stationary Emergency Certifications for Stationary Use only during defined in emergency conditions. Outside EPA-regulated territories and in Guam, American Samoa or the Commonwealth of the Northern Mariana Islands, these restrictions do not apply.
1	UL LISTING	ULLIST_I	UL 2200 LISTED PACKAGE GEN SET Package will meet UL 2200 Listing. UL Standard Of Safety for stationary engine generator assemblies of 600 Volts or less.
1	SEISMIC CERTIFICATION	IBCCERT_I	IBC SEISMIC CERTIFICATION TECHNICAL: Provides IBC certification labeling, per IBC2012, for open generator sets. Certifications are valid with at or above grade installations. Specific Sds levels can be obtained from Application Support.
1	VOLTAGE OPTION	60H0480_I	60HZ 480 VOLT (WYE) TECHNICAL: Wye connection

1	ENGINE RATING	KW03620_I	60 Hz, 3620 kW
1	CONFIGURATION	175DRE4_I	C175-20 3620kW TIER2 LV/MV 60 Hz, 1800 RPM, EPA CERTIFIED (Tier 2 emissions) Ratings Standby = 3620 kW W/O Radiator Mission Critical = 3620 kW W/O Radiator Engine = C175-20 Cooling System = SCAC
1	ALTERNATOR TEMPERATURE RISE	GENT125_I	125C TEMP RISE OVER 40C AMB
1	ALTERNATOR	OGPN088_I	N5968L4/2B-2/3P-RW-PM 088 TECHNICAL: N5968L4 frame, 2 bearing, 2/3 Pitch Random Wound, Excitation: Permanent Magnet 4 Leads, Stator RTD's Alternator AR = 5851988 60 HZ, 416/480 VOLTS, 3 Phase 1800 RPM
1	CONTROL PANEL MODEL	EMCP44P_I	EMCP 4.4 CONTROL PANEL EMCP 4.4 CONTROL PANEL REPLACES: EMCP 4.2B Technical: Provides functionality of EMCP 4.3 plus on-package paralleling control.
1	GENSET CONTROLLER LANGUAGE	LANENGC_I	ENGLISH PANEL LANGUAGE
1	DECAL LANGUAGE	LANENGO_I	ENGLISH INSTRUCTION LANGUAGE
1	MARKET SEGMENT CODES	MSEPGGN_I	GENERAL EPG All generator (including component parts to assemble the same) and renewables utilized in the generation of electrical power for general residential, commerical utility, communications, commercial and residential buildings, agricultural, construction, mining, manufacturing, public and civil services. This category should not be used for EP Rental, Petroleum, Locomotive, or Marine electric power applications.
1	CUSTOMER SEGMENT	MSCEC83_I	DATACENTERS
1	MARKET WORK CODE	MWCODEQ_I	STANDBY POWER-MISSION CRITICAL Mission Critical Standby
1	CONTROL PANEL LOCATION	PNLFRHS_I	CONTROL PANEL MOUNTING - RIGHT CONTROL PANEL MOUNTING RIGHT SIDE
1	CONTROL PANEL AND MOUNTING	EMCPM44_I	EMCP4.4 CONTROL PNL NON RECESS Provides functionality of EMCP 4.2 plus an 8-line graphical screen, additional I/O, and Ethernet (Modbus TCP)
1	ENGINE INTERFACE HARNESS	EUIHN03_I	ENGINE INTERFACE HARNESS EUI 3
1	AUXILIARY BOX LEFT	AUXBOXL_I	AUXILIARY BOX LEFT Provides empty left mounted upper box with a hinged door.
1	CONTROL PANEL BOX	BOXGN30_I	GENERATOR TERMINAL BOX Provides central terminal box for low and medium volt generators with Package Mount control panel.
1	CP/AUX BOX MTG RIGHT	CPMNTRN_I	RH CP/AUX MTG W/O RH EXT BOX Used to mount the Control Panel on the Right side when an Extension box is mounted below.

1	CP/AUX BOX MTG LEFT	CPMNTLN_I	LH CP/AUX MTG W/O LH EXT BOX Used to mount the Control Panel on the Left side when an Extension box is not mounted below.
1	FIRST LOCAL ANNUNCIATOR	ANNFPA1_I	1ST LOCAL ANN NFPA/CSA. PA 1ST LOCAL NFPA ANNUNCIATOR TECHNICAL: Labeled for NFPA 99-110/CSA282 (installed), accessory (RS485) data link.
1	QTY REMOTE ANNUNC (1-5)	ANNC001_S	QTY REMOTE ANNUNC (1-5) Annunciator - Remote May Select Up to Five
1	TELEMATICS HARDWARE	TMCETH1_I	ETHERNET ONLY ETHERNET TELEMATICS TECHNICAL: Provides installed Ethernet telematics module.
1	TELEMATICS HARDWARE CERTIFIED	TCVNO_I	DECLINE / NOTAPPLICABLE
1	QTY REMOTE DIO MODULE (1-5)	EMCSDP2_S	QTY REMOTE DIO MODULE (1-5) Remote DIO Module May Select Up To Five
1	MODBUS MONITORING PACKAGES	LPCMONS_S	LOCAL PC MONITORING TECHNICAL: Local PC Monitoring (Shipped Loose), provides RS485 to RS 232 Converter
1	NEUTRAL GROUNDING CONNECTIONS	NGRDC04_I	NEUTRAL GROUND-LV 04 Provides a neutral grounding connection for N5900 frame generators. Required w/ ULLIST and CSA Test and Certification.
1	GROUND GROUP	GRND015_I	G R O U N D G R O U P 1 5 Provides a grounding cable connection between generator and terminal box / rail.
1	CURRENT TRANSFORMER	CT60006_I	CT 6000:5 RATIO TECHNICAL: Current Transformer (CT) 1800 Frame Current Transformers – Low Volt Current Ratio in amps: 6000A Primary, 5A Secondary. Insulation Class: 600 V. UL/CSA Listed. Provides 3 transformers. Installed
1	VOLTAGE REGULATOR COVER	VRCLV01_I	VOLTAGE REG COVER LOW VOLT TECHNICAL: Provides optional cover for voltage regulator on low volt packages.
1	MAIN BOX ACCESSORIES	MBACC04_I	1800 FRAME REAR & BOTTOM COVER TECHNICAL: Provides rear and bottom side terminal box covers for 1800 or N5900 Frame generator.
1	LOWER COVER RIGHT	BOTCVRRI	LOWER COVER RIGHT Provides lower right side cover for terminal box without right hand mounted circuit breaker

1	LOWER COVER LEFT	BOTCVRL_I	LOWER COVER LEFT Provides lower left side cover for terminal box without left hand mounted circuit breaker.
1	CONTROL BOX MOUNTING	CNTBOXM_I	CONTROL BOX MOUNTING Provides adjustable mounts for generator terminal box.
1	CIRCUIT BREAKER REAR - RATING	5000AMP_I	5000 AMP BREAKER
1	CIRCUIT BREAKER REAR - FRAME	CBFMP01_I	MASTERPACT BREAKER TECHNICAL: Masterpact circuit breakers (1600A-5000A) protect electrical systems from damage caused by overcurrent events. In addition to the traditional features of power circuit breaker, Masterpact offer built- in communications and metering functions.
1	CIRCUIT BREAKER REAR - TYPE	3POLE01_I	3 POLE CIRCUIT BREAKER Provides selection for 3 pole circuit breakers.
1	CIRCUIT BREAKER BH - TRIP UNIT	LSIG001_I	LSIG TRIP UNIT TECHNICAL: Long-Time, Short-Time, Instantaneous, Ground Fault Protect. Ground trip unit includes an external sensor, shipped loose, for customer mounting.
1	CIRCUIT BREAKER BH-PARALLELING	CBPARUVI	PARALLELING BREAKER Provides Breaker with UV Trip
1	CIRCUIT BREAKER - REAR	MEG5JPB_I	MP 5000A LSIG 3P UL EO UV TECHNICAL: Includes LSIG Trip Unit, and UV Trip Provides mounted, 5000A, UL-100 % rated, Masterpact Model, insulated case circuit breaker, electrically operated; with auxiliary contacts, UV trip, shunt trip and load take-off bus.
1	CABLE ENTRY - REAR (BACK)	TOPCBLB_I	TOP CABLE ENTRY Provides Top Cable Entry for Rear Extension Box
1	REAR EXT BOX	EMPTYPB_I	REAR EXTENSION BOX Provides lower rear empty enclosure.
1	TOP CABLE SHROUD REAR	SHROUTB_I	TOP CABLE SHROUD REAR Provides cable shroud on the top rear extension box.
1	POWER CONNECTION CABLES-REAR	MCON53B_I	MTZ3 FRAME CONN 5000A 3P REAR Provides power connections for a Rear Mounted 3-Pole 5000A, MP circuit breaker mounted on the rear. For use with N5900 frame generator.
1	CIRCUIT BKR MOUNTING - REAR	CBMMPB1_I	MP FRAME CB REAR MOUNT Provides rear MP Frame circuit breaker mounting panel, hardware, and cover.
1	CIRCUIT BREAKER WIRING	MPWUV01_I	MP FRAME UV 1ST CB WIRING Provides wiring to factory installed MP circuit breaker with UV trip circuit breaker and package mounted Control Panel.
1	EXTENSION BOX FLOOR REAR	EXBXFLB_I	EXTENSION BOX FLOOR REAR Provides rear mounted extension box floor when no lower shroud is installed.
1	LUBE OIL DRAIN	LUBOD13_I	DRAIN GP OIL PAN 13 TECHNICAL:

			Provides oil drain with hose and valve terminated at frame. Installed
1	VIBRATION ISOLATORS	VIBISB4_S	SPRING SEISMIC ISOLATOR B4 Provides set of 16 spring-type vibration isolators and hardware with integral seismic restraint and external adjustment for 1.11 inch deflection. Shipped Loose.
1	TORSIONAL COUPLING	TRCOP20_I	TORSIONAL COUPLING 20 Provides a torsionally highly flexible coupling between engine and generator, dampens torsional vibrations and shocks and compensates axial, radial and angular misalignments. Includes mounting hardware. TECHNICAL: Shore Hardness: 72 Shore Torsional Stiffness: 870000 N.m/rad Certification: ABS, DNV, GL Type Approval
1	MUFFLERS	MUF0054_S	MUFFLER - 24 IN 35DBA 54 Critical Grade 35 dBA Attenuation Provides a 610MM (24 inch) diameter, side inlet and end outlet muffler. Does not include mounting hardware. TECHNICAL: Flange Connection: 28 inch ANSI (886mm BC) 20 Hole Shipped Loose.
1	MOUNTING RAILS	MNTRL67_I	C175-20 RAIL 60HZ N5900 FRAME Provides C175-20 package base frame mounting rails, N5900 frame, two bearing generator mounting hardware and package lifting eye covers.
1	EXHAUST Y ADAPTERS	EXHC003_S	EXHAUST COLLECTOR 16" HORZ 03 Converts four turbo exhaust outlets into dual horizontal outlets (16" ANSI/ 400 DIN). Shipped Loose.
1	VOLTAGE REGULATOR	AVRDVR0_I	DIGITAL VOLTAGE REGULATOR.. TECHNICAL: Provides microprocessor based control designed to provide precise voltage control, robust transient response, and generator protection.
1	AIR CLEANER (ENGINE)	ACLSS07_I	HD AIR CLEAN-SINGLE ELEMENT 07 Provides 4 single element air cleaners, restriction indicator, and mounting brackets / hardware.
1	PRELUBE PUMP	ELEPP33_I	ELECTRIC PRELUBE PUMP-24V 33 Provides electric prelube pump, wiring, and mounting hardware. TECHNICAL: Pump Motor: 24V
1	STARTERS	ELSM240_I	DUAL ELECT START LH 50MT 240 Provides dual 50MT 24VDC starter motors. TECHNICAL:

			Operating Temp Range: -40C to 125C (-40F to 257F). Left Hand Mounted.
1	PRIMARY FUEL FILTER	FFFWS02_S	PRIMARY FUEL FILTER/FW SEP 02 Provides a fuel/water separator with drain valve. TECHNICAL: Inlet & outlet: 1-5/16-12 STOR (female). Fuel lines and provisions to package mount included. Shipped Loose.
1	PYROMETERS (CYL TEMP SENSORS)	WIRGP43_I	PLUG GP-NO CYL TEMP SENSORS 43 Provides engine head plugs and hardware required when no pyrometers & no thermocouples are selected.
1	LUBE OIL	LUBOI30_I	LUBE OIL 757L SAE 15W-40 Provides 757 L of CAT ultra-low sulfur diesel engine oil. SAE 15W-40. See print for latest API performance category. For use with standard sump oil pan.
1	STARTER COVERS	CVR0023_I	COVERS-DUAL START & NO BAR 23 Provides two covers for optional starter opening. Used with Dual Electric Start & No Barring Device.
1	CRANKCASE VENTILATION SYSTEM	FUMDS01_I	OPEN CRANKCASE VENT TUBES 01 Open Crankcase Ventilation - Provides fumes disposal tubes, engine mounted.
1	PACKAGE SHORE POWER	SHO240V_I	240 VOLT SHORE POWER, 60HZ 240V, 60Hz Package Shore Power. Drives configuration of optional attachments such as lube oil heater and jacket water heater.
1	CRANKCASE EXPLOSION RELIEF VAL	EXPLORL_I	EXPLOSION RELIEF VALVES RL Provides selection for explosion relief valves, does not drive material.
1	PROTECTION SYSTEMS	EXRVL19_I	EXPLOSION RELIEF VALVES 19 Provides crankcase covers, two explosion relief valves, and oil fill. Relieves excessive crankcase pressures and stop flames being emitted from the crankcase. Opening Pressure: 11 kPa (1.6 PSI)
1	BATTERY OPTIONS	BAT1221_S	BATT SET 8x 12V WET 1500CCA 21 TECHNICAL: Provides 8X 12 Volt, maintenance free, wet batteries. Each battery rated at 12V, 1500CCA, 210 AMP-Hour Shipped Loose. Batteries only, does not include mounting racks & connection cables. Recommended for NFPA 110 applications. Jacket water heater recommended for 10-second starting below 20 C (68 F).
1	BATTERY RACKS AND CABLES	BTSRC08_S	RACK & CABLE-8x 1500CCA BAT 08 TECHNICAL: Provides mounting racks & connection cables for 8X 12 Volt batteries. Wiring provided for a series/parallel

			combination. Does not include batteries. Recommended for use with BATT SET 8x 12V WET 1500CCA 21 Shipped Loose.
2	BATTERY CHARGER 35A UL/CSA/CE	BTC3500_S	BATTERY CHARGER 35A UL/CSA/CE Battery Chargers May Select (Up to 2) 24-VDC output for use with lead acid or Nicad batteries. Current limiting - no need for crank disconnect relay. Not warranted or serviced by Caterpillar Inc. May select only one (1) battery charger feature code, but may select up to a qty of two (2) of the feature code that is selected.
1	JACKET WATER HEATER	JWHWP2XI	JACKET WATER HTR-240V 2X TECHNICAL: Provides single jacket water heater, connections, and mounting. Heater: 240 VAC, Single Phase, 12 kW. Pump: 230 VAC, Single Phase, 10 GPM, 60Hz, 97W.
1	JACKET WATER HEATER WIRING	WIRJW88_I	WIRING GP-JW HEATER 88 Provides hardware and cables between 208, 220/230 or 240 Volt jacket water heater and N5900 frame generator terminal box.
1	HEATERS CONTROL GROUP	HTRCG02_I	208/220/240V JWH CONTROL TECHNICAL: Provides control panel wiring group and terminals for 208/220/240V Jacket Water Heaters.
1	STD ENGINE TEST CHARGE	TRSENG1_I	STD ENGINE TEST CHARGE STD ENGINE TEST CHARGE Test will be performed in accordance with 3L-0436 and must be requested prior to factory build. The test takes about one hour. There is no assurance that the engine will be tested at the rating specified in the order. Test results reported are: Rack setting, full load BHP, turbocharger boost (if applicable), fuel rate at full load, lube oil pressure, RPM at rated speed and high idle. Test Reports will be available in TMI under the Paid for Test tab for a given serial number.
1	SHIPPING METHOD	SHTTRAN_I	NON-OCEANIC TRANSPORT NON-OCEANIC TRANSPORT TECHNICAL:Used for shipments of an engine or package that will be transported to site entirely on land or by air.
1	SHRINK WRAP PROTECTION	SWP0001_I	SHRINK WRAP PROTECTION 01 SHRINK WRAP PROTECTION TECHNICAL: Plastic shrink wrap provides approximately one year external protection from moisture, sun, and wind under transport and storage conditions. If engine is to be stored outside for an extended period of time, consider also specifying Storage Preservation.
1	STORAGE PRESERVATION	SRP0050_I	STORAGE PRESERVATION 50 Provides vapor corrosion inhibitor in all internal engine compartments. Protects engine and engine accessories from functional deterioration for a minimum of one year under inside storage conditions.

			NOTE: If the engine is tested or operated by the dealer, or a third party packager, prior to commissioning the engine preservation package must be reapplied to be affective. Failure to reapply the vapor corrosion inhibitor may lead to functional deterioration of the engine and engine accessories.
1	PGS TEST REPORT	TRSGEN7_I	PGS TEST REPORT @ 0.8 PF PGS TEST REPORT @ 0.8 PF Must be requested prior to factory build. Results at full load reported are: engine rpm, frequency, average voltage, line-toline voltages for all three phases, average current, line currents for all three phases, and corrected power--all at 0.8 power factor. Engine rpm, average voltage and line-to-line voltages for all three phases are reported at no load. Test Reports will be available in TMI under the Paid for Test tab for a given serial number.

Availability & Lead Times:

Please allow approximately 2-3 weeks for submittal drawings. Lead-time will be estimated when order is placed and is currently about 27-29 weeks

Cat® C175-20

Diesel Generator Sets

Image shown may not refl ect actual confi guration

Bore – mm (in)	175 (6.89)
Stroke – mm (in)	220 (8.66)
Displacement – L (in^3)	105.8 (6456.31)
Compression Ratio	15.3:1
Aspiration	TA
Fuel System	Common Rail
Governor Type	ADEM™ A4

Standby 60 Hz ekW (kVA)	Mission Critical 60 Hz ekW (kVA)	Prime 60 Hz ekW (kVA)	Emissions Performance
3620 (4525)	3620 (4525)	3300 (4125)	U.S. EPA Certified for Emergency Stationary Applications (Tier 2)

Features

Cat® Diesel Engine

Meets U.S. EPA Stationary Emergency Use Only (Tier 2) emission standards

Reliable performance proven in thousands of applications worldwide

Generator Set Package

Accepts 100% block load in one step and meets NFPA 110 loading requirements

Conforms to ISO 8528-5 G3 load acceptance requirements

Reliability verified through torsional vibration, fuel consumption, oil consumption, transient performance, and endurance testing

Alternators

Superior motor starting capability minimizes need for oversizing generator

Designed to match performance and output characteristics of Cat diesel engines

EMCP 4 Control Panels

User-friendly interface and navigation

Scalable system to meet a wide range of installation requirements

Expansion modules and site specific programming for specific customer requirements

Warranty

24 months/1000-hour warranty for standby and mission critical ratings

12 months/unlimited hour warranty for prime and continuous ratings

Extended service protection is available to provide extended coverage options

Worldwide Product Support

Cat dealers have over 1,800 dealer branch stores operating in 200 countries

Your local Cat dealer provides extensive post-sale support, including maintenance and repair agreements

Financing

Caterpillar offers an array of financial products to help you succeed through financial service excellence

Options include loans, finance lease, operating lease, working capital, and revolving line of credit

Contact your local Cat dealer for availability in your region

Standard and Optional Equipment

Engine

Air Cleaner

❑Single element

Muffler

❑Industrial grade (15 dB)
❑Residential grade (25 dB)
❑Critical grade (35 dB)

Starting

Standard batteries
Oversized batteries
Standard electric starter(s)
Heavy duty electric starter(s)
Dual electric starter(s)
Air starter(s)
Jacket water heater

Alternator

Output voltage

❑416V
❑480V
❑600V
❑4160V
❑6300V
❑6600V
❑6900V
❑12470V
❑13200V
❑13800V

Temperature Rise (over 40°C ambient)

❑125°C/130°C
❑120°C
❑105°C
❑80°C

Winding type

❑Form wound

Excitation

❑Permanent magnet (PM)

Attachments

❑Anti-condensation heater
❑Stator and bearing temperature monitoring and protection

Power Termination

Type

❑Bus bar
❑Circuit breaker
❑4000A ❑ 5000A
❑6000A

❑UL ❑ IEC
❑3-pole ❑ 4-pole
❑Electrically operated

Trip Unit

❑LSI ❑LSI-G
❑LSIG-P

Control System

Controller

❑EMCP 4.2B
❑EMCP 4.3
❑EMCP 4.4

Attachments

❑Local annunciator module
❑Remote annunciator module
❑Expansion I/O module
❑Remote monitoring software

Charging

❑Battery charger – 20A
❑Battery charger – 35A
❑Battery charger – 50A

Vibration Isolators

❑Rubber
❑Spring
❑Seismic rated

Cat Connect

Connectivity

❑Ethernet
❑Cellular

Extended Service Options

Terms

❑2 year (prime)
❑3 year
❑5 year
❑10 year

Coverage

❑Silver
❑Gold
❑Platinum
❑Platinum Plus

Ancillary Equipment

Automatic transfer switch (ATS)
Paralleling switchgear
Paralleling controls

Certifications

❑IBC seismic certification
❑OSHPD pre-approval

Note: *Some options may not be available on all models. Certifi cations may not be available with all model confi gurations. Consult factory for availability.*

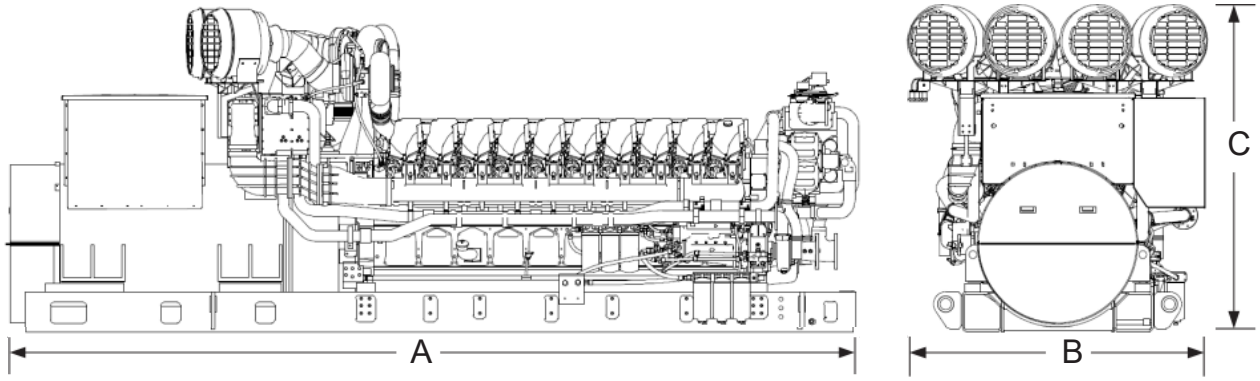
Package Performance

Performance	Standby	Mission Critical	Prime
Frequency	60 Hz	60 Hz	60 Hz
Gen set power rating without fan	3620 ekW	3620 ekW	3300 ekW
Gen set power rating without fan @ 0.8 power factor	4525 kVA	4525 kVA	4125 kVA
Emissions	EPA ESE (Tier 2)	EPA ESE (Tier 2)	EPA ESE (Tier 2)
Performance number	EM5748-00	EM5750-00	EM5753-00
Fuel Consumption			
100% load without fan – L/hr (gal/hr)	932.0 (246.2)	932.0 (246.2)	850.1 (224.6)
75% load without fan – L/hr (gal/hr)	715.6 (189.0)	715.6 (189.0)	676.8 (178.8)
50% load without fan – L/hr (gal/hr)	555.1 (146.6)	555.1 (146.6)	509.0 (134.5)
25% load without fan – L/hr (gal/hr)	320.3 (84.6)	320.3 (84.6)	293.9 (77.6)
Cooling System			
Engine coolant capacity – L (gal)	440.0 (116.2)	440.0 (116.2)	440.0 (116.2)
Inlet Air			
Combustion air inlet flow rate – m^3/min (cfm)	311.7 (11005.8)	311.7 (11005.8)	291.6 (10297.3)
Exhaust System			
Exhaust stack gas temperature – °C (°F)	461.5 (862.8)	461.5 (862.8)	455.2 (851.4)
Exhaust gas flow rate – m^3/min (cfm)	790.0 (27896.3)	790.0 (27896.3)	729.4 (25755.6)
Exhaust system backpressure (maximum allowable) – kPa (in. water)	6.7 (27.0)	6.7 (27.0)	6.7 (27.0)
Heat Rejection			
Heat rejection to jacket water – kW (Btu/min)	1884 (107122)	1884 (107122)	1676 (95326)
Heat rejection to exhaust (total) – kW (Btu/min)	3476 (197692)	3476 (197692)	3186 (181167)
Heat rejection to aftercooler – kW (Btu/min)	374 (21255)	374 (21255)	288 (16390)
Heat rejection to atmosphere from engine – kW (Btu/min)	197 (11211)	197 (11211)	189 (10734)
Heat rejection from alternator – kW (Btu/min)	199 (11294)	199 (11294)	181 (10293)
Emissions*(Nominal)			
NOx mg/Nm^3(g/hp-h)	2943.5 (6.03)	2943.5 (6.03)	2729.6 (5.70)
CO mg/Nm^3(g/hp-h)	142.1 (0.35)	142.1 (0.35)	185.5 (0.44)
HC mg/Nm^3(g/hp-h)	16.2 (0.04)	16.2 (0.04)	17.0 (0.05)
PM mg/Nm^3(g/hp-h)	15.5 (0.04)	15.5 (0.04)	16.7 (0.04)
Emissions*(Potential Site Variation)			
NOx mg/Nm^3(g/hp-h)	3532.5 (7.23)	3532.5 (7.23)	3275.5 (6.84)
CO mg/Nm^3(g/hp-h)	255.7 (0.63)	255.7 (0.63)	334.0 (0.79)
HC mg/Nm^3(g/hp-h)	21.5 (0.06)	21.5 (0.06)	22.5 (0.06)
PM mg/Nm^3(g/hp-h)	21.7 (0.06)	21.7 (0.06)	23.5 (0.06)

**mg/Nm^3 levels are corrected to 5% O_2. Contact your local Cat dealer for further information.*

C175-20 Diesel Generator Sets
Electric Power

Weights and Dimensions



Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Dry Weight kg (lb)
6673 (262.7)	2336 (92.0)	2536 (99.8)	25 000 (55,100)

Note: *For reference only. Do not use for installation design. Contact your local Cat dealer for precise weights and dimensions.*

Ratings Definitions

Standby

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby rated ekW. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Mission Critical

Output available with varying load for the duration of the interruption of the normal source power. Average power output is 85% of the mission critical rated ekW. Typical peak demand up to 100% of rated power for up to 5% of the operating time. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

Prime

Output available with varying load for an unlimited time. Average power output is 70% of the prime power rating. Typical peak demand is 100% of prime rated ekW with 10% overload capability for emergency use for a maximum of 1 hour in 12. Overload operation cannot exceed 25 hours per year.

Applicable Codes and Standards

AS 1359, CSA C22.2 No. 100-04, UL 142, UL 489, UL 869, UL 2200, IBC, IEC 60034-1, ISO 3046, ISO 8528, NEMA MG1-22, NEMA MG1-33, 2014/35/EU, 2006/42/EC, 2014/30/EU and facilitates compliance to NFPA 37, NFPA 70, NFPA 99, NFPA 110.

Note: Codes may not be available in all model configurations. Please consult your local Cat dealer for availability.

Data Center Applications

ISO 8528-1 Data Center Power (DCP) compliant per DCP application of Cat diesel generator set prime power rating.
All ratings Tier III/Tier IV compliant per Uptime Institute requirements.
All ratings ANSI/TIA-942 compliant for Rated-1 through Rated-4 data centers.

Fuel Rates

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42,780 kJ/kg (18,390 Btu/lb) when used at 15°C (59°F) and weighing 850 g/liter (7.0936 lbs/U.S. gal.)

C175-20 PGAL
LEHE20145-03 (05/21)

PERFORMANCE DATA AEM57501

March 25, 2022

Performance Number EM5750

Change le Level: 00

SALES MODEL:	C175-20	**COMBUSTION:**	DIRECT INJECTION
BRAND:	CAT	**ENGINE SPEED (RPM):**	1,800
MACHINE SALES MODEL:		**HERTZ:**	60
ENGINE POWER (BHP):	5,166	**ASPIRATION:**	TA
GEN POWER W/O FAN (EKW):	3,620.0	**AFTERCOOLER TYPE:**	SCAC
COMPRESSION RATIO:	15.3	**AFTERCOOLER CIRCUIT TYPE:**	JW+OC+1AC,2AC
RATING LEVEL:	MISSION CRITICAL STANDBY	**AFTERCOOLER TEMP (F):**	115
PUMP QUANTITY:		**JACKET WATER TEMP (F):**	210.2
FUEL TYPE:	DIESEL	**TURBO CONFIGURATION:**	PARALLEL
MANIFOLD TYPE:	DRY	**TURBO QUANTITY:**	4
GOVERNOR TYPE:	ADEM4	**TURBOCHARGER MODEL:**	GTB6772BLN-48T-1.56
ELECTRONICS TYPE:	ADEM4	**CERTIFICATION YEAR:**	
CAMSHAFT TYPE:	STANDARD	**CRANKCASE BLOWBY RATE (FT3/HR):**	2,507.1
IGNITION TYPE:	CI	**FUEL RATE (RATED RPM) NO LOAD (GAL/HR):**	17.5
INJECTOR TYPE:	CR	**PISTON SPD @ RATED ENG SPD (FT/MIN):**	2,598.4
FUEL INJECTOR:	4439455		
REF EXHST ACK DIAMETER (IN)	14		

INDUSTRY	SUB INDUSTRY	APPLICATION
ELECTRIC POWER	STANDARD	PACKAGED GENSET
OIL AND GAS	LAND PRODUCTION	PACKAGED GENSET

General Performance Data

GEN SET POWER PERCENT LOAD	ENGINE POWER	BRAKE MEAN BRAKE SPEC ISO BRAKE SPEC VOL FUEL ISO VOL FUEL ELEC SPEC FUEL ISO ELEC SPEC WITHOUT FAN EFF PRES FUEL FUEL CONSUMPTN CONSUMPTN CONSUMPTN FUEL (BMEP) CONSUMPTN CONSUMPTN (VFC) (VFC) (ESFC) CONSUMPTN (BSFC) (BSFC) (ESFC)	
EKW	BHP	SLB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR	LB/HR	LB/EKW-HR
3,620.0	1005,1	643	520.3	380.3	302	46.2	240.3	0.482	0.473
3,258.0	904.6	483	170.3	380.3	302	21.3	216.0	0.482	0.473
2,896.0	804,1	312	810.3	400.3	321	98.3	193.6	0.486	0.476
2,715.0	753	873	264	0.346	0.338	189.0	184.5	0.494	0.484
2,534.0	703	615	246	0.353	0.345	180.1	175.8	0.504	0.494
2,172.0	603	099	211	0.382	0.372	166.7	162.0	0.544	0.534
1,810.0	502	582	176	0.403	0.393	146.6	143.1	0.75	0.564
1448.0	402.0	661	410.4	210.4	211	122.5	119.6	0.600	0.589
1,086.0	301,5	491	060.4	560.4	459	9.597	20.6	50	0.638
905.0	251,2	918	80.4	650.4	548	4.682	60.6	63	0.651
724.0	1,033	700.4	750.4	646	9.267	60.6	78	0.665
362.0	105	163	50.5	770.5	634	2.041	00.8	23	0.807

GEN SET POWER PERCENT LOAD	ENGINE POWER	INLET MFLD INLET MFLD	EXHMFLD TEMP	EXHMFLD PRES	ENGINE OUTLET	COMPRESSOR COMPRESSOR WITHOUT FAN PRES	TEMP	TEMP	OUTLET PRES	OUTLET TEMP
EKW	BHP	IN-HG	DEGF	DEGF	IN-HG	DEGF				
3,620.0	1005,1	648	4.1	117.9	1,159.8	50.5	862.8	87.4	12.4	
3,258.0	904.6	487	5.0	116.7	1,123.4	44.0	847.8	78	380.9	
2,896.0	804,1	316	5.6	115.6	1,101.4	38.0	846.7	68	352.0	
2,715.0	753	873	62.6	115.3	1,095.5	36.2	846.4	65	342.9	
2,534.0	703	615	59.7	115.1	1,087.5	34.6	846.1	62	333.9	
2,172.0	603	099	57.2	114.8	1,058.2	33.1	842.4	60	324.6	
1,810.0	502	582	49.2	114.1	1,025.1	28.7	841.7	51	299.3	
1448.0	402.0	663	8.3	113.3	994.8	22.5	842.3	40	262.8	
1,086.0	301,5	492	8.9	113.0	954.6	17.7	829.1	31	223.8	
905.0	251,2	912	2.3	112.7	913.7	14.4	805.1	24	197.6	
724.0	1,033	16.0	112.4	840.7	11.2	757.6	17	172.6		
362.0	105	167.7	112.3	630.2	6.959	8.89	132.8			

General Performance Data (Continued)

GEN SET POWER WITHOUT FAN	PERCENT LOAD	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXHGAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXHGAS MASS FLOW RATE	WET EXHVOL FLOW RATE (32 DEGF AND 29.98 IN HG)	DRY EXHVOL FLOW RATE (32 DEGF AND 29.98 IN HG)

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EKW%BHPCFMCFMLB/HRLB/HRFT3/MINF T 3 / M I N
3,620.01005,16411,005.827896.347525.149,272.110,371.59,491.3
3,258.0904.64810,180.625.356.543.730.945.299.19.535.08.740.6
2,896.0804,1319,298.423025.639.765.441,173.38.666.27.950.9
2,715.07538739.030.622321.338,580.839923.08.403.07.717.3
2,534.0703.6158,777.421,649.937,452.438730.08152.07.496.0
2,172.06030998.587.221,053.636.587.637.770.37.950.17.338.1
1,810.0502.5827.837.119,134.433.310.634.351.47.229.06.685.8
1448.0402.0666777.116,481.928,686.929,555.86.224.25,767.0
1,086.0301,5495,857.614038.924,726.925,432.95355.84.979.8
905.0251,2915186.21215.521,850.922,450.64.726.44,404.7
724.01,0334,551.210.231.419137.219.628.14.132.53.866.0
362.0105163.704.57.178.715.548.315.846.13.33463.158.1

Heat Rejection Data

PUMPPOWERISINCLUDEDINHEATREJECTIONBALANCE,BUTISNOTSHOWN

GENSETPERCENTENGINEREJECTIONREJECTIONREJECTIONEXHAUSTFROMOILFROM2NDWORKLOWHEATHIGHHEAT POWERLOADPOWERTOJACKETTOTOEXHRECOVERYCOOLERSTAGEENERGYVALUEVALUE WITHOUTFANWATERATMOSPHERETO350FAFTERCOOLERENERGYENERGY
EKW%BHPBTU/MINBTU/MINBTU/MINBTU/MINBTU/MINBTU/MINBTU/MINBTU/MIN
3,620.01005164107122111,211197692106.8802811921,255219.006527.9395623888
3,258.0904.64894.18210.786176.30095.2172510817.7661971064714015021661
2,896.0804,13185.09010.515161.73386.29222.70315.494175.205426.524506.5
2,715.0753.87382.54910458158.08483.5702182014.979164.2554096784436.410
2,534.0703.61580.44010420155126 80.97121,00214,614153304394319420.048
2,172.0603.09976.53110,36814939978.20919.39914.046131,404364.220387986
1.810.0502.58269.43310.272138.74570.95617.35912.682109.503325.916347.183
1.448.0402.06659.20910.066120.96961.06014.74510.39887.603276.832294.896
1,086.0301.54948101 9.75697.94051.00011.7708.01065.702220.974235,393
905.0251.291423439.45884.2204265010.1556.91954.752190657203098
724.01.03336.5488.98168.84533.2278.4625.92443801158866169.232
362.01051624.77.74833.73516.0804.8234.0472190190.547 96.455

SoundData

SOUNDDATAREPRESENTATIVEOFNOISEPRODUCEDBYTHE"ENGINEONLY

EXHAUST:SOUNDPOWER(1/3OctaveFrequencies)

GENSETPERCENTENGINEOVERALL100HZ125HZ160HZ200HZ250H315HZ400HZ500HZ630HZ800HZ POWERLOADPOWERSOUND WITHOUT FAN
EKW_BHPdB(A)dB(A)dB(A)dB(A)dB(A)dB(A)dB(A)dB(A)dB(A)dB(A)dB(A)
3,620.0 1005164129.096.310.13113.6113.2112.7112.2113.9113.4116.1115.9
3,258.0 904.648127.292.299.5116.1112.8108.0111.9113.8112.6115.3114.8
2.896.0 804131126.688.999.3115.2114.8106.8112.1113.4112.4114.9114.9
2.715.0 753873126.287.799.0115.1114.0107.2112.7113.0112.4114.8114.6
2,534.0 703615125.887.098.7115.0112.8107.7113.2112.5112.3114.7114.2
2,172.0 603099124987.298.6114.6112.0106.4113.0112.3111.5114.1112.4
1,810.0 502.582123.787.798.1113.81115105.11112111.1110.6113.4110.5
1.448.0 402.066122.186.997.2112.5109.8104.6108.6109.110.0111.5108.9
1,086.0 301.549120.283.697.5109.3105.2103.8105.809.6109.1109.4107.2
905.0 251.291119.883.397.1108.3105.1104.4106.3109.7108.9108.6106.6
724.01.033119.683.796.9107.9106.1105.3108.21098108.9108.1106.4
362.0 10516118.782.5100.2110.3103.498.9104.5108.6109.2106.7106.6

EXHAUST:SOUNDPOWER(1/3OctaveFrequencies)

GENSET POWER	PERCENT LOAD	ENGINE POWER	1000HZ	1250HZ	1600HZ	2000HZ	2500HZ	3150HZ	4000HZ	5000HZ	6300HZ	8000HZ	10000HZ

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WITHOUT FAN												
EKW	%BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	d B (A)
3,620.0	100	5164	117.6	119.3	122.4	119.8	118.7	114.9	112.6	109.1	106.2	106.6	114.6
3,258.0	90	4.64	8115.2	117.7	118.6	118.0	117.1	113.3	111.1	107.4	105.6	109.9	104.9
2.896.0	80	4,131	114.3	116.8	116.7	116.7	116.1	112.6	110.0	107.2	105.9	110.2	101.5
2,715.0	75	3873	113.8	116.5	116.0	116.3	115.6	112.2	109.5	106.4	105.8	108.6	100.4
2.534.0	70	3615	113.3	116.1	115.5	116.1	115.2	111.8	109.1	105.5	105.5	106.8	99.4
2,172.0	60	3099	112.3	115.3	114.1	115.3	114.3	110.9	108.1	104.1	104.7	102.3	97.8
1,810.0	50	2,582	111.3	114.0	112.5	114.2	112.9	109.7	106.8	103.1	103.3	99.6	96.3
1,448.0	40	2066	110.3	112.0	110.1	112.7	110.9	108.0	105.1	102.2	101.4	98.2	947
1,086.0	30	1,549	109.5	110.0	109.4	110.8	108.6	105.9	102.9	101.4	99.0	97.0	93.2
905.0	25	1,291	109.9	109.1	108.6	109.7	107.6	105.0	102.3	100.3	98.1	96.4	92.5
724.0	20	1,033	110.6	108.4	108.0	108.5	106.7	104.5	102.1	98.7	97.4	96.0	92.2
362.0	10	516	109.2	106.9	107.2	106.0	105.9	104.6	100.7	98.2	96.9	96.0	92.4

MECHANICAL:SOUNDPOWER(1/3OctaveFrequencies)

GENSETPERCENTENGINEOVERALL	100HZ	125HZ	160HZ	200HZ	250H	315HZ	400HZ	500HZ	630HZ	800HZ
POWER	LOAD	POWER	SOUND							
WITHOUT FAN										
EKW	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	d B (A)
3,620.0	100	5,164	126.4	80.6	95.1	99.4	99.4	102.6	106.8	111.1	112.3	111.5	112.8
3.258.0	90	4.648	125.6	81.1	94.7	99.5	99.6	103.0	107.0	110.9	111.9	111.1	112.7
2.896.0	80	4,131	124.6	82.1	93.7	99.3	99.7	103.2	107.1	110.2	111.6	111.2	112.
2.715.0	75	3873	124.4	82.6	93.1	99.3	99.3	103.0	107.2	109.9	111.2	111.3	112.3
2,534.0	70	3615	124.2	82.9	92.1	98.9	98.9	102.9	107.4	109.5	110.8	111.3	112.1
2,172.0	60	3099	124.2	83.1	92.6	98.9	99.9	104.7	107.0	109.7	110.8	111.3	118
1.810.0	50	2,582	123.9	83.1	92.0	99.1	100.3	106.0	106.9	109.5	110.8	111.2	111.9
1.448.0	40	2066	123.2	83.0	90.3	99.0	99.9	105.6	107.1	109.0	110.8	111.1	112.3
1,086.0	30	1,549	122.6	81.3	89.1	98.8	99.5	104.1	06.6	109.7	111.0	111.1	112.1
905.0	25	1,291	122.4	81.0	88.8	98.3	99.3	104.0	106.6	109.7	111.6	111.3	119
724.0	20	1,033	122.2	81.2	88.8	97.4	98.9	103.0	106.6	109.5	112.3	111.6	111.6
362.0	10	516	121.6	80.6	89.1	96.4	96.1	99.5	105.8	108.4	109.7	110.4	110.6

MECHANICAL:SOUNDPOWER(1/3OctaveFrequencies)

GENSETPERCENTENGINE	1000HZ	1250HZ	1600HZ	2000HZ	2500HZ	3150HZ	4000HZ	5000HZ	6300HZ	8000HZ	10000HZ
POWERLOADPOWER											
WITHOUT FAN											
EKW	%BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	d B (A)
3,620.0	100	5164	114.7	114.4	114.6	114.8	114.7	113.4	113.3	112.6	112.7	112.2	120.8
3,258.0	90	4.648	115.4	114.1	114.1	114.3	114.1	112.9	112.1	111.8	112.2	113.4	118.2
2.896.0	80	4,131	115.5	113.6	113.3	112.6	113.3	112.5	111	2	110.8	111.4	115.6	111.6
2,715.0	75	3873	115.2	113.4	113.0	112.2	113.0	112.1	10.1	10.5	111.2	115.7	110.2
2.534.0	70	3615	114.9	113.3	112.8	112.0	112.8	112.4	110.8	110.3	110.9	115.7	109.5
2,172.0	60	3099	114.9	113.3	112.8	111.6	112.8	112.2	111.1	110.4	111.1	115.6	110.0
1,810.0	50	2,582	114.8	113.3	112.5	111.3	112.6	111.8	110.7	109.9	110.9	114.5	109.4
1448.0	40	2066	114.4	113.1	111	8	110.8	111.9	110.9	109.6	108.9	110.0	111.7	107.5
1,086.0	30	1,549	114.0	112.7	111	3	110.2	111.0	109.8	109.1	107.9	109.1	07.8	105.
905.0	25	1,291	114.1	112.5	111.3	110.1	110.6	109.4	108.3	107.5	108.3	106.0	104.4
724.0	20	1,033	114.3	112.4	111.5	110.2	110.3	109.0	107.3	107.1	105.5	104.4	102.4
362.0	10	516	114.8	112.6	111.4	109.8	109.9	109.4	106.3	104.8	101.9	101.8	98.8

Emissions Data

DIESEL

RATEDSPEEDNOMINALDATA:1800RPM

GENSETPOWEREKW	3,620.0	2,715.0	1,810.0	905.0	362.0
WITHOUTFAN					
PERCENTLOAD%100	75	50	25	10	
ENGINEPOWERBHP	5164	3873	2582	1291	516
TOTAL NOX (AS NO2)G/HR	30,746	20,777	10,493	3,722	302

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TOTAL COG/HR 1,795 3,245 4,871 2,341 1,761
TOTAL HCG/HR 229 290 497 614 515
TOTAL CO2 KG/HR 2,654 2,048 1,593 881 433
PART MATTER G/HR 205.6 162.3 122.7 112.2 129.6
TOTAL NOX (AS NO2)(CORR 5% O2) MG/NM3 2,943.5 2,426.5 1,034.7 957.9 1,277.8
TOTAL CO (CORR 5% O2) MG/NM3 142.1 382.6 584.8 359.8 885.3
TOTAL HC (CORR 5% O2) MG/NM3 16.2 27.1 61.9 141.4 234.2
PART MATTER (CORR 5% O2) MG/NM3 15.5 15.3 15.3 27.4 60.4
TOTAL NOX (AS NO2)(CORR 15% O2) MG/NM3 1,092.3 900.4 384.0 355.4 474.2
TOTAL CO (CORR 15% O2) MG/NM3 52.7 142.0 217.0 133.5 328.5
TOTAL HC (CORR 15% O2) MG/NM3 6.0 10.1 23.0 52.5 86.9
PART MATTER (CORR 15% O2) MG/NM3 5.7 5.7 5.7 10.2 22.4
TOTAL NOX (AS NO2)(CORR 5% O2) PPM 1,434 1,182 504 467 622
TOTAL CO (CORR 5% O2) PPM 114 306 468 288 708
TOTAL HC (CORR 5% O2) PPM 30 51 116 264 437
TOTAL NOX (AS NO2)(CORR 15% O2) PPM 532 439 187 173 231
TOTAL CO (CORR 15% O2) PPM 42 114 174 107 263
TOTAL HC (CORR 15% O2) PPM 11 19 43 98 162
TOTAL NOX (AS NO2) G/HP-HR 6.03 5.40 2.74 2.62 4.46
TOTAL COG/HP-HR 0.35 0.84 1.74 0.96 3.41
TOTAL HCG/HP-HR 0.04 0.08 0.19 0.48 1.00
PART MATTER G/HP-HR 0.04 0.04 0.05 0.09 0.25
TOTAL NOX (AS NO2) G/KW-HR 8.20 7.34 3.72 3.56 6.07
TOTAL COG/KW-HR 0.48 1.15 2.37 1.30 4.64
TOTAL HCG/KW-HR 0.06 0.10 0.26 0.65 1.36
PART MATTER G/KW-HR 0.05 0.06 0.06 0.12 0.34
TOTAL NOX (AS NO2) LB/HR 67.78 45.80 15.54 7.43 5.08
TOTAL CO LB/HR 3.96 7.15 9.89 2.72 3.88
TOTAL HC LB/HR 0.51 0.64 1.10 1.35 1.13
TOTAL CO2 LB/HR 585 14.5 1435 121.9 439 54
PART MATTER LB/HR 0.45 0.36 0.27 0.25 0.29
OXYGEN IN EXH % 10.1 11.0 12.0 13.3 15.3
DRY SMOKE OPACITY % 1.6 1.1 0.0 .2 2.6
BOSCH SMOKE 0.8 2 0.7 8 0.6 8 0.6 9 0.9 1 NUMBER

RATED SPEED POTENTIAL SITE VARIATION: 1800 RPM

GENSET POWER EKW 3,620.0 2,715.0 1,810.0 905.0 362.0 WITHOUT FAN
PERCENT LOAD % 100 75 50 25 10
ENGINE POWER BHP 5164 3873 2582 1291 516
TOTAL NOX (AS NO2) G/HR 36,895 24,932 8,459 4,047 2,763
TOTAL COG/HR 3,231 5,841 8,076 2,213 3,170
TOTAL HCG/HR 305 386 661 816 684
PART MATTER G/HR 287.8 227.2 171.8 157.1 181.4
TOTAL NOX (AS NO2)(CORR 5% O2) MG/NM3 3,532.2 2,911.7 1,241.7 1,149.5 1,533.4
TOTAL CO (CORR 5% O2) MG/NM3 255.7 688.7 1,052.7 647.7 1,593.5
TOTAL HC (CORR 5% O2) MG/NM3 21.5 36.0 82.4 188.1 311.5
PART MATTER (CORR 5% 02) MG/NM3 21.7 21.5 21.4 38.3 84.5
TOTAL NOX (AS NO2)(CORR 15% O2) MG/NM3 1,310.7 1,080.5 460.8 426.5 569.0
TOTAL CO (CORR 15% O2) MG/NM3 94.9 255.5 390.6 240.3 591.3
TOTAL HC (CORR 15% O2) MG/NM3 8.0 13.4 30.6 69.8 115.6
PART MATTER (CORR 15% O2) MG/NM3 8.0 8.0 7.9 14.2 31.4
TOTAL NOX (AS NO2)(CORR 5% 02) PPM 1,721 1,418 605 560 747
TOTAL CO (CORR 5% O2) PPM 205 551 842 518 1,275
TOTAL HC (CORR 5% O2) PPM 40 67 154 351 582
TOTAL NOX (AS NO2)(CORR 15% O2) PPM 638 526 224 208 277
TOTAL CO (CORR 15% O2) PPM 76 204 313 192 473
TOTAL HC (CORR 15% O2) PPM 15 25 57 130 216
TOTAL NOX (AS NO2) G/HP-HR 7.23 6.48 3.29 3.14 5.36
TOTAL COG/HP-HR 0.63 1.52 3.14 1.72 6.15
TOTAL HCG/HP-HR 0.06 0.10 0.26 0.63 1.33
PART MATTER G/HP-HR 0.06 0.06 0.07 0.12 0.35
TOTAL NOX (AS NO2) G/KW-HR 9.83 8.81 4.47 4.27 7.28
TOTAL COG/KW-HR 0.86 2.06 4.27 2.34 8.36
TOTAL HCG/KW-HR 0.08 0.14 0.35 0.86 1.80
PART MATTER G/KW-HR 0.08 0.08 0.09 0.17 0.48
TOTAL NOX (AS NO2) LB/HR 81.34 54.96 18.65 8.92 6.09
TOTAL CO LB/HR 7.12 12.88 17.81 4.90 6.99
TOTAL HC LB/HR 0.67 0.85 1.46 1.80 1.51
PART MATTER LB/HR 0.63 0.50 0.38 0.35 0.40

PERFORMANCEDATAEM57501

March25,2022

RegulatoryInformation

EPAEMERGENCYSTATIONARY2011.
GASEOUSEMISSIONSDATAMEASUREMENTSPROVIDEDTOTHEEPAARECONSISTENTWITHTHOSEDESCRIBEDINEPA4O CFRPART60SUBPARTIIIANDISO8178FORMEASURINGHC, CO,PM,ANDNOX.THEMAXLIMITSSHOWNBELOWAREWEIGHTEDCYCLEAVERAGESANDAREINCOMPLIANCEWITHTHEEMERGENCYSTATIONARYREGULATIONS.
LocalityAgencyRegulationTier/StageMax Limits - G/BKW - HR U.S. (INCL CALIF)EPASTATIONARYEMERGENCY STATIONARY CO: 3.5 NOx + HC: 6.4 PM: 0.20

AltitudeDerateData

ALTITUDEDERATEDATAISBASEDON THEASSUMPTIONOFA2O DEGREESCELSIUS(36DEGREESFAHRENHEIT)DIFFERENCEBETWEENAMBIENTOPERATING TEMPERATUREANDENGINE INLETSCACTEMPERATURE.AMBIENTOPERATINGTEMPERATUREISDEFINEDASTHEAIRTEMPERATUREMEASUREDATTHETURBOCHARGERCOMPRESSORINLET

STANDARD

ALTITUDECORRECTEDPOWERCAPABILITY(BHP)

AMBIENT30405060708090100110120130140NORMAL OPERATING TEMP(F)														
ALTITUDE (FT)														
	5,166	51665,1665,1665,16651665,1665,1665,166516651665,166	5,166											
1,000	5,16651665,1665,1665,16651665,1665,1665,166516651665,166	5,166												
2.000	51665,166516651665,1665166516651665,1334.94746995	166												
3.000	51665,166516651665,1665,166516651665.0354.7764.49851	66												
4.000	5,1665,1665,1665,1665,1665,16651665,1495,12149204.6374.3535	,166												
5000	5,1425,1425,1425,1425,1425,1425,13850905O174.8224.5704.3185	,142												
6.000	50355,035503550355O355O134,9554.8964,7244,5044,2845	035												
7.000	4,9124,91249124,9124,9124,9124,8914.8374.7834.6224.4144.1864	,912												
8.000	4.7884.7884.7884.7884.7884.7884.7694.7194.6704.5184.3224.0854	.788												
9.000	4.6644.6644.6644.6644.6644.6644.64646024.55844154.2303.9834	.664												
10.000	4,5474,5474,5474,5474,5474,5474,53144914.45043074.12038684	,547												
11,000	44374.4374.43744374374.4374.4234.3864.3474.19239903.7414	437												
12.000	432743274.3274.327432743274.3144.2814.2434.078385936144	327												
13.000	42174.2174.2174.21742174.2174.2064,1774,1403.96437293.4884	217												
14.000	4.0864.0864.08640864.0864.08640774.0504017384036033.3664	.086												
15.000	3.9443.94439443943.9443.944393539113.8833.7113.4793.2483	.944												

CrossReference

TestSpecSettingEngineeringModelEngine ArrangementEngineering ModelStartffectiveSerialEnd Effective Serial VersionNumberNumber
5957692LL23586065523PG325TZ800001

PerformanceParameterReference

ParametersReference:DM9600-14 **PERFORMANCEDEFINITIONS**

PERFORMANCEDEFINITIONSDM9600
APPLICATION:
Engine performance tolerance values below are representative of a cell at SAE J1995 standard reference conditions. Caterpillar maintainsIs09001:2000 cerified qualitymanagement systemsfor engine test Facilities to assure accurate calibration of test equipment. Engine test data is corrected in accordance with SAE J1995.Additional eference material SAE J1228, J1349, ISO 8665, 3046-1:2002E,3046-3:1989,1585,2534,2288,and9249mayapplyin part or are similar to SAE J1995.Special engine ratng request (SERR) test data shall be noted.
PERFORMANCEPARAMETERTOLERANCEFACTORS:

Torque +/-3%
Exhaust stack temperature +/- 8%
Inlet airflow +/- 5%
Intake manifold pressure-gage +/- 10%
Exhaust flow +/- 6%
Specific fuel consumption +/- 3%
Fuel rate +/- 5%
Specific DEF consumption +/-3%
DEF rate +/- 5%
Heat rejection +/- 5%
Heatrejection exhaust only +/- 10%
Heat rejection CEM only +/- 10%
Heat Rejection valuesbased on usingtreatedwater!
Torque is included fortruck and industrial applications, do not
usefor GenSetor steadystateapplications
OnC7-C18 engines,atspeedsof 1100RPMandunderthesevalues
are provided for reference only,and may not meet the tolerance
listed.
On3500andC175engines,atspeedsbelowPeakTorquethesevalues
are provided for reference only,and may not meet the tolerance
listed.
These values do notapply to C280/3600. For these models,see the
tolerances listed below.
C280/360HEATREJECTIONTOLERANCEFACTORS
Heat rejection +/- 10%
Heat rejection to Atmosphere +/- 50%
Heat rejection to Lube Oil +/-20%
Heat rejection to Aftercooler +/- 5%
TESTCELL TRANSDUCER TOLERANCEFACTORS:
Torque +/- 0.5%
Speed +/- 0.2%
Fue flow +/- 1.0%
Temperature +/- 2.0 C degrees
Intake manifold pressure +/- 0.1 kPa

AIRANDFUELCONDITIONS
REFERENCE ATMOSPHERICINLET AIR
FOR 3500 ENGINESAND SMALLER
SAEJ1228AUG2002formarineengines,and J1995 JAN2014for other
engines, reference atmospherc pressure is 100 KPA (29.61 in hg),
and standard temperature is 25deg C (77 deg F) at 30% relative
humidityatthe stated aftercooler water temp,or inlet manifold
temp.
FOR3600ENGINES
Engine rating obtained and presented in accordance with ISO 3046/1
and SAE J1995 JANJAN2014 reference atmospheric pressure is 100
KPA (29.61 in hg), and standard temperature is 25deg C (77 deg F)
at30% relative humidity and 150M altitude at the stated
aftercoolerwatertemperature.
MEASUREMENTLOCATIONFORINLETAIRTEMPERATURE
Location for air temperature measurement air cleaner inlet at
stabilized operating conditions
REFERENCEEXHAUSTSTACKDIAMETER
TheReference Exhaust Stack Diameterpublishedwiththisdataset
is only used for the calculation of Smoke Opacity values displayed
in this dataset. This value does not necessarily represent the
actual stack diameter of the engine due to thevarietyof exhaust
stack adapter options available. Consult the price list, engine
Drder or general dimension drawings for the actual stack diameter
size ordered or options available
REFERENCEFUEL
DIESEL
Reference fuel is #2 distillate diesel with a 35AP gravity
A lower heating value is 42,780 KJ/KG (18,390 BTU/LB) when used at
15 deg C (59 deg F), where the density is
850 G/Liter (7.0936 Lbs/Gal)
GAS
Reference natural gas fuel has a lower heating value of 33.74 KJ/L
905 BTU/CU Ft). Low BTU ratings are based on 18.64 KJ/L (500
BTU/CU FT)lower heating value gas.Propane ratings are based on
87.56 KJ/L (2350 BTU/CU Ft) lower heating value gas
ENGINEPOWER(NET)ISTHECORRECTEDFLYWHEELPOWER(GROSS)LESS
EXTERNALAUXILIARYLOAD
Engine corrected gross output includes the power required to drive
standard equipment; lube oil, scavenge lube oil, fuel transfer
common railfuel, separate circuit aftercooler and jacket water
pumps. Engine net power available for the external (flywheel)
oad is calculated by subtracting the sum of auxiliary load from
the corrected gross lywheel out put power. Typical auxiliary
oads are radiatorcoolingfans,hydraulicpumps,aircompressors
and battery charging alternators. For Tier 4 ratings additional
Parasitic losses would also include Intake, and Exhaust
Restrictions.
ALTITUDECAPABILITY
Altitude capability is the maximumaltitude above sea level at
standard temperature and standard pressure at which the engine
could develop full rated output power on the current performance

Standard temperature values versus altitude could be seen on TM2001.

When viewing the altitude capability chart the ambient temperature is the inlet air temp at the compressor inlet.

Engines with ADEM MEUI and HEU fuel systems operating at conditions above the defined altitude capability derate for atmospheric pressure and temperature conditions outside the values defined, see TM2001.

Mechanical governor controlled unit injector engines require a setting change for operation at conditons above the altitude defined on the engine performance sheet. See your Caterpillar technical epresentative for non standard ratings.

REGULATIONSANDPRODUCTCOMPLIANCE

TMI Emissions information is presented at'nominaland'Potential Site Variation' values for standard ratings. No tolerances are applied to the emissions data. These values are subject to change at any time. The controlling federal and local emission equirements needto be verifiedbyyourCaterpillartechnica representative.

Customer's may have special emission site requirements that need to be verified by the Caterpillar Product Group engineer.

EMISSION CYCLE LIMITS:

Cycle emissions Max Limits apply to cycle-weighted averages only Emissions at individual load points may xceed the cycle-weighted limit.

WET&DRYEXHAUST/EMISSIONSDESCRIPTION:

Wet-Totalexhaustfloworconcentrationoftotalexaustflow

Dry -Total exhaust flow minus water vapor or concentration of exhaust flow with water vapor excluded

EMISSIONSDEFINITIONS:
Emissions:DM1176

EMISSIONCYCLEDEFINITIONS

1. For constant-speed marine engines for ship main propulsion ncluding.diesel-electric drive, test cycle E2 shall be appled for controllable-pitch propeller sets

test cycle E2 shall be applied.

2. For propeller-law-operated main and propeller-law-operated auxiliary engines the test cycle E3 shall be applied.

3. Forconstant-speed auxiliary engines test cycle D2 shall be applied.

4. For variable-speed, variable-load auxiliary engines, not included above, test cycle C1 shall be applied.

HEAT REJECTION DEFINITIONS:

Diesel CircuitType and HHV Balance : DM9500

HIGH DISPLACEMENT (HD) DEFINITIONS
3500:EM1500

RATING DEFINITIONS:

Agriculture : TM6008
Fire Pump : TM6009
GeneratorSet :TM6035
Generator (Gas): TM6041
Industrial Diesel : TM6010
Industrial (Gas) : TM6040
Irrigation : TM5749
Locomotive:TM6037
Marine Auxiliry : TM6036
Marine Prop (Except 3600) : TM5747
Marine Prop (3600 only) : TM5748
MSHA : TM6042
Oil Field (Petroleum) : TM6011
Off-Highway Truck : TM6039
On-Highway Truck : TM6038

SOUND DEFINITIONS:

Sound Power :DM8702
SoundPressure:TM7080
DateReleased:10/27/21

Generator Data

March 24, 2022

(AT400240)-Engine (BAA126422A)-CEM

For Help Desk Phone Numbers Click here

Selected Model

Engine: C175-20 **Generator Frame:** N5968L4 **Genset Rating (kW):** 3620.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 5851988 **Genset Rating (kVA):** 4525.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 5442.7
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current

Version: 20215 /20215 /20215 /676583

Spec Information

Generator Specification

Frame: N5968L4 **Type:** SR500 **No. of Bearings:** 2
Winding Type: RANDOM WOUND **Flywheel:** 24.0
Connection: SERIES STAR **Housing:** 00
Phases: 3 **No. of Leads:** 4
Poles: 4
Sync Speed: 1800 **Generator Pitch:** 0.6667

Generator Efficiency

Per Unit Load	kW	Efficiency %
0.25	905.0	94.0
0.5	1810.0	96.2
0.75	2715.0	96.5
1.0	3620.0	96.4

Reactances Per Unit Ohms

SUBTRANSIENT - DIRECT AXIS X''_d 0.1650 0.0070
SUBTRANSIENT - QUADRATURE AXIS X''_q 0.1984 0.0084
TRANSIENT - SATURATED X'_d 0.2691 0.0114
SYNCHRONOUS - DIRECT AXIS X_d 2.5944 0.1101
SYNCHRONOUS - QUADRATURE AXIS X_q 1.2962 0.0550
NEGATIVE SEQUENCE X_2 0.3064 0.0156
ZERO SEQUENCE X_0 0.0471 0.0024

Time Constants Seconds

OPEN CIRCUIT TRANSIENT - DIRECT AXIS T'_{d0} 3.7500
SHORT CIRCUIT TRANSIENT - DIRECT AXIS T'_d 0.3510
OPEN CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_{d0} 0.0440
SHORT CIRCUIT SUBSTRANSIENT - DIRECT AXIS T''_d 0.0270

ARMATURE SHORT CIRCUIT T_a 0.1250

Short Circuit Ratio: 0.5323 | Stator Resistance = 6.0E-4 Ohms Field Resistance = 0.83 Ohms

Voltage Regulation

Voltage level adjustment: +/- 5.0%
Voltage regulation, steady state: +/- 0.5%
Voltage regulation with 3% speed change: +/- 0.5%
Waveform deviation line - line, no load: less than 2.0%
Telephone influence factor: less than 50

Generator Excitation

	No Load	Full Load, (rated) pf Series
Excitation voltage:	16.19 Volts	59.65 Volts
Excitation current	0.83 Amps	2.98 Amps

Selected Model

Engine: C175-20 **Generator Frame:** N5968L4 **Genset Rating (kW):** 3620.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 5851988 **Genset Rating (kVA):** 4525.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 5442.7
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current

Version: 20215 /20215 /20215 /676583

Generator Mechanical Information

Center of Gravity

Dimension X -1230.0 mm -48.4 IN.

Dimension Y 0.0 mm 0.0 IN.

Dimension Z 0.0 mm 0.0 IN.

"X" is measured from driven end of generator and parallel to rotor. Towards engine fan is positive. See General Information for details
"Y" is measured vertically from rotor center line. Up is positive.
"Z" is measured to left and right of rotor center line. To the right is positive.

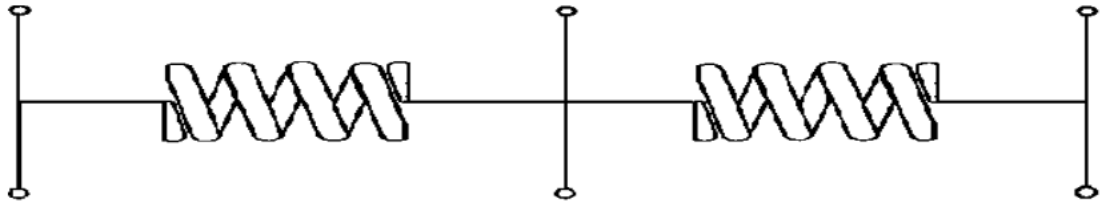
Generator WT = 7966 kg * Rotor WT = 2581 kg * Stator WT = 5385 kg

17,562 LB 5,690 LB 11,872 LB

Rotor Balance = 0.0381 mm deflection PTP

Overspeed Capacity = 125% of synchronous speed

Generator Torsional Data



J1 = Coupling and Fan

J2 = Rotor

J3 = Exciter End

Total J

998.4 LB IN. s^2

112.8 N m s^2

Selected Model

Engine: C175-20 **Generator Frame:** N5968L4 **Genset Rating (kW):** 3620.0 **Line Voltage:** 480

Fuel: Diesel **Generator Arrangement:** 5851 988 **Genset Rating (kVA):** 4525.0 **Phase Voltage:** 277

Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 5442.7

Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current

Version: 20215 /20215 /20215 /676583

Generator Cooling Requirements - Temperature - Insulation Data

Cooling Requirements: Temperature Data: (Ambient 40 0C)

Heat Dissipated: 135.2 kW **Stator Rise:** 125.0 0C

Air Flow: 477000.0 m3/min **Rotor Rise:** 125.0 0C

Insulation Class: H

Insulation Reg. as shipped: 100.0 MΩ minimum at 40 0C

Thermal Limits of Generator

Frequency: 60 Hz

Line to Line Voltage: 480 Volts

B BR 80/40 3625.0 kVA

Marine 90/50 3625.0 kVA

F BR -105/40 4312.5 kVA

H BR - 125/40 4547.5 kVA

F PR - 130/40 4562.5 kVA

H PR - 150/40 4687.5 kVA

H PR27 - 163/27 4687.5 kVA

Selected Model

Engine: C175-20 **Generator Frame:** N5968L4

Fuel: Diesel **Generator Arrangement:** 5851988

Frequency: 60 **Excitation Type:** Permanent Magnet

Duty: STANDBY **Connection:** SERIES STAR

Genset Rating (kW): 3620.0 **Line Voltage:** 480

Genset Rating (kVA): 4525.0 **Phase Voltage:** 277

Pwr. Factor: 0.8 **Rated Current:** 5442.7

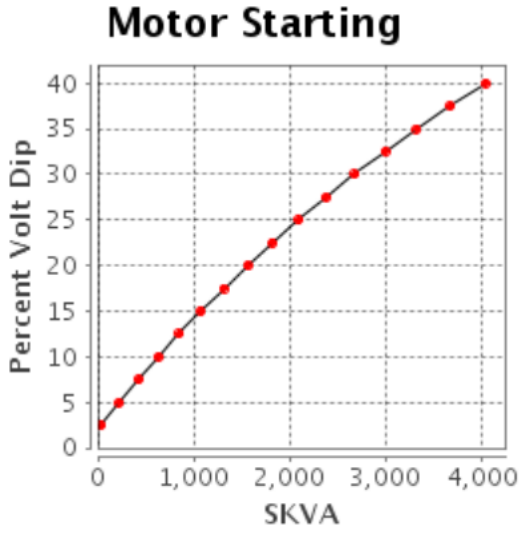
Application: EPG **Status:** Current

Version: 20215 /20215 /20215 /676583

Starting Capability & Current Decrement

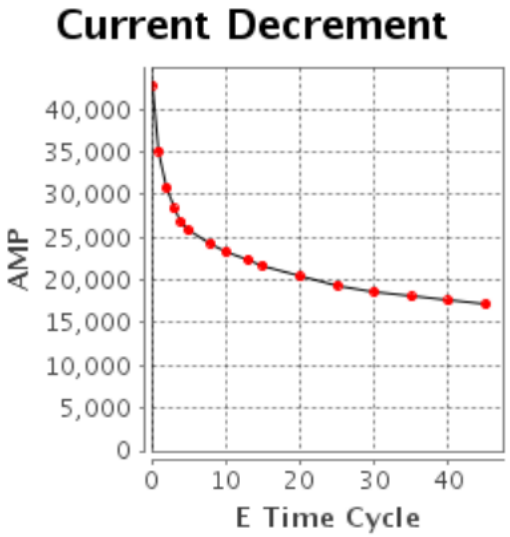
Motor Starting Capability (0.4 pf)

SKVA	Percent Volt Dip
36	2.5
227	5.0
426	7.5
633	10.0
849	12.5
1,075	15.0
1,312	17.5
1,559	20.0
1,819	22.5
2,091	25.0
2,377	27.5
2,676	30.0
2,991	32.5
3,322	35.0
3,670	37.5
4,036	40.0



Current Decrement Data

E Time Cycle	AMP
0.0	42,842
1.0	35,136
2.0	30,841
3.0	28,352
4.0	26,827
5.0	25,818
8.0	24,304
10.0	23,327
13.0	22,402
15.0	21,700
20.0	20,413
25.0	19,431
30.0	18,661
35.0	18,053
40.0	17,574
45.0	17,197



Instantaneous 3 Phase Fault Current: 42842 Amps **Instantaneous Line - Line Fault Current:** 25606 Amps

Instantaneous Line - Neutral Fault Current: 40860 Amps

Selected Model

Engine: C175-20 **Generator Frame:** N5968L4 **Genset Rating (kW):** 3620.0 **Line Voltage:** 480

Fuel: Diesel **Generator Arrangement:** 5851988 **Genset Rating (kVA):** 4525.0 **Phase Voltage:** 277

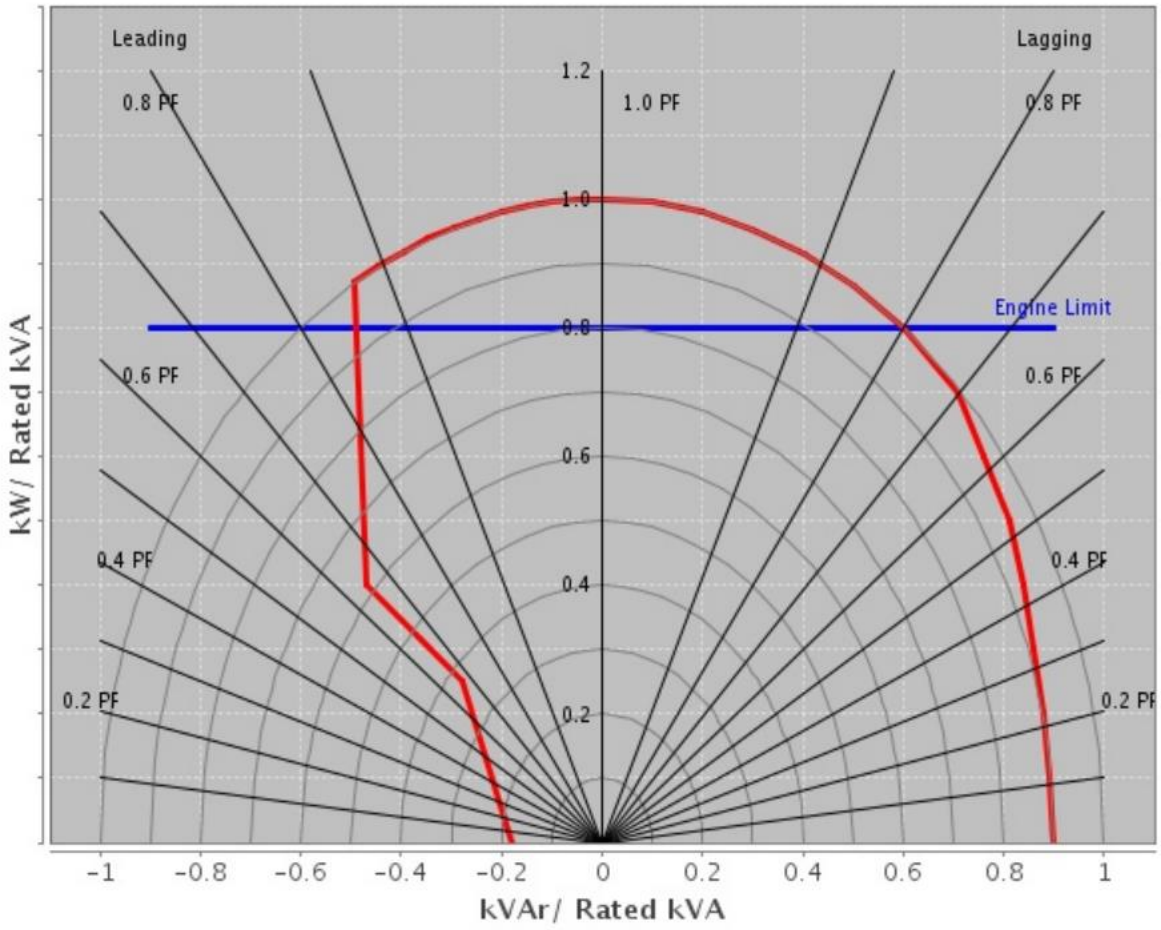
Frequency: 60

Excitation Type: Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 5442.7 **Duty:** STANDBY **Connection:** SERIES STAR

Application: EPG **Status:** Current

Reactive Capability Curve

Operating Chart



Selected Model

Engine: C175-20 **Generator Frame:** N5968L4 **Genset Rating (kW):** 3620.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 5851988 **Genset Rating (kVA):** 4525.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 5442.7
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current
Version: 20215 /20215 /20215 /676583

General Information

DM7827 Caterpillar SR5-HV Generators (50 Hz, 60 Hz)
Data for 3000 frame Caterpillar SR5-HV generators built by Leroy Somer USA.

Refer to DM7821 for explanation of all generator data in Technical Marketing Information (TMI) except generator efficiency for which the explanation is given below.

GENERATOR EFFICIENCY

Generator efficiency is the percentage of engine flywheel (or other prime mover) power that is converted into electrical output. The generator efficiency shown is calculated by the summation of all losses method, and is determined in accordance with the IEC Standard 60034. The efficiency considers only the generator. There is no consideration of engine or parasitic losses here.

Refer to DM7830 for high voltage protective setting values and limits.

Project Sizing Report

Sizing Id	10823911		Electricity Supply
Project Name	Hyperscale		Connection
Customer Name	Layton Construction		Max. Ambient Temperature
Region	U.S.		Altitude
Prepared By	Levi Heinrich		Humidity
Modified Date	24-Mar-2022		

Load Analysis Summary

Max Transient Load Step	3,250.0 SkVA / 3,250.0 SkW
Peak Transient Load Step	3,250.0 SkVA / 3,250.0 SkW
Final Running Load	3,250.0 kVA / 3,250.0 kW / 1.00 PF
Max Running Non Linear Load	0.0 RkVA
Selection Criteria	Step 1 Running kW requirements

Generator Set

Generator Set Model	(1) of C175-20		
Model Type			Nameplate Rating Without F
Voltage Regulator and Slope	IVR 2:1 slope;		Site Output Rating
Feature Code	175DRE4		Cooling Power
Fuel	Diesel		Rating Type
Sizing Methodology	Conventional		Open / Enclosure
			UL Listed
			Capacity Used

Engine

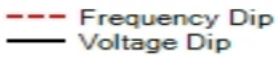
Make/Model	C175-20		Emissions / Certifications
Aspiration	TA		Governor
Cylinder Configuration	VEE - 20		Aftercooler Type
Speed	1800 RPM		Displacement
Engine Performance Number	EM5750		Bore

Fuel Consumption at 100% Load	246.2 gph		Stroke
Alternator			
Alternator Type/Frame Size	SR500 / N5968L4		Insulation Class
Alternator Winding Pitch	0.6667		Temperature Rise
Excitation/Winding Type	PM / RANDOM		Number Of Poles
Alternator Arrangement Number	5851988		Number of Leads
Subtransient Reactance X"d	0.1650		Rated Amps

**** See your Caterpillar dealer and/or Spec Sheet for technical information.

***** Package Power Tolerance: +/- 5%

Block Load(Only) Transient Response *			
Load Change %	FDip %	VDip %	Recovery Time (sec)
0 - 25	<5%	<5%	< 3
0 - 50	<5%	9.6	< 3
0 - 75	10.7	21.2	3.5
0 - 100	> 80.0	> 80.0	****



Transient Performance

Block Load (only) Transient Response values are at factory conditions with a resistive load. This information is representative of a typical Ca
capabilities at site conditions may vary from factory transient response test results due to site altitude, site ambient, and engine to engine var

Picture shown may not reflect actual configuration

Silencers

for C175-16 and C175-20

Caterpillar offers silencers rated for Industrial, Residential and Critical grade applications available for C175-16 and C175-20 generator sets.

Standard Features

Side Inlet End Outlet easily adapts to engine exhaust outlet and horizontal exhaust piping
Aluminized steel for corrosion resistance

All welded steel construction provides durability

Can be mounted vertically or horizontally to adapt to exhaust system design

Standard high temperature 649°C (1200°F) satin black finish retains appearance and corrosion resistance
Condensate drain to minimize internal corrosion.

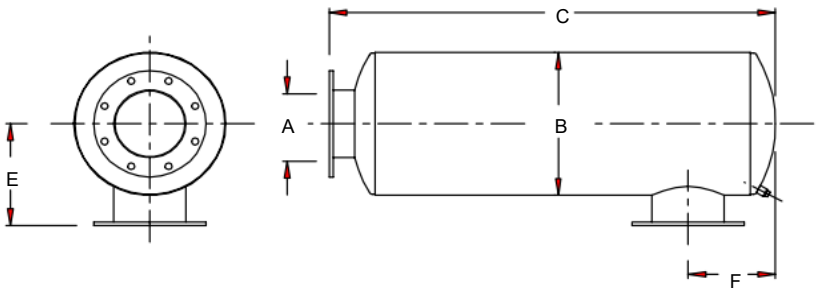
Standard 150# ANSI drilled plate flange on inlet adapts to other hardware for ease of installation

Two-chamber design reduces sound levels

Industrial -15 dBA

Generator Set Model	Qty	A		B		C		E		F		Weight	
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
C175-16 and C175-20	2	16	406	36	914	97	2464	22	559	23	584	470	213
C175-20	2	18	457	42	1067	101	2565	25	635	26.5	673	900	408
C175-16	1	20	508	48	1219	101.5	2578	28	711	26	660	1080	490
C175-20	2	24	610	48	1219	102	2591	28	711	24	610	1346	610.5

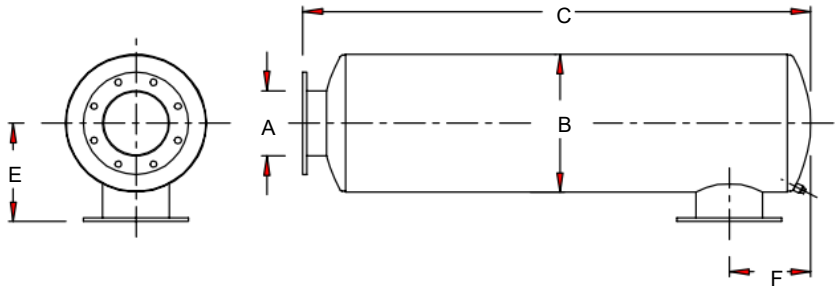
Side Inlet/End Outlet



Residential –25 dBA

Generator Set Model	Qty	A		B		C		E		F		Weight	
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
C175-16 and C175-20	2	16	406	36	914	133	3378	22	559	23	584	870	395
C175-20	2	18	457	42	1067	135.5	3442	25	635	31.5	800	1150	522
C175-16	1	20	508	48	1219	139	3531	28	711	35	889	1870	848
C175-20	1	24	610	48	1219	126	3200	28	711	24	610	1628	738

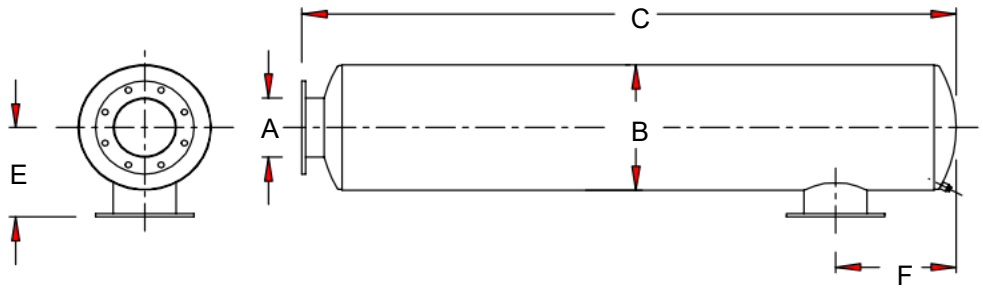
Side Inlet/End Outlet



Critical -34 dBA

Generator Set Model	Qty	A		B		C		E		F		Weight	
		in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
C175-16 and C175-20	2	16	406	36	914	157	3988	22	559	29	737	1155	524
C175-20	2	18	457	42	1067	171.5	4356	25	635	33	838	1510	685
C175-16	1	20	508	48	1219	199	5055	28	711	36	914	2800	1270
C175-20	1	24	610	54	1372	180	4572	33	838	28	711	3216	1459

Side Inlet/End Outlet



UL 35 AMP
Battery Charger

Picture shown may not reflect actual configuration.

This battery charger offers accurate, automatic charging of lead-acid and nickel cadmium batteries.

The output voltage automatically adjusts to hanging input, load, battery and ambient conditions. This prevents battery over-charging and consequent loss of battery electrolyte.

Standard features include AC line compensation, precision voltage regulation, current limiting, automatic 2-rate charging, voltmeter and ammeter, temperature compensation and UL Listing.

The user interface is easy to understand with digital metering, NFPA 110 alarms and a battery fault alarm.

Specifications

Rated output current	35A
Output breaker	45A
Input Supply (single phase)	115-120 V, 16A
	208 V, 9.1A
	230-240 V, 7.9A
Input breaker	20A
AC and DC Fuses	(2 input and 2 output)
DC output voltage	24V
Frequency	50/60 Hz
Ambient operating range	-40°C (-40°F) to +50°C (122°F)

Housing constructed of rustproof anodized aluminum.

Standards

C-UL listed to UL 1236

NFPA 99, NFPA 110
CSA 22.2 No 107 certified

UL 1564

CE DOC to EN 60335

Features

Adjustable current limit 33% to 110%

Output regulated by sensed battery voltage

Alarm System

All digital design, no potentiometers

Dual microprocessor controlled AC-DC power

Backwards battery protection

Auto AC line compensation

Rugged steel housing & tough baked polyester finish

NEMA 1, IP 20 protection rating
AC isolated from DC

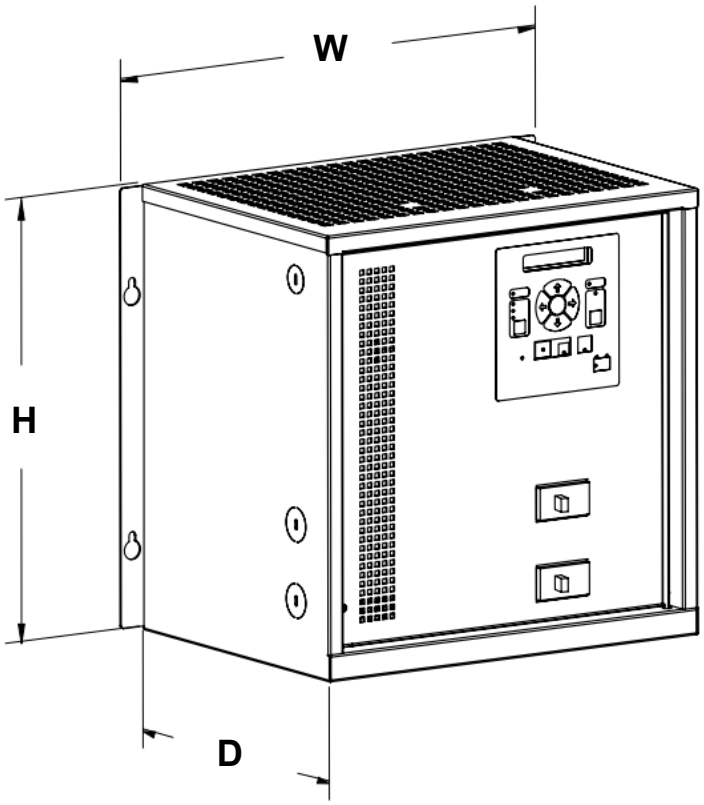
Battery Temperature Compensation
- On board temperature sensor with remote port

NFPA 110 alarm package as follows:

≠AC on	Green led (indication)
≠AC fail	Red led and form C contact (2A)
≠Float mode	LED
≠Fast charge	LED
≠Temp comp active	LED
≠Low battery volts	Red led and Form C contact
≠High Battery Volts	Red led and Form C contact
≠Charger fail	Red led and Form C contact
≠Battery fault	Red led and Form C contact

Battery disconnected
Battery polarity reversed
Mismatched charger battery voltage
Open or high resistance charger to battery connection
Open battery cell or excessive internal resistance

Dimensions



Width	Depth	Height	Weight
493 mm 19.4″	330 mm 13.0″	448 mm 17.6″	59 Kg 130 Lbs.
Feature code		BTC3500	

Picture shown may not reflect actual configuration

Crankcase Explosion Relief Valve

Explosion relief valve provides protection for personnel and equipment in the event of an explosion occurring inside the crankcase of diesel or gas engine.

Features

Fast acting pressure relive operation
Oil wetted internal flame arrestor
Directional exhaust

Specification

Relief Area	Approved ratio	Opening Pressure	Length	Width	Height	Weight
80.65 cm^2	173 cm^2/m^3	1.6 PSI	266 mm	135 mm	300 mm	3.2 kg
12.5 in^3		11 kPa	10.5 in	5.3 in	11.8 in	7 Lbs.

Picture shown may not reflect actual configuration

JACKET WATER HEATER With Pump

Diesel Genset: C175-20
Gas Genset: G3520H

Caterpillar offers a factory-installed jacket water heater for improved cold-starting capability.

The Jacket Water Heater with the pump is a complete coolant preheater with thermostat, pump and all required controls.
Forced circulation of the coolant delivers uniform heating throughout the entire engine, reduces wear from cold spots and offers a significant reduction in electrical consumption.

The Jacket Water Heater operates automatically when provided contacts are supplied with a 24 Volt DC signal from the engine.

FEATURES

Factory Installed
Complete with hoses, thermostat and pump
Base frame mounting minimizes engine induced vibration

Automatically disconnected when engine is running via the generator jacket water heater relay
Supplied with UL recognized components
Thermostat is factory pre-set to 54°C (130°F)

HEATER DESIGN DESCRIPTION

The jacket water heater package is designed to efficiently pre-heat the engine by heating and circulating the engine's coolant.
This design results in the following benefits

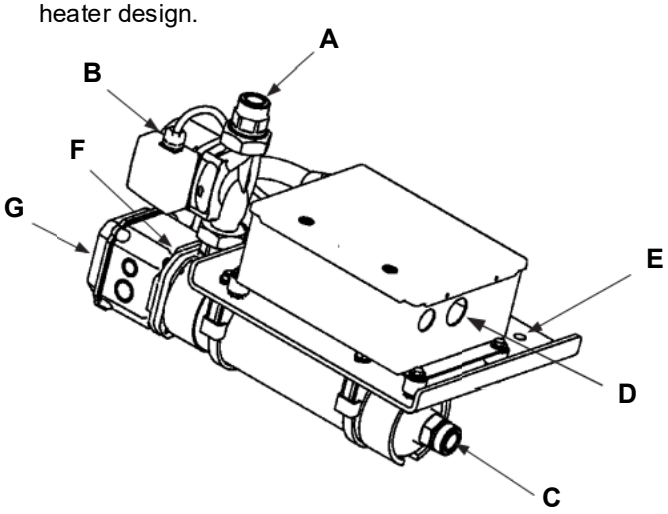
Increase life of heater hoses, engine seals, and heating elements.
Improve heat transfer efficiency from elements to engine coolant.
More uniform engine temperature distribution.

Application of a thermostat with a reduced thermal differential.

Lower customer utility costs and increased heater reliability.
Heater thermostat's setpoint is preset from the factory.

HEATER OPERATION/WIRING

A 38 L/pm (10 gpm) pump is located at the heater outlet to pull the coolant through the heater.
A fixed thermostat is located inside Element enclosure box, near the outlet of the heater and responds to the temperature of the coolant inside the tank. The figure below shows the general heater design.



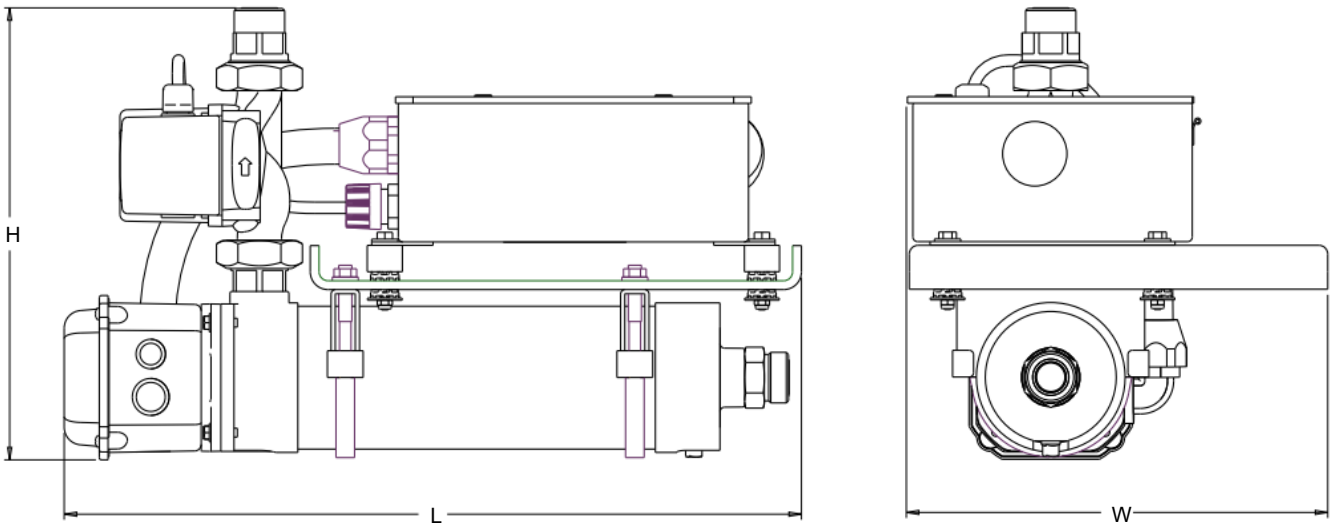
A.Discharge port
B.Pump/motor
C.Suction (behind unit)
D.
ower and Control Wiring Entrance

A.Mounting base
B.Element assembly
C.Thermostat
P

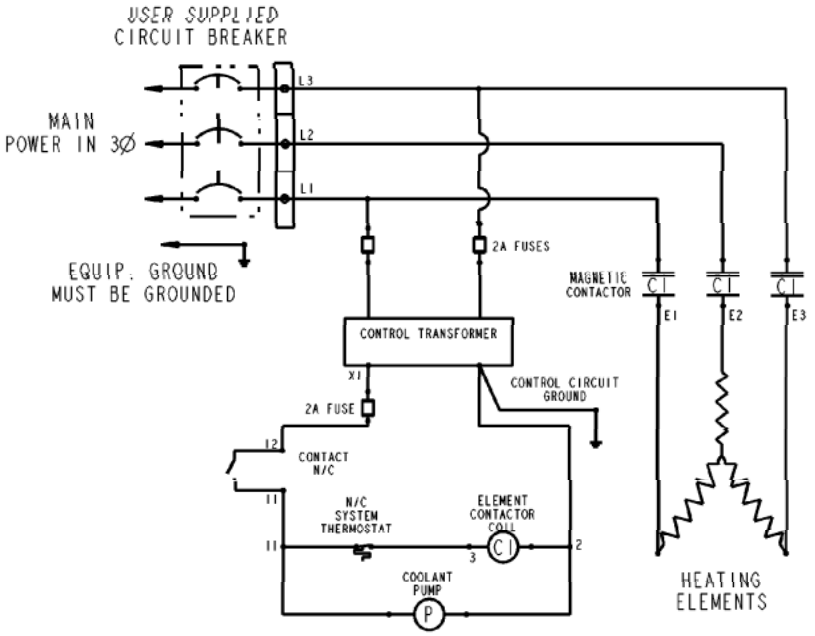
SPECIFICATIONS

Voltage (VAC)	480	240	220
Frequency	60 Hz	60 Hz	50 Hz
Power Rating	12 kW		
Phase	Three phase	Single Phase	
Amperage	14.5 A	50 A	54.6 A
Flow Rate	38 L/pm (10 GPM)		
Pump Power	97 W		90 W
Fixed Thermostat	38°C - 54°C (100°F - 130°F)		
Length	533.7 mm (21")		
Width	307.6 mm (12.1")		
Height	325.8 mm (12.8")		
Weight	25.76 kg (56.8 lbs)	22.36 kg (49.3 lbs)	22.59 kg (49.8 lbs)

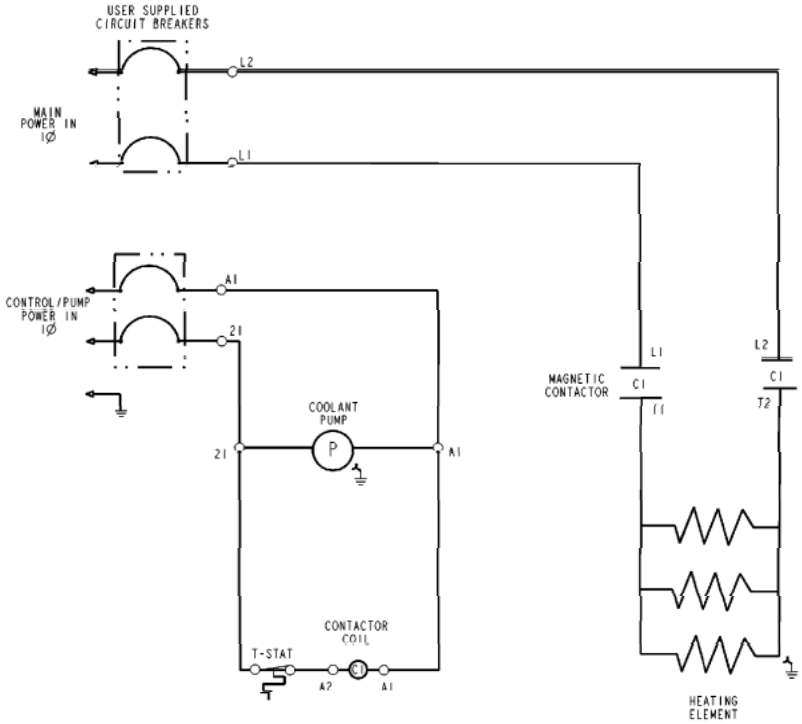
GENERAL DRAWING



Wiring Diagram - 480 V Three Phase JWH (12 kW Heating Systems)



Wiring Diagram - 220 V and 240 V Single Phase JWH (12 kW Heating Systems)



Picture shown may not reflect actual configuration

Electric Starting Motor

for C27, C32, 3512, 3516, C175-16 and C175-20

U.S. Sourced

Electric Starting Motors are used for improved engine start capability. Battery-powered electric motors utilize low voltage direct current and provide fast, convenient, pushbutton starting with lightweight, compact, engine-mounted components.

Design

Splash-proof and environmentally protected.

Seamless one-piece solenoid case is sealed for corrosion protection.

Positive-engagement shift mechanism assures pinion–to-ring gear engagement prior to cranking, minimizing milled ring gears and pinions.

Epoxy impregnation and glass banding give starter armature exceptional rotation strength.

Positive spring retention in the six wide, one-piece brushes gives uniform pressure and brush wear for extended service life.

Extra-large brush leads are used to handle the high current experienced during the cranking of high-power diesel engines.

Rotatable drive housing, with 12 positions, allows easy repositioning of the solenoid switch.

Totally Enclosed Shift mechanism.

Bearing Lubrication and Sealing: Three sintered-bronze bearing extra-large oil reservoirs.

Specifications

System Voltage: 24 V
Rotation: Clockwise

Polarity: Insulated

Mounting: SAE #3

Pinion Data:

- No Teeth/Pinion Blank: 11/12
- Pitch: 6/8

Output: 24V: 9.0 kW

Weight: 34 kg (75 lbs)

Operation temperature range

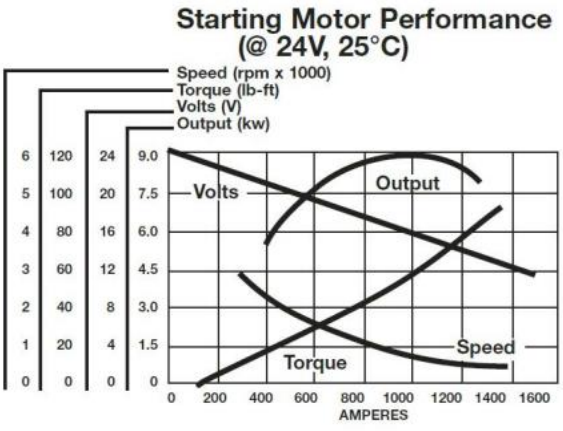
- -25°C to +121°C

Pressure Angle: 20°
Oil Sealed: ± 6 PSI

Water Sealed: ± 6 PSI and 3500 PSI Pressure Wash

Option

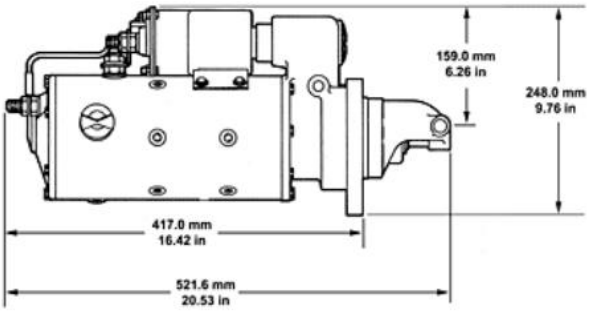
- Heavy-Duty Applications: Two or more units can be tandem-mounted for starting large engines.

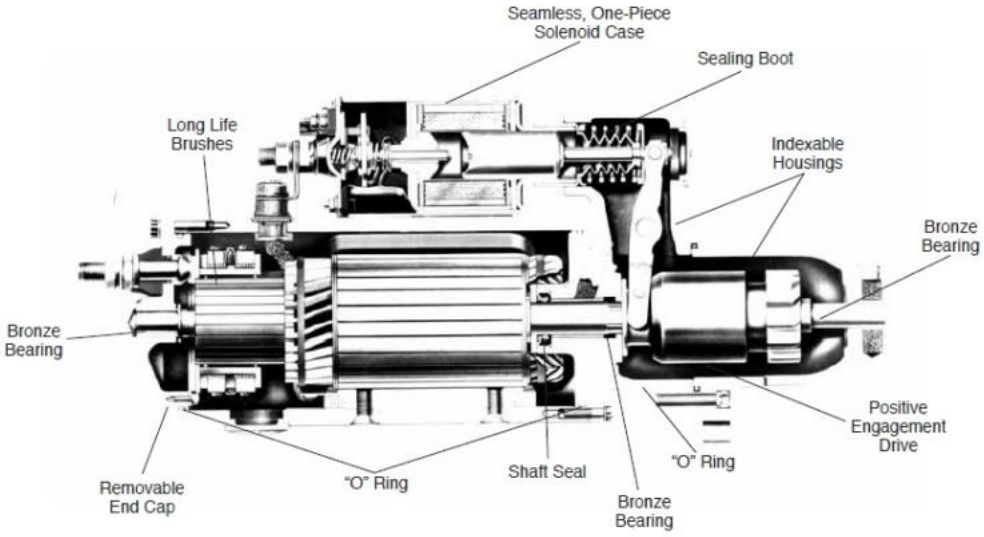


Available Options

Model	Single	Dual	Quadruple
C27		+	
C32		+	
3512	+	+	
3512B	+	+	
3512C	+	+	
3516		+	
3516B		+	
3516C		+	
C175-16		+	+
C175-20		+	+

Dimensions Drawing





Picture shown may not reflect actual configuration

Linear Spring-Type Vibration Isolators

GENERAL DESCRIPTION

The most effective isolators for low frequency vibration are of steel spring design. They can isolate up to 95 percent of all vibration and noise transmitted from rotating machinery to the foundation or mounting surface. Conversely, isolators can absorb disturbances generated by adjacent machinery and prevent damage from being transmitted to idle equipment.

Spring-type linear vibration isolators are available as attachments for generator sets to be used in stationary applications. These isolators permit mounting the generator set on a surface capable of supporting only the static load.

The spring-type isolator is constructed of a telescoping welded steel housing containing color coded springs. Each isolator is packaged with three (3) or four (4) spring inserts. The springs are freestanding stable springs and are designed for **19 mm (0.75-inch)** deflection at rated load. The spring wires meet/comply with: SAE 1065, ASTM A229-56, MIL QQ-W-428 Type 1.

Each isolator is furnished with spring adjusting bolts, resilient neoprene alignment inserts and non-skid neoprene acoustical pad cemented to the base plate.

Isolator Data

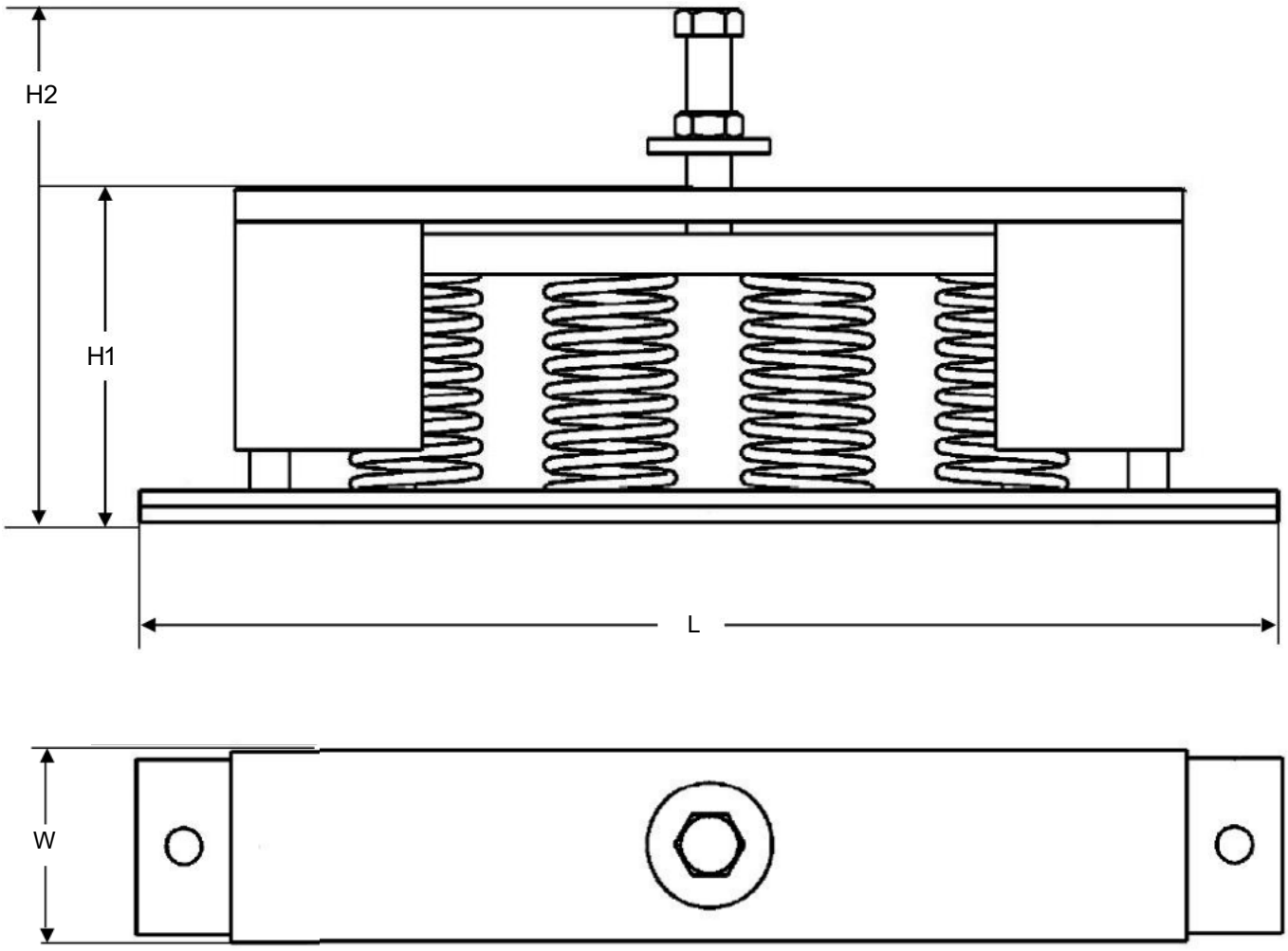
Part Number	Color Code (Springs)	Rated Capacity kg (lb) *	Spring Rate kg/cm (lb/in)*	Solid Load kg (lb)*
153-3864	3 x Gold	2039 (4495)	1074 (6000)	3058 (6742)
153-3865	1 x Blue & 2 x Gold	1700 (3748)	895 (5000)	2550 (5622)
178-5048	4 x Gold	2722 (6001)	1428 (7995)	4083 (9001)

* value per isolator

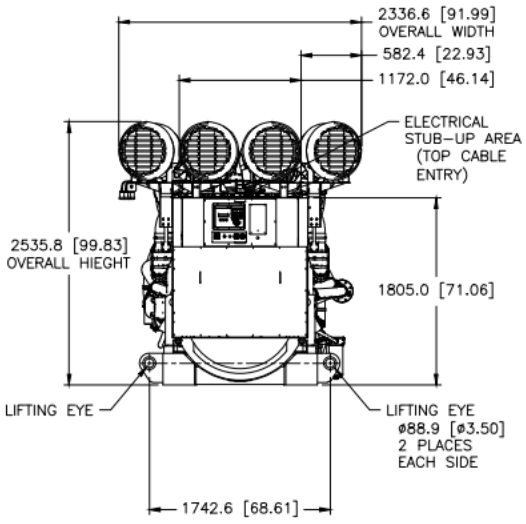
Weights and Dimensions

Isolator	Weight	Length (L)	Height (H1)	Height (with leveling bolt) (H2)	Width (W)
153-3864	8.2 kg (15 lb)	381 mm (18.0")	134 mm (5.3")	197 mm (8.9")	76 mm (3.0")
153-3865					
178-5048	12.5 kg (27.6 lb)	457 mm (18.0")	133 mm (5.3")	206 mm (8.1")	76.2 mm (3.0")

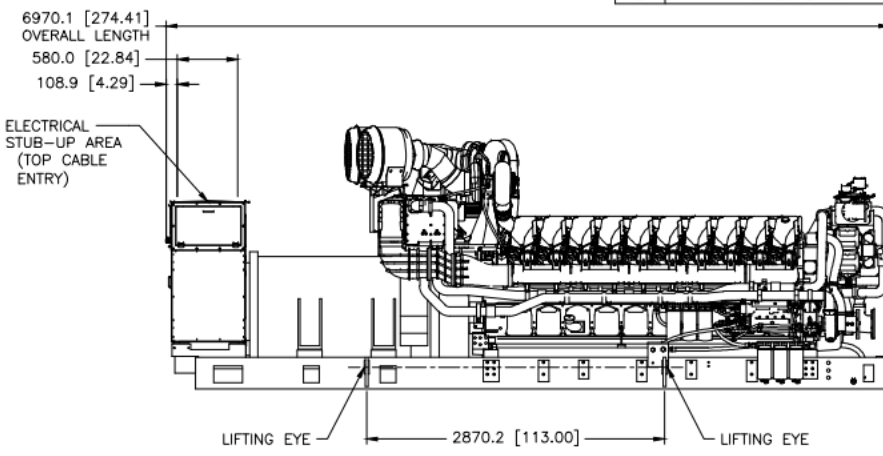
Isolator Drawing



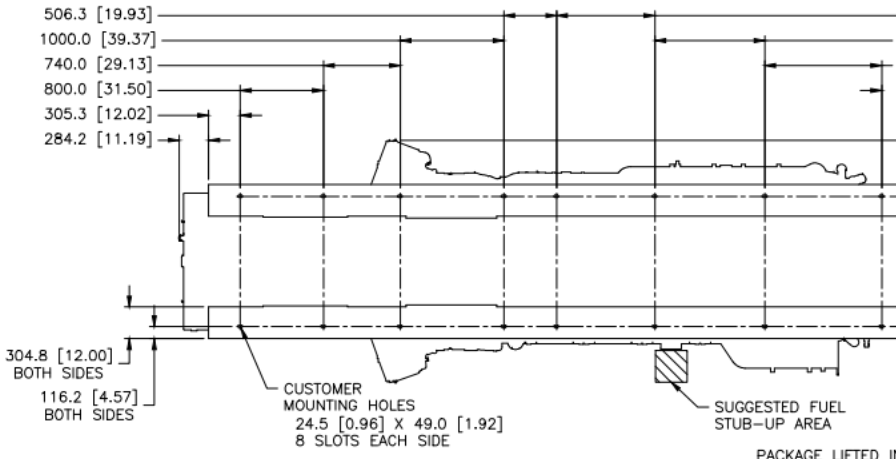
3	WATER DRAIN



REAR VIEW



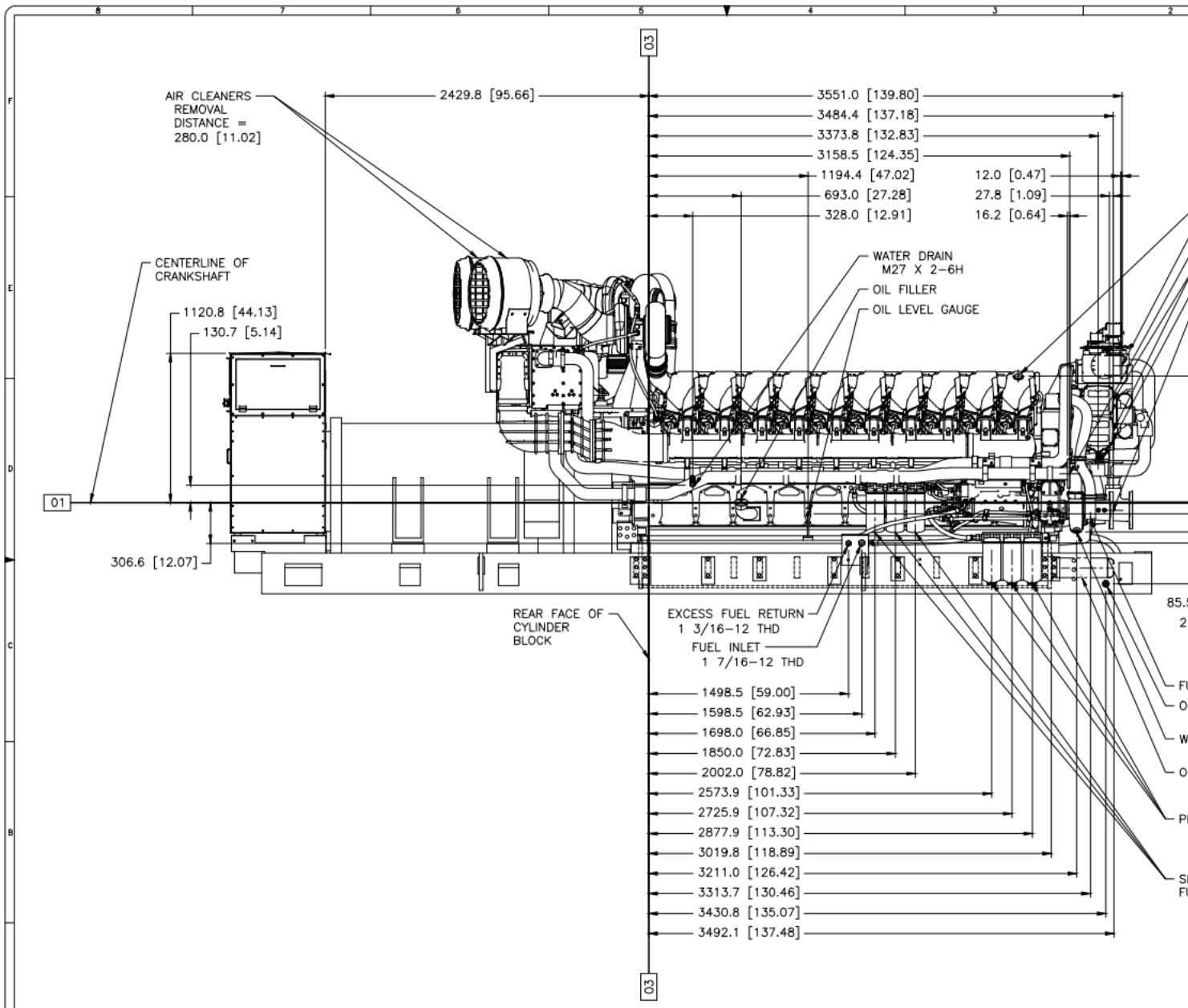
RIGHT SIDE VIEW



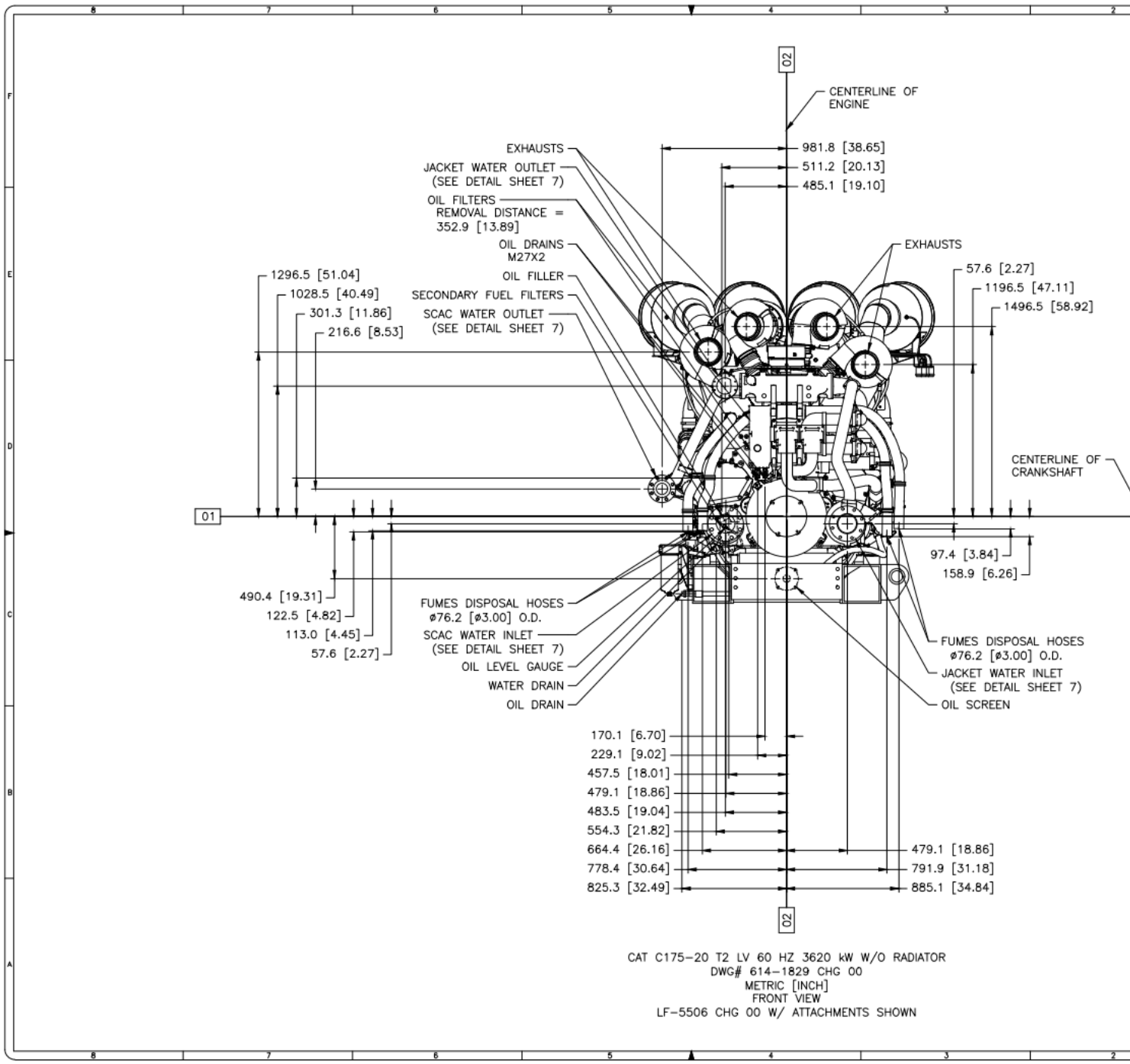
FOOTPRINT
(DIMENSIONED OUTLINE VIEW FROM ABOVE)
(RIGHT SIDE ORIENTATION)

PACKAGE LIFTED I
4 PLACES ON THE

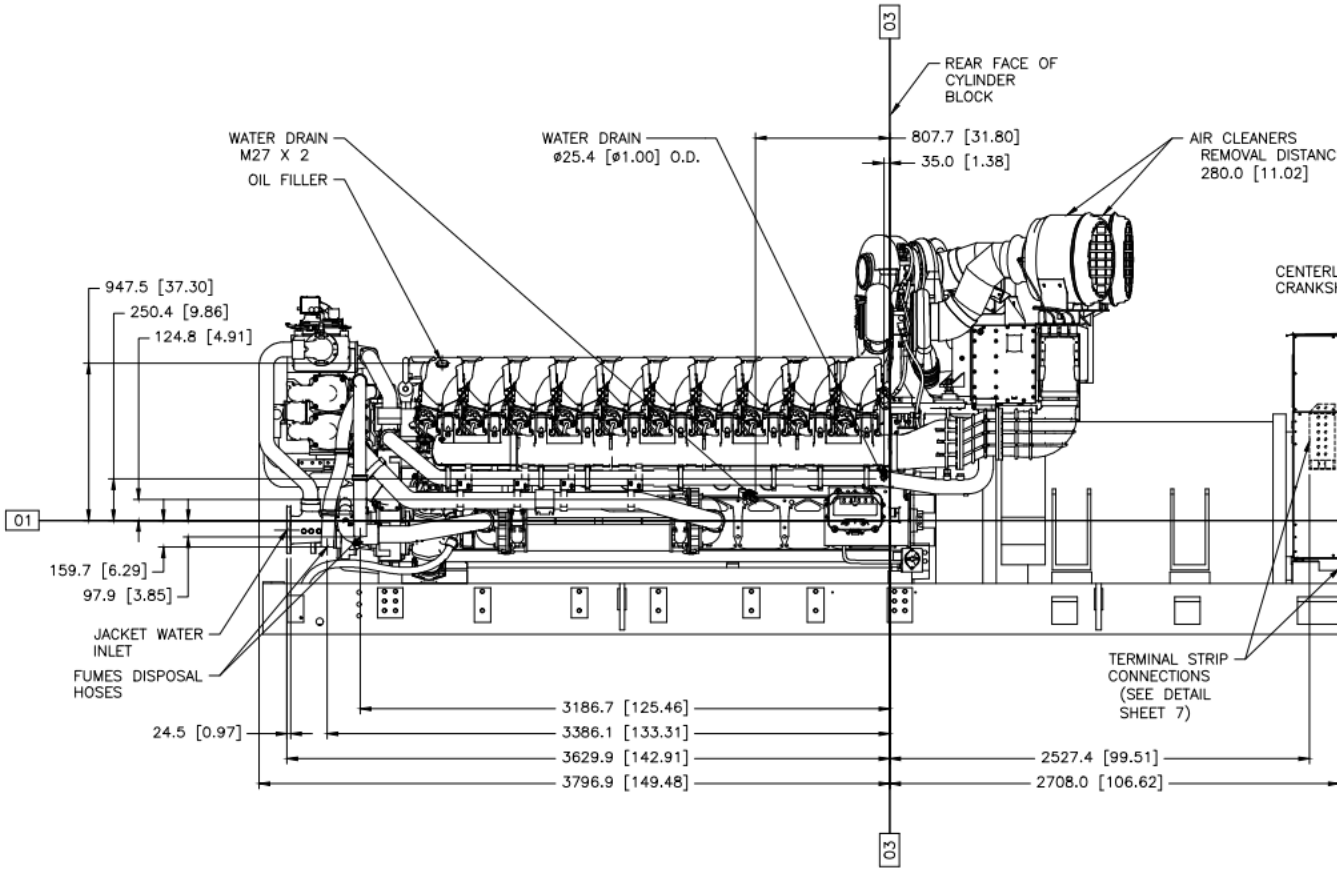
PACKAGE SHOWN
DETAIL ON FOLLOW



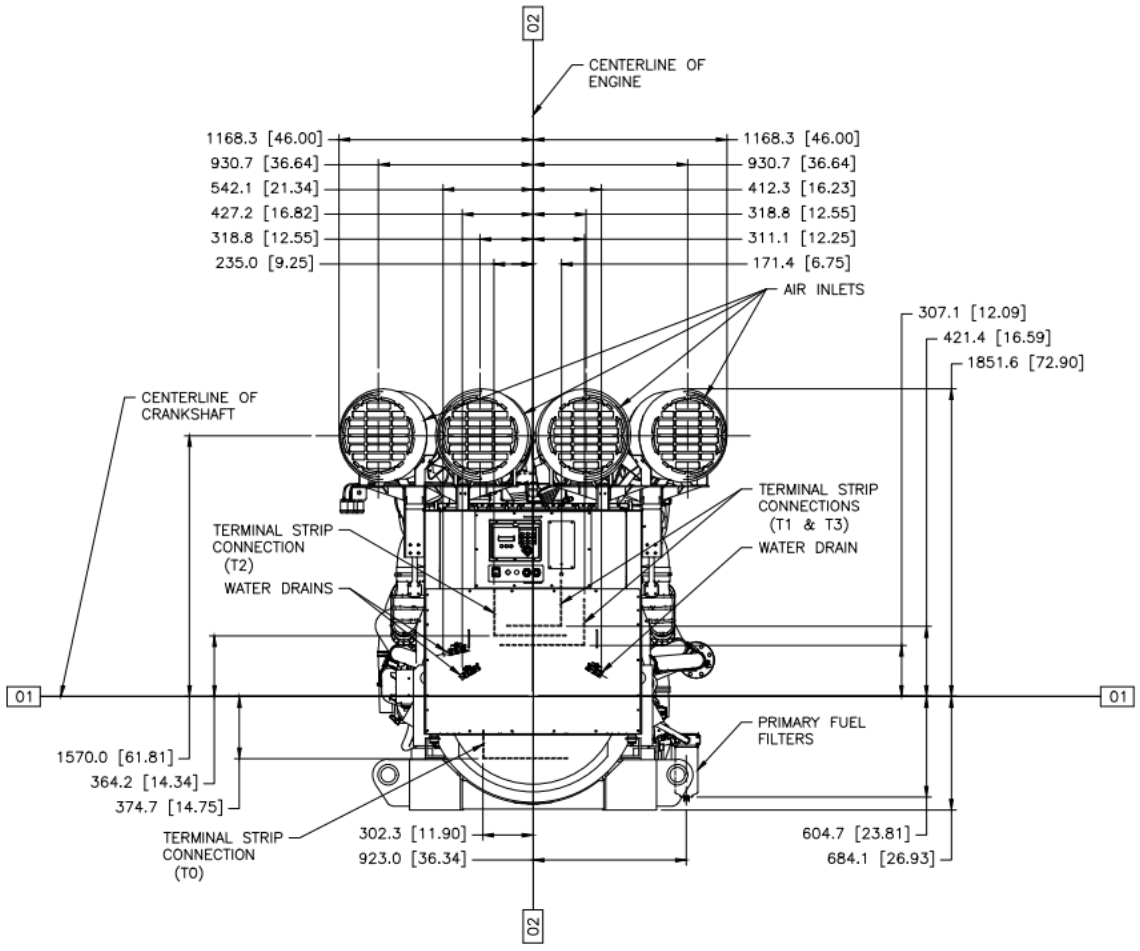
CAT C175-20 T2 LV 60 HZ 3620 kW W/O RADIATOR
DWG# 614-1829 CHG 00
METRIC [INCH]
RIGHT SIDE VIEW
LF-5506 CHG 00 W/ ATTACHMENTS SHOWN



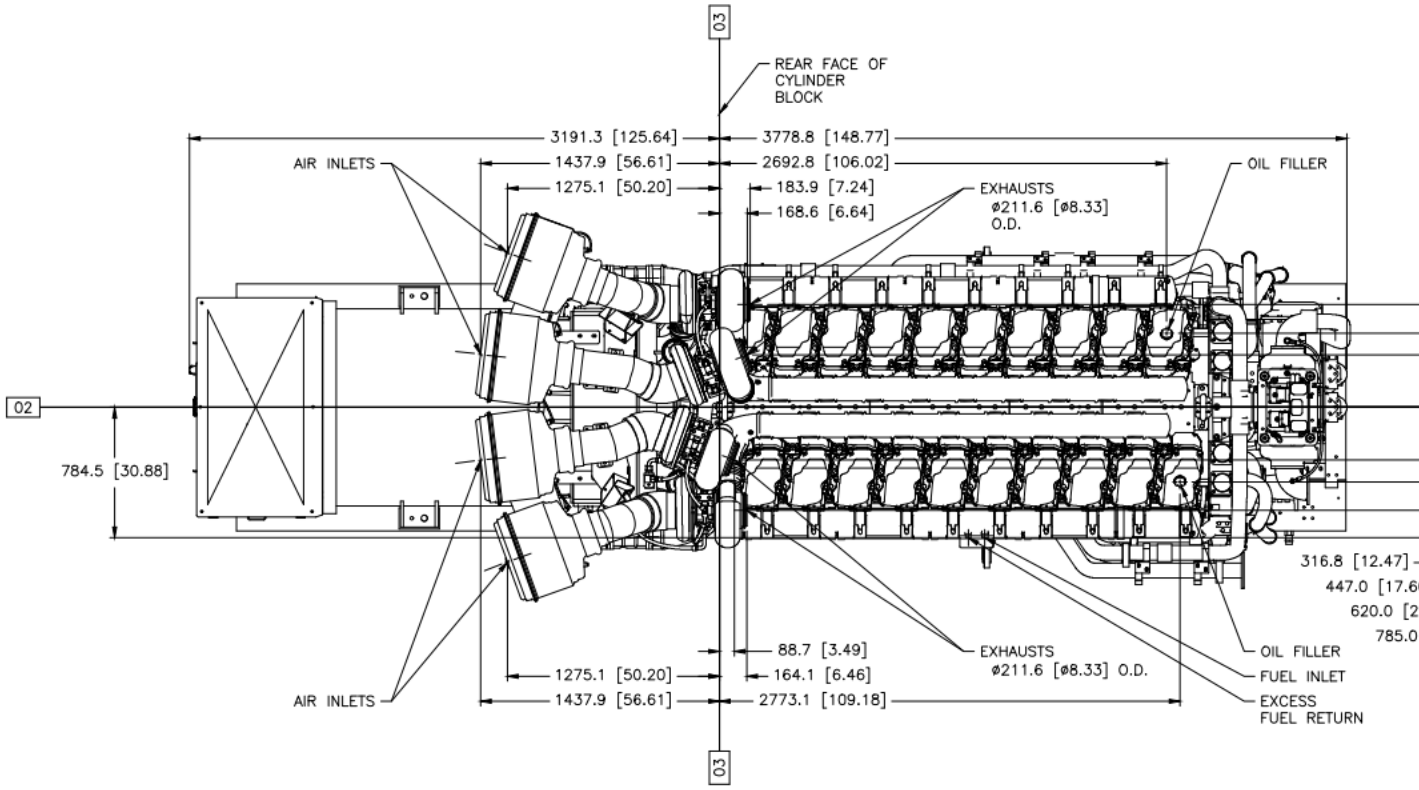
CAT C175-20 T2 LV 60 HZ 3620 kW W/O RADIATOR
DWG# 614-1829 CHG 00
METRIC [INCH]
FRONT VIEW
LF-5506 CHG 00 W/ ATTACHMENTS SHOWN



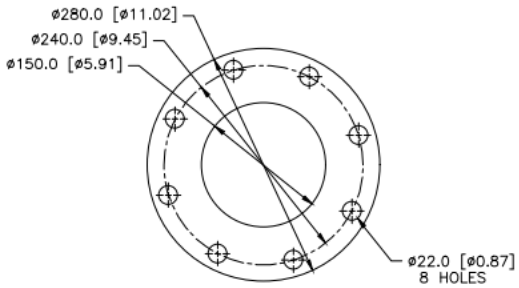
CAT C175-20 T2 LV 60 HZ 3620 kW W/O RADIATOR
DWG# 614-1829 CHG 00
METRIC [INCH]
LEFT SIDE VIEW
LF-5506 CHG 00 W/ ATTACHMENTS SHOWN



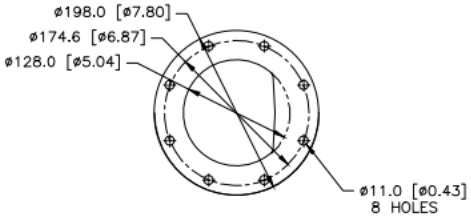
CAT C175-20 T2 LV 60 HZ 3620 kW W/O RADIATOR
DWG# 614-1829 CHG 00
METRIC [INCH]
REAR VIEW
LF-5506 CHG 00 W/ ATTACHMENTS SHOWN



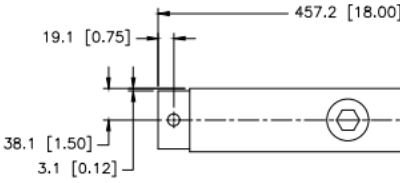
CAT C175-20 T2 LV 60 HZ 3620 kW W/O RADIATOR
DWG# 614-1829 CHG 00
METRIC [INCH]
TOP VIEW
LF-5506 CHG 00 W/ ATTACHMENTS SHOWN

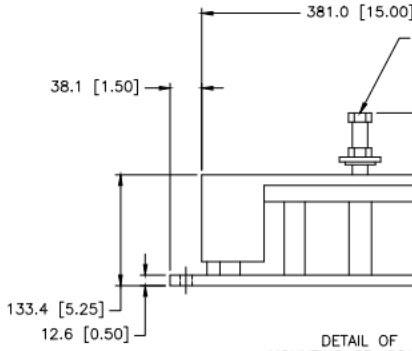


DETAIL OF
JACKET WATER INLET
SCALE 1=2

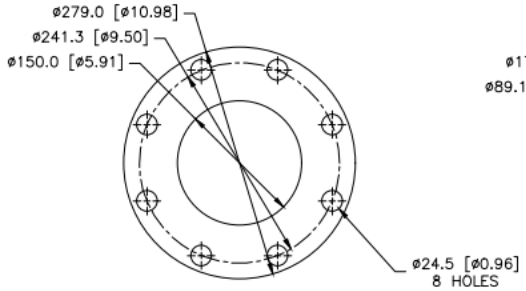


DETAIL OF
JACKET WATER OUTLET
SCALE 1=2

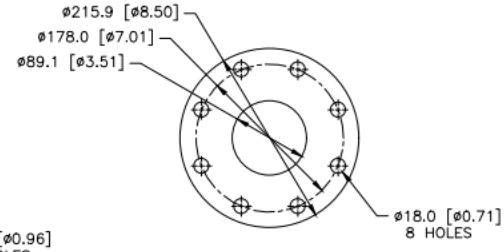




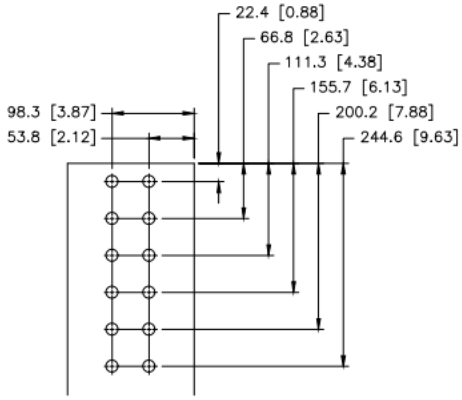
DETAIL OF
MOUNTING GP ISOL
607-5431 CHG
(SHIPPED LOOS
SCALE 1=2

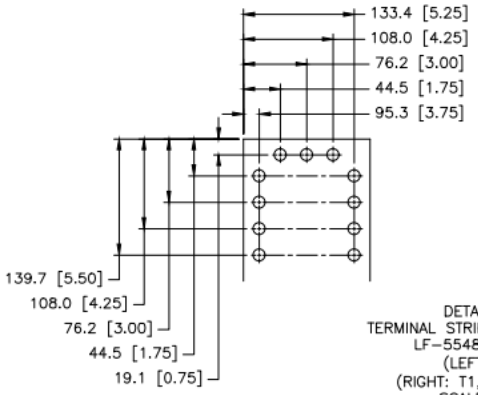


DETAIL OF
SCAC WATER INLET
SCALE 1=2

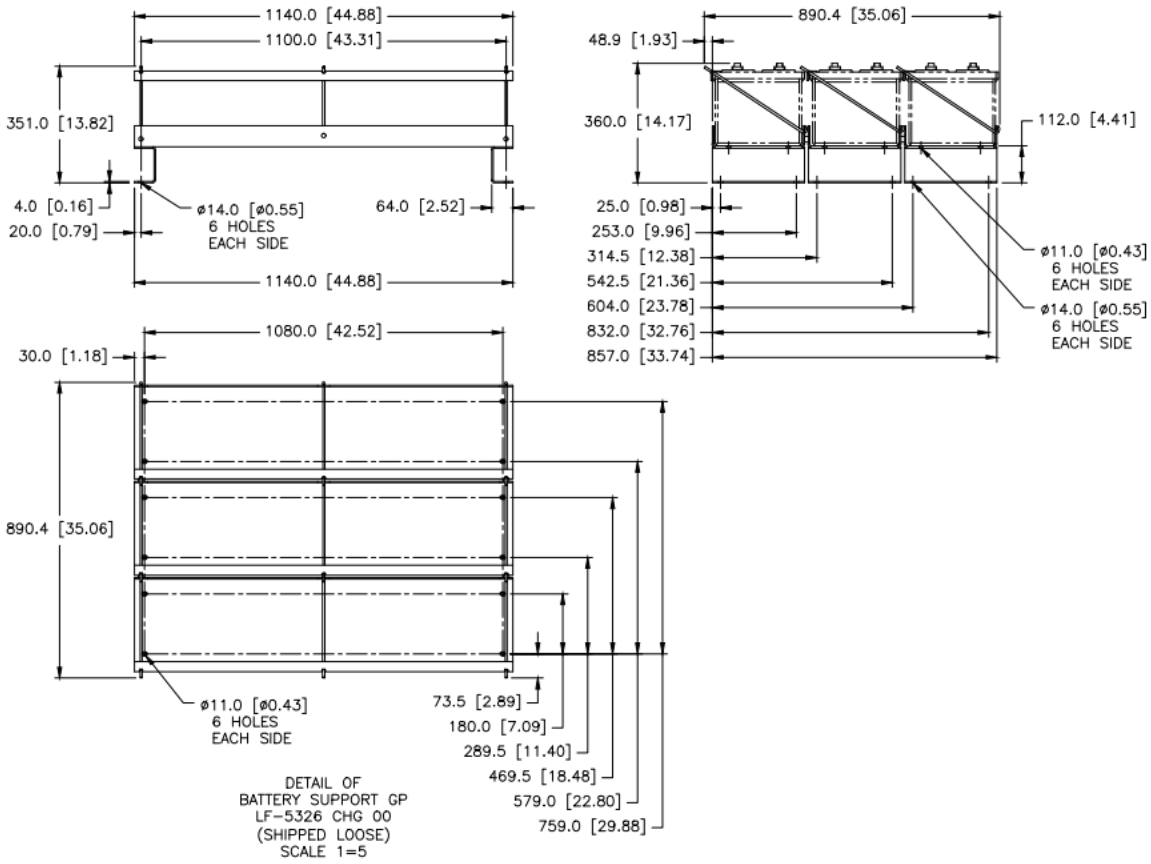


DETAIL OF
SCAC WATER OUTLET
SCALE 1=2

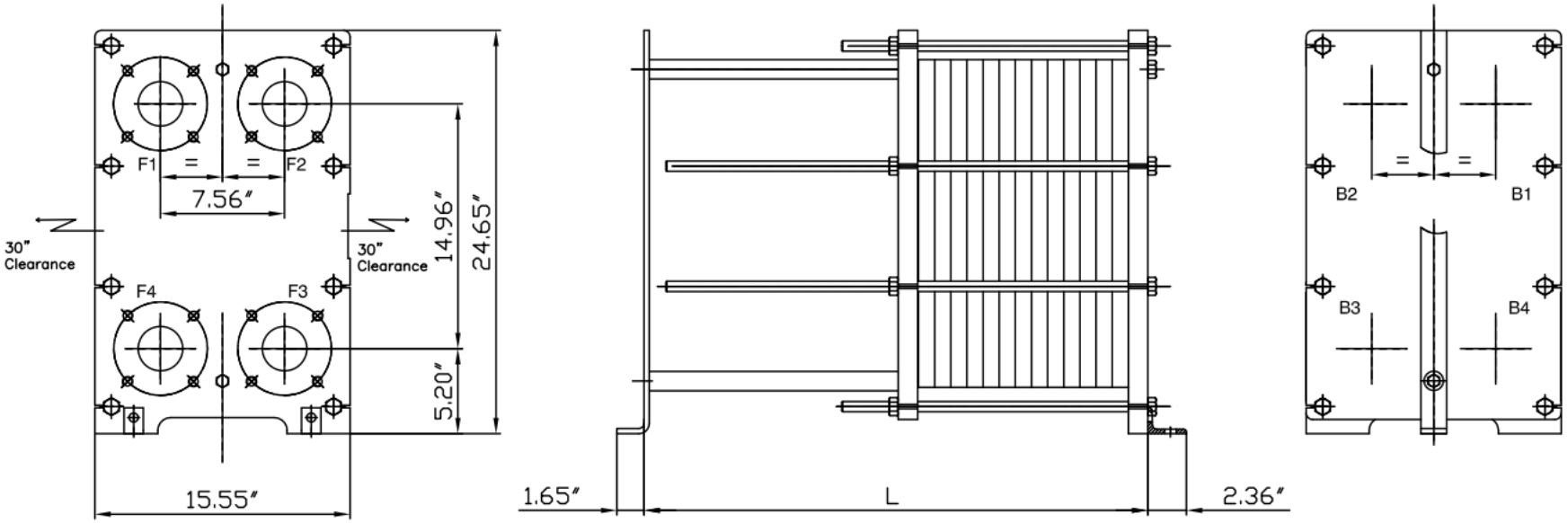




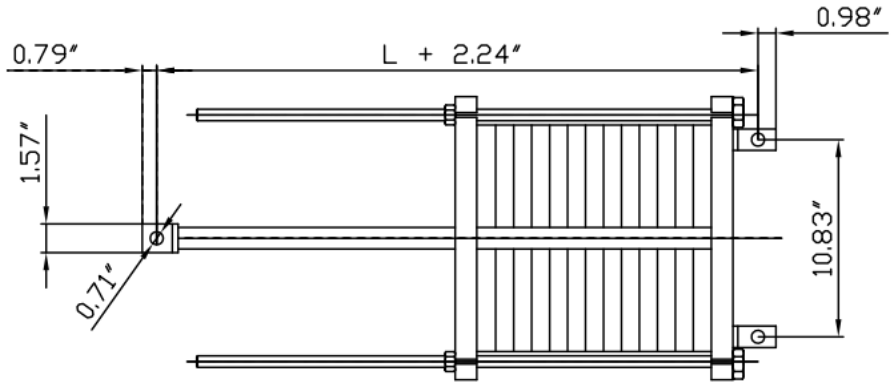
DETAIL OF
TERMINAL STRIP CONNECTIONS
LF-5548 CHG 00
(LEFT: T0)
(RIGHT: T1, T2, & T3)
SCALE 1=2



DETAIL OF
BATTERY SUPPORT GP
LF-5326 CHG 00
(SHIPPED LOOSE)
SCALE 1=5

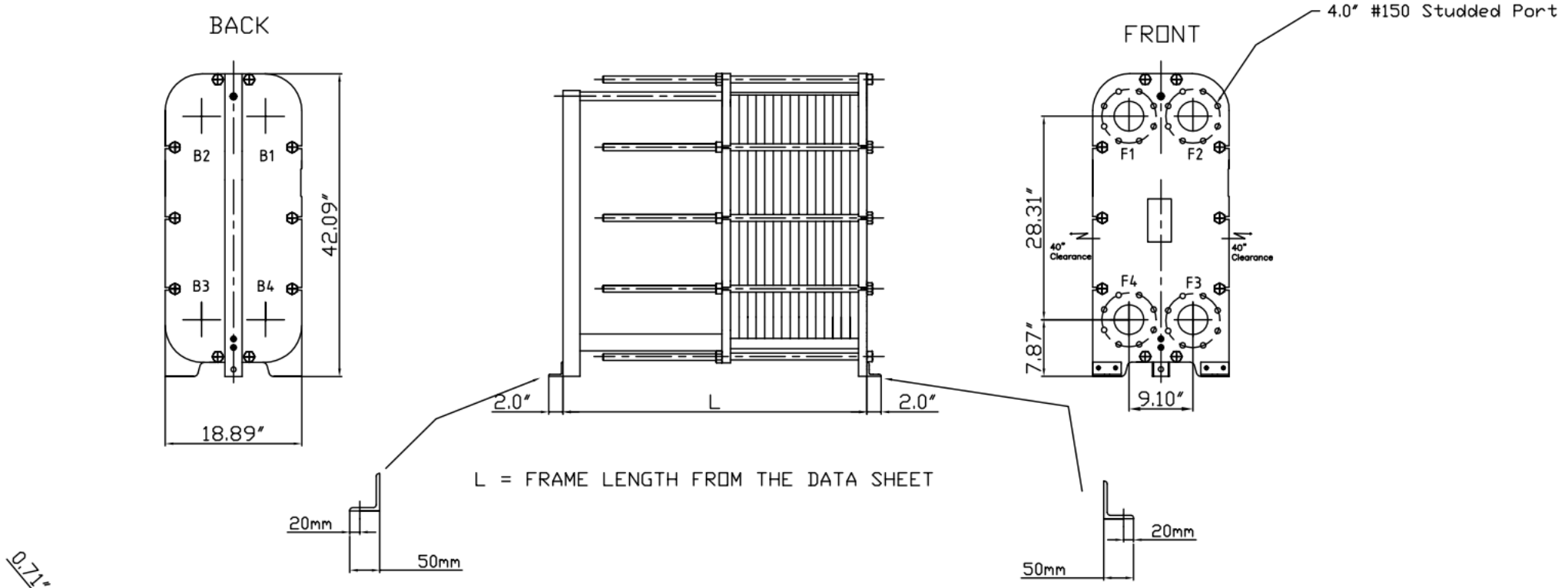


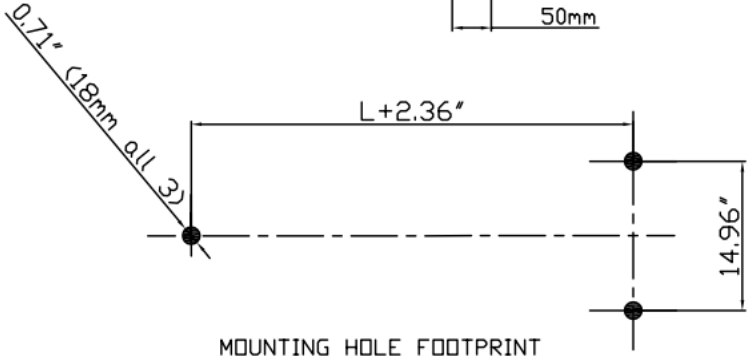
L – Frame length from data sheet



LAYER DK TURNED OFF

CAD Design





CAD Design

Dimensions without tolerance: ISO 2768-m	Drawn: SW	Date: 06/03/05	Check:	Date:	Description: S21-S22-IG-xxx xxCustomer namexx
ISO projektion	SONDEX Jernet 9 DK-6000 Kolding				Rev. date: / Rev. no.: 0 / Drawing: XXXXX

LAYER DK TURNED OFF