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Prime Model:C27.5
Emergency Model:C30E

DIESEL GENERATOR SET 190V-440V 3P4W

ISO 9001:2000

Rating Range

		RPM1500 50Hz
Standby:	kW	24
	kVA	30
Prime:	kW	22
	kVA	27.5

Standard Features and Characteristics

● **QUALITY STANDARDS**

- ○ The OTC generator set compliance with all main standards, such as ISO8528（GB/T2820-97), GB755, BS5000, VDE0530, ISO3046, IEC34-1, CSA22-2, AS1359, ISO14001.
- ○ Diesel engine and alternator OEM authorization certificate and their quality assurance.
- ○ Other standards and certifications can be considered on request.

● **ASSEMBLY**

- ○ The engine and alternator are close coupled by means of an SAE flange . A full torsional analysis has been carried out to guarantee no harmful vibration will occur。
- ○ Anti-vibration pads are affixed between engine alternator feet and the base frame. Thus ensuring complete vibration isolation of the rotating assemblies and enabling the machine to be placed on an uneven surface without any detrimental effects.
- ○ For durability and corrosion resistance, all iron and steel surfaces of canopy fabrications have been treated for coating by grit blast cleaning. Then covered by special three layers painting which provides an excellent corrosion resistant surface.

● **CONTROL SYSTEM AND PROTECTION**

- ○ Controllers are available for all applications. The controller system is used to start and stop the engine , indicate electric date and protect the generator set. See controller features inside.
- ○ The revolving parts are covered by safety net , and the place which easy to scald and got an electric shock all to have been put on obvious warning slogan

● **WARRANTY**

- ○ OTC Company provides one-source responsibility for the generator set and accessories.
- ○ Each OTC generating set has been got through 2hours load test for running 0%,25%,50%,75%,100% and 110% load, all protective devices and control function are simulated and checked before despatch.
- ○ Engine and Alternator are guaranteed for a period of 12months from the date of commissioning or 18 months from shipping, whichever occurs first.
- ○ Convenience for operation and maintenance, backed by CUMMINS and LEROY SOMER global service network.

GENERATOR SET RATINGS

Alternator Model	BCI184F(STAMFORD)				LSA42.2 L9(LEROY SOMER)		
Frequency and Speed	50Hz 1500rpm				50Hz 1500rpm		
Prime Power Data							
Class-TEMP Rise(℃)	Cont.H -125K/40℃				Cont.H -125K/40℃		
Voltage series star	380	400	415	440	380	400	415
Voltage parallel star	190	200	208	220	N/A	200	208
Voltage series delta	220	230	240	254	220	230	240
Rating capacity(kVA)	27.5	27.5	27.5	22.5	27.0	27.0	27.0
Rating power(kW)	22.0	22.0	22.0	18.0	21.6	21.6	21.6
Power efficiency(%)	85.3	85.8	86.0	86.4	88.9	88.9	88.9
Input power(kW)	25.8	25.6	25.6	25.5	24.3	24.3	24.3

Standby Power Data

Class-TEMP Rise(℃)	Standby.H -150K/40℃				Standby.H -150K/40℃		
Voltage series star	380	400	415	440	380	400	415
Voltage parallel star	190	200	208	220	N/A	200	208
Voltage series delta	220	230	240	254	220	230	240
Rating capacity(kVA)	29.0	29.0	29.0	23.7	30.0	30.0	30.0
Rating power(kW)	23.2	23.2	23.2	19.0	23.8	23.8	23.8
Power efficiency(%)	84.7	85.3	85.6	87.2	88.5	88.5	88.5
Input power(kW)	27.4	27.2	27.1	21.7	26.7	26.7	26.7

RATINGS: All three-phase units are rated at 0.8 power factor. **Standby ratings :** Standby ratings apply to installations served by a reliable utility source. The standby rating is for this rating. Ratings are in according with ISO-3046/1,BS 5514 ,AS 2789 , and DIN 6271. **Prime Power Ratings:** Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with IS0-8528/1, overload capacity in accordance with ISO-3046/1,BS 5514, AS 2789, and DIN 6271. For limited running time and base load ratings, consult the factory. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. **GENERAL GUIDELINES FOR DERATION: Altitude:** Derate 2.0% per 300m(984 ft.) elevation above 1000m(3279 ft.) up to a maximum elevation of 2450m(8000 ft.).More than 2450m(8000ft), please contacts with us or our dealer seek the help. **Temperature:** Derate 6.0% per 11 ℃ (20℉) temperature above 40℃ (104℉).

ALTERNATOR

Specification	1500RPM 50HZ
Type	4-Pole, Rotating Field
Exciter type	Brushless, Self excited
Voltage regulator(MX341)	Solid State, Volts/Hz
Voltage regulation	≤1.5%
Insulation	Class H
Protection	IP23
Rated power factor	0.8
Stator winding	Double layer concentric
Winding pitch	Two thirds
Winding leads	12
Maximum overspeed	2250 Rev/min
Sustained short circuit	Self excited machines do not sustain a short circuit current
Waveform distortion	No load < 1.5% Non-distorting balanced linear load < 5.0%
Altitude	≤1000 m

- Alternators meet the requirement of BS EN 60034 and the relevant section of other international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC34, CSAC22.2-100, As1359, and other standards and certifications can be considered on request.
- The 2/3 pitch design avoids excessive neutral currents. With the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.
- Brushless alternator with brushless pilot exciter for excellent load response.
- The insulation system is class H, easy parallelling with mains or other generators, standard 2/3 pitch stator windings avoid excessive neutral currents.
- Backed by worldwide service network

DIESEL ENGINE

- 4B3.9-G1 diesel engines are manufactured by DONGFENG CUMMINS Engines Company Limited.

Application Data

EngineSpecifications	1500RPM 50HZ
Manufacturer	CUMMINS
Number of cylinders	4
Cylinder arrangement	In-line
Cycle	Four stroke
Aspiration	Natural
Compression ratio	16.8:1
Bore×Stroke	102 mm ×120mm
Displacement	3.9litres
Direction of rotation	Clockwise viewed from front
Max.Power at rated rpm	27kW
Estimated total weight(dry)	308 kg
Frequency regulation steady state	±0.5%
Mean piston speed	6.0 m/s

Exhaust

Exhaust System	1500RPM 50HZ
Maximum back pressure	10.05 kPa
Exhaust gas flow (max)	71.1 litre
Exhaust gas temperature (max)	410℃(770℉)

Lubrication

Lubrication system	1500RPM 50HZ
Oil Pressure	
At idle speed	207 kPa
At governed speed	345 kPa
Maximum Oil Temperature	121℃(250℉)
Total System Capacity (with Combo Filter)	10.9 litre(19.2 US gal)

Engine Electrical

Engine Electrical System	1500RPM 50HZ
Battery charging alternator:	
Ground(negative/positive)	Negative
Volts(DC)	24V
Starter motor rated voltage(DC)	24V
Battery voltage	12V
Battery charging ampere	40A
Maximum Allowable Resistance of Cranking Circuit	0.002 ohm
Minimum battery capacity at -12℃	312CCA

Fuel

Fuel System	1500RPM 50HZ
Type of injection	BYCA pump with GAC governor
Maximum fuel input resistance of transfer pump	13.6kPa
Maximum overflow fuel resistance at overflow pipe of injector	33.86kPa
Total fuel overflow amount	208 litre/hour

Fuel consumption	1500RPM 50HZ
Standby power	7.5 litre/hr (13.2 US gals/hr)
100% prime power	6.7 litre/hr (11.8 US gals/hr)
75% prime power	5.2 litre/hr (9.2 US gals/hr)
50% prime power	4.0 litre/hr (7.0 US gals/hr)
25% prime power	2.7 litre/hr (4.8 US gals/hr)
Continuous power	N/A litre/hr (N/A US gals/hr)

Application Data

Cooling System

Cooling System	1500RPM 50HZ
Total system capacity	
Engine Only	7.2 litres
Radiator	16.0 litres
Fan gas flow	5805 m^3/hr
Thermostat operation range	82 - 95℃
Maximum water temperature	100 ℃ (212℉)
Minimum Pressure of radiator cap	69kPa
Max. coolant temp. permitted	
for Standby Power	104 ℃ (220℉)
for Prime Power	100 ℃ (212℉)

NOTE:

All data is based on:

1. Engine operating with fuel system, water pump, lubricating oil pump, air cleaner and exhaust silencer; not included are battery charging alternator, fan, and optional driven components.
2. Engine operating with fuel corresponding to grade No. 2-D per ASTM D975.
3. ISO 3046, Part 1, Standard Reference Conditions of:
   Barometric Pressure : 100 kPa (29.53 in Hg)
   Air Temperature : 25 ℃ (77℉)
   Altitude : 110 m (361 ft)
   Relative Humidity : 30%
   Air Intake Restriction : 254 mm H2O (10 in H2O)
   Exhaust Restriction : 51 mm Hg (2 in Hg)

TBA: To Be Determined

CONTROLLERS

DSE 702 MANUAL CONTROLLER

The Model 702 is a Manual Engine Control Module designed to control the engine via a key switch and pushbuttons on the front panel. The module is used to start and stop the engine and indicate fault conditions, automatically shutting down the engine and indicating the engine failure by LED, giving true, first up fault annunciation.

Panel introduction:

- Indicator type frequency, voltmeter and ampere meter demonstration unit's electrical parameter.
- The voltage change-over switch and the rheotrope uses for to choose the different phase voltage and current to display.
- The big red button uses for the operator to stop the genset peremptorily
- The oil pressure gauge, coolant temperature gauge and the battery voltage gauge.
- The controller. And an integral anti-tamper LCD hours run counter is also provided.
- If the customer needs to use the preheating function, we will be able to increase the preheating button.

Protection:

Low Oil Pressure
High Engine Temperature
Auxiliary Shutdown
Over speed

DC Supply: 8 to 35 V Continuous.

DSE 704 AMF CONTROLLER

The DSE704 is an Automatic Mains Failure module with generator monitoring, protection and start facilities. It utilises advanced surface mount construction techniques to provide a compact yet highly specified module. This model can start the unit automatically when the MAINS failure and than control the ATS turn to the genset side. Operation of the module is via three pushbuttons mounted on the front panel with STOP, MANUAL and AUTO positions.

Panel introduction:

- Indicator type frequency, voltmeter and ampere meter demonstration unit's electrical parameter.
- The voltage change-over switch and the rheotrope uses for to choose the different phase voltage and current to display.
- The oil pressure gauge, coolant temperature gauge and the battery voltage gauge.
- The controller.
- Preheating button.

Protection:

Over Speed Shutdown.
Low Oil Pressure Shutdown.
High Engine Temp Shutdown.
Charger failure alarm.
Mains failure alarm.
Optional Under speed Protection.

DC Supply: 8 to 35 V Continuous.

PCRC210/220 INTELLIGENT CONTROL SYSTEM

The AMF25 is an Automatic Mains Failure module with generator monitoring, protection and start facilities. The controller has a large LCD screen, display the generator's each parameter, running and alarm information. The off/replacement button, mode switch button , start/stop button and the LED indicator light, makes the user easy to operate and maintain the generator.

Panel introduction:

- Indicator or digital type frequency, voltmeter and ampere meter demonstration unit's electrical parameter.
- The big red button uses for the operator to stop the genset peremptorily
- The controller.

Function:

- Communication: RS232 connection, uses the industry rank MODBUS protocol can easily communicate with others intelligence control system.
- Display function: LCD screen can display the generator's parameter and the control system's running information.
- Set up parameter: Engineer can set up the controller parameter from the control panel or through the PC, 6 programmable fan-out may satisfy the user each kind of demand.
- Protection: The control system can protect the generator set , manage each kind of electrical failure.
- Control Function of ATS.

DC Supply: 8 to 35 V Continuous.

Standard Features and Accessories

Standard Features

- Battery, Battery Rack and Battery Cables
- Integral Vibration Isolation
- Oil Drain Extension
- Air cleaner ,Heavy Duty
- 3 Pole Circuit Breaker
- Heavy duty industrial type exhaust silencer with flexible pipe(supplied loose).

Maintenance and Literature

- General Maintenance Literature Kit
- Test Certificate and design paper
- Quality certificate and Maintenance card

Accessories

Enclosed Unit

- ❑ Sound Enclosure
- ❑ Weather Enclosure (with enclosed critical silencer)
- ❑ Weather Housing (with roof-mounted critical silencer)
- ❑ Trailer(Causes the genset easily to move)

Open Unit

- ❑ Exhaust Silencer, Critical kit
- ❑ Flexible Exhaust Connector, Stainless Steel

Cooling System

- ❑ Block Heater (recommended for ambient temperatures below 0℃)
- ❑ Radiator Duct Flange
- ❑ Remote Radiator Cooling

Fuel System

- ❑ Auxiliary Fuel Pump
- ❑ Flexible Fuel Lines
- ❑ Mechanical dipstick or fuel level sensor
- ❑ Subbase Fuel Tank with Day Tank
- ❑ Fuel fill cap with breather
- ❑ 10 hours running tank
- ❑ Automatic fuel--providing device
- ❑ Hand primer pump

Electrical System

- ❑ Battery Charger, Equalize/Float Type

Engine and Alternator

- ❑ 3 or 4 Pole Circuit Breaker with Shunt Trip
- ❑ Fuel/Water Separator
- ❑ Oil Preheater
- ❑ Air Preheater
- ❑ Alternator Strip Heater

Maintenance and Literature

- ❑ Maintenance Kit (includes air, oil, and fuel filters)
- ❑ Overhaul Literature Kit

Paralleling System

- ❑ Reactive Droop Compensator
- ❑ Voltage Adjust Control
- ❑ Voltage Regulator Relocation Kit

Controller System

- ❑ Common Failure Relay Kit
- ❑ Customer Connection Kit(Except Open Style)
- ❑ Communications Products and PC Software
- ❑ Engine Pre-alarm Sender Kit
- ❑ Remote Annunciator Panel
- ❑ Remote Audiovisual Alarm Panel
- ❑ Remote Emergency Stop Kit
- ❑ PCRC series control system, with RS232 or RS485 communication connection and communication agreement.

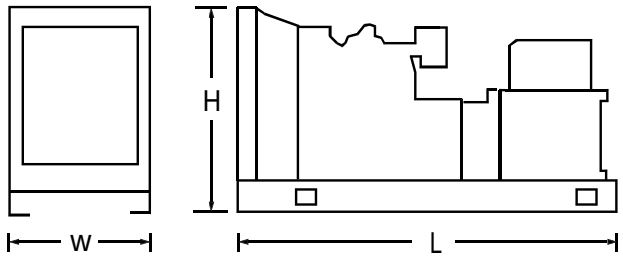
Miscellaneous Accessories

- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____
- ❑ _____

Dimensions and Weights

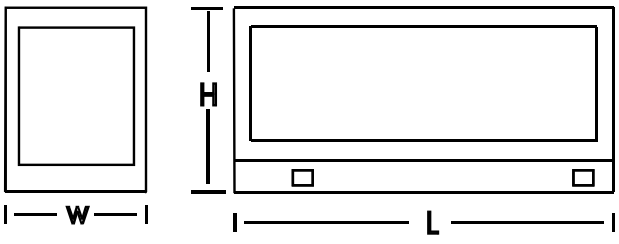
Open Style

Overall Size, L×W×H，mm	2020×740×1690
Weight(radiator model),net,Kg	950Kg



Soundproof Style

Overall Size, L×W×H，mm	2330×1110×1830
Weight(radiator model),net,Kg	1100Kg



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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