



Technical Data 320-2000 KVA

Genset Model			CT320	CT365	CT400	CT450	CT500	CT570	CT635	CT800	CT900	CT1000	CT1250	CT1400	CT1900	CT2000
1500RPM (50 Hz)	KVA	Prime Power	320	365	400	455	500	N/A	636	810	910	1000	1275	1400	1875	2000
		Stand by	350	402	440	500	550	N/A	700	900	1000	1100	1400	1675	2063	2233
	KW	Prime Power	256	292	320	365	400	N/A	509	648	728	800	1020	1120	1500	1627
		Stand by	280	321	352	400	440	N/A	560	720	800	880	1120	1340	1650	1787
1800RPM (60 Hz)	KVA	Prime Power	325	400	450	450	450	568	681	909	1029	1138	1418	1619	N/A	2281
		Stand by	360	446	500	500	500	625	750	1000	1125	1250	1610	1875	N/A	2500
	KW	Prime Power	260	358	360	360	360	484	545	727	823	910	1135	1295	N/A	1825
		Stand by	288	399	400	400	400	625	600	800	900	1000	1250	1618	N/A	2000
Engine Model			NT855 G6	NTA855 G3-4	QSX 15G4	QSX 15-G6	QSX15 G8	QSX15 G9	VTA 28G5	QSK23 G3	QST 30G3	QST30 G4	KTA 50G3	KTA 50G8-9	QSK 60G3	QSK 60G4-6
Number of Cylinders			6	6	6	6	6	6	12	6	12	12	16	16	16	16
Cycle (stroke)			4	4	4	4	4	4	4	4	4	4	4	4	4	4
Cooling Systems			Water Cooled													
Bore & Stroke (mm)			140X152	140X152	137X169	137X169	137X169	137X169	140X152	170X170	140X165	140X165	159X159	159X159	159X190	159X190
Displacement			14	14	14	15	15	15	28	23.15	30.48	30.48	50.3	50.3	60.2	60.2
Compression Ratio			14.0:	14.0:1	14.0:1	N/A	17:1	17:1	13.1:1	16.0:1	14.0:1	14.0:1	13.9:1	14.9:1	14.5:1	14.5:1
Aspiration			Natural - Turbo charged													
Max Back pressure (mmHg)			76	76	76	76	76	51	76	76	76	51	51	51	51	51
Coolant Capacity (Liters)			18.9	20.8	22	42	24	24	80	12.3	85	79	161	140	157	157

Fuel Consumption - Liters / Hours

1500RPM	At Stand Power	76	84	88	108	123	N/A	154	178	204	224	293	345	414	437
	At Prime Power	69	76	80	95.9	103	N/A	140	161	184	202	274	289	370	394
	At 75% Prime	52	57	59	74.3	78.7	N/A	104	121	139	151	261	222	276	291
	At 50% Prime Power	36	39	40	51.3	54.7	N/A	73	85	94	102	199	155	193	200
1800RPM	At Stand Power	82	81	130	107	107	138.8	N/A	212	228	267	330	209	N/A	521
	At Prime Power	74	85	112	97.6	97.6	117	N/A	189	207	240	310	208	N/A	466
	At 75% Prime Power	56	66	88	75.2	75.2	89.3	N/A	139	154	177	291	204	N/A	356
	At 50% Prime Power	40	45	64	53.4	53.4	63.6	N/A	97	106	119	222	203	N/A	247

Generator powers are typical and based on typical alternator efficiencies and a power factor of: 0.8 pf

Rating definitions:

- Prime power: Power available at variable load in view of a main power network.

Overload 10% is permitted for 1 hour in every 12 hours' operation.

- Standby (maximum) : Power available at variable load in the event of a main power network failure, no overload permitted.

The range of Cummins powered diesel generation sets

Model	Engine	Prime Power		Length mm.	Width mm.	Height mm.
		KVA	KW			
CT320	Nt855G6	320	256	300	90	220
CT365	NT855G3-4	365	292	300	90	220
CT400	QSX15G4	400	320	350	90	230
CT450	QSX15G6	455	364	350	90	230
CT500	QSX15G8	500	400	350	146	230
CT570	QSX15G9	568	454	350	146	230
CT635	VTA28G5	636	509	410	150	240
CT800	QSK23G3	810	648	420	170	230
CT900	QST30G3	910	728	420	170	230
CT1000	QST30G4	1000	800	430	170	230
CT1275	KTA50G5	1275	1020	510	200	230
CT1400	KTA50G8-9	1400	1120	510	200	230
CT1875	QSK60G3	1875	1500	550	200	250
CT2000	QSK60G4-6	2034	1627	600	220	260

NOTES

1- KVA figures quoted are based on a power factor of 0.8

2- All ratings are in accordance with newly-released ISO 8528-1 and ISO 3046, BS 5514 and DIN 6271 Standard as previous.

3- All ratings quoted are based upon nominal 380V 3ph 60Hz. Voltages outside these parameters may alter the quoted ratings.

4 Ratings quoted are based on standard alternator. Customer preference may alter rating to suit available frame sizes.

5- Ratings based on Cummins supplied test data at up to 50C ambient and NTP conditions.

Please contact PIMCO to assess any derated required.

STANDARD SPECIFICATION

Power & Industrial Machinery Company | Cummins 320 - 2000 KVA

1. OUTRATINGS

Output ratings are listed for each generator on the back sheet specification. The generator set is normally supplied connected for 380 or 415 Volt, 3 Phase, 50Hz, but alternative voltages/frequencies are available.

2. ENGINE

Perkins heavy duty industrial diesel engine. Technical details are contained on the single sheet specifications.

2.1 Governor

Mechanical compliant with BS5514 Class A1. Electronic Governor Class A1.

2.2 Electrical System

12 Volt DC up to model J135, 24 Volt DC on all other models. Energised to run shutdown solenoid. Oil pressure and water temperature shutdown switches and gauge senders.

3. COOLING RADIATOR

Radiator and cooling fan complete with protection guards, designed to cool the engine at specified output in air-on temperature up to 52 C (125 F).

4. ELECTRICAL SYSTEM

12 or 24 Volt system with battery charging alternator, axial type start motor, high capacity maintenance free lead acid starting battery, battery rack mounted on the generator set baseframe, and heavy duty interconnecting cables with terminations.

5. ALTERNATOR

Screen protected and drip-proof, self exciting, self regulating brushless alternator with fully interconnected damper windings, ICO6 cooling system and sealed - for - life bearing. 12 wire reconnection windings provide a wide range of 3 phase voltages.

5.1 Insulation System

The insulation system is class H. All windings are impregnated in either a triple dip thermosetting moisture, oil and acid resisting polyester varnish or vacuum pressure impregnated with a special polyester resin. heavy coat of anti-tacking varnish for additional protection against moisture or condensation.

5.2 Electrical Characteristics

Electrical design in accordance with BS5000 part 99, IEC34-1, VDE51100, NEMA MG-122.

5.3 Automatic Voltage Regulator

The fully sealed automatic voltage regulator maintains the voltage within the limits of +/- 1% from no load to full load including cold to hot variations at any power factor between 0.8 lagging and unity and inclusive of a speed variations of 4.5%. Nominal adjustment is by means of a trimmer incorporated in the AVR.

5.4 Waveform distortion, TIF Factors

The total distortion of the voltage waveform with open circuit between phases or phase and neutral is in the order of 2%. On a 3 phase balanced harmonic-free load the total distortion is in the order of 3.5%. Machines are designed to have a THF less than 2% and a TIF less than 50. A2/3 pitch factor is standard on all stator windings.

5.5 Radio Interference

Suppression is in line with the provisions of BS800 and VDE class G and N.

5.6 Motor Starting

An overload capacity equivalent to between 160% and 300% (depending on a motor frame size) of full load impedance at zero power factor can be sustained for 10 seconds.

6. MOUNTING ARRANGEMENT

6.1 Coupling

the engine and alternator are directly coupled by means of an SAE flange so that there is no possibility of misalignment after prolonged use. The engine flywheel is flexibly coupled to the alternator rotor and a full torsional analysis has been carried out to guarantee no harmful vibration will occur into the assembly.

6.2 Anti-Vibration Mounting Pads

Anti-Vibration pads are affixed between engine/alternator feet and the baseframe thus ensuring complete vibration isolation of the rotating assemblies and enabling the machine to be placed on and uneven surface without any detrimental effects.

7. FUEL SYSTEM

On all sets, the baseframe design incorporates an integral fuel tank with a capacity of approx. 8 hours. The tank is supplied complete with contents indicator, fuel fill cap with breather, fuel feed and return lines to engine and drain plug. (Upon Request)

8. CONTROL SYSTEM

8.1 Standard Control Panel

Set mounted keystore panel in a vibration isolated sheet steel enclosure with a hinged lockable door. The control panel is equipped as follows:

a. Instruments

Voltmeter
Ammeter
Frequency Meter
Hours Run Meter
Coolant Temperature Gauge
Oil Pressure Gauge
Battery Condition Voltmeter

b. Controls

Start/Stop Keyswitch
Voltmeter Phase Set Switch, 7Pos
Ammeter Phase set Switch, 4Pos

c. Shutdown Protection Devices With Indicators for:

High Coolant Temperature
Low Oil Pressure

d. DC and AC Wiring Looms

DC and AC wiring looms utilising industrial type multipin connectors, thus permitting fast fault finding and simple retrofitting of alternative or remote control systems.

8.2 Circuit Breaker

3 Pole moulded case circuit breaker mounted on the generator in a vibration isolated sheet steel box with adequate access for incoming and outgoing cables

9. WARRANTY

All Equipment is guaranteed for a period of 12 months from date of commissioning or 18 months from shipping whichever occurs first. Extended warranty terms are available.