



Technical Data 10-300 KVA

Genset Model		CT10	CT25	CT35	CT50	CT65	CT90	CT100	CT135	CT150	CT160	CT180	CT200	CT200	CT250	CT300	
1500RPM (50 Hz)	KVA	Prime Power	10	25	35	50	64	91	100	136	150	160	182	200	200	250	300
		Stand by	11	27.5	40	55	70	100	110	150	175	176	200	220	220	275	330
	KW	Prime Power	8	20	28	40	51	73	80	109	120	128	145	160	160	200	240
		Stand by	8.8	22	32	44	56	80	88	120	140	141	160	176	176	220	264
1800RPM (60 Hz)	KVA	Prime Power	1.3	22.5	40	56	69	103	113	143	169	N/A	200	225	228	284	344
		Stand by	2.5	25.5	44	63	75	113	125	156	188	N/A	219	250	250	313	375
	KW	Prime Power	9.1	18	32	45	55	82	91	114	135	N/A	160	180	182	227	275
		Stand by	10	20	35	50	60	90	100	125	150	N/A	175	200	200	250	300
Engine Model		X1.3 G1-2	G2-4	X3-3 G1-2	4BT3.3 G2/ S3.8G5	4BT3.9 G4/ S3.8G7	4BTA 3.9G4	6BTA 5.9G5	6BTA 5.9G3	QSB7 G3	6BTAA 5.9G5	6CTA 8.3G2	QSB7 G5	6CTAA 8.3G3	QSL9 G3	QSL9 G5	
Number of Cylinders		2	4	4	4	4	4	6	6	6	6	6	6	6	6	6	
Cycle (stroke)		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
Cooling Systems		Water - Cooled															
Bore & Stroke (mm)		21.4x127	91.4X127	91.4X127	95X115	102X120	102X120	102X120	102X120	107X124	102X120	114X135	107X124	114X135	114X145	140X152	
Displacement		1.3	2.5	3.3	3.3	3.92	3.92	5.88	5.88	6.69	5.9	8.3	6.69	8.3	8.8	14	
Compression Ratio		N/A	18:1	18.5:2	17:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.8:1	16.8:1	16.8:1	17.8:1	14.0:1	
Aspiration		Natural - Turbo Charged															
Max Back pressure (mmHg)		35	35	35	75	76	76	76	76	76	76	76	76	75	76	76	
Coolant Capacity (Liters)		N/A	7.5	8.6	4.5	7.2	7.9	8.5	27	36	9.1	12.3	26	12.3	11	20.8	

Fuel Consumption - Liters / Hours

1500RPM	At Stand Power	2.9	4	7.9	12.9	16	24	30	34	44	41	45	51	51	66	75
	At Prime Power	2.5	3.6	7.1	11.5	15	22	27	31	38	37	40	48	46	59	63
	At 75% Prime	1.8	2.9	5.4	8.4	11	16	20	24	30	29	30	36	34	49	46
	At 50% Prime Power	1.4	2.1	3.9	5.9	8	11	12	16	21	19	20	26	23	34	31
1800RPM	At Stand Power	3.6	4.6	12.2	15.6	19	27	35	40	48	N/A	53	59	64	77	89
	At Prime Power	3.0	4.1	9.7	13.4	17	24	28	36	42	N/A	48	50	56	70	75
	At 75% Prime Power	3.0	3.3	6.9	10.0	13	18	22	27	33	N/A	35	40	41	58	55
	At 50% Prime Power	2.4	2.3	5.1	7.0	10	14	18	20	23	N/A	24	30	28	41	36

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 KVA KW		Length mm.	Width mm.	Height mm.
CT10	X1.3G1-2	10	8	135	60	90
CT25	X2.5G1-2	25	20	170	70	110
CT35	X3.3G1-2	35	28	170	70	110
CT50	4BT3.3G1-2	50	40	170	70	120
CT65	4BT3.9G4	64	51	170	70	125
CT90	4BTA3.9G4	91	73	200	70	135
CT100	6BTA5.9G5-6	100	80	240	70	140
CT135	6BTA5.9G3	136	109	240	70	140
CT150	QSB7G3	150	120	270	90	150
CT160	6BTAA5.9G5	160	128	270	90	150
CT180	6CTA8.3G2	182	145	270	90	150
CT200	QSB7G5	200	160	270	90	160
CT200	6CTAA8.3G3	200	160	270	90	160
CT250	QSL9G3	250	200	300	90	210
CT300	QSL9G5	300	240	300	90	210

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 10 - 300 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 reconnected 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 keystone 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.