

PowerCo Systems International Ltd.

UK MANUFACTURED GENERATORS

POWERCO MODEL: PCS135P - PCS200P

PERKINS 1106 SERIES TECHNICAL DATA SHEET

Cost Effective Power:

- Compact size and low noise level
- Lower fuel consumption and oil use
- Low operating costs
- 500 hour service intervals



PowerCo Generating Set Model	Perkins Engine Model	380-415 50hz		480v 60hz	
		KVA	KW	KVA	KW
PCS135P/140P (PRIME)	1106A-70TG1	135/138	108/110	N/A	N/A
PCS135P/140P (STANDBY)	1106A-70TG1	150/152	120/122	N/A	N/A
PCS150P (PRIME)	1106A-70TAG2	150	120	169	135
PCS150P (STANDBY)	1106A-70TAG2	164	131	188	150
PCS180P (PRIME)	1106A-70TAG3	180	144	197	158
PCS180P (STANDBY)	1106A-70TAG3	196	157	219	175
PCS200P (PRIME)	1106A-70TAG4	200	160	N/A	N/A
PCS200P (STANDBY)	1106A-70TAG4	220	176	N/A	N/A

RATING DEFINITIONS

Prime Power

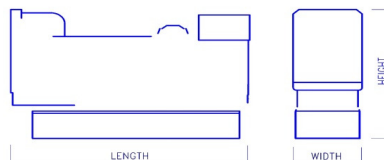
These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and these models can supply 10% overload power for 1 hour in 12 hours.

Standby Power

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings.

DIMENSIONS AND WEIGHTS

Genset Models:	Net kg	Length mm	Width mm	Height mm
PCS135P/140P	1550	2210	760	1570
PCS150P	1615	2320	760	1670
PCS180P	1635	2510	820	1670
PCS200P	1685	2510	820	1670



PERKINS ENGINE TECHNICAL DATA

Generating Set Model:	PCS135P/140P	PCS150P	PCS180P	PCS200P
Engine Manufacturer:	PERKINS	PERKINS	PERKINS	PERKINS
Model:	1106A-70TG1	1106A-70TAG2	1106A-70TAG3	1106A-70TAG4
Number of Cylinder:	6 In line	6 In line	6 In line	6 In line
Displacement:	7 Litre	7 Litre	7 Litre	7 Litre
Cycle	4 stroke	4 stroke	4 stroke	4 stroke
Cooling System	Water cooled	Water cooled	Water cooled	Water cooled
Combustion System	Direct Injection	Direct Injection	Direct Injection	Direct Injection
Bore/Stroke: (mm)	105 x 135	105 x 135	105 x 135	105 x 135
Aspiration:	Turbo charged	Turbo charged A2A	Turbo charged A2A	Turbo charged A2A
Direction of rotation	Anti-clockwise	Anti-clockwise	Anti-clockwise	Anti-clockwise
Lub. Oil Capacity ltrs:	16.5	16.5	16.5	16.5
Coolant capacity ltrs:	21	21	21	21
Electrical equipment	12vDC	12vDC	12vDC	12vDC
Compression Ratio:	18:2:1	18:2:1	18:2:1	18:2:1
50 hz				
Engine Speed:	1500rpm	1500rpm	1500rpm	1500rpm
Maximum Continuous Power at Flywheel: kw	119	131	158	174
Maximum Standby Power at Flywheel: kw	132	144	175	191
Fuel Cons: L/hr				
110%	33.8	36.1	44.6	49.4
100%	30.3	33.4	41.6	45.8
75%	22.7	24.7	31.8	34.7
50%	15.9	16.4	20.1	23.1
60hz				
Engine Speed:	1800rpm	1800rpm	1800rpm	1800rpm
Maximum Continuous Power at Flywheel: kw	N/A	147	173	N/A
Maximum Standby Power at Flywheel: kw	N/A	164	192	N/A
Fuel Cons: L/hr				
110%	N/A	41.7	N/A	N/A
100%	N/A	38.2	N/A	N/A
75%	N/A	29.1	N/A	N/A
50%	N/A	19.1	N/A	N/A

NOTE: All engine performance data based on our maximum continuous rating at the standard reference conditions specified. Fuel consumption data at full load with a diesel fuel with a specific gravity of 0.85 conforming to BS2869:1988, Class A2

In line with our policy of continuous product development, we reserve the right to change specifications without notice.

ALTERNATOR MODELS

Mecc Alte (UK)	ECP34-2L	ECP34-2L	ECO38-1S	ECO38-2S
Newage Stamford	UCI274E	UCI274F	UCI274G	UCI274H
Leroy Somer	LSA44.3M8 or L10	LSA44.3L10	LSA46.2M3	LSA46.2M5



STANDARD SUPPLY:

12/24 volt axial starter motor
 12/24 volt heavy duty batteries
 Engine driven charging alternator
 Engine starting motor
 Set mounted heavy duty tropical radiator and pusher fan
 Fuel oil filter
 Lube oil filter
 Air intake filter
 Energised to run solenoid
 Low oil pressure switch
 High engine temperature switch
 Industrial silencer with flexible section
 Mechanical/electrical governor or ECM (check with sales)
 8hr base fuel tank up to 800kva
 Open Skid base above 800kva
 Captive AVMs
 One set operation manuals
 One set engine and alternator maintenance books
 One set electrical schematic drawings

TESTING All units are fully tested in our works prior to depatch

WARRANTY All PowerCo equipment carries a full 12 month warranty in accordance with our conditions of sale. 24 month warranties are available FOC for standby units running at limited hours (please check with sales for full details).

AVAILABLE OPTIONS:

55DBA-85DBA weatherproof acoustic canopies and containers
 Residential silencers
 Critical silencers
 Full EEC trailers
 Non EEC trailers
 Free standing fuel tanks
 Bunded fuel tanks
 Automatic fuel make-up system
 Fuel level warnings
 CE certification
 Unlimited other options are available (contact sales for details)

ALTERNATOR:

We use Cummins Generator Technology (Newage Stamford), Leroy Somer of France and also Mecc Alte of the UK.
 Brushless revolving field
 4 pole
 Class H temperature rise 125/40
 Class H Insulation
 Automatic voltage regulator
 Single bearing
 0.5% - 1% voltage regulation
 TIF 50/NEMA MGI-22-43
 THF>3%
 RFI to BS800
 50HZ voltage range - 380/220 - 415/240v
 60HZ voltage range - 220/127 - 480/277v

SET MOUNTED DIGITAL CONTROL SYSTEM:

Deep Sea Electronics model **7120** microprocessor engine controller provides metering and alarm facilities via the LCD display as follows:
 Emergency stop push button
 Generator volts line/line
 Generator volts line/neutral
 Generator amps 3 phase
 Generator frequency Hz
 Mains volts line/line
 Mains volts line/neutral
 Mains frequency Hz
 Engine speed
 Engine oil pressure
 Engine coolant temperature
 Engine battery/volts
 Engine hours run

Event log

Additional engine parameter metering via CAN (engine permitting)

PROTECTIONS:

Generator over-volts - shutdown
 Generator under-volts - shutdown
 Mains out of limits
 Mains under volts
 Mains over volts
 Mains under frequency
 Mains over frequency
 Over speed - shutdown
 Under speed - shutdown
 Over frequency Hz - shutdown
 Under frequency Hz - shutdown
 High current - alarm
 Battery charge fail - alarm
 Emergency stop
 Low oil pressure - shutdown
 High engine temperature - shutdown
 Fail to start - alarm
 High battery volts - alarm
 Low battery volts - alarm
 Fail to come to rest - alarm
 Loss of speed sensing signal - alarm
 LED indication indicates - alarm (amber) or shutdown (red flashing)
 USB programming port - standard printer cable connection

TIMERS:

Start delay
 Stop delay
 Crank/crank rest timer
 Engagement attempt an manual crank limit
 Safety on delay timer
 Warm up timer
 Cooling timer
 Exercise scheduler
 Energise to stop timer

CONTROL SYSTEM UPGRADES:

7220 gives the following extras:
 (Standard supply above 650kVA)
 Generator power factor
 Generator phase sequence
 Generator kVA
 Generator kVA/hr
 Generator kVAr
 Generator kVAr/hr
 Generator kW
 Generator kW/hr
 Load shedding control
 Dummy load control
 Dual mutual
 Remote SCADA monitoring (wired)

7320 gives the following extras:-
 (Standard supply above 1000kVA)
 SMS messaging (modem required)
 SMS start/stop (modem required)
 Ethernet comms (additional module required)
 I/O expansion
 RS232 & RS484 comms

8610 auto-synchronising unit gives you the following upgrades:-
 Synchroscope display
 Bus volts line/line
 Bus volts line/neutral
 Bus frequency Hz
 Bus phase sequence
 Full automatic synchronising
 Automatic load sharing
 Automatic load level demand (switches units on and off line depending on load levels)
 Modbus RTU/TCP

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