



**VERTEX**  
ENGINEERING & SERVICES



# UK MANUFACTURED GENERATORS

PS65P –PS100P

PERKINS 1104 SERIES TECHNICAL DATA SHEET

#### Head Office

H # 2243, Markaz, I-10/2  
Islamabad. 44000  
Pakistan  
Tel: +92-51-4433933  
Fax: +92-51-4102199

#### Lahore Office

Mian Ishaq Nursery Area  
Opp Rangers HQ  
Lahore Cantt.  
Tel: +92-423-6635634-5  
Fax: +92-423-6635636

#### Dubai Office

Mirdif Shoroq Bldg 16,  
App # 101,  
Dubai 5600  
Tel: +971 503566782  
Fax: +971 45576210

#### Germany Office

Maehderstr.11  
72768 Reutlingen,  
Germany.  
Tel: +49 7121 624697  
Fax: +49 7121 624698

E: [info@vertexengineering.com.pk](mailto:info@vertexengineering.com.pk)

Web: [www.vertexengineering.com.pk](http://www.vertexengineering.com.pk)



**STAMFORD**



Sun. Water. Life.  
**LORENTZ**





# UK MANUFACTURED GENERATORS

## PS65P –PS100P PERKINS 1104 SERIES TECHNICAL DATA SHEET



### Cost Effective Power:

- Compact size and low noise level
- Lower fuel consumption and oil use
- 500hrs service intervals

Vertex Generating Set Model	Perkins Engine Model	380-415 50hz		480v 60hz	
		KVA	KW	KVA	KW
PS65P (PRIME)	1104A-TG1	65	52	80	64
PS65P (STANDBY)	1104A-TG1	71.5	57.2	87	69.6
PS80P (PRIME)	1104A-TG2	80	64	95	76
PS80P (STANDBY)	1104A-TG2	88	70.2	105	84
PS100P (PRIME)	1104C-TAG2	100	80	117	93.6
PS100P (STANDBY)	1104C-TAG2	110	88	128	102.4

### RATING DEFINITIONS

#### Prime Power

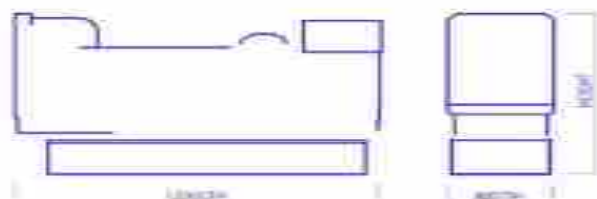
These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and these models can supply 10% overload power for 1 hour in 12 hours.

#### Standby Power

These rating 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
PS65P	996KG	1820	720	1500
PS80P	1088KG	1820	720	1500
PS100P	1137KG	1862	720	1500





**PERKINS ENGINE TECHNICAL DATA**

Generating Set Model:	PS65P	PS80P	PS100P
Engine Manufacturer:	PERKINS	PERKINS	PERKINS
Model:	1104A-TG1	1104A-TG2	1104C-TAG2
Number of Cylinder:	4 In line	4 In line	4 In line
Displacement:	4.4Ltrs	4.4ltrs	4.4ltrs
Cycle	4 stroke	4 stroke	4 stroke
Cooling System	Water cooled	Water cooled	Water cooled
Combustion System	Direct Inj.	Direct Inj.	Direct Ing.
Bore/Stroke: (mm)	105 X 127	105 X 127	105 X 127
Aspiration:	Turbo charged	Turbo charged	Turbo charged
Direction of rotation	Anti-clockwise	Anti-clockwise	Anti-clockwise
Lube. Oil Capacity ltrs:	8	8	8
Coolant capacity ltrs:	13	13	12.9
Electrical equipment	12vDC	12vDC	12vDC
Compression Ratio:	17.25:1	17.25:1	18.2:1
		<b>50 hz</b>	
Engine Speed:	<b>1500rpm</b>	<b>1500rpm</b>	<b>1500rpm</b>
Maximum Continuous Power at Flywheel: kw	58.4	71.9	89
Maximum Standby Power at Flywheel: kw	64.3	79.1	98
Fuel Cons: L/hr			
110%	16.2	20.5	24.9
100%	14.8	18.7	22.6
75%	11.2	14	17.1
50%	8	9.7	11.2
		<b>60hz</b>	
Engine Speed:	<b>1800rpm</b>	<b>1800rpm</b>	<b>1800rpm</b>
Maximum Continuous Power at Flywheel: kw	68.6	82	100
Maximum Standby Power at Flywheel: kw	75.5	90.2	112
Fuel Cons: L/hr			
110%	19.5	24.4	29.7
100%	17.7	22.3	26.9
75%	13.5	16.9	20.2
50%	9.6	11.9	14.1

**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)	ECO32-3L	ECP34-1S	ECP34-2S
Newage Stamford	UCI224F	UCI224G	UCI274C
Leroy somer	LSA43.2 L65	LSA43.2 L8	LSA44.2 VS45



**STANDARD OPTION:**

12/24volt axial starter motor  
12/24v 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  
Energized 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 upto 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 dispatch and each unit is issued with a Test Certificate.  
WARRANTY All Power Co equipment carries a full 12 month warranty in accordance with our conditions of sale. 24monthys 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  
Unlimited other options are available

**ALTERNATOR:**

We use Cummins Generator technology (Newage Stamford), Leroy Somer of France and also Mecc Alte of the UK(up to 350kva) and Mecc Alte of Italy (360-3000kva)  
Brushless revolving field  
4 pole  
Class H Temperature rise 125/40  
Class H Insulation  
Automatic voltage regulator  
Single bearing  
0.5% Voltage regulation (Leroy)  
1.0% Voltage regulation 200kva and above (Mecc Alte)  
1.5% Voltage regulation 0-180kva and above (Mecc Alte)  
0.5% Frequency 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:**

Power Co model 6110 microprocessor engine control module provides metering and alarm facilities via the LCD display as follows:  
Emergency stop pushbutton  
Generator volts line/line  
Generator volts line/neutral  
Generator amps 3 phase  
Generator frequency Hz  
Engine speed  
Engine oil pressure  
Engine coolant temperature  
Engine battery/volts  
Engine hours run

**PROTECTIONS:**

Generator over-volts – shutdown  
Generator under-volts – shutdown  
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 PROGRAMME PORT – standard printer cable connection

**TIMERS:**

Start delay  
Stop delay  
Crank/crank rest timer  
Crank/crank rest timer  
Engagement attempt and manual crank limit  
Safety on delay timer  
Warm up timer  
Cooling timer  
Energize to stop timer

**CONTROL SYSTEM UPGRADES:**

7210 auto-start unit gives the following extra's:-  
Generator KVA  
Generator KW  
Generator COS

5510 auto-synchronizing unit gives you the following upgrades:-  
Generator kVA L1, L2, L3, Total  
Generator kW L1, L2, L3, Total  
Generator Pf L1, L2, L3, Average  
Generator kVAh L1, L2, L3, Total  
Generator kWh  
Generator kVAh  
Generator kVAh  
Generator Phase Sequence  
Full automatic synchronizing  
Automatic load sharing  
Automatic load level demand (switches units on and off line depending on load levels)



Automatic transfer panel (ATS) 25 – 1000A Contactors

IP55 wall or freestanding sheet steel cubicle with hinged front access door and base entry gland plate. Finished in grey epoxy polyester powder-coat. AC1 Rating at 40oC

Fitted with;

1 x Pair of 4 pole mechanically and electrically interlocked contactors.  
x Set of load links and terminals up to 125A.

1 x Set of copper bar load links above 125A. 800 -

1 x 3 ph + N mains detector.

1 x Mains available indicator.

1 x Mains on load indicator.

1 x Generator available indicator.

1 x Generator on load indicator.

1 x Set of control and monitoring MCB's.

1 x Earth stud.

1 x Set of interconnecting terminals.

1 x Hazard warning label

1 x Rating label.

Dimensions 4 pole ;

25A – 125A H600mm x W400mm x D200mm

200A – 450A H800mm x W600mm x D300mm

550A –1000A H1200mm x W800mm x D400mm

Automatic transfer panel (ATS) 800 – 6300A Circuit Breaker

Floor-standing cubicle with hinged front access door and removable side and rear covers for ease of installation. Top and base entry aluminum gland plate. Control compartment IP2X and segregated from load switching. Secondary screening over switchgear. Finished in grey polyester powder-coat RAL7035.

Fitted with;

1 x Pair of motorized mechanically and electrically interlocked fixed pattern circuit breakers (Non Auto).

1600A MCCB (MCS)

800 – 6300A ACB

1 x Set of load connection terminals.

Generator / Mains / Load.

1 x Mains available indicator.

1 x Mains on load indicator.

1 x Generator available indicator.

1 x Generator on load indicator.

1 x Set of control and monitoring MCB's.

1 x Earth bar.

1 x Set of interconnecting terminals.

1 x Hazard warning labels

1 x Rating label.

MCCB;

800 - 1600A H1800mm x W600mm x D800mm

ACB;

800A – 1600A H1800mm x W 600mm x D800mm

2000A H2000mm x W 800mm x D800mm

2500A – 3200A H2000mm x W1000mm x D800mm

4000A H2000mm x W2000mm x D800mm

5000A – 6300A H2000mm x W2400mm x D800mmDimensions;