8.2 Technical specifications for QAS 100 Pd units

8.2.1 Readings on gauges

Gauge	*Reading*	*Unit*
Ammeter L1-L3 (P1-P3)	Below max. rating	A
Voltmeter (P4)	Below max. rating	V

8.2.2 Settings of switches

Switch	*Function*	*Activates at*
Engine oil pressure	shut down	0.5 bar
Engine coolant temperature	shut down	105°C

8.2.3 Specifications of the engine/alternator/unit

		50 Hz	*60 Hz*
Reference conditions 1)	Rated frequency	50 Hz	60 Hz
	Rated speed (optional)	1500 rpm	1800 rpm
	Generator service duty	PRP	PRP
	Absolute air inlet pressure	100 kPa	100 kPa
	Relative air humidity	30 %	30 %
	Air inlet temperature	25°C	25°C
Limitations 2)	Maximum ambient temperature	40°C	40°C
	Altitude capability	1000 m	1000 m
	Maximum relative air humidity	85 %	85 %
	Minimum starting temperature unaided	-18°C	-18°C
	Minimum starting temperature aided (optional)	-25°C	-25°C
Performance data 2) 3) 5)	Rated active power (PRP) 3ph	80 kW	92 kW
	Rated power factor (lagging) 3ph	0.8	0.8
	Rated PRP power 3ph	100 kVA	115 kVA
	Rated voltage 3ph. line to line	400 V	480 V
	Rated voltage 3ph. line to line lower voltage	230 V	240 V
	Rated current 3ph.	144 A	138 A
	Rated current 3ph. lower voltage	251 A	277 A
	Performance class (acc.ISO 8528-5:1993) (optional)	G2	G2
	Frequency droop	<5 % isochronous	<5 % isochronous
	Fuel consumption at full load/no load	18.8/2.2 kg/h	23.1/3.1 kg/h
	Specific fuel consumption	0.24 kg/kWh	0.26 kg/kWh
	Fuel autonomy at full load with standard tank	8 h	6 h
	Fuel autonomy at full load with standard tank and optional skid fueltank	26 h	21 h
	Max. oil consumption at full load	28.2 g/h	34.7 g/h
	Maximum sound power level (LWA) measured according to 2000/14/EC OND	93 dB(A)	97 dB(A)
	Capacity of fuel tank	168 l	168 l
	Capacity of optional skid fuel tank	403 l	403 l
	Single step load acceptance	80 %	90 %
Application data	Mode of operation	PRP	PRP
	Site	land use	land use
	Operation	single	single
	Start-up and control mode	manual/automatic	manual/automatic
	Start-up time	unspecified	unspecified
	Mobility/ Config. acc. to ISO 8528-1:1993	transportable/D	transportable/D
	(optional)	mobile/E	mobile/E
	Mounting	fully resilient	fully resilient
	Climatic exposure	open air	open air
	Degree of protection (cubicle)	IP54	IP54
	Status of neutral	earthed	earthed

Alternator 4)	Standard	IEC34-1 ISO 8528-3	IEC34-1 ISO 8528-3
	Make	NEWAGE	NEWAGE
	Model	UCI 274 C	UCI 274 C
	Rated output, class H temp. rise	100 kVA	117.5 kVA
	rating type acc. ISO 8528-3	BR	BR
	Degree of protection	IP 23	IP 23
	Insulation stator class	H	H
	Insulation rotor class	H	H
	Number of wires	12	12
Engine 4)	Standard	ISO 3046 ISO 8528-2	ISO 3046 ISO 8528-2
	Type PERKINS	1104C-44TAG2	1104C-44TAG2
	Rated net output	89 kW	100 kW
	rating type acc. ISO 3046-7	ICXN	ICXN
	Coolant	water	water
	Combustion system	direct injection	direct injection
	Aspiration	turbo intercooled	turbo intercooled
	Number of cylinders	4	4
	Swept volume	4.41 l	4.41 l
	Speed governing	electronic	electronic
	Capacity of oil sump	8 l	8 l
	capacity of cooling system	12.6 l	12.6 l
	Electrical system	12 Vdc	12 Vdc
Power circuit	**Circuit-breaker, 3ph**		
	Number of poles	4	4
	Thermal release It (thermal release is higher at 25°C)	145 A	145 A
	Magnetic release Im	3..5xIn	3..5xIn
	Circuit-breaker, 3ph, lower voltage		
	Number of poles (optional)	3	4
	Thermal release It (thermal release is higher at 25°C)	250 A	TBA
	Magnetic release Im	3..5xIn	3..5xIn
	Fault current protection		
	Residual current release IDn	0.030-30 A	0.030-30 A
	Insulation resistance (optional)	10-100 kOhm	
	Outlet sockets (optional)	domestic (1x) 2p + E 16 A + 230 V CEE form (1x) 3p + N + E 16 A + 400 V CEE form (1x) 3p + N + E 32 A + 400 V CEE form (2x) 3p + N + E 63 A + 400 V	
Unit	Dimensions (LxWxH)	2940 x 1100 x 1500 mm	2940 x 1100 x 1500 mm
	Weight net mass	1810 kg	1810 kg
	Weight wet mass	1960 kg	1960 kg

Notes

1) Reference conditions for engine performance to ISO 3046-1.

2) See derating diagram or consult the factory for other conditions.

3) At reference conditions unless otherwise stated.

4) Rating Definition (ISO 8528-1):
   - LTP: Limited Time Power is the maximum electrical power which a generating set is capable of delivering (at variable load), in the event of a utility power failure (for up to 500 hours per year of which a maximum of 300 hours is continuous running). No overload is permitted on these ratings. The alternator is peak continuous rated (as defined in ISO 8528-3) at 25°C.
   - PRP: Prime Power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals and under the stated ambient conditions. A 10% overload is permitted for 1 hour in 12 hours. The permissible average power output during a 24h period shall not exceed the stated load factor of 80%.

5) Specific mass fuel used: 0.86 kg/l.

Derating

Height (m)	Temperature (°C)								
	0	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
0	100	100	100	100	100	100	100	98	97
500	100	100	100	100	100	100	99	98	97
1000	100	100	100	100	100	99	98	97	96
1500	97	97	97	97	97	97	97	96	95
2000	94	94	94	94	94	94	94	94	93
2500	88	88	88	88	88	88	88	88	88
3000	88	88	88	88	88	88	88	88	88
3500	82	82	82	82	82	82	82	82	82
4000	82	82	82	82	82	82	82	82	82

For use of generator outside these conditions, please contact Atlas Copco.