This document gives a complete list of technical data with some detailed explanations of the main systems, subsystems and performance of our generators, in order to support local sales documentation, tenders or even technical doubts.

While every effort has been made to ensure that the information in this manual is correct Atlas Copco does not assume responsibility for possible errors. Atlas Copco reserves the right to make changes without prior notice.


## Standard Model Scope

Applying insights gained from industrial customers, rental companies, public utilities and other end users QAS generators are designed to withstand the most demanding on-site conditions and environments.

Considering their impressive performance at full capacity, the QAS line of generators includes excellent features for noise reduction and environmental protection.

QAS generators are purpose built for quick, easy and safe transport and on-site handling. Built to last, a QAS generator will provide years of dependable service for your electrical power generation needs.
All members of the widely appreciated QAS family are intelligent multi-task units managing to power a wide range of electrical equipment in different applications.

Their superior component configuration offers a wide range of control modules, electrical settings and mechanical options, in order to guarantee superior quality at efficient operating costs.

Conceived for 100% prime power operation in the most severe outdoor conditions, ready to work in sensitive areas, QAS generators are designed and configured for safe operation with minimal downtime under any circumstance.

## Features

- Carefully selected components, accurately developed and tested configuration
- Superior standard configuration and extensive option list
- 500 hours service interval and superior accessibility to all service points
- Compact and safe concept and sturdy design
- Designed and built to last

## Benefits

- Accurate and stable power regardless of the conditions
- Ability to power a wide range of applications
- Service efficiency: increased up-time
- Increased transport efficiency
- Superior resale value / longer life time

## Manufacturing and Environmental Standards

The QAS range is manufactured following stringent ISO 9001 regulations, and by a fully implemented Environmental Management System fulfilling ISO 14001 requirements.

Attention has been given to ensure minimum negative impact to the environment.
The QAS range complies with the latest noise emission directives.

## Declaration of Conformity

Our QAS EC falls under the provisions of the article 12.2 of the EC Directive 2005/42/EC on the approximation of the laws of the Member States relating to machinery, is in conformity with, the relevant Essential Health and Safety Requirements of this directive:
**MACHINERY SAFETY (2006/42/EC**): EN ISO 12100-1, EN ISO 12100-2, UNE EN 12601
**ELECTROMAGNETIC COMPATIBILITY (2004/108/EC):** EN 61000-6-5, EN 61000-6-4
**LOW VOLTAGE EQUIPMENT (2006/95/EC):** EN 60034, EN60204-1, EN 60439
**OUTDOOR NOISE EMISSION (2000/14/EC):** ISO 3744
**IS0 8528**: QAS generators are design to comply with ISO 8528 regulation

## 1. Performance Data

| Generator | | QAS 100 Pd S3A | |
|---|---|---|---|
| Rated speed | rpm | 1500 | 1800 |
| Rated power factor (lagging) | | 0.8 | 0.8 |
| Rated Prime Power, PRP | kVA | 100 | 103 |
| | kW | 80 | 82.4 |
| Limited Time Power, ESP (Stand-by) | kVA | 110 | 113.3 |
| | kW | 88 | 90.6 |
| Continuous Operation Power, COP (Continuous) | kVA | 80 | 82.4 |
| | kW | 64 | 65.9 |
| Rated voltage (3ph. line to line) | V | 400 | 480 |
| Rated voltage (1ph. line to neutral) | V | 230 | 277 |
| Rated current 3ph. (PRP) | A | 144.3 | 123.9 |
| Rated current 3ph. (ESP) | A | 158.8 | 136.3 |
| Maximum sound power level (LWA) complies with 2000/14/EC | dB(A) | 91 | 95 |
| Maximum sound pressure level (LPA) at 7 m | dB(A) | 63 | 67 |
| Coupling engine/alternator | | Direct | |
| Capacity fuel tank (total) | l | 250 | |
| Fuel tank specifications | | Plastic | |
| Fuel Autonomy at full load (Considering full capacity) | h | 10.8 | 9.36 |
| Single step load acceptance (within G2, acc. ISO 8528-5:1993) | % | 80 | 85 |
| Frequency drop (lower than % isochronous) | % | ≤0,05 | |
| Maxim oil consumption 100% load | l/h | 0.035 | 0.04 |

### Derating Table (%)

| | 0ºC | 5 ºC | 10 ºC | 15 ºC | 20 ºC | 25 ºC | 30 ºC | 35 ºC | 40 ºC | 45 ºC | 50 ºC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 m | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 95 | 85 |
| 500 m | 100 | 100 | 100 | 100 | 100 | 100 | 95 | 95 | 95 | 90 | 85 |
| 1000 m | 95 | 95 | 90 | 90 | 90 | 90 | 90 | 85 | 85 | 85 | 80 |
| 1500 m | 90 | 90 | 90 | 90 | 90 | 90 | 85 | 85 | 85 | 80 | 80 |
| 2000 m | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 80 | 80 |
| 2500 m | 90 | 90 | 90 | 90 | 90 | 80 | 80 | 85 | 85 | NA | NA |
| 3000 m | 80 | 80 | 80 | 75 | 75 | 75 | 75 | 75 | 75 | NA | NA |
| 3500 m | 80 | 80 | 75 | 75 | 75 | 75 | 75 | NA | NA | NA | NA |
| 4000 m | 70 | 70 | 70 | 70 | 70 | 65 | 65 | NA | NA | NA | NA |

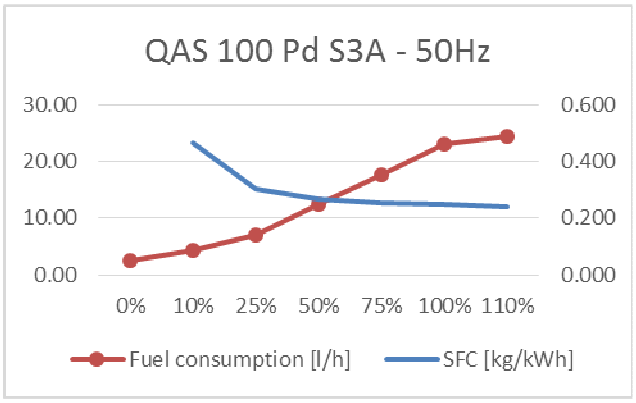
| Limitations | | QAS 100 Pd S3A |
|---|---|---|
| Maximum ambient temperature | ºC | 50 |
| Altitude capability | m | 4000 |
| Relative air humidity maximum | % | 85 |
| Minimum running temperature | ºC | -15 |
| Minimum running temperature, with coldstart equipment and opened breather* | ºC | -25 |

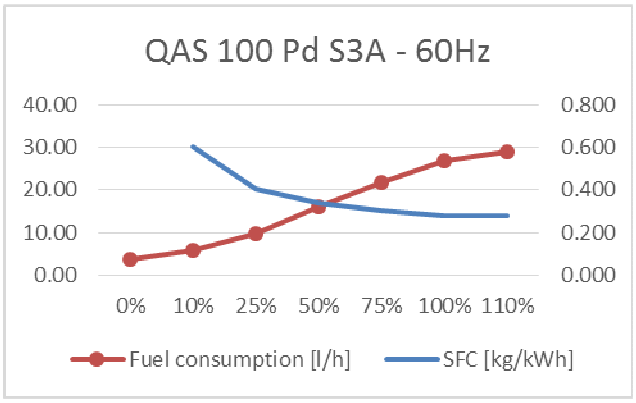
*** on high humidity regions freezing may occur on the *breather pipes***

| Application Data | | QAS 100 Pd S3A |
|---|---|---|
| Mode of operation | | PRP |
| Max. Inclination | | +/- 25º |
| Operation | | Single / parallel |
| Start-up and control mode | | manual / auto |
| Climatic exposure | | open air |

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |
| **Fuel Consumption at*:** | | | |
| 0% Load | l/h | 2.59 | 3.57 |
| 10% Load | l/h | 4.31 | 5.76 |
| 25% Load | l/h | 7.09 | 9.76 |
| 50% Load | l/h | 12.42 | 16.14 |
| 75% Load | l/h | 17.67 | 21.69 |
| 100% Load | l/h | 23.08 | 26.71 |
| 110% Load | l/h | 24.50 | 29.03 |
| | | | |
| **Specific Fuel Consumption at:** | | | |
| 0% Load | kg/kWh | NA | NA |
| 10% Load | kg/kWh | 0.464 | 0.601 |
| 25% Load | kg/kWh | 0.305 | 0.407 |
| 50% Load | kg/kWh | 0.267 | 0.337 |
| 75% Load | kg/kWh | 0.253 | 0.302 |
| 100% Load | kg/kWh | 0.248 | 0.279 |
| 110% Load | kg/kWh | 0.239 | 0.275 |

***Diesel fuel type No. 2 diesel or a fuel corresponding to ASTM D2. Density: 0,86 kg/l***



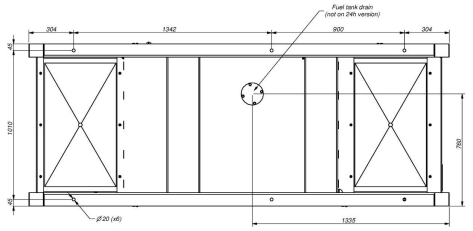



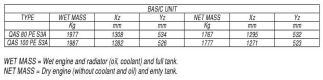

**(Reference conditions at 25ºC Air Inlet Temperature, 60% Relative Humidity, 1bar Absolute inlet pressure, for different conditions or limitations contact Atlas Copco technical support).**

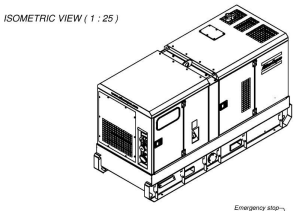
## 2. Box

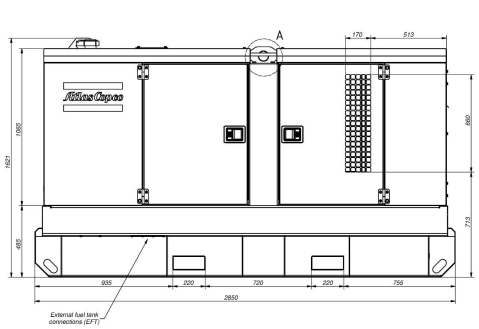
| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |
| **Dimensions** (L x W x H) | m | 2,85 x 1,1 x 1,62 | |
| **Weight** | | | |
| Net mass | Kg | 1777 | |
| Wet mass | Kg | 1987 | |
| **Capacity of spillage free frame** | l | 291.5 | |
| | | | |
| **Dimensions Long autonomy Fuel tank** | | 2,85 x 1,1 x 1,74 | |
| **Weight** | | | |
| Net mass | Kg | 1857 | |
| Wet mass | Kg | 2353 | |
| | | | |
| **Foam silencer** | | | |
| Thickness | mm | 50 | |
| Temperature | ºC | Min -30 Max 120 | |

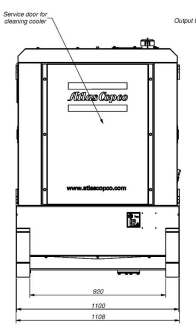
Our canopies are made from galvanized steel and painted with powder coating paint. To improve the protection in the most exposed parts as frame and lifting beam, it is also primed with a special paint before coating.

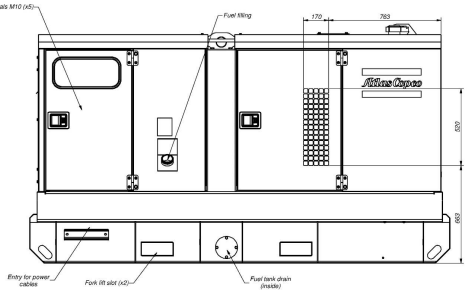


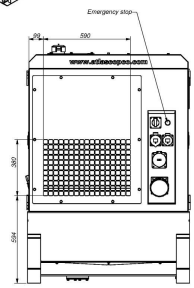


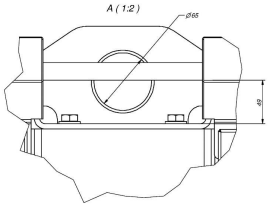



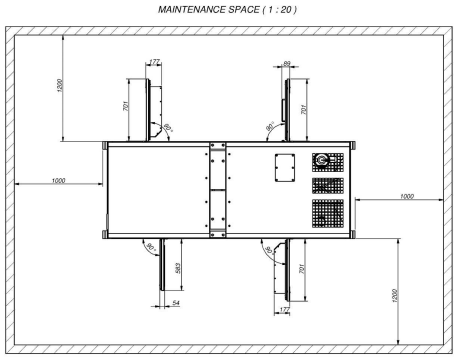



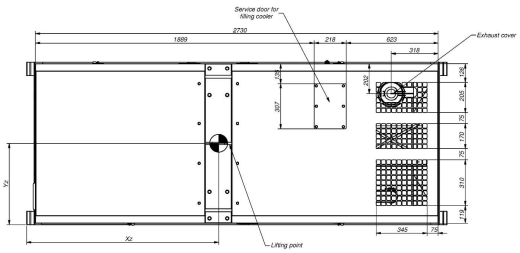








## 3. Engine

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |
| **General** | | | |
| Manufacturer | | Perkins | |
| Model | | 1104D-E44TAG2 | |
| Standard | | ISO 3046 / ISO 8528-2 | |
| Number of cylinders | u. | 4 | |
| Configuration | | 4 vertical in line | |
| Aspiration | | Turbocharged | |
| Speed governor | | Electronic with TG2 | |
| Bore | mm | 105 | |
| Stroke | mm | 127 | |
| Electrical system (DC) | V | 24 | |
| Compression ratio | | 16,2:1 | |
| Displacement (swept volume) | l | 4.4 | |
| Piston speed | m/s | NA | NA |
| Combustion system | | Direct injection | |
| Charged air cooling system | | Intercooled | |
| Maximum permissible load factor of PRP during 24h | % | 80 | |
| **Lubrication system** | | | |
| Type | | PAROIL E (Mineral) | |
| Capacity of oil system (including filters + sump) | l | 8 | |
| Oil pressure at rated speed | kPa | 450 | |
| Maximum Lubrication oil temperature | ºC | 125 | |
| **Air intake system** | | | |
| Air consumption 25ºC (PRP) | m³/min | 6.45 | 8.4 |
| Air consumption 25ºC (ESP) | m³/min | 6.55 | 8.5 |
| Max allowable air intake restriction | kPa | 5 | |
| Air filter cleaning efficiency | % | 99.95% | |
| Air filter capacity | m³/min | 6 - 12 | |
| **Cooling system** | | | |
| Coolant | | Parcool | |
| Capacity of engine | l | 7 | |
| Total capacity (radiator, hoses...) | l | 17 | |
| Fan power consumption at nominal speed | kW | 3.4 | 6 |
| Fan material | | Plastic | |
| Coolant flow | l/s | 3.47 | 2.8 |
| Air mass flow (200Pa) | m³/min | 151,8 | 198,6 |
| **Fuel filter** | | Water Separator | |
| Max pressure | bar | 2.06 | |
| Temperature | ºC | -40 to 121 | |
| Volume | l | NA | |
| Flow Rate | l/h | 341 | |
| **Emission compliance** | | EU STAGE 3A | |
| No X + HC | g/kWh | 3.5 | NA |
| CO | g/kWh | 4 | NA |
| PM | g/kWh | 0.25 | NA |
| SO2 | g/kWh | NA | NA |
| CO2 (at optimal working point) | % | NA | NA |

***These values are extracted from official engine datasheet.**

## 4. Alternator

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |
| **General** | | | |
| Manufacturer | | Leroy Somer | |
| Model | | LSA 44.3 S5 | |
| Standard | | IEC 34-1 / ISO 8528-3 | |
| Rated net power (ESP: 50Hz 27ºC / 60 Hz 40ºC) | kVA | 110 | 131 |
| Number of bearings | | 1 | |
| Number of wires | | 12 | |
| Voltage regulator accuracy | | +/- 0.5% | |
| Degree of protection / Insulation class | | IP 23/H | |
| Environment Protection | | System 2 (Humid atmosphere) | |
| Number of poles | | 4 | |
| Number phases | | 3 | |
| Over speed | rpm | 2250 | |
| Air flow | m³/s | 0.25 | 0.3 |
| Total Harmonic Distortion THD | | no load < 2%-linear load < 5% | |
| Waveform: NEMA = TIF | | < 50 | |
| Xd Direct axis synchro reactance unsaturated | % | 287 | 299 |
| X'd Direct axis transient reactance saturated | % | 12.9 | 13.5 |
| X"d Direct axis subtransient reactance saturated | % | 7.7 | 8.1 |
| **Excitation system** | | Shunt | |
| Sustained short-circuit current | % | 180% (1,8x In) | |
| Time sustained short-circuit current | s | 20 | |
| **AVR** | | | |
| Model | | R 250 | |
| Sensing | | 1 phase | |
| Voltage regulation | % | ±0.5 | |
| Voltage sensing | V | ≤139 | |

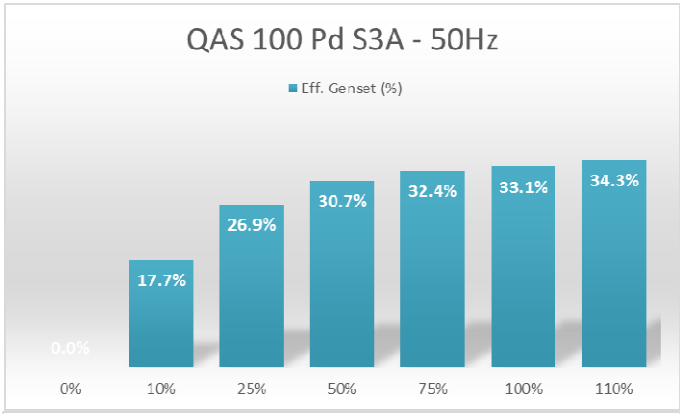
The Leroy Somer LSA alternators are designed for heavy duty continuous applications:

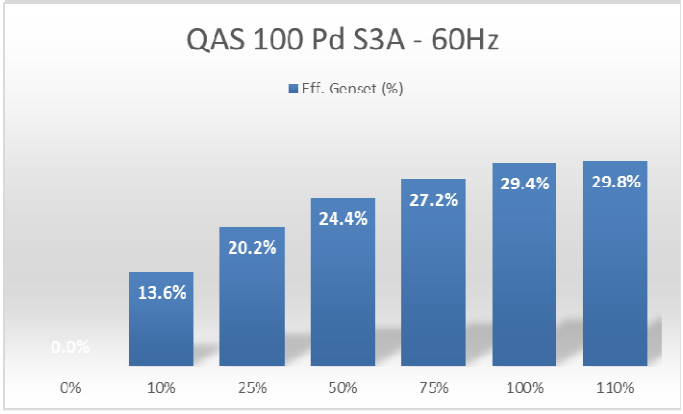
- System 2 protection (relative humidity >95%) for tropical environment (except coastal areas). With high performance dielectric varnish and reinforced over-coating on main stator and rotor
- 4 pole brushless design with single bearing, Class H insulation and IP23 rating
- Voltage regulation +/- 0.5%
- Full Load acceptance of prime power rating
- Standard excitation system is SHUNT (Self excited). As option (check *Electrical options*) you can have additional excitation system as:
    - o PMG
    - o Auxiliary winding

## 5. Generator

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |
| **Energy Balance** | | | |
| **Engine** | | | |
| Heat rejection to exhaust | kW | 71.7 | 81 |
| Heat rejection to coolant | kW | 57.4 | 57 |
| Heat rejection to radiation | kW | 16.9 | 15 |
| **Alternator** | | | |
| Efficiency at full load | % | 92.10% | 92.10% |

### Genset Efficiency




| | | | |
|---|---|---|---|
| **Exhaust System** | | | |
| Flow (PRP) | m³/min | 15.99 | 19.2 |
| Flow (ESP) | m³/min | 16.54 | 20 |
| Exhaust gas temperature "after turbine" (PRP) | ºC | 480 | 480 |
| Exhaust gas temperature "after turbine" (ESP) | ºC | 506 | 506 |
| Max. Backpressure (Without / with spark arrestor) | kPa | 15 / TBD | 15 / TBD |
| Output pipe diameter | mm | 76.0 | |
| **Battery** | | | |
| Quantity | | 1 | |
| Voltage | V | 12 | |
| Capacity | Ah | 110 | |
| Connection | | - | |
| Dimensions (L x W x H) | mm | 514x175x210 | |

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |
| Cold cranking current | A(EN) / A(DIN) | 800 / 450 | |
| Starting power | kW | 6 | |
| Weight (wet) | kg | 34.4 | |
| **Sensor** | | | |
| Oil (temp, pressure & level) | | STD | |
| Coolant (temp & level) | | STD | |
| Fuel (feed pressure) | | NA | |
| Charge air (temp & pressure) | | NA | |
| Fuel Level | | STD | |
| Water in Fuel (Switch) | | STD | |
| Generator Voltage | | STD | |
| Mains Voltage | | OP | |
| Generator Current transformer | | STD | |
| Transformer Maintenance Changeover feedback | | NA | |
| Reply: Mains CB opened/closed | | NA | |
| Reply: Generator CB opened/closed | | NA | |
| Air Inlet Pressure Switch | | NA | |
| Low Coolant Level Shutdown/Warning | | NA | |

***Confirm with Atlas Copco technical support.**

## 6. Power Output

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |
| **Circuit Breaker** | | | |
| Brand | | Schneider | |
| Model | | CVS160B TM160G | |
| Poles | | 4 | |
| Rated current (In) | A | 160 | |
| Thermal release, regulated (It) | A | 144 (0,9 x In) | |
| CB tripping point | A | 144.3 | 123.9 |
| Overload protection (Ir) | A | 500 | |
| Fault current protection, residual current release (Idn) | A | 0,03-30 | |
| Motor Driven DC voltage | V | 24 | |
| Motorized | | Standard with Qc4003 | |
| Life operating cycles without maintenance | | 20000 | |
| **Terminal Board** | | | |
| Bolts diameter | mm | 12 | |
| Terminal type | | Plug | |
| **Sockets Available*** | | | |
| **Sockets 1 Phase** | | | |
| PIN Domestic (1x) 2p + E 16 A/230 V | | OP | |
| RIN Domestic (1x) 2p + E 16 A/230 V | | OP | |
| CE Domestic (1x) 2p + E 16 A/230 V | | OP | |
| **Sockets 3 Phase** | | OP | |
| Configuration Remarks** | | 1) CEE form 3p + N + PE 16 A/400 V<br>2) CEE form 3p + N + PE 32 A/400 V<br>3) CEE form 3p + N + PE 63 A/400 V<br>4) CEE form 3p + N + PE 125 A/400 V | |

***Sockets are enable for 50Hz and disable for 60Hz**
****For a different configuration/scope contact Atlas Copco support**

**STD – Standard; OP – Option; NA – Not Available**

## 7. Options

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |
| **Mechanical Options** | | | |
| **Special Equipment** | | | |
| **Spark arrestor** | | OP | |
| Material | | S235 JR G2 | |
| **Inlet shutdown valve** | | OP | |
| Design pressure | bar | 13.8 | |
| Max/Min Temperature | ºC | 93 | |

Spark arrestor is a device that is designed to trap any exhaust particles or combustible materials, such as sparks or other flaming debris, from escaping into hazardous areas where they might cause fires. Exhaust particles are centrifuged in the spark arrestor, then collected and stored in a reservoir until emptied by an operator. An air shut-off valve serves to stop the engine by closing the air intake once the controller detects an over speed in the engine.

| | | | |
|---|---|---|---|
| **Fuel System** | | | |
| **External fuel tank connection** | | STD | |
| Material | | Brass 0011 5204 03 | |
| Test pressure | bar | 1 | |
| Overpressure | bar | 2 | |
| Open pressure | bar | 1±0,1 | |
| Max/Min Temperature | ºC | -30 to +80 | |
| **External fuel tank connection with quick coupling** | | OP | |

The EFT enable the generator to run for long periods of time on an external fuel supply without having to refuel. We can also provide quick couplings to enable easy and fast connection to the fuel tank

| | | | |
|---|---|---|---|
| **AFT Automatic fuel transfer** | | NA | |
| **Additional fuel filter** | | STD | |
| Design pressure | bar | | |
| Test pressure | bar | | |
| Volume | l | | |
| Max/Min Temperature | ºC | | |
| Max flow rate | g/h | | |
| **Skid fuel tank (long autonomy)** | | OP | |
| Capacity | l | 592 | |
| Material | | Metal | |
| **Fuel level sender** (*Changes automatically for different fuel tank) | | STD | |
| **Oil level maintainer** | | NA | |
| Capacity of oil tank | | - | |
| **Cold start synthetic first oil filling** | | STD | |
| Type | | PAROIL Extra | |
| Temperature (min / max) | ºC | -15 to 40ºC | |
| Density (Ambient temperature) | g / cc | 0,86 (15ºC) | |
| **Cold flow** | | Antifreeze fuel additives in 0,2% composition | |

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |

## Mechanical Options

| | | |
|---|---|---|
| **Undercarriage option** | | |
| **Undercarriage adjustable towbar with brakes** | | OP |
| Number of axles | | 2 |
| Permissible mass on each axle | kg | 1300 |
| Maximum speed | km/h | 80 |
| Dimensions (L x W x H) | mm | 4850 x 1650 x 2164 |
| Brake connections | | Mechanical |
| Wheel | r | 14" |
| **Loose ball coupling** | | OP |
| **Adapter 24V road signalization** | | OP |
| **Towing eye** | | |
| Towing eye DIN | | OP |
| Towing eye NATO | | OP |
| Towing eye BALL coupling | | OP |
| Towing eye ITA | | OP |
| Towing eye AFR | | OP |

Depending on the size, units have a two-wheeled, single axle trailer, or a double axel with 4 wheels. Both types of trailer have an adjustable towbar and road signalization.

| | | |
|---|---|---|
| **Special options** | | |
| Special color undercarriage | | OP |
| Special color wheels | | OP |
| Special color canopy | | OP |
| Special color frame | | OP |
| **Witness test** | | OP |

Guided and face to face testing of the machine. Including Transient test and Heat Run Test.

## Electrical Options

| | | QAS 100 Pd S3A |
|---|---|---|
| **Coolant Heater** | | |
| **Electric driven coolant heater** | | OP |
| Voltage | V | 240 |
| Power | kW | 1 |
| Current | A | 4.2 |
| Thermostat Range | ºC | 38 / 49 |
| **Fuel driven coolant heater** | | NA |
| Electrical power | W | |
| Rated voltage | V | |
| Operating pressure | bar | |
| Flow rate at 0,1 bar | l/h | |

Its main mission is heat the coolant so that the temperature of the engine is always high enough to start straight away, even in temperatures as low as minus 25 degrees Celsius. Not for all models but a fuel powered version is available, which is ideal for remote areas without mains supply.

| | | |
|---|---|---|
| **Frequency and Voltage configuration** | | |
| Frequency/Voltage/Phases 50 Hz / 400V / 3ph | | STD |
| Dual frequency switch 50Hz-60Hz | | OP |

***If the unit is dual frequency, DV and MV versions are NA**

| | | |
|---|---|---|
| Dedicated frequency 50 Hz 230V 1ph | | NA |
| Dual voltage 50 Hz 400 V 3ph - 230V 3ph (Norway) | | OP |
| Dual voltage 50 Hz 400 3ph - 230V 1ph | | OP |

| | | QAS 100 Pd S3A | |
|---|---|---|---|
| | rpm | 1500 | 1800 |

## Electrical Options

| | | | |
|---|---|---|---|
| **Battery** | | | |
| **Battery charger*** | | OP | |
| Temperature | ºC | -20 to 70 | |
| Input frequency | Hz | 47……63 | |
| Output voltage | V | 12 | |
| Output current | A | 5 | |
| Output power | W | 60 | |
| Dimensions (L x W x H) | mm | 147 x 123 x 86 | |
| *Recommendable with Qc2103 and Qc4003* | | | |
| **Battery cut off switch** | | OP | |
| Operations | V / A | | |

Battery charger is necessary for stand-by applications because the controller is always on, ready to start at any time. Battery cut off switch allows the battery to be disconnected when storing the unit, thus preventing the battery from becoming drained.

| | | | |
|---|---|---|---|
| **Electronic speed regulator (Governor)** | | OP | |
| Model | | Perkins LCS | |
| Connection to engine | | RS - 232 | |
| Sensors/Switch | ºC and kPa | Lubrication and cooling system | |
| **Earth Protection** | | | |
| Neutral TNS | | STD | |
| Neutral EDF (TT) | | OP | |
| Neutral IT | | OP | |
| Earth leakage detection Relay (ELR) | | OP | |
| | mA | 30 | |
| Insulation Monitoring Relay | | OP | |
| Earth PIN | | STD | |
| Length | mm | 650 | |
| | | | |
| **Alternator excitation system** | | | |
| **Permanent magnet (PMG)** | | OP | |
| AVR | | R438 | |
| Sustained short-circuit current | % | 300% (3x In) | |
| Time sustained short-circuit current | s | 10 | |
| Operating temperature | ºC | -20ºC to +70ºC | |
| No load voltage | V | 125 | 150 |
| Stator Phase/Phase resistance (20ºC) | Ω | 2.1 | |
| **Auxiliary winding** | | NA | |
| AVR | | | |
| Sustained short-circuit current | % | | |
| Time sustained short-circuit current | s | | |

The PMG or Permanent Magnet Generator is a separate device to power the AVR and is ideal for motor starting and distorted loads as provides the generator 3 times its nominal current during 10 seconds. Auxiliary winding system is an extra winding layer in the alternator that provides same benefits than the PMG.

| | | | |
|---|---|---|---|
| **Controllers** | | | |
| Qc1103 | | STD | |
| Qc2103 | | OP | |
| Qc4003* | | NA | |

***with Qc4003+ PMS Atlas Copco recommends: Battery charger + Coolant heater**
***Just 1 ph socket available**
***Qc4003 includes always communication cables and needed adaptors**

Qc1103: is the controller dedicated for island operation or remote start
Qc2103: has in addition the possibility of detect a mains failure
Qc4003: is the high spec controller prepared to work synchronized with several units (IPP) and/or the mains

## CONTROLLERS KEY FEATURES QC 1103 & 2103 CONTROLLERS

***Auto start or automatic mains failure applications***

***Monitoring of electronic or non-electronic engines***
J1939 as standard

***Gen-set and busbar control & protection***

***Improved inputs/outputs***
Up to 11 digital inputs, 5 analogue inputs and 8 relay outputs

***Modbus communication rs485***

***Configurable for other applications***
PARUS configurable

***Graphical display***
Multi-language


## CONTROLLERS KEY FEATURES QC 4003 CONTROLLER

***Controllers key features Qc 4003***

***Paralleling between generators and mains power supply***

***Full engine monitoring***
CAN communication J1939

***Gen-set and busbar control & protection***

***Multiple configurable inputs/outputs***

***Modbus communication RTU/RS485***

***Easy software with m-logic programation***
PARUS 3

***PARALLELING APPLICATIONS***
Load Take Over, Mains Export/Import, AMF, Peak Shaving, Transformer Maintenance, Fix power and PMS (CAN