



Picture for reference only

Power Generator

FD 20 F-Q

Article: 49178

Code: F.0020.4.FFC2-Q2170T190-02

Main Features

- Electronic voltage regulation $\pm 1\%$
- One phase voltage control
- Low disturbance level THD $< 2,5\%$
- Class H insulation
- Protection index IP23
- Performance class G3 (acc. ISO 8528-5)
- Ready to load just after start
- AMF and MRS functionality and protection
- Autonomy 32,8 h with 75 % load
- Compact design

General Data

Maximum power ESP	22,0 kVA / 18,0 kW
Nominal power PRP	20,0 kVA / 16,0 kW
Nominal Current PRP	29,0 A
Frequency	50 Hz
Voltage	400 V
Emission standard	Stage II
Fuel	Diesel (EN 590)
Fuel tank capacity	190 l
Fuel consumption @ 50% / 75% / 100% / 110% PRP	4 / 5,2 / 6,5 / 7,2 l/h
Autonomy @ 75% / 100% load	32,8 / 26,3 h
Weight without fuel	~735 kg
Dimensions L x W x H	2170 x 1020 x 1300 mm
Guaranteed noise power L_{wa}	95 dBA
Acoustic pressure @7mL_{pa}	65,6 \pm 1 dBA

Main Components & Equipment

- Yuchai D22R0-MP-EN-425 engine
- A4Gen A4G184-20 alternator
- Brushless alternator
- Electronic AVR SX460
- ComAp IL4-AMF25 Controller
- Schneider Z32/4 type generator circuit breaker
- GCB shunt release coil
- Linear automatic battery charger
- Engine heater
- Electronic speed governor
- Fuel system Mechanical pump
- Welded frame with 190 l fuel tank, spill containment and noise insulation
- Two fuel inlets
- Four lifting eyes
- Extended forklift skids for easy attachment to the ground

For details see page 3

Definitions

Nominal Power PRP:

Refers to the maximum power accessible at the variable load for unlimited running hours per year, with the maintenance intervals and procedures being carried out as prescribed by Yuchai. The allowed average output power within 24 h shall not be higher than

Maximum power ESP:

Standby power rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload allowed, average power consumption should not exceed 70% ESP. Limited to 200h of operation per year.

Norms and Directives

- Machinery directive 2006/42/EC
- Low voltage directive 2014/35/EU
- EMC directive 2014/30/EU
- Noise directive 2000/14/EC
- ISO 8528-1/2018, ISO 8528-5/2022
- ISO 8528-13:2016
- IEC 60204-1

Contact data

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Engine

Manufacturer	Yuchai
Type	D22R0-MP-EN-425
Made in	China
Engine power	21,0 kW
Emission standard	Stage II
Rotation per minute	1500 rpm
Engine governor	Electronic
Governor class	G3 (ISO 8528-5)
Displacement	2,5 l
No of cylinder	4
Fuel system	Mechanical pump
Electrical system	12V V
Cooling system capacity	13,5 l
Oil pan capacity	6,5 l
Fuel type	Diesel (EN 590)

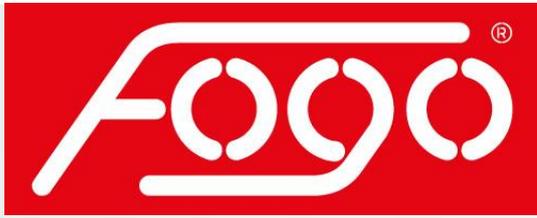
Alternator

Manufacturer	A4Gen
Type	A4G184-20
Made in	China
Nominal Voltage	400 V
Nominal power factor (cos φ)	0,8
Ambient temperature, altitude	40 °C, 1000 m a.s.l.
Nominal Power	20,0 kVA
Protection index	IP 23
No of bearing	Single bearing
Coupling	Direct
Technology	Brushless
Short circuit maintaining capacity	0
Efficiency	83,7 %
Insulation class	H
Total harmonic content THD	<2,5 %
Reactance Xd''	10,5 %
Voltage regulator type	SX460
Voltage measurement	1 phase
Voltage accuracy	+/- 1 %
AVR supply system	shunt

Controller

- Controller type: ComAp IntelliLite AMF 25
- Support of Dual AMF/MRS applications
- Direct communication with EFI engines
- Total remote monitoring and control
- Intuitive operator interface, adjustable Main Screen
- Real time clock
- Comprehensive history log with up to 350 events
- 3 phase true RMS current and voltage measurement
- Both mains and generator voltage detection
- Active/Reactive Power and Power Factor per phase measurement
- Run Hours counter with source selector
- 3 maintenance timers (counting even under zero)
- Multipurpose flexible timers (also for rental)
- Battery voltage measurement
- Complete engine and alternator protection
- CAN modules support
- USB port on-board
- 2 slots for plug-in modules
- Plug-in module concept for more capabilities (RS232, RS485, Ethernet, GPRS, 4G/LTE, Modbus, SNMP, emails, SMS, I/Os)
- Cloud-based monitoring and control via WebSupervisor (optional module required)
- Geofencing and tracking via WebSupervisor (optional module required)
- Control and monitoring over SMS (GSM module required)
- 3 levels of password protection
- In-built PLC, complemented with a monitoring/debugging tool, for additional functionality, if required
- Spare inputs and outputs available by default: binary input – 1, binary output – 3, analogue input – 0,
- A version for low temperature is also available





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Standard equipment

- Yuchai D22R0-MP-EN-425 engine
- Electronic engine speed governor
- Oil pressure sensor
- Engine high temperature sensor
- Engine preheating with thermostat
- Engine oil Titan Cargo 15W40
- Fuel filter with water separator
- Coolant Fuchs Maintain Fuchs Maintain Fricofin LL 50
- Coolant inlet outside, on the top of the canopy
- Starting batteries 100 Ah
- Linear automatic battery charger
- A4Gen A4G184-20 alternator
- Electronic AVR SX460
- GCB Schneider Z32/4
- GCB shunt release coil
- ComAp IL4-AMF25 controller
- Acoustic alarm
- Emergency stop button
- Silenced canopy, RAL 7024
- Fuel tank integrated with a frame and spill containment
- Two fuel inlets inside the canopy
- Fuel level indicator
- Engine and alternator anti vibration mounts
- Exhaust silencer with compensator
- Forklift supports and lifting eyes

Optional equipment

- Oil draining hand pump
- Battery disconnecter
- 2 GCB
- Power Lock type power output
- Power sockets box
- Transfer switch controlled by generator controller
- Transfer switch with ATS controller
- ATS accessories for outdoor application
- GPRS communication card
- Ethernet card
- RS 485, RS 232 card
- Remote display
- Fuel inlet outside of the canopy with lock
- Generator spill containment level detector
- External, double wall fuel tank 1 000 – 10 000 l
- Fuel tank filling pump and shut-off valve

Maintenance guidelines

Fuel filters replacement	250 h / 1 year
Oil replacement	After first 50h, then every 250 h / 1 year
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Coolant replacement	3000h / 2 years
Air filter replacement	600 h
Battery replacement	2 years
Electrical installation	According to local requirements, at least once per year

Installation guidelines

Power terminal	GCB terminal
Recommended cable for up to 30m power cable way	Flexible 5x6 mm ²
Recommended cable for do 30m generator heater supply	Flexible 3x2,5 mm ²
Exhaust pipe min diameter (max. 7 m, 4 bends)	48,3 mm
Exhaust pipe min diameter (max. 15 m, 4 bends)	48,3 mm

*For additional cable connection with FOGO ATS see ATS wiring diagram

Warranty

Continuous operation generators	12 months up to 1000 working hours
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