FOCUSED ON GENERATORS ONLY

Power Generator FD 20 M-ST

MAIN FEATURES

Highest quality and reliability.	Wide range of standard and optional equipment.
ComAp InteliLite AMF 25 controller.	Engine heater – ready to load just after start.
Ready to control MAINS – GENERATOR transfer switch.	Drip tray,
Configured for both manual and automatic mode (MRS + AMF).	Anticorrosion coating: frame - Zr, canopy – Zr, Al-Zn.
Wide range of remote communications options.	Brushless alternator.

Sample photos, details of devices may slightly differ from the illustrations.

GENERAL DATA

Standby power ESP [kVA] / [kW]	22,0 / 17,6
Prime power PRP [kVA] / [kW]	20,0 / 16,0
Prime current PRP [A]	28,9
Frequency [Hz]	50
Voltage [V]	400
Exhaust emission	non-emission
Fuel type	Diesel (EN 590)
Fuel consumption - 50% load [l/h]	3,5
- 75% load [l/h]	4,7
- 100% load [l/h]	6,3
- 110% load [l/h]	7,1
Engine control voltage [V]	12
Standard fuel tank capacity [l]	140
Autonomy with 100% load [h]	21,1
Design	S1902T140

Generator version	open	canopy
Model	FD 20M-ST1	FD 20M-ST
Weight without fuel [kg]	~490	700
Dimensions L x W x H [mm]	1900 x 850 x 1230	1900 x 850 x 1400
Guaranteed noise power Lwa [dBA]	108,1 ± 2	89
Acoustic pressure @7m Lpa [dBA]	79,9 ± 2	60,9 ± 1

Nominal power PRP:
Prime power available in variable load application in accordance with ISO 8528, 10% overload capacity is available for a period of 1 hour within a 12-hour period of operation. Average power consumption should not exceed 70% PRP for each 24h of operation.

Stand-by power ESP:
Emergency standby power rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload allowed, limited to 200 hours of operation per year, average power consumption should not exceed 70% ESP for each 24 of operation.

Remark:
Ratings represent the genset performance capabilities to standard conditions specified in ISO 8528-1

Norms and directives:

- Machinery directive 2006/42/EC
- Low voltage directive 2014/35/EU
- EMC directive 2014/30/EU
- Noise directive 2000/14/EC
- Emission directive 97/68/EC
- ISO 8528-1/2018, ISO 8528-5/2018
- ISO 8528-13:2016
- IEC 60204-1

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STANDARD CONTROLLER

Controller type: ComAp InteliLite AMF 25
Easy to operate, intuitive graphical interface
Real time clock with battery supply
Stan-by and Prime power applications, AMF function available
Flexible event based history with up to 350 events
3 Phase generator current measurement
Generator and Mains phase voltage measurement
Active/reactive power measurement
Active and reactive energy counter
Running hours counter, multipurpose flexible timers
Battery charging alternator circuit connection
Comprehensive gen-set protections
Wide range of communication capabilities including :
- CAN and USB on board
- Internet access using Ethernet, GPRS or 4G module
- Support for Modbus and SNMP protocols
Cloud-based monitoring and control via WebSupervisor
Active SMS or e-mails (module required)
Geofencing and tracking via WebSupervisor
Operating temperature -20 + 70°C
IP65 operator interface protection

ENGINE

Brand	Mitsubishi
Type	S4Q2-61SDB
Made in	India
Engine power [kW]	19,6
Emission standard*	non-emission
Rotation per minute [rpm]	1500
Engine governor	mechanical
Governor class**	G1
Displacement [l]	2,5
No of cylinder	4
Fuel system	
Electrical system [V]	12
Cooling system capacity [l]	4,0
Oil pan capacity [l]	6,5
Fuel type	Diesel (EN 590)

ALTERNATOR

Nominal Voltage [V]	400
Nominal power factor (cos phi)	0,8
Ambient temperature, altitude	40 ºC, 1000m a.m.s.l.
Nominal Power [kVA]	20,0
IP protection	IP 23
No of bearing	single bearing
Coupling	direct
Technology	brushless
Short circuit maintaining capacity	270% 10s
Efficiency [%]	87,1
Insulation class	H
Total harmonic content THD [%]	<3,5
Reactance Xd'' [%]	7,7
Voltage regulator type	DVR, digital
Voltage measurement	3 phase
Voltage accuracy [%]	+/- 0,5
AVR supply system	auxiliary winding
Made in	EU

* According directive 97/68/WE non road mobile machinery engine emission.
** According PN-ISO 8528-5/2018

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STANDARD EQUIPMENT	
Mitsubishi S4Q2-61SDB engine	✓
Glow plugs	✓
Oil low pressure switch	✓
Engine high temperature switch	✓
Engine preheating with thermostat	✓
Engine oil Titan Cargo 15W40	✓
Coolant Fuchs Maintain Fricofin LL-50	✓
Coolant inlet outside of the canopy *	✓*
Coolant draining valve	✓
Starting batteries 75 Ah	✓
Battery charger	✓
GCB Schneider Z32/4	✓
GCB shunt release coil	✓
Controller ComAp IL-AMF25	✓
Acoustic alarm	✓
Emergency stop button	✓
Silenced canopy made with Al.-Zn. *	✓*
Standard color 7024	✓
Fuel tank integrated with a frame with drip tray	✓
Welded frame with fuel tank	✓
Fuel inlet inside, protected by canopy locked doors *	✓
Fuel level measurement	✓
Engine and alternator vibro isolators	✓
Exhaust compensator and silencer	✓
Transportation brackets	✓

OPTIONAL EQUIPMENT	
Oil pressure sensor	□
Engine temperature sensor	□
Oil draining hand pump	□
Battery disconnection switch	□
Power sockets box SOM 106 *	□
Transfer switch controlled by generator controller	□
Transfer switch with ATS controller	□
GPRS communication card	□
Ethernet card	□
RS 485, RS 232 card	□
Remote display	□
Fuel inlet outside of the canopy with lock *	□
Drip space level sensor	□
Double wall fuel tank 560 l	□
External fuel tank 1 000 – 10 000 l	□
Fuel tank filling pump and shut-off valve	□

* Applies only for canopied version

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
*For additional cable connection with FOGO ATS see ATS wiring diagram	
Exhaust pipe min diameter (max. 7 m, 4 bends)	48,3 mm
Exhaust pipe min diameter (max. 15 m, 4 bends)	60,3 mm

MAINTENANCE GUIDELINES

Fuel filters replacement	250 h / 1 year
Oil replacement	After first 50h, then every 250 h / 1 year
Oil filters replacement	After first 50h, then every 250 h / 1 year
Coolant replacement	1000 h / 2 years
Battery replacement	2 years
Electrical installation supervising	According to local requirements, at least once per year

WARRANTY

Continuous operation generators	12 months up to 1000 working hours