PRAMAC GROUP POWER ENGINEERING

REF. GDS **08.**00

MODEL **GSW65-170D**

- **DEUTZ Diesel engine.**
- **Water cooling system.**
- **Industrial muffler.**
- **Complete with engine and battery liquids.**

CE

	MODEL		GSW65D	GSW80D	GSW110D	GSW145D	GSW170D
	CODE		SG560TDA	SG740TDA	SG101TDA	SG131TDA	SG161TDA
TECHNICAL FEATURES	**PRIME POWER PRP**	**kVA** (kW)	**57,7** (46,1)	**74,1** (59,3)	**102** (81,6)	**135** (108)	**159** (127)
	EMERGENCY POWER LTP	**kVA** (kW)	**63,0** (50,4)	**78,5** (62,8)	**108** (86,5)	**142** (113)	**167** (133)
	Voltage	Volt	400/231	400/231	400/231	400/231	400/231
	Frequency	Hz	50	50	50	50	50
	Power factor	Cos φ	0,8	0,8	0,8	0,8	0,8
	Fuel capacity	Litres	240	240	240	250	250
	Autonomy (100% load PRP)	h	17,5	15,3	10,8	8,6	7,6
	Dimensions (LxWxH)	mm	2.200 x 1.000 x 1.620	2.200 x 1.000 x 1.620	2.200 x 1.000 x 1.620	2.600 x 1.000 x 1.620	2.600 x 1.000 x 1.620
	Weight	kg	865	945	1.326	1.545	1.615
	DIESEL ENGINE	**DEUTZ**	**BF4M 2012-G2**	**BF4M 2012C**	**BF4M 1013EC**	**BF6M 1013E**	**BF6M 1013EC**
	Cooling system	Type	Water	Water	Water	Water	Water
	Speed	rpm	1.500	1.500	1.500	1.500	1.500
	Displacement	c.c.	4.040	4.040	4.760	7.150	7.150
	Cyliders and disposition	n° disp.	4 L	4 L	4 L	6 L	6 L
	Aspiration	Type	Turbo	Turbo - Intercooler	Turbo - Intercooler	Turbo	Turbo - Intercooler
	Engine power PRP	kWm	52,0	66,1	91,1	117,8	138,1
	Fuel consumption (100% load)	l/h	13,7	15,7	22,2	29,2	32,7
	Specific consumption PRP	g/kWh	221	199	205	208	199
	Engine governor (standard)	Type	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical
	ALTERNATOR	**STAMFORD**	**UCI 224 E**	**UCI 224 F**	**UCI 274 C**	**UCI 274 E**	**UCI 274 F**
	Insulation	Class	H	H	H	H	H
	Mechanical degree protection	Type	IP23	IP23	IP23	IP23	IP23
	Voltage regulation	Type	Electronic	Electronic	Electronic	Electronic	Electronic

TECHNICAL CHARACTERISTICS NOT IMPEGNATIVE RESERVATION OF MODIFICATIONS FOR INNOVATION OF THE PRODUCT

	MANUAL CONTROL PANEL (MCP)		GSW65D	GSW80D	GSW110D	GSW145D	GSW170D
MANUAL CONTROL PANEL (MCP)	 Manual control panel mounted on the genset, complete with digital control unit **BE23** for monitoring, control and protection of the generating set.	**Digital instrumentation** through BE23 control unit.	• Genereting set voltage (3 phases). • Generating set frequency. • Generating set intensity (3 phases). • Battery voltage. • Power (kVA - kW - kVAr). • Power factor Cos φ. • Hours-counter. • Fuel level (%). • Engine temperature.				
		Commands and others	• DC supply selector switch. • Push-buttons: start/stop. • Emergency stop button. • Remote starting availability.				
		Protections with alarm	• Engine protections: low fuel level, low oil pressure, high engine temperature. • Genset protections: over-frequency, battery voltage out of limits.				
		Protections with shutdown	• Engine protections: low fuel level, low oil pressure, high engine temperature. • Genset protections: under/over voltage, over-load, under/over frequency, under/over battery voltage. • Circuit breaker protection: III poles. • Differential protection.				
		Output	• Power cables connection directly from circuit breaker.				

AUTOMATIC CONTROL PANEL (ACP)		GSW65D	GSW80D	GSW110D	GSW145D	GSW170D
AUTOMATIC CONTROL PANEL (ACP)	 Automatic control panel mounted on the genset, complete with digital control unit **AC01** for monitoring, control and protection of the generating set.	**Digital instrumentation** through AC-01 control unit.	• Genereting set voltage (3 phases). • Mains voltage. • Generating set frequency. • Generating set current (3 phases). • Battery voltage. • Power (kVA - kW - kVAr). • Power factor Cos φ. • Hours-counter. • Engine speed r.p.m. • Fuel level (%). • Engine temperature.				
		Commands and others	• Selector switch with six positions: Automatic test - Automatic starting - Engine locked - Mains contactor forced - Manual starting - Genset contactor forced. • Push-buttons: start/stop, up/down selection, reset. • Emergency stop button. • Remote starting availability. • Acoustic alarm. • Automatic battery charger.				
		Protections with alarm	• Engine protections: low fuel level, low oil pressure, high engine temperature. • Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage, battery charger failure.				
		Protections with shutdown	• Engine protections: low fuel level, low oil pressure, high engine temperature, • Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure. • Circuit breaker protection: III poles. • Differential protection.				
		Output	• Plinth row for connection from ACP to LTS panel. • Power cables connection directly from circuit breaker.				

AUTOMATIC CONTROL PANEL (AMF)		GSW65D	GSW80D	GSW110D	GSW145D	GSW170D
AUTOMATIC CONTROL PANEL (AMF)	 Automatic control panel for automatic starting by Mains failure. Delivered loose from the genset, and complete with digital control unit **AC01** for monitoring, control and protection of the generating set.	**Digital instrumentation** through AC-01 control unit.	• Genereting set voltage (3 phases). • Mains voltage. • Generating set frequency. • Generating set current (3 phases). • Battery voltage. • Power (kVA - kW - kVAr). • Power factor Cos φ. • Hours-counter. • Engine speed r.p.m. • Fuel level (%). • Engine temperature.				
		Commands and others	• Selector switch with six positions: Automatic test - Automatic starting - Engine locked - Mains contactor forced - Manual starting - Genset contactor forced. • Push-buttons: start/stop, up/down selection, reset. • Emergency stop button. • Remote starting availability. • Acoustic alarm. • Automatic battery charger.				
		Change over contactors Mains/Genset	IV poles - 90A.	IV poles - 110A.	IV poles - 200A.	IV poles - 200A.	IV poles - 325A.
		Protections with alarm	• Engine protections: low fuel level, low oil pressure, high engine temperature. • Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage, battery charger failure.				
		Protections with shutdown	• Engine protections: low fuel level, low oil pressure, high engine temperature, • Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.				
		Output	• Plinth row for connection from pre-wired panel (mounted on the genset) to AMF panel. • Power cables connected to terminals board (internal).				

GENSET SUPPLEMENTS (ONLY AVAILABLE WHEN ORDERED)

GENSET SUPPLEMENTS	
	APM: PMG FOR STAMFORD ALTERNATOR + MX321 AVR.
	GPG: GENSET PARALLEL KIT FOR SYNCHRONIZING WITH OTHER GENSET. Only available on prewired version.
	GPM: GENSET PARALLEL KIT FOR SYNCHRONIZING WITH THE MAINS. Only available on prewired version.
	AFP: AUTOMATIC FUEL TRANSFER PUMP.
	DCC: DIFFERENT CANOPY COLOUR.
	EEG: ENGINE ELECTRONIC GOVERNOR.
	PHS: COOLANT PREHEATING SYSTEM.

CONTROL PANEL SUPPLEMENTS (ONLY AVAILABLE WHEN ORDERED)

CONTROL PANEL SUPPLEMENTS

- **MAP: MANUAL ANALOGUE CONTROL PANEL.**

Manual control panel mounted on the genset, with analogue instrumentation, and protected through door with lockable handle.

Instrumentation (analogue)	• Voltmeter with selector switch (3 phases). • Frequency meter. • Ammeter with selector switch (3 phases). • Hours-counter. • Fuel level indicator. • Oil pressure indicator. • Engine temperature indicator.
Commands and others	• Start/stop selector switch with key. • Emergency stop button.
Protections with alarm	• Engine protections: low fuel level, low oil pressure, high engine temperature, battery charger failure.
Protections with shutdown	• Circuit breaker protection: III poles. • Differential protection. • Engine protection unit: low fuel level, low pressure oil, high engine temperature, battery charger failure.
Output	• Power cables connection directly from circuit breaker.

- **TIF: IV POLES CIRCUIT BREAKER INSTEAD OF III POLES.**
- **RSS: REMOTE START/STOP.** Only for MAP.

ACCESSORIES

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- **LOAD TRANSFER SWITCH PANEL.**

	GSW65D	GSW80D	GSW110D	GSW145D	GSW170D
Change over contactors	**IV poles - 90A.**	**IV poles - 110A.**	**IV poles - 200A.**	**IV poles - 200A.**	**IV poles - 325A.**
Connections	• Plinth row for connection from ACP to LTS panel. • Terminals board for power cables connection (Genset-Mains-Load).				
Protections	• Contactors mechanically and electrically interlocked. • Emergency stop button.				

Load transfer switch panel built in a metal cabinet and supplied loose from the genset.

Automatic control panel + LTS panel measures the Mains voltage and starts automatically the genset within few seconds in case of Mains failure. It transfers immediately the load again to the genset when the Mains voltage returns within the rated values.

- **FEC: FLEXIBLE EXHAUST COMPENSATOR.**
- **RES: RESIDENTIAL SILENCER.**
- **RCG: REMOTE CONTROL BY GSM KIT** (kit for genset management and control by remote PC; comunication available by means of RS232 directly to PC or through GSM modem). Available only for automatic versions with **AC01** control unit.