MASONS
POWER GENERATION

A new generation of power

REF. MPW 16.00

MODEL | MPW 650-2600

- > MTU Diesel engine (Fuel Consumption Optimized).
- > Water cooling system.
- > AIR-TO-AIR Intercooler (Series 2000).
- > AIR-TO-WATER Intercooler (Series 4000).
- > Industrial mufflers with flexible compensators.
- > Manual oil draining pump with pipe.
- > Automatic control panel mounted on the genset.
- > Main circuit breaker mounted on the genset.

TECHNICAL FEATURES

MODEL		MPW650	MPW720	MPW830	MPW980	MPW1025	MPW1300	MPW1560	MPW1880	MPW2090	MPW2600
CODE		SI651TMA	SI721TMA	SI831TMA	SI931TMA	SI102TMA	SI142TMA	SI162TMA	SI182TMA	SI212TMA	SI262TMA
PRIME POWER PRP	**kVA** (kW)	**642 (514)**	**708 (567)**	**813 (651)**	**918 (735)**	**1006 (805)**	**1315 (1052)**	**1554 (1243)**	**1886 (1509)**	**2082 (1666)**	**2588 (2070)**
STANDBY POWER LTP	**kVA** (kW)	**710 (568)**	**783 (626)**	**860 (688)**	**1010 (808)**	**1110 (888)**	**1350 (1080)**	**1660 (1328)**	**2035 (1628)**	**2230 (1789)**	**2700 (2160)**
Voltage (three phases)	Volt	400/231	400/231	400/231	400/231	400/231	400/231	400/231	400/231	400/231	400/231
Frequency	Hz	50	50	50	50	50	50	50	50	50	50
Power factor	Cos φ	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8
Fuel capacity	Litres	120	120	120	120	120	120	120	120	120	120
Autonomy (100% load PRP)	h	0,85	0,76	0,67	0,59	0,53	0,41	0,35	0,29	0,26	0,21
Dimensions (LxWxH)	mm	3860x1580x2070	4067x1580x2070	4398x1752x2210	4398x1752x2210	4591x1752x2451	4890x2000x2448	4890x2000x2448	5677x2286x2790	5762x2286x2790	6990x2500x3350
Weight	kg	5.758	6.069	6.942	7.144	7.840	12.144	12.422	15.615	15.899	18.000
DIESEL ENGINE	**MTU**	12V2000-G23	12V2000-G63	16V2000-G23	16V2000-G63	18V2000-G63	12V4000-G21	12V4000-G61	16V4000-G21	16V4000-G61	20V4000-G22
Cooling system	Type	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
Speed	r.p.m.	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Displacement	c.c.	23.880	23.880	31.840	31.840	35.800	48.700	48.700	65.000	65.000	89.810
Cyliders and disposition	n° disp.	12 V	12 V	16 V	16 V	18 V	12 V	12 V	16 V	16 V	20 V
Aspiration	Type	Turbocharged with CAC	Turbocharged with CAC	Turbocharged with CAC	Turbocharged with CAC	Turbocharged with CAC	Turbocharged with CWC	Turbocharged with CWC	Turbocharged with CWC	Turbocharged with CWC	Turbocharged with CWC
Net engine power PRP	kWm	541	601	690	775	848	1.175	1.300	1.570	1.730	2.170
Net engine power LTP	kWm	598	664	762	856	938	1.300	1.435	1.730	1.910	2.390
Fuel consumption (100% load)	l/h	124	138	157	178	200	258	300	364	402	489
Engine governor (standard)	Type	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
SYNCHRONOUS ALTERNATOR	**STAMFORD / MECC-ALTE**	HCI 544 F	HCI 634 G	HCI 634 G	HCI 634 H	HCI 634 J	PI 734 A	PI 734 C	PI 734 E	PI 734 F	ECO 46 2L
Insulation	Class	H	H	H	H	H	H	H	H	H	H
Mechanical degree of protection	Type	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 23	IP 21
Voltage regulation	Type	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
Sustained short circuit current	Icc / Time	-	3 x In / 10 sec.	3 x In / 10 sec.	3 x In / 10 sec.	3 x In / 10 sec.	3 x In / 10 sec.	3 x In / 10 sec.	3 x In / 10 sec.	3 x In / 10 sec.	3 x In / 20 sec.

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

AUTOMATIC/MANUAL CONTROL PANEL (ACP)

Automatic control panel mounted on the genset, complete with digital control unit **DST4600A** for monitoring, control and protection of the generating set.

AUTOMATIC/MANUAL CONTROL PANEL (ACP)	MPW650	MPW720	MPW830	MPW980	MPW1025	MPW1300	MPW1560	MPW1880	MPW2090	MPW2600
Digital instrumentation through DST4600A control unit.	• Genereting set voltage (3 phases). • Mains voltage. • Generating set frequency. • Generating set current (3 phases). • Battery voltage. • Active power (kW). • Reactive power (kVAr). • Apparent power (kVA). • Power factor (cos φ). • Start-counter. • Active energy counter (kWh) no fiscal. • Hours-counter. • Oil pressure *(optional)*. • Engine coolant temperature *(optional)*.									
Commands and others	• Key operated mode selector switch: Automatic starting - Manual starting - Program - OFF/RESET - Test. • Engine start push button. • Engine stop push button. • Emergency stop push button. • Acoustic alarm silencing push button. • UP/DOWN push button for display selection.									
Auxiliary services	• Automatic battery charger. • Engine coolant preheating system power supply (single phase). • Acoustic alarm. • Programmable periodic test. • Genset report.									
Protections without shutdown	Battery failure (maximum/minimum voltage), pre-alarm for low oil pressure, pre-alarm for high engine coolant temperature.									
Protections with shutdown	High engine coolant temperature, low oil pressure, overspeed (derived from generator frequency), engine over-crank, generator overload (derived from external contact of MCB), fuel reserve with delayed shutdown, no fuel, emergency stop.									
Alarms shown on display	Belts failure, overload and short circuit (electronic protection), running under conditions not reached, generator under voltage, generator over voltage, generator under frequency, generator over frequency, maximum power, free alarm (w/o shutdown), power reverse, closing of Mains contactor or genset contactor failed, stop failure.									

MAIN CIRCUIT BREAKER PANEL

MAIN CIRCUIT BREAKER PANEL	MPW650	MPW720	MPW830	MPW980	MPW1025	MPW1300	MPW1560	MPW1880	MPW2090	MPW2600
Nominal current (In)	1000A	1250A	1250A	1600A	1600A	2000A	2500A	3200A	3200A	4000A

Main features

- Number of poles: III poles.
- Type of construction: fix moulded case.
- Operating type: automatic.
- Use category (EN60947-2): Curve B.
- Current transformers and tripping coil.
- Electronic protection by interchangeable relays for maximum current against overloads and short-circuits for alternate current.
- Rated service voltage (Ue) 50/60Hz: 690V.

Supplied in a separate panel (made of steel sheets) for mounting on the baseframe. It protects the generator against overloads (thermal section) and short circuits (magnetic section).

GENSET SUPPLEMENTS (ONLY AVAILABLE WHEN ORDERED)

GS

- > **EFO: EXTENDED CAPACITY ON BASE FUEL TANK.**
- > **DPP: DIFFERENTIAL PROTECTION.**
- > **AFP: AUTOMATIC REFUELING SYSTEM.**
- > **RES: RESIDENTIAL SILENCER.**
- > **PHS: COOLANT PREHEATING SYSTEM. It is absolutely necessary for starting under ambient conditions < +10°C.**

CONTROL PANEL SUPPLEMENTS (ONLY AVAILABLE WHEN ORDERED)

CPS

- > **TIF: IV POLES CIRCUIT BREAKER INSTEAD OF III POLES.**

ACCESSORIES

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LOAD TRANSFER SWITCH PANEL	MPW650	MPW720	MPW830	MPW980	MPW1025	MPW1300	MPW1560	MPW1880	MPW2090	MPW2600
Motorized change over contactors	IV poles - 1250A			IV poles - 1600A		IV poles - 2000A	IV poles - 2500A	IV poles - 3200A		IV poles - 4000A

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

Commands

- Motorized contactors integrated into Sircover (SOCOMEC) device.
- 3 positions selector switch, placed on the front of the panel, which allows selecting manually the following positions:
  - ⇨ AUTO: operating mode based on the automatic logic control DST4600A.
  - ⇨ MAINS: Mains power supply forcement.
  - ⇨ GENSET: Genset power supply forcement.
- Manual pulley, placed on the own change over contactors, for emergency load transfer.

Connections

- Plinth row for connection from MCB (main circuit breaker) to LTS panel.
- Terminals board for power cables connection (GENSET - MAINS - LOAD).

Protections

- Mechanically and electrically interlocked.
- 2 visual LED's to show the contactors position: MAINS - GENSET.
- Mechanical degree of protection: IP40 (external) and IP20 (internal).

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