MOSA

ENGINE DRIVEN WELDERS

EN


MOSA
THE SPECIALIST IN QUALITY
WITH SOLUTION THAT MAKE
A DIFFERENT
SINCE
1963

PROUDLY "MADE IN ITALY""

For more than 50 years, MOSA has been focusing on the performance and reliability of its products. Experience and commitment to innovation has positioned MOSA as a world reference in the design and construction of machines that fulfil the requirements of power generation and welding: comprising generators, engine driven welders and lighting towers.

MADE IN ITALY

The ISO 9001 certified process utilised by MOSA uses the most advanced technology and personnel with specialised expertise in all phases of the process that, starting from design, extend to the selection of raw materials and supplies, to the production of the various components and their assembly, as well as the strict tests and functional testing of the finished product; all of which represent the traditional characteristics of “Made in Italy”.

THE RANGE

COMPACT WELDERS

NEW MAGIC WELD ..... PAG. 6
MAGIC WELD 200 ..... PAG. 6
MAGIC WELD 200 YDE ..... PAG. 6
TS 200 BS CF ..... PAG. 7
TS 200 DES CF ..... PAG. 7
TS 200 BS EL ..... PAG. 7
TS 200 BS EL P ..... PAG. 8
TS 200 DES EL ..... PAG. 8
TS 250 KD EL ..... PAG. 8

POWER WELDERS

CS 230 YSX CC/CV ..... PAG. 10
TS 300 KSX EL ..... PAG. 10
CS 350 KSX CC/CV ..... PAG. 10
TS 350 YSX BC ..... PAG. 10
TS 400 KSX EL ..... PAG. 11
TS 400 PS BC ..... PAG. 11
TS 500 PS-BC ..... PAG. 11
TS 600 PS BC ..... PAG. 11

DIGITAL WELDERS DSP

DSP 400 YSX ..... PAG. 14
DSP 500 PS ..... PAG. 14
DSP 600 PS ..... PAG. 14
DSP 2x400 PS ..... PAG. 14

TS EVO / TS EVO MULTI4

TS 300 EVO ..... PAG. 18
TS 400 EVO ..... PAG. 18
TS 600 EVO ..... PAG. 18
TS 400 EVO MULTI4 ..... PAG. 19
TS 600 EVO MULTI4 ..... PAG. 19
TS 2x280 EVO MULTI4 ..... PAG. 19

LEGEND

- Air cooling
- Water cooling
- Manual recoil (AA)
- Electric Starter (AE)

MOSA Weld

RANGE
COMPACT WELDERS

"POWER OPTIMIZER" SYSTEM
Some welding machines incorporate the "Power Optimizer" function, designed and patented by MOSA.
This is a specific control technique aimed at preventing the engine overload when working near to its power limit.
With the " Power Optimizer" it is possible to ensure stable and optimal operation in all the welding conditions, exploiting the full power of the engine .

AUTO IDLE
The presence of an auto idle economizer introduces the concept of "power on demand", allowing both fuel savings and reduced engine wear.

HANDLE
The handle above the machine allows a better grip for transport.

STRONG STRUCTURE
Machine has a steel structure with motor and alternator assembled on vibration dampers to reduce noise and increase service life.

COMPACT WELDERS

NEW MAGIC WELD

HONDA GX200 4000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- High-frequency control of welding current and voltage
- Chopped D.C. auxiliary current (safe for tools)
- Engine shut down for low oil level (oil alert)
- Power optimiser (patent pending)
- Auto Idle

MAGIC WELD 200

HONDA GX270 3600 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- High-frequency control of welding current and voltage
- Single-Phase, 50Hz aux current, inverter generated
- Engine shut down for low oil level (oil alert)
- Power optimiser (patent pending)
- Auto Idle

MAGIC WELD 200 YDE

YANMAR L70V 3600 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- High-frequency control of welding current and voltage
- Power optimiser (patent pending)
- Single-Phase, 50Hz aux current, inverter generated
- Low oil pressure automatic engine shut down

	NEW MAGIC WELD	MAGIC WELD 200	MAGIC WELD 200 YDE
D.C. WELDING (Costant Current)			
Current range, continuous	30A ÷ 150A	20A ÷ 200A	20A ÷ 200A
Duty cycle	150A 60%	200A 60%	170A 60%
Open circuit voltage	67V	70V	70V
GENERATION / ALTERNATOR	PERMANENT MAGNET, SELF-EXCITED, BRUSHLESS	PERMANENT MAGNET, SELF-EXCITED, BRUSHLESS	PERMANENT MAGNET, SELF-EXCITED, BRUSHLESS
Three-phase power	/	/	-
Single-phase power	2 kW / 230Vc.c. / 8.7 A	3 kVA / 230V / 13 A	3.3 kVA / 230V / 14.3 A
Single-phase power	1.6 kW / 230Vc.c. / 6.9 A	2.5 kVA / 230V / 10.9 A	3 kVA / 230V / 13 A
Insulation class	H	H	H
Frequency	/	50 Hz	50 Hz
ENGINE 4-STROKE			
Model	HONDA GX200	HONDA GX270	YANMAR L70V
Fuel	Petrol	Petrol	Diesel
Net power	4 kW (5.5 HP)	6.3 kW (8.5 HP)	4.9 kW (6.7 HP)
Cylinders / Displacement	1 / 196 cm^3	1 / 270 cm^3	1 / 320 cm^3
Fuel consumption (welding 60%)	1.1 l/h	1.5 l/h	1.0 l/h
GENERAL SPECIFICATIONS			
Tank capacity	3.1 l	5.3 l	3.3 l
Running time (welding 60%)	3 h	3.5 h	3.3 h
IP protection degree	IP 23	IP 23	IP 23
Dimensions Lxlxh (mm)	440x380x490	630x490x540	630x490x540
Dry weight	34 kg	61 kg	91 kg
Acoustic power LwA (pressure LpA)	99 dB(A) (74 dB(A) @ 7 m)	99 dB(A) (74 dB(A) @ 7 m)	103 dB(A) (78 dB(A) @ 7 m)

TS 200 BS/CF

HONDA GX390
3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- Double welding output 20A ÷ 100A / 90A ÷ 190A
- A.C. generator, single-phase and three-phase
- Ground Fault Interrupter
- Engine shut down for low oil level (oil alert)

TS 200 DES/CF

YANMAR L100V
3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- Double welding output 20A ÷ 100A / 90A ÷ 190A
- A.C. generator, single-phase and three-phase
- Ground Fault Interrupter
- Engine shut down for low oil pression

TS 200 BS/EL

HONDA GX390
3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Ground Fault Interrupter
- Engine shut down for low oil level (oil alert)

	TS 200 BS/CF	TS 200 DES/CF	TS 200 BS/EL
D.C. WELDING (Costant Current)			
Current range, continuous	20A ÷ 100A / 90A ÷ 190A	20 ÷ 100 A / 90 ÷ 190 A	20 ÷ 155 A
Duty cycle	190A 35% - 160A 60% - 120A 100%	190 A 35% - 160 A 60% - 120 A 100%	155 A 60% - 120 A 100%
Open circuit voltage	98V	98 V	65 V
GENERATION / ALTERNATOR	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED,BRUSHLESS**
Three-phase power	6 kVA / 400V / 8.7 A	6 kVA / 400 V / 8.7 A	6 kVA / 400 V / 8.7 A
Single-phase power	5 kVA / 230V / 21.7 A	5 kVA / 230 V / 21.7 A	4 kVA / 230 V / 17.4 A
Single-phase power	2 kVA / 110V / 22.7 A	2 kVA / 48 V / 41.6 A	2 kVA / 48 V / 41.6 A
Insulation class	H	H	H
Frequency	50 Hz	50 Hz	50 Hz
ENGINE 4-STROKE			
Model	HONDA GX390	YANMAR L100V	HONDA GX390
Fuel	Petrol	Diesel	Petrol
Net power	8.3 kW (11.3 HP)	6.5 kW (8.8 HP)	8.2 kW (11.1 HP)
Cylinders / Displacement	1 / 389 cm^3	1 / 435 cm^3	1 / 389 cm^3
Fuel consumption (welding 60%)	2.1 l/h	1 l/h	2.1 l/h
GENERAL SPECIFICATIONS			
Tank capacity	6.1 l	5.5 l	6.1 l
Running time (welding 60%)	3 h	5.5 h	3 h
IP protection degree	IP 23	IP 23	IP 23
Dimensions Lxlxh (mm)	910x530x620	900x550x620	870x525x590
Dry weight	111 kg	133 kg	105W kg
Acoustic power LwA (pressure LpA)	98 dB(A) (73 dB(A) @ 7 m)	99 dB(A) (74 dB(A) @ 7 m)	98 dB(A) (73 dB(A) @ 7 m)

COMPACT WELDERS

TS 200 BS/EL P

HONDA GX390 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Ground Fault Interrupter
- Engine shut down for low oil level (oil alert)

TS 200 DES/EL

YANMAR L100V 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Ground Fault Interrupter
- Engine shut down for low oil pression

TS 250 KD/EL

KOHLER KD 477/2 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Ground Fault Interrupter
- Protective frame

	TS 200 BS/EL P	TS 200 DES/EL	TS 250 KD/EL
D.C. WELDING (Costant Current)			
Current range, continuous	20 ÷ 170 A	20 ÷ 170 A	20 ÷ 250 A
Duty cycle	170 A 60% - 140 A 100%	170 A 60% - 130 A 100%	250 A 35% - 200 A 60%
Open circuit voltage	65 V	65 V	70V
GENERATION / ALTERNATOR	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**
Three-phase power	6 kVA / 400 V / 8.7 A	6 kVA / 400 V / 8.7 A	6.5 kVA / 400 V / 9.4 A
Single-phase power	4 kVA / 230 V / 17.4 A	5 kVA / 230 V / 21.7 A	4.5 kVA / 230 V / 19.5 A
Single-phase power	/	2 kVA / 48 V / 41.6 A	2 kVA / 48 V / 41.6 A
Insulation class	H	H	H
Frequency	50 Hz	50 Hz	50 Hz
ENGINE 4-STROKE			
Model	HONDA GX390	YANMAR L100V	KOHLER KD477/2
Fuel	Petrol	Diesel	Diesel
Net power	8.2 kW (11.1 HP)	6.3 kW (8.5 HP)	14.9 kW (20.3 HP)
Cylinders / Displacement	1 / 389 cm^3	1 / 435 cm^3	2 / 954 cm^3
Fuel consumption (welding 60%)	2 l/h	1 l/h	1.7 l/h
GENERAL SPECIFICATIONS			
Tank capacity	6.1 l	5.5 l	9 l
Running time (welding 60%)	3 h	5.5 h	5.3 h
IP protection degree	IP 23	IP 23	IP 23
Dimensions Lxlxh (mm)	870x525x590	900x550x620	1050x530x630
Dry weight	105 kg	133 kg	200 kg
Acoustic power LwA (pressure LpA)	98 dB(A) (73 dB(A) @ 7 m)	99 dB(A) (74 dB(A) @ 7 m)	103 dB(A)(78 dB(A) @ 7m)

RANGE
POWER WELDERS

ENGINE PROTECTION
The devices ES or EV ensure the protection of the engine in case of low oil pressure or engine high temperature or low fuel level. The system consists of an electronic PCB, and of an engine stop device: Electrostop (ElettroStop) solenoid valve (Electrovalve).

SAFETY LOCK
The recessed control panel is lockable and houses the sockets and machine.

WIDE ACCESS TO THE ENGINE
Lifting door for easy maintenance (replacing air, oil and fuel filters).

POWER WELDERS

CS 230 YSX CC/CV

YANMAR L100V 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- Multi-process arc welder
- High-frequency digital control of welding current and voltage
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Engine protection EV
- Power optimiser (patent pending)

TS 300 KSX EL

KOHLER KD 477/2 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Ground Fault Interrupter
- Engine protection EV

CS 350 KSX CC/CV

KOHLER KD 477/2 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- Multi-process arc welder
- High-frequency digital control of welding current and voltage
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Engine protection EP7
- Power optimiser (patent pending)
- Large fuel tank (38 l)
- Bunded base
- Emergency stop button

TS 350 YSX BC

YANMAR 3TNV76 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG with SCRATCH start)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- Special BC (Base Current) circuit for vertical-down pipe welding
- Double welding scale
- Aux power also available while welding
- Ground Fault Interrupter
- Engine protection EP7

	CS 230 YSX CC/CV	TS 300 KSX EL	CS 350 KSX CC/CV	TS 350 YSX BC
D.C. WELDING (Costant Current)				
Current range, continuous	20 ÷ 210 A (STICK - TIG) 14 V ÷ 44 V (MIG)	20 ÷ 300 A	20 ÷ 350 A (STICK-TIG) 14 V ÷ 44 V (MIG)	20 ÷ 350 A
Duty cycle	210 A 60% - 180 A 100%	300 A 60% - 250 A 100%	350 A 35% - 300 A 60% - 250 A 100%	350 A 35% - 320 A 60% - 270 A 100%
Open circuit voltage	65V	70V	66V	75V
GENERATION / ALTERNATOR	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**
Three-phase power	6 kVA / 400 V / 8.7 A	10 kVA / 400 V / 14.4 A	10 kVA / 400 V / 14.4 A	12 kVA / 400 V / 17.3 A
Single-phase power	5 kVA / 230 V / 21.7 A	5 kVA / 230 V / 21.7 A	5 kVA / 230 V / 21.7 A	7 kVA / 230 V / 30.4 A
Single-phase power	/	5 kVA / 48 V / 104 A	5 kVA / 48 V / 104 A	/
Insulation class	H	H	H	H
Frequency	50 Hz	50 Hz	50 Hz	50 Hz
ENGINE 4-STROKE,				
Model	YANMAR L100V	KOHLER KD 477/2	KOHLER KD 477/2	YANMAR 3TNV76
Fuel	Diesel	Diesel	Diesel	Diesel
Net power	6.3 kW (8.5 HP)	14.9 kW (20.3 HP)	14 kW (19 HP)	16.5 kW (25.4 HP)
Cylinders / Displacement	1 / 435 cm^3	2 / 954 cm^3	2 / 954 cm^3	3 / 1116 cm^3
Fuel consumption (welding 60%)	1 l/h	2.5 l/h	2.5 l/h	3.4 l/h
GENERAL SPECIFICATIONS				
Tank capacity	23 l	23 l	38 l	45 l
Running time (welding 60%)	23 h	9.2 h	15.2 h	13 h
IP protection degree	IP 23	IP 23	IP 23	IP 23
Dimensions Lxlxh (mm)	1020x645x930	1320x790x750	1230x690x925	1610x720x1110
Dry weight	230 kg	370 kg	345 kg	530 kg
Measured acoustic power LwA (pressure LpA)	91 dB(A) (66 dB(A) @ 7 m)	96 dB(A)(71 dB(A) @ 7m)	94 dB(A) (69 dB(A) @ 7 m)	92 LWA (67 dB(A) @ 7m)
Guaranteed acoustic power LwA (pressure LpA)	92 dB(A) (67 dB(A) @ 7 m)	97 dB(A)(72 dB(A) @ 7m)	95 dB(A) (70 dB(A) @ 7 m)	93 LWA (68 dB(A) @ 7m)

TS 400 KSX EL

KOHLER KD 625/2
3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG with SCRATCH start)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Ground Fault Interrupter
- Engine protection ES

TS 400 PS BC

PERKINS 404A-22G1
1500 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG with SCRATCH start)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- Special BC (Base Current) circuit for vertical-down pipe welding
- Double welding scale
- Arc Gouging dedicated socket
- Aux power also available while welding
- Ground Fault Interrupter
- Engine protection ES
- Emergency stop button

TS 500 PS BC

PERKINS 404A-22G1
1800 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG with SCRATCH start)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- Special BC (Base Current) circuit for vertical-down pipe welding
- Double welding scale
- Arc Gouging dedicated socket
- Aux power also available while welding
- Ground Fault Interrupter
- Engine protection ES
- Emergency stop button

TS 600 PS BC

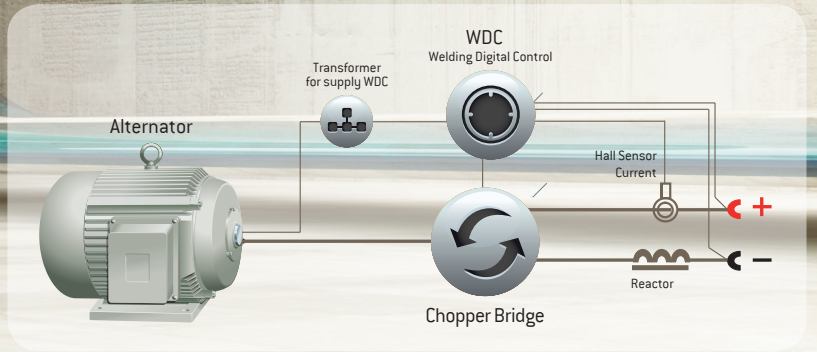
PERKINS 1103A-33TG1
1500 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG with SCRATCH start)

SERIES:
- Arc welding source in D.C. welding
- Electronic regulation of welding current
- Special BC (Base Current) circuit for vertical-down pipe welding
- Double welding scale
- Arc Gouging dedicated socket
- A.C. generator also available while welding
- Ground Fault Interrupter
- Engine protection EP7
- Emergency stop button

	TS 400 KSX EL	TS 400 PS BC	TS 500 PS BC	TS 600 PS BC
D.C. WELDING (Costant Current)				
Current range, continuous	20 ÷ 400 A	20 ÷ 400 A	20 ÷ 500 A	20 ÷ 600 A
Duty cycle	400 A 35% - 350 A 60% - 300 A 100%	400 A 60% - 350 A 100%	500 A 35% - 450 A 60% - 400 A 100%	600 A 35% - 550 A 60% - 500 A 100%
Open circuit voltage	70V	70V	70V	75V
GENERATION / ALTERNATOR	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**	**THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS**
Three-phase power	13 kVA / 400 V / 18.7 A	16 kVA / 400 V / 23.1 A	16 kVA / 400 V / 23.1 A	40 kVA / 400 V / 57.7 A
Single-phase power	7 kVA / 230 V / 30.4 A	12 kVA / 230 V / 52.2 A	12 kVA / 230 V / 52.2 A	15 kVA / 230 V / 65.2 A
Single-phase power	5 kVA / 48 V / 104 A	5 kVA / 48 V / 104 A	6 kVA / 110 V / 54.4 A	8 kVA / 110 V / 72.7 A
Insulation class	H	H	H	H
Frequency	50 Hz	50 Hz	60 Hz	50 Hz
ENGINE 4-STROKE				
Model	KOHLER KD 625/2	PERKINS 404A-22G1	PERKINS 404A-22G1	PERKINS 1103A - 33TG1
Fuel	Diesel	Diesel	Diesel	Diesel
Net power	18.8 kW (25.5 HP)	20.3 kW (27.6 HP)	22.6 kW (30.7 HP)	45.6 kW (62 HP)
Cylinders / Displacement	2 / 1248 cm^3	4 / 2216 cm^3	4 / 2216 cm^3	3 / 3300 cm^3
Fuel consumption (welding 60%)	3.2 l/h	3.8 l/h	4.2 l/h	6 l/h
GENERAL SPECIFICATIONS				
Tank capacity	26 l	60 l	60 l	65 l
Running time (welding 60%)	8 h	16 h	14.5 h	10.5 h
IP protection degree	IP 23	IP 23	IP 23	IP 23
Dimensions Lxlxh (mm)	1455x840x880	1720x980x1110	1720 x 980 x 1110 mm	2030x870x1130
Dry weight	465 Kg	780 kg	780 kg	1025 kg
Acoustic power LwA (pressure LpA)	/	/	94 dB(A) (69 dB(A) @ 7 m)	95 dB(A) (70 dB(A) @ 7 m)
Measured acoustic power LwA (pressure LpA)	96 dB(A)(71 dB(A) @ 7m)	91 LWA (66 dB(A) @ 7m)	/	/
Guaranteed acoustic power LwA (pressure LpA)	96 dB(A)(71 dB(A) @ 7m)	92 LWA (67 dB(A) @ 7m)	/	/

The acronym DSP, which is referred to this line of MOSA welders, stands for “Digital Signal Processor”, and identifies the fact that the regulation of the welding parameters is performed by means of a digital technique. More precisely, in the DSP controller reside the programs which perform the regulation of the different welding processes supported. The implementation of the control is accomplished by a power converter of the “Chopper” type (Chopper System), which operates at high frequency (20 kHz). The high frequency conversion allows to obtain superior welding performances in comparison with more conventional techniques at low frequency.



RANGE
DIGITAL WELDERS DSP

FEATURES

Via a rotary selector you can choose between 5 different welding programs:

1. **LIFT ARC TIG** - This program performs a TIG welding with a “Lift Arc” start. With this feature the arc is started simply by touching the piece, without scratch.
2. **STICK (3 PROGRAMS)** - They are specific for the electrode welding (CC), being characterized by three different arc force levels with increasing short circuit current from 1 to 3.
3. **MIG MAG** - It is dedicated to WIRE welding, WITH GAS or FLUX CORED. This welding process is performed at constant voltage (CV)..

Welding DSP Voltmeter/Ammeter & VRD indicator light

The front panel of the DSP control unit is provided with a military type circular connector which can be connected to a MOSA remote control unit or wire feeder, for MIG MAG. When plugging an external connector the control is automatically switched from the front panel knob to the knob on the remote unit. All the machines of this series are equipped with digital meters to monitor the welding current and voltage.

control panel digital

The software of the control unit, depending on the version of welder on which it is installed, can handle various functions, including:

a) **Power Optimizer** - A function that prevents overloading of the engine during welding

b) **VRD** - (Voltage Reduction Device) a function that reduces the open circuit voltage to a safe value when not welding

c) **Reverse polarity** - In the models where this function is present , a switch on the panel commands the contactor which implements the polarity reversal

The DSP controller also implements some security features:

- Chopper converter overtemperature
- Overcurrent during welding (due to failure or malfunction)
- Current sensor not connected
- Malfunction of the supply voltage

DIGITAL WELDERS DSP

DSP 400 YSX

YANMAR 3TNV76
3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- High frequency digital control of welding current and voltage
- Specific welding programs for cellulose electrodes
- Double welding scale (HALF/FULL - 50% / 100%)
- Digital Ammeter/voltmeter welding
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Engine protection EP7
- Emergency stop button
- Bunded base

DSP 500 PS

PERKINS 404A-22G1
1500 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- High frequency digital control of welding current and voltage
- Specific welding programs for cellulose electrodes
- Double welding scale (HALF/FULL - 50% / 100%)
- Digital Ammeter/voltmeter welding
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Engine protection EP7
- Emergency stop button

DSP 600 PS

PERKINS 1103A-33G
1500 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- High frequency digital control of welding current and voltage
- Specific welding programs for cellulose electrodes
- Double welding scale (HALF/FULL - 50% / 100%)
- Digital Ammeter/voltmeter welding
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Engine protection EP7
- Emergency stop button
- Bunded base

DSP 2x400 PS

PERKINS 1103A-33TG1
1500 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- Two independent welding positions - each 400A
- High frequency digital control of welding current and voltage
- Specific welding programs for cellulose electrodes
- Double welding scale (HALF/FULL - 50% / 100%)
- Digital Ammeter/voltmeter welding
- Aux power also available while welding
- Engine protection EP5

	DSP 400 YSX		DSP 500 PS		DSP 600 PS		DSP 2x400 PS	
D.C. WELDING (Costant Current)	SMAW (STICK)/ GTAW (TIG) Mode CC	GMAW (MIG)/ FCAW (FLUX CORED) - Mode CV	SMAW (STICK)/ GTAW (TIG) Mode CC	GMAW (MIG)/ FCAW (FLUX CORED) - Mode CV	SMAW (STICK)/ GTAW (TIG) Mode CC	GMAW (MIG)/ FCAW (FLUX CORED) - Mode CV	SMAW (STICK)/ GTAW (TIG) Mode CC	GMAW (MIG)/ FCAW (FLUX CORED) - Mode CV
Current range	10A ÷ 400A	-	10 ÷ 500A	-	10A ÷ 600A	-	10 ÷ 400A	-
Voltage range	-	16V ÷ 40 V	-	16V ÷ 40 V	-	16V ÷ 40 V	-	16V ÷ 36 V
Duty cycle	400A 35% - 350A 60% - 300A 100%	350A 60% - 300A 100%	500A 35% - 450A 60% - 400A 100%	450A 60% - 400A 100%	600A 35% - 550A 60% - 500A 100%	550A 60% - 500A 100%	2x400A 35% - 2x360A 60% - 2x330A 100%	2x360A 60% - 2x330A 100%
Open circuit voltage	65V	-	62 V	-	60V	-	68 V	-
GENERATION 50 HZ - THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS								
Three-phase power	12 kVA / 400V / 17.3 A		16 kVA / 400V / 23.1 A		30 kVA / 400V / 43.3 A		40 kVA / 400V / 57.8 A	
Single-phase power	7 kVA / 230V / 30.4 A		12 kVA / 230V / 52.2 A		15 kVA / 230V / 65.2 A		20 kVA / 230V / 87 A	
Single-phase power	5 kVA / 48V / 104 A		5 kVA / 48V / 104 A		5 kVA / 48V / 104 A		5 kVA / 48V / 104 A	
Insulation class	H		H		H		H	
Frequency	50 Hz		50 Hz		50 Hz		50 Hz	
ENGINE 4-STROKE								
Model	Yanmar 3TNV76		Perkins 404A-22G1		Perkins 1103A -33G1		Perkins 1103A -33TG1	
Fuel	Diesel		Diesel		Diesel		Diesel	
Net power	16.5 kW (22.4 HP)		20.3 kW (27.6 HP)		30.4 kW (41.3 HP)		45.6 kW (62 HP)	
Cylinders / Displacement	3 / 1116 cm^3		4 / 2216 cm^3		3 / 3300 cm^3		3 / 3300 cm^3	
Fuel consumption (welding 60%)	3.4 l/h		3.8 l/h		5 l/h		6.7 l/h	
GENERAL SPECIFICATIONS								
Tank capacity	45 l		60 l		65 l		102 l	
Running time (welding 60%)	13 h		16 h		13 h		15 h	
IP protection degree	IP 23		IP 23		IP 23		IP 44	
Dimensions Lxlxh (mm)	1610x720x1110		1720x980x1110		2030x870x1130		2490x1030x1480	
Dry weight	530 kg		750 kg		1000 kg		1350 kg	
Measured acoustic power LwA (pressure LpA)	92 dB(A) (67 dB(A) @ 7 m)		91 LWA (66 dB(A) @ 7m)		94 dB(A) (69 dB(A) @ 7 m)		89 dB(A) (64 dB(A) @ 7 m)	
Guaranteed acoustic power LwA (pressure LpA)	93 dB(A) (68 dB(A) @ 7 m)		92 LWA (67 dB(A) @ 7m)		95 dB(A) (70 dB(A) @ 7 m)		90 dB(A) (65 dB(A) @ 7 m)	

RANGE
TS EVO / TS EVO MULTI 4®

THE RANGE OF PROFESSIONAL ENGINE DRIVEN WELDERS TS EVO - TS EVO MULTI4
FULFILS THE MOST DIVERSE WELDING APPLICATION REQUIREMENTS,
THANKS TO THE MANY CONFIGURATIONS OFFERED
TO THE PROFESSIONAL MARKET.

WORLD CLASS ENGINES

Water or air-cooled diesel engines from global manufacturers have been chosen to power the engine driven welding models of the new TS-EVO and TS EVO MULTI4 series, guaranteeing their performance and reliability together with world-wide spares support.

TS EVO

Designed for professional use, the TS EVO range is available with power ranging from 300 to 600 Amperes, in 5 different models.

Powered by air or water-cooled diesel engines from leading international brands, they allow manual metal arc welding in Direct Current or scratch start DC TIG welding, ensuring high quality results.

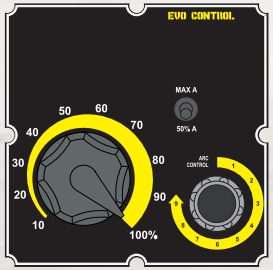
TS EVO MULTI4®

The engine driven welders of the TS EVO MULTI4 range are multi-process machines that allow you to choose the most suitable welding mode according to the specific requirement with the certainty of always achieving the highest quality results.

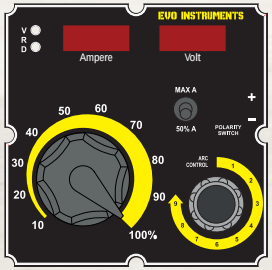
They are available in 5 different models with welding outputs ranging from 300 to 500 Amps. There is also a 2x280 Amp dual-operator model, a versatile model which allows operation of the machine for use with one or two welding operators.

All the machines in the TS EVO MULTI4 range are powered by water or air-cooled diesel engines from leading international brands.

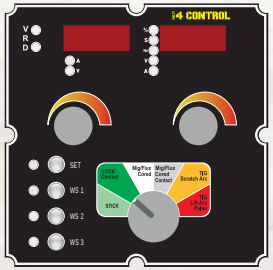
EVO CONTROL



EVO INSTRUMENT



MULTI4 CONTROL



LARGE FUEL TANK, LONG RUN CAPABILITY

The engine driven welders of the TS EVO and TS EVO MULTI4 series are equipped with a large fuel tank, which guarantees long run capability.

ORIGINAL MOSA THREEPHASE ASYNCHRONOUS ALTERNATORS

The engine driven welders of the TS EVO and TS EVO MULTI4 series use original MOSA three-phase asynchronous alternators. A component renowned for its durable reliability in all conditions.

MACHINE PARAMETERS AND ENGINE DIGITAL CONTROL

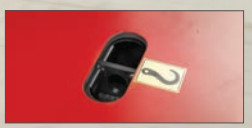
A digital module inserted in the control panel allows easy viewing of major engine functions (start up, shutdown, engine alarms, fuel level, battery voltage, etc.) together with AC generating values (frequency and three-phase or single-phase voltage).

OPTIMISATION OF THE COOLING SYSTEM

A carefully considered and accurate design allowed the optimization of the cooling flows inside the machine, with the result of guaranteed performances in the most prohibitive climatic conditions.

MODERN AND FUNCTIONAL DESIGN

- Rounded edges deflect sand, dust, and water from the canopy.
- The compact dimensions without protrusions assist favour stacking and transport.
- The large pockets in the base, allow for smooth handling with a forklift.
- The lifting point is part of the structure and mounted on the cover of the machine.
- The exhaust pipe, which can be placed on the cover, is adjustable and removable.
- Accessibility for maintenance within the machine is ensured by two fully opening side panels.



TS 300 EVO

KOHLER KD 477-2
3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG with SCRATCH start)

SERIES:
- Arc welding source in D.C. welding
- Welding arc and current electronic regulation
- A.C. generator, single-phase and three-phase also available
- Engine control digital module
- Bunded base
- Central lifting eye

TS 400 EVO

KOHLER KD 625/2
3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG with SCRATCH start)

SERIES:
- Arc welding source in D.C. welding
- Welding arc and current electronic regulation
- A.C. generator, single-phase and three-phase also available
- Engine control digital module
- Bunded base
- Central lifting eye

TS 600 EVO

DEUTZ F4L2011
1500 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG with SCRATCH start)

SERIES:
- Arc welding source in D.C. welding
- Welding arc and current electronic regulation
- Double welding scale
- Arc Gouging dedicated socket
- A.C. generator, single-phase and three-phase also available
- Engine control digital module
- Bunded base
- Base plate with forklift pockets
- Central lifting eye
- Stackable machine frame (max 2 units)

	TS 300 EVO	TS 400 EVO	TS 600 EVO	
D.C. WELDING (Costant Current)				
Current range, continuous	20 ÷ 300 A	20 ÷ 400 A	20 ÷ 550 A	20 ÷ 600 A
Duty cycle	300 A - 60% I 250 A - 100%	350 A - 60% I 300 A - 100%	500 A - 60% I 400 A - 100%	550 A - 60% I 450 A - 100%
Open circuit voltage	66 V	70 V	72 V (78 V di picco)	75 V (80 V di picco)
GENERATION / ALTERNATOR	THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS	THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS	THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS	
Three-phase power	10 kVA / 400 V / 14.4 A	13 kVA / 400 V / 18.7 A	18 kVA / 400 V / 26 A	20 kVA / 400 V / 29.9 A
Single-phase power	5 kVA / 230 V / 21.7 A	7 kVA / 230 V / 30.4 A	10 kVA / 230 V / 43 A	
Single-phase power	5 kVA / 48 V / 104 A	5 kVA / 48 V / 104 A	5 kVA / 115 V / 43.5 A	
Insulation class	H	H	H	
Frequency	50 Hz	50 Hz	50 Hz	60 Hz
ENGINE 4-STROKE				
Model	KOHLER KD 477-2	KOHLER KD 625/2	DEUTZ F4L2011	
Fuel	Diesel	Diesel	Diesel	
Net power	14.9 kW (20.3 HP)	18.8 kW (25.5 HP)	29 kW (39.4 HP)	
Cylinders / Displacement	2 / 954 cm^3	2 / 1248 cm^3	4 / 3110 cm^3	
Fuel consumption (welding 60%)	2.5 l/h	3.2 l/h	4.6 l/h	5.7 lt/h
GENERAL SPECIFICATIONS				
Tank capacity	38 l	38 l	60 l	
Running time (welding 60%)	15 h	12 h	13 h	
IP protection degree	IP 23	IP 23	IP 23	
Dimensions Lxlxh (mm)	1039x716x815	1410x716x895	1600x790x1125	
Dry weight	380 kg	400 kg	850 kg	
Measured acoustic power LwA (pressure LpA)	96 dB(A) (71 dB(A) @ 7 m)	96 dB(A) (71 dB(A) @ 7 m)	96 dB(A) (73 dB(A) @ 7 m)	

TS 400 EVO MULTI4

KOHLER KD 625/2 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- Arc welding source in D.C. welding
- Welding arc and current electronic regulation
- A.C. generator, single-phase and three-phase also available
- Engine control digital module
- Bunded base
- Central lifting eye

TS 600 EVO MULTI4

DEUTZ F4L2011 1500 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- Multi-process arc welder
- High-frequency digital control of welding current and voltage
- A.C. generator, single-phase and three-phase
- Aux power also available while welding
- Engine protection EP7
- Power optimiser (patent pending)
- Large fuel tank (38 l)
- Bunded base
- Emergency stop button

TS 2x280 EVO MULTI4

KUBOTA V1505 3000 rpm

WELDING PROCESSES
- SMAW Shielded Metal Arc welding (STICK)
- Gas Tungsten Arc Welding (TIG)
- GMAW Gas Metal Arc Welding (MIG)
- FCAW Flux Cored Arc Welding (FLUX CORED)

SERIES:
- Multi-process arc welder
- Two independent welding positions - each 250A
- Single welding position 500A
- Welding parameters digital control
- Welding digital ammeter/voltmeter with parameter pre-setting
- Aux power also available while welding
- Engine control digital module
- Bunded base with forklift pockets
- Central lifting eye
- Stackable machine frame (max 2 units)

	TS 400 EVO MULTI4	TS 600 EVO MULTI4		TS 2x280 EVO MULTI4
D.C. WELDING (Costant Current)				
Current range, continuous	20 ÷ 400 A 14 ÷ 45 V per MIG e FILO ANIMATO	20 ÷ 550 A 14 ÷ 45 V per MIG e FILO ANIMATO	20 ÷ 600 A 14 ÷ 45 V per MIG e FILO ANIMATO	20 ÷ 250 A (DUAL), 20 ÷ 500 A (SINGLE) per STICK e TIG 14 ÷ 45 V per MIG e FILO ANIMATO
Duty cycle	350 A - 60% I 300 A - 100%	500 A - 60% I 400 A - 100%	550 A - 60% I 450 A - 100%	230 A - 60% I 200 A - 100% (DUAL) 440 A - 60% I 400 A - 100% (SINGLE)
Open circuit voltage	70 V	72 V (78 V di picco)	75 V (80 V di picco)	75 V (80 V di picco)
GENERATION / ALTERNATOR	THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS	THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS		THREE-PHASE ASYNCRONOUS, SELF-EXCITED, SELF-REGULATED, BRUSHLESS
Three-phase power	13 kVA / 400 V / 18.7 A	18 kVA / 400 V / 26 A	20 kVA / 400 V / 29.9 A	15 kVA / 400 V / 17.3 A
Single-phase power	7 kVA / 230 V / 30.4 A	10 kVA / 230 V / 43 A		7 kVA / 230 V / 30.4 A
Single-phase power	5 kVA / 48 V / 104 A	5 kVA / 115 V / 43.5 A		5 kVA / 115 V / 43.5 A
Insulation class	H	H		H
Frequency	50 Hz	50 Hz	60 Hz	50 Hz
ENGINE 4-STROKE				
Model	KOHLER KD 625/2	DEUTZ F4L2011		KUBOTA V1505
Fuel	Diesel	Diesel		Diesel
Net power	18.8 kW (25.5 HP)	34.5 kW (47 HP)		25.5 kW (34.5 HP)
Cylinders / Displacement	2 / 1248 cm^3	4 / 3110 cm^3		4 / 1498 cm^3
Fuel consumption (welding 60%)	3.2 l/h	4.6 l/h	5.7 lt/h	4.6 l/h
GENERAL SPECIFICATIONS				
Tank capacity	38 l	60 l		60 l
Running time (welding 60%)	12 h	10.5 h		15 h
IP protection degree	IP 23	IP 23		IP 23
Dimensions Lxlxh (mm)	1410x716x895	1600x790x1125		1600x790x1141
Dry weight	400 kg	850 kg		700 kg
Acoustic power LwA (pressure LpA)	96 dB(A) (71 dB(A) @ 7 m)	98 dB(A) (73 dB(A) @ 7 m)		98 dB(A)(73 dB(A) @ 7m)

THE SERVICES

SPARE PARTS

A complete range of original spare parts, guaranteed directly by the manufacturer.

ASSISTANCE

A team of specialists, well prepared and available to assure an efficient and resolving service.

WARRANTY

A precise certainty for the customer's satisfaction: 2-year warranty included in the price.

LUBRICANTS

We recommends to use the original PowerLube lubricants.

MOSA

cunha mendes cunha, lda
Equipamentos Industriais

email:cmc@cmc.pt web:www.cmc.pt

9019001008 05/19