

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

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
- Bundled 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%)
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- 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-33G1
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
- Bundled 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 (Constant 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 ASYNCHRONOUS, 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 LxIhx (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)	