



# Pioneer 321 MKS/MSR



P. F. C. Power Factor Corrector

English

# Pioneer 321 MKS

## Mig/Mag Kompact Synergic



### MKS: Applications

- Thanks to its dimensions and light weight, MKS is the best option on the market, for small and medium workshops, ideal for table welding, car body repairs. Suitable for light and medium carpentries, quick repairs ... any application where it's not necessary to weld with a separate wire feeder.
- Pioneer 321 MKS is designed for welders at all levels and is recommended for demonstrations and welding schools.
- Thanks to its light weight, MKS is very easy to manage (only 76kg with no accessories).

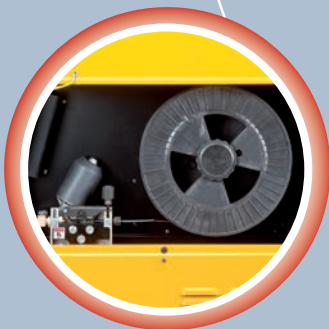


76 kg!



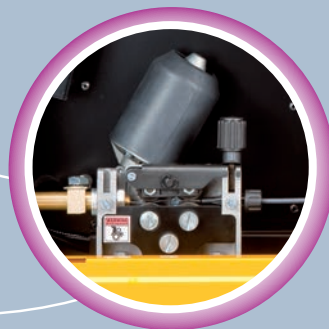
### MKS: The Compact Pioneer 321

- All controls are on the front panel.
- Compact welding system design (including accessories).
- Clean and organized welding area.



### Integrated Wire Feeder

- Inner wire-spool compartment to lodge 15kg wire spools, up to 300mm diameter.



### MKS: Wire Feeder

- Solid metallic 4 rolls motor drive-system for any type of wire.
- Wire diameters from 0,6 to 1,2mm.
- Wire speed from 2 to 20 meters per minute.
- Wire spools till 300 mm / 15 kg.



Synergic curves table

Torch support (optional)

ON/OFF switch

Earth Cable connector

Water Cooling Unit C.U.07 (optional)

Spool/motor drive compartment

MIG/MAG Torch centralized connector (H<sub>2</sub>O version is shown in the picture)

# Pioneer 321 MSR

## Mig/Mag Synergic Remote



### MSR: Applications

- Featuring a separate wire feeder and very long cable bundle, MSR is the best option on the market in workshops of any dimensions. Suitable for light and medium sized carpentries, quick repairs, heavy constructions as well as shipyard and automotive based engineering... basically in any application where you need to weld with a separated wire feeder.
- Thanks to its light weight (93kg plus accessories), MSR is very easy to manage.



### WF-107: Cables Bundle, Wheels

- Thanks to the inverter technology and software you can use cable bundles up to 50 meters without affecting the welding performance.
- Large sized wheels allow you to operate on difficult working surfaces.
- Pivot on top of the machine for transport, stocking and table welding.

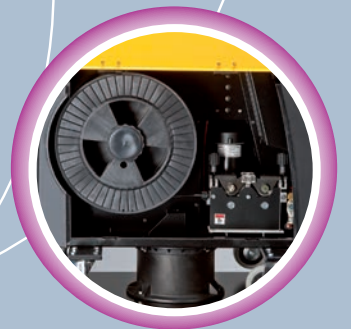


93 kg!



### WF-107: Front Panel

- All settings can be found on the WF-107 front panel.
- Welding system is completely controlled directly on the working site.
- Power source must be switched on before starting to work only.



### WF-107: Wire Feeder, Spool Compartment

- Solid metallic 4 rolls motor drive-system and optical encoder give the better wire feeding with any type of wire.
- Wire diameter from 0,6 to 1,2mm.
- Wire speed from 1,5 to 22 meters per minute.
- Inner wire-spool compartment to lodge 15kg wire spools, up to 300mm diameter.



### Integrated phases control

- Net's phases detector led.

# Pioneer 321 MSR-MKS



## Solid Construction, Light Weight

- Metal body for power source and wire feeder.
- Handles and prominent plastic edges to protect knobs and welding outlets.
- Thanks to its light weight it can be moved anywhere rather easily.



## Cooling Unit C.U.07 (optional)

- C.U.07 is robust, powerful and can be easily connected to the power source.
- It's placed in the back of the power source in order to minimize space, volume and to improve movement.



## Power Inverter Inside

- Higher efficiency and better welding quality than conventional power sources.
- Overall weight reduction for easier transportation and movement.
- Weco Inverter supplies a better quality welding arc, with no spattering, repeatable in time and unaffected by main voltage fluctuation.
- Reworking time and money saving.
- Real lower overall electric consumption.



## Remote Controls

- Connector with insulated pins for remote control of welding parameters.
- Torches with potentiometers and up/down switches can be used as well.



## Working Conditions, Maintenance

- Pioneer can be used in any adverse working condition thanks to an accurate and advanced manufacturing, powerful motors and reliable components, high duty factor at 40°C, ventilation tunnel to protect its internal parts from dust, well dimensioned air inlet louvers.
- IP23S enclosure protection degree certifies both indoor and outdoor use.
- Easily accessible for regular maintenance.

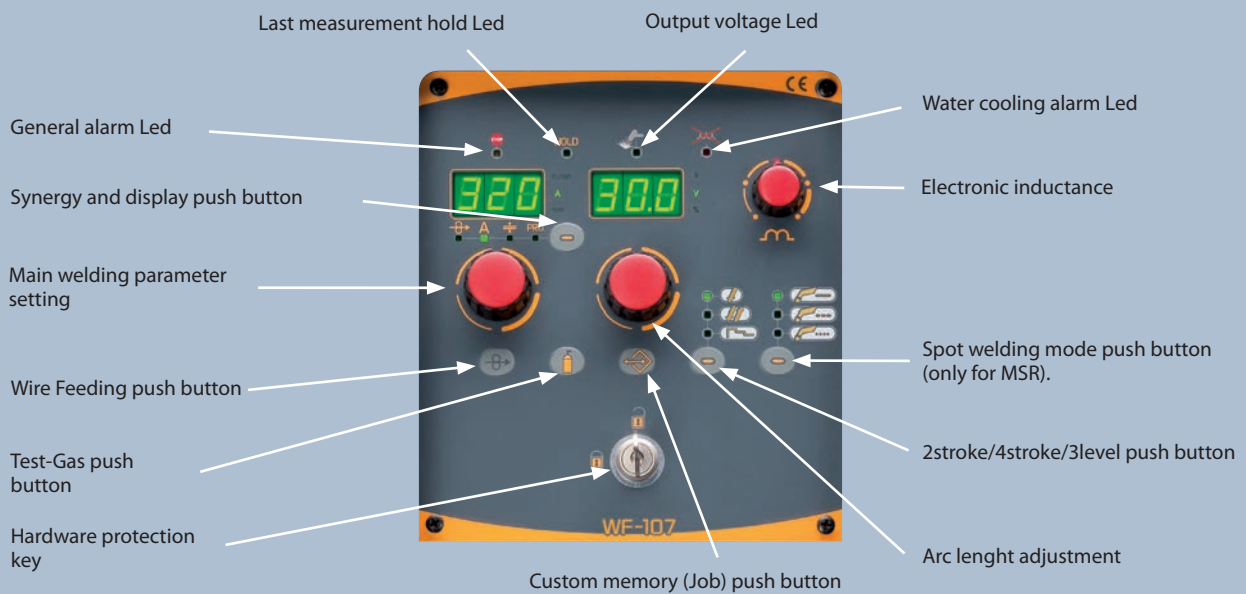




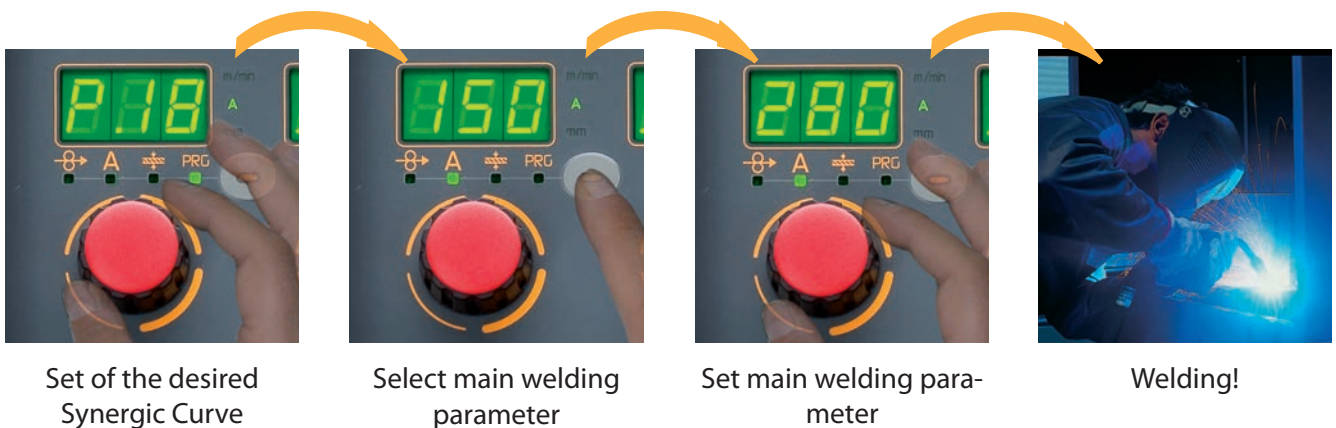
W.eco Technology Inside

- This symbol highlights Weco's constant care for ecological issues and new technologies which have been introduced to reduce the environmental impact.
- Pioneer 321MKS/MSR introduce new technological solutions in order to reduce the harmonic current emissions according to the future International Standards, to increase even more the power inverter efficiency and to reduce the input current more than 20%.
- The same welding deposit is achieved with less electrical power, less total power and less CO<sub>2</sub> emission for the safety of Planet Earth.

### Easy setting of welding parameters



### Easy selection of synergic welding curves



# Pioneer 321 MSR-MKS



## Digital Intelligence Inside

- Power source functions self-check in real time.
- Synergic programs for many applications available.
- Customized welding parameters.
- Hardware protection with key of welding settings.
- Welding operations can be replicated in time.
- A top quality instrument in certified welding procedures.



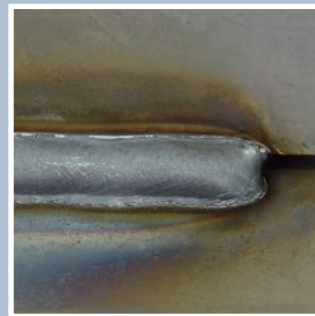
## Digital Inductance

- Allows you to optimize arc dynamic in any welding condition.
- Step-less regulation.
- Precise and complete synergic settings.



## BURN BACK:

An optimal wire cutting at the end of welding helps perfect starts.



## SOFT START:

Approaching speed of wire and welding dynamics are totally synergic giving low spattering at start, in any type of material.

## SPOT WELDING:

Dedicated controls, low spattering and high execution-speed allow you to get perfect welding spots.

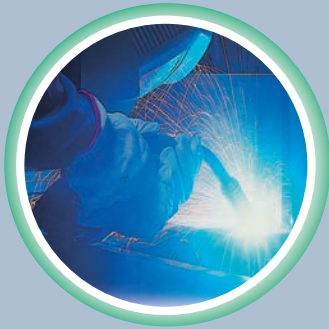
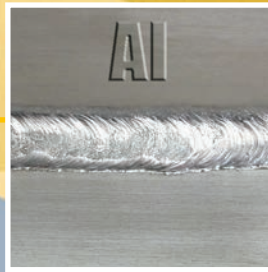
## Real Synergic Welding (all you need is a knob!)

- 35 synergic programs.
- Optimized programs for Flux Core Wires and high Performance Wires.
- Optimal welding results for welders at all levels.
- Second level menu available for experts.

| Synergic programs      |              |     |     |     |             |
|------------------------|--------------|-----|-----|-----|-------------|
| Wire Diameter          | 0,8          | 1,0 | 1,2 | 1,4 |             |
| Display                | on the right |     |     |     | on the left |
| Manual Welding         | P0           |     |     |     | PRn         |
| SG2/SG3 (80%Ar-20%CO2) | P1           | P2  | P3  | --  | FE          |
| SG2/SG3 (92%Ar-8%CO2)  | P4           | P5  | P6  | --  | FE          |
| SG2/SG3 (100%CO2)      | P7           | P8  | P9  | --  | FE          |
| INOX 308 (98%Ar-2%CO2) | P10          | P11 | P12 | --  | S.S.        |
| INOX 316 (98%Ar-2%CO2) | P13          | P14 | P15 | --  | S.S.        |
| AlMg5 (100%Ar)         | --           | P17 | P18 | --  | AL          |
| AlSi5 (100%Ar)         | --           | P20 | P21 | --  | AL          |
| CuSi3 (100%Ar)         | P22          | P23 | --  | --  | CUS         |
| CuAl8 (100%Ar)         | --           | --  | --  | --  | CUR         |
| RFCW (80%Ar-20%CO2)    | --           | --  | P28 | P29 | rFC         |
| BFCW (80%Ar-20%CO2)    | --           | --  | P30 | P31 | bFC         |
| MFCW (80%Ar-20%CO2)    | --           | --  | P32 | P33 | mFC         |
| Free Programs          | P34          |     |     |     | nPr         |

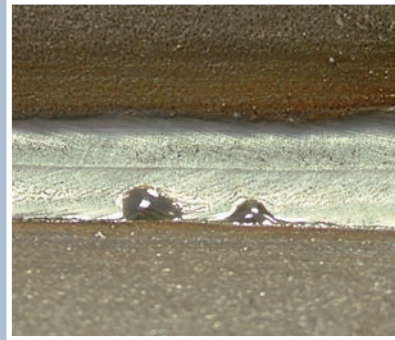


Display, Led and Knob for Synergic programs setting.



### HAC (Hybrid Arc Control) Flawless Welding Arc

- Soft and very stable welding arc.
- Low heat input both in Short and Spray Arc.
- Small Globular arc range. Welding is always perfect.
- Low spattering even with a high level of CO<sub>2</sub> mixed gas
- Quality of weld beads is just like the one you have in pulsed welding.
- Inductance and start/finish parameters are optimized in the synergic setting.
- Recommended for special applications like welding on Laser cut sheets without reworking, fillet welds on thin sheets with small deformations, and low residual stress. Accurate when you need to weld plates with relevant gaps...



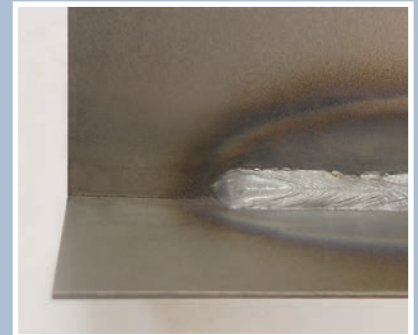
**SPRAY ARC:** HAC allows you to have a short spray arc with better penetration of the root, lower heat input and higher welding speed with no edge cutting and spattering.



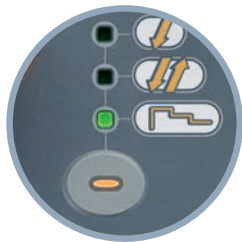
**WELDING POSITION:** HAC gives an optimal fusion of the bead's edges in short arc welding and to make overhead and vertical up position welding easier.



**PG POSITION:** HAC allows thin plates welding in vertical down position with gap up to 5mm wide.



**THIN PLATES:** HAC gives smooth and controlled short arc at lower parameters too. Low spattering, good edge wetting, low heating and small deformation are achieved in thin plate welding.



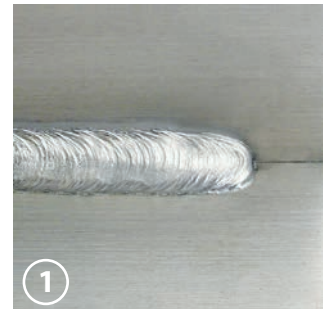
**3T SPECIAL:** allows you to set and recall 3 different current levels by pushing the trigger switch in order to achieve top quality weld beads: Highly recommended for Aluminum welding.



**LEVEL 3:** A low current ends the welding optimally by filling the crater on weld beads.



**LEVEL 2:** The welding current is optimized with the plate thickness and the requested weld.



**LEVEL 1:** A correct initial current gives optimal penetration from welding start.



| Pioneer 321 MKS/MSR       |                          | Technical data           |      |  |
|---------------------------|--------------------------|--------------------------|------|--|
|                           |                          | 3x400Vac ± 15% @ 50-60Hz |      |  |
|                           |                          | 25A                      |      |  |
|                           |                          | MIG/MAG                  |      |  |
| $\%_{40^{\circ}\text{C}}$ | 45%                      | 60%                      | 100% |  |
| $\text{I}_2$              | 320A                     | 280A                     | 230A |  |
| $\%_{\text{RT}}$          | 45%                      | 60%                      | 100% |  |
| $\text{I}_2$              | -                        | 320A                     | 290A |  |
| $\text{I}_2$              | 30A – 320A               |                          |      |  |
| $U_0$                     | 50V                      |                          |      |  |
| $P_{\text{MAX}}$          | 11,6KVA - 11,1KW         |                          |      |  |
| IP                        | 23                       |                          |      |  |
|                           | 1110 x 550 x 805mm       |                          |      |  |
|                           | 76,0 MKS - 72,5 MSR (Kg) |                          |      |  |
| Wire Feeder               |                          | Technical data           |      |  |
| Machine Type              | Pioneer 321 MKS          | Pioneer 321 MSR          |      |  |
| Wire Feeder               | Integrated               | WF 107                   |      |  |
|                           | 24 VDC                   | 42 VDC                   |      |  |
| $P_{\text{MAX}}$          | 35 W                     | 120 W                    |      |  |
| r.p.m.                    | 210                      | 270                      |      |  |
|                           | 1,0÷20,0 m/min.          | 2,0÷22,0 m/min.          |      |  |
| IP                        | -                        | 23                       |      |  |
|                           | -                        | 670x246x470              |      |  |
|                           | -                        | 21,5kg                   |      |  |
| CU 07                     |                          | Technical data           |      |  |
|                           |                          | 1x230Vac ± 15% @ 50-60Hz |      |  |
|                           |                          | 1,35A                    |      |  |
| $P_1$ L/MIN               |                          | 1.10kW                   |      |  |
| $P_{\text{MAX}}$          |                          | 0,44MPa                  |      |  |
|                           |                          | 3,0l                     |      |  |
| IP                        |                          | 23                       |      |  |
|                           |                          | 280 x 142 x 570mm        |      |  |
|                           |                          | 12,0Kg                   |      |  |



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