

## EWR. The electronic welding regulator



### Gas savings up to 60%

#### Weld more efficiently – optimise shielding gas consumption ...

Optimal use of all resources is essential for an economical and efficient welding process. However, options for optimisation of shielding gas consumption are often given too little consideration – primarily because of the difficulty of attributing and measuring them, as gases are not visible and tangible in the process.

ABICOR BINZEL offers the electronic shielding gas regulator EWR (Electronic Welding Regulator).

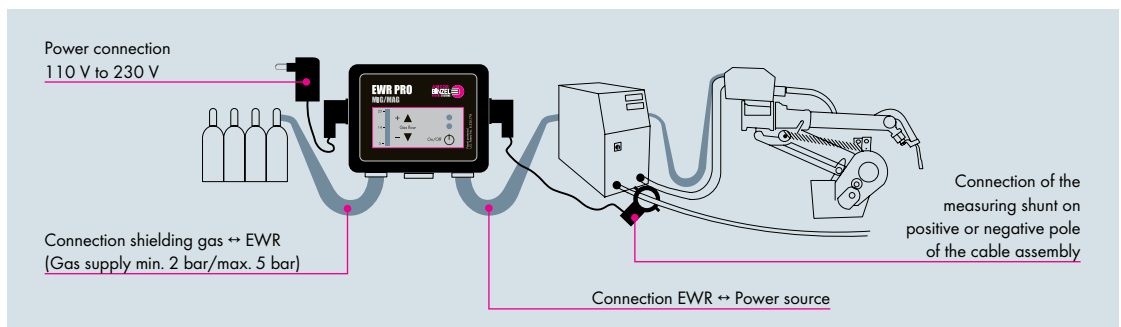
This system saves shielding gas at the same time as providing better gas coverage! Reliable, defined and verifiable.

#### Advantages that speak for themselves:

- High gas saving
- Increased process stability
- Longer lifetimes
- Reduced handling costs
- Standardised processes
- Less reworking



# Electronic Welding Regulator "EWR" System Overview & Technical Data



## “Plug & Play”

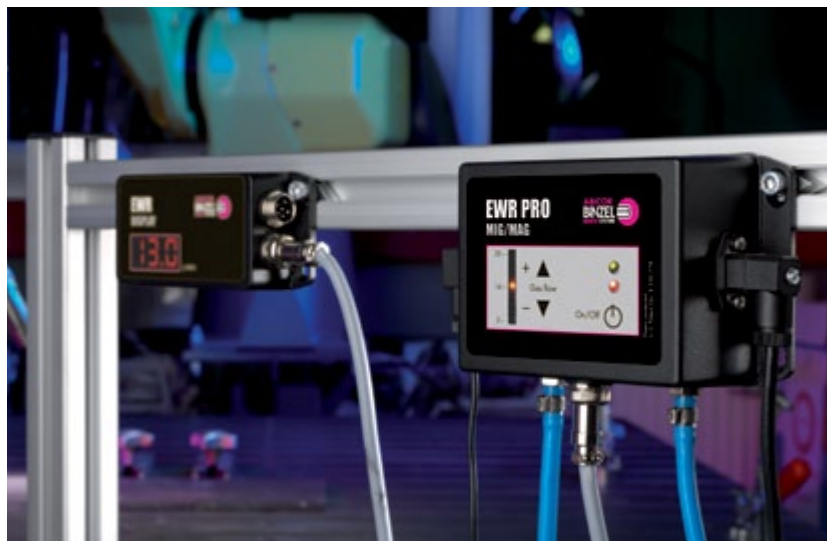
The installation of the EWR is done within minutes.  
Save gas – quick and easy!

### Installation of the EWR:

- Connection of the EWR between the gas supply and the power source
- Connection of the measuring shunt on the negative pole cable (or positive pole of the cable assembly)
- Ensure power supply connection



**Figure 2:  
Welding Monitor**



**Figure 1:  
EWR Control panel**

- 1.1 LED panel for visualisation of the preset gas flow
- 1.2 Buttons for preset of the required gas flow
- 1.3 LEDs for visualisation of the unit status
- 1.4 Button On/Off
- 1.5 Interface for additional options (only valid for EWR PRO)

**Figure 2:  
Welding Monitor\***

- 2.1 Rugged housing
- 2.2 Interface for USB memory stick
- 2.3 Touchscreen
- 2.4 Connectors gas in / gas out

**Technical data:**

**EWR BASIC/PRO MIG/MAG**

Weight: approx. 1.3 kg  
 Measurements LxWxH: 118x148x58 mm  
 Electrical connection: 24 V DC, 450 mA - 750 mA  
 Outgoing idle flow: 0.2-2.0 bar: 5.0-23.0 l/min  
 Flow rate: 5.0-30.0 l/min  
 10.6-63.0 cfh

In-/Outgoing pressure: Ingoing pressure ↔ Outgoing pressure  
 2-6 bar ↔ to 0.6 bar  
 3-6 bar ↔ to 1.2 bar  
 4-6 bar ↔ to 2.0 bar  
 (If pressure is below 2 bar the EWR shuts off)

Working range of measuring shunts: Shunt ↔ Working range  
 150 A ↔ 45-150 A  
 300 A ↔ 90-300 A  
 500 A ↔ 150-500 A

\* Pen for touchscreen, USB memory stick, power supply unit and two measuring shunts (300 A & 500 A) are included in the scope of supply.

# Electronic Welding Regulator "EWR"

## Functioning Principle

Gas savings  
up to 60%

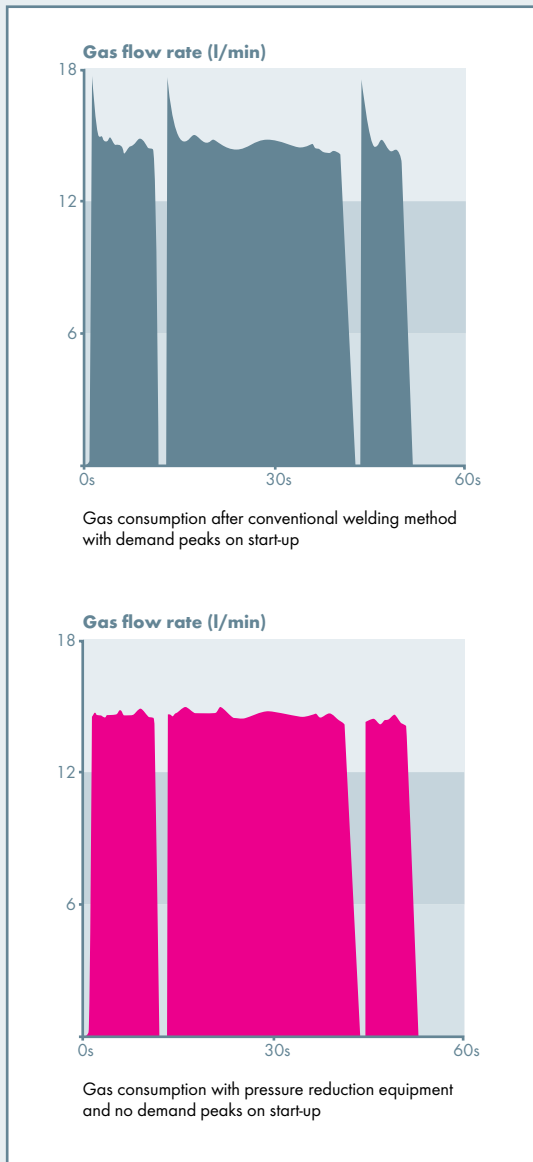
### Four methods = save four times!

The EWR electronic shielding gas regulator combines four innovative methods of gas regulation. By combining all four methods, your gas consumption during the welding process can be regulated and reduced by an average of 40% - ideally even by up to 60%. Alongside the gas saving, there are other positive effects, for example the reduction of spatter formation and safer gas coverage at the start of the welding process.

#### 1<sup>st</sup> method:

##### Avoiding demand peaks on arc start

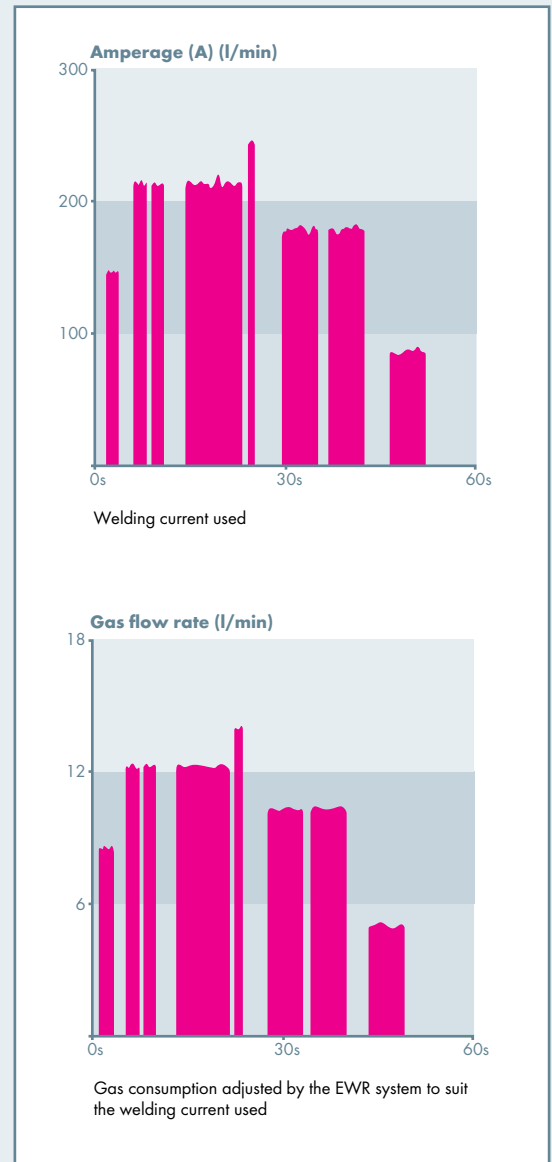
The EWR constantly regulates the gas flow, so no demand peaks occur even at the start of the welding process.



#### 2<sup>nd</sup> method:

##### Adjustment of the shielding gas quantity in relation to power consumption

With the aid of a measuring shunt, the EWR records the current welding current and regulates the gas supply accordingly.



### 3<sup>rd</sup> method:

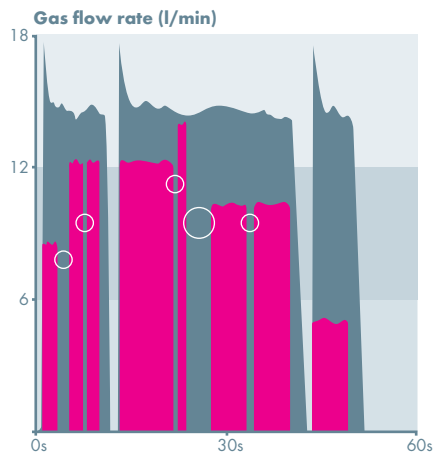
#### Extremely quick frequency valves

Due to frequency valves, which react extremely quickly, there is no loss of gas between opening and closing of the valve.

### 4<sup>th</sup> method:

#### Pulsing of the shielding gas at 60 Hz

The 60 Hz pulsing provides better gas coverage with less shielding gas and a more stable arc.



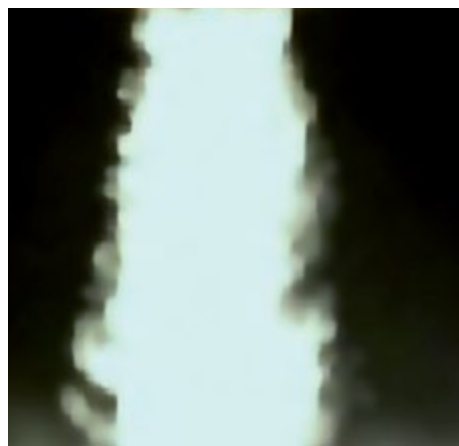
Comparison of the gas consumption with and without the EWR system

#### Legend:

- Gas consumption without EWR
- Gas consumption with EWR
- ⊠ No loss of gas in between single starts



Arc / gas jet without using the EWR system

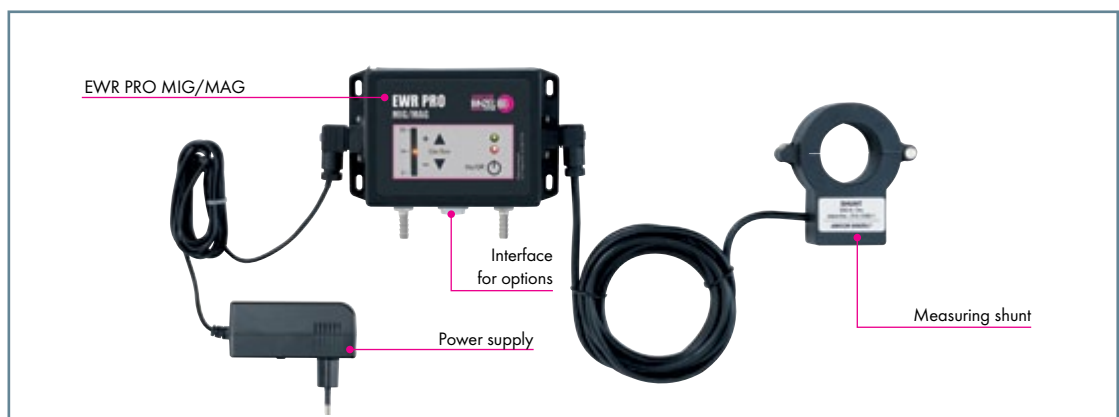


Arc / gas jet with using the EWR system

# Electronic Welding Regulator "EWR"

## Order Options & Accessories

Scope of supply  
EWR BASIC and  
EWR PRO



### Complete package

Type	Part-No.
EWR BASIC MIG/MAG complete package incl. power supply (230 V), measuring shunt (300 A/3 m)	514.1002.1
EWR PRO MIG/MAG complete package incl. power supply (230 V), measuring shunt (300 A/3 m)	514.1003.1
EWR BASIC MIG/MAG complete package incl. power supply (230 V), measuring shunt (500 A/5 m)	514.1019.1
EWR PRO MIG/MAG complete package incl. power supply (230 V), measuring shunt (500 A/5 m)	514.1020.1
EWR PRO TIG complete package incl. power supply (230 V), measuring shunt (150 A/3 m)	514.1021.1

An alternative power supply with key lock is also available with all complete packages instead of the standard power supply

Accessories  
and options

### Accessories

Type	for version	Part-No.
Measuring shunt 150 A/3 m	BASIC, PRO	514.1005.1
Measuring shunt 300 A/3 m	BASIC, PRO	514.1006.1
Measuring shunt 500 A/5 m	BASIC, PRO	514.1007.1
EWR holder	BASIC, PRO	514.1008.1
Power supply standard	BASIC, PRO	514.1023.1
Power supply with key lock <sup>1</sup>	BASIC, PRO	514.1014.1
Protective cap EWR	BASIC, PRO	514.1029.1

### Options

EWR gas controller (gas flow control unit) <sup>2</sup>	PRO	514.1004.1
EWR display <sup>3</sup>	PRO	514.1013.1

<sup>1</sup> Prevents unwanted changing of the default settings

<sup>2</sup> Signal output to the robot at a pressure drop in the gas line

<sup>3</sup> Visualizes the current gas consumption (l / min) during the welding process

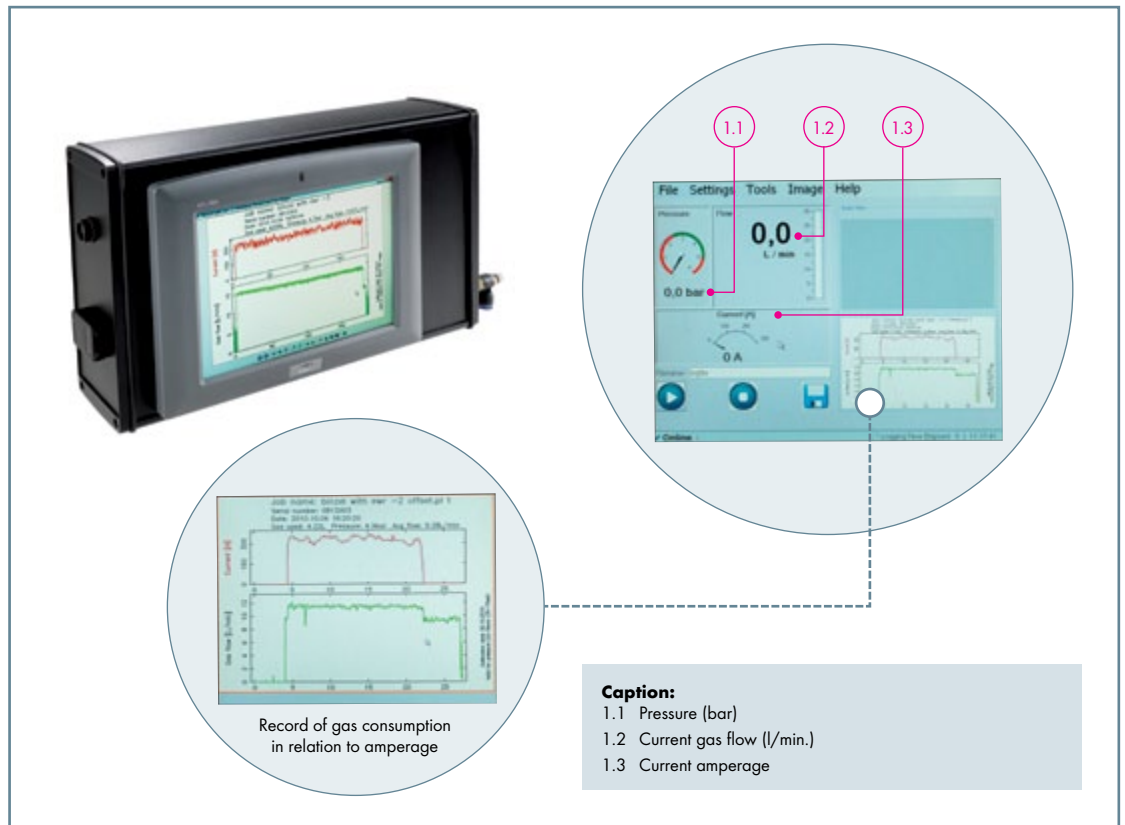
# Electronic Welding Regulator "EWR"

## Welding Monitor & Accessories

### Welding Monitor

The welding monitor serves to measure the gas flow and current strength. The industrial computer based on Windows® XP works stand-alone, i.e. completely independently of the EWR. It is installed between the gas supply and the power source.

The measuring results transmitted by the measuring shunt are displayed in the form of diagrams and can be saved for the purposes of documentation. The data can be easily transferred via the integrated USB interface.



### Scope of supply:

- 1x Welding Monitor incl. touch-stick
- 2 x measuring shunt (300 A/3 m and 500 A/5 m)
- 1x Power supply
- 1x USB memory stick

### Complete package

Type	Part-No.
Welding Monitor incl. touch-stick, measuring shunt 300 A/3 m and 500 A/5 m, power supply, USB memory stick	514.1001.1

### Accessories



### Accessories

Type	Part-No.
Transport case For protection and safe transportation of the Welding Monitor	514.1009.1



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