



**MagicWave** 2600 Fuzzy / 2600 Cel / 3000 Fuzzy  
**TransTig** 2600 / 2600 Cel / 3000

TIG & MMA welding



PERFECT WELDING



# Each one stronger than the next

## GENERAL

### **It's the power that counts - but not just the power**

Six TIG machines - one name: Power Plus. If ever welding machines deserved this name, these ones do. For Power Plus stands for just what it says it does - power, and power to spare. The exceptionally high power density makes every single machine a small sensation in its own right. Yet it's not just their sheer muscle that makes them so special, but also things like their long duty cycle and low weight, their compact design and ease of handling, their huge output current and - not least - their impressive welding results. Only all these things together make Power Plus what it is - for power on its own wouldn't be enough for us.

## UTILISATION

### **If you're good, the world's your oyster**

If you do good work, you'll be welcome wherever you go. A truism that definitely holds good for Power Plus. As one look at its tremendously versatile range of use will confirm. This takes in anything from construction sites to workshops, from pipeline, power station and plant construction to maintenance and site-erection work, from petrochemicals and the oil industry to robot welding.

Turning to the materials, Power Plus welds aluminium and its alloys in the same superlative quality as it welds low and high alloy steels. The MagicWave 2600 Cel and TransTig 2600 Cel machines have already made a name for themselves as universal geniuses when it comes to pipeline construction, where they make a superb job of welding pipeline diameters both large and small. Another very interesting speciality of theirs is vertical-down compatible welding of cellulose electrodes.







## ECONOMY

### Power Plus - cost minus

Welding machines must be able to do very many different things. All too often, though, economic efficiency takes second place. Not so with our machines - where cost-efficiency is a fixed quantity right from the very start of the development phase. Power Plus is no exception here. Far from it - when it comes to economy, Power Plus is second to none.

Consider the cap-shaping process at the tip of the tungsten electrode, for instance. On a Power Plus machine, this process runs automatically and is initiated at a push of the torch trigger. As well as saving a lot of time, this is also very much more precise. A feature as yet unequalled anywhere else in the welding industry. The water cooling unit and fan work just as economically. Both cut out automatically, i.e. only run when they're needed. This also keeps noise levels down to an absolute minimum. Your costs are pushed down still further by the long lifetime of the tungsten electrode and the water cooling-unit pump, and by the significantly lower electricity consumption made possible by Power Plus's inverter technology.

## SAFETY

### A safe bet

Fronius machines have to pass the toughest tests you can imagine. And not just pass them, but score top marks in them. For the Power Plus machines, this is all in a day's work. The following safety features come as standard: The S mark for welding in confined spaces in conditions of increased electrical hazard; the CE mark, indicating conformity with EN 60 974-1 and EN 50 199; degree of protection IP 23 for field use, so that your machine is protected from water and foreign bodies everywhere and in every situation, and your very own security code as a reliable anti-thief safeguard. Safety first!



Automatic cap-shaping function can be called up from the torch trigger



Field compatible protection class IP 23



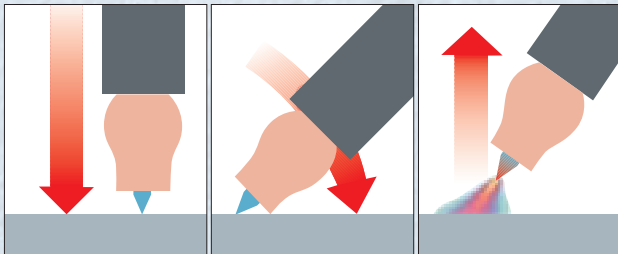
Tilt test to EN 60974-1



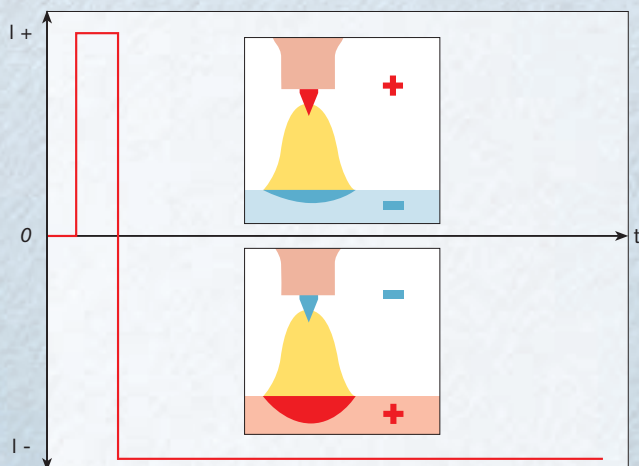
# An easy game for a strong team



Continuously adjustable ignition repetition frequency



Touchdown ignition



RPI ignition for mechanised TIG DC welding

## WELDING PROPERTIES

### Developed for professionals

As a TIG professional, you know best what matters when welding - and you often tell it to us. In developing our machines, we have always taken these suggestions very seriously indeed. All our achievements, then, have built upon an ongoing dialogue with everyday welding practice. The result? Products that live up to every single one of your expectations. For who do professionals prefer to work with? Professionals, of course.

### Ignition - different requirements for different applications

The ignition is a good example. Very different requirements will be made of it, depending on the welding task in question. For highly sensitive sectors, for instance, where the welder is surrounded by monitoring systems and electronics, we have developed a special electronic high-frequency ignition. The ignition repetition rate (HFT) can be continuously adjusted, and reduced from 100 impulses per second to 1 impulse per sec. This makes for highly flexible utilisation and superb ignition performance, even with long hosepacks.

A different solution is needed for sectors where it is forbidden to use high-frequency, e.g. in repair work for the pharmaceutical industry. In this case, ignition is by touch-down of the tungsten electrode on the workpiece. The electronically controlled ignition sequence not only prevents the tungsten electrode from sticking to the workpiece but also ensures precise, dependable operation.

Mechanised TIG/DC welding makes some extremely tough demands of the speed and reproducibility of the ignition. The best solution here is the MagicWave 2600, with its unique reversed-polarity ignition. With this RPI ignition, as it is known, the arc is ignited with a positively poled electrode under DC. This heats up the electrode more rapidly, and the arc stabilises sooner. After this, the system automatically switches over to negative polarity.





### The challenge comes from actual practice

Take the AC arc, for example. This is expected to work steadily and quietly. Requirements which are both brilliantly fulfilled by Power Plus. The AC curves are controlled here by the fuzzy logic, giving the very highest degree of process stability, even with large fusion areas or when you are welding over a bead. And without ever getting at all noisy, incidentally - the arc sound is considerably below the legal maximum noise level at all times. If you want a name like "Power Plus", you really have to earn it! Another difficulty in practice is root fusion on aluminium fillet welds. Not with Power Plus, though. Thanks to the pointed tungsten electrode, the root is fused very exactly. Better seam geometry and an optimised pattern of the lines of force are the result. As you see, our concerted development effort has paid off yet again.

### What's special about our Cel machines:

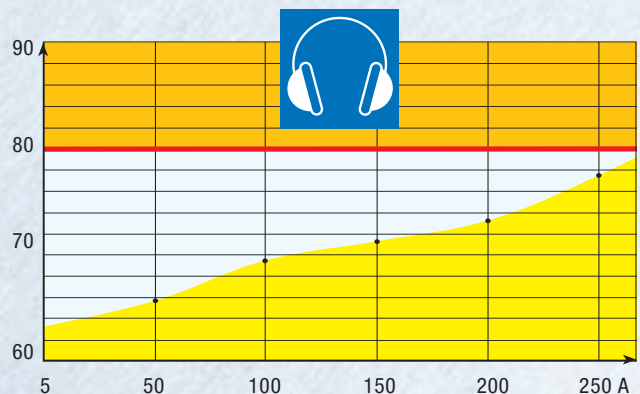
Both the TransTig 2600 Cel and the MagicWave 2600 Cel boast a feature that is absolutely "top-of-the-class" in the welding sector. And that is vertical-down compatible welding of cellulose electrodes - round the clock. Unlimited utilisation in pipeline construction is the gratifying result. With it, you'll be welding pipe diameters both great and small in next to no time. And that's no mean feat. The MagicWave 2600 Cel even manages this without the welding cables having to be re-connected, thanks to the integrated polarity reverser.



Cap diameter: 1 mm  
Base metal: AlMg3  
Sheet thickness: 5 mm  
Welding current: 185 A  
Welding voltage: 15.6 V  
AC Balance: 5



Cap diameter: 3.2 mm  
Base metal: AlMg3  
Sheet thickness: 5 mm  
Welding current: 185 A  
Welding voltage: 15.6 V  
AC Balance: 0



Noise level (dbA) Measuring distance 1m



# Life can be so easy

## HANDLING

### Convenience has taken on some definite shapes

It's always the simple things that make life more pleasant for us. Design, for example. Power Plus is not just good to look at, but its good looks have got some well-defined tasks to fulfil. User-friendliness is at the top of the list here. The sturdy plastic material protects the insides of the machine, while the controls are protected by the protruding front section of the housing. No matter how rough things get out in the field, Power Plus can always put up with the worst you can give it.

Another essential point is ease of operation right at the welding workplace. With just this in mind, we have included a standardised remote-control interface to let you tap into a wide choice of programs. You simply call up the welding-current setting or, optionally, you can spot-weld and pulsed-arc weld. It's also worth mentioning that on the AW 32 U/D torch, you can regulate the welding current right from the torch itself, simply by means of the Up/Down function. Now we really couldn't make it any easier for you than that!

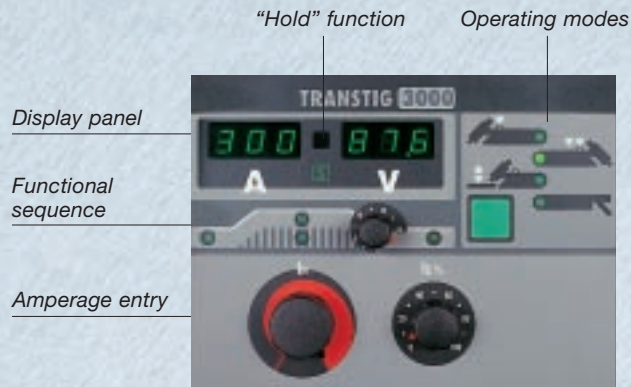


AW 32 U/D water-cooled  
welding torch



Integrated torch holder on  
the trolley





### Power-source management

Communication between the user and the machine begins with the user interface. And the dialogue should be as simple as possible. For this reason, the controls have been reduced to just a very few fields, and systematically arranged. This gives the user ideal guidance, and a good clear view - thanks to the slanted control panel. By power source management, though, we mean rather more than this. When it comes to replicating welding results, then, Power Plus gives you advantages that are plain to see. The hold function automatically saves the actual values on the display at the end of welding, so that you can easily call them up again whenever you need them. Also, the microprocessor takes over the job of fine-tuning the gas pre-flow and post-flow times for you. Individual requirements can still be taken account of very easily. Incidentally, because the microprocessor takes these things off your hands, the machine doesn't need as many dials and knobs, and so is that much easier to operate. And let's be honest - when things can be as simple as this, why make them complicated?



"Allround" trolley

### Up, up and away...

When we talk about user-friendliness, that's just what we mean. In every respect. If you are out and about a lot, and often have to work out on construction sites, then you'll know what a hassle it can be carrying all your equipment around. Not so with Power Plus. These machines come with their own trolleys - the "Easy" and the "Allround". Both of these are suitable for being hoisted by crane, and have a low-level gas-cylinder platform. The 2-wheel "Easy" is specially designed for use on the site, while the "Allround" is a 4-wheeler that can be used anywhere. There we have it again - Power Plus makes life as easy as possible for you!



"Easy" trolley



TP MC \*  
 TP MC Cel \*  
 TR 22 P  
 TR 50 MC  
 TR 51 MC \*  
 TR 53 MC \*  
 TR 55 MC  
 TR 52 MC

MagicWave 2600 / 3000	●		●	●	●	●	●	●	●
MagicWave 2600 Cel	●	●	●	●	●	●	●	●	●
TransTig 2600 Cel	●	●	●	●	●			●	●
TransTig 2600 / 3000	●		●	●	●			●	●
Welding current	●	●		●	●			●	●
EI arc force	●	●							
Hot-start	●	●							
Polarity reverser		●							
Interpulse current (%)				●				●	
Pulse duty cycle				●				●	
Pulse frequency				●				●	
Pulse frequency range				●				●	
Spot-welding time					●				
AC balance							●	●	
AC frequency							●		
Job recall			●						

\* with magnetic holder

## OPTIONS

### Keeping your options open

Power Plus leaves very many possibilities open to you. For example, you can make your work a lot easier by using the remote-control connection to retrieve a wide choice of programs (and with them, tried-and-tested settings) right from where you are welding. Or you can adjust the welding current the convenient way, right from the torch handle of the AW 32 U/D, where a digital current display gives you all the information you need. Or you might like to move into some brand new fields of work - with a special robot-interface, for instance, your power source can communicate with robots and automatic welders. After all, who knows what you'll end up wanting to do with your Power Plus welding machine in the future?



TP MC  
electrode remote-control unit



TP MC Cel  
electrode remote-control unit



TR 22 P  
workplace job-recall r.c. unit



TR 50 MC  
pulsed-arc remote-control unit



TR 51 MC  
spot-welding remote-control unit



TR 53 MC  
AC remote-control unit



TR 55 MC  
robot remote-control unit



TR 52 MC  
pedal remote-control unit



## CHECKLIST

	TransTig 2600	TransTig 2600 Cel	TransTig 3000	MagicWave 2600 Fuzzy	MagicWave 2600 Cel	MagicWave 3000 Fuzzy
Ar/He switchover	○	○	○	○	○	○
Automatic gas post-flow (dep. on welding current)	●	●	●	●	●	●
Automatic cap-shaping				●	●	●
Automatic cooling-unit cut-out	●	●	●	●	●	●
Touch-down / HF ignition	○	○	○	○	○	○
Printer interface (RS 232)	○	○	○	○	○	○
Energy saving inverter technology	●	●	●	●	●	●
Earth leakage monitoring	○	○	○	○	○	○
Upgrades by add-on modules	●	●	●	●	●	●
V-down-compatible welding of Cel electrodes		●		●		
Remote-controllable	●	●	●	●	●	●
Gas-test function	●	●	●	●	●	●
Generator-compatible	●	●	●	●	●	●
Job mode	○	○	○	○	○	○
Hot-Start function	●	●	●	●	●	●
Quiet arc, due to fuzzy logic				●	●	●
Microprocessor control	●	●	●	●	●	●
Polarity reversal				●	●	●
Robot interface, analogue	○	○	○	○	○	○
RPI ignition				●	●	●
Security code	●	●	●	●	●	●
Current-flow signal	○	○	○	○	○	○
“S” mark and CE mark as standard	●	●	●	●	●	●
Thermostat-controlled fan	●	●	●	●	●	●
Carrying strap	●	●	●	●	●	●
Continuous welding-current adjustment from torch	●	●	●	●	●	●
Overtemperature protection	●	●	●	●	●	●

### Operating modes

	TransTig 2600	TransTig 2600 Cel	TransTig 3000	MagicWave 2600 Fuzzy	MagicWave 2600 Cel	MagicWave 3000 Fuzzy
2-step mode, 4-step mode	●	●	●	●	●	●
AC / DC				●	●	●
Spot welding	○	○	○	○	○	○

### Digital display of

	TransTig 2600	TransTig 2600 Cel	TransTig 3000	MagicWave 2600 Fuzzy	MagicWave 2600 Cel	MagicWave 3000 Fuzzy
Run-status	●	●	●	●	●	●
Operating mode	●	●	●	●	●	●
Crater-fill current	●	●	●	●	●	●
Error codes	●	●	●	●	●	●
“Hold”-function	●	●	●	●	●	●
Welding voltage (actual value)	●	●	●	●	●	●
Welding current (actual value)	●	●	●	●	●	●
Overtemperature	●	●	●	●	●	●

### Adjustable parameters

	TransTig 2600	TransTig 2600 Cel	TransTig 3000	MagicWave 2600 Fuzzy	MagicWave 2600 Cel	MagicWave 3000 Fuzzy
AC balance				●	●	●
AC frequency				●	●	●
AC waveform				●	●	●
Downslope	●	●	●	●	●	●
Arc-force dynamic	●	●	●	●	●	●
Electrode diameter				●	●	●
Crater-fill current	●	●	●	●	●	●
Falling characteristic		○		○		
Gas post-flow time	●	●	●	●	●	●
Gas pre-flow time	●	●	●	●	●	●
Hot-Start	●	●	●	●	●	●
Welding power (continuous)	●	●	●	●	●	●
Start arc	●	●	●	●	●	●
TIG pulse	○	○	○	○	○	○
Upslope	●	●	●	●	●	●

● series ○ optional

## ARTICLE NUMBERS

4,075,117	MagicWave 2600 Fuzzy power source	4,045,804	“Easy” trolley, 2 wheels
4,075,083,630	MagicWave 2600 Cel power source	4,045,807	“Allround” trolley, 4 wheels
4,075,083	MagicWave 3000 Fuzzy power source		
4,075,118	TransTig 2600 power source	4,046,048	TP MC electrode remote-control unit
4,075,084	TransTig 2600 Cel power source	4,046,049	TR 50 MC remote-control pulsing unit
4,075,090	TransTig 3000 power source	4,046,052	TR 51 MC remote-control spot welding unit
		4,046,050	TR 52 MC remote-control pedal unit
4,045,800	FK 2600 cooling unit for MW (vibrating armature pump)	4,046,051	TR 53 MC AC remote-control unit
4,045,822	FK 2600-R 50/60Hz cooling unit for MW (centrifugal pump)	4,046,057	TR 55 MC robot remote-control unit
4,045,806	FK 2601 cooling unit for TT (vibrating armature pump)	4,046,076	TP MC CEL electrode remote-control unit
4,045,823	FK 2601-R 50/60Hz cooling unit for TT (centrifugal pump)	4,046,043	TR 22-P workplace job-recall remote-control unit
4,035,353	AW32 W/Z/4 m TIG manual welding torch, water-cooled	43,0004,0459	Remote-control cable, 10-pole/5 m
4,036,258	AL22-1 G/Z4 m TIG manual welding torch, gas-cooled	43,0004,0460	Remote-control cable, 10-pole/10 m
44,0350,0872	AW 32/AL16 spare-parts box	43,0004,0509	Remote-control cable, 10-pole/20 m
44,0350,0498	AW42/AL22 spare-parts box		
43,0011,0009	CO <sub>2</sub> /Ar pressure regulator	4,001,547	Auto-transformer, 3x200V/230-400V, for MW
43,0004,0151	Electrode cable, 35 mm <sup>2</sup> /4 m/300A	4,001,563	Auto-transformer, 3x500V/460-400V, for MW
43,0004,0153	Electrode cable, 50 mm <sup>2</sup> /4 m/400A	4,001,568	Auto-transformer, 480V/440V-400V, for MW
43,0004,0160	Earth cable, 35 mm <sup>2</sup> /3.5 m/250A	4,001,551	Auto-transformer, 3x200V/230V-400V, for TT
43,0004,0161	Earth cable, 50 mm <sup>2</sup> /4 m/400A		



## TECHNICAL DATA

Power source		MagicWave 2600 Fuzzy	MagicWave 2600 Cel	MagicWave 3000 Fuzzy	TransTig 2600	TransTig 2600 Cel	TransTig 3000
Mains voltage	+15 /-20 %, 50-60 Hz	3x400 V	3x400 V	3x400 V	3x400 V	3x400 V	3x400 V
Mains fusing		16 A	16 A	16 A	16 A	16 A	16 A
Primary continuous current	100 % d.c.	12 A	12 A	14 A	12 A	13 A	14 A
Cos phi 1		0.99 (150 A)	0.99 (150 A)	0.99 (150 A)	0.99 (150 A)	0.99 (150 A)	0.99 (150 A)
		0.99 (260 A)	0.99 (260 A)	0.99 (300 A)	0.99 (260 A)	0.99 (260 A)	0.99 (300 A)
Welding current range	AC	5 - 260 A	5 - 260 A	5 - 300 A	–	–	–
	DC	3 - 260 A	3 - 260 A	3 - 300 A	3 - 260 A	3 - 260 A	3 - 300 A
Welding current at	10 min/40°C	40 % d.c.	–	260 A	–	–	–
	10 min/40°C	50 % d.c.	260 A	–	–	–	–
	10 min/40°C	60 % d.c.	240 A	180 A	–	260 A	260 A
	10 min/40°C	65 % d.c.	–	–	300 A	–	300 A
	10 min/40°C	100 % d.c.	185 A	145 A	260 A	220 A	230 A
	10 min/25°C	100 % d.c.	245 A	180 A	300 A	260 A	300 A
Efficiency		86 % (260 A)	83 % (200 A)	85 % (150 A)	86 % (260 A)	89 % (150 A)	89 % (150 A)
Open-circuit voltage		56 V	75 V	56 V	83 V	80 V	83 V
Operating voltage	TIG	10.1 - 20.4 V	10.1 - 20.4 V	10.1 - 22.0 V	10.1 - 20.4 V	10.1 - 20.4 V	10.1 - 22.0 V
	EL	20.1 - 30.4 V	20.1 - 30.4 V	20.1 - 32.0 V	20.1 - 30.4 V	20.1 - 30.4 V	20.1 - 32.0 V
Maximum operating voltage		40 V (260 A)	48 V (260 A)	38 V (300 A)	38 V (260 A)	65 V (260 A)	38 V (300 A)
Degree of protection		IP 23	IP 23	IP 23	IP 23	IP 23	IP 23
Type of cooling		AF	AF	AF	AF	AF	AF
Insulating category		F	F	F	F	F	F
Dimensions L x W x H mm		625x290x480	625x290x480	625x290x480	625x250x480	625x290x480	625x250x480
	Inches	24.63x11.43x18.92	24.63x11.43x18.92	24.63x11.43x18.92	24.63x9.85x18.92	24.63x11.43x18.92	24.63x9.85x18.92
Weight		33 kg/72.6 lb	34 kg/74.8 lb	34 kg/74.8 lb	28 kg/61.6 lb	28 kg/61.6 lb	28 kg/61.6 lb



Cooling unit	FK 2600	FK 2601
Mains voltage	230/400 V	230/400 V
Cooling capacity	+20°C	1200 W
	+40°C	1050 W
Throughput	2.0 l/min	2.0 l/min
Pumping head	35 m	35 m
Throughput pressure max:	4.5 bar	4.5 bar
Coolant volume	5.5 l	5.5 l
Degree of protection	IP 23	IP 23
Dimensions L x W x H mm	625x290x230	625x250x230
	Inches	24.63x11.43x9.07
Weight (not including coolant)	11 kg/24.2 lb	10.9 kg/24 lb



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