

3 - TIG welding



- TIG torches..... 3-2 to 3-5
- Tungsten electrodes..... 3-6 to 3-7
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*For: clamps, connectors, cables,
hammers, miscellaneous, ceramic backings,
see chapter “Other arc welding”*

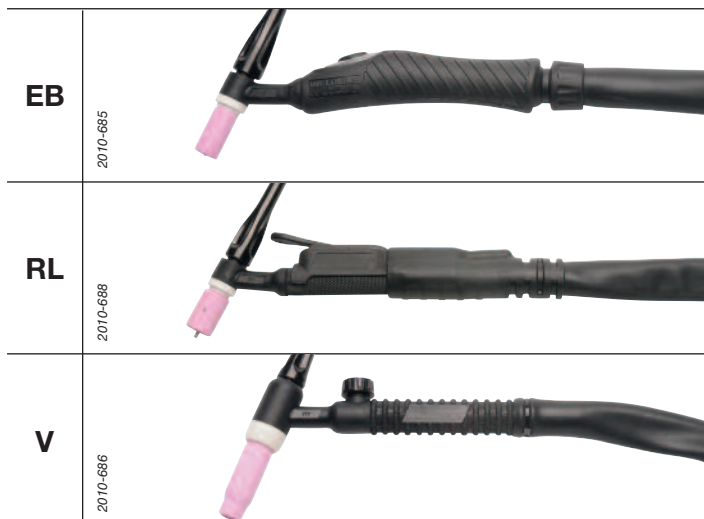
Simplify your life with the new **WTT2** range

TIG torches must be reliable, flexible and use common wear parts. Connection and handles have to be adapted to the different habits.

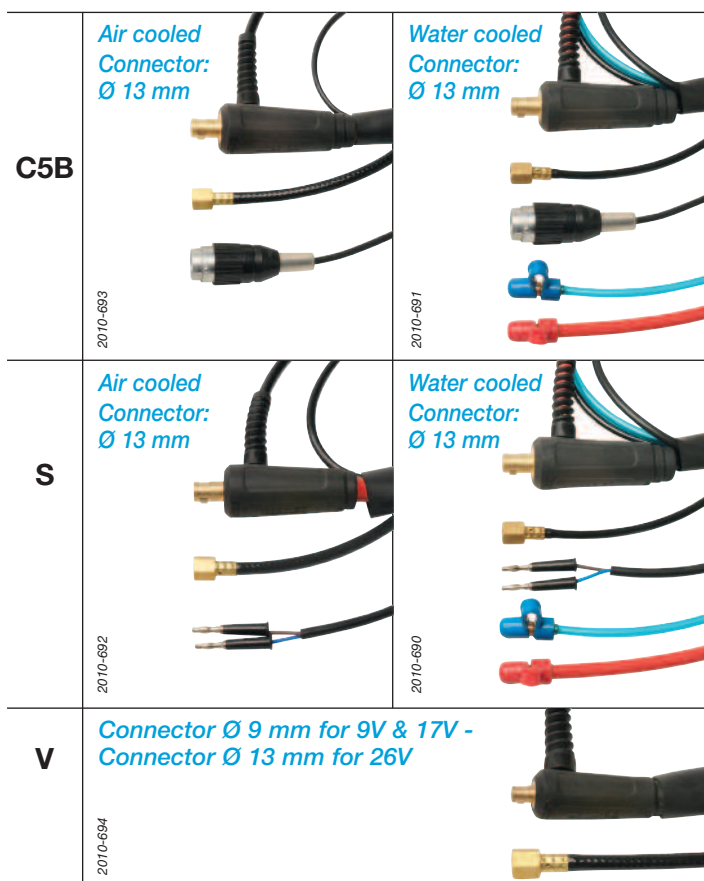
EN 60974-7

• Handle

The different type of handle



• Connections



• Length

Harness length is 4 or 8 m (except V only 4 m)

• Adaptator

For connection of a diameter 9 mm torch on a diameter 13 mm power source socket: **W000306139**



2010-804

The WTT2 range

EN 60974-7

Air cooled: 3 torches using tungsten electrode 1.0 to 3.2 mm

WTT2 9 or 9 V

Welding current: 110 A at 35% - 80 A at 60%

Fitted with:

- cap medium
- nozzle Ø 10 mm
- electrode Ø 1.6 mm

Available in :

- V (Valve)
- RL (blade)
- EB (button)



WTT2 17 or 17 V

Welding current: 135 A at 35% - 100 A at 60%

Fitted with:

- cap medium
- nozzle Ø 10 mm
- electrode Ø 2.0 mm

Available in :

- V (Valve)
- RL (blade)
- EB (button)



WTT2 26 or 26 V

Welding current: 180 A at 35% - 130 A at 60%

Fitted with:

- cap medium
- nozzle Ø 12 mm
- electrode Ø 2.4 mm

Available in :

- V (Valve)
- RL (blade)
- EB (button)



To order

Air cooled

Handle connection	Torch	4 m	8 m
RL/S	WTT2 9 RL S	W000278878	W000278923
	WTT2 17 RL S	W000278883	W000278918
	WTT2 26 RL S	W000278888	W000278914
RL/C5B	WTT2 9 RL C5B	W000278879	W000278922
	WTT2 17 RL C5B	W000278884	W000278917
	WTT2 26 RL C5B	W000278890	W000278913
EB/S	WTT2 9 EB S	W000278877	W000278929
	WTT2 17 EB S	W000278881	W000278920
	WTT2 26 EB S	W000278886	W000278916
EB/C5B	WTT2 9 EB C5B	W000278875	W000278926
	WTT2 17 EB C5B	W000278882	W000278919
	WTT2 26 EB C5B	W000278887	W000278915
V/V	WTT2 9V	W000278876	-
	WTT2 17V	W000278880	-
	WTT2 26V	W000278885	-

Water cooled: 2 torches using tungsten electrode 1.0 to 4.0 mm

WTT2 20 W

Welding current: 200 A at 100%

Fitted with: - cap medium
- nozzle Ø 12 mm
- electrode Ø 2.4 mm

Available in : - RL (blade)
- EB (button)



WTT2 18 W

Welding current: 320 A at 100%

Fitted with: - cap medium
- nozzle Ø 12 mm
- electrode Ø 2.4 mm

Available in : - RL (blade)
- EB (button)



To order

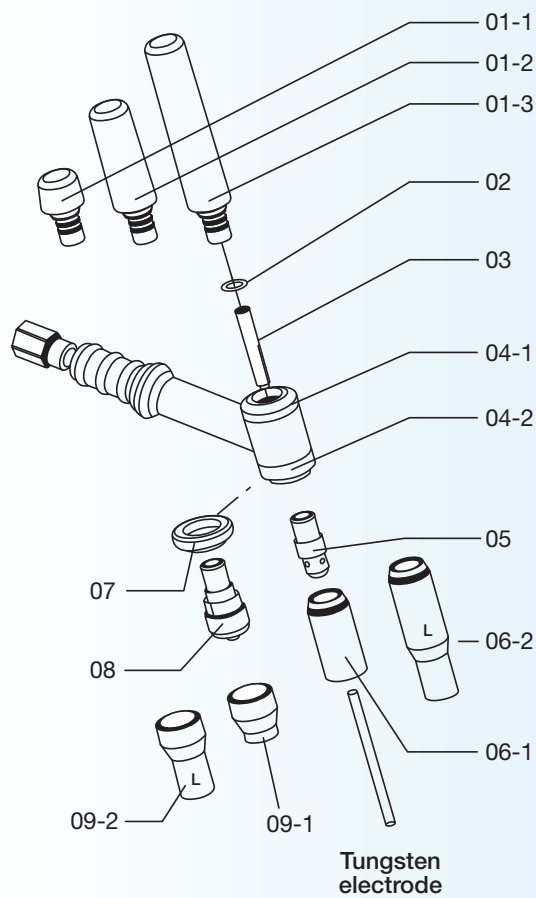
Water cooled

Handle connection	Torch	4 m	8 m
RL/S	WTT2 20W RL S	W000278893	W000278906
	WTT2 18W RL S	W000278897	W000278900
RL/C5B	WTT2 20W RL C5B	W000278894	W000278905
	WTT2 18W RL C5B	W000278898	W000278899
EB/S	WTT2 20W EB S	W000278891	W000278911
	WTT2 18W EB S	W000278895	W000278902
EB/C5B	WTT2 20W EB C5B	W000278892	W000278909
	WTT2 18W EB C5B	W000278896	W000278901



TIG torches wear parts

		Ø	REP	WTT2 9 / 9 V WTT2 20 W	WTT2 17 / 17 V WTT2 26 / 26 V WTT2 18 W
Back cap	Short		01-1	W000306398	W000306399
	Medium		01	W000306400	-
	Long		01-2	W000306402	W000306403
Back cap O-ring			02	W000306404	W000306405
Collet	1.0	03		W000306406	W000306411
	1.6		W000306407	W000306412	
	2.0		W000306408	W000306413	
	2.4		W000306409	W000306414	
	3.2		W000306410	W000306415	
	4.0		-	W000306416	
Insulating ring			04-1	W000270780	W000306395
Sealing ring			04-2	W000306396	W000306397
Collet body	1.0	05		W000306376	W000306380
	1.6		W000306377	W000306381	
	2.0		W000306378	W000270781	
	2.4		W000306455	W000306382	
	3.2		W000306379	W000306383	
	4.0		-	W000306384	
Short nozzle	6.4	06-1		W000306417	W000306423
	8.0		W000306418	W000306424	
	9.6		W000306419	W000306425	
	11.2		W000306420	W000306426	
	12.8		W000306421	W000306427	
	16.0		W000306422	W000306428	
	19.2		-	W000306461	
Long nozzle	4.8	06-2		W000306456	-
	6.4		W000306457	W000306462	
	8.0		W000306458	W000306463	
	9.6		W000306459	W000306464	
	11.2		-	W000306465	
Gas L. sealing ring			07	-	W000306466
G.L. collet body	1.0	08		W000306385	W000306389
	1.6		W000306386	W000306390	
	2.0		W000306460	-	
	2.4		W000306387	W000306391	
	3.2		W000306388	W000306392	
	4.0		-	W000306393	
Gas L. nozzle	6.4	09-1		W000306429	W000306434
	8.0		-	W000306435	
	9.6		W000306431	W000306436	
	11.2		W000306432	W000306437	
	12.8		W000306433	W000306438	
	16.0		-	W000306439	
Long G.L. nozzle	8.0	09-2		-	W000306467
	9.6		-	W000306468	
	11.2		-	W000306469	
	12.8		-	W000306470	



Maintenance boxes

For an easier maintenance of the WTT2 torches, two boxes are available.

Composition of the box (1 piece of each part)

Box for WTT2 9/9V/20W	W000371535	Box for WTT2 17/26/18W	W000371536
Short back cap 9-20	W000306398	Short back cap 17-18-26	W000306399
Medium back cap 9-20	W000306400	Short back cap 17-18-26	W000306403
Long back cap 9-20	W000306402	Collet body 1.6 mm	W000306381
Collet body 1.6 mm	W000306377	Collet body 2.4 mm	W000306382
Collet body 2.0 mm	W000306378	Collet body 3.2 mm	W000306383
Collet body 2.4 mm	W000306455	Collet body 4.0 mm	W000306384
Collet body 3.2 mm	W000306379	Collet 1.6 MM	W000306412
Collet 1.6 mm	W000306407	Collet 2.4 MM	W000306414
Collet 2.0 mm	W000306408	Collet 3.2 MM	W000306415
Collet 2.4 mm	W000306409	Collet 4.0 MM	W000306416
Collet 3.2 mm	W000306410	Standard nozzle 9.6 mm	W000306425
Standard nozzle 8.0 mm	W000306418	Standard nozzle 11.2 mm	W000306426
Standard nozzle 9.6 mm	W000306419	Standard nozzle 12.8 mm	W000306427
Standard nozzle 11.2 mm	W000306420	Standard nozzle 16.0 mm	W000306428
Standard nozzle 12.8 mm	W000306421		

2011-201



2011-203



A complete range of tungsten electrodes:

- Pure tungsten,
- Tungsten + thorium,
- Tungsten + cerium,
- Tungsten + lanthanum.
- Tungsten + rare earths*.

**ISO 6848
EN 26848**

CAUTION:
before use, carefully read
and understand the safety
datasheet available on
www.weldline-alw.com

* Rare earths = any of the abundant metallic elements, including scandium (atomic number 21), yttrium (39), and the 15 elements from 57 to 71 (lanthanide series include lanthanum and cerium) in the Mendeleev classification.

Choice criteria

Type	Metal		Arc stability	Striking	Lasting	Thermal resistance
	Light Alloys	Steel & Stainless steel				
WP Pure tungsten	*		**	*	*	*
WT 20 Thorium 2%		*	*	***	**	**
WC 20 Cerium 2%		*	**	*	**	**
WL 20 Lanthanum 2%	*	*	**	***	***	***
WS 20 Rare earths 2%	*	*	**	***	***	***

Please note: special regulations regarding thorium in Switzerland.

*** Excellent - ** Good - * Average

The lanthanum electrodes (2%):

The non consumable electrode that has no radioactive elements and excellent performance.

Arc striking, arc stability and life duration are the main criteria when choosing a tungsten electrode. To obtain these qualities, oxides are added to the thorium. Traditionally it was thorium oxide.

It is however known that under some conditions (for example sharpening) the thorium dust contains radioactive elements. Even though the radioactive element is very low and well below considered dangerous levels. Producers have and are constantly trying to replace this thorium by other oxides that contain no radioactive elements.

Lanthanum is the best electrode considering the following arguments:

- **Possibility of use with alternative or continuous current,**
- **Better striking than all the other types of tungsten electrodes,**
- **Better arc stability due to the lower deformation of the electrodes tip,**
- **Better life duration,**
- **No radioactivity at all.**

Radiation free



**Thorium is radioactive and may present hazardous by external and internal exposure.
If alternatives are technically feasible, they should be used.**



Tungsten electrodes

WP - Pure tungsten - Light alloy (green tip)

Ø mm	150 mm length	175 mm length
	Cat N°	
1.0	W000010009	-
1.6	W000010010	W000010375
2.0	W000010011	W000010376
2.4	W000010012	W000010377
3.0	W000010013	-
3.2	W000010014	W000010378
4.0	W000010015	W000335152

WT 20 - Thorium 2% - Steel and stainless steel (red tip)

Ø mm	150 mm length	175 mm length
	Cat N°	
1.0	W000010002	W000335151
1.6	W000010003	W000010030
2.0	W000010004	W000010390
2.4	W000010005	W000010031
3.0	W000010006	-
3.2	W000335156	W000010032
4.0	W000010008	W000010374

WC 20 - Cerium 2% Steel and stainless steel (grey tip)

Ø mm	150 mm length	175 mm length
	Cat N°	
1.0	W000010022	-
1.6	W000010023	W000335153
2.0	W000010024	W000010381
2.4	W000010025	W000335154
3.0	W000010026	-
3.2	W000335150	W000335157
4.0	W000010028	W000335155

WL 20 - Lanthanum 2% Light alloy (using AC current), steel and stainless steel (using DC current) (blue tip).

Ø mm	75 mm length	150 mm length	175 mm length
	Cat N°		
1.0	W000011144	W000010373	-
1.6	W000011145	W000010016	W000010385
2.0	-	W000010017	W000010386
2.4	W000011146	W000010018	W000010387
3.0	-	W000010019	-
3.2	-	W000010020	W000010388
4.0	-	W000010021	W000010389

WS 20 - Rare earths 2% - Light alloy (using AC current), steel and stainless steel (using DC current) (turquoise tip).

Ø mm	175 mm length
	Cat N°
1.0	W000335166
1.6	W000335167
2.0	W000335168
2.4	W000335169
3.0	W000335170
3.2	W000335171
4.0	W000335172

See the batch number on the tungsten electrode packaging and consult conformity certificate on www.weldline-alw.com



Recommended welding intensities

Electrode diameter	Direct current		Alternating current	
	Electrode negative (-)	Electrode positive (+)	Pure tungsten	Tungsten with oxide addition
	Tungsten with oxide addition	Tungsten with oxide addition		
1.0 mm	10 A to 70 A	-	15 A to 55 A	15 A to 70 A
1.6 mm	20 A to 100 A	10 A to 20 A	45 A to 90 A	60 A to 125 A
2.0 mm	50 A to 140 A	15 A to 25 A	65 A to 125 A	85 A to 160 A
2.4 mm	70 A to 170 A	15 A to 30 A	80 A to 140 A	120 A to 210 A
3.0 mm	100 A to 210 A	20 A to 35 A	140 A to 180 A	140 A to 230 A
3.2 mm	130 A to 250 A	20 A to 40 A	150 A to 190 A	150 A to 250 A
4.0 mm	150 A to 350 A	35 A to 50 A	180 A to 260 A	240 A to 350 A



TIG consumables

WELDLINE offers the most popular stainless steel and aluminium welding grades for TIG welding, within the tight constraints of the AWS standards.

These competitive priced rods are supplied without agency approvals.

All wire grades can be supplied with a 3.1 chemical analysis certificate according to EN10204.

TIG wires are stamped at both the ends of the wire rod for optimum traceability.

Stainless steel TIG rods

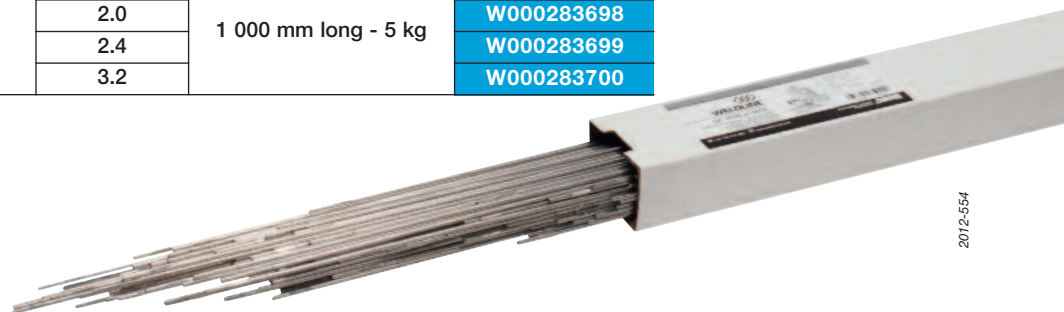
AWS A5.9	Description	Diam. (mm)	Packaging	Cat N°
ER 316 L	WL rod 316 L	1.2	1 000 mm long - 5 kg	W000274503
		1.6		W000283606
		2.0		W000283607
		2.4		W000283608
ER 308 L	WL rod 308 L	1.2	1 000 mm long - 5 kg	W000274504
		1.6		W000283609
		2.0		W000283610
		2.4		W000283611



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before use, carefully read
and understand the safety
datasheet available on
www.weldline-alw.com

Aluminium TIG rods

AWS A5.9	Description	Diam. (mm)	Packaging	Cat N°
ER 4043	WL rod ALSI5	2.0	1 000 mm long - 5 kg	W000283692
		2.4		W000283693
		3.2		W000283 694
ER 5183	WL rod ALMG4.5MN	2.0	1 000 mm long - 5 kg	W000283695
		2.4		W000283696
		3.2		W000283697
ER 5356	WL rod ALMG5	1.6	1 000 mm long - 5 kg	W000274505
		2.0		W000283698
		2.4		W000283699
		3.2		W000283700



2012-554

TIG torch stand



Cat N°: W00010803

Simple stand with magnetic base to keep your work place clean.



Cat N°: W00011035

TIG SHARP

Portable electric tool for tungsten electrodes sharpening

Characteristics:

- All you need to sharpen your tungsten electrodes (all ranges) delivered in a practical metal case:
 - Sharpening machine
 - Clamp to lock the machine on a bench
 - Standard blue head for the electrodes diameter 1.6 / 2.0 / 2.4 / 3.2 mm
 - Nozzle connectable on a vacuum cleaner for extraction of tungsten dusts
 - Electrode holder to clamp TIG electrodes
 - Tools to assemble and dismantle
- For an accurate sharpening:
 - Choose the electrode diameter
 - Select the grinding angle (10° to 70°)
 - Start the machine
 - Insert the electrode and turn it slowly
- An incredible result:
 - The grind is perfect
 - The grinding angle is very precise
 - Longitudinal sharpening, precise and symmetric angle.

This equipment has to be connected to a vacuum extraction for dusts



TIG POINT

Chemical sharpening of tungsten electrodes

Instructions for use:

- Make the electrode to be out from the torch of 15 mm.
- Use the welding current to warm the electrode to white.
- Dip the electrode in the product while rotating the electrode.
- Make sure that the result is satisfactory.
- Carefully close the pot.



Cat N°: W00011101

OPTICLEAN

New inverter-technology installation for cleaning, polishing and marking of stainless steel.

See page 5.8



Technical characteristics:

Voltage:	220-230 volts
Frequency:	50 - 60 Hz
Power:	400 W
Amperage:	1.8 A
Disk speed:	30.000 rpm
Weight:	1.85 kg

Warranty: 2 years.
Conform to EU standards

Other products of the range:

- Red head:
(for tungsten electrodes
Ø 1.0 / 4.0 / 4.8 / 6.0 mm)
- Spare blue head:
(for tungsten electrodes
Ø 1.6 / 2.0 / 2.4 / 3.2 mm)
- Spare diamond disk:

Cat N°: W00011037

Cat N°: W00011038

Cat N°: W00011036

EN 50144-2-3
EN 60745-1
EN 60745-1/A1