

- » Unique optical technology suitable for welding professionals, maintenance technicians, construction workers and hobby welders
- » Large viewing area
- » Fully adjustable shade control suitable for all high and low current welding requirements
- » Lightweight construction to reduce neck strain and enhance comfort
- » Tilt adjustment and pivot style headgear for even weight distribution
- » Robust and impact resistant Polyamide Nylon
- » Replaceable Solar Cell / Lithium battery pack
- » Battery Life Expectancy up to 5 years
- » Welding Mode & Grinding Mode

*Manufactured and tested to EN175 & EN379 Standards



HD HI-DEFINITION
OPTICAL CLASS 1/1/1/1



WARNING: Please read all these instructions before operating this product and save these instructions. This manual has been compiled by Tundra Industrial and is an integrated part of the product with which it's enclosed and should be kept with it for the future reference.





USER MANUAL

TUNWELHTPM1

v.1.1

1. SPECIFICATION

Viewing Area	100 x 73mm (3.94" x 2.87")
Cartridge Size	133 x 114mm
UV / IR Protection	Permanent Shade DIN 16
Light State	DIN Shade 4
Dark State	From DIN4 - DIN13 (Variable)
Power Supply	Solar cells + 1 x CR2450 lithium battery
Power On/Off	Fully Automatic
Switching Time: Light to Dark	1/30,000s
Switching Time: Dark to Light	0.25 ~ 0.8s
Operating Temperature	- 5°C to + 55°C (23°F to 131°F)
Storing Temperature	- 20°C ~ + 70°C (-4 ° F to 158° F)
Function Modes	Grinding Mode Welding Mode
Helmet Material	Impact Resistant Polyamide Nylon
Impact Rating	B
Minimum TIG Amperage Required	≥3 Amp
Minimum ARC Amperage Required	≥3 Amp
Dimensions (mm)	194 x 245 x 334mm
Weight (kg)	0.5kg

The product is in full conformity with related DIN EN 379, DIN EN 175 safety standards and ANSI/ISEA Z87.1-2015 safety standards.

Before welding: Please keep the filter, front cover lens, inside cover lens, and four optical sensors clean and clear from obstructions. If the front cover lens and inside cover lens are blurry and cannot be cleaned, please replace them immediately before use.

2. SAFETY

WARNING!

The helmet will not offer protection against misuse of workshop tools, equipment, or accessories.

- » Maintain the helmet in good condition and protect cartridge from liquid and dirt contact. Regularly replace the protective lens and replace any damaged or worn parts. Use genuine parts only. Unauthorised parts may be dangerous and will invalidate the warranty.
- » Ensure the front cover window is securely in place before use.
- » Fit the helmet and adjust the head band so the helmet will sit as low and near to your face as possible.
- » Use helmet only in temperatures ranging from -10°C to 60°C.
- » Remove loose clothing, remove ties, watches, rings and other loose jewellery.
- » Ensure the floor is clear from obstructions, not slippery and the operator is wearing non-slip shoes.
- » Keep children and unauthorised persons away from the working area.

WARNING!

The helmet will only protect the eyes and face from radiation and sparks. It will not protect against explosive devices or corrosive liquids.

- » DO NOT use helmet for any purpose for which it is not designed.
- » DO NOT use helmet unless you have been instructed in its use by a qualified person.
- » DO NOT open or tamper with the shade cartridge.
- » Keep the helmet dry and do not use in damp or wet locations.
- » Bright light source may darken the cartridge unexpectedly, therefore DO NOT leave the helmet in lowered position.
- » DO NOT place the helmet on a hot surface.
- » DO NOT use helmet without front cover window fitted. To do so will invalidate your warranty.
- » Clean helmet and store the helmet in a safe, dry, childproof location.

WARNING!

Before welding always inspect the cartridge filter to ensure that it is not damaged. To test the filter prior to welding, direct the front of the cartridge filter to a bright light source which will cause the lens to darken. Then using your hand rapidly cover and uncover the sensor. The filter should lighten momentarily then return to a dark state.

WARNING!

DO NOT use the helmet if damaged or you suspect it may be faulty.

DANGER!

DO NOT use if, at any time, the face plate in the cartridge FAILS to darken when exposed to a welding spark. Remove cartridge and return to your Tundra stockist for checking.

Continued use of the product knowing that the auto darkening feature is NOT FUNCTIONING may DAMAGE YOUR EYES and CAUSE BLINDNESS.

3. USING THE CONTROL PANEL

3.1 Welding Protection

Ensure that the helmet is not used in conditions where welding spatter is more than 43g and exceeding 120m/s.

The helmet is manufactured to DIN B5 EN175:1997 (Impact Level B) please ensure that the appropriate protective clothing is worn to protect any other parts of the body exposed during the welding process.

3.2 Sensitivity, Mode and DIN Shade Settings

Before you start welding adjust the Mode, Sensitivity and DIN Shade to the appropriate settings for the welding process (see Fig.2). Continue to adjust the DIN shade settings to attain the appropriate brightness to allow you to see the welding molten pool and the welding spot without glare.

3.3 DIN Shade Delay Setting

It is important that the correct delay setting is used for your welding process to avoid any sudden flaring when you finish the welding process and the welding arc is broken. When the welding arc is broken it is possible for residual arc to flare from the molten welding pool which can be hazardous if the helmet has already automatically adjusted the DIN shade to a lighter setting. To accommodate for this, the helmet is equipped with a Delay Time Switch for additional eye protection which can be set to short or long positions - depending on the welding process.

It is important that you use the correct delay & sensitivity setting to suit your welding process and that you test the battery and filter before use.

3.4 Testing

Fig.1.



1. Testing the Battery:

You can test the lithium battery is charged by checking that the Battery Indicator Light is on. The Battery Indicator Light is located beside the Test button on the control panel (see Fig 1). If the red light is not displaying or if the light is weak you need to replace the batteries.

2. Testing the Filter:

You can test the filter by pressing the Test button on the control panel (see Fig 1).

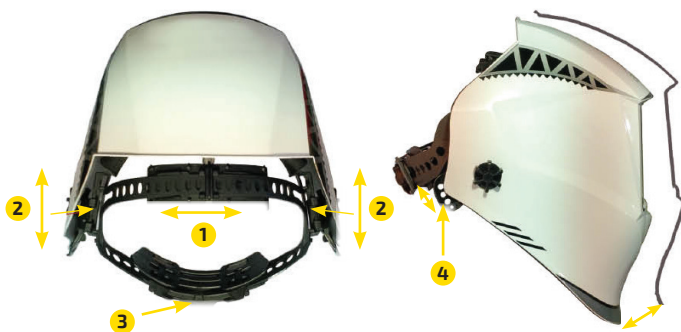
If the battery indicator is on and the filter shade is not darkening when you press the Test button there is a fault with the filter and it should not be used to prevent the risk of injury.

3. USING THE CONTROL PANEL (Fig.2)

The shade number can be set manually between 4-13. Check the Shade Guide Table below to determine the proper shade number for your application. Select a shade number by turning the shade knob until the arrow points to the required setting:

Process	Arc Current (Amperes)													
	0.5	2.5	10	20	40	80	125	175	225	275	350	450		
	1	5	15	30	60	100	150	200	250	300	400	500		
SMAW					9	10		11		12		13		14
MIG (Heavy)							10	11		12		13		14
MIG (Light)							10	11	12	13	14		15	
TIG, GTAW			9	10	11	12		13		14				
MAG/CO ₂						10	11	12	13	14		15		
SAW								10	11	12	13	14		15
PAC							11		12		13			
PAW			8	9	10	11	12		13		14			15

4. ADJUSTING HEADGEAR



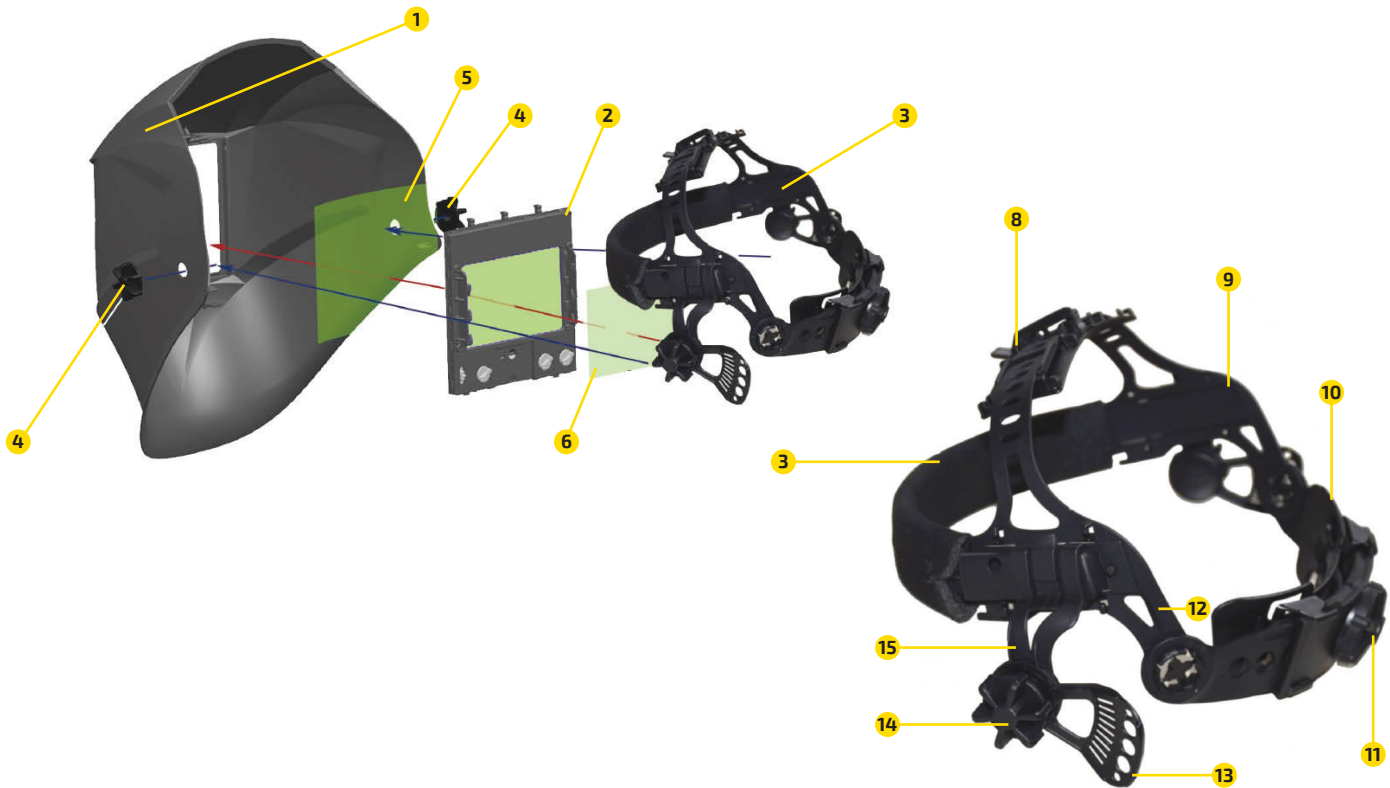
- 1 Top Headband** - Adjust the depth of the headband to fit accordingly
- 2 Filter Harness** - Adjust to set the correct distance between the welders eyes and the filter lens
- 3 Back Headband** - Loosen or tighten to attain a comfortable and secure fit
- 4 Incline Angle** - Adjust to set the incline angle of the helmet relative to the welders face and the position of the welders eyes relative to the filter lens

Note: This helmet headband is designed with a mechanism that helps to adjust the centre of gravity on the helmet when the visor is up and down. This mechanism helps to reduce the weight on the neck and reduce fatigue - making the helmet more comfortable and secure when you are working.

The TUNWELHTPM1 is designed & equipped with an inner adjustable headband mechanism. The adjustable headband mechanism is designed to pivot close to the operator's head, in order to reduce neck fatigue that can lead to injury and future damage.

5. PARTS LIST

1.	Helmet Shell
2.	Auto Darkening Filter
3.	Complete Headband
4.	Headband Knob
5.	Front Cover Lens
6.	Inside Cover Lens
7.	Sweatband (Cloth)
8.	Headband Top Pad
9.	Front Headband
10.	Headband Back Pad
11.	Headband Regulator Assembly (Release-Tighten)
12.	Left Band & Right Band
13.	Angle Adjusting Shim (Left) & Angle Adjusting Shim (Right)
14.	Headband Fixing Screw (x2)
15.	Headband Rack (Left) & Headband Rack (Right)





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EC DECLARATION OF CONFORMITY

We, Tundra Industrial, as the authorised European Community representative of the manufacturer, declare that the following equipment conforms to the requirements of the following Directives:

Directive:	Description:	Notified Body:
EU 2016/425 -	Personal protective equipment (PPE)	ECS GmbH, Hüttfeldstraße 50, 73430, Aalen, Germany #1883
EN 379: 2003 + A1 : 2009	Personal eye-protection - Automatic Welding Filters	
EN 175:1997	Personal protection - Equipment for eye and face protection during welding and allied processes	
2011/65/EU	RoHS - Restriction of Hazardous Substances Directive	

Equipment Category:

Personal Protective Equipment:

Automatic Welding Filter, Variable Shade, Grinding Mode:

- Optical Class: 1
- Diffusion of Light Class: 1
- Variations in Luminous Transmittance Class: 1
- Angle Dependence of Luminous Transmittance: 1

Face Shield:

- Polyamide, Safety plates, Active welding filter, Protection against high-speed particles, medium energy impact [B]

Product Name/Model:

TUNWELHTPM1

PM1 Auto Darkening Welding & Grinding Helmet

Signed by:

Stephen McIntyre

Position in the company:

Operations Director

Date:

2nd March 2020

Name and address of manufacturer or authorised representative:

Tundra Industrial,
Herons Way, Chester Business Park, Chester,
United Kingdom, CH4 9QR
Telephone: +44 (0)1244 646 048
Fax: +44 (0)1244 241 191

Jefferson Professional Tools & Equipment, or hereafter "Jefferson" warrants its customers that its products will be free of defects in workmanship or material. Jefferson shall, upon suitable notification, correct any defects, by repair or replacement, of any parts or components of this product that are determined by Jefferson to be faulty or defective.

This warranty is void if the equipment has been subjected to improper installation, storage, alteration, abnormal operations, improper care, service or repair.

Warranty Period

Jefferson will assume both the parts and labour expense of correcting defects during the stated warranty periods below.

All warranty periods start from the date of purchase from an authorised Jefferson dealer. If proof of purchase is unavailable from the end user, then the date of purchase will be deemed to be 3 months after the initial sale to the distributor.

1 Year

- TUNWELHTPM1 - PM1 Auto Darkening Welding & Grinding Helmet

90 Days

- All replacement parts purchased outside of the warranty period

Important: All parts used in the repair or replacement of warranty covered equipment will be subject to a minimum of 90 days cover or the remaining duration of the warranty period from the original date of purchase.

Warranty Registration / Activation

You can register and activate your warranty by visiting the Jefferson Tools website using the following address:
www.jeffersonstools.com/warranty and completing the online form.

Online warranty registration is recommended as it eliminates the need to provide proof of purchase should a warranty claim be necessary.

Warranty Repair

Should Jefferson confirm the existence of any defect covered by this warranty the defect will be corrected by repair or replacement at an authorized Jefferson dealer or repair centre.

Packaging & Freight Costs

The customer is responsible for the packaging of the equipment and making it ready for collection. Jefferson will arrange collection and transportation of any equipment returned under warranty. Upon inspection of the equipment, if no defect can be found or the equipment is not covered under the terms of the Jefferson warranty, the customer will be liable for any labour and return transportation costs incurred. These costs will be agreed with the customer before the machine is returned.

NOTE: * Jefferson reserve the right to void any warranty for damages identified as being caused through misuse *

Warranty Limitations

Jefferson will not accept responsibility or liability for repairs made by unauthorised technicians or engineers. Jefferson's liability under this warranty will not exceed the cost of correcting the defect of the Jefferson products.

Jefferson will not be liable for incidental or consequential damages (such as loss of business or hire of substitute equipment etc.) caused by the defect or the time involved to correct the defect. This written warranty is the only express warranty provided by Jefferson with respect to its products.

Any warranties of merchantability are limited to the duration of this limited warranty for the equipment involved.

Claiming Warranty Coverage

The end user must contact Jefferson Professional Tools & Equipment: (Tel: +44 (0) 1244 646 048) or their nearest authorised Jefferson dealer where final determination of the warranty coverage can be ascertained.

Step 1 - Reporting the Defect

Online Method:

Visit our website www.jeffersonstools.com/warranty and complete the Warranty Returns form. You can complete the form online and submit it to us directly or download the form to print out and return by post.

Telephone Method:

Contact your Jefferson dealer or sales representative with the following information:

- Model number
- Serial number (usually located on the specification plate)
- Date of purchase

A Warranty Returns form will be sent to you for completion and return by post or fax, together with details of your nearest authorised Jefferson repair centre. On receipt of this form Jefferson will arrange to collect the equipment from you at the earliest convenience.

Step 2 - Returning the Equipment

It is the customer's responsibility to ensure that the equipment is appropriately and securely packaged for collection, together with a copy of the original proof of purchase. Please note that Jefferson cannot assume any responsibility for any damage incurred to equipment during transit. Any claims against a third party courier will be dealt with under the terms & conditions of their road haulage association directives.

NOTE: Jefferson will be unable to collect or process any warranty requests without a copy of the original proof of purchase.

Step 3 - Assessment and Repair

On receipt, the equipment will be assessed by an authorised Jefferson engineer and it will be determined if the equipment is defective and in need of repair and any repairs needed are covered by the warranty policy. In order to qualify for warranty cover all equipment presented must have been used, serviced and maintained as instructed in the user manual.

Where repair is not covered by the warranty a quotation for repair, labour costs and return delivery will be sent to the customer (normally within 7 working days). Note: If the repair quotation is not accepted Jefferson Professional Tools & Equipment will invoice 1 hour labour time at £30 per hour plus return carriage costs (plus VAT).

In cases where no fault can be found with the equipment, or, if incorrect operation of the equipment is identified as the cause of the problem, a minimum of 1 hour labour at £30 per hour plus carriage costs will be required before the equipment will be despatched back to the customer.

Any equipment repaired or replaced under warranty will normally be ready for shipment back to the customer within 7 working days upon receipt of the equipment at an authorised Jefferson Repair centre (subject to part availability). Where parts are not immediately available Jefferson will contact you with a revised date for completion of the repair.

General Warranty Enquiries

For any further information relating to Jefferson warranty cover please call:

+44 (0) 1244 646 048 or send your enquiry via email to warranty@jeffersonstools.com

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