*Please dispose of packaging for the product in a responsible manner. It is suitable for recycling. Help to protect the environment, take the packaging to the local amenity tip and place into the appropriate recycling bin.*

*Never dispose of electrical equipment or batteries in with your domestic waste. If your supplier offers a disposal facility please use it or alternatively use a recognised re-cycling agent. This will allow the recycling of raw materials and help protect the environment.*


*FOR HELP OR ADVICE ON THIS PRODUCT PLEASE CONTACT YOUR DISTRIBUTOR, OR SIP DIRECTLY ON:*
*TEL: 01509500400*
*EMAIL: sales@sip-group.com or technical@sip-group.com*
*www.sip-group.com*



Ref: 03JUN2021


SIP INDUSTRIAL

machinery specialists since 1968

# *Meteor 2300*
# *Meteor 2300F*
## *Electronic Headshield*


*02884 & 02886*

***Please read and fully understand the instructions in this manual before operation. Keep this manual safe for future reference.***

# DECLARATION OF CONFORMITY

## Declaration of Conformity

We

SIP (Machinery Europe) Ltd
ASM Chartered Accountants
First Floor Block One
Quayside Business Park
Dundalk
County Louth
Republic of Ireland

As the manufacturer's authorised representative within the EC declare that the

Meteor 2300 Electronic Headshield - SIP Part No. 02884
Meteor 2300F Electronic Headshield - SIP Part No. 02886

**Conforms to the requirements of the following directive(s), as indicated.**

89/686/EEC Personal Protective Equipment (PPE) Directive

**And the relevant harmonised standard(s), including:**

DIN EN 379:2003+A1:2009

DIN EN 175:1997

Signed: ……...

Mr P. Ippaso - Managing Director - SIP (Industrial Products) Ltd Date: 03/06/2021.

CE

## UK - DECLARATION OF CONFORMITY

### Declaration of Conformity

We

SIP (Industrial Products) Ltd
Gelders Hall Road
Shepshed
Loughborough
Leicestershire
LE12 9NH
England

As the manufacturer within the UK, England, Scotland & Wales, declare that the

Meteor 2300 Electronic Headshield - SIP Part No. 02884
Meteor 2300F Electronic Headshield - SIP Part No. 02886

**Conforms to the requirements of the following directive(s), as indicated.**

Personal Protective Equipment Regulations (Regulation (EU) 2016/425 as brought into UK law and amended)

**And the relevant harmonized standard(s), including:**

BS EN 379:2003+A1:2009
BS EN 175:1997

Signed: .....

Mr P. Ippaso - Director - SIP (Industrial Products) Ltd
Date: 03/06/2021

UK CA



## CONTENTS

## SAFETY SYMBOLS USED THROUGHOUT THIS MANUAL

***Danger / Caution:*** Indicates risk of personal injury and/or the possibility of damage.

***Note:*** Supplementary information.

## SAFETY INSTRUCTIONS

***Important:*** Please read the following instructions carefully, ***failure to do so could lead to serious personal injury and / or damage to the electronic headshield.***

When using the electronic headshield, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury.
Read all these instructions before operating the headshield and save this user manual for future reference.
The headshield should not be modified or used for any application other than that for which it was designed.

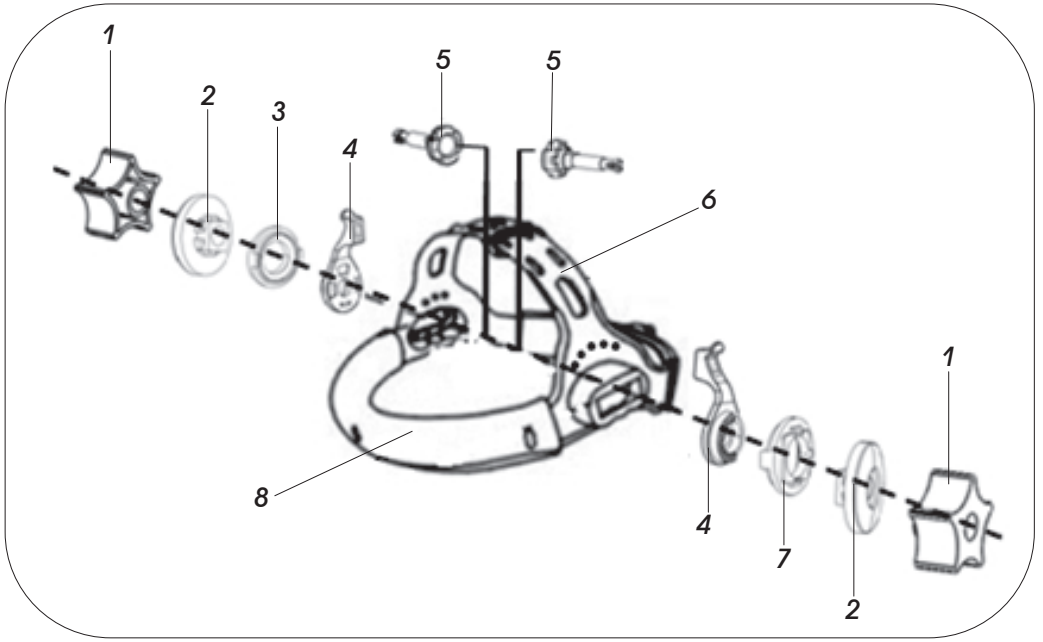
It was designed to protect the eyes and face from sparks, spatter, and harmful radiation under normal welding conditions. It will not protect against severe impact hazards, including fragmenting grinding discs.

Always read, understand and follow all of the safety and operating instructions relating to the type of welding to be performed. The welding headshield is an aid to safety, but not a substitute to common sense and knowledge.

***KNOW YOUR HEADSHIELD:*** Read and understand the owner's manual and labels affixed to the headshield. Learn its applications and limitations, as well as the potential hazards specific to it.
***KEEP WORK AREA CLEAN AND WELL LIT:*** Cluttered work benches and dark areas invite accidents. Floors must not be slippery due to oil, water or sawdust etc.
***KEEP CHILDREN AND UNTRAINED PERSONNEL AWAY FROM THE WORK AREA:*** All visitors should be kept at a safe distance from the work area.
***STORE THE HEADSHIELD SAFELY WHEN NOT IN USE:*** The headshield should be stored in a dry, locked cupboard wherever possible and out of the reach of children.
***WEAR THE CORRECT CLOTHING:*** & avoid work positions that could expose unprotected areas of the body to spark, spatter, direct and/or reflected radiations. Use adequate protection if exposure can not be avoided.



## EXPLODED DRAWING & PARTS LIST




| Ref. No. | Description | SIP Code | Ref. No. | Description | SIP Code |
|---|---|---|---|---|---|
| 1. | Knob | N/A | 6. | Headband | N/A |
| 2. | Insert | N/A | 7. | Insert | N/A |
| 3. | Insert | N/A | 8. | Headband padding | N/A |
| 4. | Adjustable limitation washer | N/A | N/A. | Front cover lens | 02897 |
| 5. | Bolt | N/A | N/A. | Rear cover lens | 02898 |

## MAINTENANCE INSTRUCTIONS….cont

- Remove the old battery.
- Fit the replacement battery (+) upwards.
- Refit the cover and slide up to fully secure.
- Follow these instructions to replace the 2nd battery.
- Refit the filter cover and secure in place by the fitting and tightening the screw.

## TROUBLESHOOTING

*Irregular darkening:*

- Headband has been set unevenly so the distance between the eyes and the lens is different from the left to the right, reset so that the distances are equal.

*Auto darkening filter does not darken, or flickers:*

- Front cover lens is soiled, clean or replace.
- Photo sensors are dirty, wipe clean with a soft lint-free cloth.
- Welding current is too low.
- View of the weld is restricted, ensure the view of the weld is unobstructed.

*Poor vision:*

- Ensure the cover lens and the filter cartridge are clean.
- Ensure the shade number is correct and adjust accordingly.
- Ensure ambient light is not too low/high.



## SAFETY INSTRUCTIONS….cont

***CHECK FOR DAMAGED PARTS:*** Before every use of the headshield, a lens or other part that is damaged should be carefully checked to determine that it will operate correctly and perform its intended function. A lens or other part that is damaged should be correctly replaced.
***DO NOT*** dismantle the main filter lens; there are no user serviceable parts.

- Stop operation immediately if you notice anything abnormal.
- Appropriate personal protective equipment ***MUST*** be worn and ***MUST*** be designed to protect against all hazards created. Severe permanent injury can result from using inappropriate or insufficient protective equipment.
- Always ensure that the front and rear cover lenses are fitted and clean before each operation.
- Never place the headshield directly onto a hot surface.
- Never use the headshield if the filter is cracked.
- ***DO NOT*** look directly at the sun, it was not designed for this purpose.
- Understand the operating environment; Before each use the operator should assess, understand and where possible reduce the specific risks and dangers associated with the operating environment. Bystanders should also be made aware of any risks associated with the operating environment.

***Caution:*** Anyone who operates this electronic headshield should read and fully understand all of the instructions and warnings in this manual.

***Caution:*** The warnings and cautions mentioned in this user manual can not cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be applied.

## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| *SIP Item Code* | 02884 & 02886 |
| *Model* | Meteor 2300 & 2300F |
| *Filter Size* | 133mm x 114mm x 10mm |
| *Filter Type* | True Colour |
| *Optical Performance* | 1/1/1/2 |
| *Viewing Area* | 100mm x 59.5mm |
| *Outer Protection Lens* | 138mm x 122mm |
| *Inner Protection Lens* | 105mm x 66mm |
| *Grinding Shade* | DIN 4 |
| *Cut Shade* | DIN 5 - 9 |
| *Welding Shade* | DIN 9 - 13 |
| *Power Supply* | Lithium Cell & Solar Power |
| *Battery Type* | CR2450 |
| *Operating Temperature Range* | -20$^{O}$C to 65$^{O}$C |
| *Switching Time* | 1/10000 (0.00001S) |
| *Delay Time Range* | 0.1 - 0.8Seconds |
| *Net Weight* | 0.5kg |

## GUARANTEE

This SIP electronic headshield is covered by a 12 month parts and labour warranty covering failure due to manufacturers defects. This does not cover failure due to misuse or operating the electronic headshield outside the scope of this manual - any claims deemed to be outside the scope of the warranty may be subject to charges Including, but not limited to parts, labour and carriage costs.

This guarantee does not cover spatter damage and consumables such as the battery, inner and outer cover lenses etc.

In the unlikely event of warranty claims, contact your distributor as soon as possible.

***Note:*** Proof of purchase will be required before any warranty can be honoured.



## MAINTENANCE INSTRUCTIONS

*Inspection:*

- Carefully inspect your electronic headshield regularly.
- Cracked, pitted or scratched filter or cover lenses reduce vision and seriously impair protection.
- These should be replaced immediately to avoid damage to the eyes.
- Inspect the complete helmet frequently and replace worn or damaged parts immediately.

*Cleaning:*

- Clean the helmet with mild soap and lukewarm water.
- Clean the welding filter with a clean lint free tissue or cloth; Do not immerse in water.
- Do not use solvents.

*Replacing the rear cover lens:*

- From inside the helmet, remove the screw on the filter holder.
- Push the 2 tabs outwards and lift the filter holder up.
- Remove the filter lens.
- Slide out the old cover lens.
- Pull off the plastic protection film and slide in the new cover lens.
- Follow the above instructions in reverse to refit the filter lens etc.

*Replacing the front cover lens:*

- From inside the helmet, remove the screw on the filter holder.
- Push the 2 tabs outwards and lift the filter holder up.
- Remove the filter lens.
- Pull out the old cover lens.
- Pull off the plastic protection film and put the new cover lens back in.
- Follow the above instructions in reverse to refit the filter lens etc.

***Note:*** Do not use the helmet without the cover lenses in place.

*Replacing the batteries:*

- From inside the helmet, remove the screw on the filter holder.
- Push the 2 tabs outwards and lift the filter holder up.
- Slide the battery compartment down and remove.

## OPERATING INSTRUCTIONS….cont

Below is a guide to help select the correct shade for the power and type of welding application.

| Welding Type | PAC (Plasma Arc Cutting) | | |
|---|---|---|---|
| Welding Current (A) | 60-150 | 150-250 | 250-500 |
| Shade | 11 | 12 | 13 |

| Welding Type | Mig Heavy (Metal Inert Gas) | | | |
|---|---|---|---|---|
| Welding Current (A) | 80-100 | 100-175 | 175-300 | 300-500 |
| Shade | 10 | 11 | 12 | 13 |

| Welding Type | Mig Light (Metal Inert Gas) | | | | |
|---|---|---|---|---|---|
| Welding Current (A) | 80-100 | 100-175 | 175-250 | 250-350 | 350-500 |
| Shade | 10 | 11 | 12 | 13 | 14 |

| Welding Type | MAG CO2 (Metal Active Gas) | | | | |
|---|---|---|---|---|---|
| Welding Current (A) | 40-80 | 80-125 | 125-175 | 175-300 | 300-450 |
| Shade | 10 | 11 | 12 | 13 | 14 |

| Welding Type | SMAW (Shielded Metal Arc Welding) | | | | |
|---|---|---|---|---|---|
| Welding Current (A) | 20-40 | 40-80 | 80-175 | 175-300 | 300-500 |
| Shade | 9 | 10 | 11 | 12 | 13 |

| Welding Type | SAW (Submerged Arc Welding) | | | | |
|---|---|---|---|---|---|
| Welding Current (A) | 125-175 | 175-225 | 225-275 | 275-350 | 350-450 |
| Shade | 10 | 11 | 12 | 13 | 14 |

| Welding Type | TIG GTAW (Gas Tungsten Arc Welding) | | | | | |
|---|---|---|---|---|---|---|
| Welding Current (A) | 5-20 | 20-40 | 40-100 | 100-175 | 175-300 | 300-500 |
| Shade | 9 | 10 | 11 | 12 | 13 | 14 |

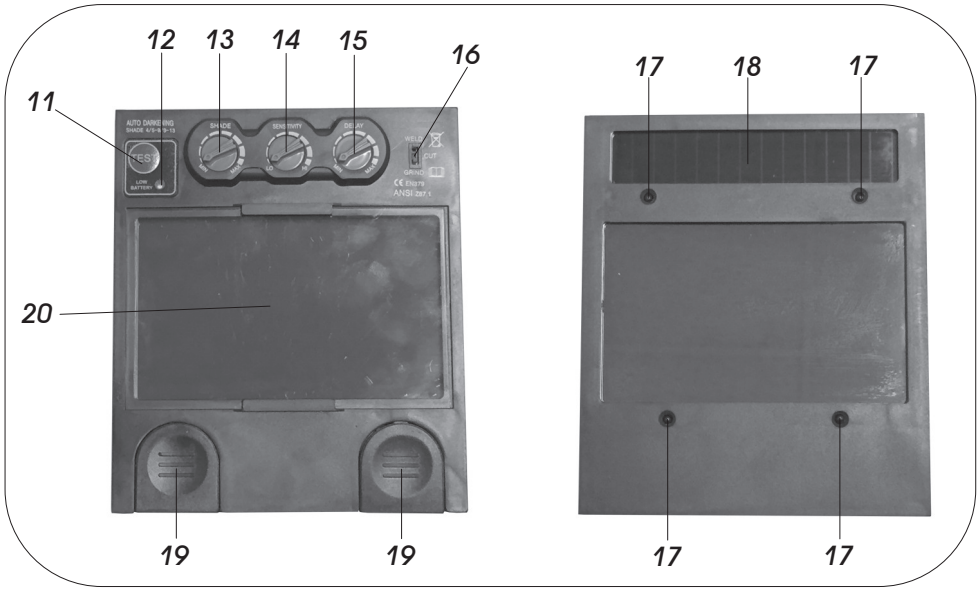
| Welding Type | PAW (Plasma Arc Welding) | | | | | | |
|---|---|---|---|---|---|---|---|
| Welding Current (A) | 5-10 | 10-15 | 15-30 | 30-40 | 40-100 | 100-225 | 225-450 |
| Shade | 8 | 9 | 10 | 11 | 12 | 13 | 14 |



## GETTING TO KNOW YOUR HEADSHIELD


| Ref. No. | Description | Ref. No. | Description |
|---|---|---|---|
| 1. | Main Helmet | 6. | Headband Locking Knobs |
| 2. | Viewing Area / Front Cover Lens | 7. | Headband Adjustment (Angle) |
| 3. | Solar Cells | 8. | Headband Padding |
| 4. | Headband Adjustment (Diameter) | 9. | Filter holder screw |
| 5. | Headband Adjustment (Height) | 10. | Filter holder |

## GETTING TO KNOW YOUR HEADSHIELD….cont




| Ref. No. | Description | Ref. No. | Description |
|---|---|---|---|
| 11. | Test Button | 16. | Weld / Cut / On/Off (Grind) |
| 12. | Low Battery Warning Light | 17. | Sensor |
| 13. | Shade Adjustment | 18. | Solar Cells |
| 14. | Sensitivity Adjustment | 19. | Battery Compartment |
| 15. | Delay Adjustment | 20. | Viewing Area / Rear Cover Lens |

## OPERATING INSTRUCTIONS

- Ensure that the plastic protection film is removed from both the front and rear cover lenses.
- Press the test button; If the lens does not darken, check the batteries (see page 11).
- Adjust the welding helmet according to your individual requirements.
- The headband should be adjusted both in diameter and height.
- The angle between face and helmet should also be adjusted and is recommended to be between 10° and 12°.

***Switching on:*** Select either cut (shade 5-9) or weld (shade 9-13) on the switch (located inside the helmet on the top right hand side of the filter), depending on your application.
***Switching off/grind mode:*** After the welding is complete, or to carry out grinding after the weld; turn the filter to the off (grind) position.



## OPERATING INSTRUCTIONS….cont

*Sensitivity:*


The sensitivity can be adjusted between 1 and 4, depending on your requirements.

- If the welding current is too small, turn it to a higher setting.
- If the welding current is too high, turn it to a lower setting.

*Delay:*


The delay can be adjusted by turning the dial clockwise to either 0.1 fast or 0.8 seconds for a slower delay time.

- If the welding current is too high and the molten pool is too bright, you will need to turn it too a higher setting.
- For spot welding it would need to be on a lower setting.

*Shade:*


The filter will automatically change from the light state (shade 4) to the dark state (see below) when the welding or the cutting starts. The filter will automatically return to a light state when the welding or cutting stops.

- ***Cut:*** Shade 5 - 9.
- ***Weld:*** Shade 9 - 13.

***Note:*** Never block any of the sensors on the front of the filter, this will stop the filter from automatically changing to a dark state, this will hurt or even damage your eyes.

*Grind:*

To use the grind function turn the on/off (grind)/shade select knob to grind, when its switched to grind mode, it means that the auto darkening filter will not turn black when detecting any arc light, before using it for welding purposes it must be switched back to a shade position.