CUTTING EDGE WELDING

USER'S MANUAL

FANTOM 4.6

Auto Darkening LCD Filter Welding Helmet

Warning!
Read and understand all instruction before using! Severe personal injury could occur if the user fails to follow the aforementioned warn- ings, and/or fails to follow the operating instructions.

1. Before welding

The **FANTOM 4.6** Welding Helmet comes ready for use. The only thing you need to do before your welding is to adjust the position of the headband and select the correct shade number for your application.

Check the front cover lens to make sure that they are clean, and that no dirt is covering the four sensors on the front of filter cartridge. Also check the front/ inside cover lens and the front lens retaining frame to make sure that they are secure.

Inspect all operating parts before use for signs of wear or damage. Any scratched cracked, or pitted parts should be replaced immediately before using again to avoid severe personal injury.

Check for light tightness before each use.

Select the shade number you require at the turn of a shade knob (Seeing the Shade Guide Table No.1). Finally, be sure that the shade number is the correct setting for your application.

Adjust headband so that the helmet is seated as low as possible on the head and close to your face. Adjust helmet's angle when in the lowered position by turning the adjust- able limitation washer.

2. Dark shade number selection

The shade number can be set manually between 9-13 . Check the Shade Guide Table 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 (See Shade Guide Table No.1).

<table>
<tr><th rowspan="2">Welding Process</th><th colspan="25">Arc Current (Ampers)</th></tr>
<tr><th></th><th>0,5</th><th>1</th><th>2,5</th><th>5</th><th>10</th><th>15</th><th>20</th><th>30</th><th>40</th><th>60</th><th>80</th><th>100</th><th>125</th><th>150</th><th>175</th><th>200</th><th>225</th><th>250</th><th>275</th><th>300</th><th>350</th><th>400</th><th>450</th><th>500</th></tr>
<tr><td>MMA</td><td colspan="7"></td><td colspan="2">9</td><td colspan="2">10</td><td colspan="4">11</td><td colspan="5">12</td><td colspan="4">13</td><td>14</td></tr>
<tr><td>MIG Plate welding</td><td colspan="11"></td><td>10</td><td colspan="3">11</td><td colspan="5">12</td><td colspan="4">13</td><td>14</td></tr>
<tr><td>MIG Sheet Metal</td><td colspan="11"></td><td>10</td><td colspan="3">11</td><td colspan="3">12</td><td colspan="3">13</td><td colspan="3">14</td><td>15</td></tr>
<tr><td>TIG</td><td colspan="4"></td><td colspan="3">9</td><td colspan="2">10</td><td colspan="3">11</td><td colspan="3">12</td><td colspan="5">13</td><td colspan="5">14</td></tr>
<tr><td>MAG</td><td colspan="9"></td><td colspan="2">10</td><td colspan="2">11</td><td colspan="2">12</td><td colspan="5">13</td><td colspan="3">14</td><td colspan="2">15</td></tr>
<tr><td>Arc Gouging</td><td colspan="13"></td><td colspan="2">10</td><td colspan="2">11</td><td colspan="2">12</td><td colspan="2">13</td><td colspan="2">14</td><td colspan="2">15</td></tr>
<tr><td>PAC</td><td colspan="10"></td><td colspan="4">11</td><td colspan="4">12</td><td colspan="7">13</td></tr>
<tr><td>PAW</td><td colspan="4"></td><td>8</td><td>9</td><td colspan="2">10</td><td colspan="2">11</td><td colspan="3">12</td><td colspan="4">13</td><td colspan="6">14</td><td colspan="2">15</td></tr>
</table>

EN

3. Specifications

Auto Darkening Filter	CE-certified, auto-darkening LCD filter cassette according to EN379. Dimensions: 110x90X9 mm **True Color technology with excellent optical properties and close-to-real color fidelity** Marking: 4/5-8/9-13 YXE **1/1/1/2**/379 CE
Viewing Area:	100 x 60 mm
UV/IR Protection:	DIN16 all time
Light State:	DIN 4
Variable Shade:	DIN 5 - DIN 8 , DIN 9 - DIN 13
Reaction Time:	0,00001 sec
Delay Time:	Stepless adjustment (it can vary at 0.1s ~ 1.0s)
Sensitivity:	Stepless adjustment
Sensors:	Four infrared sensor
Power Supply:	Solar Cell + Lithium Battery (1db CR2450)
Ki-/Bekapcsolás:	Fully Automatic
Applications:	"WELDING"/ "GRINDING" can be selected.
Operating Temperature:	- 5°C to + 55°C (23°F to 131°F)
Storing Temperature:	- 20°C ~ + 70°C (-4 ° F to 158° F)
Helmet Material:	High-impact resistant Polyamide (Nylon) DIN EN 175 B CE
Total Weight:	525 g

Attention!
Before welding, please keep clean on filter, front cover lens, inside cover lens and four optical sensors. If front cover lens and inside cover lens are blurry and can not be clean, please replace them immediately.

EN

4. Shade Control / Sensitivity Control / Grinding Control

4.1. Welding/Grinding switch is inside on the LCD cartridge

Each model allows a choice of two user modes:
welding and grinding (Grind).
Grinding the dark mode function is off.
During this time the LCD is the brightest state, helping to get a clearer view next to a maximum protection.

When grinding, the helmet shell can not bear the welding spatter which is more than 43 grams and exceeding 120m/sec. The helmet meet standard DIN EN 175:1997 (B impact Level). For other body parts helmet can not protect, please wear other safety products for protection!

4.2. Sensitivity knob

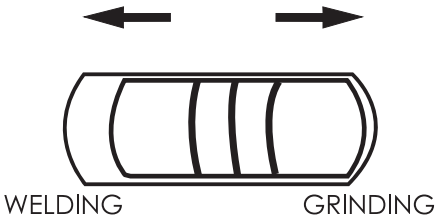
Before welding, please adjust the sensitivity to high position, if encountering the interference of Lighting lamp(the filter is darkening while not welding),please adjust the sensitivity towards low position slightly until the filter returns to light state (please don't make the helmet towards to light lamp source during this process, should towards to welding worpiece). During welding, the sensitivity knob should be adjusted as high as possible, or it will affect the darkening speed of filter.

Attention! Operator must stop using the helmet immediately and contact with the dealer in time if the filter can not be darkening or the darkening speed is slow or the filter is flash!

EN

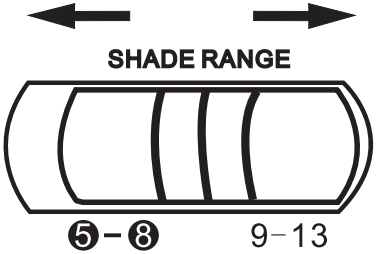
4.3. Shade knob

Before welding, please adjust the Shade Knob to proper shade no. based on welding process and welding amperage to make primary welding for test (Seeing the Shade Guide Table). If the shade of filter is too darkening or too light, please adjust the Shade Knob slightly to correct position till the eyes can see the welding spot which is not glaring and can see welding molten pool. Please kindly note that it will damage the eyes if using welding helmet under incorrect shade no.(too darkening or too light) for a long time.



Attention! If the filter can not be darkening or the darkening shade is not enough or the: darkening speed is slow or the filter is flash, for such abnormal work, please find the rea-son immediately. If operator can not solve the problem, please must stop using the helmet immediately and contact with the dealer in time!

The adjustment of the 5-8/ 9-13 range knob defines the range which is being used.
Select the prescribed shade level you required according to the welding process you will use (see"shade selection chart"below).



4.4 Delay time

1) Delay time knob: Delay time can be adjusted, time of filter from dark state to light state, avoid the damage to eyes from the residual arc of welding molten pool due to too fast switching time to light state when welding is end (Break arc). The delay time is 0.1s-1.0s The switching time may vary due to different welding types and different sensitivity setting even delay time handle is at the same position.
If the filter is flash under low current welding, please adjust the delay time handle to long position, this can help to solve this problem.

EN

The „Low Battery" indicator helps to monitor the function of the basic LCD system. When the LED is red, then the battery has to be changed. One pc of CR2032 Li battery is installed into the LCD frame. You can change the battery with bare hands without any tools.

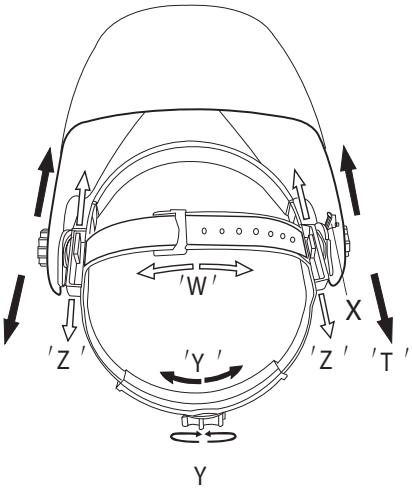
5. Adjusting headgear

(**W**) Top head band To move the Head Band in the direction of arrow (as picture) to adjust the depth of headband. According to user's head shape adjust to a suitable position.

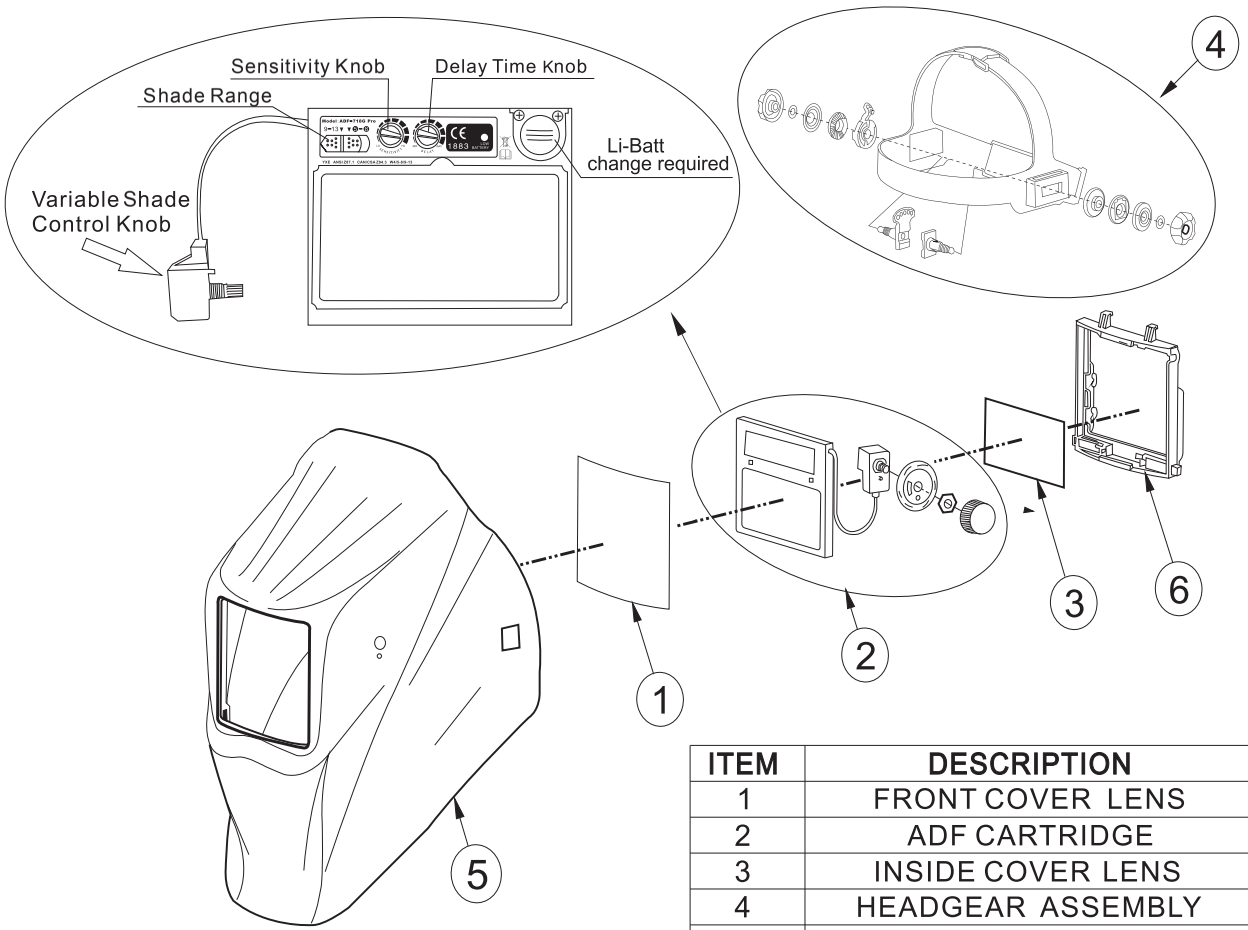
(**T**,**Z**) Distance of Harness from filter lens To adjust the distance from the welder's eyes to filter lens (left-right Symmetrical adjustment).

(**Y**) Back of headband To adjust the size of headband (loose or tighten).

This model is designed & equipped with a special turnover (**X**) headband mechanism. When welder turns over the helmet to welder's head top, the headband mechanism makes helmet's gravity center to be more lower, and be coincided with the center of welder's head. The design of welding helmet greatly lowers the fatigue of welder's head (& neck) and make welder feel more comfortable than before while at working.
Headband has been set unevenly and there is an uneven distance from the eyes to the filter's lens (Reset headband to reduce the difference to filter).



EN



ITEM	DESCRIPTION
1	FRONT COVER LENS
2	ADF CARTRIDGE
3	INSIDE COVER LENS
4	HEADGEAR ASSEMBLY
5	REPLACEABLE SHELL
6	ADF HOLDER