

Crystal 2.0

You won't believe your eyes.

optrel[®]
swiss made 



Crystal Lens
Technology

Automatically better welding



CRYSTAL LENS TECHNOLOGY TRUE COLOR VISION DIRECTLY WHEN WELDING.

For the first time in the history of welding you as a welder see the joining. How the weld pool melts, how the weld seam is created. You can see how the filler material is immersed in the welding pool and gain complete control over your work.



Crystal Lens Technology, CLT, offers you a brilliant vision, like through a window pane. Crystal clear. Thanks to optrel autopilot you will always have the right protection level.



Crystal Lens Technology
31% Light Transmission



CLT2.0

Visible Light range
380nm (2.75eV) ... 750nm (2.00eV)
Attenuation Coefficient:
 $Q_{\text{signal}} = \frac{T_{\text{signal}}}{T_{V D65}} = 9.842 \times 10^{-4}$

OPTREL REVOLUTIONISES THE WELDER'S WORK. CRYSTAL LENS TECHNOLOGY CHANGES EVERYTHING.

PROTECTION

Superior visibility before and during welding dramatically increases your safety at work. No stumbling. No unintentional contact with dangerous workpieces. Fewer injuries. Perfect all-around safeguard.

COMFORT

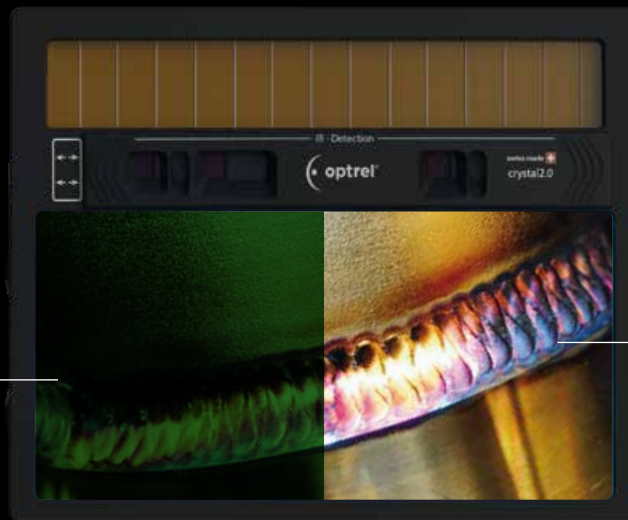
The crystal 2.0 helmet makes previous occupational safety a worry of the past. The helmet is there, but it does not impede your work. You can work with ease as if you were not wearing it at all. Like all optrel helmet, the crystal 2.0 is one of the lightest welding helmets available, weighing just one pound.

EFFICIENCY

Thanks to CLT, you can clearly see where the weld needs to start and where it ends. You can see grains and marks on the workpiece during welding. No more annoying interruptions to check the position of your welding torch.

View with an industry standard auto-darkening filter (limited color spectrum and strong darkening)

Color spectrum



Vision with Crystal Lens Technology (natural color spectrum and minimal darkening)

Color spectrum



Reduces the risk of accidents and improves occupational safety.

Leaves you less tired and ensures a more pleasant work day and better work results.

Clear vision boosts performance by up to 30% due to fewer work interruptions, superior welding results and less rework.

approx. 1920
Welding with passive
glass

1986
Welding with
auto-darkening
filter

2018
Welding
with Crystal Lens
Technology

OPTREL CRYSTAL 2.0 THE ENLIGHTENMENT IN WELDING.

WELDING HELMET AND TRANSPARENT VISOR IN ONE

With the **crystal 2.0**, optrel for the first time offers a welding helmet equipped with the new CLT auto-darkening technology. This gives you a visual impression comparable to that through a window pane. In fact, 92% of the visible color spectrum corresponds to that of a neutral window pane. This also has a positive effect on the brightness level. With a protection level of 2.0 in its light state, you can see your working environment as if you were not wearing an auto darkening lens at all.

AUTOPILOT INCLUDING PROTECTION LEVEL 2/4 -12

Light state
Inactive
mode
and
grinding
mode

Autopilot Range

for all important work sequences

Adjusts automatically to the changing light conditions of the current welding method.
automatic adjustment up to shade level 12!*



Adaptive protection level control sets the right protection level automatically in a range between 4 and 12. This is ensured by an additional brightness sensor which measures the intensity of the welding arc. This means that you are perfectly protected at all times, no matter what parameters you are welding with. Manual adjustments are no longer necessary.



Helmet system

Item no.



crystal 2.0 welding helmet,
aluminium style

1006.900



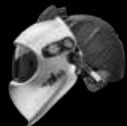
crystal 2.0 welder's helmet
including safety helmet,
aluminium style

1006.660



crystal 2.0 fresh air helmet,
aluminium style

4441.900



crystal 2.0 fresh air helmet
including safety helmet,
aluminium style

4441.910

Main accessories

Item no.



optrel parking buddy
(belt hook)

5002.900



Front cover lens (2 pcs.)
Front cover lens (5 pcs.)

5000.210

5000.212



Adjustable headband

5003.250



optrel backpack for helmets

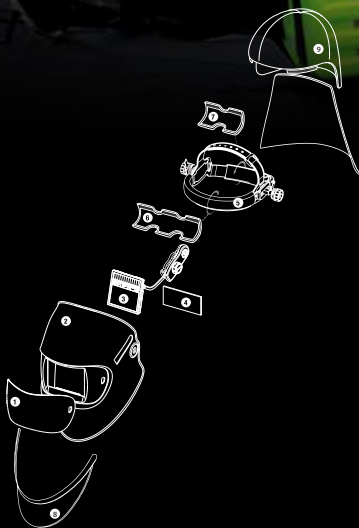
8000.100



Spare parts and accessories

Art. no.

1	Front cover lens (2 pcs.)	5000.210
	Front cover lens (5 pcs.)	5000.212
2a	Helmet shell crystal 2.0	4261.005
2b	PAPR helmet shell crystal 2.0	4261.008
3	Spare auto-darkening cassette crystal 2.0	5012.900
4	Inside cover lens (5 pcs.)	5000.001
5	Adjustable headband (includes sweatband and comfort band)	5003.250
6	Cotton sweatband (2 pcs.)	5004.073
7	Comfort band (2 pcs.)	5004.020
8	Chest protection leather	4028.015
9a	Head and neck protection, leather	4028.016
9b	Head and neck protection PAPR, leather	4028.031



THE FULL-FEATURED WELDER'S HELMET. OPTREL CRYSTAL 2.0

optrel's new flagship is packed with innovative technologies that make your work easier and more convenient.



CRYSTAL LENS TECHNOLOGY WITH LIGHT STATE 2.0

Now you can clearly see what happens before, during and after welding



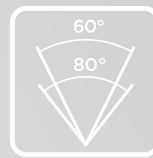
HEAT REFLECTIVE PAINT

Helping you keep a cool head at all times



AUTOPILOT PROTECTION LEVEL 4 TO 12

The welder's helmet automatically adapts to changing light conditions



SENSOR SLIDE

Set the sensor detection angle individually to suit your requirements



TWILIGHT FUNCTION

You can always remain relaxed even in case of fast lighting changes



PATENTED ECCENTRIC

Positions the helmet optimally on your head - with just one twist



SENSITIVITY CONTROL

Adapts the helmet to your environment and requirements



COMFORT HEADBAND

Guarantees optimal weight distribution and is easy on the neck



GRINDING MODE

The brightest vision during grinding work ever to be offered by a welder's helmet



3-YEAR WARRANTY AFTER REGISTRATION

Simply register at register.optrel.com

WARNING:
Welding with the crystal 2.0 is addictive

A TOTALLY DIFFERENT WELDING EXPERIENCE. OPTREL CRYSTAL 2.0

TECHNICAL DATA

Description	Fully automatic welder's helmet with very bright and clear vision, both before and during welding (light level 2.0 in combination with Crystal Lens Technology).		Dimensional stability	Welding mask:	up to 220 °C
				Front cover lens:	up to 130 °C
Protection levels	inactive	Access level 2.0	Eye protection	Ultraviolet/infrared protection: Maximum protection over the entire protection level range	
	active, manual:	Protection levels 4-12	Operating temperature	-10°C to + 70°C/ 14°F to 158°F	
Autopilot	Automatic protection level regulation over the protection level range 4<12M with individual calibration option of ±2.		Storage temperature	-20°C to + 80°C/ -4°F to 176°F	
Voltage supply	Solar cells, 2 lithium button cells (CR2032)		Gross weight	497 g/17.0 oz	
Sensor system	Three sensors		Areas of application	All electrical welding processes: Electrode welding (Stick Welding, SMAW) / MIG/MAG (Metal Shielded Arc Welding, GMAW) / GMAW High Performance Welding / Filler Wire Welding / TIG Welding (TIG, GTAW) / Plasma Welding / Plasma Cutting / Gas Welding / Grinding in Grinding Mode <i>Not suitable for laser welding!</i>	
Sensitivity	Continuously adjustable, new with "Super High" sensitivity		Scope of supply	Welder's helmet, operating instructions, storage bag, batteries, warranty card and front cover lens	
Switching time	Light to dark: 0.100 ms at room temperature 0.070 ms at 55°C Dark to light: 0.1 s to 2.0 s (including lighting control function)		Standards	CE, ANSI, EAC, fulfils CSA	
Classification EN379	Optical class:	1	Warranty	2 years	
	Scattered light class:	1		Additional 1 year warranty extension for product registration within the first 6 months on http://register.optrel.com	
	Homogeneity class:	1			
	Angle dependence class of light transmittance:	2			

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