



# Vizor Crystal Vizor Air/3X Crystal



Fronius International, Productmanagement Accessories  
Information Class: Confidential

# Our Solution

## Crystal clear view before, during and after welding

Optimal view through the welding helmet is essential to make everyday welding as efficient and comfortable as possible. State of the art welding helmets provide reliable darkening, but are often limited in their color perception and brightness level.

By means of the latest developments in glare protection, it is not only possible to provide the welder with an improved color perception and a high-contrast view of the weld pool, but also to provide an almost unobstructed view in the open state.

### Customer benefits:

- More efficiency
- More comfort
- More safety

# Optimized Glare Protection „Crystal Lens Technology“



Vizor Crystal



Vizor 4000 Crystal



# Vizor Crystal

## Crystal Lens Technology

Crystal clear view before, during and after welding

## Panorama field of view

The nose-cut technology offers a free view of the workpiece

## Autopilot

Fully automatic detection and adjustment of the protection level in the range 4 to 12



## Power technology

Lithium-polymer-battery can be charged via micro-USB cable, supported by solar cells

## Shade level 2.0

31% light transmission resulting in brighter vision in open state and in grinding mode

# Crystal Lens Technology



## Extended color spectrum

Advances in the **Auto-Darkening-Filter-technology** (ADF)  
→ improved color perception



## More contrast & clarity

Detailed and high-contrast view of the weld pool



## Brighter view

Protection level 2.0 in the open state  
→ Brightest visibility for pre- and post-work



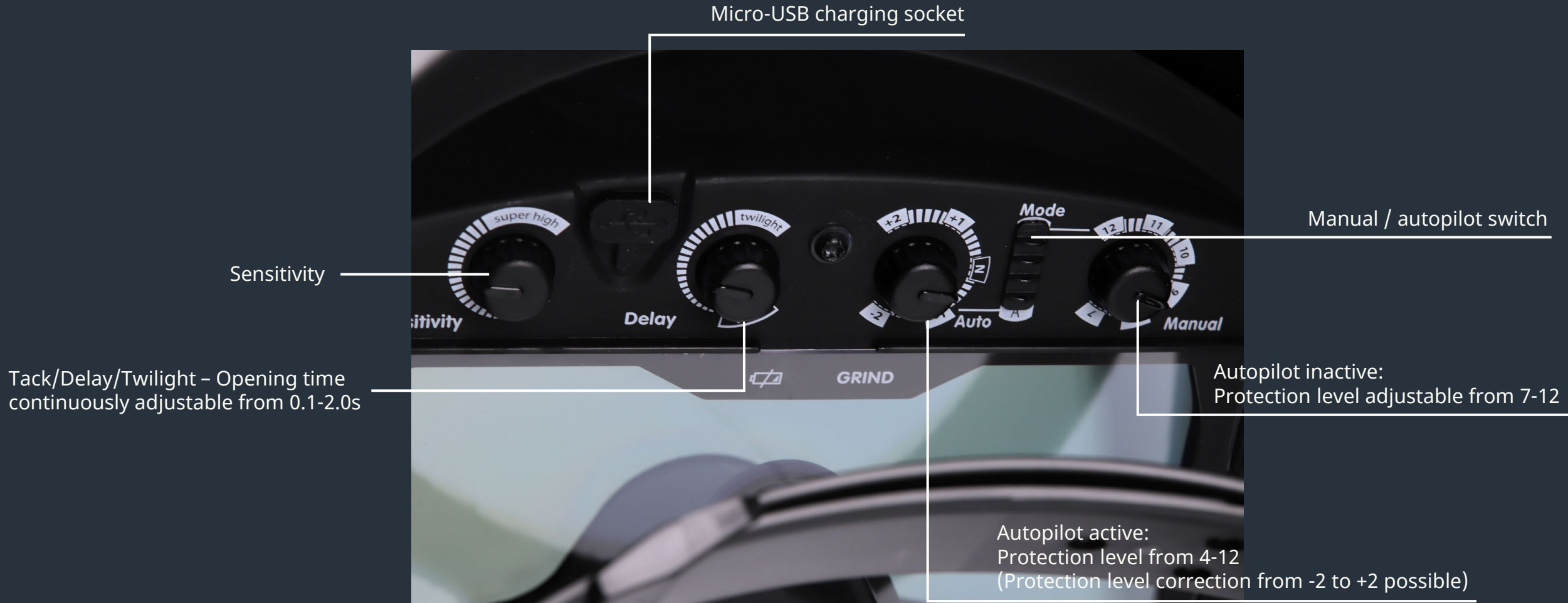


# 2.0

protection level in bright state

Protection level 2.0 in the open state provides the welder an almost unobstructed and crystal-clear view of his working environment.

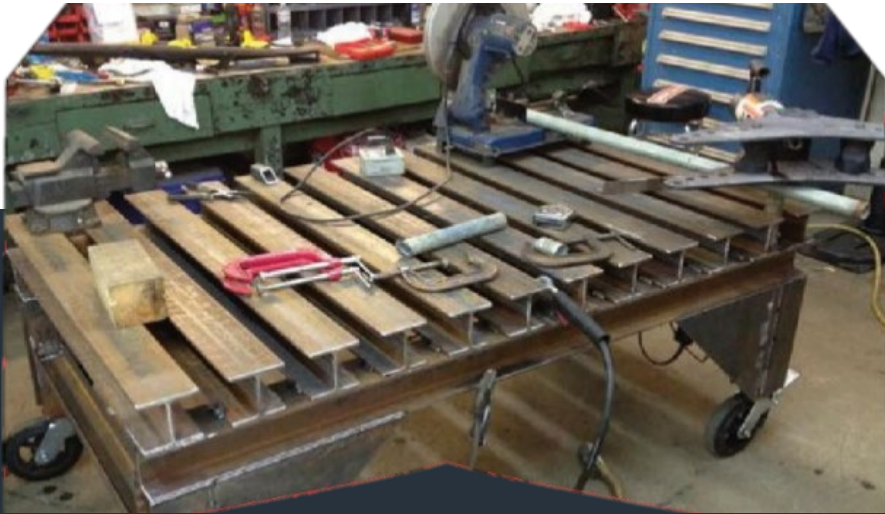
# Control Unit





# Bigger Field of View

Panorama field of view



Industrial standard cartridge  
(100x50mm)



Panorama field of view of the Vizor Crystal

- Thanks to the nose cut, depending on the headband setting 2.3 up to 6.3 times more viewing area than a 100x50 mm standard industrial cartridge.

Field view of a standard welding helmet and a  
industrial standard cartridge (100 mm x 50 mm)



# Technical Data

## Vizor Crystal

Field of view	Thanks to the nose cut, depending on the headband setting 2.3 up to 6.3 times more viewing area than a 100x50 mm standard industrial cartridge			
Shade level	Autopilot: 2.0 (light condition) 4 < 12 (dark condition) Autopilot inactive: 2.0 (light condition) 7 – 12 (dark condition)			
Eye protection	Ultraviolet-/infrared-protection: Maximum protection over the entire protection level range			
Switching time - light to dark	0.090 ms (23°C / 73°F) 0.070 ms (55°C / 131°F)			
Switching time - dark to light	0.1 – 2.0 s (Twilight function)			
Classification (EN379)	Optical class: 1	Scattered light: 1	Homogeneity: 1	Angular dependence: 2
Power Supply	Lithium polymer battery chargeable via Micro-USB cable, supported by solar cells			
Charging time	Approx. 1 hour			
Weight	0.61 kg / 1.34 lb			
Standards	CE, ANSI Z87.1, complies with CSA Z94.3, AS/NZS 1337.1, AS/NZS1338.1			

# Fields of Application

- MMA electrode welding
- MIG/MAG/TIG
- GMAW high performance welding
- Flux-cored wire welding
- Plasma (cutting/welding)
- Microplasma arc welding
- Gas welding
- Grinding work in grinding mode
- **Not suitable for laser welding**



# Product Overview



**Vizor Crystal**

42,0510,0396



**Vizor Air/3X Crystal**

42,0510,0399



**Vizor Air/3X  
Frischlufthelm Crystal**

42,0510,0404



**Vizor Air/3X Ergo  
Crystal**

42,0510,0403

# Product Portfolio

Item number	Description	Info
42,0510,0396	Vizor Crystal	Helmet
42,0510,0404	Vizor Air/3X fresh-air helmet Crystal	Air/3X helmet
42,0510,0399	Vizor Air/3X Crystal	Air/3X system + Air/3X helmet
42,0510,0403	Vizor Air/3X Ergo Crystal	Air/3X system + Air/3X helmet incl. shoulder strap
42,0510,0317	Front cover lens (5 pcs per set)	Spare part
42,0510,0315	Inside cover lens Vizor Connect (5 pcs per set)	Spare part
42,0510,0322	Inside cover lens Vizor Connect 1,00 diopter	Optional accessories
42,0510,0323	Inside cover lens Vizor Connect 1,50 diopter	Optional accessories
42,0510,0324	Inside cover lens Vizor Connect 2,00 diopter	Optional accessories
42,0510,0325	Inside cover lens Vizor Connect 2,50 diopter	Optional accessories
42,0510,0336	Inside cover lens Vizor Connect shade level 1,0 (5 pcs per set)	Optional accessories
42,0510,0345	Inside cover lens Vizor Connect shade level 2,0 (5 pcs per set)	Optional accessories
42,0510,0326	Headband complete Vizor Connect / GrindMask	Spare part
42,0510,0018	Front head band Vizor / Fazor (2 pcs per set)	Spare part
42,0510,0200	Headband back (2 pcs per set)	Spare part
42,0510,0321	Vizor Air/3X Connect face seal	Spare part
42,0510,0539	Micro-USB cable Vizor Crystal	Spare part
42,0510,0545	Micro-USB cover cap Vizor Crystal (2 pcs per set)	Spare part
42,0510,0328	Nose protection pad Vizor Connect (2 pcs per set)	Optional accessories



Vizor

Product Portfolio

# Overview | Helmets



	Vizor Crystal	Vizor Connect	Vizor 4000 Crystal	Vizor 4000 Professional	Vizor 4000 Plus
Bluetooth technology		x			
Weight	0.61 kg	0.55 kg	0.5 kg	0.5 kg	0.48 kg
Level of protection	2.0/7-12 (man.) 2.0/4-12 (auto)	2.5/7-12 (man.) 2.5/5-12 (auto)	2.0/4-12 (man.) 2.0/4-12 (auto)	4/5-13 (man.) 4/5-13 (auto)	2.5/8-12
Cartridge size [LxBxH]	58x125mm	58x125mm	90x110x7mm	90x110x7mm	90x110x7mm
Classification	1/1/1/2 EN379	1/1/1/2 EN379	1/1/1/2 EN379	1/1/1/1 EN379	1/1/1/2 EN379

# Vizor Product Portfolio

	Vizor Crystal	Vizor Connect	Vizor 4000 Crystal	Vizor 4000 Professional	Vizor 4000 Plus
Classification (EN379)	1/1/1/2	1/1/1/2	1/1/1/2	1/1/1/1	1/1/1/2
Shade level (passive-mode)	2.0	2.5	2.0	4	2.5
Shade level (active-mode)	4-12 (auto) resp. 7-12 (man.)		5-12 (auto) resp. 7-12 (man.)	4-12 (auto / man.)	5-13 (auto / man.)
Field of vision	Panorama 58x125mm	Panorama 58x125mm	50x100mm	50x100mm	50x100mm
Weight	610 g	550 g	495 g	500 g	482 g
Bluetooth® Low Energy Technology		x			
Sensor mode	x	x	x	x	x
Solar panels	x	x	x	x	x
Replaceable batteries			x	x	x
Rechargeable battery	x	x			
Auto pilot (automatic protection level regulation)	x	x	x	x	
True colour LCD	x	x	x	x	x
Sensor slider			x	x	x
Delay-function (opening delay)	x	x	x	x	x
Sensitivity setting	x	x	x	x	x
Grinding mode	x	x	x	x	x

# Protection Level Range

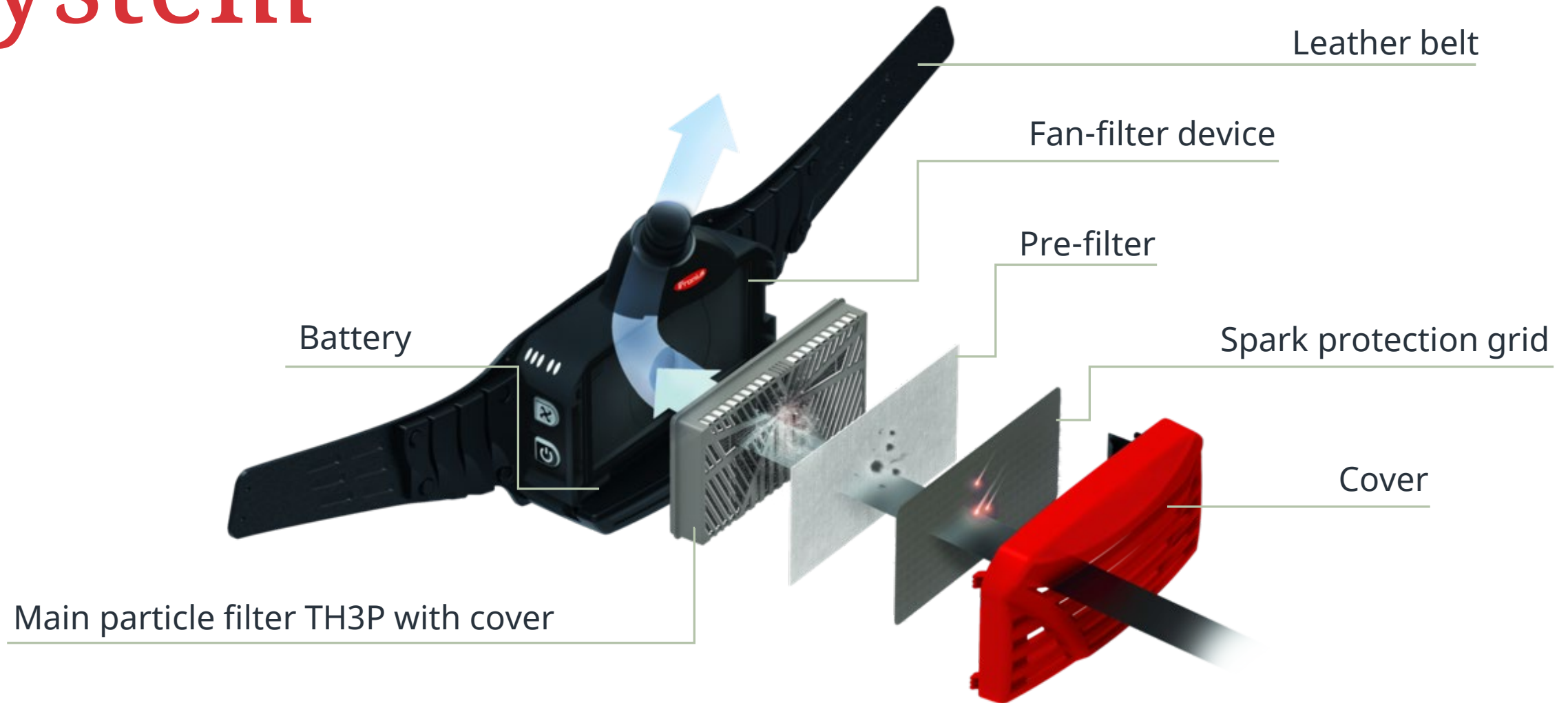
	Level of protection													
	2	2.5	3	4	5	6	7	8	9	10	11	12	13	14
Vizor 4000 Professional				light condition	dark condition									
Vizor 4000 Plus			light condition					dark condition						
Vizor Connect			light condition			dark condition								
Vizor 4000 Crystal	light condition			dark condition										
Vizor Crystal	light condition			dark condition										



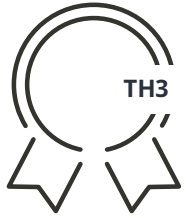
# Vizor Air/3X Crystal



# Airflow through the Air/3X System



# Highlights



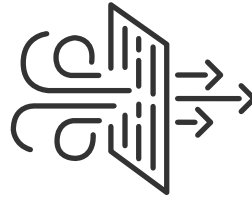
## TH3 certified

The complete system is certified in TH3 (EN12941)



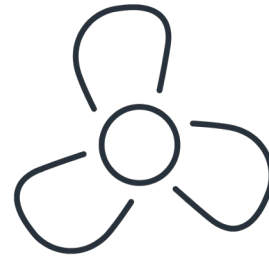
## Operating time

Powerful lithium-ion technology



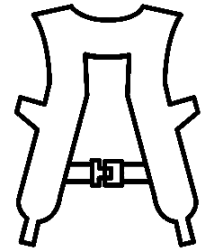
## Filter status

The Vizor Air/3X system detects, if the particle filter is missing or clogging



## Three airflow levels

- 170 nl/min
- 210 nl/min
- 240 nl/min

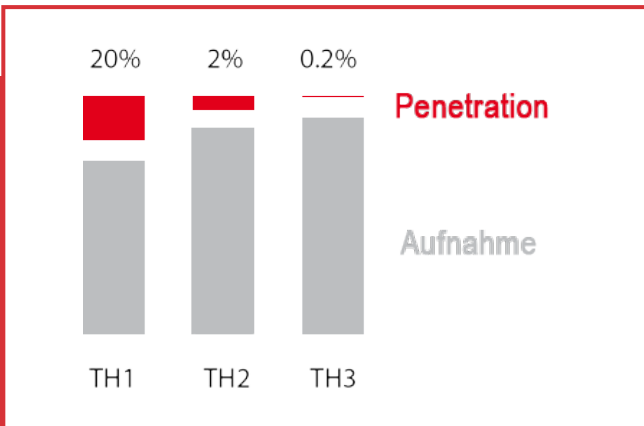


## Optional Ergo harness

4-point shoulder carrying system to ensure even weight distribution

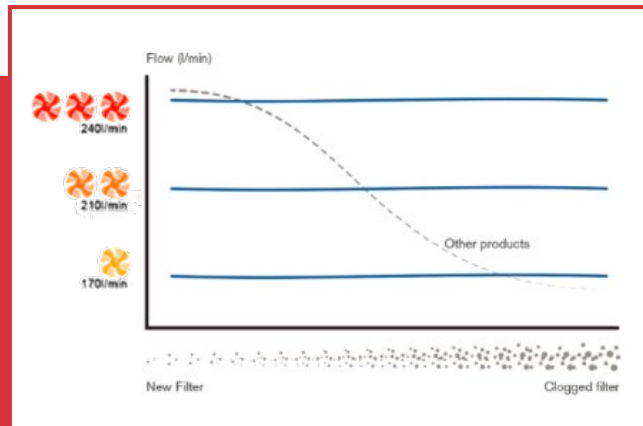
# Vizor Air/3X Powered Air Purifying Respirator

## Highest filter quality TH3P



More than 99.8% of particles are filtered out.

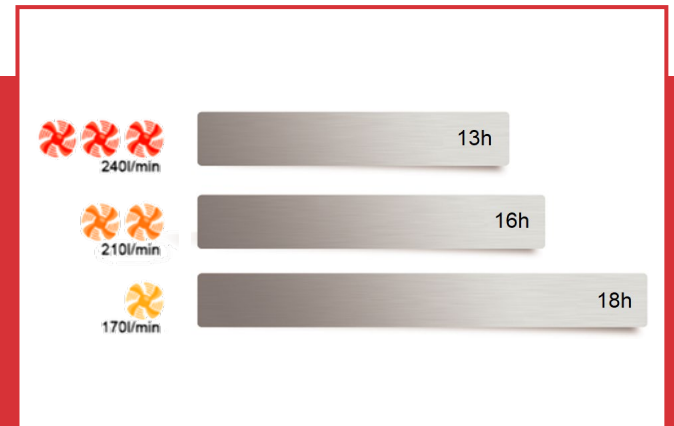
## Constant air flow



Thanks to a built-in sensor, the set air volume always remains constant.

When the filter is saturated, a controlled change to the next lower blower level takes place.

## Battery operating time



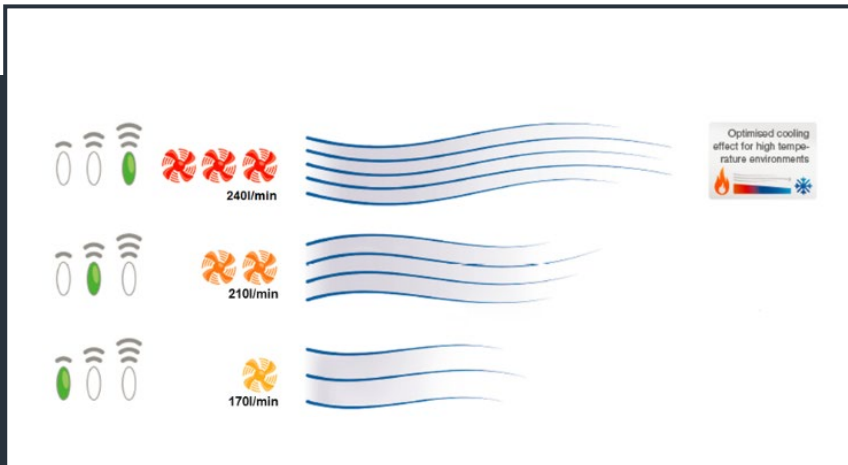
High-performance lithium-ion battery with long operating time reduces battery replacement.

– Operating time up to 18h\*.  
(\* min. Operating time stage 1, new filter, at room temperature)



# Vizor Air/3X Powered Air Purifying Respirator

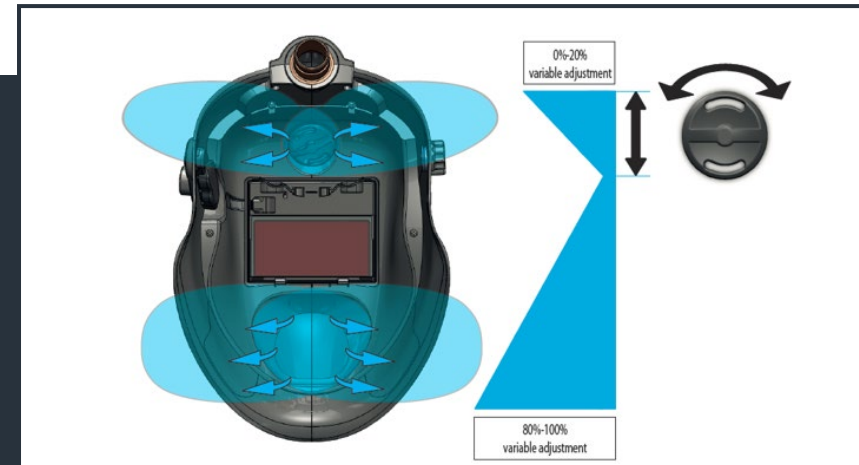
## High performance airflow



Easy selection of three different air flows from 170l/min to 240l/min:

- Best cooling effect through air flow selection up to 240l/min
- Individual adjustability increases the comfort

## Air distribution in the helmet



- The unique air distribution inside the welding helmet creates a comfortable working environment.
- This system also provides pleasant cooling for the welder.

# Technical Data & Portfolio

Vizor Air/3X	
<b>Flow rates</b>	
Level 1:	min. 170 nl/min
Level 2:	min. 210 nl/min
Level 3:	min. 240 nl/min
<b>Filter</b>	TH3P R SL Filter for TH3P System (EU)
<b>Battery</b>	
– Voltage/ capacity	14.8 V / 3.25 Ah
– Charging cycles	> 500
– Charging time	ca. 8h
<b>Noise level</b>	max. 70 dB(A)
<b>Total weight</b>	1575 g (without the helmet)
<b>Norm</b>	EN 12941:1998 TH3
<b>Certificate</b>	CE



Item Number	Description
42,0510,0350	Vizor Air/3X fan-filter unit in the hard-top case
42,0510,0399	Vizor Air/3X Crystal
42,0510,0403	Vizor Air/3X Ergo Crystal
42,0510,0351	Vizor Air/3X Connect
42,0510,0352	Vizor Air/3X Ergo Connect
42,0510,0480	Vizor 4000 Air/3X Crystal
42,0510,0536	Vizor 4000 Air/3X Ergo Crystal
42,0510,0353	Vizor 4000 Air/3X Professional
42,0510,0354	Vizor 4000 Air/3X Ergo Professional
42,0510,0355	Vizor 4000 Air/3X Plus
42,0510,0356	Vizor 4000 Air/3X Ergo Plus
42,0510,0185	Vizor Air/3 TH3P Particle filter with prefilter
42,0510,0188	Vizor Air/3 Prefilter (50 pcs. in a set)
42,0510,0362	Vizor Air/3X odor filter kit incl. push-on frame
42,0510,0363	Vizor Air/3X odor filter



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