

MSA AUER FSR

Filter self rescuer



Operating Manual 



Order No.: 10101857/01

MSA AUER GmbH
D-12059 Berlin
Thiemannstrasse 1
Germany

© MSA AUER GmbH. All rights reserved

Contents

Safety Advice	4
Liability Information	4
Maintenance Advice	4
1. Application	5
2. Design and Functioning	5
3. Stand-By	9
4. Rules for an Emergency	9
5. Donning	10
6. Maintenance	14
6.1. Daily Inspections	14
6.2. Checking the Tightness	14
6.3. Reconditioning	15
6.4. Life Expectancy	15
6.5. Disposal	15
7. Apparatus, Accessories	16

Safety Advice

The MSA Filter-Self-Rescuer is a Product, supporting life and health!

- This manual must be carefully read, understood and followed by all individuals who have or will have responsibility for selecting, servicing or maintaining this product.
- This manual contains instructions for the optimal use of the product as well as important safety information.
- Before use, the acting persons have to decide in accordance with this manual, whether the product is suitable for the intended application.

Liability Information

- The liability of MSA is excluded if the product is not used appropriately and for the intended purpose. Choice and use are in the sole responsibility of the acting persons.
- Warranties also as guarantees made by MSA with respect to the product are voided, if it is not used, serviced or maintained in accordance with the instructions in this manual.

Maintenance Advice

- This product must be inspected and maintained in regular intervals by trained specialists, records are to be kept. For service and repairs original MSA spare must be used only. Inspections and maintenance must be made exclusively by authorised service shops or MSA. The authorised service shops are responsible for procurement of valid technical information for the product, components thereof and maintenance instructions. Modifications to the product or components thereof are not permissible and violate the approvals.

The liability of MSA extends exclusively to service and maintenance made by MSA.

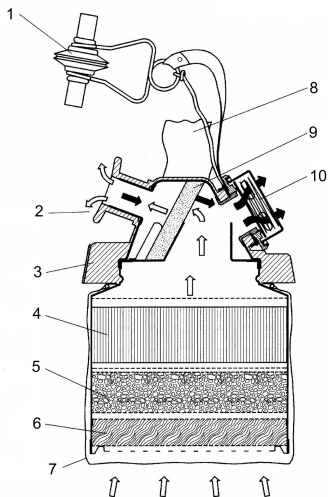
1. Application

The MSA AUER filter self-rescuer FSR is an escape device for self-rescue, e.g. for the underground miner. The FSR protects against carbon monoxide (CO) and other hazardous gases that can occur from mine fires and fire damp explosions among others.

The FSR is designed for one-time use only. It does not protect against oxygen deficiency (e.g. "black damp").

2. Design and Functioning

The FSR consists of a filtering device which is carried along in a tightly closed stainless steel case. The filtering device consists mainly of a filter, mouthpiece, nose clip and exhalation valve. The inhalation air flows through a coarse particle filter (protection against dust, soot, flakes, etc.) as well as through a dryer and a catalyst (impregnated charcoal and hopcalite/noble metal). The catalyst layer convert CO into CO₂ and also retain other hazardous gases. The inhalation air then passes through the heat exchanger to the user. The exhalation air passes through the heat exchanger and the exhalation valve to the ambient atmosphere.



- 1 nose clip
- 2 mouthpiece (gum)
- 3 chin support
- 4 CO catalyst (hopcalite / noble metal)
- 5 dryer
- 6 dust filter
- 7 coarse-dust filter bag
- 8 head strap
- 9 heat exchanger
- 10 exhalation valve



inhalation air



exhalation air

Fig. 1 MSA AUER filter self-rescuer W 65 (Australia, schematic design)

Technical Data

All data are approximately

Description	Part No.	height x width x depth mm			Weight g	Weight without case g	Servicetime min
FSR W65	D1090701	100	100	80	1120	680	≤ 60 ¹⁾
FSR W65-2	D1035701	160	100	80	1200	800	≤ 120 ²⁾
FSR W65-2BL	10064638	160	100	80	1200	800	≤ 120 ²⁾
FSR W95-BL	10014932	140	100	80	900	520	≤ 120 ²⁾
FSR W95	D1034700	140	100	80	900	520	≤ 120 ²⁾

Description	Part No.	Standard	Class
FSR W65	D1090701	AS/NZS 1716:2003	
FSR W65-2	D1035701	EN 404:2005	FSR-4AR
FSR W65-2 BL	10064638	EN 404:2005	FSR-4AR ³⁾
FSR W95-BL	10014932	EN 404:2005	FSR-4BR ³
FSR W95	D1034700	EN 404:2005	FSR-4BR

¹⁾ according to AS/NZS 1716:2003

²⁾ according to European standard EN 404:2005

³⁾ with the exception of chapter 6.8 Means of Carrying, clause 3

Explanation:

a) According to the Australian standard AS/NZS 1716:2003, FSR-W65 is approved as follows:

- Service time 60 min
- Performance test at 35 l/min
- E4 procedure (b)

b) According to European standard EN 404:2005, class FSR-4 AR has the following meaning:

Digit "4":	Service time longer than 120 min
Letter "A":	Performance test at 30 l/min
Letter "R":	Suitable for rough conditions (assured by "concrete mixer test")

c) According to European standard EN 404, 2005, class FSR-4 BR has the following meaning:

Digit "4":	Service time longer than 120 min
Letter "B":	Performance test at 40 l/min
Letter "R":	Suitable for rough conditions (assured by "concrete mixer test")

The Filter Self Rescuers FSR W65-2, FSR W65-2 BL, FSR W95 and FSR W95 BL described in this operating manual comply with the European Directive 89/686/EC. The EC Type Examination was carried out by DEKRA EXAM (Dinnendahlstr. 9, D-44809 Bochum). Reference number of the Notified Body: 0158

3. Stand-By

FSR which are kept on stand-by must be undamaged on the outside and sealed. FSR must be easily accessible in case of an emergency and be able to be donned quickly. Therefore the FSR should always be carried (with belt loop, bag or carrying strap) and not removed from the workplace.

4. Rules for an Emergency

The official emergency rules apply.

The following can indicate a fire explosion in mining:

- Clouds of smoke
- Smell of combustion gas
- Headache or nausea
- Sudden raising of dust

In such a case the FSR must be donned immediately and the specified escape route must be started. Do not speak while escaping but communicate with hand signs!

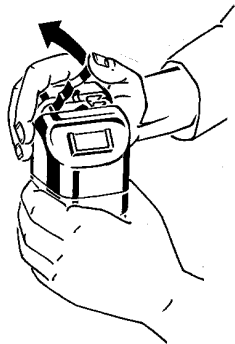
At higher carbon monoxide concentrations in the ambient air, the filtering device and the inhalation air will get warm. This warming-up indicates proper functioning, and therefore the filter self-rescuer under no circumstances must be removed until ambient air is reached which definitely contains no hazards.

The FSR is an escape device for self-rescue (escape or waiting for rescue). It must not be used as a work device, e.g. inspection tours or service operations.

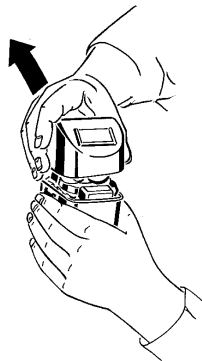
After contact with open flames protection may not be achieved.

5. Donning

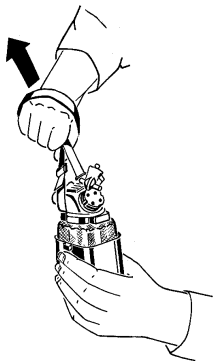
The donning procedure shall be carried out as follows:



- (1) Push sealed opening lever upwards till seal breaks; pull locking assembly off case.



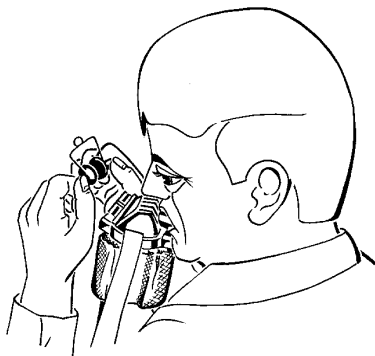
- (2) Lift off case cover and discard.



- (3) Grasp filtering device by head strap and pull out of case.



- (4) Bend up nose clip and insert mouthpiece (rubber flange between lips and teeth). Bite down on the two lugs.



(5) Fit nose clip tightly.



(6) Position head strap and shorten if necessary.



- (7) Put on helmet.



- (8) In case the FSR cannot be pulled out of its case (if e.g. the case is badly dented), the FSR can still be used with the case bottom, however, with increased inhalation resistance.

6. Maintenance

FSR that are factory closed and properly stored or carried along, are maintenance free. However, the user and the maintenance technician through regular inspections must assure that the FSR will function properly.

6.1. Daily Inspections

Prior to each shift the FSR are inspected to assure they are intact outside and – if necessary - cleaned outside. Badly dented or open devices (seal!) must be removed. These devices cannot be reconditioned.

6.2. Checking the Tightness

The FSR can be checked by weighing. A repeated weight increase shows a leak by the uptake of moisture.

It is recommended to check the weight every three month. In mining the FSR's are removed from service if the weight increase reaches a value according to the following table.

Description	Part No.	weight increase
FSR W65	D1090701	max. 10 g
FSR W65-2	D1035701	max. 12 g
FSR W65-2 BL	10064638	max. 12 g
FSR W95-BL	10014932	max. 3 g
FSR W95	D1034700	max. 3 g

6.3. Reconditioning

The FSR is designed for one-time use and is not reconditioned thereafter.

6.4. Life Expectancy

FSR are checked by random sample tests and the continued serviceability of the specific lot is extended based on the test results.

According to experience thus far, MSA AUER FSR have a life expectancy as shown in the following table.

Description	Part No.	life expectancy
FSR W65	D1090701	max. 8 years
FSR W65-2	D1035701	max. 10 years
FSR W65-2 BL	10064638	max. 10 years
FSR W95-BL	10014932	max. 10 years
FSR W95	D1034700	max. 10 years

- The above corresponds to the terms and conditions of sale regarding the warranty and liability of MSA. It does not alter them.

6.5. Disposal

For disposal of filter self-rescuer applicable National regulations must be observed. (see also the following MSA Material Safety Datasheets: D050021700, D050021701, D050020900, D050020901)

7. Apparatus, Accessories

No.	Description	Part No.
1	FSR W65 (Australia)	D1090701
2	FSR W65-2 BL	10064638
3	FSR W65-2	D1035701
4	FSR W95	D1034700
5	FSR W95-BL	10014932
6	W 95-TR	10093152
7	Training FSR	D1038940

MSA in Europe

[www.MSASafety.com]

Great Britain

MSA Britain

Lochard House

Linnet Way

Strathclyde Business Park

BELLSHILL ML4 3RA

Scotland

Phone +44 [16 98] 57 33 57

Fax +44 [16 98] 74 0141

info@msabritain.co.uk

Italy

MSA Italiana

Via Po 13/17

20089 Rozzano [MI]

Phone +39 [02] 89 217 1

Fax +39 [02] 82 59 228

info-italy@msa-europe.com

Spain

MSA Española

Narcís Monturiol, 7

Pol. Ind. del Sudoeste

08960 Sant-Just Desvern

[Barcelona]

Phone +34 [93] 372 51 62

Fax +34 [93] 372 66 57

info@msa.es

Czech republic

MSA Safety Czech s.r.o.

Dolnojircanska 270/22b

142 00 Praha 4 - Kamyk

Phone +420 [59] 6 232222

Fax +420 [59] 6 232675

info@msa-auer.cz

Hungary

MSA Safety Hungaria

Francia út 10

1143 Budapest

Phone +36 [1] 251 34 88

Fax +36 [1] 251 46 51

info@msa.hu

Germany

MSA AUER GmbH

Thiemannstrasse 1

12059 Berlin

Phone +49 [30] 68 86 0

Fax +49 [30] 68 86 15 17

info@msa-auer.de

Austria

MSA AUER Austria

Vertriebs GmbH

Modecenterstrasse 22

MGC Office 4, Top 601

A-1030 Wien

Phone +43 [0] 1 / 796 04 96

Fax +43 [0] 1 / 796 04 96 - 20

info@msa-auer.at

Switzerland

MSA Schweiz

Eichweg 6

8154 Oberglatt

Phone +41 [43] 255 89 00

Fax +41 [43] 255 99 90

info@msa.ch

European

International Sales

[Africa, Asia, Australia,

Latin America, Middle East]

MSA EUROPE

Thiemannstrasse 1

12059 Berlin

Phone +49 [30] 68 86 0

Fax +49 [30] 68 86 15 58

contact@msa-europe.com

MSA
The Safety Company