

Respirator Voice Amplifier

RVA (C.01)

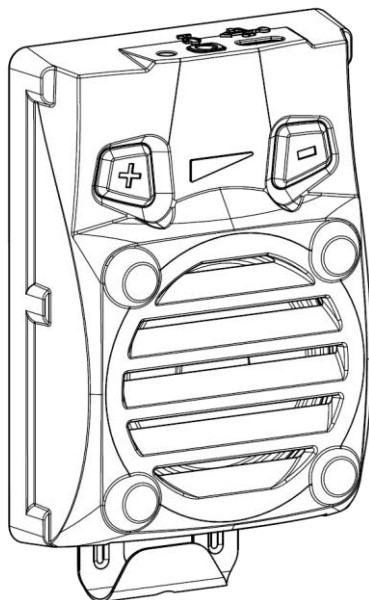


Figure 1: RVA (C.01)

The Respirator Voice Amplifier (RVA, Figure 1) is a wearable rugged voice communication device designed for professionals who need to clearly and loudly talk with the CBRN respiratory mask fitted (there is no need to remove it). The RVA withstands temperature, vibration, water, salt fog and dust.

The RVA provides the interface (standard 3.5 mm Jack connector) for the CBRN respiratory full/half face mask microphone (like Tactical Air Respirator Purifying Microphone, TARPM) mounted in the exhalation valve cap of the mask.

The RVA is equipped with integrated rechargeable battery (via standard USB Type-C interface) including sophisticated charging/battery management and visual status indicator. There are two control buttons to adjust the voice output as well as to turn the device on and off.

It can be attached to tactical gear via the MOLLE compatible clip or pouch.

An acoustic feedback may occur if the RVA gets close to the microphone – increase the distance between the RVA and the microphone, reduce the output volume or disconnect and reconnect the microphone.

Interfaces (Figure 2)

Control + and – Buttons

Short Press (≥ 250 ms) of any Button **RVA ON**

Simultaneous Press (≥ 2 s) of both Buttons **RVA OFF**

Smart standby mode automatically turns the RVA off after 30 minutes if no button is pressed during this time.

0 dB to 15 dB (5 steps) with the same volume level on turned on as it showed before turned off.

Respiratory Mask Microphone Connector

Panel Connector Type:
Jack Female TRS 3.5 mm (3 pins)

Connector Pinout:
Tip Microphone Signal (MIC +)

Ring 1
Ring 2 Microphone Ground (MIC -)
Sleeve

Battery Charging Connector

Panel Connector Type:
USB Type-C Receptacle

Connector Pinout:
A4, A9, B4, B9 Battery Charging (PWR +)
A1, A12, B1, B12 Battery Charging Ground (PWR -)

Charging standard USB Type-C Cable (USB Type-C to USB Type-A) is included.

Battery Status and Charging Visual Indicator

In Operation (Green Indicator):
ON Battery 100 % $\pm$ 50 %
Blink Low Battery (< 50 %)

Charging (Red Indicator):
Blink In Charging
ON End of Charge
(Battery 100 %)

Battery and Charging Data

Battery Specification:
Lithium Polymer
3.7 V / 1200 mAh, 4.44 Wh

Battery Charging Input:
(4.5 ± 6.5) V_{DC}
(designed for standard USB Charger,
I_{min} 0.5 A)

Operating Time:
> 50 Hours (for maximum audio output level and continuous voice input)
> 150 Hours (depending on idle time)

Standard Charging Time (I_{IN} up to 1 A):
2 Hours
(from 0 % to 100 % battery capacity, dependent on charging current I_{IN})

Cycle Life (one charge/discharge period):
> 500 Times

Audio and Acoustic Data

Audio Input Impedance (1 kHz):
150 $\Omega \pm 10$ %

Frequency Response:
(300 $\pm$ 3,400) Hz

Maximum Audio Output Power:
2.5 W

Maximum Sound Pressure Level (at usual voice level):
83 dB_{SPL} @ 1 m

Environmental and Other Data

Colour:
Black (RAL 9005)

Weight:
150 g $\pm$ 10 %

Dimensions:
Refer to Figure 2

Attachment:
MOLLE Clip

Operating Temperature:
(-20 to +60) °C

Charging Temperature:
(0 to +45) °C

Storage Temperature:
(-20 to +45) °C

CE Certification:
Approved according to PPE directive
89/686/EEC and EMC directive
89/336/EEC

CBRN:
Designed in accordance with
ČSN EN 140

Ingress Protection (IEC standard 60529):
IP67

Flame Retardant Properties (UL 94):
Min. Level V2

Calculated Mean Time Between Failures
(MTBF):
> 2,000 Hours

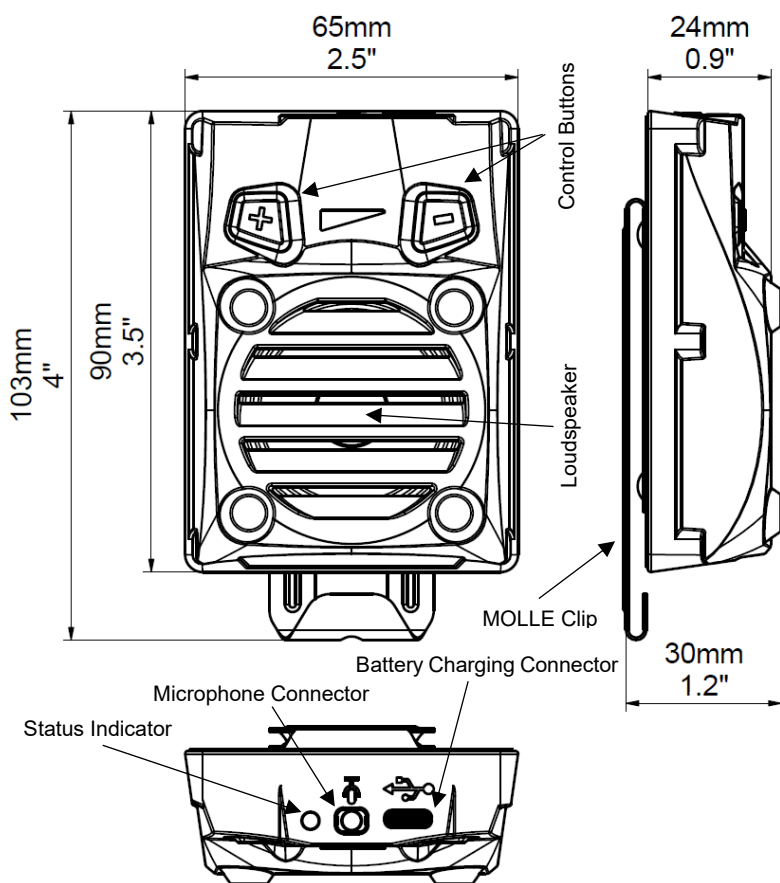


Figure 2: RVA (C.01) Description and dimensions



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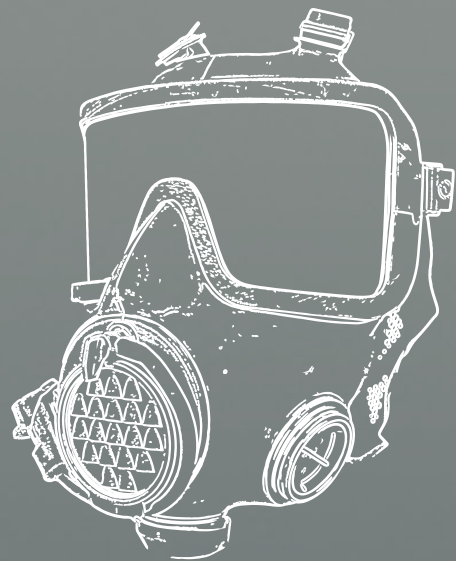


PROTECTIVE MASK

OM-2020

ADVANCED MASK FOR MULTI-PURPOSE USE

PROTECTIVE MASK OM-2020



Brand new OM-2020 protective mask, together with a suitable filter, reliably protects user's face, eyes and respiratory system against chemical, biological, radioactive and nuclear (CBRN) agents in form of gases, vapors and solid or liquid aerosols.

KEY FEATURES

- Panoramic visor for unlimited wide-angle view
- Non-Fogging construction of inner mask
- 2-Sides filter connection
- High Flow Drinking System
- 6-Points Head harness for perfect tightness



Police units • Rescue teams • Fire-fighters • CBRN Industry • Civil protection • Healthcare workers

USER COMFORT

- Advanced construction of sealing edge ensure perfect face fit tightness
- Facepiece material enable using due long periods in any weather conditions
- One universal size (OSFA). Fits all adult faces, except the extremely small faces
- Stretch Stripes of textile Head harness system provides comfortable wearing of mask

FUNCTIONAL RELIABILITY

- Guaranteed for use in the temperature range from -30 ° C to +70 ° C
- Mask can be use in environment with the oxygen content of air in minimum 17% volume

FILTRATION

- Filter connections threads type - Rd 40x1/7" in accordance with EN 148-1 (NATO standard)
- Possibility to mount filter either on the left, on right side or both sides of the mask
- Period of use is limited by efficiency of mounted filter type. This can be advanced by spare filter replacing during the usage

COMMUNICATION

- High quality speech insert membrane allows easy communication on high quality level
- Possibility to equip with our unique voice amplifier through exhalation cover



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TECHNICAL DATA

OM-2020

Weight	560 g
Colour	Black
Number of sizes	1
Effective field of view	> 90 % (EN 136 min.70 %)
Binocular field of view	> 85 % (EN 136 min.80 %)
Filter connection thread	Rd 40 x 1/7" acc. (EN 148-1) STANAG
Tightness	Drop max. 100 Pa/min. under vacuum 1 kPa
Carbon dioxide content of inhaled air	Max. 0,9 %
Speech intelligibility	Min. 95 %
Functional reliability	From -30 °C up to + 70 °C
Storage	From - 10 °C up to + 25 °C

BREATHING RESISTENCE

- inhalation resistance at 30 l/ min.	Max. 30 Pa (EN 136 max. 50 Pa)
- inhalation resistance at 95 l/ min.	Max. 100 Pa (EN 136 max. 150 Pa)
- exhalation resistance at 30 l/ min.	Max. 60 Pa

MATERIALS

Facepiece	Brombutyl rubber
Inner mask (nosecup)	Natural rubber
Visor	Polycarbonate PC
Visor frames	Polyamid PA 6
Body of speech insert	Polyoximetylen POM
6 point skull cap head harness with plastic buckles	Rubber-textile

5
YEARS

WARRANTY

5 years warranty is providing in case of compliance with storage rules according to the Direction for use.

24
MONTHS

WARRANTY

The warranty period for use starts with the first opening of the original package and is provided only when observing conditions stated in the Direction for use of the protective mask.

STORAGE AND SERVICE LIFE

20 years from the date of production, with respecting conditions mentioned in Direction for use. The manufacturer recommends to carry out inspection of inhalation and exhalation valves and leak-tightness test of the mask every 5 years during storage.

CERTIFICATION

OM-2020 is certified according ČSN EN 136 (Class III and the ČSN EN 148-1.)

Certification body: Research Institute of Occupational Safety, v.v.i., notified body 1024, Prague 1.,



The certification was performed according to the certification scheme of Regulation (EU) 2016/425 Module B.



Gumarny Zubri, Incorporated

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THROUGH LEGACY TO FUTURE

Tactical Air Purifying Respirator (TAPR) Microphone

TAPRM.08

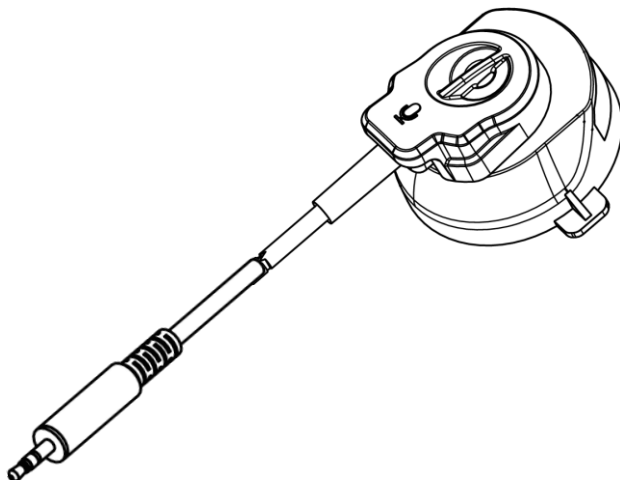


Figure 1: TAPRM.08

The Tactical Air Respirator Purifying Microphone TAPRM.08 (Figure 1) is designed for the OM-90 and CM-6 full-face masks and for the S-97 half-mask. It can be easily integrated into new as well as older respiratory mask without the need for further modification or additional certification.

The TAPRM.08 is compatible with standard personal headsets and hearing protectors, it can be also directly interconnected with radios or voice amplifiers. TAPRM.08 works in a fully passive mode – it does not require any supply voltage for its operation.

Electro-Acoustic Data

Type:

Noise-Cancelling, Dynamic, Moving Coil

Output Impedance (1 kHz):

$150 \Omega \pm 10 \%$

Real Output Level (at usual voice level):

$3.5 \text{ mV}_{\text{rms}} \pm 10 \%$

Harmonic Distortion:

max. 5 % over a bandwidth of 315 Hz to 4000 Hz

Frequency Response (94 dB_{SPL}, 1/1 octave bands):

500 Hz	-5 ± 3 dB
1000 Hz	reference
2000 Hz	0 ± 3 dB
4000 Hz	2 ± 3 dB

Environmental and Other Data

Colour:

Black (RAL 9005)

Weight (including Cable):

50 g ± 10 %

Dimensions:

Refer to Figure 2

Cable Connector Type:

Jack 3.5 mm, stereo (TRS)

Cable Connector Pinout:

Tip	Microphone Signal (MIC +)
Ring	Not Connected
Sleeve	Microphone Ground (MIC -)

Cable Length:

1000 mm $\pm$ 5 %

Cable Strength:

20 N / 20 s

Operating Temperature:

(-33 to +71) °C

Storage temperature:

(-57 to +71) °C

CE Certification:

Approved according to PPE directive
89/686/EEC and EMC directive
89/336/EEC

CBRN:

Designed in accordance with ČSN EN 140

Ingress Protection (IEC standard 60529):

IP67

Flame Retardant Properties (UL 94):

Min. level V2

Mean Time Between Failures (MTBF):

> 20 000 hours

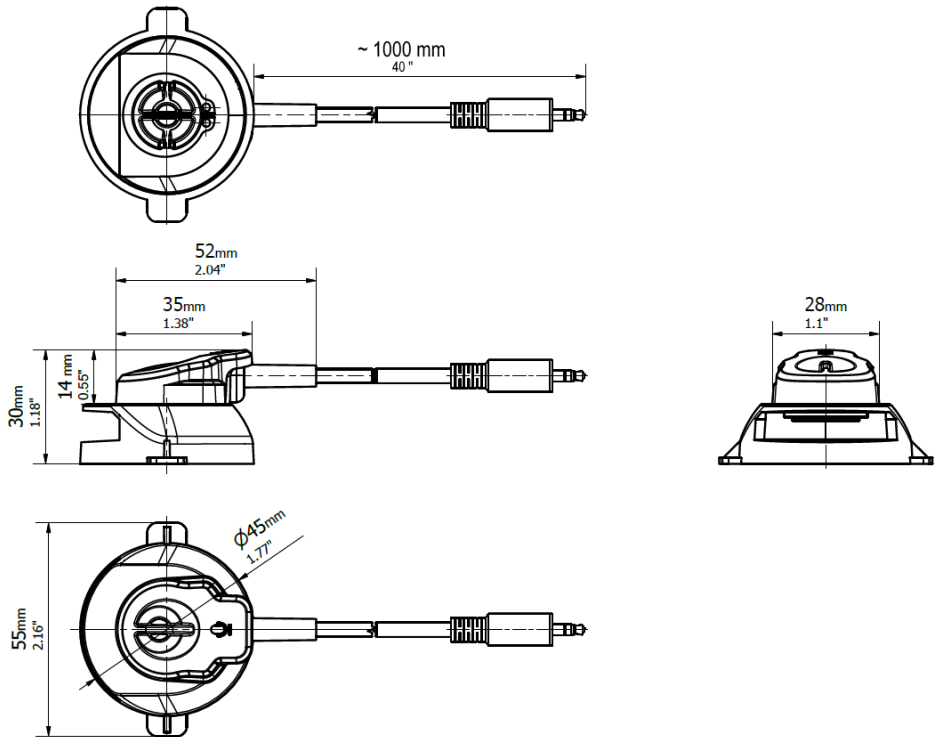


Figure 2: TAPRM.08 Basic Dimensions

MÁSCARA DE PROTEÇÃO CONTRA GASES

GUMÁRNY ZUBŘÍ / OM-2020



ESPECIFICAÇÕES TÉCNICAS

A máscara de proteção OM-2020 é um EPI CBRN de última geração, projetado para proteger o rosto, os olhos e as vias respiratórias contra agentes químicos, biológicos, radiológicos e nucleares em forma de gases, vapores ou aerossóis. Seu corpo é moldado em borracha butílica, garantindo resistência ao fogo e a altas temperaturas, além de suporte ao visor panorâmico, que preserva a flexibilidade e a estanqueidade mesmo após uso prolongado. Com apenas 550g, está disponível nos tamanhos pequeno, médio e grande, adaptando-se à maioria dos adultos. O ajuste é feito por meio de tirantes de malha elástica de seis pontos, que oferecem fixação rápida e reduzem a fadiga em missões de longa duração.

A viseira panorâmica em policarbonato proporciona flexibilidade e resistência superior, sendo testada para proteção balística para os olhos do operador contra impactos de pequenos projéteis, como pedras e detritos, comuns em situações de controle de distúrbios civis. Além disso, garante campo de visão superior a 90%. O design interno antiembaçante, com defletor e mascarilha, assegura visibilidade constante, evitando a condensação no visor.

A rosca padrão NATO Rd 40 × 1/7" permite a instalação de filtros à esquerda, à direita ou em ambos os lados, sem comprometer a vedação durante a troca. Para comunicações táticas, a OM-2020 conta com diafragma de voz com inteligibilidade mínima de 95% e porta eletrônica selada, compatível com a unidade de projeção de voz fornecida no kit, que acompanha microfone com entrada-padrão de comunicação Jack 3.5 mm, permitindo conexão segura a rádios ou amplificadores de voz. Internamente, a máscara é equipada com membrana e diafragma de comunicação, gaxeta de vedação, anel de retenção, conjunto da válvula de inalação e borrachas de vedação que asseguram estanqueidade absoluta em diferentes condições operacionais.

O sistema de hidratação High Flow Drinking System permite que o operador se hidrate com segurança através do cantil, sem a necessidade de retirar a máscara, mesmo em ambientes contaminados. A resistência respiratória é limitada a 30 Pa na inalação de 30 L/min e 60 Pa na exalação, atendendo e superando as exigências da norma EN 136 Classe III. Para maior proteção estrutural, a máscara dispõe ainda de capa protetora da válvula de exalação, garantindo durabilidade e desempenho mesmo em condições extremas.

O kit acompanha dois filtros QBRN, dedicados a ameaças químicas, biológicas, radiológicas e nucleares, certificados conforme a EN 14387:2022. Esses filtros possuem elemento de alta eficiência e foram desenvolvidos para neutralizar agentes de controle de distúrbios e gases lacrimogêneos, como CS, CN e spray de pimenta (OC), oferecendo no mínimo 24 horas de proteção contínua. Como complemento, acompanha também uma lente solar de proteção, que garante maior conforto e eficiência em ambientes de alta luminosidade.

Para maior conveniência operacional, o conjunto inclui bolsa de transporte com liberação rápida, disponível nas cores preta ou Multicam®, ideal para fixação em cintos ou coletes modulares.

A OM-2020 funciona em temperaturas entre -30 °C e +70 °C, possuindo certificações EN 136 (Classe III) e EN 148-1, que garantem compatibilidade universal com filtros padrão. Sua vida útil de prateleira é de até 20 anos, com garantia de 5 anos, desde que observadas as condições de armazenamento recomendadas. Trata-se, portanto, de uma solução robusta e versátil, indicada para forças policiais, bombeiros, equipes de resgate, profissionais de saúde e setores industriais que demandam proteção CBRN de alto desempenho.