# EMERGENCY BREATHING

Military, Commercial & Corporate

ESSEX™ INDUSTRIES

# ESSEX INDUSTRIES

Essex Industries began as a family affair in Saint Louis, Missouri, over 75 years ago and has established itself as a prominent player within the aerospace and defense industry, offering platform controls, aircraft components, emergency breathing equipment, and liquid oxygen systems. With a legacy of creative innovation and an unwavering commitment to overcoming challenges, Essex has proudly contributed to every major aerospace program since 1947, becoming a leading aerospace and defense manufacturer.

Essex is able to gain a deep understanding of customer needs and engineer custom solutions to meet challenging requirements from the aerospace industry. Essex's products are known for their reliability and performance. This is accomplished through their rigorous quality control processes and the involvement of the dedicated engineering staff from part inception to delivery. Essex partners with world-leading OEMs and has a proven track record of delivering on the toughest applications.

Essex Industries manufactures a complete line of emergency breathing equipment, referred to as smoke hoods, that aid individuals in a variety of emergency, rescue, and escape situations from fire, smoke, and toxic chemicals. Essex smoke hoods are self-contained respirators that offer full head, eye, and respiratory protection. They provide aviator's grade breathing oxygen to the user while cleaning and recycling the exhaled carbon dioxide using carbon dioxide scrubbers. These devices improve visibility in smoke-filled environments and shield against heat and flame.

This proven design has been in service since 1989, with hundreds of thousands of units fielded for use. Applications include commercial airlines, corporate jets, U.S. government agencies, military, law enforcement, homeland defense, first responders, high-rise building occupants, and industrial companies, both domestic and international.

Experience is one of Essex's greatest assets. The company has robust manufacturing capabilities that allow us to be agile and flexible and be able to adapt to new requirements. Essex will continue to learn and grow as we move forward. www.essexindustries.com

## OVER 200,000 ft² OF MANUFACTURING SPACE

Essex employs over 400 people in Saint Louis, Missouri, Huntington Beach, California, and Milford, Connecticut, serving local, national, and international customers, both military and commercial.

# TYPICAL DONNING Procedure

## STEP ONE
Pull Tab, Open Pouch

## STEP TWO
Unfold Hood, Activate the Oxygen

## STEP THREE
Insert Hands to Open Neckseal

## STEP FOUR
Pull Over Head

**WARNING: Remove the hood immediately if the hood fails to slowly inflate after donning or if it collapses up against the face.**

*Example shown is for the SCU only.*

# EMERGENCY BREATHING PBE

## PBE FEATURES

- 15 minutes minimum of protection
- Anti-fog coating
- Multiple packaging options
- 270° visibility
- 10+ year shelf life
- FAA TSO-C116, TSO-C99, CAA, EASA, ETSO-C116, ETSO-C99, CAAC and ANAC approved

The PBE (Protective Breathing Equipment) supplies oxygen to crewmembers through the use of compressed aviator grade oxygen. The PBE dons in only 15 seconds, with a unique design that eliminates the need for an oral/nasal mask. The amber-tinted hood provides 270° of visibility and the elastic neck seal requires no adjustment. The PBE provides a minimum of 15 minutes of protection and one size fits most adults. This lightweight device takes very little stowage space and is currently used by nearly every U.S. commercial carrier, as well as many airlines in Europe, Australia, Asia, the Middle East and South America.

**WARNING:** THIS PRODUCT CAN EXPOSE YOU TO CHEMICALS INCLUDING LEAD, WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. FOR MORE INFORMATION GO TO www.P65Warnings.ca.gov.

MR-10022N

MR-10022NAA

MR-10036N

MR-10042N

MR-10050N

## PBE SPECIFICATIONS

| | |
|---|---|
| **W"x L"x H"** | 16 x 2 x 11 (HOOD FOLDED IN POUCH. NO BRACKET) |
| **WEIGHT** | 3.2 LBS (HOOD AS WORN. NO POUCH) |
| **TIME DURATION** | UP TO 60 MINUTES, 15 MINUTES MINIMUM UNDER HEAVY WORKLOAD |
| **SOURCE OF BREATHABLE AIR** | AVIATOR GRADE COMPRESSED OXYGEN. $O_2$ CYLINDER, WITH OVERPRESSURE PROTECTION TO PREVENT RUPTURE. |
| **CARBON DIOXIDE CONTROL** | PATENTED PASSIVE SCRUBBERS |
| **DONNING TIME** | LESS THAN 15 SECONDS |
| **CARBON DIOXIDE (MAX AVERAGE)** | 4% |
| **OXYGEN (MINIMUM VALUE)** | 18% |
| **OXYGEN ACTIVATION** | SEMI-AUTOMATIC |
| **SHELF LIFE** | 10-YEARS 6-MONTHS FROM THE DATE OF MANUFACTURE |
| **SIZING/FITTING** | FITS 5TH TO 95TH PERCENTILE ADULTS WITHOUT ADJUSTMENT |
| **VISIBILITY** | 270° |
| **ORAL COMMUNICATION** | EFFECTIVE AT 12 FEET |
| **INSIDE HOOD TEMPERATURE** | 104°F MAX @ 68°F AMBIENT |
| **OPERATING TEMPERATURE RANGE** | 5° F TO 120° F |
| **STOWAGE TEMPERATURE RANGE** | -20° F TO 185° F |
| **THERMAL RESISTANCE** | RADIANT HEAT - 1.0 BTU/SQ. FT. FOR UP TO 60 SECONDS,<br>DRIPPING THERMOPLASTIC - 390°F,<br>TRANSIENT FLAME - 1800°F FOR 5 SECONDS |
| **PROTECTION FACTOR RATIO (TYPICAL)** | 260 @ 80 WATTS |
| **STOWAGE OPTIONS** | MULTIPLE STOWAGE OPTIONS AVAILABLE |

# **EMERGENCY BREATHING** EPOS & SCU

## EPOS FEATURES

- Up to 60 minutes of protection
- Durable packaging
- Lightweight and portable
- 360° visibility
- 10+ year shelf life

The EPOS (Emergency Passenger Oxygen System) is a self-contained protective breathing device intended for trained individuals in military aircraft emergencies such as decompression, fire, evacuation, rescue, smoke-filled cabins, toxic fumes or hazardous cargo spills. The EPOS utilizes compressed aviator grade oxygen and $CO_2$ scrubbers to furnish up to 60 minutes for someone at rest. The patented hood provides 360° visibility and dons in less than 15 seconds. Used by USAF and other air forces around the world.

## SCU FEATURES

- Up to 60 minutes of protection
- Durable fabric pouch
- Lightweight and portable
- 360° visibility
- 10+ year shelf life

The SCU (Self-Contained Unit) is a lightweight, portable, protective breathing device. Designed to safeguard a passenger or crewmember, the SCU provides up to 60 minutes of protection from the effects of smoke, carbon dioxide, harmful gases or oxygen deficiency during an in-flight emergency on private aircraft. The patented hood takes less than 15 seconds to don and provides 360° visibility allowing the wearer to see, hear, talk and move freely.

⚠**WARNING:** THIS PRODUCT CAN EXPOSE YOU TO CHEMICALS INCLUDING LEAD, WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. FOR MORE INFORMATION GO TO www.P65Warnings.ca.gov.

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## EPOS & SCU SPECIFICATIONS

| | |
|---|---|
| **W"x L"x H"** | 2 x 9 ½ x 7 ½ |
| **WEIGHT** | 2 LBS. |
| **TIME DURATION** | 20 MINUTES DEPENDING ON WORKLOAD LEVEL AND PHYSICAL CONDITION. UP TO 60 MINUTES FOR A PERSON SITTING, WAITING TO BE RESCUED. |
| **SOURCE OF BREATHABLE AIR** | AVIATOR GRADE COMPRESSED OXYGEN. $O_2$ CYLINDER, WITH OVERPRESSURE PROTECTION TO PREVENT RUPTURE. |
| **CARBON DIOXIDE CONTROL** | PATENTED PASSIVE SCRUBBERS |
| **DONNING TIME** | LESS THAN 15 SECONDS |
| **CARBON DIOXIDE (MAX AVERAGE)** | 4% |
| **OXYGEN (MINIMUM VALUE)** | 18% |
| **OXYGEN ACTIVATION** | MANUAL FOR SCU AND SEMI-AUTOMATIC FOR EPOS |
| **SHELF LIFE** | 10-YEARS 6-MONTHS FROM THE DATE OF MANUFACTURE |
| **SIZING/FITTING** | FITS 5TH TO 95TH PERCENTILE ADULTS WITHOUT ADJUSTMENT |
| **VISIBILITY** | 360° |
| **ORAL COMMUNICATION** | EFFECTIVE AT 12 FEET |
| **INSIDE HOOD TEMPERATURE** | 104°F MAX @ 68°F AMBIENT |
| **OPERATING TEMPERATURE RANGE** | 5° F TO 120° F |
| **STOWAGE TEMPERATURE RANGE** | -20° F TO 185° F |
| **THERMAL RESISTANCE** | RADIANT HEAT - 1.0 BTU/SQ. FT. FOR UP TO 60 SECONDS, DRIPPING THERMOPLASTIC - 390°F, TRANSIENT FLAME - 1800°F FOR 5 SECONDS |
| **PROTECTION FACTOR RATIO (TYPICAL)** | 260 @ 80 WATTS |

# EMERGENCY BREATHING VRU+

**⚠WARNING:** THIS PRODUCT CAN EXPOSE YOU TO CHEMICALS INCLUDING LEAD, WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. FOR MORE INFORMATION GO TO www.P65Warnings.ca.gov.

## VRU+ FEATURES

- Dons in 15 seconds or less
- Up to 60 minutes of protection
- Hermetically sealed
- Lightweight and portable
- 360° visibility
- 10+ year shelf life

The VRU+ (Victim Rescue Unit Plus) is a protective breathing system that can provide up to 60 minutes of visual and respiratory protection. Designed for home, security, law enforcement, first response teams, high-rise building occupants and homeland defense, the VRU+ protects a victim's respiratory system, head and vision from smoke, toxic fumes, hazardous chemical spills, and Sarin and Mustard gases for the purpose of emergency egress or escape.

| | |
|---|---|
| **W"x L"x H"** | 2 x 9 ½ x 7 ½ |
| **WEIGHT** | 2 LBS. (HOOD IN POUCH) |
| **TIME DURATION** | 20 MINUTES DEPENDING ON WORKLOAD LEVEL AND PHYSICAL CONDITION. UP TO 60 MINUTES FOR A PERSON SITTING, WAITING TO BE RESCUED. |
| **SOURCE OF BREATHABLE AIR** | AVIATOR GRADE COMPRESSED OXYGEN. $O_2$ CYLINDER, WITH OVERPRESSURE PROTECTION TO PREVENT RUPTURE. |
| **CARBON DIOXIDE CONTROL** | PATENTED PASSIVE SCRUBBERS |
| **DONNING TIME** | LESS THAN 15 SECONDS |
| **CARBON DIOXIDE (MAX AVERAGE)** | 4% |
| **OXYGEN (MINIMUM VALUE)** | 18% |
| **OXYGEN ACTIVATION** | SEMI-AUTOMATIC |
| **SHELF LIFE** | 10-YEARS 6-MONTHS FROM THE DATE OF MANUFACTURE |
| **SIZING/FITTING** | FITS 5TH TO 95TH PERCENTILE ADULTS WITHOUT ADJUSTMENT |
| **VISIBILITY** | 360° |
| **ORAL COMMUNICATION** | EFFECTIVE AT 12 FEET |
| **INSIDE HOOD TEMPERATURE** | 104°F MAX @ 68°F AMBIENT |
| **OPERATING TEMPERATURE RANGE** | 5° F TO 120° F |
| **STOWAGE TEMPERATURE RANGE** | -20° F TO 185° F |
| **THERMAL RESISTANCE** | RADIANT HEAT - 1.0 BTU/SQ. FT. FOR UP TO 60 SECONDS,<br>DRIPPING THERMOPLASTIC - 390°F,<br>TRANSIENT FLAME - 1800°F FOR 5 SECONDS |
| **PROTECTION FACTOR RATIO (TYPICAL)** | 260 @ 80 WATTS |

# COMPARISON CHART

Essex Industries is a leading manufacturer and provider of FAA, CAA, CAAC and ANAC approved and mandated emergency portable breathing and rescue life support systems. Our patented technology has been proven over years of use during emergencies in applications worldwide. Our protective breathing devices are used by security professionals for the government, CEO's, flight attendants and individuals alike.

The following chart is intended to be used as a guide for quickly comparing Essex emergency breathing equipment to user needs.

| | PBE | EPOS | SCU | VRU+ |
|---|---|---|---|---|
| **VISIBILITY** | 270° | 360° | 360° | 360° |
| **DURATION** | MINIMUM OF 15 ACTIVE MINUTES | UP TO 60 MINUTES | UP TO 60 MINUTES | UP TO 60 MINUTES |
| **SIZE/FIT** | 5TH TO 95TH PERCENTILE OF ADULTS | 5TH TO 95TH PERCENTILE OF ADULTS | 5TH TO 95TH PERCENTILE OF ADULTS | 5TH TO 95TH PERCENTILE OF ADULTS |
| **HERMETICALLY SEALED** | ✓ | ✓ | ✓ | ✓ |
| **DIMENSIONS (W"xL"xH")** | 16 x 11 x 2 IN FABRIC POUCH | 2 x 9 ½ x 7 ½ IN FABRIC POUCH | 2 x 9 ½ x 7 ½ IN FABRIC POUCH | 2 x 9 ½ x 7 ½ IN FABRIC POUCH |
| **WEIGHT** | 3.3 LBS. IN FABRIC POUCH | 2 LBS. IN FABRIC POUCH | 2 LBS. IN FABRIC POUCH | 2 LBS. IN FABRIC POUCH |
| **PACKAGING** | SOFT POUCH AND HARD CASES AVAILABLE | SOFT POUCH ONLY | SOFT POUCH ONLY | SOFT POUCH ONLY |
| **VARIOUS STOWAGE OPTIONS** | ✓ | ✓ | — | ✓ |
| **ACTIVATION** | SEMI-AUTOMATIC | SEMI-AUTOMATIC | MANUAL | SEMI-AUTOMATIC |
| **SYSTEM TYPE** | CLOSED CIRCUIT REBREATHER SYSTEM | CLOSED CIRCUIT REBREATHER SYSTEM | CLOSED CIRCUIT REBREATHER SYSTEM | CLOSED CIRCUIT REBREATHER SYSTEM |
| **THERMAL RESISTANCE** | UP TO 1800° F | UP TO 1800° F | UP TO 1800° F | UP TO 1800° F |
| **ANTI-FOG** | ✓ | ✓ | ✓ | ✓ |
| **HUMIDITY INDICATOR** | ✓ | ✓ | ✓ | ✓ |
| **SERVICE INDICATOR** | ✓ | — | — | — |
| **TAMPER-EVIDENT SEALS** | ✓ | ✓ | — | — |
| **PROTECTION FACTOR RATIO** | 260 @ 80 WATTS | 260 @ 80 WATTS | 260 @ 80 WATTS | 260 @ 80 WATTS |
| **PROVIDES PROTECTION AGAINST** | TOXIC FUMES, SMOKE AND HEAT | TOXIC FUMES, SMOKE AND HEAT | TOXIC FUMES, SMOKE AND HEAT | TOXIC FUMES, SMOKE, CHEMICAL SPILLS, SARIN AND MUSTARD GASES |
| **SHELF LIFE** | 10-YEARS 6-MONTHS FROM DATE OF MFR. | 10-YEARS 6-MONTHS FROM DATE OF MFR. | 10-YEARS 6-MONTHS FROM DATE OF MFR. | 10-YEARS 6-MONTHS FROM DATE OF MFR. |

# ORDERING INFORMATION

## PBE

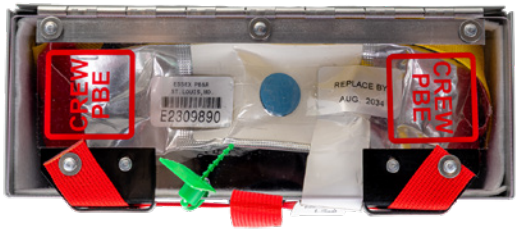
**MR-10022N**
CONCEALED MOUNTING HOLES AND
VIEWING WINDOW

**MR-10022NAA**
CONCEALED MOUNTING HOLES AND
VIEWING WINDOW - AMERICAN AIRLINES

**MR-10022NC**
CONCEALED MOUNTING HOLES AND
VIEWING WINDOW - CHINESE

**MR-10022NEMB**
CONCEALED MOUNTING HOLES AND
VIEWING WINDOW - EMBRAER

**MR-10022NU**
PBE WITH CONCEALED MOUNTING HOLES AND CLEAR LID.




**MR-10034N**
BRACKET MOUNTED CASE (STOWAGE BOX A)

**MR-10035N**
FLAME-RESISTANT FABRIC POUCH

**MR-10036N**
BRACKET MOUNTED CASE (STOWAGE BOX C)

**MR-10036NC**
BRACKET MOUNTED CASE (STOWAGE BOX C) - CHINESE

**MR-10037N**
FLANGE CASE (STOWAGE BOX B)

**MR-10039N**
BRACKET MOUNTED CASE AND VIEWING WINDOW

**MR-10042N**
OPEN ENDED STOWAGE BRACKET

**MR-10042NWA**
OPEN ENDED STOWAGE BRACKET - DELTA

**MR-10046NS**
CLOSED ENDED STRAIGHT STRAP BRACKET

**MR-10046NY**
CLOSED ENDED Y-STRAP BRACKET

**MR-10049N**
CLOSED ENDED Y-STRAP BRACKET AND
HUMIDITY INDICATOR WINDOW

**MR-10049NA**
CLOSED ENDED Y-STRAP BRACKET AND
HUMIDITY INDICATOR WINDOW - AIRBUS

**MR-10050N**
CONCEALED MOUNTING HOLES AND
VIEWING WINDOW

**MR-10051N**
FLAME-RESISTANT FABRIC POUCH

**MR-10052N**
FLAME-RESISTANT POUCH AFFIXED TO
WALL MOUNT ASSEMBLY

## EPOS

**MR-10093AF**
TRAINING UNIT

**MR-10096AF**
SOFT POUCH

**MR-10097AF**
SOFT POUCH WITH
CARRY STRAP

## SCU

**MR-10010N**
SOFT POUCH

**MR-10012N**
TRAINING UNIT

## VRU+

**MR-10060N**
SOFT POUCH

**MR-10027N**
TRAINING UNIT

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