



## Breathing Air Solutions

We've Got Your Back





LIFE COMES WITH ENOUGH RISKS

THE AIR YOU BREATHE  
SHOULD NOT BE ONE OF THEM.

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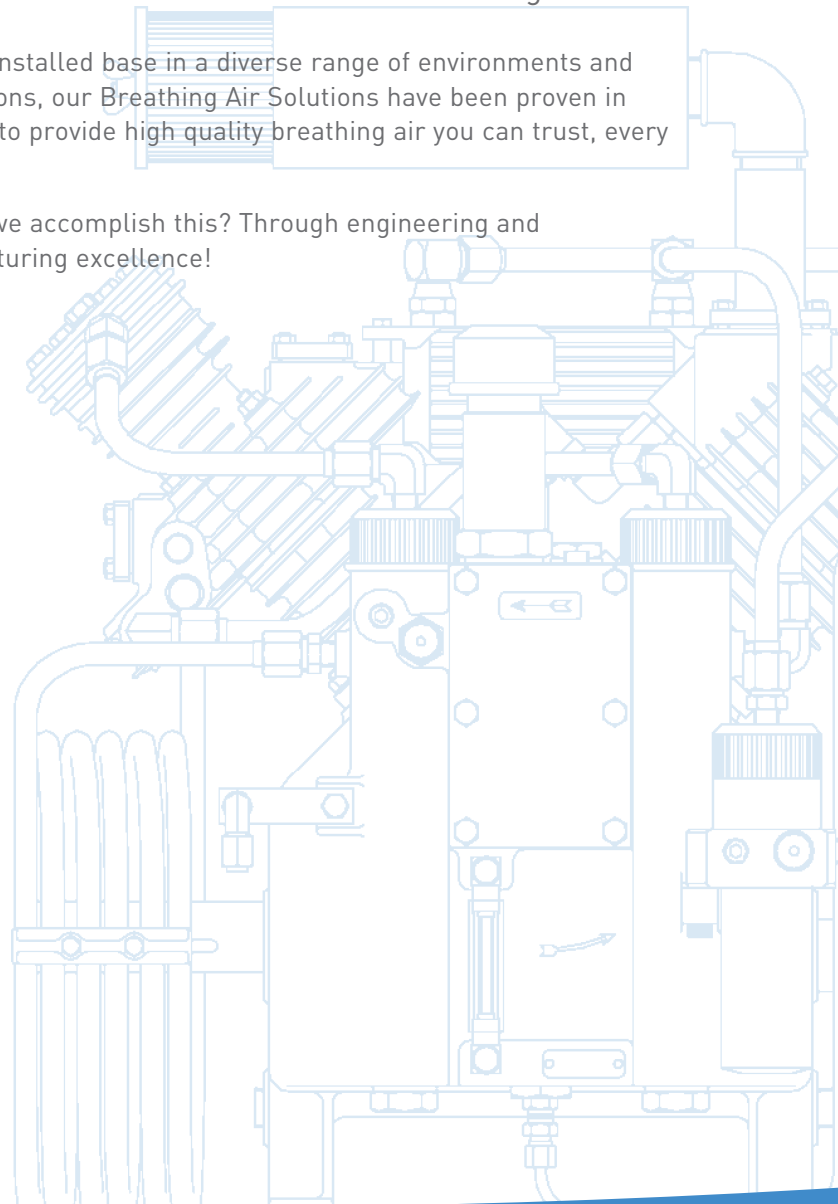
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## Proven Technology

For well over 50 years, MAKO has been the trusted breathing air system supplier to Fire and Safety, Recreational and Professional Dive, Marine, Offshore and Defense industries across the globe.

With an installed base in a diverse range of environments and applications, our Breathing Air Solutions have been proven in the field to provide high quality breathing air you can trust, every time.

How do we accomplish this? Through engineering and manufacturing excellence!





## The Heart of the MAKO Design

Over 100 years experience engineering & manufacturing compressor blocks.

The result is a 3 or 4 stage compressor block with:

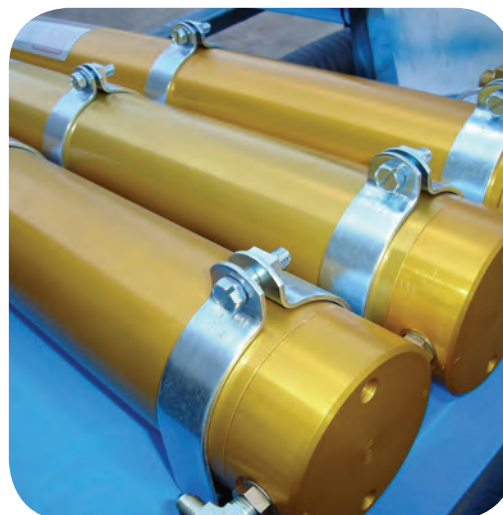
- Long operating life
- Continuous duty
- Extended service intervals and easy access for maintenance
- Low vibration and noise levels
- Proven technology for safe and reliable operation
- High quality manufacturing with ISO 9001 Quality Management System



## Breathe Easy with Mako Filtration

Designed and manufactured by MAKO, the filtration exceeds international standards EN 12021/CGA Grade D&E/NFPA 1989/CSA.

- Filtration manufacturing process uses no adhesives ensuring there are no odors or taste carried over
- Low cartridge cost per hour
- Filters mounted inside cabinet to safeguard against accidental damage



# EconoAir™ [EA] Engineered to fit your budget



Incorporating our MAKO compressor and purification system ensures the highest quality product, yet offered at a price suitable for the most frugal budget.

## STANDARD FEATURES

- MAKO's MK2C purification system
- MAKO industrial-duty 3 or 4-stage compressor block
- NEMA design ODP 1.15 SF electric motor
- Open design, rugged structural steel frame with heavy duty powder coat finish
- Easy accessibility to all maintenance items
- Auto-drain with muffler/reservoir system for collection of condensate
- Small package footprint and overall dimensions

- Anti-vibration mounts
- Fully automatic control system
- Instrumentation & controls:
  - » PLC controller
  - » Illuminated on/off push buttons
  - » Hours run meter
  - » Emergency stop button
  - » Final stage pressure gauge
  - » Individual shutdown indicators for High Air Temperature, High Air Pressure, and Low Oil Level/Pressure

## OPTIONAL EQUIPMENT

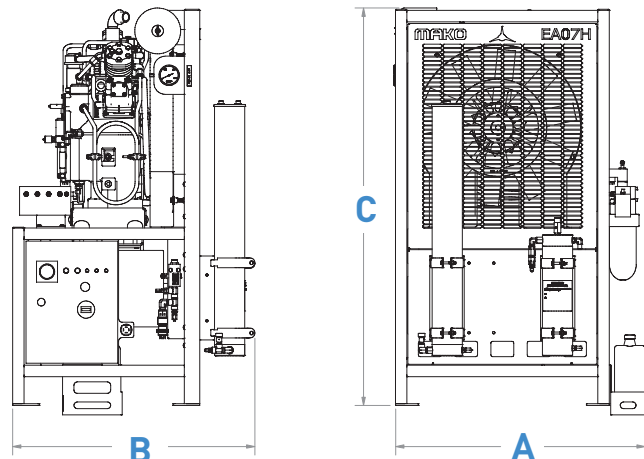
- MK5C purification
- Wall-mount CO & Moisture (CMM) Mounting System

## TECHNICAL DATA

| Model | Max Pressure |      | Stages | Charging Rate<br>(0 - max pressure) |       |      | Compressor<br>rpm | Drive |     | Weight |     | Sound Level<br>dba |
|-------|--------------|------|--------|-------------------------------------|-------|------|-------------------|-------|-----|--------|-----|--------------------|
|       | bar          | psi  |        | m <sup>3</sup> /hr                  | l/min | cfm  |                   | kW    | hp  | kg     | lb  |                    |
| EA05  | 350          | 5000 | 3      | 14.6                                | 243   | 8.6  | 1300              | 5.5   | 7.5 | 284    | 626 | 83                 |
| EA06X | 414          | 6000 | 4      | 16.7                                | 278   | 10.2 | 1100              | 5.5   | 7.5 | 255    | 560 | 84                 |
| EA06H | 414          | 6000 | 4      | 23.8                                | 397   | 14   | 1340              | 7.5   | 10  | 260    | 570 | 84                 |
| EA07H | 414          | 6000 | 4      | 35.2                                | 587   | 20.7 | 1800              | 11    | 15  | 266    | 585 | 85                 |

## DIMENSIONS (A x B x C)

|   | In   | mm    |
|---|------|-------|
| A | 32.6 | 829   |
| B | 31.7 | 806   |
| C | 52.0 | 1,322 |



## AirCharge [AC] Compact, fully integrated solution

The AirCharge is specifically designed for the 5000 psi user where quality, convenience and low noise are paramount and space is tight.

### STANDARD FEATURES

- MAKO's MK2C purification system
- MAKO industrial-duty 3-stage compressor block
- NEMA design ODP 1.15 SF electric motor
- Fully enclosed, sound attenuating enclosure with heavy-duty powder-coated finish
- Hinged & removable panels allows quick access to routine maintenance items
- Auto-drain with muffler/reservoir system for collection of condensate
- Compact package footprint and overall dimensions
- Anti-vibration mounts

- UL Listed, NEMA 4 Electrical Enclosure
- Fully automatic control system
- Instrumentation & controls:
  - » PLC controller
  - » Illuminated on/off push buttons
  - » Hours run meter
  - » Emergency stop button
  - » Inter-stage & final-stage pressure gauges
  - » Individual shutdown indicators for High Air Temperature, High Air Pressure, and Low Oil Level/Pressure



### OPTIONAL EQUIPMENT

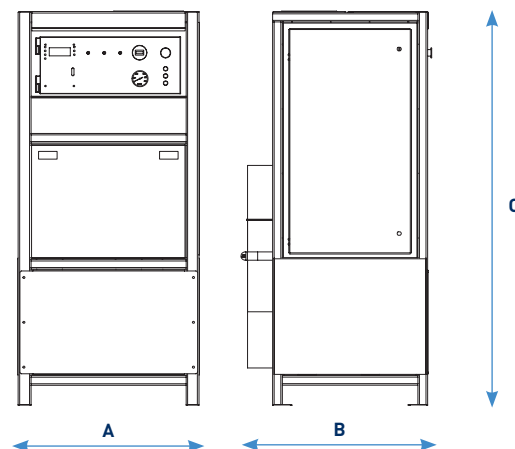
- MK5C purification
- Integrated or wall-mounted CO & Moisture (CMM) Monitor
- Shutdown audible alarm
- Dual pressure switch

### TECHNICAL DATA

| Model | Max Pressure |      | Stages | Charging Rate (0 - max pressure) |       |     | Compressor rpm | Drive |     | Weight |     | Sound Level dba |
|-------|--------------|------|--------|----------------------------------|-------|-----|----------------|-------|-----|--------|-----|-----------------|
|       | bar          | psi  |        | m <sup>3</sup> /hr               | l/min | cfm |                | kW    | hp  | kg     | lb  |                 |
| AC04  | 350          | 5000 | 3      | 9.9                              | 165   | 5.8 | 1300           | 4     | 5   | 268    | 591 | 69              |
| AC05  | 350          | 5000 | 3      | 14.6                             | 243   | 8.6 | 1300           | 5.5   | 7.5 | 284    | 626 | 70              |

### DIMENSIONS (A x B x C)

| In            | mm               |
|---------------|------------------|
| 28 x 29 x 61½ | 711 x 737 x 1550 |





## Breathing Air Module [BAM]

Unsurpassed value, peace of mind

The BAM is a high quality breathing air package combining high capacity filling with low sound levels and a flexible modular design.

### STANDARD FEATURES

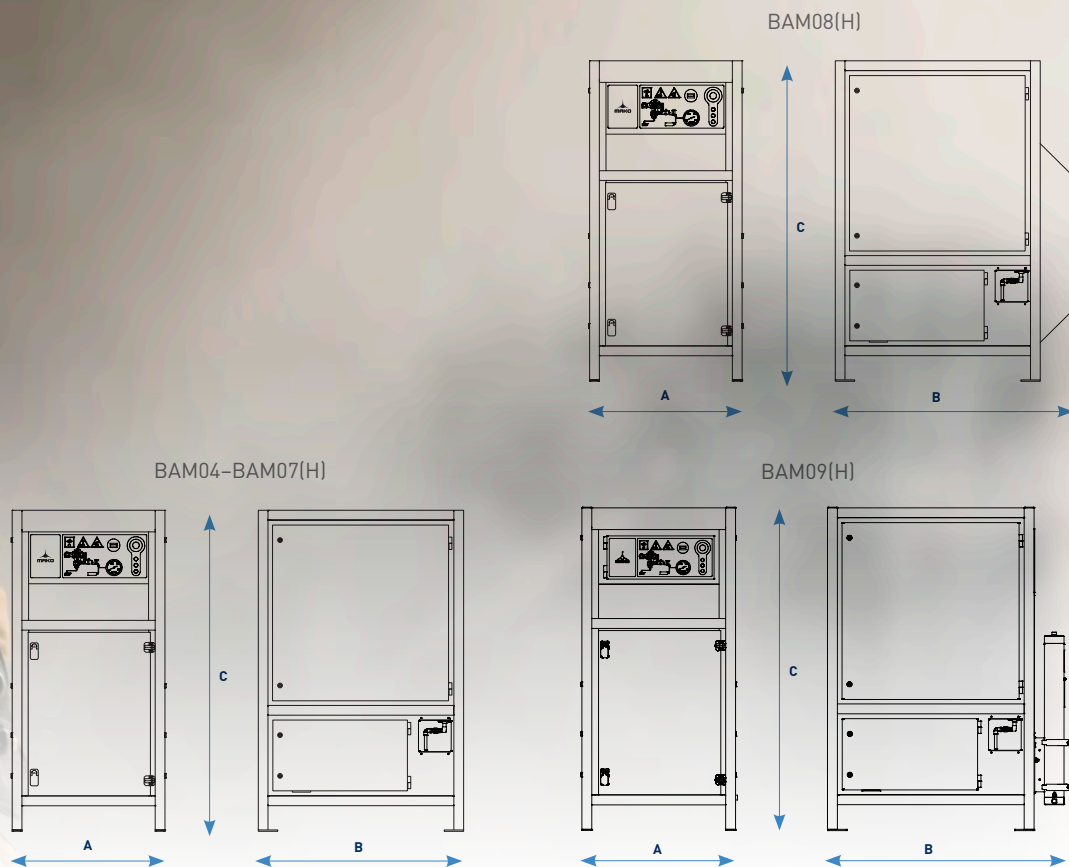
- MAKO's MK2C purification system [models BAM04–BAM06(H)]
- MAKO's MK5C purification system [models BAM07(H)–BAM09(H)]
- MAKO's industrial-duty 3- or 4-stage compressor block
- NEMA design ODP 1.15 SF electric motor
- Fully enclosed, sound attenuating enclosure with heavy-duty powder-coated finish
- Hinged and removable panels allow quick access to routine maintenance items
- Auto-drain with muffler/reservoir system for collection of condensate
- Compact design, with small overall footprint
- Anti-vibration mounts
- UL Listed, NEMA 4 Electrical Enclosure
- Fully automatic control system

### Instrumentation and controls

- » PLC controller
- » Illuminated on/off push buttons
- » Emergency stop button
- » Inter-stage and final-stage pressure gauges
- » Individual shutdown indicators for High Air Temperature, High Air Pressure, and Low Oil Level/Pressure

### OPTIONAL EQUIPMENT

- MK5C or MK10C purification [models BAM04–BAM06(H)]
- MK10C purification [models BAM07(H)–BAM09(H)]
- Integrated or wall-mounted CO & Moisture (CMM) Monitor
- Shutdown audible alarm
- Dual pressure switch



## TECHNICAL DATA

| Model  | Max Pressure |      | Stages | Charging Rate<br>(0 - max pressure) |       |      | Compressor<br>rpm | Drive |     | Weight |      | Sound Level<br>dba |
|--------|--------------|------|--------|-------------------------------------|-------|------|-------------------|-------|-----|--------|------|--------------------|
|        | bar          | psi  |        | m <sup>3</sup> /hr                  | l/min | cfm  |                   | kW    | hp  | kg     | lb   |                    |
| BAM04  | 350          | 5000 | 3      | 9.9                                 | 165   | 5.8  | 1300              | 4     | 5   | 461    | 1017 | 69                 |
| BAM05  | 350          | 5000 | 3      | 14.6                                | 243   | 8.6  | 1300              | 5.5   | 7.5 | 471    | 1039 | 70                 |
| BAM06  | 350          | 5000 | 4      | 22.3                                | 372   | 13.1 | 1340              | 7.5   | 10  | 526    | 1160 | 72                 |
| BAM07  | 350          | 5000 | 4      | 31.8                                | 530   | 18.7 | 1800              | 11    | 15  | 541    | 1193 | 74                 |
| BAM08  | 350          | 5000 | 4      | 43                                  | 717   | 25.3 | 1530              | 15    | 20  | 576    | 1270 | 76                 |
| BAM09  | 350          | 5000 | 4      | 52                                  | 867   | 30.6 | 1800              | 18.5  | 25  | 592    | 1305 | 78                 |
| BAM06X | 414          | 6000 | 4      | 16.7                                | 278   | 10.2 | 1100              | 5.5   | 7.5 | 485    | 1070 | 72                 |
| BAM06H | 414          | 6000 | 4      | 23.8                                | 397   | 14   | 1340              | 7.5   | 10  | 526    | 1160 | 72                 |
| BAM07H | 414          | 6000 | 4      | 35.2                                | 587   | 20.7 | 1800              | 11    | 15  | 541    | 1193 | 74                 |
| BAM08H | 414          | 6000 | 4      | 45.9                                | 765   | 27   | 1530              | 15    | 20  | 576    | 1270 | 76                 |
| BAM09H | 414          | 6000 | 4      | 56.4                                | 940   | 33.2 | 1800              | 18.5  | 25  | 592    | 1305 | 78                 |

## DIMENSIONS (A x B x C)

|   | In             | mm                |
|---|----------------|-------------------|
| BAM04<br>BAM05<br>BAM06(H)(X)<br>BAM07(H) | 31¼ x 42 x 65¾ | 794 x 1067 x 1673 |
| BAM08(H)<br>BAM09(H)                      | 31¼ x 50 x 65¾ | 794 x 1255 x 1673 |

# Modular Breathing Air Center

**[M-BAC]** A Uniquely Integrated, Total Air System Solution

The Modular Breathing Air Center offers the flexibility to accommodate your exact requirements in proven technology with the integrated system including the Air Compressor, Containment Fill Station, and Storage Rack, all enclosed within a uniquely designed envelope.

## STANDARD FEATURES

- Your choice of Breathing Air Module (BAM) compressor (refer to the BAM Standard Features and Optional Equipment sections for details)
- Your choice of stationary SCBA or SCUBA Containment Fill Station (CFS) (refer to the Stationary CFS Standard Features and Optional Equipment sections for details)

## Package

- » Vertical, in-line 4-bottle rack with up to (4) UN or ASME storage cylinders
- » Center storage module
- » Modular integration kit

## OPTIONAL EQUIPMENT

- 50, 75 or 100' spring rewind hose reel

## TECHNICAL DATA - COMPRESSORS

| Model  | Max Pressure |      | Stages | Charging Rate<br>(0 - max pressure) |       |      | Compressor<br>rpm | Drive |     | Weight |      | Sound<br>Level<br>dba |
|--------|--------------|------|--------|-------------------------------------|-------|------|-------------------|-------|-----|--------|------|-----------------------|
|        | bar          | psi  |        | m <sup>3</sup> /hr                  | l/min | cfm  |                   | kW    | hp  | kg     | lb   |                       |
| BAM04  | 350          | 5000 | 3      | 9.9                                 | 165   | 5.8  | 1300              | 4     | 5   | 461    | 1017 | 69                    |
| BAM05  | 350          | 5000 | 3      | 14.6                                | 243   | 8.6  | 1300              | 5.5   | 7.5 | 471    | 1039 | 70                    |
| BAM06  | 350          | 5000 | 4      | 22.3                                | 372   | 13.1 | 1340              | 7.5   | 10  | 526    | 1160 | 72                    |
| BAM07  | 350          | 5000 | 4      | 31.8                                | 530   | 18.7 | 1800              | 11    | 15  | 541    | 1193 | 74                    |
| BAM08  | 350          | 5000 | 4      | 43                                  | 717   | 25.3 | 1530              | 15    | 20  | 576    | 1270 | 76                    |
| BAM09  | 350          | 5000 | 4      | 52                                  | 867   | 30.6 | 1800              | 18.5  | 25  | 592    | 1305 | 78                    |
| BAM06X | 414          | 6000 | 4      | 16.7                                | 278   | 10.2 | 1100              | 5.5   | 7.5 | 485    | 1070 | 72                    |
| BAM06H | 414          | 6000 | 4      | 23.8                                | 397   | 14   | 1340              | 7.5   | 10  | 526    | 1160 | 72                    |
| BAM07H | 414          | 6000 | 4      | 35.2                                | 587   | 20.7 | 1800              | 11    | 15  | 541    | 1193 | 74                    |
| BAM08H | 414          | 6000 | 4      | 45.9                                | 765   | 27   | 1530              | 15    | 20  | 576    | 1270 | 76                    |
| BAM09H | 414          | 6000 | 4      | 56.4                                | 940   | 33.2 | 1800              | 18.5  | 25  | 592    | 1305 | 78                    |







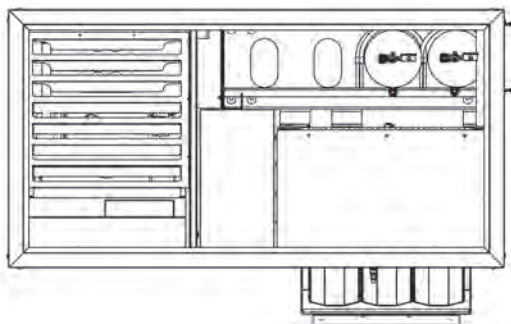
**DIMENSIONS (A x B x C)**

BAM with SCFS2 or SCFS3

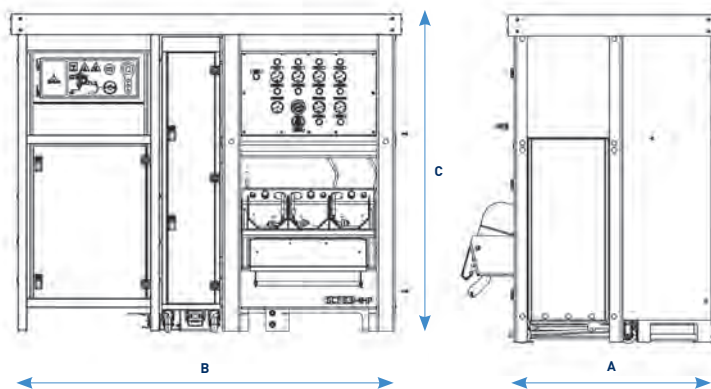
|           | In            | mm                 |
|-----------|---------------|--------------------|
| BAM04-07H | 45½ x 86 x 70 | 1156 x 2185 x 1778 |
| BAM08-09H | 52½ x 86 x 70 | 1334 x 2185 x 1778 |

BAM with SSCFS2 or SSCFS3

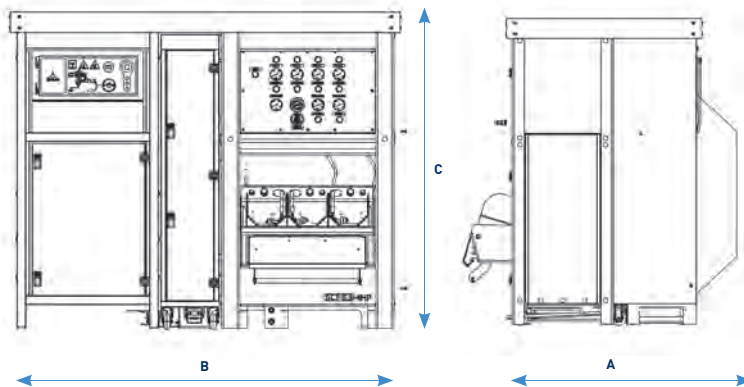
|           | In            | mm                 |
|-----------|---------------|--------------------|
| BAM04-07H | 45½ x 90 x 70 | 1156 x 2286 x 1778 |
| BAM08-09H | 52½ x 90 x 70 | 1334 x 2286 x 1778 |



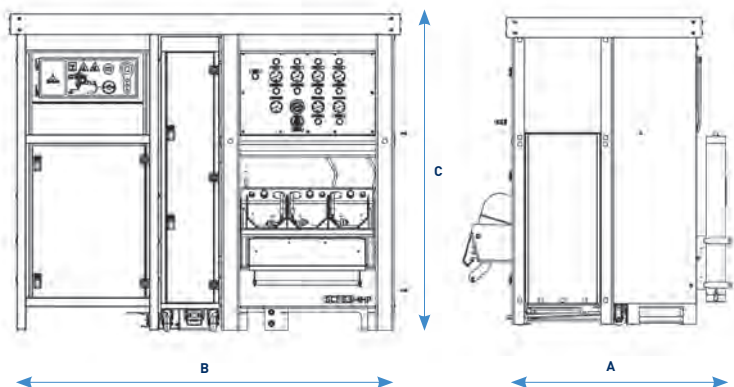
BAM04-BAM07(H)



BAM08(H)



BAM09(H)





## Horizontal Breathing Air [HBA]

High Quality, Low Profile Compressor Solution

Our open frame, low profile compressor provides a lower cost breathing air solution without sacrificing quality, flexibility or filling capacity,

### STANDARD FEATURES

- MAKO's MK2C purification system [models HBA04–HBA06(H)]
- MAKO's MK5C purification system [models HBA07(H)–HBA09(H)]
- MAKO's industrial-duty 3- or 4-stage compressor block
- NEMA design ODP 1.15 SF electric motor
- Open design, rugged structural steel frame with heavy duty powder coat finish
- Auto-drain with muffler/reservoir system for collection of condensate
- Compact design, with small overall footprint
- Anti-vibration mounts
- UL Listed, NEMA 4 Electrical Enclosure
- Fully automatic control system

- Instrumentation and controls
  - » PLC controller
  - » Illuminated on/off push buttons
  - » Hours run meter
  - » Emergency stop button
  - » Inter-stage and final-stage pressure gauges
  - » Individual shutdown indicators for High Air Temperature, High Air Pressure, and Low Oil Level/Pressure

### OPTIONAL EQUIPMENT

- MK5C or MK10C purification [models HBA04–HBA06(H)]
- MK10C purification [models HBA07(H)–HBA09(H)]
- Diesel or gas engine drive
- Integrated or wall-mounted CO & Moisture (CMM) Monitor
- Shutdown audible alarm
- Dual pressure switch

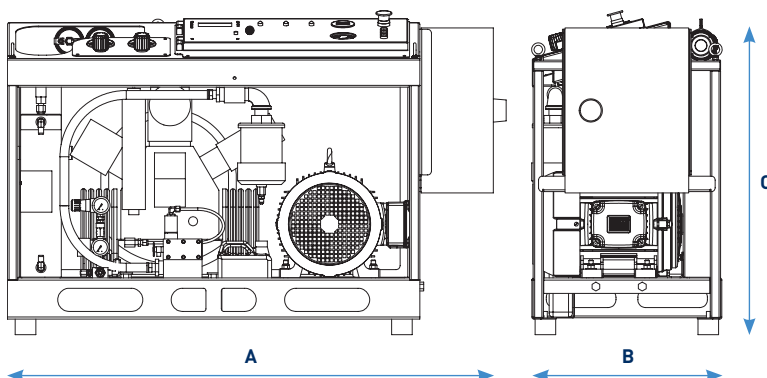


## TECHNICAL DATA

| Model  | Max Pressure |      | Stages | Charging Rate<br>(0 - max pressure) |       |      | Compressor<br>rpm | Max<br>Integrated<br>fill hoses |
|--------|--------------|------|--------|-------------------------------------|-------|------|-------------------|---------------------------------|
|        | bar          | psi  |        | m <sup>3</sup> /hr                  | l/min | cfm  |                   |                                 |
| HBA04  | 350          | 5000 | 3      | 9.9                                 | 165   | 5.8  | 1300              | 2                               |
| HBA05  | 350          | 5000 | 3      | 14.6                                | 243   | 8.6  | 1300              | 2                               |
| HBA06  | 350          | 5000 | 4      | 22.3                                | 372   | 13.1 | 1340              | 4                               |
| HBA07  | 350          | 5000 | 4      | 31.8                                | 530   | 18.7 | 1800              | 4                               |
| HBA08  | 350          | 5000 | 4      | 43                                  | 717   | 25.3 | 1530              | 6                               |
| HBA09  | 350          | 5000 | 4      | 52                                  | 867   | 30.6 | 1800              | 6                               |
| HBA06H | 414          | 6000 | 4      | 23.8                                | 397   | 14   | 1340              | 72                              |
| HBA07H | 414          | 6000 | 4      | 35.2                                | 587   | 20.7 | 1800              | 72                              |
| HBA08H | 414          | 6000 | 4      | 45.9                                | 765   | 27   | 1530              | 74                              |
| HBA09H | 414          | 6000 | 4      | 56.4                                | 940   | 33.2 | 1800              | 76                              |

| Model              | Electric                            |     |        |     | Diesel                                |      |        |      | Petrol/Gasoline                    |    |        |     |
|--------------------|-------------------------------------|-----|--------|-----|---------------------------------------|------|--------|------|------------------------------------|----|--------|-----|
|                    | Power                               |     | Weight |     | Power                                 |      | Weight |      | Power                              |    | Weight |     |
|                    | kW                                  | hp  | kg     | lbs | kW(b)                                 | hp   | kg     | lbs  | kW(b)                              | hp | kg     | lbs |
| HBA04              | 4                                   | 5   | 200    | 435 | 6                                     | 8    | 320    | 710  | 6                                  | 8  | 310    | 680 |
| HBA05              | 5.5                                 | 7.5 | 210    | 460 | 7.5                                   | 10   | 330    | 725  | 8.2                                | 11 | 330    | 725 |
| Dimensions mm / in | 1228 x 470 x 800 / 48 x 18.5 x 31.5 |     |        |     | 1473 x 738 x 1130 / 58 x 29 x 44.5    |      |        |      | 1473 x 738 x 1130 / 58 x 29 x 44.5 |    |        |     |
| HBA06(H)*          | 7.5                                 | 10  | 315    | 690 | 13.6                                  | 18.3 | 560    | 1240 | 12                                 | 20 | 320    | 710 |
| HBA07(H)*          | 11                                  | 15  | 335    | 735 | 20.1                                  | 26.9 | 625    | 1380 | 15                                 | 20 | 335    | 740 |
| Dimensions mm / in | 1473 x 738 x 1130 / 58 x 29 x 44.5  |     |        |     | 1575 x 1054 x 1181 / 62 x 41.5 x 46.5 |      |        |      | 1473 x 738 x 1130 / 58 x 29 x 44.5 |    |        |     |
| HBA08(H)*          | 15                                  | 20  | 380    | 835 | 26.5                                  | 35.5 | 655    | 1440 |                                    |    |        |     |
| HBA09(H)*          | 18.5                                | 25  | 400    | 880 | 26.5                                  | 35.5 | 685    | 1510 |                                    |    |        |     |
| Dimensions mm / in | 1473 x 738 x 1130 / 58 x 29 x 44.5  |     |        |     | 1575 x 1054 x 1181 / 62 x 41.5 x 46.5 |      |        |      |                                    |    |        |     |

\* For models indicated, control box is mounted within the frame.



# Mobile Solutions

The ultimate in flexibility

Offering the user all the same features, functionality and performance of our Modular-BAC total breathing air system, yet with the added flexibility of mobility.

## STANDARD FEATURES

- Dual axle trailer rated for 10,000 lbs. gross vehicle weight
- Gas or diesel drive [models 5406(H) & 5407(H)]
- Diesel drive [models 5408(H) & 5409(H)]
- Enclosed underside
- 11 gauge sheet metal enclosure
- Welded structural steel C-channel chassis frame
- DOT approved
- Electric activated brakes
- Spare tire
- 20-gallon fuel tank w/ fuel gauge
- 2 ASME air storage cylinders
- Storage for (10) SCBA bottles with MCFS2 or (8) SCBA bottle with MCFS3
- Mako's industrial-duty 4-stage compressor block
- Mako's MK5C purification system
- Stainless steel control and operations panel located curb side and lighted for night operations
- Compressor Instrumentation & Controls:
  - » PLC controller
  - » Illuminated on/off push buttons
  - » Hours run meter
  - » Emergency stop button
  - » Inter-stage and final stage pressure gauges
  - » Individual shut down indicators for High Air Temperature, High Air Pressure, and Low Oil Level/Pressure
  - » Keyed start/power switch
  - » 12-volt electric starting system
- Air management controls
  - » 2-bank cascade control system
  - » 0-6000 psi "push action" regulator
  - » Fill control valve and gauge
- Auto-drain with muffler/reservoir system for collection of condensate
- 2-position Containment Fill Station (MCFS2)

## OPTIONAL EQUIPMENT

- Mako's MK10C purification system
- Dual electric and engine drive using reliable air clutch design (dimensions may vary)
- Excessive tilt shutdown monitor
- Two additional ASME air storage cylinders
- Four-bank cascade control
- CO monitor
- CO & Moisture monitor (CMM)
- Purification cartridge monitor
- Air reel – manual or electric rewind
- Plug-in outlet for external battery charger
- 3-position Containment Fill Station (MCFS3)
- Generator and extendable pole-mounted flood lights
- Shoreline electrical connector
- SCBA or SCUBA capability

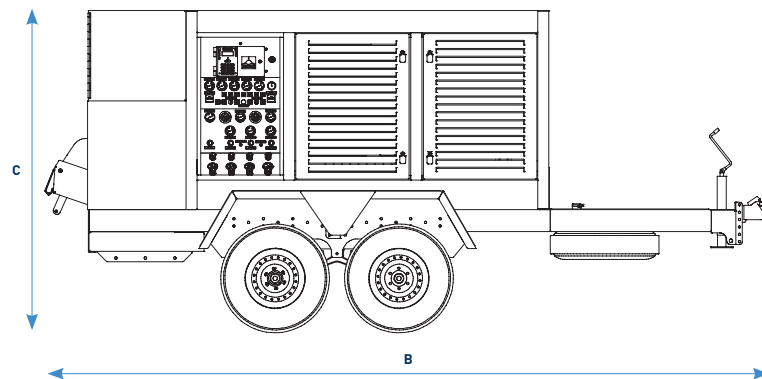
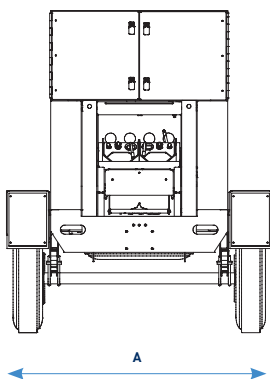


## TECHNICAL DATA

| Model     | Max Pressure |      | Stages | Charging Rate<br>(0 - max pressure) |       |      | Compressor<br>rpm | Drive |    |
|-----------|--------------|------|--------|-------------------------------------|-------|------|-------------------|-------|----|
|           | bar          | psi  |        | m <sup>3</sup> /hr                  | l/min | cfm  |                   | kW    | hp |
| 5406BA-T  | 345          | 5000 | 4      | 22.3                                | 372   | 13.1 | 1340              | 7.5   | 10 |
| 5406HBA-T | 414          | 6000 | 4      | 23.8                                | 397   | 14.0 | 1340              | 7.5   | 10 |
| 5407BA-T  | 345          | 5000 | 4      | 31.8                                | 530   | 18.7 | 1800              | 11    | 15 |
| 5407HBA-T | 414          | 6000 | 4      | 35.2                                | 587   | 20.7 | 1800              | 11    | 15 |
| 5408BA-T  | 345          | 5000 | 4      | 43.0                                | 717   | 25.3 | 1530              | 15    | 20 |
| 5408HBA-T | 414          | 6000 | 4      | 45.9                                | 765   | 27.0 | 1530              | 15    | 20 |
| 5409BA-T  | 345          | 5000 | 4      | 52.0                                | 867   | 30.6 | 1800              | 18.5  | 25 |
| 5409HBA-T | 414          | 6000 | 4      | 56.4                                | 940   | 33.2 | 1800              | 18.5  | 25 |

## DIMENSIONS (A x B x C)

| In             | mm                 |
|----------------|--------------------|
| 178 x 72 x 81¾ | 4522 x 1829 x 2077 |





## Water-Cooled Packages

Quiet, durable, reliable, continuous duty

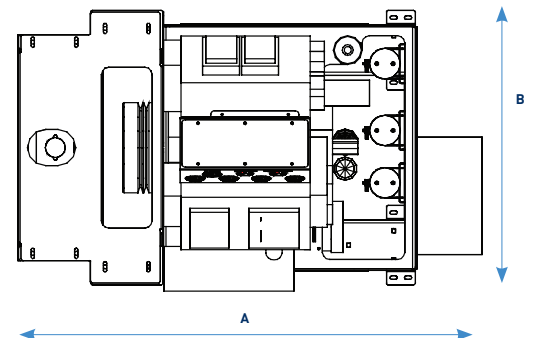
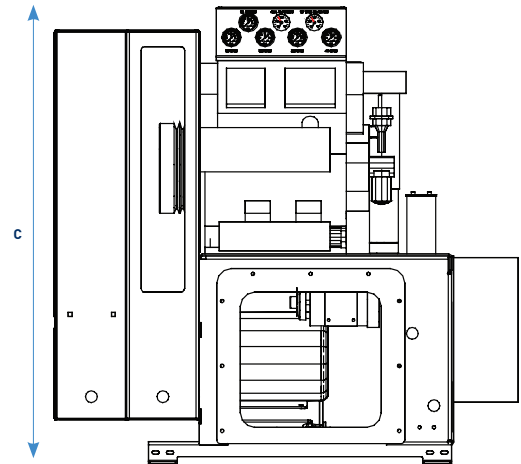
For the user whose demands include “around the clock” operation PLUS high capacity, look to our water-cooled packages to fulfill those needs.

### STANDARD FEATURES

- Mako’s MK10C purification system (model 5417)
- Mako’s MK420C purification system (models 5437 and 5437H)
- Mako’s industrial 4-stage compressor block
- NEMA design ODP 1.15 SF electric motor
- Compressor cooling system built into block for improved efficiency
- Auto-drain with muffler/reservoir system for collection of condensate
- Anti-vibration mounts
- Fully automatic control system
- Closed loop cooling system integrated to compressor skid
- Instrumentation & Controls:
  - » Illuminated on/off push buttons
  - » Hours run meter
  - » Emergency stop button
  - » Inter-stage and final stage pressure gauges
  - » Individual shut down indicators for High Air Temperature, High Air Pressure, and Low Oil Level/Pressure

### OPTIONAL EQUIPMENT

- CO monitor and calibration kit
- Shutdown audible alarm
- Dual pressure switch



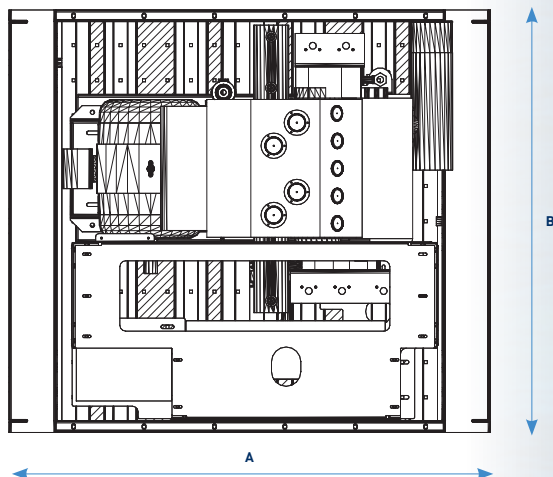
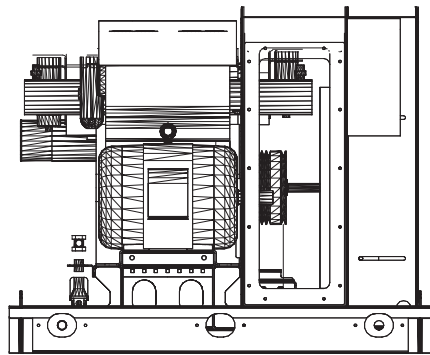
5417BA

## TECHNICAL DATA

| Model   | Max Pressure |      | Stages | Charging Rate<br>(0 - max pressure) |       |     | Compressor<br>rpm | Drive |    | Weight |      |
|---------|--------------|------|--------|-------------------------------------|-------|-----|-------------------|-------|----|--------|------|
|         | bar          | psi  |        | m <sup>3</sup> /hr                  | l/min | cfm |                   | kW    | hp | kg     | lb   |
| 5417BA  | 345          | 5000 | 4      | 74                                  | 1233  | 44  | 1800              | 30    | 40 | 1320   | 2900 |
| 5437BA  | 345          | 5000 | 4      | 143                                 | 2380  | 84  | 1500              | 55    | 75 | 2177   | 4800 |
| 5437HBA | 414          | 6000 | 4      | 144                                 | 2400  | 85  | 1500              | 55    | 75 | 2177   | 4800 |

## DIMENSIONS (A x B x C)

| In               | mm              |                   |
|------------------|-----------------|-------------------|
| 5417BA           | 64.34 x 38 x 64 | 1635 x 966 x 1626 |
| 5437BA & 5437HBA | 82 x 72 x 36    | 1635 x 966 x 1626 |



5437BA & 5437HBA



## Fill Stations

The ultimate in safe and convenient filling

Our enclosed steel chamber fill-stations are proven to protect against and contain the full impact of a catastrophic cylinder, valve or hose failure (NFPA 1901 compliant). In addition, the loading heights are ergonomically designed to reduce operator fatigue.

Standard Construction – double walled construction, single-action door latch, gas strut assisted carriage assembly, easy access panels for maintenance, and automatic safety interlock mechanism.

### Stationary SCFS

#### STANDARD FEATURES

- 2 or 3 positions
- SCBA (SCFS) or SCUBA (SSCFS) compatibility
- 0-6000 psi “push action” regulator
- 3-Bank cascade control system allowing for simultaneous storage and cylinder filling
- Fill panel with easy to read silk screen overlay
- Inlet / outlet gauges
- Fill control valve and gauge
- Color-zoned gauges
- Auxiliary outlet
- Fill whips with fill adapters
- Air storage bypass

#### OPTIONAL EQUIPMENT

- 2-4 Bank automatic cascading control
- Pressure selector valve
- Fire to SCUBA adapters

### Stationary Dual-Pack HDCFS

#### STANDARD FEATURES

- 2 or 3 positions
- SCBA (SCFS) or SCUBA (SSCFS) compatibility
- 0-6000 psi “push action” regulator
- 3-Bank cascade control system allowing for simultaneous storage and cylinder filling

- Fill panel with easy to read overlay
- Inlet / outlet gauges
- Fill control valve and gauge
- Auxiliary outlet
- Fill whips with fill adapters
- Air storage bypass

#### OPTIONAL EQUIPMENT

- 2-4 Bank automatic cascading control
- Pressure selector valve
- Fire to SCUBA adapters

### Mobile MCFS

#### STANDARD FEATURES

- 1, 2, or 3 positions
- SCBA (MCFS) or SCUBA (MSCFS) compatibility
- Single or dual pressure
- Fill whips with fill adapters

#### OPTIONAL EQUIPMENT

- Fire to SCUBA adapters
- 6” Stand

### Oxygen CFS

#### STANDARD FEATURES

- 1 or 2 positions
- Fill whips with fill adapters (approved for oxygen use)
- Fill whip line valve(s)





### STATIONARY (SCFS)

| Model  | Dimensions (A x B x C) |                   | Weight |        |
|--------|------------------------|-------------------|--------|--------|
|        | In                     | mm                | lbs    | kg     |
| SCFS2  | 66 x 29½ x 23½         | 1677 x 750 x 597  | 1010   | 458.13 |
| SSCFS2 | 68 x 31 x 24           | 1726 x 787 x 610  | 1077   | 488.52 |
| SCFS3  | 66 x 38½ x 23½         | 1677 x 978 x 597  | 1480   | 671.32 |
| SSCFS3 | 67½ x 41 x 28          | 1715 x 1042 x 712 | 1690   | 766.57 |

### DUAL PACK STATIONARY (HDCFS)

| Model  | Dimensions (A x B x C) |                   | Weight |        |
|--------|------------------------|-------------------|--------|--------|
|        | In                     | mm                | lbs    | kg     |
| HDCFS2 | 67¾ x 32¾ x 26½        | 1721 x 832 x 673  | 1650   | 748.43 |
| HDCFS3 | 67¾ x 42¾ x 26½        | 1721 x 1086 x 673 | 2200   | 997.90 |

### MOBILE (MCFS)

| Model  | Dimensions (A x B x C) |                   | Weight |        |
|--------|------------------------|-------------------|--------|--------|
|        | In                     | mm                | lbs    | kg     |
| MCFS1  | 38½ x 20½ x 23½        | 978 x 521 x 597   | 362    | 164.20 |
| MCFS2  | 38½ x 29½ x 23½        | 978 x 750 x 597   | 723    | 327.95 |
| MSCFS2 | 40¾ x 41 x 24½         | 1035 x 1041 x 622 | 928    | 420.93 |
| MCFS3  | 38½ x 38½ x 23½        | 978 x 978 x 597   | 1148   | 520.72 |
| MSCFS3 | 40¾ x 31½ x 24½        | 1035 x 800 x 622  | 1405   | 637.30 |

### OXYGEN (CFS-OXY)

| Model    | Dimensions (A x B x C) |                 | Weight |        |
|----------|------------------------|-----------------|--------|--------|
|          | In                     | mm              | lbs    | kg     |
| CFS1-OXY | 38½ x 20½ x 23½        | 978 x 521 x 597 | 362    | 164.20 |
| CFS2-OXY | 38½ x 29½ x 23½        | 978 x 750 x 597 | 723    | 327.95 |

# Air Management Systems



## Air Storage

Maximize the output of your breathing air system to cope with unpredictable or peak filling requirements.

- Horizontal or vertical storage tanks
- Configurations of 2, 3, 4, 5 or 6 cylinders
- UN or ASME storage cylinders

## Cascade Controls

Designed to optimize air storage and filling capacity, our cascade controls allow the operator to refill a depleted storage bank while simultaneously filling SCBA's from a full storage bank.

- Either integrated into a Containment Fill Station or remotely mounted
- Containment Fill Station Auto-Cascade Control option
  - » Reduces the potential for operator error
  - » Simplifies and eases the filling operation
  - » Automatically controls air storage consumption and replenishment



## Electronic CO & Purification Monitoring

### CO & MOISTURE MONITOR (CMM)

- Easy to read, simple to use
- Straight forward CO sensor/cell replacement
- Automatic shutdown
- Automatic calibration - the CO sensor automatically adjusts to ensure accurate measurement of CO by checking itself against two preset levels

### OPTIONAL MONITORS

- CO only
- Moisture only
- Wall-mounted (remote)

### TECHNICAL DATA

| CO Monitor Performance |  |
|------------------------|--|
| Detection Range        | 0-100 ppm  |
| Factory Alarm Setting  | 10 ppm   |
| Display Type           | LCD  |
| Alarms                 | Visual: LEDs and digital LCD<br>Audible: Case-mounted horn |

## Purification Filters

Ensure that you receive quality air purification by specifying MAKO. We design, engineer and manufacture our air purification systems in-house, guaranteeing grade E air quality that meets or exceeds current NFPA, Canadian, and worldwide standards.

### STANDARD FEATURES

- Visual CO and moisture indicators do not require depressurization
- System inoperable without cartridge in chamber when cartridge CMM monitor option is used
- Non-corrosive replaceable cartridge
- No adhesive odors or tastes because adhesive is not used in the manufacturing process
- Stainless steel springs incorporated in cartridge assures properly packed filter media
- Anodized aluminum alloy chambers rated for 6000 psig with a 4 to 1 safety factor

### PURIFICATION CARTRIDGE CAPABILITIES

| Model  | Capability at 70°F Inlet Cubic Ft. |
|--------|------------------------------------|
| MK2C   | 34,200                             |
| MK5C   | 82,000                             |
| MK10C  | 171,425                            |
| MK420C | 428,570                            |





MAKO Blue lubricant is approved for breathing air applications

## Aftermarket Products & Programs

### MAKO Blue Diester Based Synthetic Lubricant

Protecting your investment... from the inside

MAKO Blue synthetic lubricant combines highly stable oils with unique additive technologies to create a product that provides excellent thermal and oxidative stability while delivering superior anti-wear and anti-corrosion protection.

#### LUBRICANT CHART

| Features                             | Mineral Oil | PAO | MAKO |
|--------------------------------------|-------------|-----|------|
| Wide Temperature Performance         | na          | ✓   | ✓    |
| High Lubricity                       | na          | ✓   | ✓    |
| Low Evaporation                      | na          | ✓   | ✓    |
| Increased Efficiency                 | na          | ✓   | ✓    |
| Excellent Solvency                   | na          | na  | ✓    |
| Clean Lubrication (no deposits)      | na          | na  | ✓    |
| Biodegradability                     | na          | na  | ✓    |
| Extreme High-Temperature Performance | na          | na  | ✓    |

✓ = applicable; na = **not** applicable

#### SELECTED PHYSICAL PROPERTIES

| Property                | Test Method | Results    |
|-------------------------|-------------|------------|
| Viscosity, cSt. @ 40°C  | ASTM D445   | 91.4       |
| Viscosity, cSt. @ 100°C | ASTM D445   | 9.3        |
| ISO Viscosity Grade     | 100         |            |
| Pour Point °C/°F        | ASTM D97    | -29 / -30  |
| Flash Point °C/°F       | ASTM D92    | -260 / 500 |
| Demulsibility @ 130°F   | ATSM D1401  | Excellent  |

#### CONVENIENT PACKAGE SIZES

| Package Size   | Part Number |
|----------------|-------------|
| Quart          | 003MBQ-S    |
| Gallon         | 003MBG-S    |
| 55 Gallon Drum | 003MBD-S    |



## Compressor Blocks

If a replacement compressor block is required, rely on MAKO to provide you options:

| Replacement Block                  | Warranty |
|------------------------------------|----------|
| Factory <b>NEW</b>                 | 12-month |
| Factory <b>REMANUFACTURED</b>      | 12-month |
| Factory <b>REPAIR &amp; RETURN</b> | 90-day   |

## Genuine OEM Replacement Parts

Don't take a chance... maintain the MAKO performance advantage and reliability with genuine MAKO replacement parts available through our authorized sales and servicing distributor partners.

All proprietary and consumable parts are designed and/or specified specifically for MAKO products, ensuring operational efficiencies and longevity.

## Product Warranty

### Standard 12-Month Warranty

MAKO warrants its compressors and fill-stations to operate in accordance with its specifications free from defects in material and workmanship under normal operating conditions, for twelve (12) months from initial start-up or eighteen (18) months from shipment by MAKO.

### OPTIONAL 5-Year Extended Warranty

*[available in the USA and Canada only]*

The MAKO5 is offered exclusively to the municipal fire market, and it covers MAKO's full line of stationary breathing air compressors, containment fill stations, and mobile trailer systems.

(continued on the next page)

# MAKO5

5-YEAR EXTENDED WARRANTY

## Program Summary & Requirements

- Warranty coverage:
  - » Stationary Compressors:
    - 2-year comprehensive, parts and labor
    - Years 3-5 block and purification system, parts only
  - » Containment Fill-Stations:
    - 2-Years comprehensive, parts and labor
  - » Mobile Trailer Systems:
    - 1-year comprehensive, parts and labor
    - Years 2-5 block and purification system, parts only
- Semi-annual inspections and PM's must be performed by an authorized and certified distributor service technician
- Customer is required to use only genuine Mako parts during the entire warranty period
- Compressor must run minimum 1-hour per week to ensure proper lubrication to all critical compressor block components

### Maximize the benefits of your investment and have confidence knowing your Mako breathing air system is...

- The best built, most reliable product on the market
- Backed by our optional comprehensive 5-year, 1000-hour warranty
- Serviced by our distributors' highly trained, highly-skilled technicians
- Maintained using only genuine, Mako OEM parts



# Engineering Sizing Data

## COMPRESSOR SIZING CHART

Instructions: Circle the closest answer(s) to each question. The column in which the most answers are circled should be the smallest system to be considered. If the majority of your SCBA's are 4500 psi choose a compressor from Column 4 or higher.

|   | Column | 1           | 2            | 3             | 4                    | 5                    | 6                    | 7                    |
|---|--------|-------------|--------------|---------------|----------------------|----------------------|----------------------|----------------------|
| How many SCBA cylinders are in service, or are expected to be, within 12 months?  |        | 6 – 12      | 13 – 20      | 21 – 30       | 31 – 40              | 41 – 60              | 61 – 100             | 101 & UP             |
| What working pressure are these SCBA cylinders rated for?   | psi    | 2216        | 2216<br>3000 | 2216<br>3000  | 2216<br>3000<br>4500 | 2216<br>3000<br>4500 | 2216<br>3000<br>4500 | 2216<br>3000<br>4500 |
| How many working calls has the department logged in the last 12 months?   |        | 20 – 60     | 61 – 80      | 81 – 100      | 101 – 120            | 121 – 170            | 171 – 225            | 226 & UP             |
| How many SCBA's are being refilled each month?  |        | 4 – 20      | 20 – 40      | 40 – 60       | 60 – 80              | 80 – 100             | 100 – 400            | 400 & UP             |
| What is the maximum number of refills made in one operation in recent months?   |        | 4 – 9       | 10 – 15      | 16 – 25       | 26 – 35              | 36 – 45              | 46 – 55              | 56 & UP              |
| If you have been purchasing breathing air in cascade cylinders, how many of these were purchased in the last 12 months? |        | 6 – 12      | 13 – 30      | 31 – 40       | 41 – 50              | 51 – 60              | 61 – 100             | 101 & UP             |
| How many active fire fighters are on the staff of this department (count all shifts)?                                   |        | 4 – 8       | 9 – 12       | 13 – 20       | 21 – 30              | 31 – 45              | 46 – 65              | 66 & UP              |
| How many stations does this department operate?   |        | 1           | 1            | 1 – 2         | 1 – 2                | 1 – 3                | 2 – 4                | 5 & UP               |
| What is the population in this department's district?   |        | 1000 – 4000 | 4000 – 8000  | 8000 – 16,000 | 16,000 – 25,000      | 25,000 – 50,000      | 50,000 – 200,000     | 200,000 & UP         |
| If a department has an existing compressor in service, what is it's output range?                                       | cfm    | 3.0 – 5.0   | 5.0 – 7.0    | 8.0 – 10.0    | 10.0 – 12.0          | 13.0 – 15.0          | 16.0 – 18.0          | 19.0 – 20.0          |
| <b>Compressor Output Recommended</b>  |        |             |              |               |                      |                      |                      |                      |
| cfm   |        | 5.8         | 8.6          | 13.1          | 14.0                 | 20.7 – 27.0          | 27.0 – 33.2          | 33.2 & UP            |
| psi   |        | 5000        | 5000         | 5000          | 6000                 | 6000                 | 6000                 | 6000                 |
| <b>Cascade System Recommended</b>   |        |             |              |               |                      |                      |                      |                      |
| Cyl   |        | 3 – 4       | 4            | 4 – 6         | 4 – 6                | 4 – 6                | 6 – 8                | 6 – 8                |
| psi   |        | 5000        | 5000         | 5000          | 6000                 | 6000                 | 6000                 | 6000                 |



## MAKO Compressors

MAKO Compressors is part of Gardner Denver, Inc. specializing in Breathing Air Systems since 1952.



## CompAir Reavell

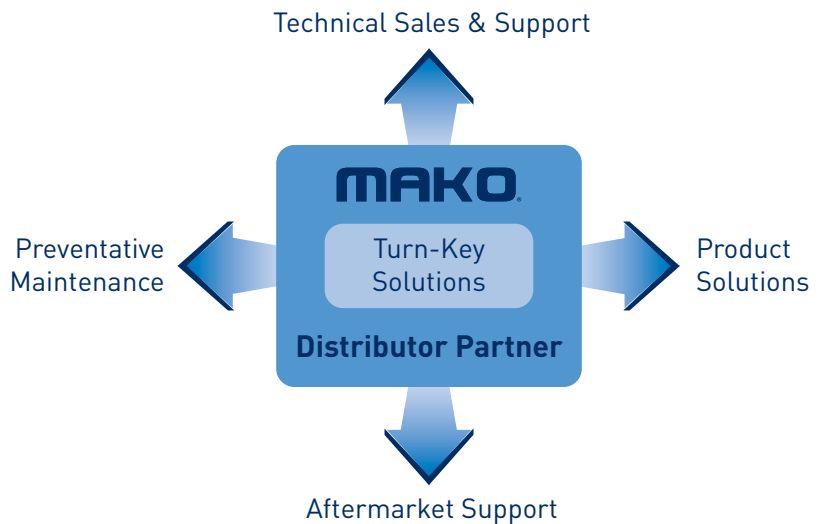
CompAir Reavell is part of Gardner Denver, Inc. From their state-of-the-art facility in Ipswich, England, CompAir Reavell designs and manufactures high quality reciprocating piston compressors.

### Compressor Notes

1. All technical details are subject to change.
2. Performance figures are typical and are not the full range available.
3. Figures based on inlet conditions of 20°C/68°F, 1,013 Bar/14.7 PSL.
4. Charge rates measured in accordance with Compair Ipswich standard No. 27 Type 'A'.
5. Electric motors are available in 50 & 60 Hz. Single & 3 Phase versions and with multiple voltage options.
6. Tested and certified to equivalent of UL 1450 Standards. Conforms to all applicable TUV directives.
7. Sound pressure level at 1m/3 ft.

### CFS (Containment Fill Station) Notes

1. All technical details are subject to change.
2. Tested and certified to equivalent of UL 1450 Standards. Conforms to all applicable CE directives.
3. Rupture test certificate available on request.



BREATHING AIR SOLUTIONS



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 Peachtree City, GA 30269  
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 770-632-5071 fax  
[www.makocompressors.com](http://www.makocompressors.com)

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