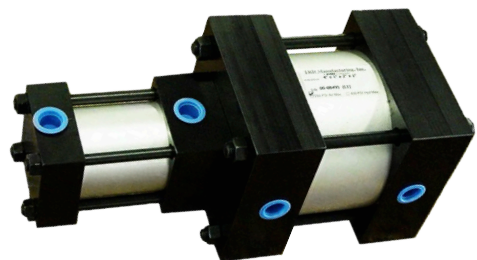




# Boosters, Intensifiers, Reservoirs, & Tanks

Boosters, intensifiers, reservoirs, and tanks all help manage and sometimes improve the air movement inside your pneumatic systems.



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**255** AR Series Air Reservoir

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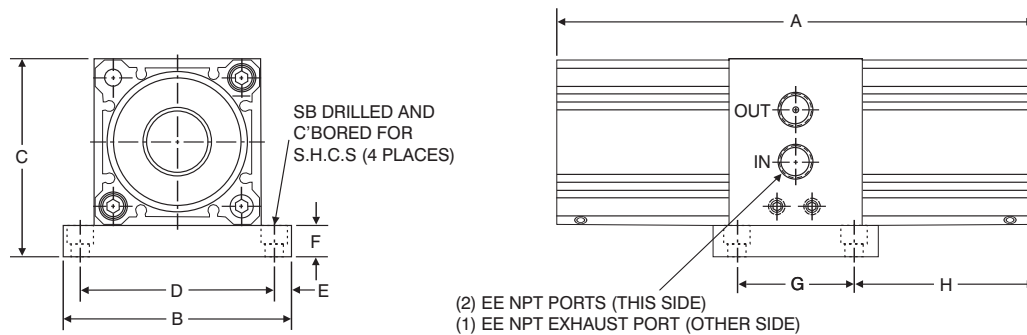
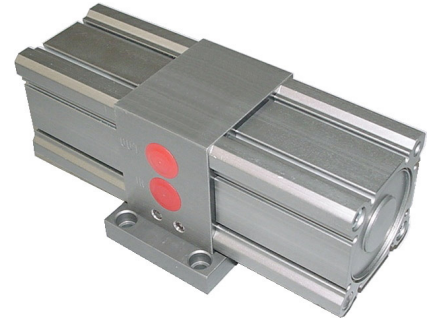
## Series: Auto Reciprocating Air Booster – Model Numbers: AB121 & AB221

This 2:1 ratio air-to-air booster is compact and self-contained. Unit incorporates integral valve components to perform auto-reciprocating function.

Can amplify inadequate air pressure in the following situations:

**Cylinders or Grippers:** When space isn't available, a smaller bore or model size can be used with higher input PSI to achieve the desired output or grip force.

**Problem Solver:** Sometimes a cylinder or gripper was sized for an application, but in use, does not perform up to the production requirements. Increasing the input PSI can provide a quick and cost effective solution.



Auto Reciprocating Air Booster Dimensions

| Part No. | A     | B    | C    | D    | E    | F    | G    | H    | EE NPT  | SB Diameter |
|----------|-------|------|------|------|------|------|------|------|---------|-------------|
| AB121    | 7.33  | 3.50 | 3.04 | 2.98 | 0.26 | 0.48 | 1.79 | 2.77 | 1/4 NPT | 1/4         |
| AB221    | 14.20 | 7.00 | 6.00 | 5.95 | 0.53 | 1.00 | 3.58 | 5.31 | 1/2 NPT | 1/2         |

### Engineering Specifications

**Maximum Input Pressure:** 125 PSI

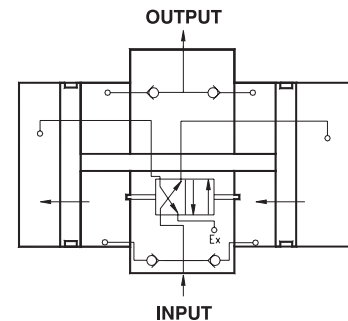
**Operating Temperature:** 15° to 160°F

**Lubrication:** HT-99 oil; Pre-lubricated

**Bodies and Center Section:** Aluminum; Hard Coat with PTFE

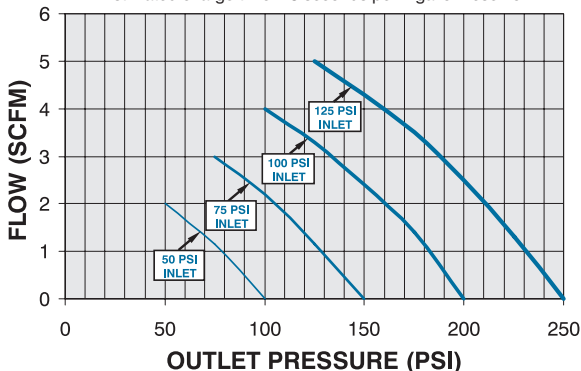
**Mounting Plate:** Anodized Aluminum

NOTE: Bimba Air Boosters are designed for intermittent duty usage such as maintaining pressure in an air reservoir. Continuous cycling decreases seal life. Max boosted pressure will be 10% to 20% less than 2x input pressure due to system pressure drops.



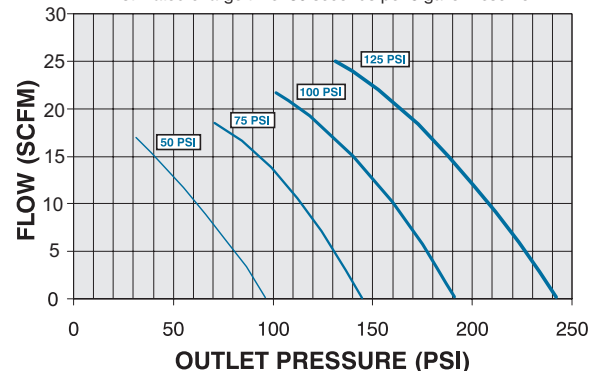
### AB121 Flow Data

Estimated charge time: 28 seconds per 1 gallon reservoir



### AB221 Flow Data

Estimated charge time: 30 seconds per 5 gallon reservoir



# How to Order

## Series: AB121 With Air Reservoir

Model AB121 Air Booster furnished with Air Reservoir. Anodized Aluminum Tube and End Cap construction.

### AB121 - ARB 800 x 36

Auto Reciprocating  
Air Booster

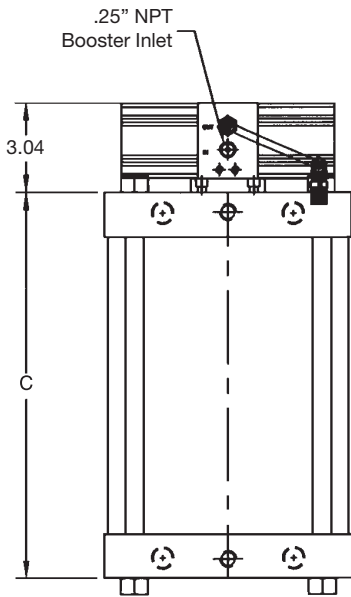
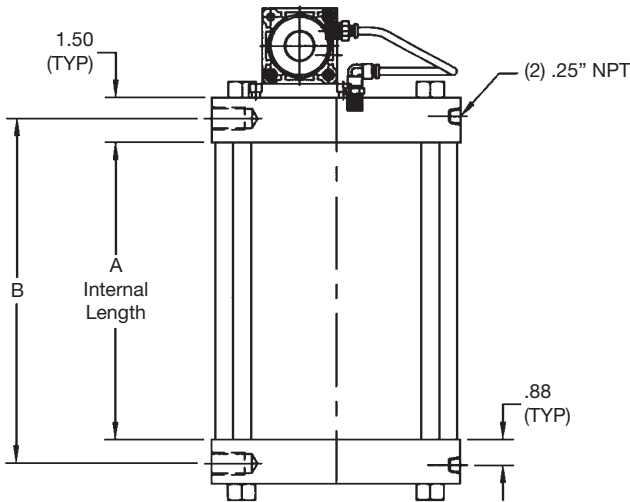
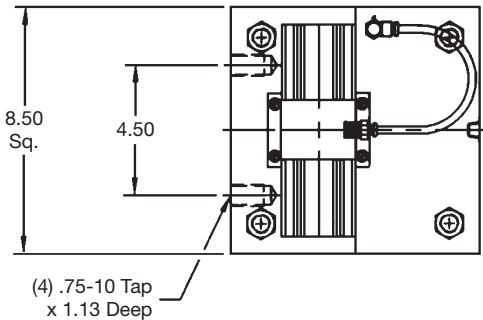
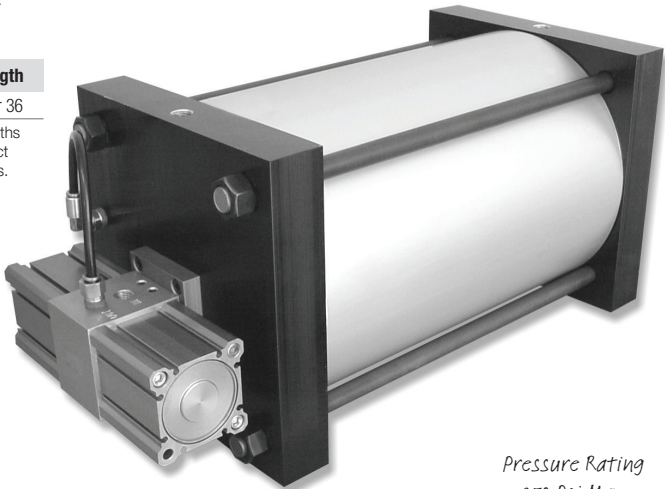
Air Reservoir  
for Booster

8" Bore Size

Internal Length

12, 18, 24, or 36

Note: Other lengths  
available. Contact  
factory for details.



Pressure Rating  
250 Psi Max.

## Series AB121-ARB800 X \_\_ – Air Booster Model AB121 Mounted And Piped To ARB800 Air Reservoir

| Part Number & Volume |           |       |                         |                             | Internal Length<br>(Inches) | Dimensions |    |  |
|----------------------|-----------|-------|-------------------------|-----------------------------|-----------------------------|------------|----|--|
| Part No.             | Tank Bore | Area  | Gal. Per<br>In. Of Tank | Total Cu. Ft.<br>Per Tank * | A                           | B          | C  |  |
| AB121-ARB800 X 12    | 8         | 50.26 | .2175                   | .349                        | 12                          | 13.63      | 15 |  |
| AB121-ARB800 X 18    | 8         | 50.26 | .2175                   | .523                        | 18                          | 19.63      | 21 |  |
| AB121-ARB800 X 24    | 8         | 50.26 | .2175                   | .698                        | 24                          | 25.63      | 27 |  |
| AB121-ARB800 X 36    | 8         | 50.26 | .2175                   | 1.047                       | 36                          | 37.63      | 39 |  |

\*Internal Volume of reservoir.

## Series: Air To Air Intensifier/Air To Hydraulic Intensifiers

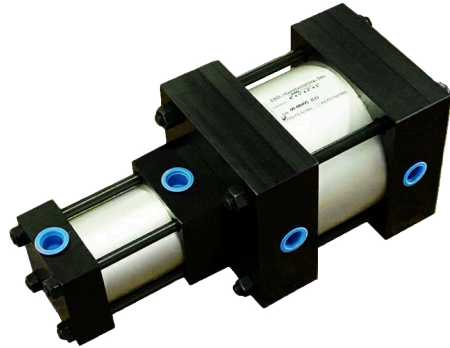
Air-to-Air or Air-to-Hydraulic intensifiers are single-shot, one output per stroke design.

### Benefits of Air to Air Intensifiers:

- > Quick Response
- > High Volume Outputs Available
- > Simple Design
- > Heavy-Duty Construction

### Benefits of Air to Hydraulic Intensifiers:

- > Quick Response
- > High Volume Outputs Available
- > Intensified Material Can Be Oil or Other Media
- > Can Be Used For Measuring and Dispensing



# How to Order

## Series: Air To Air Intensifier and Air To Hydraulic Intensifiers

**Cyl. #1**

**AI - TA - MS4 - 5 x 10 - MPR** with

| Air Intensifiers |                              | Series |  |
|------------------|------------------------------|--------|--|
| TA               | 250 PSI Air                  |        |  |
| TD               | 250 PSI Air                  |        |  |
| SS               | Stainless Steel (300 Series) |        |  |

| NFPA Mounts |   |
|-------------|---|
| MX0         | No Mount (1.50" - 12.00" Bore)                                    |
| MF1         | Front Flange (1.50"-6.00" Bore)                                   |
| MS2         | Side Lug (1.50" - 4.00" Bore Std., 5.00" & Above Consult Factory) |
| MS4         | Bottom Tapped Holes (1.50" - 12.00" Bore)                         |

| Bore   |        |
|--------|--------|
| Cyl. 1 | Cyl. 2 |
| 3.25   | 1.50   |
| 4.00   | 2.00   |
| 5.00   | 2.50   |
| 6.00   | 3.25   |
| 8.00   | 4.00   |
| 10.00  | 5.00   |
| 12.00  | 6.00   |
| -      | 8.00   |

| Stroke (Cyl. #1)        |  |
|-------------------------|--|
| 0" to 50" Made-To-Order |  |

**Cyl. #2**

**MX0 - 2.50 x 10 - TH**

| Cylinder #2 Series           |  |
|------------------------------|--|
| Options (Cyl. #1 or Cyl. #2) |  |
| AS                           | Adjustable Stroke - Retract (Specify Length, Example: AS = 4")               |
| » B                          | .25" Urethane Bumper Both Ends   |
| » BC                         | .25" Urethane Bumper Cap Only  |
| » BH                         | .25" Urethane Bumper Head Only   |
| BP                           | BSP/BSPT Ports - Bumper Piston Seals (1.50" - 8.00" Bore)                    |
| BSPP                         | British Standard Pipe Taper  |
| BSPT                         | British Standard Pipe Parallel   |
| H                            | Head Cushion   |
| C                            | Cap Cushion  |
| MA                           | Micro-Adjust (12" Max. Stroke) Available On Double Rod End Models            |
| MAB                          | Micro-Adjust With Sound Dampening Bumper (12" Max. Stroke)                   |
| MPR                          | Magnetic Piston For Reed Or Solid State Switches (Models: R10, RAC, and MSS) |
| OP                           | Optional Port Location (Example: Ports @ 3 & 7)                              |
| SAE                          | SAE Ports (Specify Size, Example: SAE #10)                                   |
| SSA                          | Stainless Steel Piston Rod, Tie Rods & Nuts, and Fasteners                   |
| SSF                          | Stainless Steel Fasteners  |
| SSN                          | Stainless Steel Tie Rod Nuts   |
| SSP                          | Solid Stainless Steel Piston   |
| SSR                          | Stainless Steel Piston Rod   |
| SST                          | Stainless Steel Tie Rods   |
| TH                           | 400 PSI Hydraulic Non-Shock  |
| VS                           | Fluorocarbon Seals   |
| XX                           | Special Variation (Specify)  |

**About our Part Number System**

- > Simple, easy to understand
- > No excessive codes!
- > Eliminates mistakes when ordering

**Example:** Cyl. 1 is a standard 'TA' series, MS4 mount, 5" bore X 10" stroke, with a magnet (for Reed Switches), Air-to-Hydraulic Cylinder.

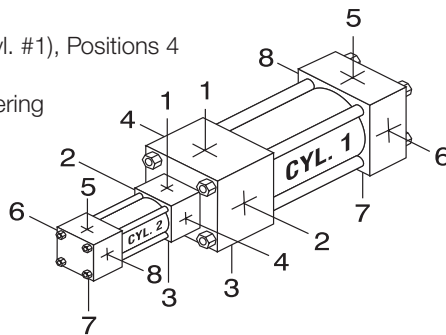
Cyl. 2 is a 'TA' series, MX0 (no mount), 2.50" bore X 10" stroke with "TH" option.

**Part Number:**  
AI - TA - MS4 - 5 x 10 - MPR with TA - MX0 - 2.50 x 10 - TH

Note: Refer to Options for specifications.  
 \*\*Bumpers add .25" per end to cylinder length.  
 » Adds Length To Cylinder - See "Option Length Adder" Chart Below.

### Standard Port and Cushion Adjustment Positions

- > Ports - Positions 1 and 5 (both cylinders)
- > Cushion Adjustment - Positions 2 and 6 (Cyl. #1), Positions 4 and 8 (Cyl. #2)
- > Specify Non-Standard Positions When Ordering



## Air To Air and Air To Hydraulic Intensifier Cylinders

Two (2) strokes must be the same, rods are connected.

### Air To Air Intensifiers – Standard Combinations

| Cyl. #1<br>Bore | Cyl. #2 |      | Intensifier<br>Ratio | Output (PSI) of<br>Cyl. #2 @ Input Pressure Of: |     |     |     |
|-----------------|---------|------|----------------------|---|-----|-----|-----|
|                 | Area    | Bore | Area                 | 50  | 80  | 100 | 120 |
| 3.25            | 8.296   | 1.50 | 1.767                | 4.69  | 235 |     |     |
|                 |         | 2.00 | 3.142                | 2.64  | 132 | 211 | 264 |
| 4.00            | 12.566  | 2.00 | 3.142                | 4   | 200 |     |     |
|                 |         | 2.50 | 4.909                | 2.56  | 128 | 205 | 256 |
| 5.00            | 19.635  | 2.50 | 4.909                | 4   | 200 |     |     |
|                 |         | 3.25 | 8.296                | 2.37  | 119 | 190 | 237 |
| 6.00            | 28.274  | 3.25 | 8.296                | 3.41  | 171 |     |     |
|                 |         | 4.00 | 12.566               | 2.25  | 113 | 180 | 225 |
| 8.00            | 50.265  | 4.00 | 12.566               | 4   | 200 |     |     |
|                 |         | 5.00 | 19.635               | 2.56  | 128 | 205 | 256 |
| 10.00           | 78.54   | 6.00 | 28.274               | 1.78  | 89  | 143 | 178 |
|                 |         | 8.00 | 28.274               | 2.78  | 139 | 223 |     |
| 12.00           | 113.10  | 6.00 | 28.274               | 4   | 200 |     |     |
|                 |         | 8.00 | 50.265               | 2.25  | 113 | 180 | 225 |

Note: Cyl. #2 Output Not To Exceed 250 PSI.

Intensifier Ratio = Cyl. #1 Area

Cyl. #2 Area

Output Pressure = Input Pressure X Intensifier Ratio

Note: Usable volume of air-to-air output will not match cylinder #2 volume due to compressibility of air.

### Air To Hydraulic Intensifiers – Standard Combinations

| Cyl. #1<br>Bore | Cyl. #2 |      | Intensifier<br>Ratio | Output (PSI) Of<br>Cyl. #2 @ Input Pressure Of: |     |     |     |
|-----------------|---------|------|----------------------|---|-----|-----|-----|
|                 | Area    | Bore | Area                 | 50  | 80  | 100 | 120 |
| 3.25            | 8.296   | 1.50 | 1.767                | 4.69  | 235 | 375 |     |
|                 |         | 2.00 | 3.142                | 2.64  | 132 | 211 | 317 |
| 4.00            | 12.566  | 1.50 | 1.767                | 7.11  | 356 |     |     |
|                 |         | 2.00 | 3.142                | 4   | 200 | 320 | 400 |
| 5.00            | 19.635  | 2.50 | 4.909                | 2.56  | 128 | 205 | 256 |
|                 |         | 3.25 | 8.296                | 6.25  | 313 |     |     |
| 6.00            | 28.274  | 2.50 | 4.909                | 4   | 200 | 320 | 400 |
|                 |         | 3.25 | 8.296                | 2.37  | 119 | 190 | 237 |
| 8.00            | 50.265  | 3.25 | 8.296                | 5.76  | 288 |     |     |
|                 |         | 4.00 | 12.566               | 3.41  | 171 | 273 | 341 |
| 10.00           | 78.54   | 4.00 | 12.566               | 2.25  | 113 | 180 | 225 |
|                 |         | 5.00 | 19.635               | 6.06  | 303 |     |     |
| 12.00           | 113.10  | 4.00 | 12.566               | 4   | 200 | 320 | 400 |
|                 |         | 5.00 | 19.635               | 2.56  | 128 | 205 | 256 |
| 12.00           | 113.10  | 6.00 | 28.274               | 1.78  | 89  | 143 | 178 |
|                 |         | 8.00 | 50.265               | 2.25  | 113 | 180 | 225 |

Note: Cyl. #2 Output Not To Exceed 400 PSI Non-Shock.

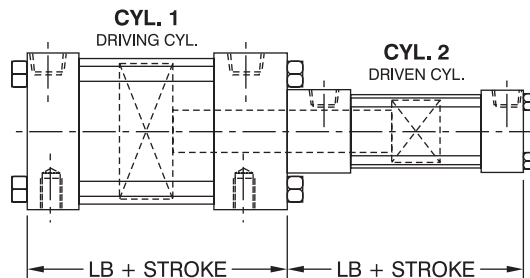
Intensifier Ratio = Cyl. #1 Area

Cyl. #2 Area

Output Pressure = Input Pressure X Intensifier Ratio

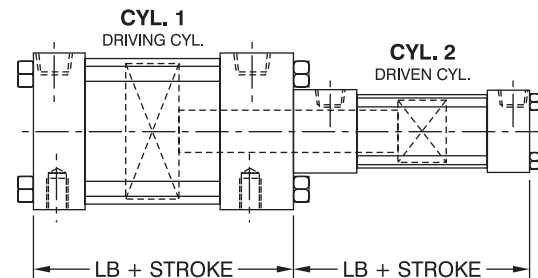
For complete dimensions, refer to 'TA' section of catalog.

### Air To Air Intensifiers – Basic Dimensions



| Bore | LB    | Bore | LB    | Bore  | LB    |
|------|-------|------|-------|-------|-------|
| 1.50 | 3.625 | 4.00 | 4.250 | 10.00 | 6.375 |
| 2.00 | 3.625 | 5.00 | 4.500 | 12.00 | 6.875 |
| 2.50 | 3.750 | 6.00 | 5.000 |       |       |
| 3.25 | 4.250 | 8.00 | 5.125 |       |       |

### Air To Hydraulic Intensifiers – Basic Dimensions



| Bore | LB    | Bore | LB    | Bore  | LB    |
|------|-------|------|-------|-------|-------|
| 1.50 | 3.625 | 4.00 | 4.250 | 10.00 | 6.375 |
| 2.00 | 3.625 | 5.00 | 4.500 | 12.00 | 6.875 |
| 2.50 | 3.750 | 6.00 | 5.000 |       |       |
| 3.25 | 4.250 | 8.00 | 5.125 |       |       |

### Cylinder Volumes (Per Inch Of Cylinder Stroke)

| Bore | Area  | Gal. Per In. Of Stroke | Bore | Area   | Gal. Per In. Of Stroke | Bore  | Area   | Gal. Per In. Of Stroke |
|------|-------|------------------------|------|--------|------------------------|-------|--------|------------------------|
| 1.50 | 1.767 | .0076                  | 4.00 | 12.566 | .0054                  | 10.00 | 78.54  | .340                   |
| 2.00 | 3.142 | .0136                  | 5.00 | 19.635 | .085                   | 12.00 | 113.10 | .4896                  |
| 2.50 | 4.909 | .0213                  | 6.00 | 28.274 | .122                   |       |        |                        |
| 3.25 | 8.296 | .0359                  | 8.00 | 50.265 | .2175                  |       |        |                        |

Notes: (To Figure Volumes) Cubic Inches = Area X Stroke Gallons = (Area X Stroke)

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Example: 3.25" Bore X 16" Stroke Cylinder = 8.296 X 16 = 132.736 Cu. In. Or .575 Gallons

### Cylinder Volumes (Per Inch Of Cylinder Stroke)

| Bore | Area  | Gal. Per In. Of Stroke | Bore | Area   | Gal. Per In. Of Stroke | Bore  | Area   | Gal. Per In. Of Stroke |
|------|-------|------------------------|------|--------|------------------------|-------|--------|------------------------|
| 1.50 | 1.767 | .0076                  | 4.00 | 12.566 | .0054                  | 10.00 | 78.54  | .340                   |
| 2.00 | 3.142 | .0136                  | 5.00 | 19.635 | .085                   | 12.00 | 113.10 | .4896                  |
| 2.50 | 4.909 | .0213                  | 6.00 | 28.274 | .122                   |       |        |                        |
| 3.25 | 8.296 | .0359                  | 8.00 | 50.265 | .2175                  |       |        |                        |

Notes: (To Figure Volumes) Cubic Inches = Area X Stroke Gallons = (Area X Stroke)

231

Example: 3.25" Bore X 16" Stroke Cylinder = 8.296 X 16 = 132.736 Cu. In. Or .575 Gallons

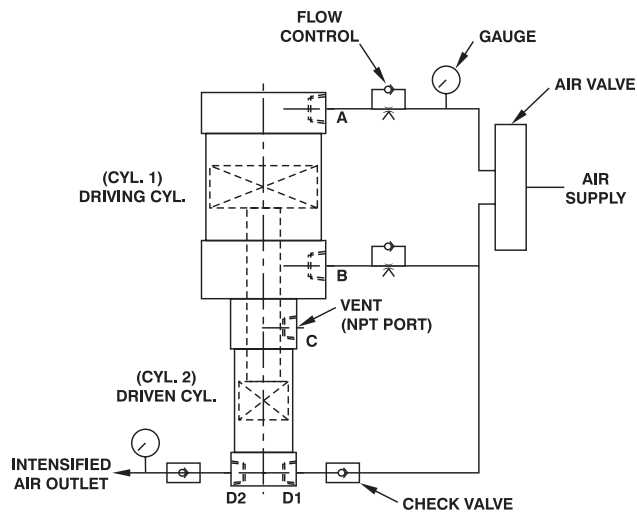
# How To Specify

## Air to Air Intensifiers – Schematics

- > Same Stroke In Each Cylinder
- > Rods Are Connected

### Actuation Sequence:

- > Pressure To Ports 'A' Extends Cylinder
- > Pressure To Ports 'B' Retracts Cylinder



### Example:

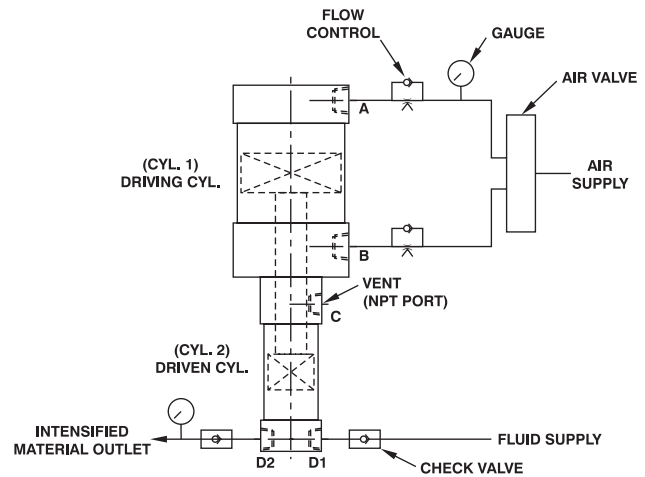
Shown is an air to air intensifier for applications requiring supply to be intensified. Supply air to port 'A' will stroke cylinder and intensified air will exit port 'D2'. To return cylinder supply air to port 'B' two (2) flow controls used to regulate cylinder speed.

## Air to Hydraulic Intensifiers – Schematics

- > Same Stroke In Each Cylinder
- > Rods Are Connected

### Actuation Sequence:

- > Pressure To Ports 'A' Extends Cylinder
- > Pressure To Ports 'B' Retracts Cylinder



### Example:

Shown is an air to hydraulic intensifier for applications requiring fluid supply to be intensified. Supply air to port 'A' will stroke cylinder and intensified material will exit port 'D2'. To return cylinder supply air to port 'B' two (2) flow controls used to regulate cylinder speed.



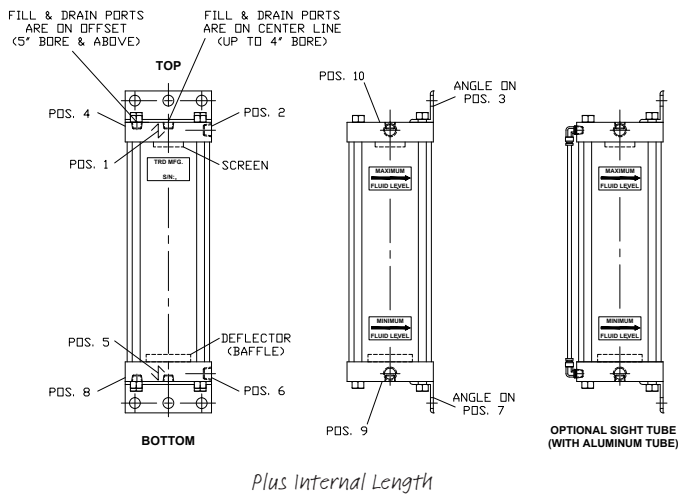
## AT – Air/Oil Tanks

### Features:

- > 250 PSI operating pressure
- > Aluminum end caps
- > Internal baffles to reduce aeration and foaming
- > Fiber wound translucent tube
- > Optional aluminum tube with sight glass
- > Side lug mount (MS2) optional
- > Fill port located in top, drain port in bottom cap
- > Optional oversized ports for high flow applications or SAE and BSP ports

The Bimba air/oil system gives you the smooth operation typically associated with hydraulic systems but without the expense. Uses shop air, two air/oil tanks and a cylinder equipped with “TH” (hydraulic seals). Low initial investment and low maintenance to operate.

Tanks need to be mounted above the cylinder but not necessarily by the cylinder. This will create a self-purging oil circuit. It is advisable to size tanks 30-50% larger than cylinder volume in order to prevent the tanks from running dry and to allow for heat expansion.



Plus Internal Length

### Sizing Your Air/Oil Tank:

1. Determine the cylinder volume by multiplying the square inches of piston area by the inches of stroke (see Table B). Add 30-50% to determine actual tank size.
2. Find the volume closest to your tank volume requirement in Table C. Note: Tanks of smaller diameters with greater lengths are generally less expensive than larger diameter, short tanks of equal volume.

### How To Order:

Specify bore and internal length required.

#### Example 1: AT250 x 14

(2.50" bore, 14" internal tank length with a usable volume of 52 cubic inches)

#### Example 2: AT250 x 14 - Aluminum tube and sight glass

(Example 1 with optional sight glass and aluminum tube)

| AT       | -                | X               |
|----------|------------------|-----------------|
| Air Tank |                  | Internal Length |
|          | Bore Size        | 1" to 120"      |
|          | 250 (2.50" Bore) |                 |
|          | 325 (3.25" Bore) |                 |
|          | 400 (4.00" Bore) |                 |
|          | 500 (5.00" Bore) |                 |
|          | 800 (8.00" Bore) |                 |

# Product Features

## AT – Air/Oil Tanks

| Part Number & Volume |      |       |                     | Plus Internal Length | Tank Dimensions |       |       |       |       |       |       |
|----------------------|------|-------|---------------------|----------------------|-----------------|-------|-------|-------|-------|-------|-------|
| Part No.             | Bore | Area  | Gals Per Inch Tank* | B                    | AH              | C     | D     | E     | F     | G     | H     |
| AT250                | 2.50 | 4.91  | .0213               | 4.000                | 1.625           | 3.000 | 2.250 | 1.125 | 0.438 | 0.375 | 0.375 |
| AT325                | 3.25 | 8.29  | .0359               | 5.000                | 1.938           | 3.750 | 2.750 | 1.375 | 0.563 | 0.500 | 0.375 |
| AT400                | 4.00 | 12.56 | .0544               | 5.000                | 2.250           | 4.500 | 3.500 | 1.750 | 0.563 | 0.500 | 0.375 |
| AT500                | 5.00 | 19.64 | .085                | 5.250                | 2.750           | 5.500 | 4.250 | 2.125 | 0.688 | 0.500 | 0.375 |
| AT800                | 8.00 | 50.26 | .2175               | 6.625                | 4.250           | 8.500 | 7.125 | 3.563 | 0.688 | 0.750 | 0.750 |

\* This is total internal volume, not recommended usable oil capacity.

\*\* Fill and drain ports located at top & bottom of air oil tank.

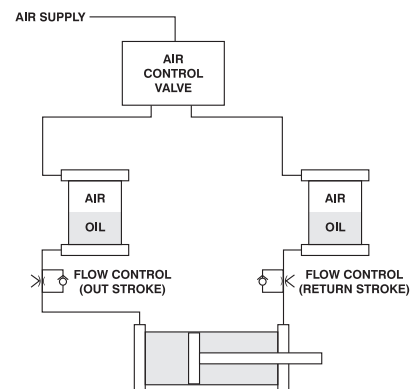
! On the AT500 & AT800 the fill & drain ports are not on centerline.

Note: When torquing Air/Oil Tank tie rods, refer to page 280 for specifications.

| Table B - Cylinder Piston Area |                       |
|--------------------------------|-----------------------|
| Cylinder Bore (in.)            | Piston Area (sq. in.) |
| 1.50                           | 1.77                  |
| 2.00                           | 3.14                  |
| 2.50                           | 4.91                  |
| 3.25                           | 8.30                  |
| 4.00                           | 12.57                 |
| 5.00                           | 19.64                 |
| 6.00                           | 28.27                 |
| 8.00                           | 50.27                 |

| Bore |       | Table C - Recommended Usable Tank Volume (Cubic Inches) With 30% Safety Factor |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |  |  |
|------|-------|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|--|--|
|      |       | Actual Internal Length Of Tank   |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |  |  |
|      |       | 5  | 6   | 7   | 8   | 9   | 10  | 12  | 14  | 16  | 18  | 20  | 25  | 30   | 35   | 40   | 45   |  |  |
| 2.50 | 4.91  | 17   | 20  | 24  | 27  | 31  | 34  | 41  | 48  | 55  | 61  | 68  | 86  | 103  | 120  | 137  | 154  |  |  |
| 3.25 | 8.30  | 29   | 34  | 40  | 46  | 52  | 58  | 69  | 81  | 93  | 104 | 116 | 145 | 174  | 203  | 232  | 261  |  |  |
| 4.00 | 12.57 | 44   | 52  | 61  | 70  | 79  | 88  | 105 | 123 | 140 | 158 | 176 | 220 | 264  | 308  | 352  | 396  |  |  |
| 5.00 | 19.64 | 68   | 82  | 96  | 110 | 123 | 137 | 165 | 192 | 220 | 247 | 275 | 343 | 412  | 481  | 550  | 618  |  |  |
| 8.00 | 50.27 | 176  | 211 | 246 | 281 | 317 | 352 | 422 | 493 | 563 | 633 | 704 | 880 | 1056 | 1232 | 1408 | 1584 |  |  |

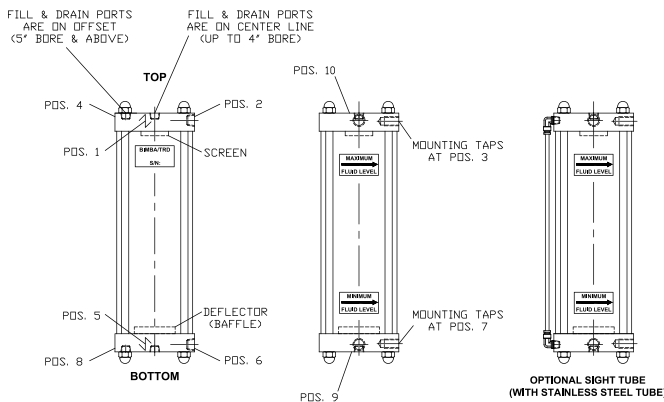
### TYPICAL AIR-OIL CIRCUIT



## SS-AT – Air/Oil Tanks

### Features:

- > 300 series stainless steel hardware
- > 250 PSI operating pressure
- > Internal steel baffles to reduce aeration and foaming
- > Fiber wound translucent tube (non-FDA material)
- > Optional stainless steel tube with sight glass (FDA approved materials)
- > Standard mount (MS4; four-tapped mounting holes back side)
- > Side lug mount (MS2) optional
- > Fill port located in top, drain port in bottom cap
- > Optional oversized ports for high flow applications or SAE and BSP ports



The Bimba air/oil system gives you the smooth operation typically associated with hydraulic systems but without the expense. Uses shop air, two air/oil tanks and a cylinder equipped with "TH" (hydraulic seals). Low initial investment and low maintenance to operate.

Tanks need to be mounted above the cylinder but not necessarily by the cylinder. This will create a self-purging oil circuit. It is advisable to size tanks 30-50% larger than cylinder volume in order to prevent the tanks from running dry and to allow for heat expansion.

### Sizing Your Air/Oil Tank:

1. Determine the cylinder volume by multiplying the square inches of piston area by the inches of stroke (see Table B). Add 30-50% to determine actual tank size.
2. Find the volume closest to your tank volume requirement in Table C. Note: Tanks of smaller diameters with greater lengths are generally less expensive than larger diameter, short tanks of equal volume.
3. To order, specify bore and internal length required. Example: SS-AT250 x 14 (2.50" bore, 14" internal tank length, with a usable volume of 52 cubic inches).

### How To Order:

Specify bore and internal length required.

#### Example 1: SS-AT250 x 10

(2.50" bore, 10" internal tank length with a usable volume of 52 cubic inches)

#### Example 2: SS-AT800 x 25

(8" bore, 25" internal tank length with a usable volume of 92 cubic inches)

| SS-AT                    | - |                  | X               |
|--------------------------|---|------------------|-----------------|
| Stainless Steel Air Tank |   | Bore Size        | Internal Length |
|                          |   | 250 (2.50" Bore) | 1" to 120"      |
|                          |   | 325 (3.25" Bore) |                 |
|                          |   | 400 (4.00" Bore) |                 |
|                          |   | 500 (5.00" Bore) |                 |
|                          |   | 800 (8.00" Bore) |                 |

# Product Features

## SS-AT – Air/Oil Tanks

| SS-AT Model |      |                     | Plus Internal Length | Tank Dimensions |       |       |                     |       |       |
|-------------|------|---------------------|----------------------|-----------------|-------|-------|---------------------|-------|-------|
| Part No.    | Bore | Gals Per Inch Tank* | B                    | C               | D     | F     | G                   | EE    | EE1   |
| SS-AT250    | 2.50 | 0.0213              | 2.000                | 3.000           | 1.250 | 0.438 | 3/8-16 x 0.625 DEEP | 0.375 | 0.375 |
| SS-AT325    | 3.25 | 0.0359              | 2.500                | 3.750           | 1.500 | 0.563 | 1/2-13 x 0.750 DEEP | 0.500 | 0.375 |
| SS-AT400    | 4.00 | 0.0544              | 2.500                | 4.500           | 2.063 | 0.563 | 1/2-13 x 0.750 DEEP | 0.500 | 0.375 |
| SS-AT500    | 5.00 | 0.0850              | 2.500                | 5.500           | 2.688 | 0.688 | 5/8-11 x 1.000 DEEP | 0.500 | 0.375 |
| SS-AT800    | 8.00 | 0.2175              | 3.000                | 8.500           | 4.500 | 0.688 | 3/4-10 x 1.125 DEEP | 0.750 | 0.750 |

\* This is total internal volume, not recommended usable oil capacity.

\*\* Fill and drain ports located at top & bottom of air oil tank.

▲ On the SS-AT500 & SS-AT800 the fill & drain ports are not on centerline.

Note: When torquing Air/Oil Tank tie rods, refer to page 280 for specifications.

### TYPICAL AIR-OIL CIRCUIT

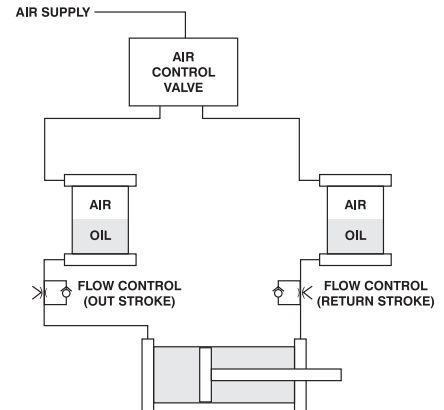


Table B - Cylinder Piston Area

| Cylinder Bore (In.) | Piston Area (Sq. In.) |
|---------------------|-----------------------|
| 1.50                | 1.77                  |
| 2.00                | 3.14                  |
| 2.50                | 4.91                  |
| 3.25                | 8.30                  |
| 4.00                | 12.57                 |
| 5.00                | 19.64                 |
| 6.00                | 28.27                 |
| 8.00                | 50.27                 |

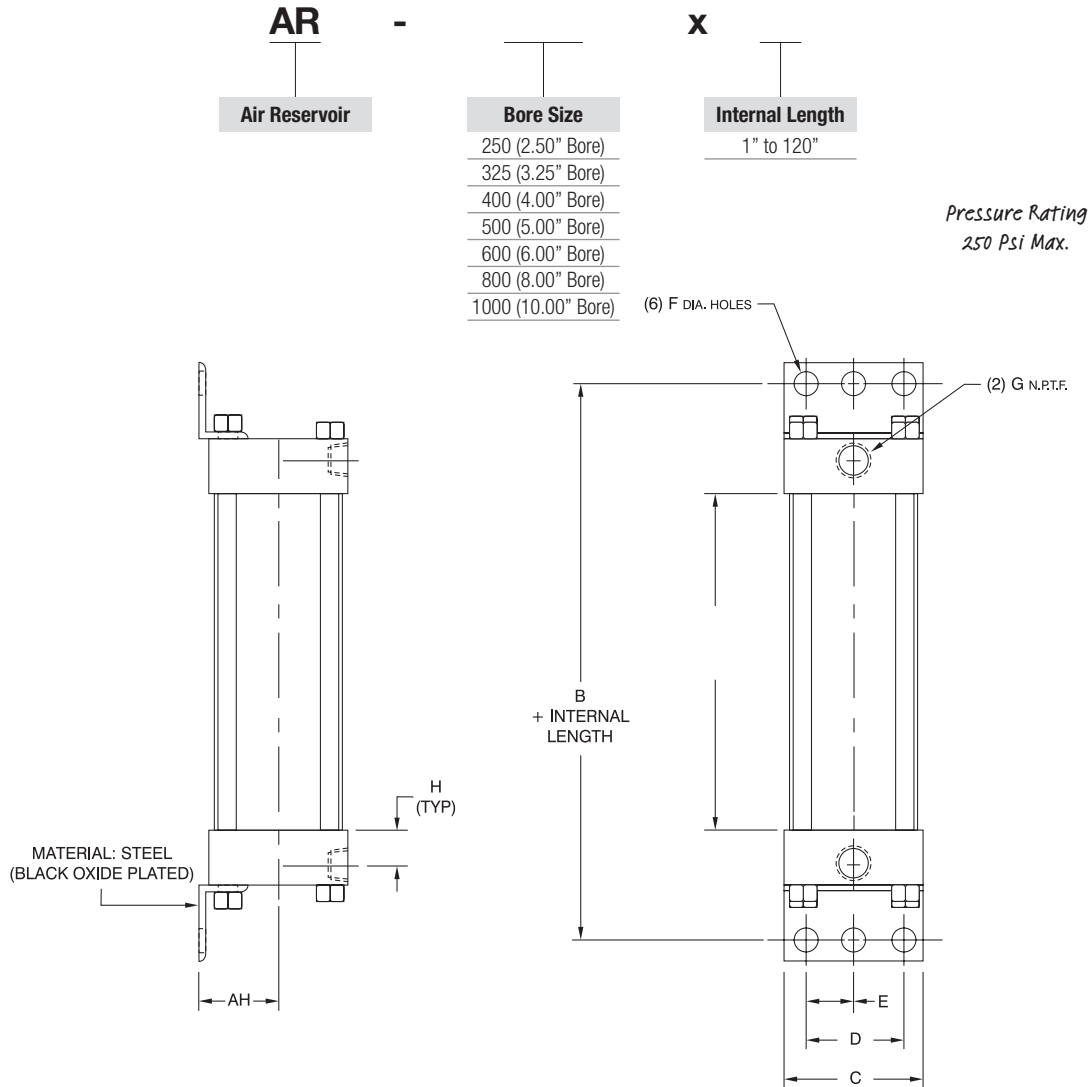
Table C - Recommended Usable Tank Volume (Cubic Inches) With 30% Safety Factor

| Bore | Area  | Actual Internal Length Of Tank |     |     |     |     |     |     |     |     |     |     |     |      |      |      |      |
|------|-------|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
|      |       | 5                              | 6   | 7   | 8   | 9   | 10  | 12  | 14  | 16  | 18  | 20  | 25  | 30   | 35   | 40   | 45   |
| 2.50 | 4.91  | 17                             | 20  | 24  | 27  | 31  | 34  | 41  | 48  | 55  | 61  | 68  | 86  | 103  | 120  | 137  | 154  |
| 3.25 | 8.30  | 29                             | 34  | 40  | 46  | 52  | 58  | 69  | 81  | 93  | 104 | 116 | 145 | 174  | 203  | 232  | 261  |
| 4.00 | 12.57 | 44                             | 52  | 61  | 70  | 79  | 88  | 105 | 123 | 140 | 158 | 176 | 220 | 264  | 308  | 352  | 396  |
| 5.00 | 19.64 | 68                             | 82  | 96  | 110 | 123 | 137 | 165 | 192 | 220 | 247 | 275 | 343 | 412  | 481  | 550  | 618  |
| 8.00 | 50.27 | 176                            | 211 | 246 | 281 | 317 | 352 | 422 | 493 | 563 | 633 | 704 | 880 | 1056 | 1232 | 1408 | 1584 |

## AR Series Air Reservoir

Stand-alone Air Reservoir from 2.50" to 10.00" bore size. Anodized Aluminum Tube and End Cap, Steel Mounting Bracket construction.

Note: Air reservoir is supplemental to existing air only. It is not a long-term storage vessel.



| Part Number & Volume |       |       |                               | Dimensions           |       |        |       |       |       |       |       |
|----------------------|-------|-------|-------------------------------|----------------------|-------|--------|-------|-------|-------|-------|-------|
| Part Number          | Bore  | Area  | Gallon Per Inch of Reservoir* | Plus Internal Length | AH    | C      | D     | E     | F     | G     | H     |
|                      |       |       |                               | B                    |       |        |       |       |       |       |       |
| AR-250               | 2.50  | 4.909 | .0213                         | 4.000                | 1.625 | 3.000  | 2.250 | 1.125 | 0.438 | 0.375 | 0.625 |
| AR-325               | 3.25  | 8.29  | .0359                         | 5.000                | 1.938 | 3.750  | 2.750 | 1.375 | 0.563 | 0.500 | 0.625 |
| AR-400               | 4.00  | 12.56 | .0544                         | 5.000                | 2.250 | 4.500  | 3.500 | 1.750 | 0.563 | 0.500 | 0.750 |
| AR-500               | 5.00  | 19.64 | .085                          | 5.250                | 2.750 | 5.500  | 4.250 | 2.125 | 0.688 | 0.500 | 0.750 |
| AR-600               | 6.00  | 28.27 | .122                          | 5.750                | 3.250 | 6.500  | 5.250 | 2.625 | 0.813 | 0.750 | 0.875 |
| AR-800               | 8.00  | 50.26 | .2175                         | 6.625                | 4.250 | 8.500  | 7.125 | 3.563 | 0.813 | 0.750 | 0.875 |
| AR-1000              | 10.00 | 78.54 | .340                          | 7.625                | 5.313 | 10.625 | 8.625 | 4.313 | 0.813 | 1.000 | 1.125 |

\*Internal Volume of reservoir.





