

AB121 Booster

IT Series Intensifiers

Reservoirs and Tanks



AB121 Booster

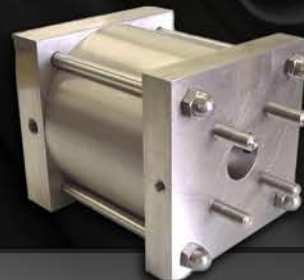
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IT Series

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Reservoirs & Tanks

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**95% OF OUR CYLINDERS SHIP IN 2-3 DAYS!
ONE DAY RUSH SERVICE AVAILABLE ON ALL CATALOGED CYLINDER MODELS!**

SERIES: AUTO RECIPROCATING AIR BOOSTER

Model Number: AB121

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:

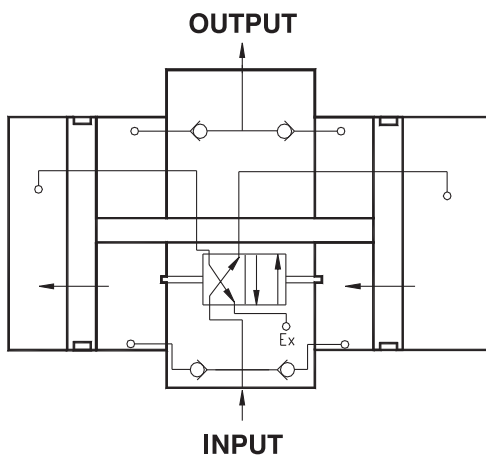
- Cylinders or Grippers: When space isn't available, a smaller bore or model size can be used with higher input PSI to achieve the desired output or grip force.
- Problem solver: Sometimes a cylinder or gripper was sized for an application, but in use, does not perform up to the production requirements. Increasing the input PSI can provide a quick and cost effective solution.



Model	Dimensions (inch)
<p>Model Number: AB121</p> <p>Availability: Stock Item</p> <p>Maximum Inlet Pressure: 125</p> <p>Prelubricated with HT-99</p>	

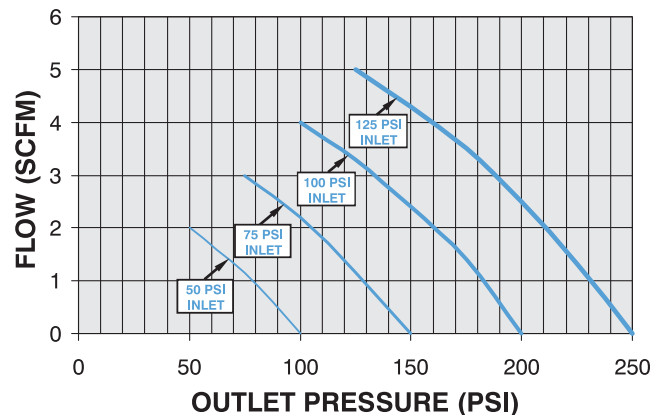
Engineering Specifications

- Maximum Input Pressure:** 125 psi
- Operating Temperature:** 15° to 160°F
- Lubrication:** HT-99 oil
- Bodies and Center Section:** Aluminum; Hard Coat with PTFE
- Mounting Plate:** Anodized Aluminum
- Estimated Charge Time:** 28 seconds per 1 gallon reservoir



SCHEMATIC

FLOW DATA

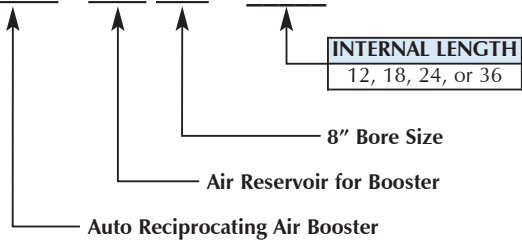


SERIES: AB121 WITH AIR RESERVOIR

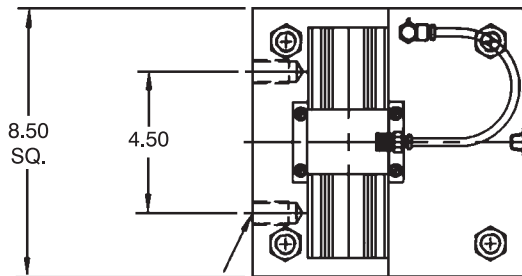
Model AB121 Air Booster furnished with Air Reservoir. Anodized Aluminum Tube and End Cap construction.

How to order:

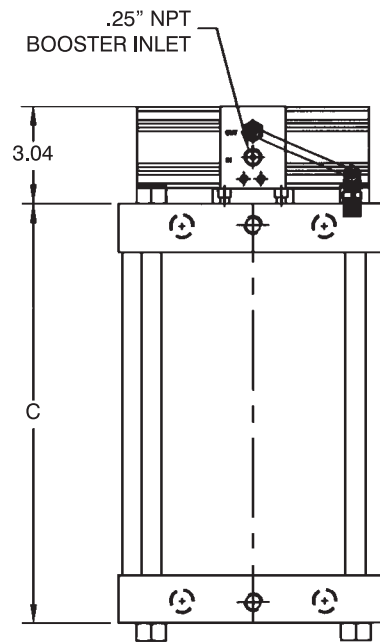
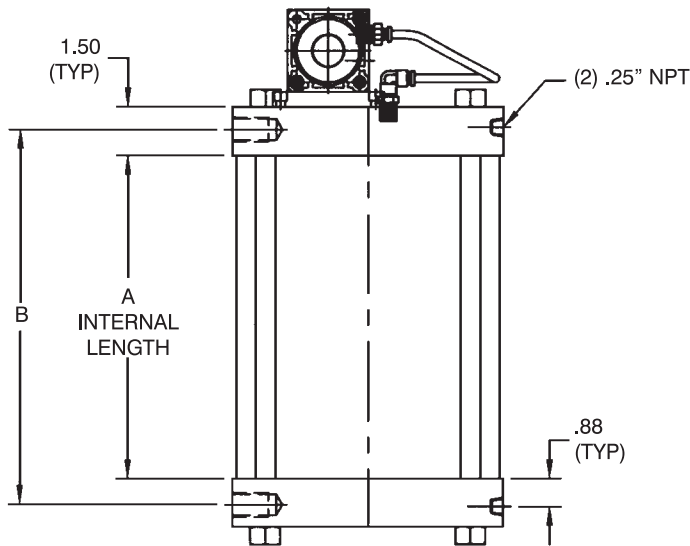
AB121 - ARB 800 X



**PRESSURE RATING
250 PSI MAX.**



(4) .75-10 TAP
X 1.13 DEEP



SERIES AB121-ARB800 X _____ AIR BOOSTER MODEL AB121 MOUNTED AND PIPED TO ARB800 AIR RESERVOIR

PART NUMBER & VOLUME					INTERNAL LENGTH (inches)	DIMENSIONS	
PART NO.	TANK BORE	AREA	GAL. PER IN. OF TANK	TOTAL CU. FT. 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

BASIC DIMENSIONS:

(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		

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 = $AREA \times STROKE$ Gallons = $\frac{AREA \times STROKE}{231}$

Example:
3.25" BORE X 16" STROKE CYLINDER = $8.296 \times 16 = 132.736$ CU. IN. OR .575 GALLONS

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
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Notes: (To Figure Volumes)
Cubic Inches = $AREA \times STROKE$ Gallons = $\frac{AREA \times STROKE}{231}$

Example:
3.25" BORE X 16" STROKE CYLINDER = $8.296 \times 16 = 132.736$ CU. IN. OR .575 GALLONS

SCHEMATICS:

AIR TO AIR INTENSIFIER:

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' (2) FLOW CONTROLS USED TO REGULATE CYLINDER SPEED.

AIR TO HYDRAULIC INTENSIFIER:

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' (2) FLOW CONTROLS USED TO REGULATE CYLINDER SPEED.

SERIES 'AT': AIR/OIL TANKS

Series AT features:

- 200 PSI Operating Pressure
- Aluminum End Caps
- Internal baffles to reduce aeration and foaming
- Fiber wound translucent tube
- Optional aluminum tube, fittings and 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 TRD air/oil system gives you the smooth operation typically associated with hydraulic systems, without the expense! Uses shop air, (2) 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, to prevent the tanks from running dry and to allow for heat expansion.

Sizing your air/oil tank:

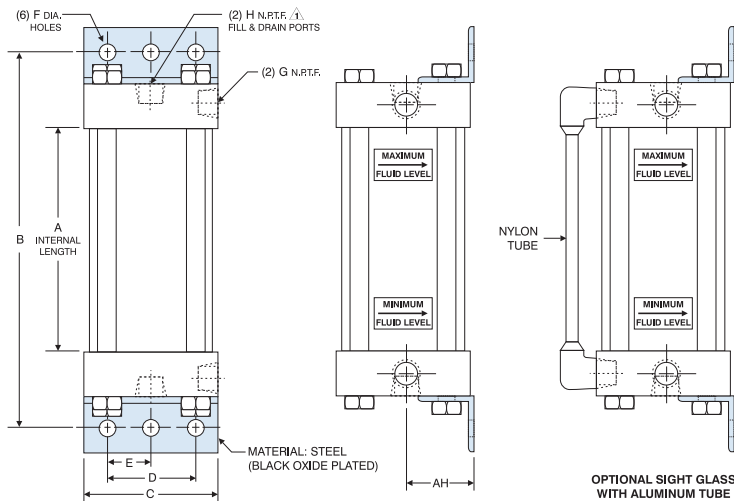
1. Determine the cylinder volume by multiplying the square inches of piston area by the inches of stroke. (See Table B) Add 30-50% to determine actual tank size.
2. Find the volume closest to your tank volume requirement in Table C. (Note: Tanks of smaller diameters with greater lengths are generally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

Example 1: AT250 x 14

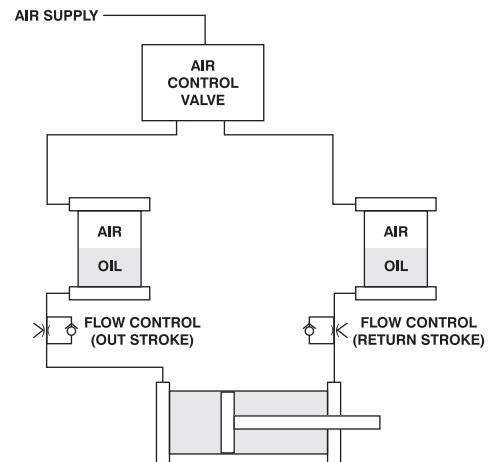
(2.50" Bore, 14" internal tank length, with a usable volume of 52 cubic inches).

Example 2: Same as above, with optional sight glass and aluminum tube —

AT250 x 14 - ALUMINUM TUBE AND SIGHT GLASS



TYPICAL AIR-OIL CIRCUIT



PART NUMBER & VOLUME				PLUS INTERNAL LENGTH		TANK DIMENSIONS						
PART NO.	BORE	AREA	*GALS PER INCH TANK	A	B	AH	C	D	E	F	G	H
AT250	2.50	4.91	.0213	0	4.000	1.625	3.000	2.250	1.125	0.438	0.375	0.375
AT325	3.25	8.29	.0359	0	5.000	1.938	3.750	2.750	1.375	0.563	0.500	0.375
AT400	4.00	12.56	.0544	0	5.000	2.250	4.500	3.500	1.750	0.563	0.500	0.375
AT500	5.00	19.64	.085	0	5.250	2.750	5.500	4.250	2.125	0.688	0.500	0.375
AT800	8.00	50.26	.2175	0	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.

⚠ On the AT-500 & AT-800 the fill & drain ports are not on centerline.

Note: When torquing Air/Oil Tank tie rods, refer to page 259 for specifications.

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	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	

SERIES 'SS-AT': AIR/OIL TANKS

Series SS-AT features:

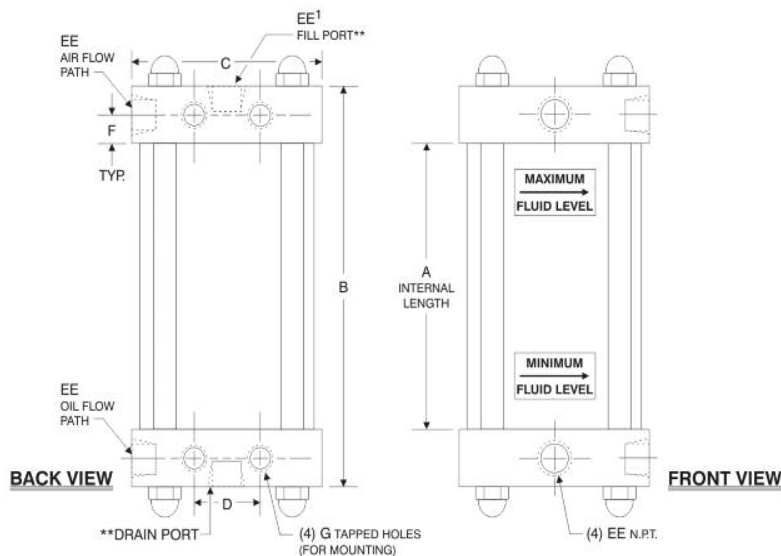
- 303/304 Stainless Steel Hardware
- 200 PSI Operating Pressure
- Internal Steel baffles to reduce aeration and foaming
- Fiber wound translucent tube (non-FDA material)
- Optional stainless steel tube, fittings and sight glass (FDA approved materials)
- Standard mount (MS4), (4 tapped mounting holes back side)
- Side lug mount (MS2) optional
- Fill port located in top, drain port in bottom cap
- Optional oversized ports for high flow applications (For oil velocity exceeding 6 feet per second)

The TRD air/oil system gives you the smooth operation typically associated with hydraulic systems, without the expense! Uses shop air, (2) 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, to prevent the tanks from running dry and to allow for heat expansion.

Sizing your air/oil tank:

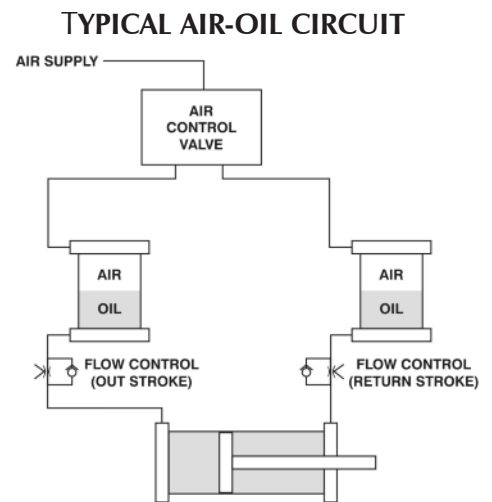
1. Determine the cylinder volume by multiplying the square inches of piston area by the inches of stroke. (See Table B) Add 30-50% to determine actual tank size.
2. Find the volume closest to your tank volume requirement in Table C. (Note: Tanks of smaller diameters with greater lengths are generally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



SS-AT MODEL			PLUS INTERNAL LENGTH		TANK DIMENSIONS						
PART NO.	BORE	*GALS PER INCH TANK	A	B	C	D	F	G	EE	EE ¹	
SS-AT250	2.50	0.0213	0	2.000	3.000	1.250	0.438	0.375-16 x 0.625 DEEP	0.375	0.375	
SS-AT325	3.25	0.0359	0	2.500	3.750	1.500	0.563	0.500-13 x 0.750 DEEP	0.500	0.375	
SS-AT400	4.00	0.0544	0	2.500	4.500	2.063	0.563	0.500-13 x 0.750 DEEP	0.500	0.375	
SS-AT500	5.00	0.0850	0	2.500	5.500	2.688	0.688	0.625-11 x 1.000 DEEP	0.500	0.375	
SS-AT800	8.00	0.2175	0	3.000	8.500	4.500	0.688	0.750-10 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.



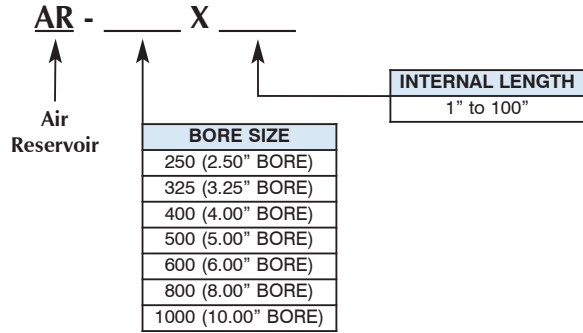
CYLINDER BORE (In.)	PISTON AREA (Sq. In.)
1.50	1.77
2.00	3.14
2.50	4.91
3.25	8.30
4.00	12.57
5.00	19.64
6.00	28.27
8.00	50.27

BORE	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

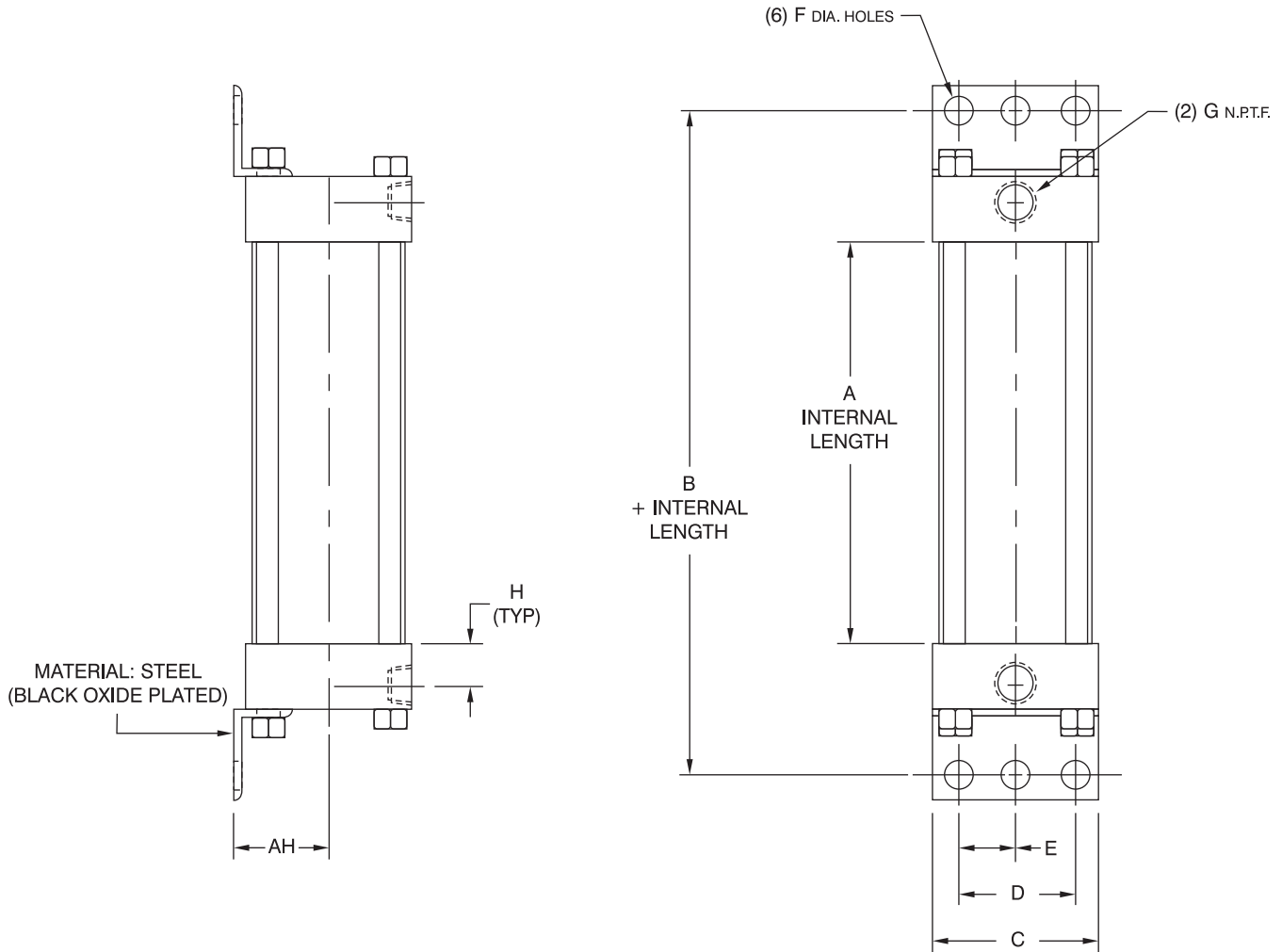
SERIES: AIR RESERVOIR

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

How to order:



PRESSURE RATING
250 PSI MAX.



AR SERIES (AIR RESERVOIR)

PART NUMBER & VOLUME				DIMENSIONS								
PART NO.	BORE	AREA	GAL. PER IN. OF RESERVOIR*	+ INTERNAL LENGTH		AH	C	D	E	F	G	H
				A	B							
AR-250	2.50	4.909	.0213	0	4.000	1.625	3.000	2.250	1.125	0.438	0.375	0.625
AR-325	3.25	8.29	.0359	0	5.000	1.938	3.750	2.750	1.375	0.563	0.500	0.625
AR-400	4.00	12.56	.0544	0	5.000	2.250	4.500	3.500	1.750	0.563	0.500	0.750
AR-500	5.00	19.64	.085	0	5.250	2.750	5.500	4.250	2.125	0.688	0.500	0.750
AR-600	6.00	28.27	.122	0	5.750	3.250	6.500	5.250	2.625	0.813	0.750	0.875
AR-800	8.00	50.26	.2175	0	6.625	4.250	8.500	7.125	3.563	0.813	0.750	0.875
AR-1000	10.00	78.54	.340	0	7.625	5.313	10.625	8.625	4.313	0.813	1.000	1.125

*Internal Volume of reservoir.