



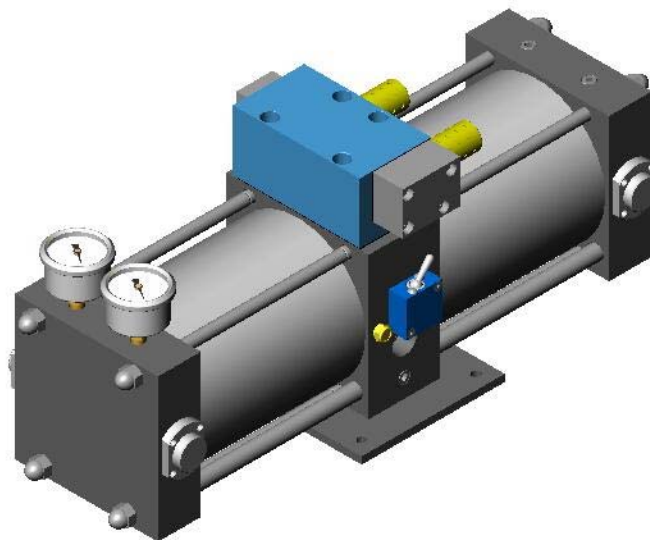
2:1 AIR AMPLIFIER

MODEL NUMBER AA-160

INSTALLATION, OPERATION & MAINTENANCE MANUAL

INTERFACE DEVICES, INC.  
230 DEPOT RD.  
MILFORD, CT. 06460

PH: 203/878-4648  
FX: 203/882-0885



AA-160 2:1 AIR AMPLIFIER

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## 1.0 INSTALLATION

### 1.1 MOUNTING:

The amplifier comes standard with a foot mounting bracket (four 1/4 inch fasteners required).

The unit may be mounted vertically (wall mount) or horizontally (floor mount).

### 1.2 CONNECTIONS:

Connect a regulated and filtered air supply to the 1/2 NPT "AIR IN" port on the pump (1/2 NPT, or larger size filter/regulator and plumbing. NO Lubricator Is required).

Connect your high pressure circuit to the 1/2 NPT "AIR OUT" port on the pump.

### 1.3 STARTUP:

Starting with the external air regulator backed-out all the way, slowly increase the pressure by turning the regulator knob clockwise. The pump will start to cycle while regulated pressure flows directly through the pump to the circuit.

The pump will stall when circuit pressure reaches 2 times the regulated pressure. The pump will maintain this pressure even if there is some circuit leakage. At this time check for and fix any circuit leaks since this only causes unnecessary air consumption and wear and tear on the pump.

## 2.0 MAINTAINENCE:

### 2.1 ROUTINE MAINTAINENCE:

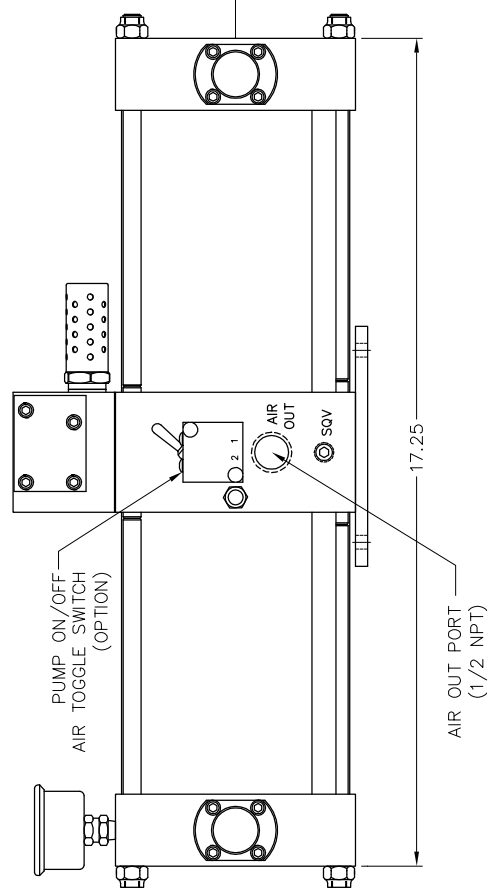
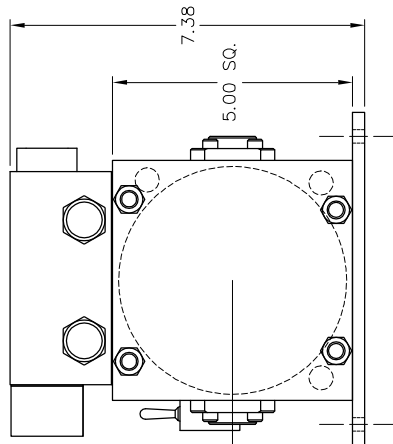
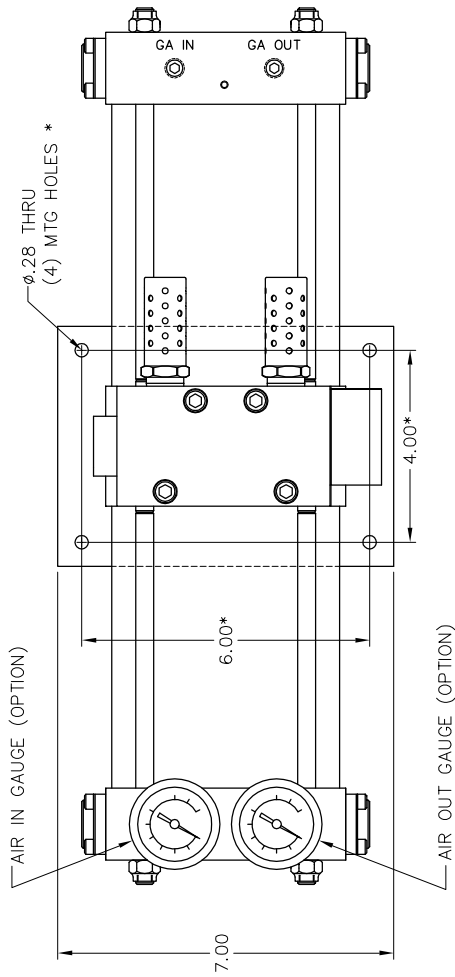
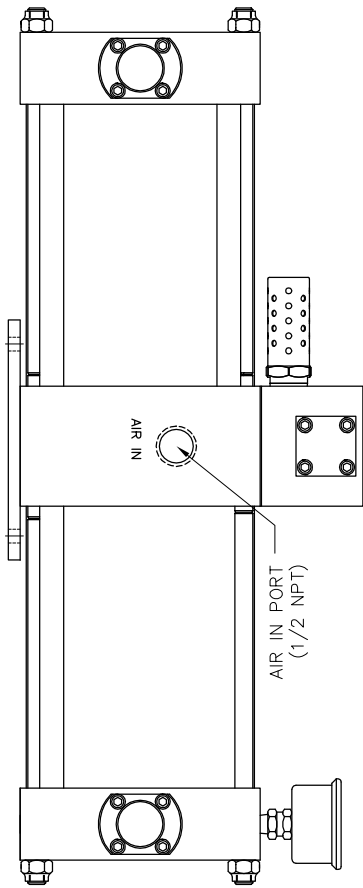
The only routine maintenance required is to re-grease the main air spool (item 9), the pilot piston O-ring (item 10) and the T-seals (items 7) every 6 months. Refer to the enclosed 4-way cycling valve assembly drawing.

2.2 TROUBLESHOOTING GUIDE: See following table on page 2.

2:1 AIR AMPLIFIER TROUBLESHOOTING GUIDE  
(Refer to enclosed Exploded View Drawings)

SYMPTOM	PROBABLE CAUSE(S)	REMEDY
<p>Pump will not cycle. No pressure at output.</p>	<p>No air supply to pump.  Pump air regulator supply set too low.</p>	<p>Look for and fix.  Increase setting.</p>
<p>Pump will not cycle with regulated pressure at output.</p>	<p>Four-way Air reciprocating valve spool stuck at mid-position.  After trying remedy above, spool still sticks:</p>	<p>Disconnect/Reconnect air supply (Re-sets air spool to end position.)  Disassemble air valve assembly Inspect for contamination or mechanical bind. Repair or replace, lubricate seals with water-proof grease.</p>
<p>Pump makes one cycle, then stops.</p>	<p>Faulty item 24 "2-way air valve" (Broken, leaks or contaminated).</p>	<p>Repair or replace.</p>
<p>Pump cycles constantly when "dead-headed".</p>	<p>External leak at pump or downstream high pressure circuit.  Stuck open or contaminated item 6 "Check Valve" cartridge (4 places).  Internal leak in pump.</p>	<p>Look for and correct.  Clean or replace. Note valve orientation at assembly.  Check all dynamic and static seals and gaskets. Replace if necessary.</p>

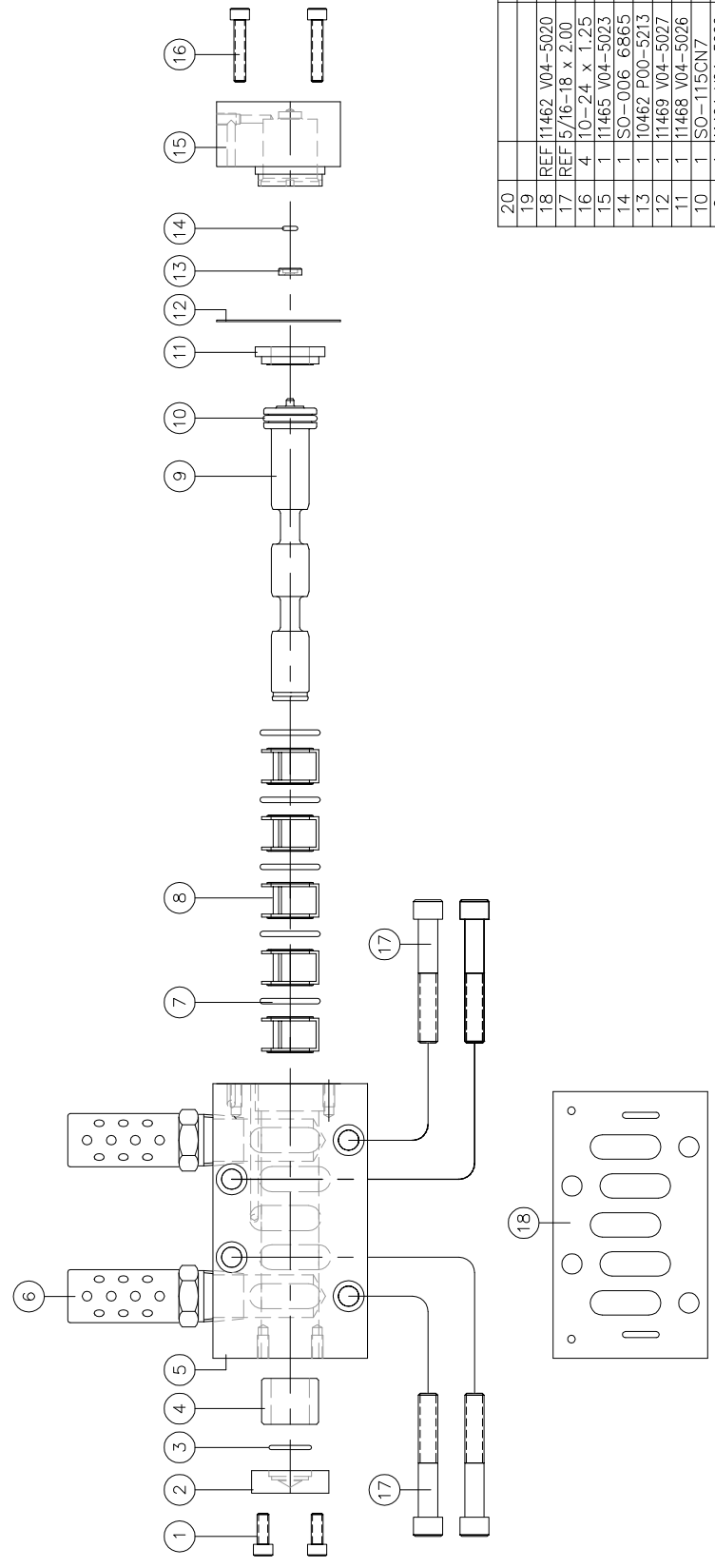
For further assistance call INTERFACE DEVICES, INC. at 203/878-4648.



INTERFACE DEVICES, INC.  
230 DEPOT ROAD  
MILFORD, CT 06460

SCALE: 1/4	TITLE: GENERAL ARRANGEMENT, AA-160 2:1 AIR AMPLIFIER
DWN BY: TWH	
DATE: 11/15/04	REF:
SHT: 1 OF: 1	DWG NO: P30-0002
	REV: -

REV	DESCRIPTION	BY	DATE
A	ITM 7 QTY WAS 6; ITM 16 WAS 10-24 x 1.00	WNI	12/20/04



NOTES  
 1 APPLY WATERPROOF WHITE GREASE TO ALL SEALS  
 AND MOVING PARTS AT ASSEMBLY

ITEM	QTY	PART NUMBER	DESCRIPTION
20			
19			
18	REF	11462 V04-5020	GASKET
17	REF	5/16-18 x 2.00	SOC HD CAP SCR
16	4	10-24 x 1.25	SOC HD CAP SCR
15	1	11465 V04-5023	SPOOL CAP
14	1	SO-006 6865	O-RING
13	1	10462 P00-5213	RETAINER, O-RING
12	1	11469 V04-5027	GASKET
11	1	11468 V04-5026	SPACER, SHORT
10	1	SO-115CN7	O-RING
9	1	11464 V04-5022	SPOOL
8	5		CAGE
7	5	A7128-200	TEE SEAL
6	2	10428	MUFFLER, 1/2 NPT
5	1	11463 V04-5021	BODY
4	1	11467 V04-5025	SPACER, LONG
3	2	SO-015B7	O-RING
2	1	11465 V04-5023	SPOOL CAP
1	4	10-24 x .50	SOC HD CAP SCR

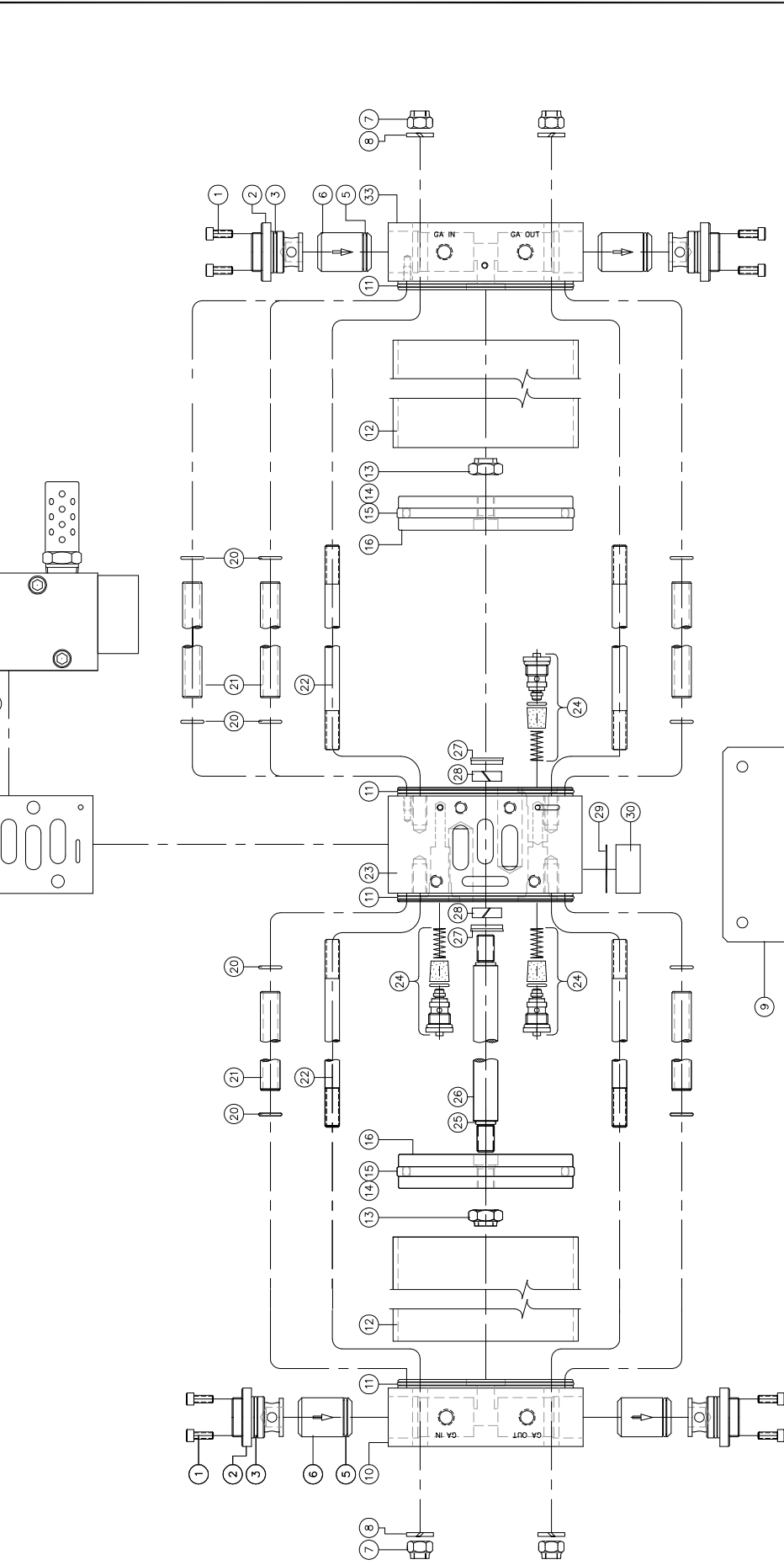
INTERFACE DEVICES, INC.  
 230 DEPOT ROAD  
 MILFORD, CT 06460

SCALE: 1/2  
 DWG BK: WNI  
 DATE: 7/12/04  
 REF:

TITLE: ASSEMBLY, ISO-3 VALVE  
 (APO, 4 WAY, 5 PORT, 2 POS)  
 SHE: 1 OF: 1  
 DWG NO: V04-1008  
 REF: A

ASSEMBLY PART NUMBER 11461

REV	DESCRIPTION	BY	DATE
A	MOD WORK LINE VLV TRANSFER ASSEMBLY TO WMS 10 VARISEAL - ITEM 15 WAS ORG X-25 X 13.75 WAS 4 DEL UTRMS 31 & 32. ADDED ITEM 23 WAS 4 DEL UTRMS 31 & 32. ADDED ITEM 23	WNI	9/13/04
B	RELOCATED GAUGE PORTS TO TOP SURFACE. ITEM 1 WAS 10-24 X .50. DEL. ITEM 4, ITEM 5 ITEM 1 WAS 10-24 X .50. DEL. ITEM 4, ITEM 5	WNI	11/17/04
C	WAS SD-208P. PICTURE CHANGE ITEM 6. ITEM 7 WAS PENN HEX NUT. ITEM 19 WAS 1/2-28.	WNI	12/20/04



20	10	ISO-01487	O-RING
19	1	11461 04-008	VALVE ASSY ISO-3 APD
18	1	11462 04-020	SOV CAP SCR
17	4	11467 V04-5200	GASKET
16	2	11455 P30-5208	PISTON
15	2	11487	GLYDRING
14	2	ISO-344B7	O-RING
13	2	7/16-20 NF THINFLEXLOC JAM NUT	
12	2	11454 P30-5205	CYLINDER TUBE
11	4	ISO-046B7	O-RING
10	1	11451 P30-5203	ENDPLATE -3
9	1	11458 P30-5802	MOUNTING BRACKET
8	3	7/8-24	FLEXLOC NUT
7	4	11350 M04-1002	CHECK VALVE
6	4	ISO-020B7	O-RING
5	4	ISO-021B7	O-RING
4	4	11453 P30-5204	RETAINER, CHECK VLV
3	2	11453 P30-5204	RETAINER, CHECK VLV
2	1	16	10-24 X .62
1	16	10-24 X .62	SOV HD CAP SCR

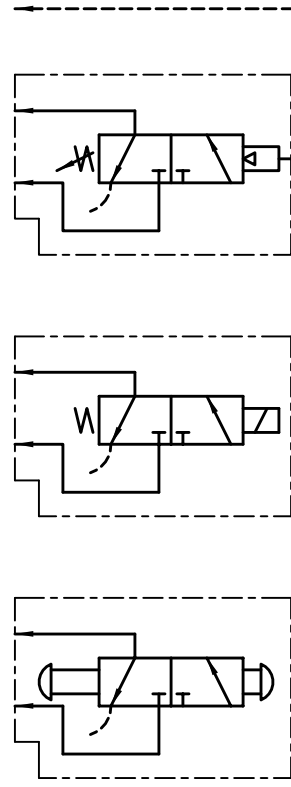
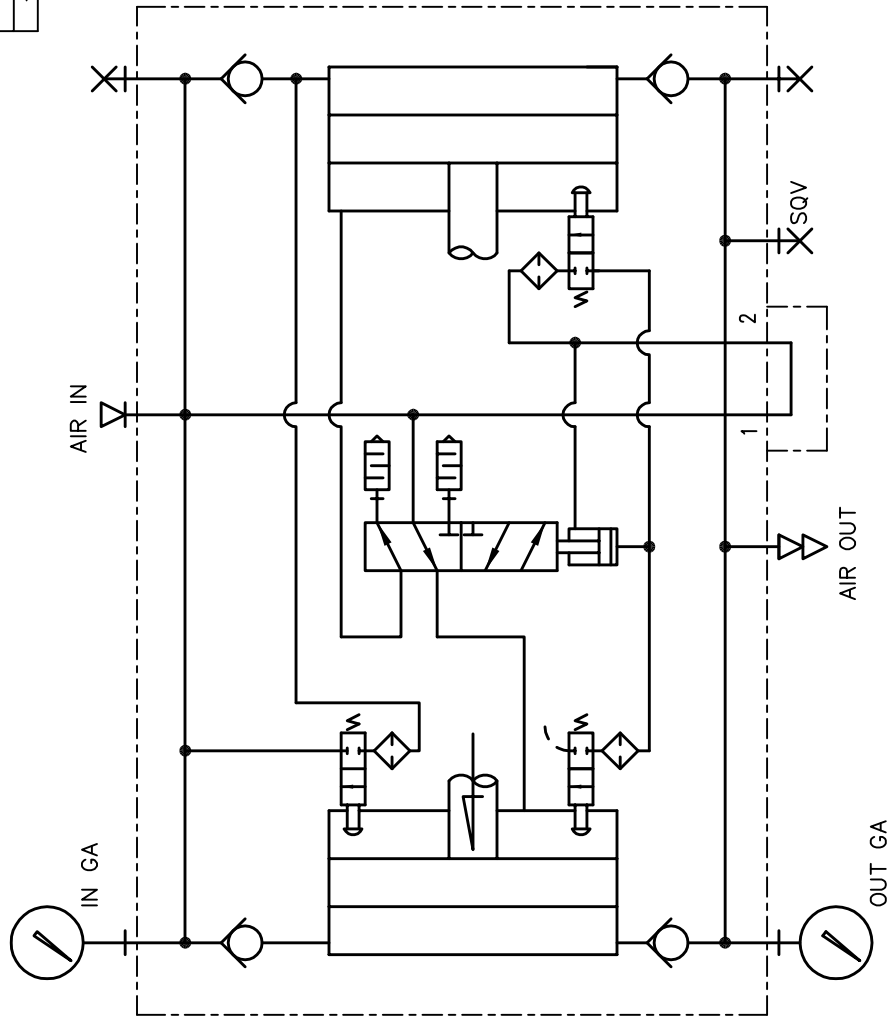
ITEM QTY	PART NUMBER	DESCRIPTION
		INTERFACE DEVICES, INC.
		230 DEPT ROAD
		MILFORD, CT 06460
SCALE: 1/2		
TITLE ASSEMBLY		
DWG BY: WNI		
LARGE AIR AMP		
DATE: 11/21/03 REF:		
DWG NO: P30-1002		
REV: C		

33	1	11485 P30-5210	ENDPLATE -2
32	4	1/4-20 X .38	FLAT HD. SCR
31	4	11456 P04-1206	ADAPTER BLOCK ASSY
30	1	11455 P04-5001	GASKET
29	REF	10333 V04-5001	SLYDRING
28	2	10865 M03-1008	VARISEAL
27	2	10865 M03-1008	VARISEAL
26	1	11456 P30-5207	ROD
25	2	ISO-905B7	O-RING
24	3	10017 V04-1005	VALVE ASSY, 2-WAY
23	1	11450 P30-5401	CENTERPLATE
22	8	11458 P30-5208	STUD
21	5	11457 P30-5208	TRANSFER TUBE
20	1	11457 P30-5208	TRANSFER TUBE

NOTES  
1 LIGHTLY APPLY WATERPROOF WHITE GREASE TO ALL SEALS AND MATING PARTS

ASSEMBLY PART NUMBER 11452

REV	DESCRIPTION	BY	DATE
-	-	-	-



		INTERFACE DEVICES, INC. 230 DEPOT ROAD MILFORD, CT 06460	
SCALE: N/A	TITLE: PNEUMATIC SCHEMATIC, AA-160 2:1 AIR AMPLIFIER		
DWN BY: TWH	REF: UNBAL AIR SPOOL		
DATE: 6/17/04	DWG NO: P30-4002		
SHT: 1 OF: 1	REV: -		