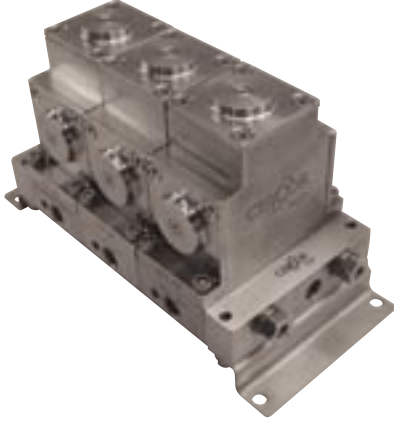


DBA Series

GC Manifold Assembly with DBB and DSV Series



Combines:

- Multiple DBB Series (Double-Block-and-Bleed Diaphragm Valve): *page 19* and
- One DSV Series (GC Diaphragm Valve, normally closed, with atmospheric reference): *page 24*

Available as:

- Multi-stream modular: *page 31*

The DBA Series diaphragm valve is a modular, stream-switching, manifold assembly containing double-block-and-bleed valves and a fast loop shut-off with an atmospheric reference. The DBA Series consists of DBB Series valves stacked with a single DSV Series valve. The individual valves can easily be integrated into an ANSI/ISA-76 compliant system with the use of a simple adapter plate (see our μ MS³™ Modular Substrate System brochure for additional information). The DBA Series is totally free of springs, bellows, packing and lubricants in the process wetted area. Metal-to-metal seals to atmosphere ensure that there is no leaching of undesirable elements into the flow stream. Elgiloy® diaphragms ensure the utmost in corrosion resistance and life span. For Elgiloy® chemical compatibility see the *Technical Support* section of the CIRCOR Tech website at www.circortech.com.

Features & Benefits

- Stream select manifold assembly
- Surface mount ANSI/ISA-76 compliant*
- Metal-to-metal seals to atmosphere
- Wide variety of materials for virtually all applications
- No dynamic o-rings, springs, or lubricant in wetted flow path
- Very low internal volume (1.94 cc)
- Pneumatic actuation
- Pressures from vacuum (50 torr) to 400 psig (27.6 BAR)
- Compact package (3" L × 2.6" H × 1.5" W)

* with μ MS³™ adapter plate

Technical Data

BODY	316L stainless steel, Monel® or Hastelloy® C-276
SEATS	Tefzel®, PCTFE (Kel-F®), Polyimide (Vespel®), or PEEK™
DIAPHRAGMS	Elgiloy® AMS 5876
WORKING TEMPERATURE RANGE	-40° F to +400° F (-40° C to +204° C)
WORKING PRESSURE RANGE	Vacuum (50 torr) to 400 psig (27.6 BAR)
ORIFICE SIZE	0.110" (2.8 mm)
FLOW CAPACITY	0.13 Cv
VALVE INTERNAL VOLUME*	1.94 cc
LEAKAGE	1 × 10 ⁻⁵ cc/sec helium (inboard)
ACTUATION PRESSURE	50 psig

* Dead volume in machined passages of the valve body between mounting surface and sealing diaphragm(s).

Operating Pressures

OPERATING PRESSURE	Vacuum (50 torr) to 400 psig (27.6 BAR)
PROOF PRESSURE	1,000 psig
BURST PRESSURE	2,000 psig

Operating Temperatures

SEAT MATERIAL	TEMPERATURE	
Tefzel®	-40° F to +140° F	-40° C to +60° C
PCTFE (Kel-F®)	-40° F to +300° F	-40° C to +149° C
Polyimide (Vespel®)	-40° F to +400° F	-40° C to +204° C
PEEK™	-40° F to +400° F	-40° C to +204° C

CIRCOR Tech

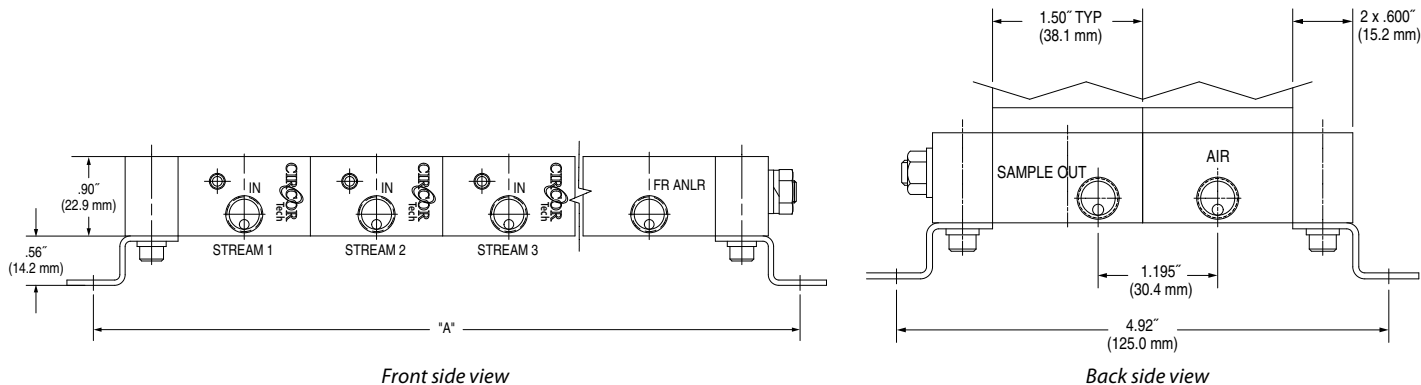
405 Centura Court • PO Box 4866 (29305) • Spartanburg, SC 29303
 Phone (864) 574-7966 • Fax (864) 574-5608
www.circortech.com

diaphragm valves

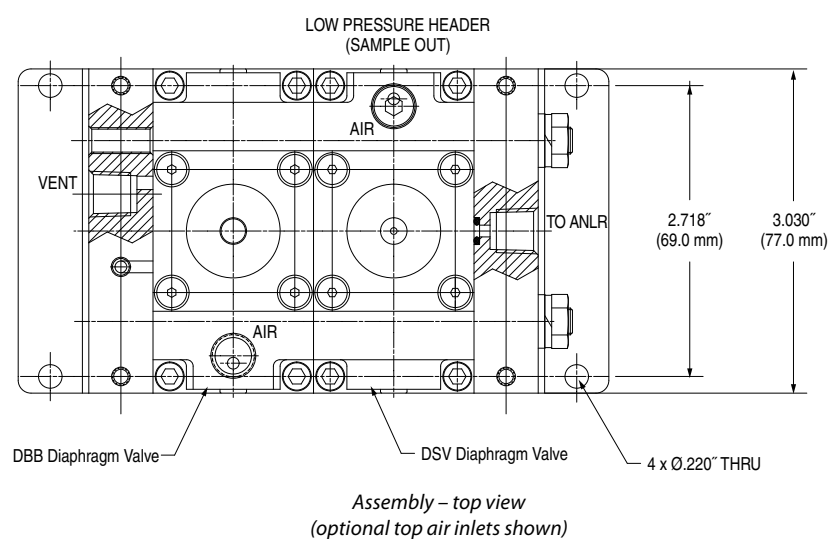
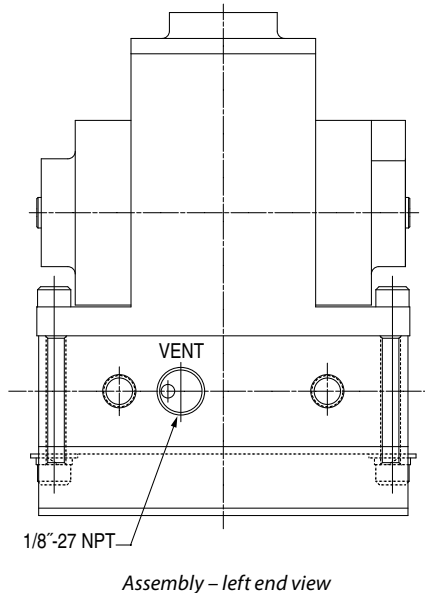
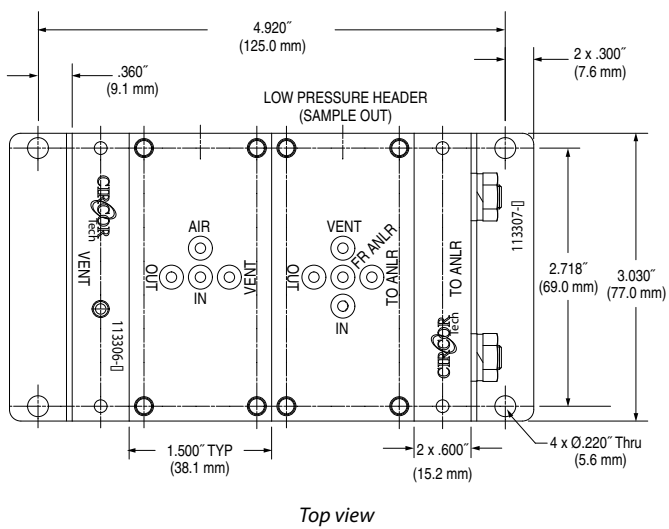
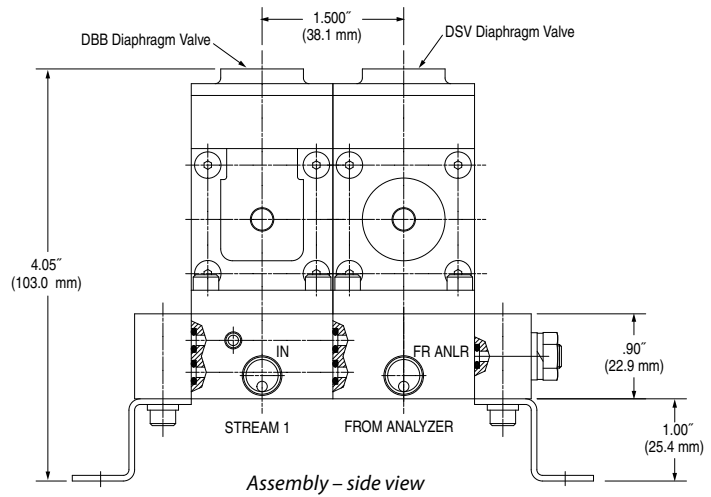
DBA Series

Dimensions

Multi-stream Modular Manifold Assembly (with Mounting Brackets)



NUMBER OF MANIFOLDS A	2	3	4	5	6	7	8	9	10	11	12
	inches	4.92	6.42	7.92	9.42	10.92	12.42	13.92	15.42	16.92	18.42
mm	125	163	201.2	239.3	277.4	315.5	353.6	391.7	429.8	467.9	506

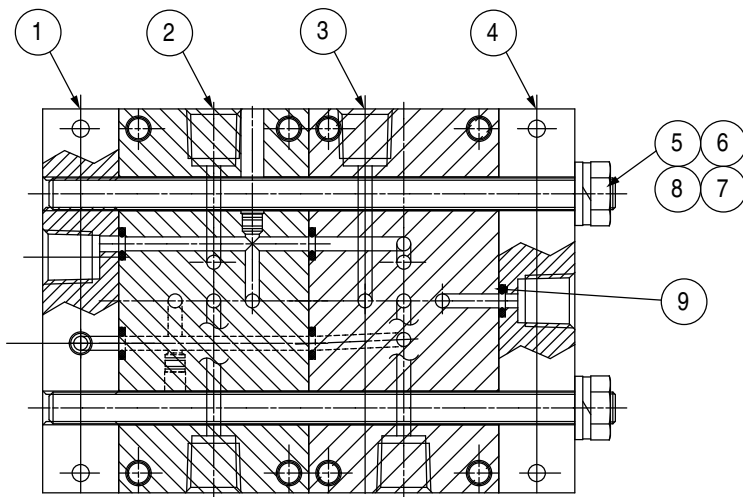


DBA Series

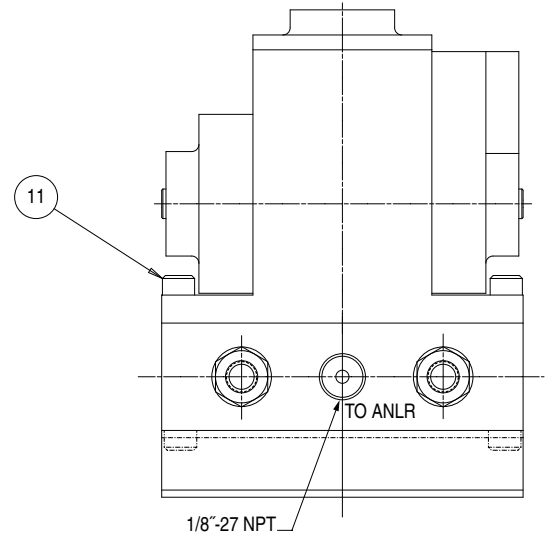
Materials of Construction

#	PART	MATERIALS
1	End plate with vent*	316L stainless steel, Monel® & Hastelloy® C-276
2	Manifold baseplate (DBB)*	316L stainless steel, Monel® & Hastelloy® C-276
3	Manifold baseplate (DSV)*	316L stainless steel, Monel® & Hastelloy® C-276
4	End plate to analyzer*	316L stainless steel, Monel® & Hastelloy® C-276
5	Flat washer	18-8 stainless steel
6	Lock washer	18-8 stainless steel
7	Nut	18-8 stainless steel
8	Threaded rod	18-8 stainless steel
9	O-ring*	Viton®, Kalrez®, or Teflon®
10	Bracket	316 stainless steel
11	Screw	18-8 stainless steel
12	Flat washer	18-8 stainless steel
13	Lock washer	18-8 stainless steel

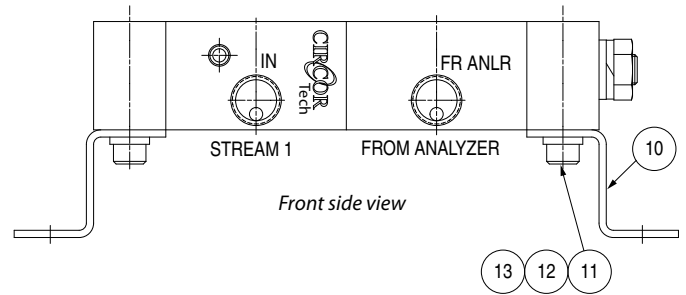
* Wetted components



Top view, sectioned
(2 streams)



Assembly - right end view

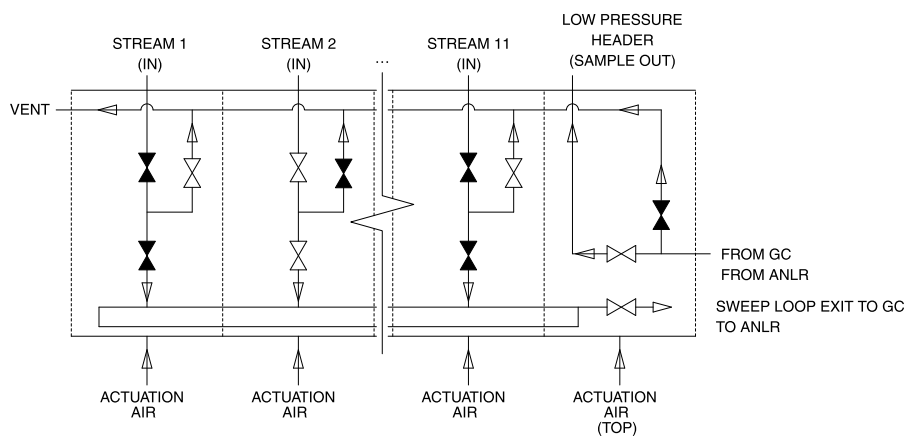
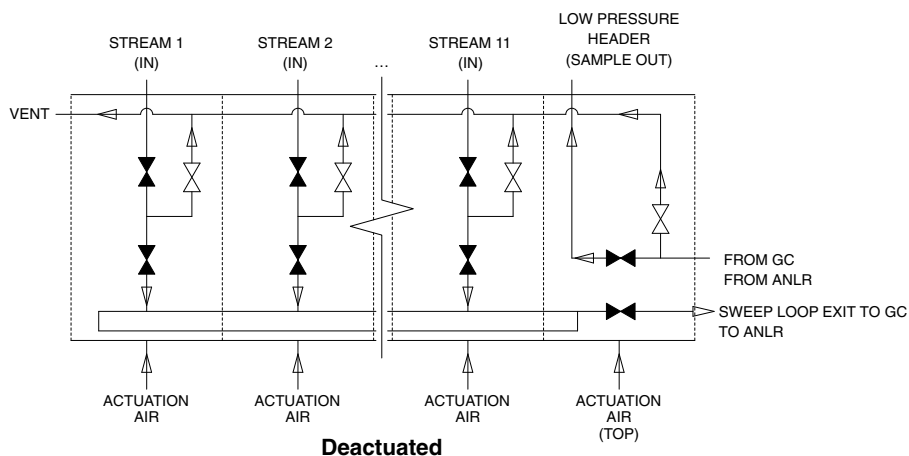


Front side view

DBA Series

Typical Flow Schematic

Multi-stream Modular Manifold Assembly



How to Order

STANDARD ITEMS IN BOLD. Consult Customer Service for pricing and lead times for non-standard items.

DBA - 1 F2 H D 0 02

BODY MATERIAL

- 1** 316L stainless steel
- 4 Monel®
- 6 Hastelloy® C-276

CONNECTION TYPE

- F2** 1/8" female NPT

SEAT MATERIAL

- A** Tefzel®
- C** Polyimide (Vespel®)
- H** PCTFE (Kel-F®)
- Q** PEEK™

NUMBER OF STREAMS

Specify from two manifolds (02) to twelve (12)

OPTIONS

- 0** None
- 1** Cleaned for oxygen service
- 5** Silcosteel® passivated**
- 8** Top air inlet

O-RING MATERIAL

- D** Viton®
- F** Teflon®**
- K** Kalrez®

* Available as special (not suitable for all applications)

** Other Restek Corp. coatings (Sulfinert®, Silcosteel®-CR) available on request.