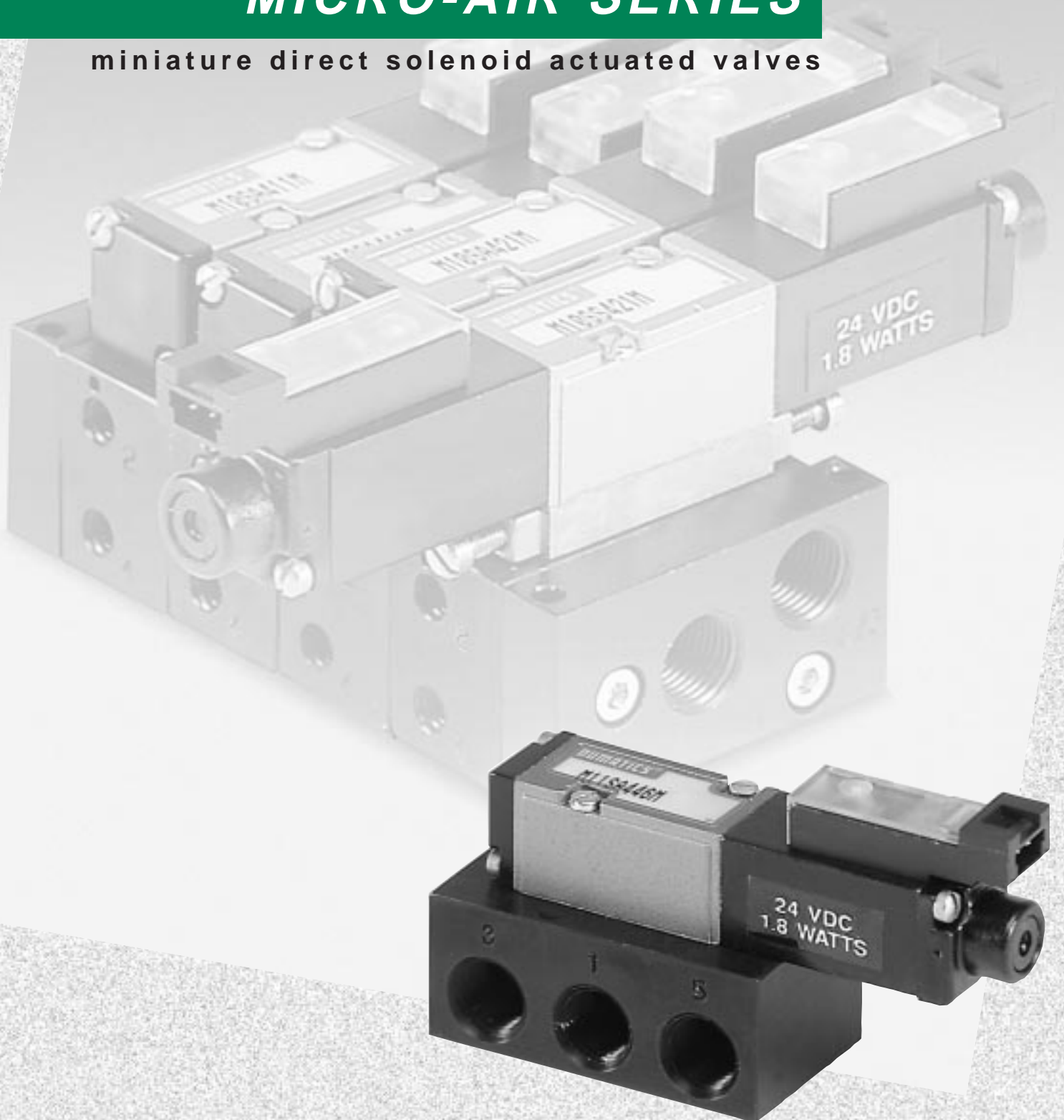


MICRO-AIR SERIES

miniature direct solenoid actuated valves



MicroAir direct solenoid actuated miniature valves

TECHNICAL DATA 3

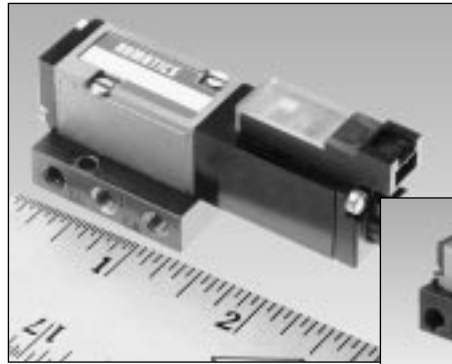
VALVES MODEL SELECTION 3

VALVE/BASE DIMENSIONS 4

FLEXIBLOK MANIFOLDS 5

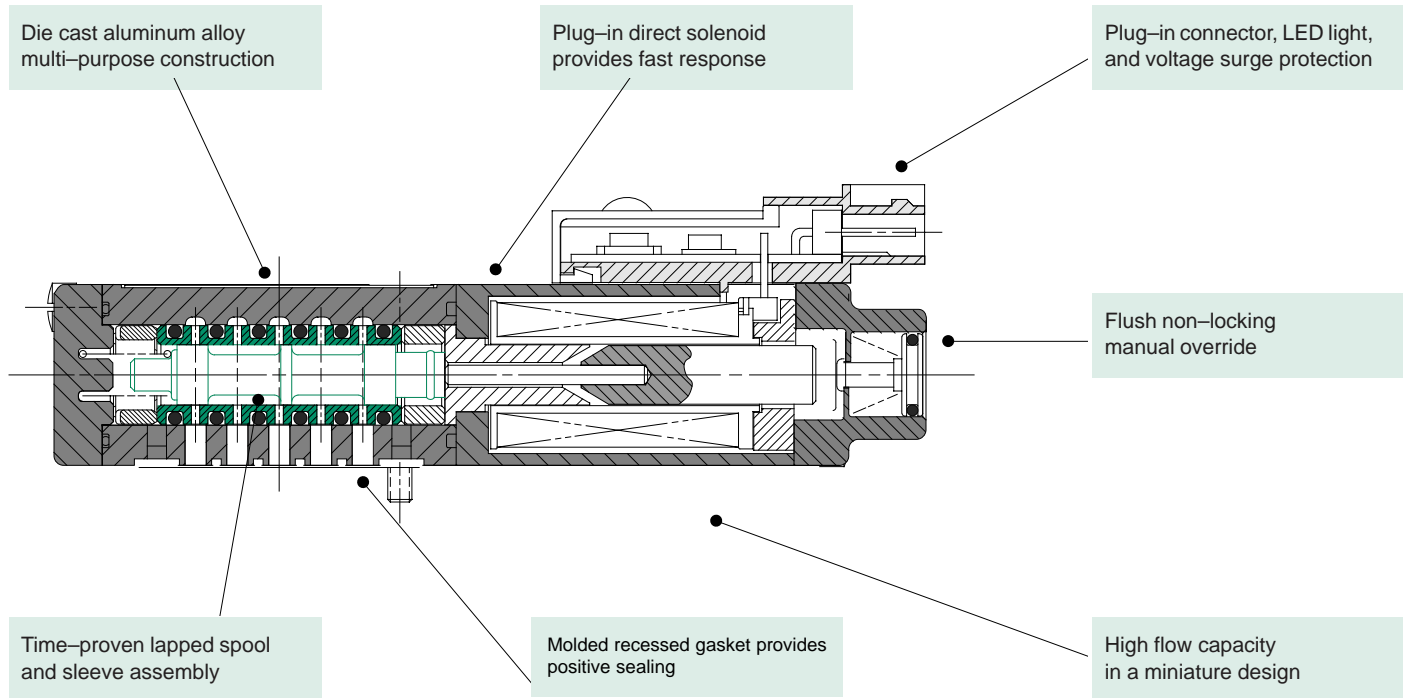
ACCESSORY KITS 6

VALVE SERVICE KITS 7



MICRO AIR FEATURES:

MicroAir valves are designed for miniature automation applications blending high performance in a miniature package size. MicroAir offers high flow ($C_v = 0.13$) in a compact size — only 15 millimeters wide. MicroAir also features many plug-in features including a plug-in solenoid and optional speed control sandwich.



MicroAir valves

- direct solenoid actuated
- plug-in solenoid with plug-in connector and LED light
- multi-purpose
- 5-ported, 4-way, 2 and 3 position
- lapped spool and sleeve assembly
- Cv to 0.13
- 1/8 NPTF or G tap / 10-32 UNF-3B or M5 ports
- for unlubricated or lubricated service
- integral speed control available
- modular building block system



Technical data

Valve Data	NPTF	UNF-3B	G TAP	M5
Cv:	1/8 = 0.13	10-32 = 0.13	1/8 = 0.13	M5 = 0.13
Flow Capacity: upstream pressure to atmosphere (@ 80 PSIG)	6 SCFM	6 SCFM	128NI/m	128 NI/m
Operating Pressure Range:	28" Hg. Vacuum to 150 PSIG		Vacuum to 10 Bar	
Temperature Range:	-10 F to +115 F ambient		-23 C to +46 C ambient	

Operating data

Voltage	Holding Current (amps)	Power (Watts)	Time to Energize			Time to De-Energize		
			2-position single, spring return	2-position double, detented	3-position spring centered	2-position single, spring return	2-position double, detented	3-position spring centered
12 VDC	0.16	~ 1.8 W	0.014	0.014	0.014	0.018	N/A	0.018
24 VDC	0.083	~ 1.8 W	0.014	0.014	0.014	0.018	N/A	0.018

3.5 watt also available, consult factory for more information.

MicroAir model selection table (standard valve/mounting combinations)

Valve Function	Port Size	Individual base: side ports, individual exhaust		FlexiBlok manifold with side cylinder ports	
		without speed control	with speed control	without speed control	with speed control
UNIT ONLY M10SA400M 	10-32 UNF-3B	M10SA441M	M10SA446M	M10SA411M	M10SA421M
	1/8 NPTF	M11SA441M	M11SA446M	M11SA411M	M11SA421M
UNIT ONLY M10SS400M 	10-32 UNF-3B	M10SS441M	M10SS446M	M10SS411M	M10SS421M
	1/8 NPTF	M11SS441M	M11SS446M	M11SS411M	M11SS421M
UNIT ONLY M10SS500M 	10-32 UNF-3B	M10SS541M	M10SS546M	M10SS511M	M10SS521M
	1/8 NPTF	M11SS541M	M11SS546M	M11SS511M	M11SS521M
UNIT ONLY M10SS600M 	10-32 UNF-3B	M10SS641M	M10SS646M	M10SS611M	M10SS621M
	1/8 NPTF	M11SS641M	M11SS646M	M11SS611M	M11SS621M

MicroAir is available in standard voltages of 12 VDC and 24 VDC. Specify voltage after model number.

G 1/8 options: For G 1/8 ports, add a "G" to the 1/8 NPTF model number. **EXAMPLE: M11SA411MG**

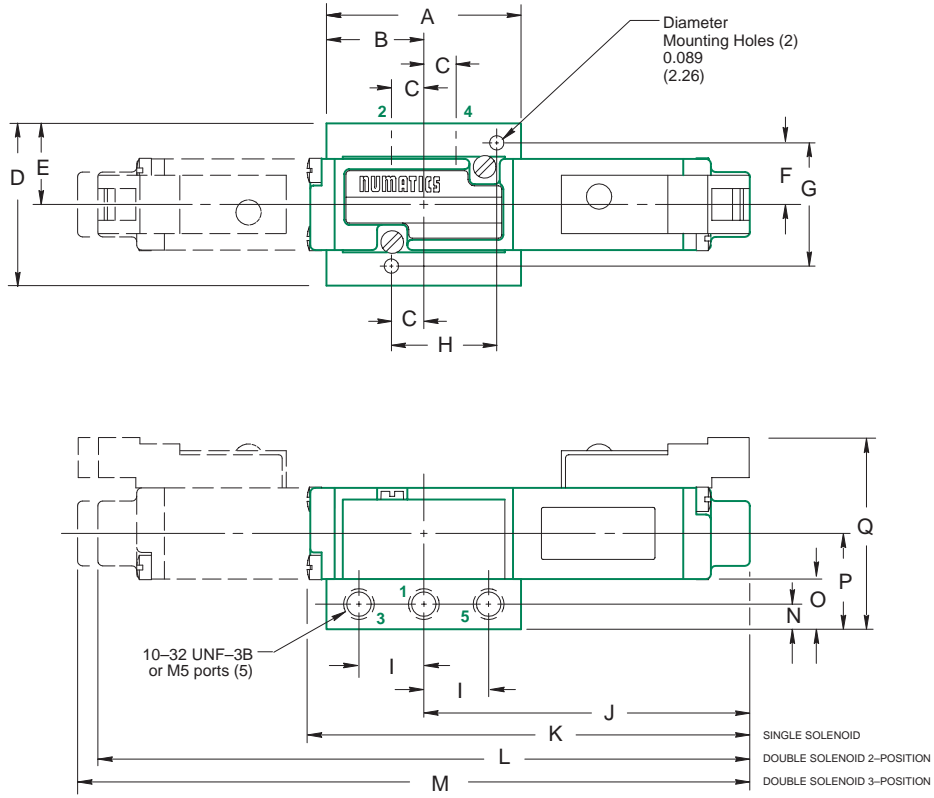
M5 options: For M5 ports, add an "M" to the 10-32 UNF-3B model number. **EXAMPLE: M10SA411MM**



MicroAir valve dimensions with 10-32 UNF-3B base

Dimensions	
A	1.20 (30.5)
B	0.60 (15.2)
C	0.20 (5.1)
D	1.00 (25.4)
E	0.50 (12.7)
F	0.38 (9.6)
G	0.76 (19.3)
H	0.65 (16.5)
I	0.40 (10.2)
J	2.01 (51.1)
K	2.73 (69.3)
L	4.02 (102.1)
M	4.14 (105.1)
N	0.16 (4.1)
O	0.31 (7.9)
P	0.60 (15.2)
Q	1.18 (30.0)

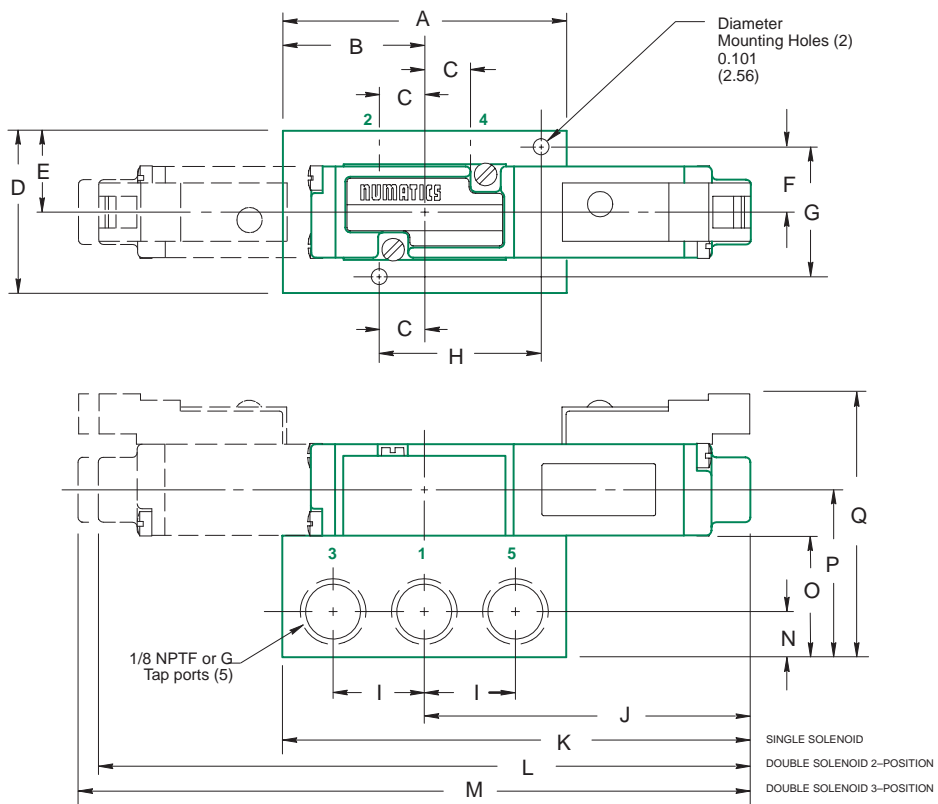
dim. = in. (mm)



MicroAir valve dimensions with 1/8 NPTF base

Dimensions	
A	1.75 (44.5)
B	0.88 (22.4)
C	0.28 (7.1)
D	1.00 (25.4)
E	0.50 (12.7)
F	0.40 (10.2)
G	0.80 (20.3)
H	1.00 (25.4)
I	0.56 (14.2)
J	2.01 (51.1)
K	2.88 (73.3)
L	4.02 (102.1)
M	4.14 (105.1)
N	0.28 (7.1)
O	0.75 (19.1)
P	1.04 (26.2)
Q	1.62 (41.1)

dim. = in. (mm)



MicroAir FlexiBlok manifolds

- unique modular design allows multistation manifolding
- 1/8 NPTF or G tap / 10-32 UNF-3B or M5 side cylinder ports
- end plate tapped, both ends

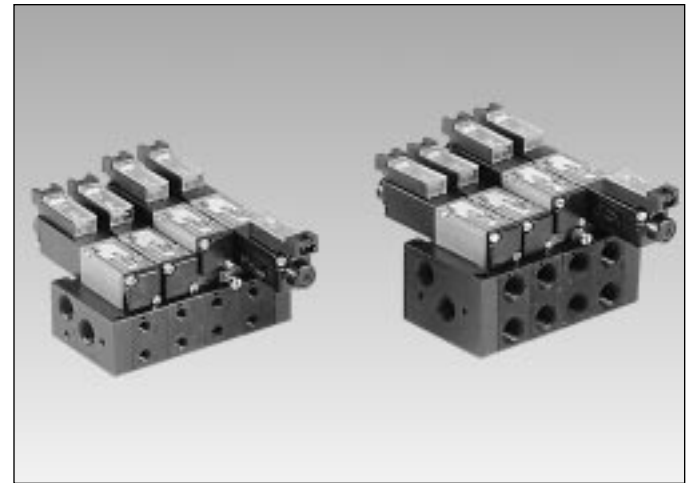
How to order

List in order, left to right, beginning with Station 1. Example:

Manifold Type	10-32 UNF-3B	1/8 NPTF
Assembly Kit:*	AKM01-2	AKM11-2
Station 1:	M10SA411M 24VDC	M11SA411M 24VDC
Station 2:	M10SS411M 24VDC	M11SS411M 24VDC
Blocking Plug: (install in P gallery)	239-466	239-466
	ASSEMBLED	ASSEMBLED

*How to order assembly kits for MicroAir FlexiBlok:

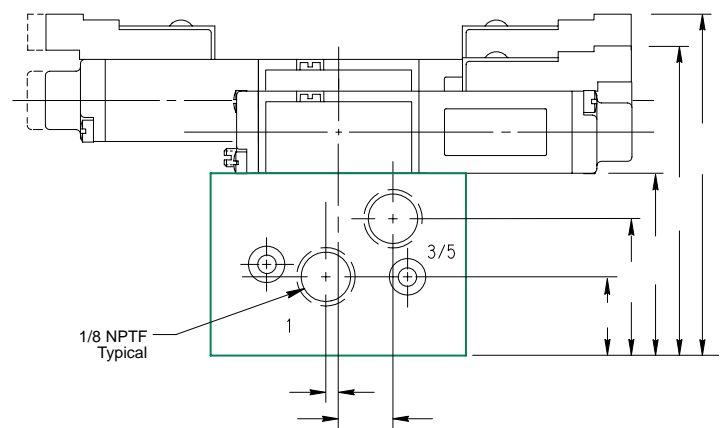
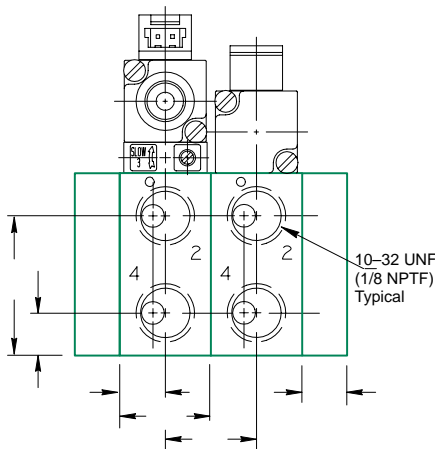
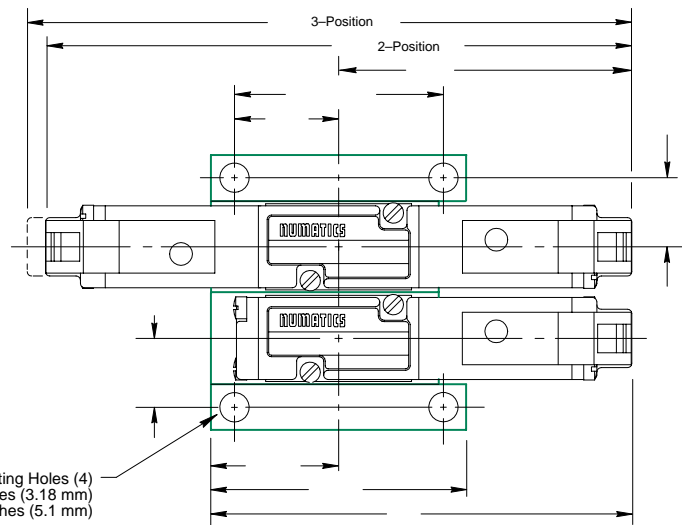
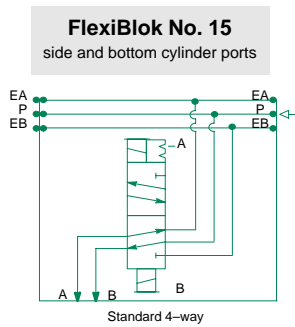
10-32 = AKM01-	No. of	Port	Blank =
1/8 = AKM11-	Stations	Type	ports 1 & 3/5, 1/8 NPTF
			ports 2 & 4, 1/8 NPTF or 10-32 UNF-3B
			G = All Ports, G1/8
			M = Ports 2 & 4, M5
			Ports 1 & 3/5, G1/8



Factory assembled kits consist of end plates, screw assemblies, and assembly and testing of the entire FlexiBlok manifold for proper operation. Due to flow, wiring, and practical assembly limitations, a maximum of 12 stations per assembly is recommended.

MicroAir FlexiBlok dimensions

Dimensions		
BLOK	10-32	1/8
A	4.14 (105.2)	4.14 (105.2)
B	4.02 (102.1)	4.02 (102.1)
C	2.01 (51.1)	2.01 (51.1)
D	1.456 (37)	1.432 (36.4)
E	0.708 (18)	0.713 (18.1)
F	0.456 (11.6)	0.469 (11.9)
G	0.80 (20.3)	.875 (22.2)
H	1.64 (41.7)	1.75 (44.5)
I	2.81 (71.4)	2.88 (73.2)
J	0.667 (16.9)	0.957 (24.3)
K	0.207 (5.3)	0.292 (7.4)
L	0.30 (7.6)	0.313 (8.0)
M	0.312 (7.9)	0.312 (7.9)
N	0.625 (15.9)	0.625 (15.9)
O	0.085 (2.2)	0.085 (2.2)
P	0.45 (11.4)	0.375 (9.5)
Q	0.437 (11.1)	0.54 (13.7)
R	0.605 (15.4)	0.938 (23.8)
S	0.875 (22.2)	1.25 (31.8)
T	1.745 (44.3)	2.12 (53.9)
U	1.95 (49.5)	2.33 (59.2)



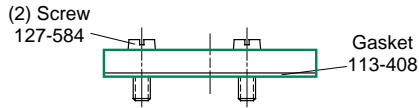


MicroAir accessory kits

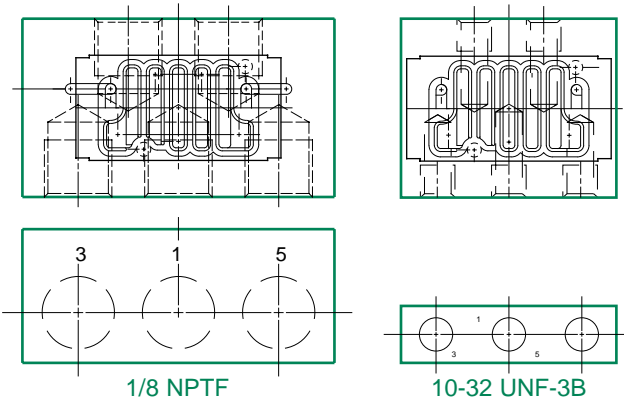
End plate kits 10-32 UNF-3B 239-462 1/8NPTF 239-463 M5 239-464 G 1/8 239-465



Blank station plate **239-457**

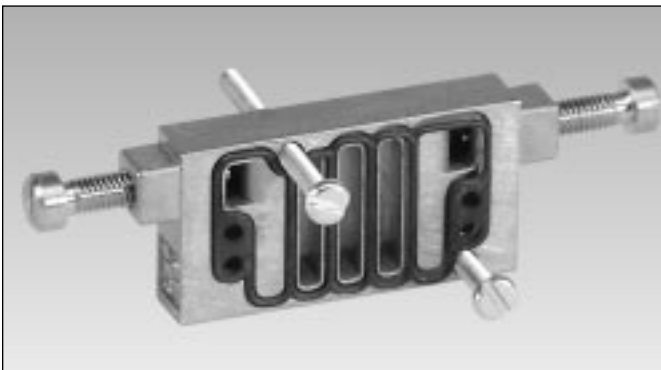


Base assemblies



BASE TYPE	PART NUMBER
10-32 UNF-3B side ports	103-641
1/8 NPTF side ports	103-643
M5 side ports	103-651
G 1/8 side ports	103-653

Speed control kit (Cv = 0.9) **239-366**

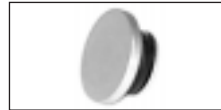


includes gasket #113-405 and screw assembly #127-580. Adds 0.21" (5.2mm) to height.

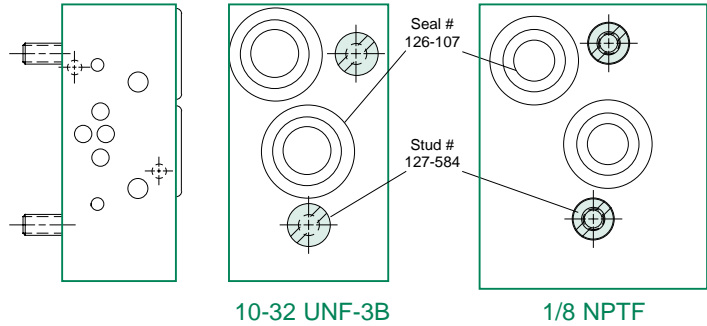
MA-6

NO. REQ'D	PART NAME	PART NUMBER			
		10-32 UNF-3B	1/8 NPTF	G 1/8	G M5
2	Seal	126-107	126-107	126-107	126-107
1	Right End Plate	104-414	104-416	104-428	104-426
1	Left End Plate	104-415	104-417	104-429	104-427
2	Screws	127-564	127-564	127-564	127-564

Blocking disc kit **239-466**



FlexiBlok manifold kits

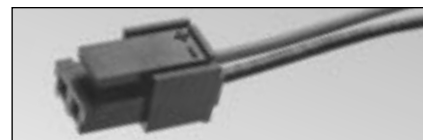


MANIFOLD TYPE	PART NUMBER
10-32 UNF-3B cylinder ports	239-458
1/8 NPTF cylinder ports	239-459
M5 cylinder ports	239-460
G 1/8 cylinder ports	239-461

Solenoid capsule assemblies

Valve Function	12/14 End	12 VDC	24 VDC
2-position	12/14	226-839	226-840
3-position	12	226-857	226-858
3-position	14	226-839	226-840

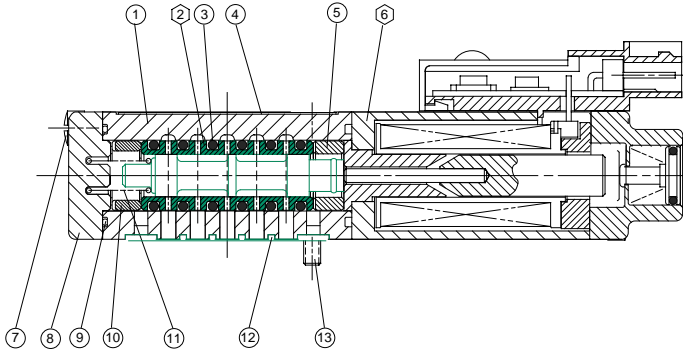
Plug Connector (with 12" leads) **230-443**



Plug connector is not included with solenoid assemblies or valve models. Must order separately.

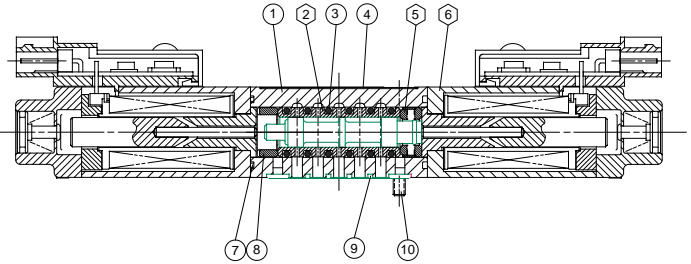
MicroAir valve service kits and parts

Kit No. M1-K1* (for models M10SA4, M10SS4)



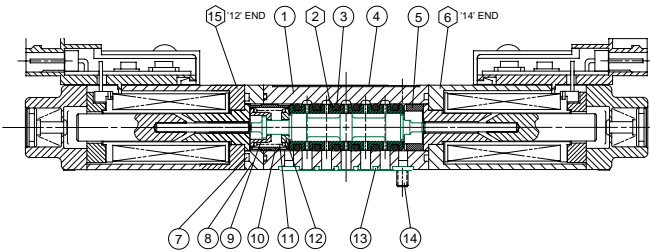
DET. NO.	NO. REQ'D.	PART NAME	PART NO.
1	1	Valve Body (not sold separately)	
2	1	Sleeve Assembly w/seals	209-383
* 3	6	Seals	126-314
4	1	Nameplate	122-868
* 5	1	Spacer	116-403
6	1	Solenoid Capsule Assembly	see chart
7	2	Screw	127-576
8	1	Spring Cover	104-408
* 9	2	Seal	126-316
* 10	1	Bumper	114-173
* 11	1	Spring	115-298
* 12	1	Gasket	113-405
13	2	Screw	127-575

Kit No. M1-K2* (for models M10SS4, M11SS4)



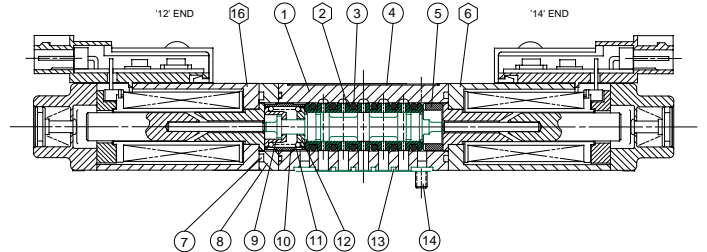
DET. NO.	NO. REQ'D.	PART NAME	PART NO.
1	1	Valve Body (not sold separately)	
2	1	Sleeve Assembly w/seals	209-383
* 3	6	Seals	126-314
4	1	Nameplate	122-868
* 5	1	Detent Assembly	210-132
6	2	Solenoid Capsule Assembly	see chart
* 7	2	Seal	126-316
* 8	1	Bumper	114-173
* 9	1	Gasket	113-405
10	2	Screw	127-575

Kit No. M1-K3* (for models M10SS5, M11SS5)



DET. NO.	NO. REQ'D.	PART NAME	PART NO.
1	1	Valve Body (not sold separately)	
2	1	Sleeve Assembly w/seals	209-384
* 3	6	Seals	126-314
4	1	Nameplate	122-868
* 5	1	Bumper	114-173
6	1	Solenoid Capsule (12)	see chart
* 7	3	Seal	126-316
8	1	Adapter	119-355
* 9	1	Spring Retainer	116-407
* 10	1	Spacer	116-405
* 11	1	Spring	115-301
* 12	1	Spring Retainer	116-406
* 13	1	Gasket	113-405
14	2	Screw	127-575
15	1	Solenoid Capsule (14)	see chart

Kit No. M1-K3* (for models M10SS6, M11SS6)



DET. NO.	NO. REQ'D.	PART NAME	PART NO.
1	1	Valve Body (not sold separately)	
2	1	Sleeve Assembly w/seals	209-385
* 3	6	Seals	126-314
4	1	Nameplate	122-868
* 5	1	Bumper	114-173
6	1	Solenoid Capsule (12)	see chart
* 7	3	Seal	126-316
8	1	Adapter	119-355
* 9	1	Spring Retainer	116-407
* 10	1	Spacer	116-405
* 11	1	Spring	115-301
* 12	1	Spring Retainer	116-406
* 13	1	Gasket	113-405
14	2	Screw	127-575
15	1	Solenoid Capsule (14)	see chart

* Indicates parts included in service kit. Spool & sleeve assemblies are precision matched sets; assemblies include (6) 126-314 seals; spools are not interchangeable.