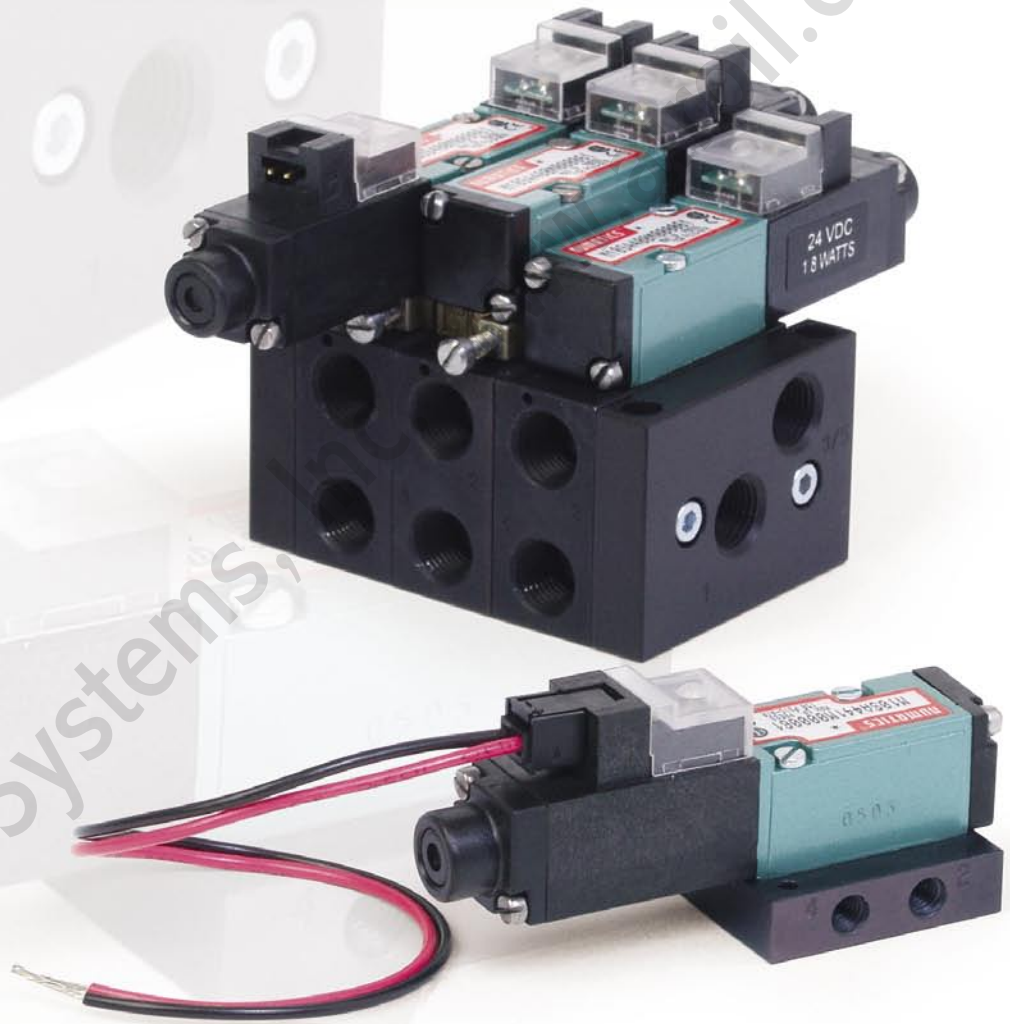


valves

Micro-Air Series

Direct Solenoid Actuated Valves



numatics®

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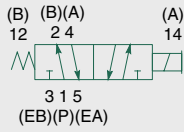


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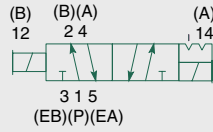
Air-Oil Systems, Inc. www.airoil.com



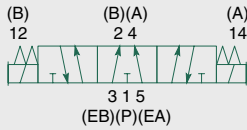
single solenoid 2 position 4-way



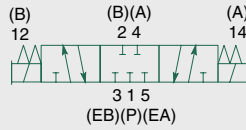
double solenoid 2 position 4-way



double solenoid 3 position 4-way open center



double solenoid 3 position 4-way closed center



5 Ported, 2 and 3 position, 4-way, Spool & Sleeve
Cv: 0.13

- Direct solenoid actuated
- Plug-in solenoid with plug-in connector and LED
- Unlubricated or lubricated service
- Integral speed control available
- Multi-purpose



Technical Data

VALVE DATA	ENGLISH		METRIC	
Cv	1/8 = 0.13	10-32 = 0.13	1/8 = 0.13	M5 = 0.13
Flow capacity	6 SCFM Upstream pressure to atmosphere @ 80 PSIG	6 SCFM Upstream pressure to atmosphere @ 80 PSIG	128NI/m 6 bar upstream/5 bar downstream	128NI/m 6 bar upstream/5 bar downstream
Operating Pressure Range	28" HG. Vacuum to 150 PSIG		Vacuum to 10 Bar	
Temperature Range (ambient)	-10°F to +115°F		-23°C to +46°C	

Operating Data

ALL SOLENOIDS ARE CONTINUOUS DUTY RATED	12 VDC		24 VDC	
Power (Watts)	1.8		1.8	
Holding Current (Amps)	0.16		0.083	
2-Position, Single, Spring Return	0.014	0.018	0.014	0.018
2-Position, Double, Detented	0.014	N/A	0.014	N/A
3-Position, Spring Centered	0.014	0.018	0.014	0.018



MicroAir Series

How to Order

Valves

M10 SA 4 46 M 0 000 61

Valve Series & Port Size

M10* = 10-32
 M11 = 1/8
 *Valve unit only.

Valve Type

SA = Single Direct Solenoid, Spring Return w/Flush Non-Locking Manual Override
 SS = Double Direct Solenoid w/Flush Non-Locking Manual Override
 00 = Manifold Block w/o Valve

Function

4 = 2 Position 4-Way (5/2)
 5 = 3 Position 4-Way (5/3), Open Center, Dual Pressure
 6 = 3 Position 4-Way (5/3), Blocked Center
 0 = Manifold Block w/o Valve
 P = Manifold Block w/ Blank Station Plate

Mounting

00 = Valve Unit, w/o Mounting
 01 = Valve Unit, Speed Control, w/o Mounting
 11 = Manifold Block, Side Cylinder Ports
 21 = Manifold Block, Side Cylinder Ports, Speed Control
 41 = Base, Individual Exhaust, Side Cylinder Ports
 46 = Base, Individual Exhaust, Side Cylinder Ports, Speed Control

Voltage

60 = 12 VDC
 61 = 24 VDC

Options

000 = No options

Port Type

0 = NPTF or UNF Pressure Ports or Valve Unit w/o Mounting
 G = ISO228/1-G Pressure Ports
 M = M5

Wiring Option

M = Plug-In, w/ Light, VDC

Manifold Assembly

AK 0 5 E 0000 1 N STD

Electrical/Electronics Type & Location

0 = Standard

Valve Line

5 = MicroAir Series

Number of Valve Stations

A = 1	E = 5	I = 9
B = 2	F = 6	J = 10
C = 3	G = 7	K = 11
D = 4	H = 8	L = 12

Options

STD = Standard

Port Type

N = NPTF Pressure Ports
 G = ISO228/1-G Pressure Ports

End Plate Port Type

0 = 1/8 for #10-32 UNF or M5 Manifold Blocks
 1 = 1/8 for 1/8 Manifold Blocks

Note: All Manifold Blocks in a Manifold Assembly must have the same port size.

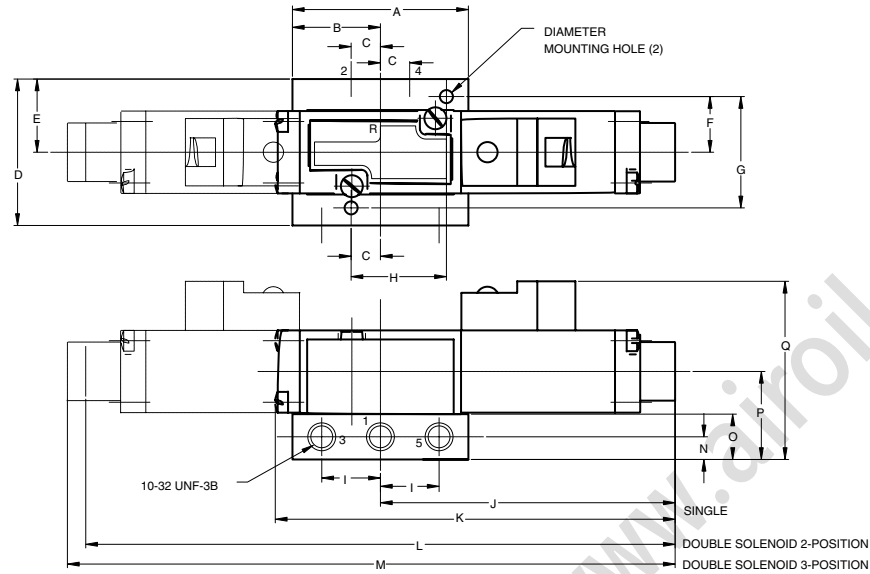
Example Order:

List in order left to right facing cylinder ports

	AK05B00000NSTD
Station 1	M10SA411M000061
Station 2	M10SS411M000061
Blocking Plug:	239-466 (install in P gallery) ASSEMBLED



Valve on Individual Base, 10-32 UNF-3B

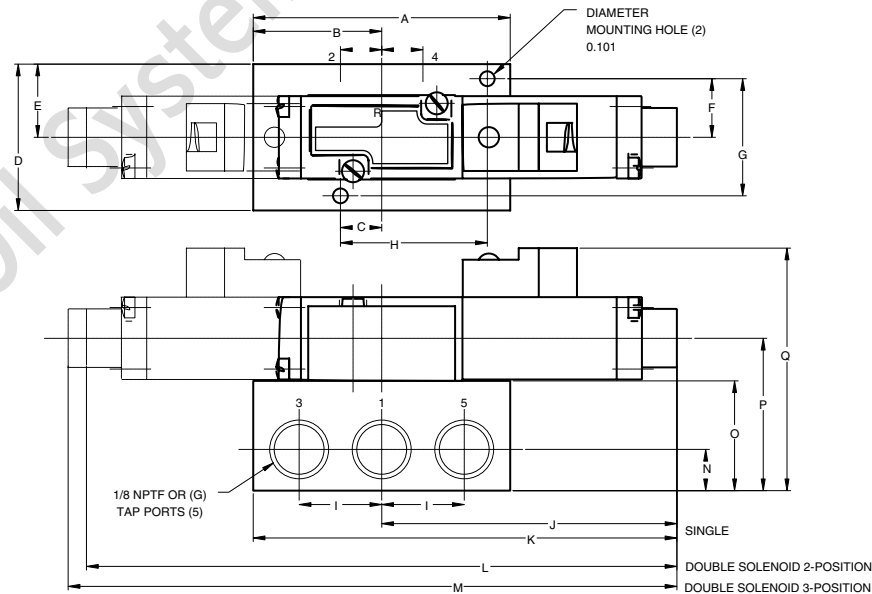


Dimensions

top dimensions = inches and bottom dimensions (in parenthesis) = millimeters

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1.20	0.60	0.20	1.00	0.50	0.38	0.76	0.65	0.40	2.01	2.73	4.02	4.15	0.16	0.31	0.60	1.22
(30.5)	(15.2)	(5.1)	(25.4)	(12.7)	(9.7)	(19.3)	(16.5)	(10.2)	(51.1)	(69.3)	(102.1)	(105.4)	(4.1)	(7.9)	(15.2)	(31.0)

Valve on Individual Base, 1/8 NPTF



Dimensions

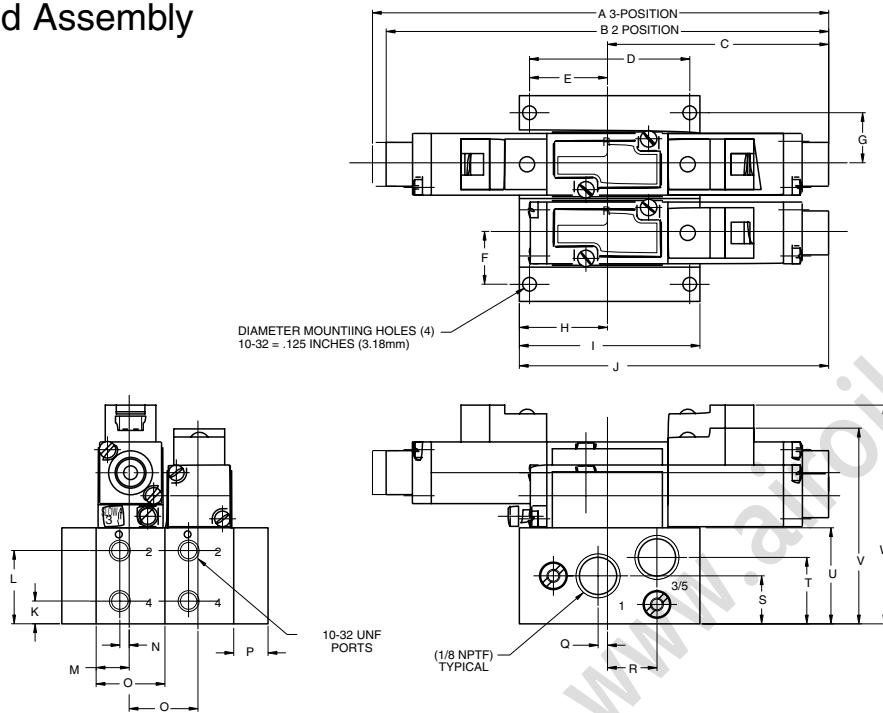
top dimensions = inches and bottom dimensions (in parenthesis) = millimeters

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1.75	0.88	0.28	1.00	0.50	0.40	0.80	1.00	0.56	2.01	2.88	4.02	4.15	0.28	0.75	1.04	1.66
(44.5)	(22.4)	(7.1)	(25.4)	(12.7)	(10.2)	(20.3)	(25.4)	(14.2)	(51.1)	(73.2)	(102.1)	(105.4)	(7.1)	(19.1)	(26.4)	(42.2)

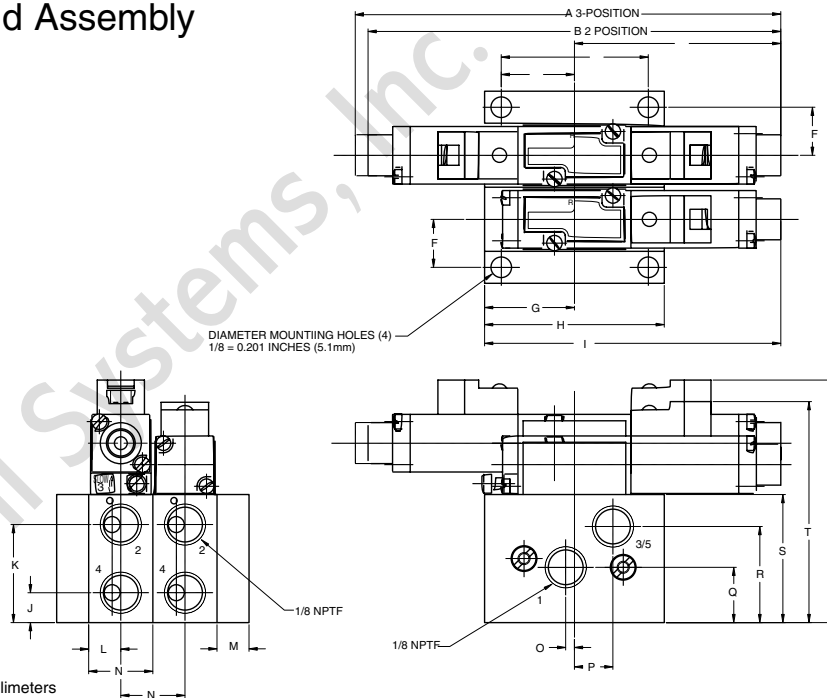


MicroAir Series

10-32 Manifold Assembly



1/8 NPTF Manifold Assembly



Dimensions

top dimensions = inches
bottom dimensions (in parenthesis) = millimeters

PORT SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N
10-32	4.14 (105.2)	4.02 (102.1)	2.01 (51.1)	1.46 (37.1)	0.71 (18.0)	0.48 (12.2)	0.46 (11.7)	0.80 (20.3)	1.64 (41.7)	2.81 (71.4)	0.21 (5.3)	0.67 (17.0)	0.30 (7.6)	0.09 (2.3)
1/8	4.14 (105.2)	4.02 (102.1)	2.01 (51.1)	1.43 (36.3)	0.71 (18.0)	0.47 (11.9)	0.88 (22.4)	1.75 (44.5)	2.89 (73.4)	0.29 (7.4)	0.95 (24.4)	0.31 (7.9)	0.31 (7.9)	0.63 (16.0)

PORT SIZE	O	P	Q	R	S	T	U	V	W
10-32	0.63 (16.0)	0.31 (7.9)	0.09 (2.3)	0.45 (11.4)	0.44 (11.2)	0.61 (15.5)	0.88 (22.4)	1.78 (45.2)	1.99 (50.5)
1/8	0.09 (2.3)	0.05 (12.2)	0.54 (13.7)	0.94 (23.9)	1.25 (31.8)	2.16 (54.9)	2.37 (60.2)	-	-



End Plate Kits

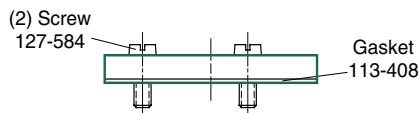


#10-32 UNF-3B 239-462 1/8 NPTF 239-463
 M5 239-464 G 1/8 239-465

NO. REQ'D	PART NAME	PART NO.			
		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

Blank Station Plate Kit

239-457

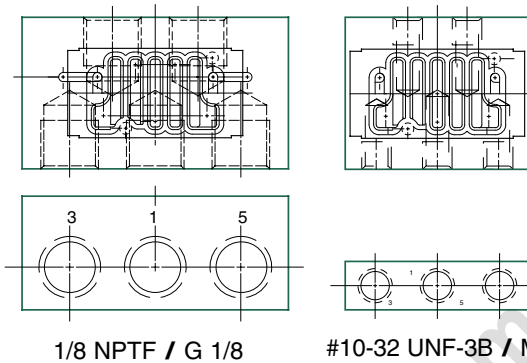


Blocking Disc Kit

239-466



Base Assemblies



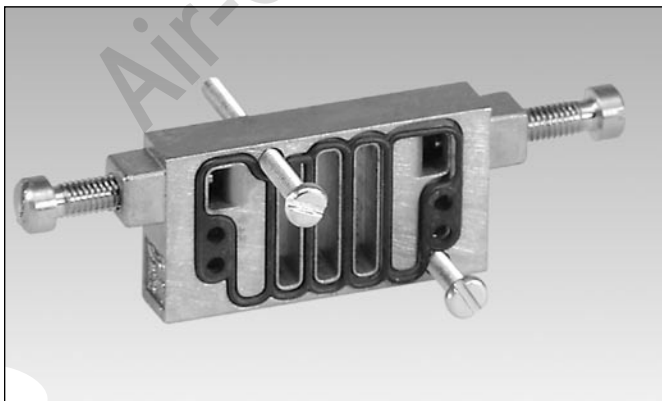
1/8 NPTF / G 1/8

#10-32 UNF-3B / M5

BASE TYPE	PART NO.
#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

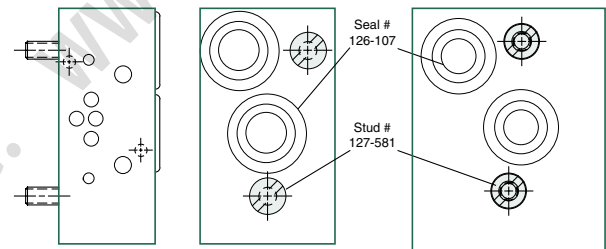
Speed Control Kit

239-366



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

Flexiblok Manifold Kits



#10-32 UNF-3B

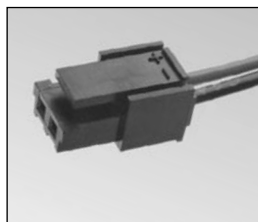
1/8 NPTF

MANIFOLD TYPE	PART NO.
#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	236-402	236-403
3-position	12	236-518	236-519
3-position	14	236-402	236-403

Plug Connector

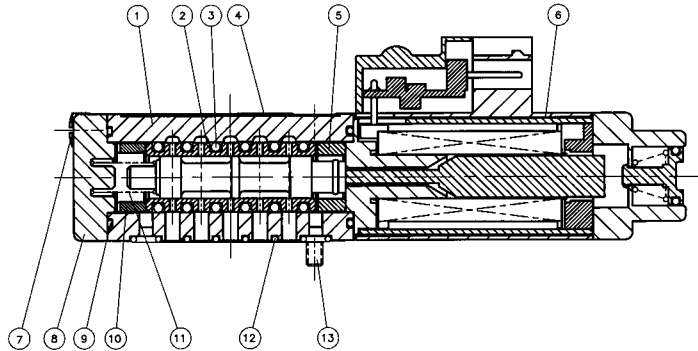


LEAD LENGTH	PART NO.
With 12" Leads	230-443
With 48" Leads	230-476
With 120" Leads	230-486
Wire Gauge	22 AWG
Housing	140-384
Terminal	140-385

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

Service Kits and Parts

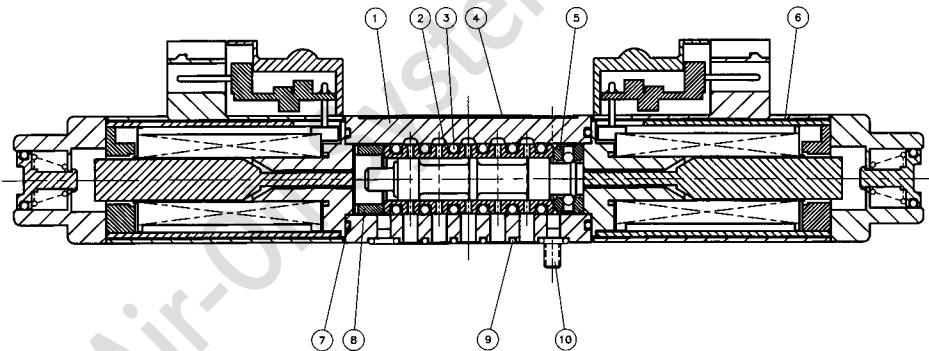
Kit No. M1-K1* (For Models M10SA4, M10SS4)



Parts List

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 p. 7
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)



Parts List

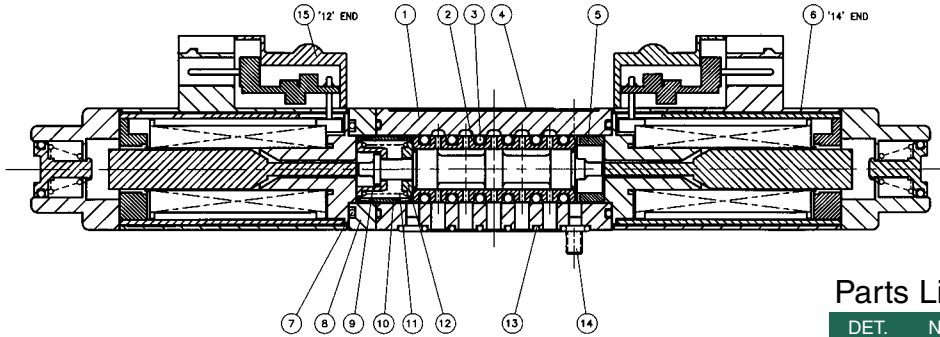
DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Valve Body (not sold separately)	
2	1	Sleeve Assembly w/seals	209-383
3 *	6	Seals	126-314
4	1	Nameplate	122-868
5 *	1	Detented Assembly	210-132
6	2	Solenoid Capsule Assembly	See p. 7
7 *	2	Seal	127-316
8 *	1	Bumper	114-173
9 *	1	Gasket	113-405
10	2	Screw	127-575

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



Service Kits and Parts

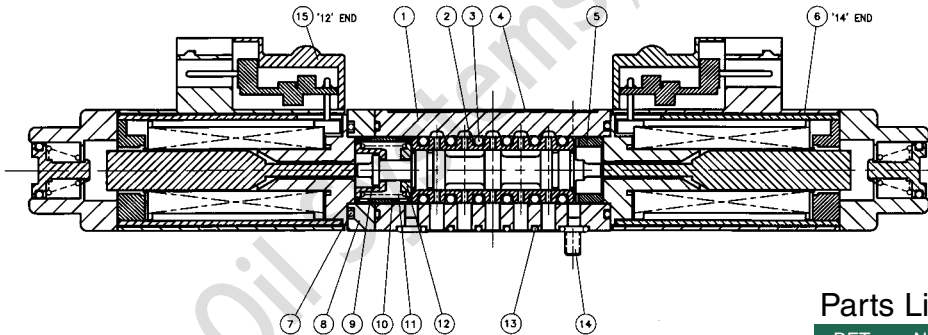
Kit No. M1-K3* (For Models M10SS5, M11SS5)



Parts List

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 p. 7
7 *	3	Seal	126-316
8	1	Adaptor	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 p. 7

Kit No. M1-K3* (For Models M10SS6, M11SS6)



Parts List

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 p. 7
7 *	3	Seal	126-316
8	1	Adaptor	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 p. 7

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

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