

valves

Mark 55, PA 55 & SPA 55 Series

Direct Solenoid, Air Pilot, or Solenoid Pilot Actuated Valves

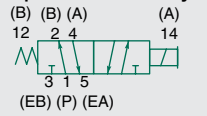


numatics®

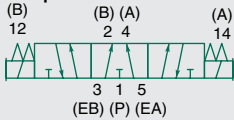
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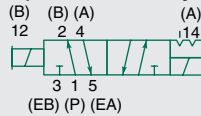
single solenoid
2 position 4-way



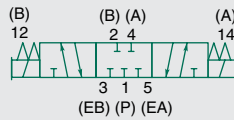
double solenoid
3 position 4-way
open center



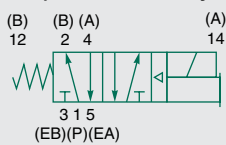
double solenoid
2 position 4-way



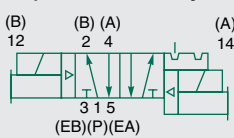
double solenoid
3 position 4-way
closed center



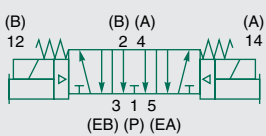
single solenoid pilot
2 position 4-way



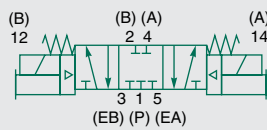
double solenoid pilot
2 position 4-way



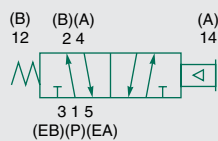
double solenoid pilot
3 position 4-way
open center



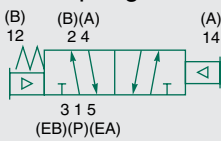
double solenoid pilot
3 position 4-way
closed center



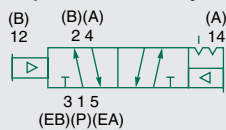
PA single air pilot
2 position 4-way



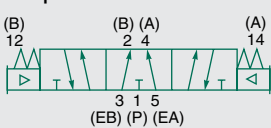
PA double air pilot
2 position 4-way
with spring offset



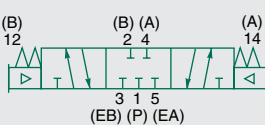
PA double air pilot
2 position 4-way



PA double air pilot
3 position 4-way
open center



PA double air pilot
3 position 4-way
closed center



5 Ported, 2 and 3 position, 4-way, Spool & Sleeve
Cv: 5.5

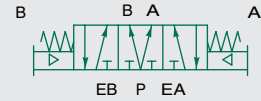
- Direct solenoid, solenoid pilot, or air pilot actuated
- Plug-in solenoid with indicator light (Mark 55 and SPA 55)
- Unlubricated or lubricated service
- Integral speed control available
- Integral regulators available
- NEMA 4 / IP65



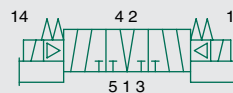
double solenoid
3 Position 4-Way (5/3),
open to 4 (A) and
2 (B) in center



double air pilot
3 Position 4-Way (5/3),
open to 4 (A) and
2 (B) in center



double solenoid pilot
3 Position 4-Way (5/3),
open to 4 (A) and
2 (B) in center





Mark 55, SPA55 & PA55 Series

Technical Data

VALVE DATA		ENGLISH			MARK 55 ONLY METRIC		
Cv		3/8 NPTF = 4.0	1/2 NPTF = 5.0	3/4 NPTF = 5.5	G3/8 = 5.0	G1/2 = 5.0	G3/4 = 5.5
Flow capacity		185 SCFM	232 SCFM	255 SCFM	3940 NI/m	4925 NI/m	5417 NI/m
		Upstream pressure to atmosphere @80 PSIG			@ 6 bar upstream/5 bar downstream		
Operating Pressure Range		28" Hg. Vacuum to 150 PSIG					
Pilot Pressure Range	2-Position, Single, Spring Return	20 to 125 PSIG					
	2-Position, Double, Detented	15 to 125 PSIG					
	3-Position, Spring Centered	20 to 125 PSIG					
Temperature Range (ambient)	Mark 55	-10°F to +115°F			-23°C to +46°C		
	SPA 55	-10°F to +115°F					
	PA 55	-10°F to +150°F					

Operating Data - Mark 55

ALL SOLENOIDS ARE CONTINUOUS DUTY RATED		24 VAC 60 Hz.	115 VAC 50 Hz.	120 VAC 60 Hz.	230 VAC 50 Hz.	240 VAC 60 Hz.
Power (Watts)	Single Solenoid	N/A	13.0	11.5	19.0	15.0
	Double Solenoid	N/A	6.2	5.6	7.2	6.7
Holding Current (Amps.)	Single Solenoid	1.8	0.40	0.28	0.30	0.20
	Double Solenoid	1.3	0.18	0.24	0.08	0.07
Inrush Current (Amps.)	Single Solenoid	13.0	2.8	2.5	2.0	1.50
	Double Solenoid	12.4	1.75	2.1	0.90	0.80
Energize in seconds	2-Position, Single, Spring Return	0.015	0.015	0.015	0.015	0.015
	2-Position, Double, Detented	0.018	0.018	0.018	0.018	0.018
	3-Position, Spring Centered	0.015	0.015	0.015	0.015	0.015
De-energize in seconds	2-Position, Single, Spring Return	0.030	0.030	0.030	0.030	0.030
	2-Position, Double, Detented	N/A	N/A	N/A	N/A	N/A
	3-Position, Spring Centered	0.030	0.030	0.030	0.030	0.030

Operating Data - SPA 55

ALL SOLENOIDS ARE CONTINUOUS DUTY RATED		24 VDC	24 VAC 50 Hz.	24 VAC 60 Hz.	115 VAC 50 Hz.	120 VAC 60 Hz.	230 VAC 50 Hz.	240 VAC 60 Hz.
Power (Watts)		4.0	N/A	N/A	N/A	N/A	N/A	N/A
Holding Current (Amps.)		0.170	0.360	0.290	0.065	0.057	0.340	0.030
	Inrush Current (Amps.)	N/A	0.052	0.470	0.098	0.093	0.051	0.048
Energize in seconds	2-Position, Single, Spring Return	0.016	0.012	0.012	0.011	0.012	0.012	0.011
	2-Position, Double, Detented	0.016	0.012	0.012	0.011	0.012	0.012	0.011
	3-Position, Spring Centered	0.016	0.012	0.012	0.011	0.012	0.012	0.011
De-energize in seconds	2-Position, Single, Spring Return	0.036	0.034	0.035	0.035	0.036	0.039	0.038
	2-Position, Double, Detented	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3-Position, Spring Centered	0.036	0.034	0.035	0.035	0.039	0.039	0.038



How to Order

Valves

553 SA 4 15 K 0 000 30

Valve Series & Port Size

- 553 = 3/8
- 554* = 1/2
- 555 = 3/4
- *Valve unit only.

Valve Type

- SA = Single Direct Solenoid, Spring Return w/Flush Non-Locking Override (Std.)
- SS = Double Direct Solenoid w/Flush Non-Locking Override (Standard)
- BA = Single Solenoid Pilot, Spring Return w/Flush Non-Locking Override
- BB = Double Solenoid Pilot w/Flush Non-Locking Override
- JA = Single Air Pilot, Spring Return
- JJ = Double Air Pilot
- JK = Double Air Pilot, Spring Return w/Flush Non-Locking Override (2 position Only)
- PA = Single Air Pilot, Spring Return w/out Override
- PP = Double Air Pilot w/out Override

Function

- 4 = 2 Position, 4-Way
- 5 = 3 Position, 4-Way Open Center
- 6 = 3 Position, 4-Way Closed Center
- 7 = 3 Position 4-Way (5/3), Open to 4 (A) and 2 (B) in Center

Mounting

- 00 = Valve Unit Only
- 01 = Valve Unit Only w/Speed Control
- 2A = 15 w/Compact Manifold Block
- 2B = 2A w/Speed Control
- 2C = 2A w/Auxiliary Inlet
- 2E = 2A w/Alternate Outlet
- 2G = 2A w/Alternate Outlet & Auxiliary Inlet
- 3A = Individual Base, Side Ports, Individual Exhaust
- 3B = Individual Base, Side and Bottom Ports, Individual Exhaust
- 3C = 3A w/Speed Control
- 3D = 3B w/Speed Control
- 15 = Manifold Block w/Side and Bottom Cylinder Ports
- 25 = 15 w/Speed Control
- 31 = Plug-In Base, Side Ports, Common Exhaust
- 32 = Individual Base, Side and Bottom Ports, Common Exhaust
- 35 = 31 w/Speed Control
- 36 = 32 w/Speed Control

Voltage

- 00 = Air Pilot
- 20 = 24/50-60 VAC
- 30 = 110-120/50-60 VAC
- 40 = 220-240/50-60 VAC
- 61 = 24 VDC (SPA only)

Options

- 11B = Flush Locking Override
- 11Z = Extended Locking Override (Mark 55 & PA 55)
- 13A = 48" Leads (Mark 55 & SPA 55)
- 14B = Internal Pilot Supply from P if Not Standard (SPA 55 only)
- 14C = Internal Pilot Supply from EB (3) (SPA 55 only)
- 14D = Internal Pilot Supply from EA (5) (SPA 55 only)
- 14X = External Pilot Supply Through Manifold (SPA 55 only)
- 16T = Bottom P Ports
- 19M = Terminal Block in Conduit Area (Mark 55 & SPA 55 only)
- 46T = Zinc Plated T Armature (Mark 55 only)

Port Type

- 0 = NPTF
- G = G Tap
- U = G Tap (Solenoid Pilot Valves)
- T = NPTF (Solenoid Pilot Valves)

Wiring Option

- J = Plug-in AC w/Light and Speed Control (Use only with 01 mounting)
- K = Plug-in AC w/Light
- M = Plug-in DC w/Light (SPA 55 only)
- O = Not Applicable (Used for Air Pilot)
- Q = Plug-in DC w/Light and Speed Control (Use only with 01 mounting)
- 6 = DIN Plug-in AC w/Light (Mark 55 only)

NOTE: For SPA Series valves, internal pilot supply is standard as follows:

- BA4 = internal from port P
- BB4 = internal from port P
- BB5 = internal from port EB
- BB6 = internal from port P



Mark 55, SPA55 & PA55 Series

How to Order continued

Regulators

553 RS 1 15 J P 000 00

Valve Series and Port Size

553 = 3/8

554* = 1/2

555 = 3/4

*Regulator unit only.

Regulator Type

RS = Single Pressure to Port 1 (P)

RD = Dual Pressure to Port 3 (EB) and 5 (EA)

RC = Dual Pressure w/Non-Relieving Checks

RQ = Dual Pressure w/Relieving Checks

RE = External Jumper Plate, Dual Pressure

RT = Two Pressure Selector

Pressure Range

1 = 10-130 PSIG (0.7-9 bar)

3 = 3-30 PSIG (0.2-2 bar)

4 = 5-60 PSIG (0.3-4.1 bar)

Options

16N = Jumper on 14 (A) End

16P = Jumper on 12 (B) End

Port Type

P = NPTF

Q = G Tap

Wiring Option

J = Plug-in Receptacle Assembly

O = Non Plug-in or Air Pilot

Mounting

00 = Regulator Unit Only

01 = Regulator Unit Only w/Speed Control

2A = 15 w/Compact Manifold Block

2B = 2A w/Speed Control

2C = 2A w/Auxiliary Inlet

2E = 2A w/Alternate Outlet

2G = 2A w/Alternate Outlet & Auxiliary Inlet

3A = Individual Base, Side Ports, Individual Exhaust

3B = Individual Base, Side and Bottom Ports, Individual Exhaust

3C = 3A w/Speed Control

3D = 3B w/Speed Control

15 = Manifold Block w/Side and Bottom Cylinder Ports

25 = 15 w/Speed Control

31 = Plug-In Base, Side Ports, Common Exhaust

32 = Individual Base, Side and Bottom Ports, Common Exhaust

35 = 31 w/Speed Control

36 = 32 w/Speed Control



How to Order continued

Manifold Assembly

AK 0 P H 0000 7 N STD

Electrical/Electronics Type & Location

0 = Standard
V = Fieldbus Electronics

Valve Line

M = 55 Compact
P = 55 Full Size

Number of Valve Stations

A = 1 E = 5 I = 9 M = 13
B = 2 F = 6 J = 10 N = 14
C = 3 G = 7 K = 11 O = 15
D = 4 H = 8 L = 12 P = 16

Options

STD = Standard

Port Type

N = NPTF
G = G Tap/Metric Conduit
C = G Tap/NPTF Conduit

End Plate Port Size

5 = 3/4 Compact
7 = 1-1/4 Full Size

Valve Line and Number of Valve Stations

Example Order

List in order, left to right, facing cylinder ports

Assembly Kit	AKOPE00007NSTD
Station 1	554SA415K000030
Station 2	554SS415K000030
Station 3	554SA400K000030
	554RS125J000000
Station 4	554SA425K000030
Station 5	554SA425K000030
	ASSEMBLED

Example Order

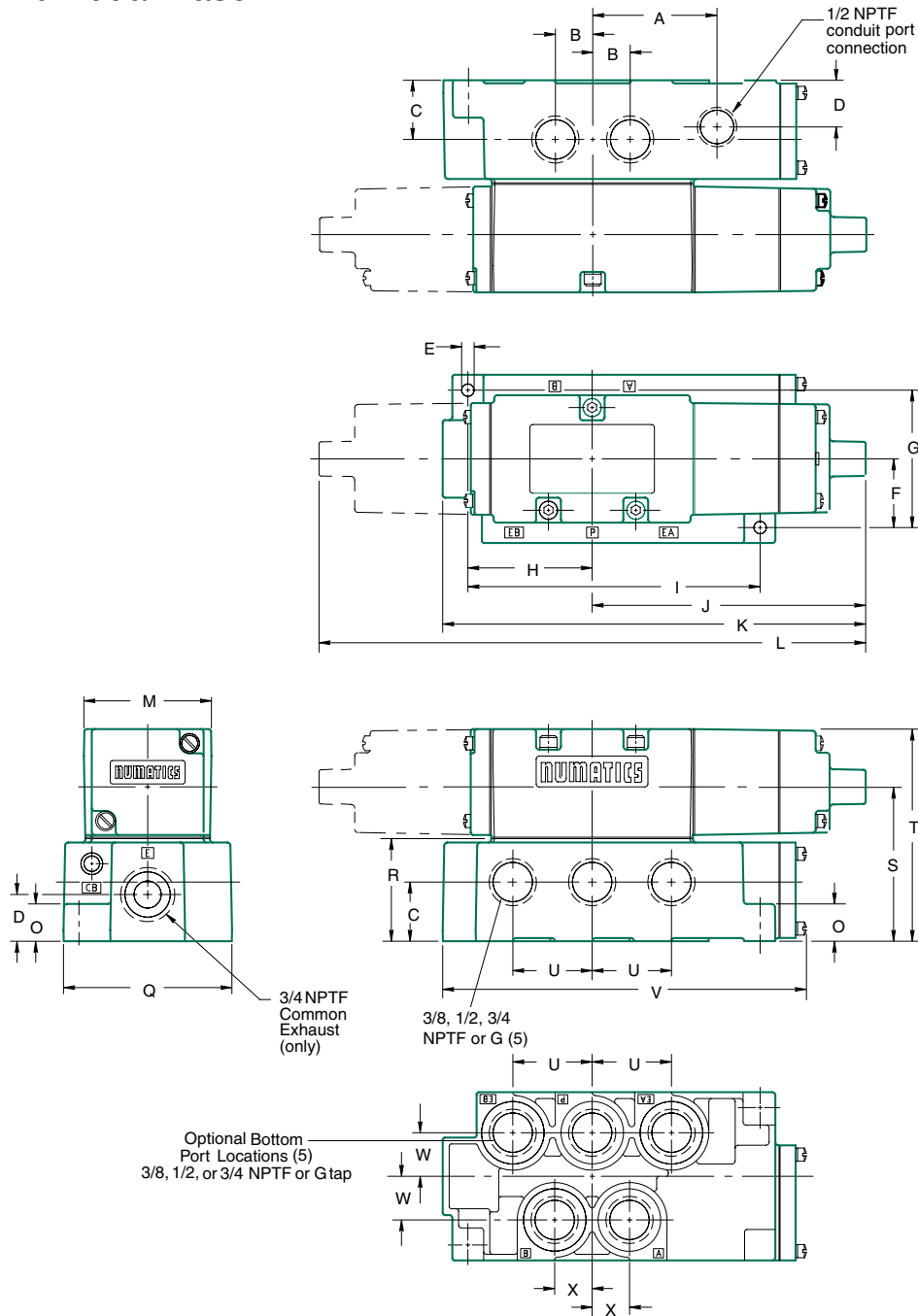
List in order, left to right, facing cylinder ports

Assembly Kit	AKOME00005NSTD
Station 1	554JA42AO000000
Station 2	554JJ42BO000000
Station 3	554JJ42BO000000
Station 4	554JJ400O000000
	554RS12AO000000
Station 5	554JA42AO000000
	ASSEMBLED



Mark 55, SPA55 & PA55 Series

Mark 55 Valve on Individual Base



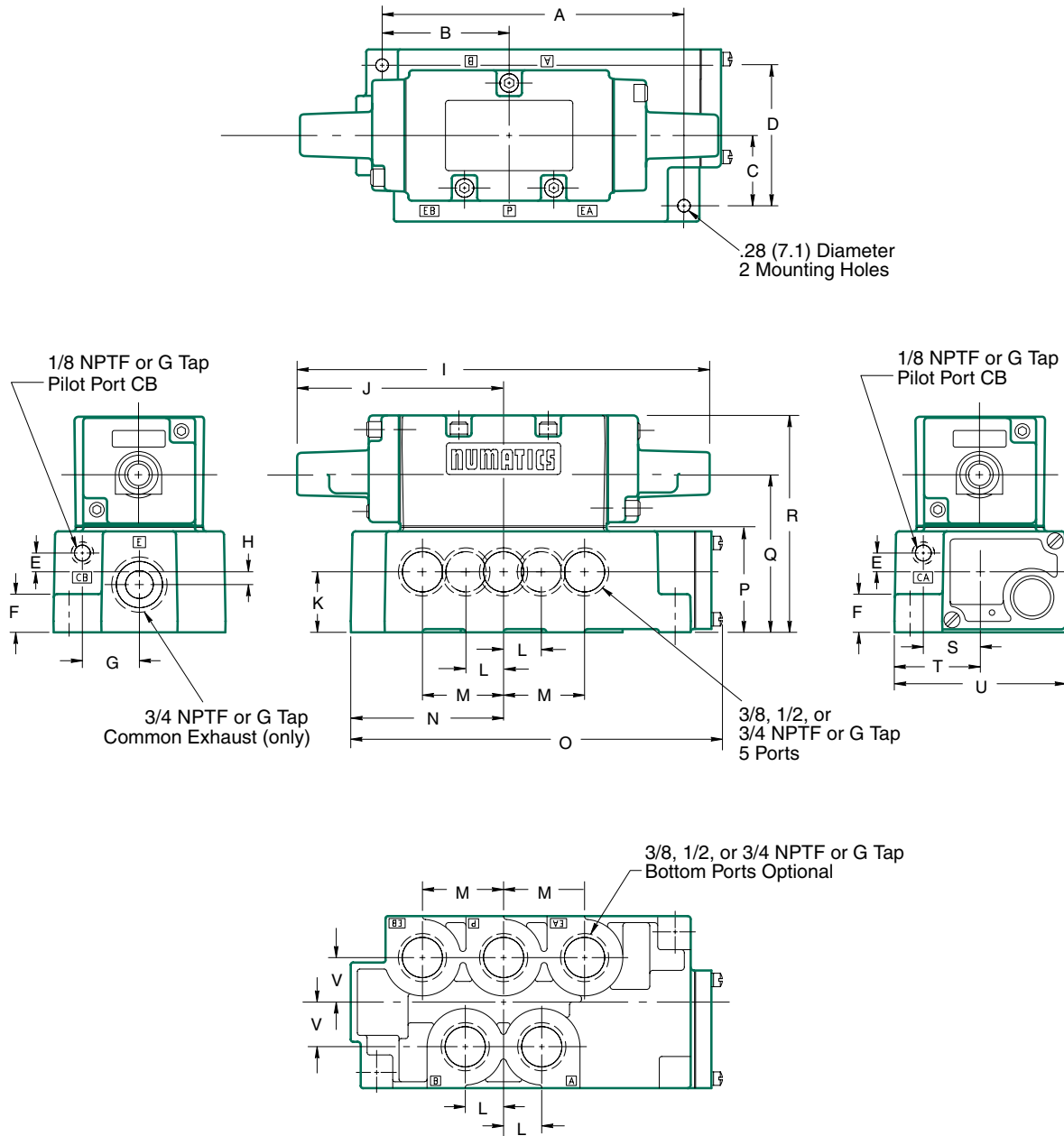
Dimensions

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

A	B	C	D	E	F	G	H	I	J	K	L	M	O
2.50 (63.5)	0.75 (19.1)	1.19 (30.2)	0.94 (23.9)	0.28 (17.1)	1.38 (35.1)	2.76 (70.1)	2.50 (63.5)	5.88 (149.4)	5.49 (139.4)	8.49 (215.6)	10.97 (276.1)	2.56 (65.0)	0.75 (19.1)
Q	R	S	T	U	V	W	X						
3.38 (85.9)	2.06 (52.3)	3.10 (78.7)	4.26 (108.2)	1.59 (40.4)	7.30 (185.4)	0.88 (22.4)	0.75 (19.1)						



PA 55 Valve on Individual Base



Dimensions

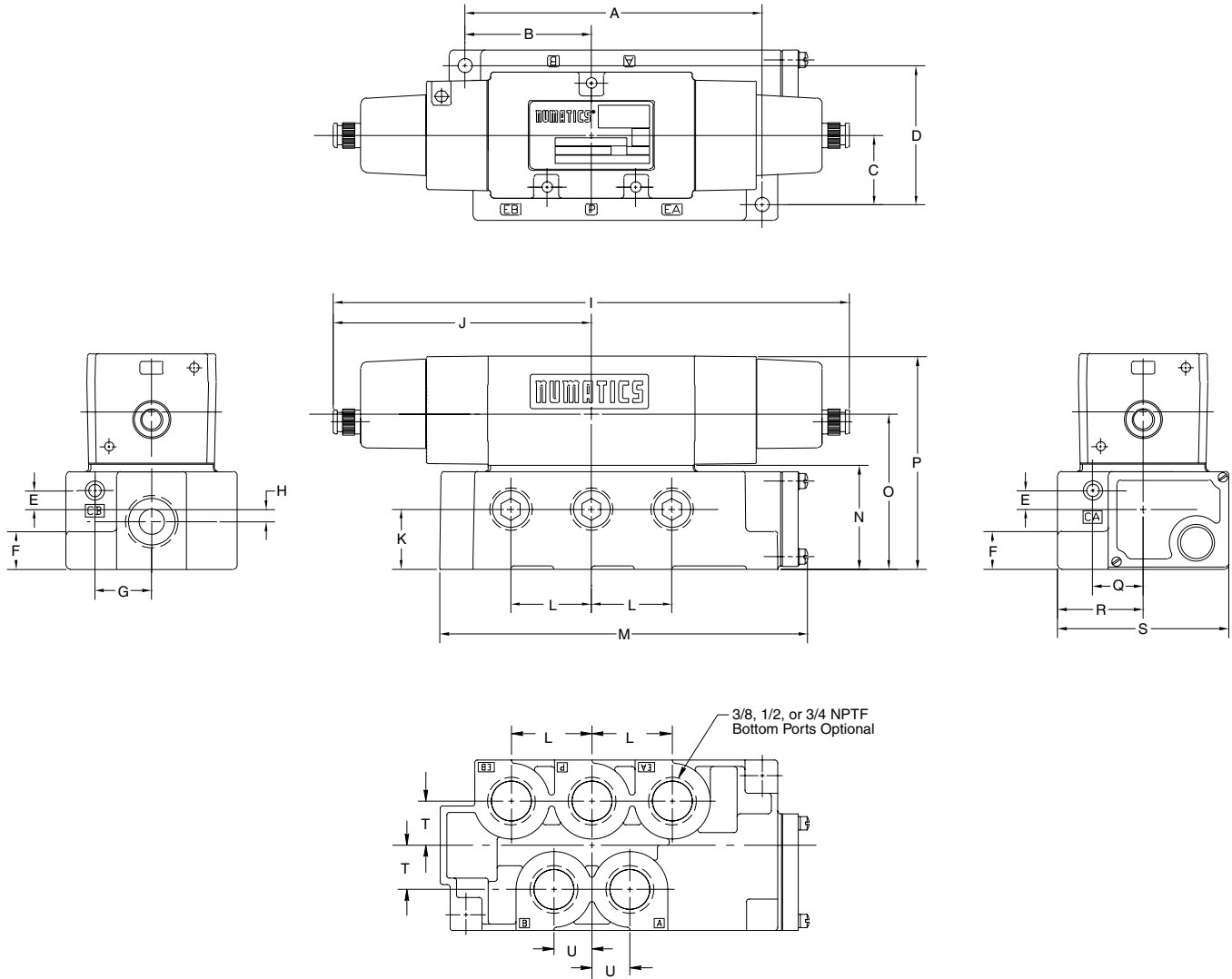
top dimensions = inches and bottom dimensions (in parenthesis) = millimeters

A	B	C	D	E	F	G	H	I	J	K	L
5.88 (149.4)	2.50 (63.5)	1.38 (35.1)	2.76 (70.1)	0.37 (9.4)	0.75 (19.1)	1.12 (28.4)	0.25 (6.4)	8.07 (205.0)	4.03 (102.4)	1.19 (30.2)	0.75 (19.1)
M	N	O	P	Q	R	S	T	U	V		
1.59 (40.4)	3.00 (76.2)	7.28 (184.9)	2.06 (52.3)	3.10 (78.7)	4.26 (108.2)	1.00 (25.4)	1.69 (42.9)	3.39 (86.1)	0.88 (22.4)		



Mark 55, SPA55 & PA55 Series

SPA 55 Valve on Individual Base



Dimensions

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

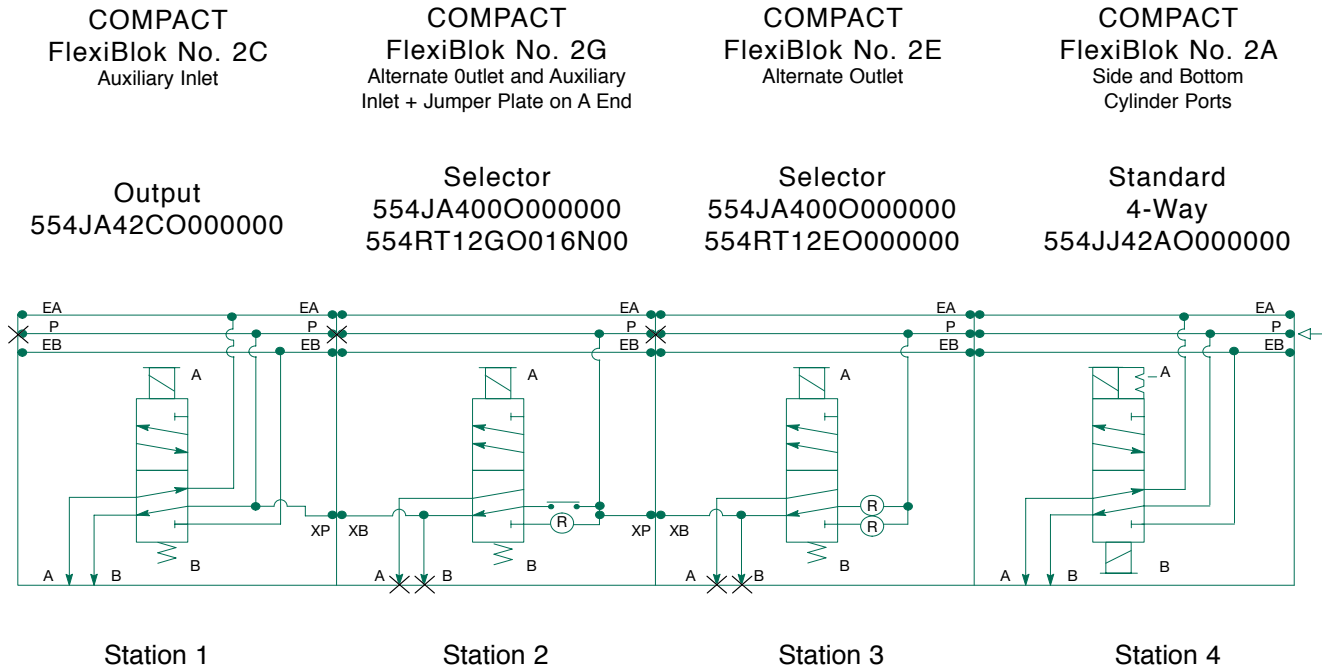
A	B	C	D	E	F	G	H	I	J	K	L
5.88 (149.4)	2.50 (63.5)	1.38 (35.1)	2.76 (70.1)	0.37 (9.4)	0.75 (19.1)	1.12 (28.4)	0.25 (6.4)	10.37 (263.4)	5.18 (131.6)	1.19 (30.2)	1.59 (40.4)
M	N	O	P	Q	R	S	T	U			
7.28 (184.9)	2.06 (52.3)	3.10 (78.7)	4.26 (108.2)	1.00 (25.4)	1.69 (42.9)	3.38 (85.8)	0.88 (22.4)	0.75 (19.1)			



FlexiBlok® Diagrams

Sample diagram with regulators

Mark 55 3-pressure selector COMPACT FlexiBlok® with output valve and separate 4-way (1/2 NPTF)

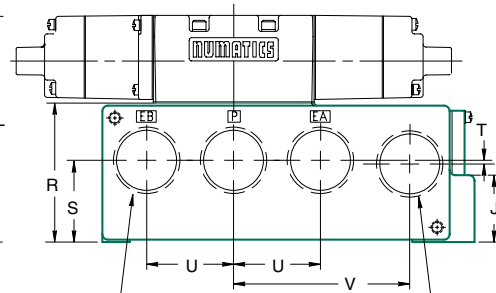
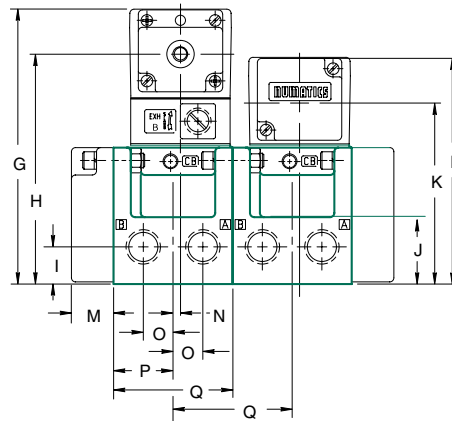
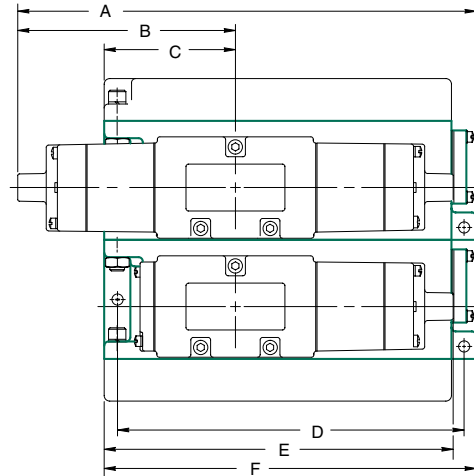


Blocking discs must be installed in "P" gallery, as shown.



Mark 55, SPA55 & PA55 Series

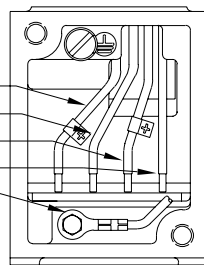
Mark 55 Manifold Assembly



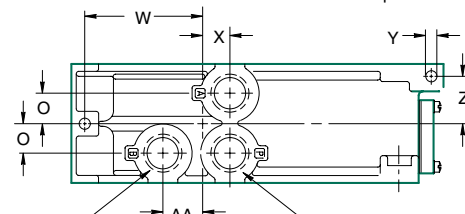
Full Size: 1 1/4 NPTF ports (6)
Compact: 3/4 NPTF ports (6)
or G Tap

1 1/4 NPTF conduit
port connection
(both ends/both sizes)
or G Tap

- Brown - Solenoid B (+)
- Brown - Solenoid B (-)
- Orange - Solenoid A (+)
- Orange - Solenoid A (-)
- Green/Yellow - Ground



View Shown with Conduit
Cover Removed



Full Size: 3/8, 1/2 or 3/4 NPTF
Compact: 3/8 or 1/2 NPTF
(ports A & B)
or G Tap

Full Size: 3/8, 1/2, or 3/4 NPTF
Compact: 3/8 or 1/2 NPTF
(P port, optional)
or G Tap

Dimensions

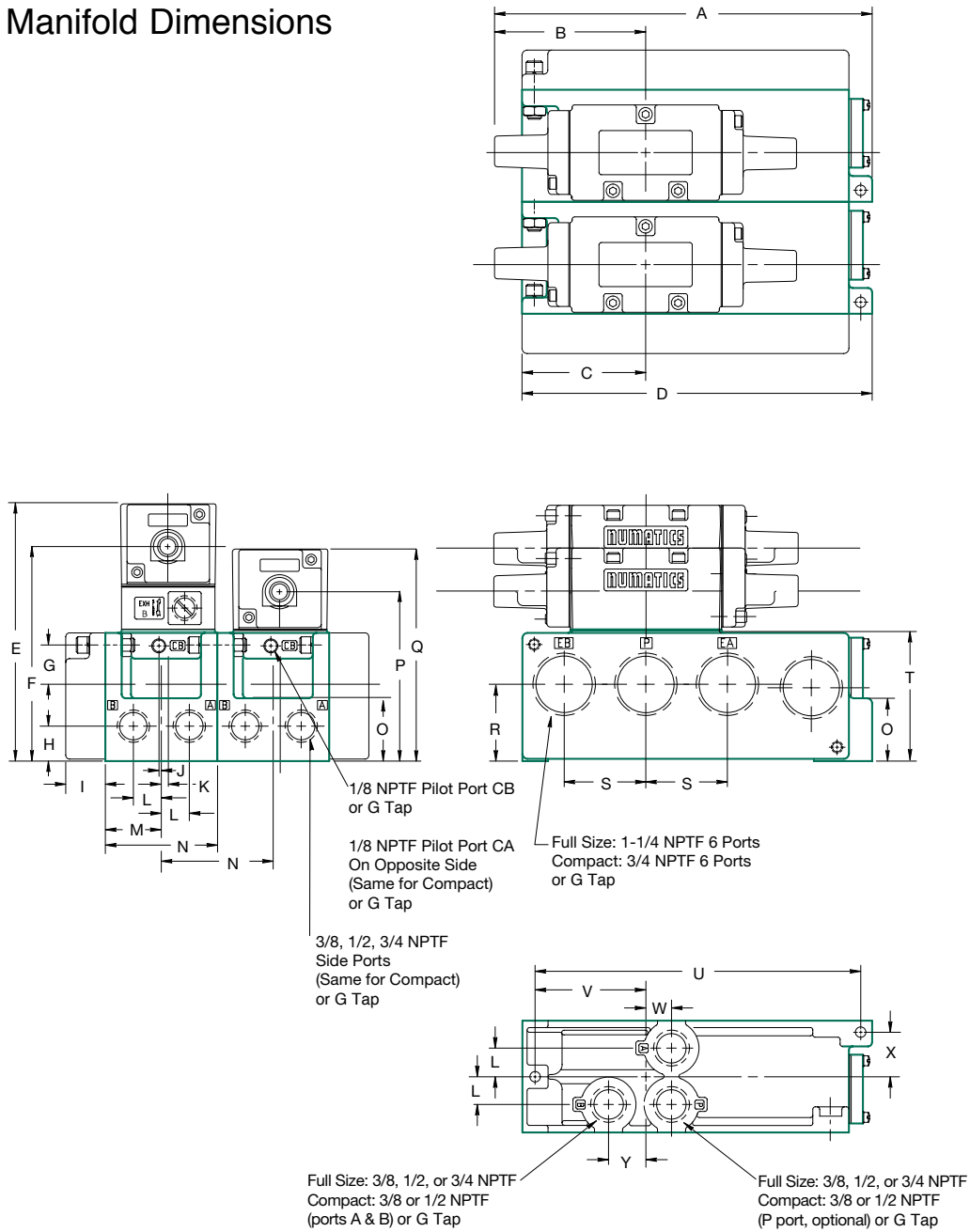
top dimensions = inches and bottom dimensions (in parenthesis) = millimeters

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Full Size	11.55 (293.4)	5.48 (139.2)	3.31 (84.1)	8.75 (222.3)	8.80 (223.5)	9.38 (238.3)	6.89 (175.0)	5.73 (145.5)	0.94 (23.9)	1.69 (42.9)	4.54 (115.3)	5.70 (144.8)	1.07 (27.2)	0.19 (4.8)	0.75 (19.1)	1.50 (38.1)
Compact	10.97 (278.6)	5.48 (139.2)	2.62* (66.5)	7.13 (181.1)	7.13 (181.1)	7.63 (193.8)	6.01 (152.7)	4.86 (123.4)	0.69 (17.5)	1.38 (35.1)	3.67 (93.2)	4.82 (122.4)	0.81 (20.6)	0.00 (0.0)	0.66 (16.8)	2.62 (66.5)
	Q	R	S	T	U	V	W	X	Y	Z	AA					
Full Size	3.00 (76.2)	3.50 (88.9)	2.06 (52.3)	0.09 (2.3)	2.18 (55.4)	4.43 (112.5)	3.00 (76.2)	0.70 (17.8)	0.26 (6.6)	1.19 (30.2)	1.00 (25.4)					
Compact	2.62 (66.5)	2.62 (66.5)	1.38 (35.1)	0.19 (4.8)	1.50 (38.1)	3.38 (85.9)	2.38 (60.5)	0.56 (14.2)	0.26 (6.6)	1.06 (26.9)	0.62 (15.7)					

* add 0.62" (15.7) to length of compact w/3/4 NPTF side ports



PA 55 FlexiBlok® Manifold Dimensions



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	R
Full Size	10.1 (256.5)	4.03 (102.4)	3.31 (84.1)	9.38 (238.3)	6.89 (175.0)	5.73 (145.5)	1.00 (25.4)	0.94 (23.9)	1.07 (27.2)	0.06 (1.5)	0.19 (4.8)	0.75 (19.1)	1.50 (38.1)	3.00 (76.2)	1.69 (42.9)	4.54 (115.3)	5.70 (144.8)	2.06 (52.3)
Compact	9.03 (229.4)	4.03 (102.4)	2.63 (66.8)	7.63 (193.8)	6.01 (152.7)	4.86 (123.4)	0.84 (21.3)	0.69 (17.5)	0.81 (20.6)	0.16 (4.1)	0.0 (0)	0.66 (16.8)	1.31 (33.3)	2.62 (66.5)	1.38 (35.1)	3.67 (93.2)	4.82 (122.4)	1.38 (35.1)

	S	T	U	V	W	X	Y
Full Size	2.18 (55.4)	3.50 (88.9)	8.75 (222.3)	3.00 (76.2)	0.70 (17.8)	1.19 (30.2)	1.00 (25.4)
Compact	1.50 (38.1)	2.63 (66.8)	7.13 (181.1)	2.37 (60.2)	0.56 (14.2)	1.06 (26.9)	0.62 (15.7)



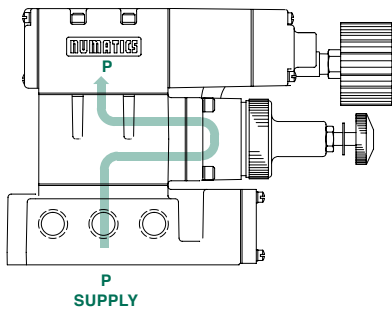
Sandwich Pressure Regulator

Types: RS / RD / RE / RT / RC / RQ

When ordering a valve plus regulator mounted on a base or manifold, list the valve unit only model number and include the mounting requirements only with the regulator. Specify "Assembled."

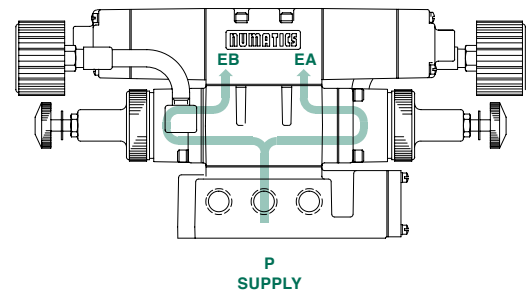
Example orders:	TYPE RS	TYPE RD
Valve unit only:	554SA400K000030	554SS400K000030
Regulator mounted on Full Size Flexiblok	555RS115J000000 ASSEMBLED	555RD115J000000 ASSEMBLED

Type RS



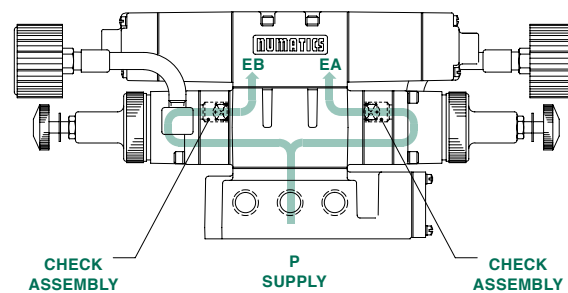
Single pressure from a single supply.

Type RD



Dual pressure from a single supply.

Type RC

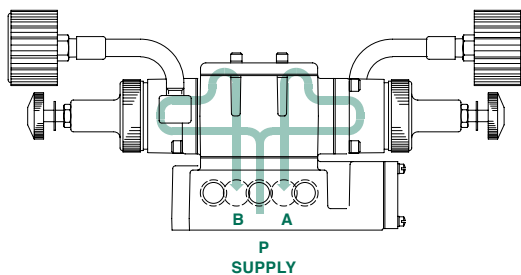


Type RC is Non-Relieving: traps downstream pressure if upstream pressure is exhausted.

Type RQ

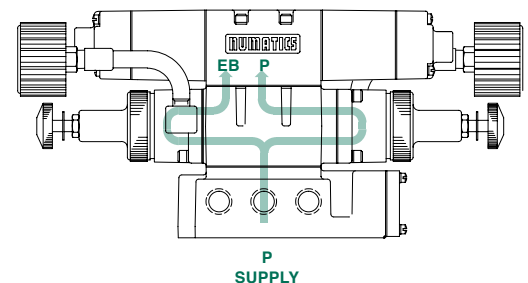
Type RQ is Relieving: exhaust pressure in cylinder if upstream pressure is exhausted.

Type RE



External outlet regulator used with jumper plate for single or dual pressure.

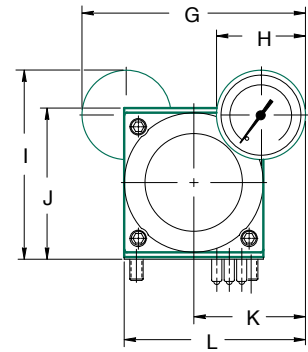
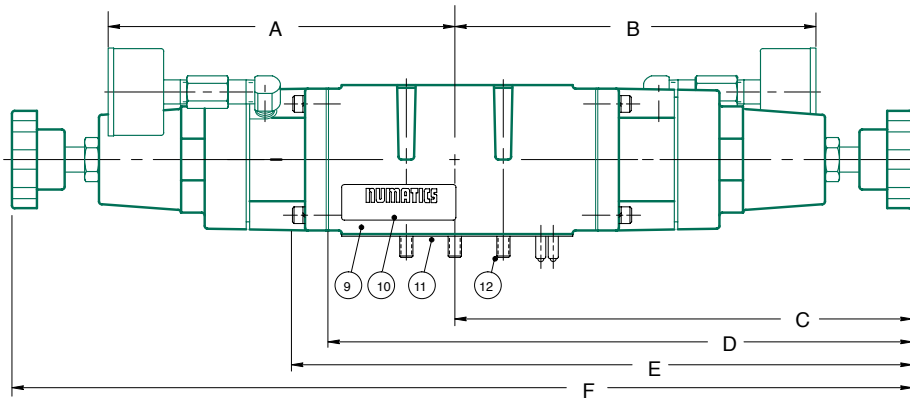
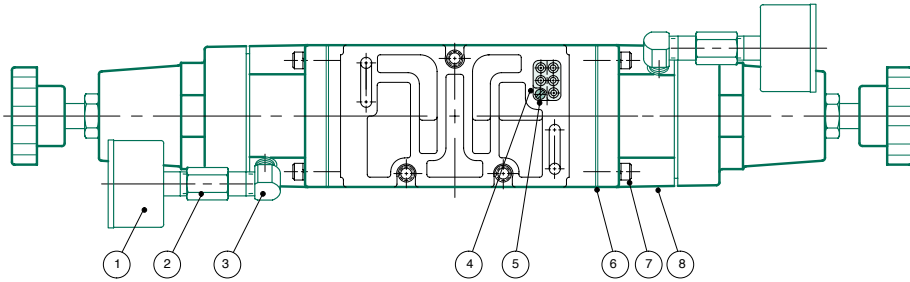
Type RT



Two-pressure selector used for multi-pressure applications.



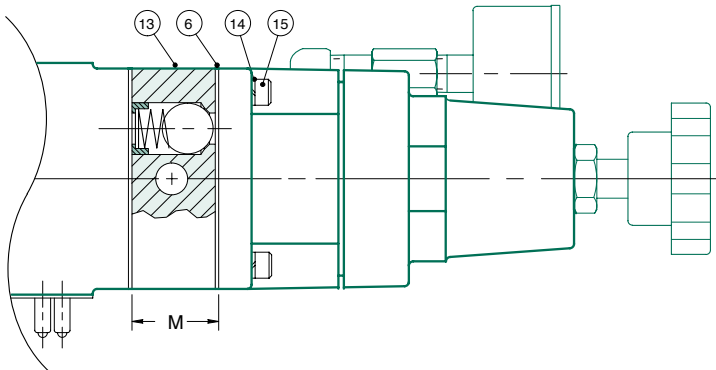
Sandwich Pressure Regulator



Check Assembly Kits

RC: 239-540

RQ: 239-538



Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2*	Gauge (See Chart on p.17)	
2 *	2*	Fitting	134-221
3 *	2*	Fitting	134-222
4	1	Plug Receptacle (SPA 55)	230-344
5	1	Screw (SPA 55)	127-342
6 *	**	Gasket to Regulator Body	113-234
7	8~	Screw Assembly	127-103
8	2*	Reg. Assembly (not sold separately)	
9 *	1	Nameplate	122-551
10 *	1	Regulator Block	RS 125-360 RD, RC, RQ 125-361 RT 125-363 RE 125-362
11	1	Gasket body/base	113-292
12	3	Studs	127-339
13 *	2	Check Assembly (not sold separately)	
14	2	Hi-Collar Lockwasher (RC, RQ only)	128-110
15	8	Screw (RC, RQ only)	127-108

*RS models require (1).
 **(1) for RS; (2) for RD; (4) for RC, RQ.
 ~RS models require (4).

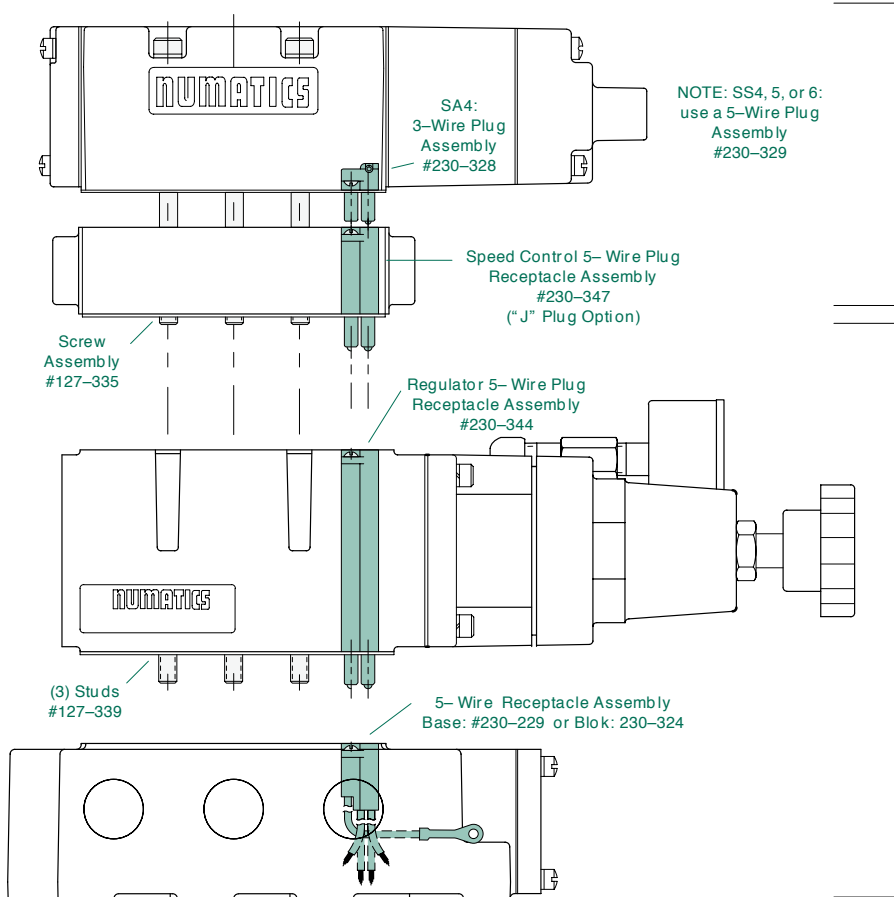
Dimensions

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

A	B	C	D	E	F	G	H	I	J	K	L	M
6.26 (159.0)	6.48 (165.0)	8.46 (215.0)	10.74 (273.0)	11.39 (289.0)	16.70 (424.0)	4.12 (105.0)	1.62 (41.0)	3.27 (83.0)	2.58 (66.0)	2.06 (52.0)	3.34 (85.0)	1.03 (26.0)



Mark 55 Speed Control and Regulator Plug-in Assembly



EXAMPLE

554SA401J000030

Single solenoid valve unit +
speed control sandwich
with plug-in receptacle
and extra long screws

555RS131J000000

3/4 NPTF single pressure regulator
(10-130 PSIG) with plug-in receptacle
mounted on an individual base
with side ports and common exhaust

EXAMPLE ORDER:

Valve: 554SA401J000030

Regulator: 555RS131J000000

ASSEMBLED



Manifold Accessory Kits

End Plate Kits

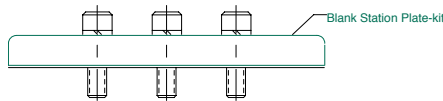


END PLATE TYPE	PORT TYPE	KIT NUMBER
Full Size Block	NPTF	229-841
	G Tap w/Metric Conduit	239-423
	G Tap w/NPTF Conduit	239-531
Compact Block	NPTF	229-861
	G Tap w/Metric Conduit	239-456
	G Tap w/NPTF Conduit	239-532

BLOK TYPE	NO. REQ'D	PART NAME	NPTF	G TAP W/ METRIC CONDUIT	G TAP W/NPTF CONDUIT
Full Size	1	Gasket	113-291	113-291	113-291
	1	Right End Plate	104-244	104-393	104-470
	1	Nameplate	122-199	122-199	122-199
	1	Left End Plate	104-245	104-394	104-471
	2	Screws	127-222	127-222	127-222
Compact	1	Gasket	113-298	113-298	113-298
	1	Right End Plate	104-249	104-391	104-472
	1	Nameplate	122-199	122-199	122-199
	1	Left End Plate	104-250	104-392	104-473
	2	Screws	127-222	127-222	127-222

Blank Station Plate Kit 229-840

Includes plate, gasket #113-264 and (3) screws #127-235.



Blocking Disc Kit Compact: 124-160

Full: EA/EB Gallery 124-154

Full: P Gallery: 124-153



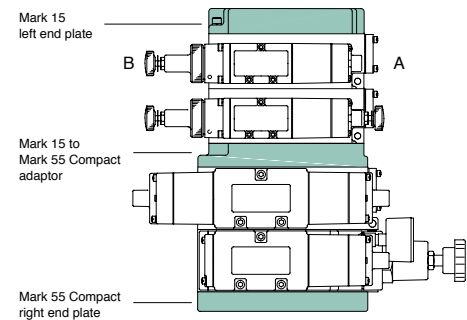
Adaptor Kits with End Plates

Mark/PA 55 Compact Left* of Mark/PA 15 229-858

Includes kit #229-857 (adaptor, screws, seals) + Mark 55 & 15 end plates

Mark/PA 55 Compact Right* of Mark/PA 15 229-860

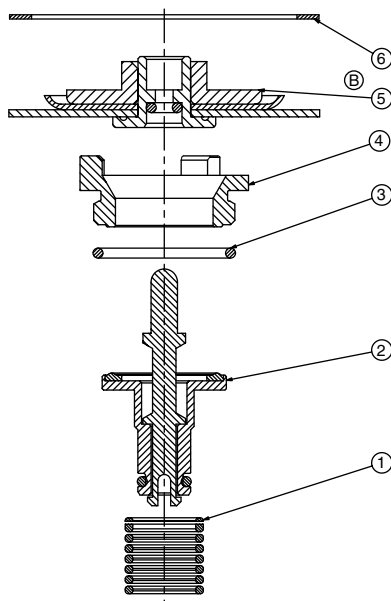
Includes kit #229-859 (adaptor, screws, seals) + Mark 55 & 15 end plates



Regulator Kits & Service Parts

Regulator Service Kit

239-2277



Regulator Unit Kits

(includes regulator assembly, gaskets, screws)

PSIG	PART NO.
3-30 PSIG	229-902
5-60 PSIG	229-903
10-130 PSIG	229-904

Bonnet Spring

PSIG	PART NO.
3-30 PSIG	115-237
5-60 PSIG	115-238
10-130 PSIG	115-239

Regulator Gauges

PSIG	PART NO.	PSIG	PART NO.
3-30 PSIG	214-116 (0-60)	5-60 PSIG	214-117 (0-100)
10-130 PSIG	214-103 (0-160)		

DET NO.	PART NAME	PART NO.
1	Spring	
2	Valve Production Assy.	
3	O-Ring	
4	Original Poppet Seat	
5	Diaphragm Sub Assy.	
6	Washer	



Mark 55, SPA55 & PA55 Series

Speed Control Kit
with Plug 229-908

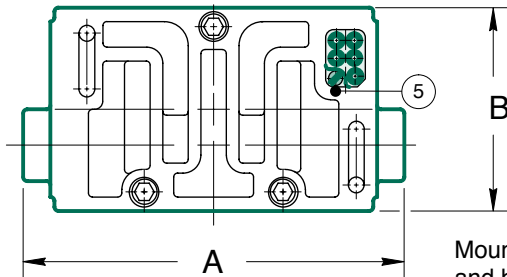
Speed Control Kit
with Hardwire Receptacle 229-753

Speed Control Kit - PA 55
without Receptacle 229-740

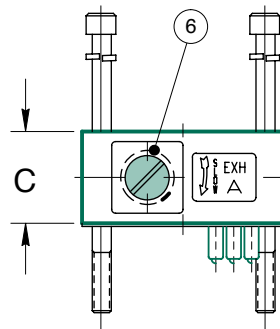
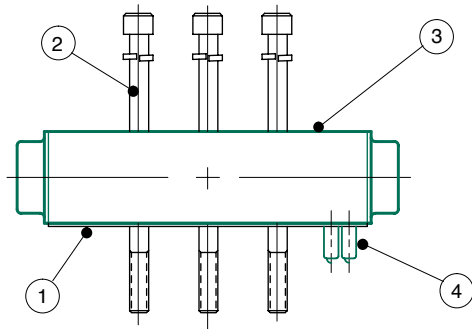
Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Gasket	113-292
2 *	3	Screw Assembly	127-335
3 *	1	Speed Control (not sold separately)	
4 *	1	Plug-in Receptacle Assembly	230-347
5 *	1	Receptacle Screw	127-342
6 *	2	Needle Assembly	213-235

*Indicates part included in kit.



Mounts between valve and base, manifold, or RS regulator.



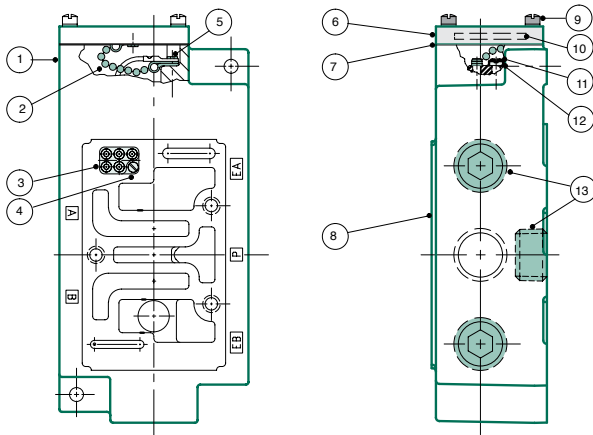
Dimensions

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

A	B	C
4.80 (122.0)	2.50 (63.5)	1.19 (33.0)



Mark 55 Base Assembly Kits



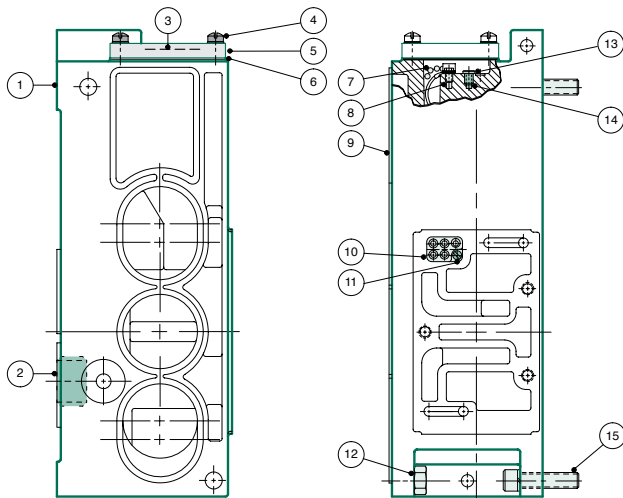
*Indicates parts included in kit.
**# Plugs vary; consult factory

Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Base (not sold separately)	
2 *	1	Cover Chain	125-185
3 *	1	Receptacle Screw	127-342
4 *	1	Receptacle Assembly Plug-in Units only	230-229
5 *	2	Screw	127-180
6 *	1	Conduit Cover	105-207
7 *	1	Gasket conduit/base	113-144
8 *	1	Gasket valve/base	113-292
9 *	2	Screw Assembly	127-173
10 *	1	Label	122-355
11 *	1	Screw	127-176
12 *	1	Washer	128-162
13 *	**	Plug:	3/8 NPTF 129-102 1/2 NPTF 129-103 3/4 NPTF 129-104 G 3/8 129-190 G 1/2 129-164 G 3/4 129-165

BASE TYPE	EXHAUST	3/8 NPTF		1/2 NPTF		3/4 NPTF		G 3/8		G 1/2		G 3/4	
		PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG
31 & 35: Side Ports Only	Common	203-487	203-483	203-495	203-491	203-503	203-499	203-699	203-696	203-700	203-697	203-701	203-688
32 & 36: Side & Bottom Ports	Common	203-488	203-484	203-496	203-492	203-504	203-500	203-705	203-702	203-706	203-703	203-707	203-704
3A & 3C: Side Port Only	Individual	203-485	203-481	203-493	203-489	203-501	203-497	203-711	203-708	203-712	203-709	203-713	203-710
3B & 3D: Side & Bottom Ports	Individual	203-486	203-482	203-494	203-490	203-502	203-498	203-717	203-714	203-718	203-715	203-719	203-716

Mark 55 Flexiblok® Manifold Kits



*Indicates parts included in kit.
**# Plugs vary; consult factory

Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Manifold Block (not sold separately)	
2 *	**	Plug:	3/8 NPTF 129-102 1/2 NPTF 129-103 3/4 NPTF 129-104 G 3/8 129-190 G 1/2 129-164 G 3/4 129-165
3 *	1	Label	122-355
4 *	2	Screw Assembly	127-173
5 *	1	Conduit Cover	105-207
6 *	1	Gasket blok/conduit	113-144
7 *	1	Cover Chain	125-185
8 *	2	Screw	127-180
9 *	1	Gasket:	Full Size 113-291 Compact 113-298
10 *	1	Receptacle Assembly Plug-in Units only	230-324
11 *	1	Receptacle Screw	127-342
12 *	2	Nut	128-143
13 *	1	Washer	128-162
14 *	2	Screw	127-176
15 *	2	Screw Assembly	127-222

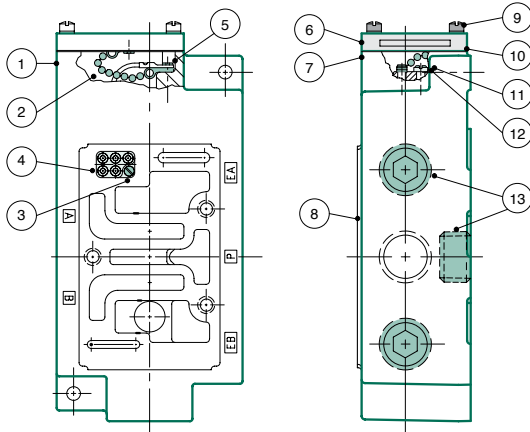
MANIFOLD DESCRIPTION	3/8 NPTF		1/2 NPTF		3/4 NPTF		G 3/8		G 1/2		G 3/4	
	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG
#15: Side & Bottom Cylinder Ports	229-747	229-741	229-748	229-742	229-749	229-743	239-414	239-411	239-415	239-412	239-416	239-413
#15: + Bottom P Port	229-750	229-744	229-751	229-745	229-752	229-746	239-420	239-417	239-421	239-418	239-422	239-419
#15 + 19M (Terminal Strip)	239-2190	N/A	239-731	N/A	239-711	239-1321	N/A	N/A	239-2385	N/A	239-2386	N/A
#2A/2B: Side & Bottom Cylinder Ports*	229-879	229-862	229-880	229-863	229-881	229-864	239-440	239-424	239-441	239-425	N/A	N/A
#2A/2B: + Bottom P Port	229-882	229-865	229-883	229-866	N/A	N/A	239-442	239-426	239-443	239-427	N/A	N/A
#2A + 19M (Terminal Strip)	N/A	N/A	239-918	N/A	239-1320	N/A	N/A	N/A	239-1222	N/A	N/A	N/A
#2C: Auxiliary Inlet	229-886	229-869	229-892	229-875	N/A	N/A	239-448	239-432	239-449	239-433	N/A	N/A
#2C: + Bottom P Port	229-889	229-872	229-895	229-878	N/A	N/A	239-454	239-438	239-455	239-439	N/A	N/A
#2E: Alternate Outlet	229-884	229-867	229-890	229-873	N/A	N/A	239-444	239-428	239-445	239-429	N/A	N/A
#2E: + Bottom P Port	229-887	229-870	229-893	229-876	N/A	N/A	239-450	239-434	239-451	239-435	N/A	N/A
#2G: Auxiliary Inlet & Alternate Outlet	229-885	229-868	229-891	229-874	N/A	N/A	239-446	239-430	239-447	239-431	N/A	N/A
#2G: + Bottom P Port	229-888	229-871	229-894	229-877	N/A	N/A	239-452	239-436	229-453	239-437	N/A	N/A

*Only side ports available 3/4 NPTF. Bottom ports are 3/8 NPTF.



Mark 55, SPA55 & PA55 Series

SPA 55 and PA 55 Base Assembly Kits Tapped CA and CB Ports



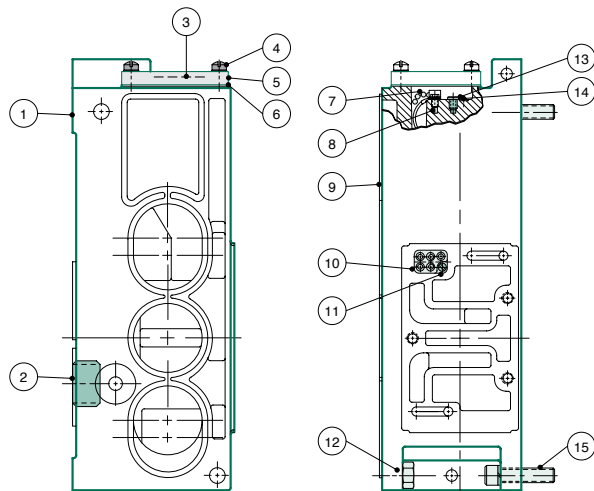
*Indicates parts included in kit.
**# Plugs vary; consult factory

Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Base (not sold separately)	
2 *	1	Cover Chain	125-185
3 *	1	Receptacle Screw	127-342
4 *	1	Receptacle Assembly Plug-in Units only	230-229
5 *	2	Screw	127-180
6 *	1	Conduit Cover	105-207
7 *	1	Gasket conduit/base	113-144
8 *	1	Gasket valve/base	113-292
9 *	2	Screw Assembly	127-173
10 *	1	Label	122-355
11 *	1	Screw	127-176
12 *	1	Washer	128-162
13 *	**	Plug:	3/8 NPTF 129-102 1/2 NPTF 129-103 3/4 NPTF 129-104 G 3/8 129-190 G 1/2 129-164 G 3/4 129-165

BASE TYPE	EXHAUST	SPA 55/PA 55 W/PILOT PORTS (PLUG-INS ARE SPA 55 ONLY)						SPA 55 NO PILOT PORTS (STANDARD)					
		3/8 NPTF		1/2 NPTF		3/4 NPTF		3/8 NPTF		1/2 NPTF		3/4 NPTF	
MANIFOLD DESCRIPTION		PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG
31 & 35: Side Ports Only	Common	203-615	203-545	203-619	203-549	203-623	203-553	203-487	203-483	203-495	203-491	203-503	203-499
32 & 36: L/Side & Bottom Ports	Common	203-617	203-547	203-621	203-551	203-625	203-555	203-488	203-484	203-496	203-492	203-504	203-500
3A & 3C: Side Port Only	Individual	203-614	203-544	203-618	203-548	203-622	203-552	203-485	203-481	203-493	203-489	203-501	203-497
3B & 3D: Side & Bottom Ports	Individual	203-616	203-546	203-620	203-550	203-624	203-554	203-486	203-482	203-494	203-490	203-502	203-498

SPA 55 and PA 55 Flexiblok® Manifold Kits Tapped CA and CB Ports



*Indicates parts included in kit.
**# Plugs vary; consult factory

Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Manifold Block (not sold separately)	
2 *	**	Plug:	3/8 NPTF 129-102 1/2 NPTF 129-103 3/4 NPTF 129-104 G 3/8 129-190 G 1/2 129-164 G 3/4 129-165
3 *	1	Label	122-355
4 *	2	Screw Assembly	127-173
5 *	1	Conduit Cover	105-207
6 *	1	Gasket blok/conduit	113-144
7 *	1	Cover Chain	125-185
8 *	2	Screw	127-180
9 *	1	Gasket:	Full Size 113-291 Compact 113-298
10 *	1	Receptacle Assembly Plug-in Units only	230-324
11 *	1	Receptacle Screw	127-342
12 *	2	Nut	128-143
13 *	1	Washer	128-162
14 *	2	Screw	127-176
15 *	2	Screw Assembly	127-222

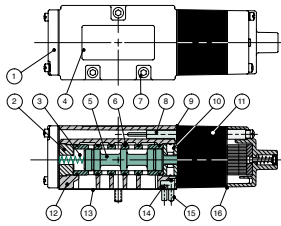
MANIFOLD DESCRIPTION	PA 55/SPA 55 WITH PILOT PORTS (PLUG-INS ARE SPA 55 ONLY)				SPA 55 NO PILOT PORTS (STANDARD)							
	3/8 NPTF		1/2 NPTF		3/4 NPTF		3/8 NPTF		1/2 NPTF		3/4 NPTF	
	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG	PLUG-IN	NO PLUG
#15: Side & Bottom Cylinder Ports	239-213	229-913	239-214	229-914	239-215	229-915	229-747	229-741	229-748	229-742	229-749	229-743
#15: + Bottom P Port	-	229-916	-	229-917	-	229-918	-	-	-	-	-	-
#2A/2B: Side & Bottom Cylinder Ports*	239-219	229-919	239-220	229-920	239-223	229-923	229-879	229-862	229-880	229-863	229-881	229-864
#2A/2B: + Bottom P Port	-	229-921	-	229-922	N/A	N/A	-	-	-	-	N/A	N/A
#2C: Auxiliary Inlet	239-226	229-926	239-232	229-932	N/A	N/A	229-886	229-869	229-892	229-875	N/A	N/A
#2C: + Bottom P Port	-	229-929	-	229-935	N/A	N/A	-	-	-	-	N/A	N/A
#2E: Alternate Outlet	239-224	229-924	239-230	229-930	N/A	N/A	229-884	229-867	229-890	229-873	N/A	N/A
#2E: + Bottom P Port	-	229-927	-	229-933	N/A	N/A	-	-	-	-	N/A	N/A
#2G: Auxiliary Inlet & Alternate Outlet	239-225	229-925	239-231	229-931	N/A	N/A	229-885	229-868	229-891	229-874	N/A	N/A
#2G: + Bottom P Port	-	229-928	-	229-934	N/A	N/A	-	-	-	-	N/A	N/A

*Only side ports available 3/4 NPTF. Bottom ports are 3/8 NPTF.



Service Kits and Parts

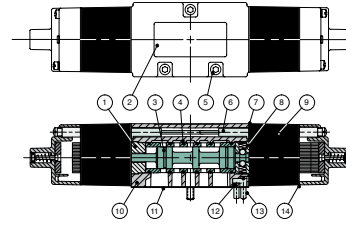
Kit No. MK55-K1* (For Models 553SA4, 554SA4, 555SA4)



Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Sprint Cover Assembly	204-311
2 *	1	Spacer	116-317
3 *	1	Spring	115-165
4	1	Nameplate	122-935
5	1	Sleeve Assembly w/seals	209-285**
6 *	6	Seal	126-209
7	3	Screw Assembly	127-334
8	1	Electrical Receptacle	125-309
9 *	1	Gasket solenoid/valve	113-293
10 *	1	Detented Body	110-115
11	1	Solenoid Capsule Assembly	See p. 23
12	1	Valve Body (not sold separately)	
13 *	1	Gasket valve/base	113-292
14	1	Screw	127-169
15	1	3-Wire Plug Assembly	230-328
16 *	1	Gasket solenoid/end cap	113-294

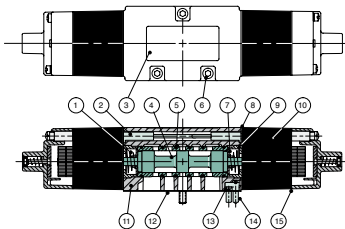
Kit No. MK55-K2* (For Models 553SS4, 554SS4, 555SS4)



Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Spacer	116-317
2	1	Nameplate	122-935
3	1	Sleeve Assembly w/seals	209-286**
4 *	6	Seal	126-209
5	3	Screw Assembly	127-334
6	2	Electrical Receptacle	125-309
7 *	2	Gasket solenoid/valve	113-293
8 *	1	Detented Assembly	210-119
9	2	Solenoid Capsule Assembly	See p. 23
10	1	Valve Body (not sold separately)	
11 *	1	Gasket body/base	113-292
12	1	Screw	127-169
13	1	5-Wire Plug Assembly	230-329
14 *	2	Gasket solenoid/end cap	113-294

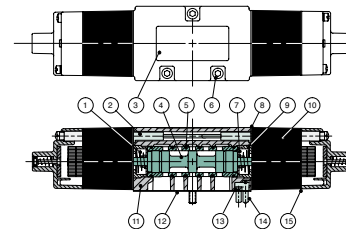
Kit No. MK55-K3* (For Models 553SS5, 554SS5, 555SS5)



Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	2	Spring	115-297
2	2	Electrical Receptacle	125-309
3	1	Nameplate	122-935
4	1	Sleeve Assembly w/seals	209-287**
5 *	6	Seals	126-209
6	3	Screw Assembly	127-334
7 *	2	Spring Retainer	116-401
8 *	2	Gasket solenoid/valve	113-293
9 *	2	Spacer	116-402
10	2	Solenoid Capsule Assembly	See p. 23
11	1	Valve Body (not sold separately)	
12 *	1	Gasket body/base	113-292
13	1	Screw	127-169
14	1	5-Wire Plug Assembly	230-329
15 *	2	Gasket solenoid/end cap	113-294

Kit No. MK55-K3* (For Models 553SS6, 554SS6, 555SS6)



Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	2	Spring	115-297
2	2	Electrical Receptacle	125-309
3	1	Nameplate	122-935
4	1	Sleeve Assembly w/seals	209-288**
5 *	6	Seals	126-209
6	3	Screw Assembly	127-334
7 *	2	Spring Retainer	116-401
8 *	2	Gasket solenoid/valve	113-293
9 *	2	Spacer	116-402
10 *	2	Solenoid Capsule Assembly	See p. 23
11	1	Valve Body (not sold separately)	
12 *	1	Gasket body/base	113-292
13	1	Screw	127-169
14	1	5-Wire Plug Assembly	230-239
15 *	2	Gasket solenoid/end cap	113-294

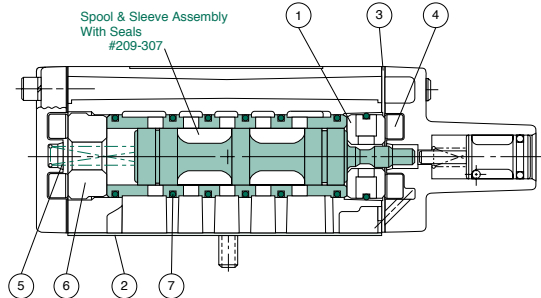
*Indicates parts included in service kit. **Spool and sleeve assemblies are precision matched sets; assemblies include (6) 126-209 seals; spools are not interchangeable.



Mark 55, SPA55 & PA55 Series

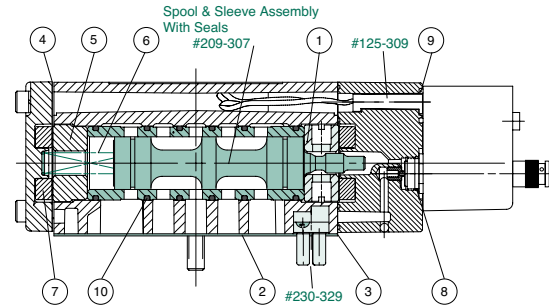
Service Kits and Parts PA 55 Air Pilot Actuated

Kit No. PA55-K1 (For Models JA4, JK4)

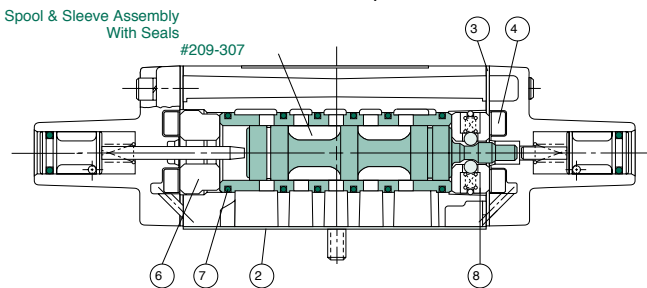


SPA 55 Solenoid-Pilot Actuated

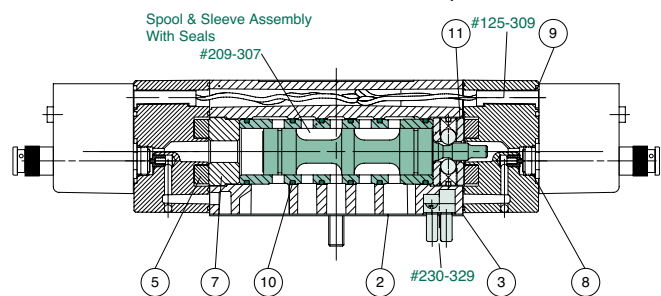
Kit No. SPA55-K1P (For Model BA4)



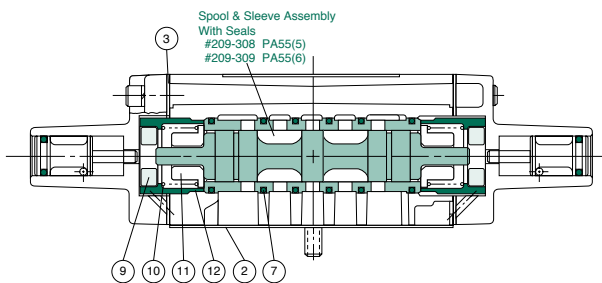
Kit No. PA55-K2 (For Model JJ4)



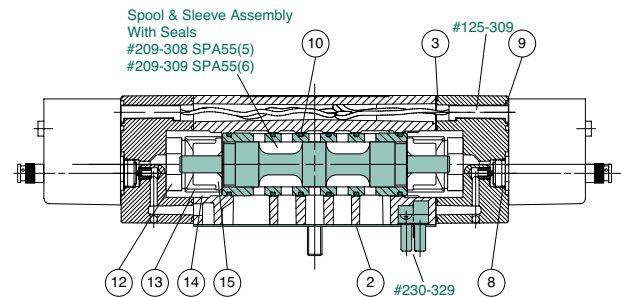
Kit No. SPA55-K2P (For Model BB4)



Kit No. PA55-K3 (For Models JJ5, JJ6)



Kit No. SPA55-K3P (For Models BB5, BB6)



Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Detented Body	110-115
2 ***	1	Gasket body/base	113-292
3 ***	1 or 2	PA 55 Gasket pilot cap	113-312
4 **	2	Bumper	114-110
5 *	1	Spring	115-165
6 **	1	Spacer	116-317
7 ***	6	Seals	126-209
8 ~	1	Detented Assembly	210-119
9 •	2	Bumper	114-108
10 •	2	Spring	115-242
11 •	2	Spacer	116-332
12 •	2	Spring Retainer	116-333

*PA 55-K1 only

**PA 55-K1, K2 only

***PA 55-K1, K2, K3

•PA 55-K3

~PA 55-K2

Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Detented Body	110-115
2 ***	1	Gasket body/base	113-292
3 ***	1 or 2	Gasket end cap	113-461
4 ***	1	Spring Cover Gasket	113-293
5 **	2	Bumper	114-110
6 *	1	Spring	115-165
7 **	1	Spacer	116-317
8 ***	1	Seal	126-133
9 ***	1	Seals	126-204
10 ***	6	Seals	126-209
11 ~	1	Detented Assembly	210-119
12 •	2	Bumper	114-108
13 •	2	Spring	115-242
14 •	2	Spacer	116-332
15 •	2	Spring Retainer	116-333

*SPA 55-K1P

**SPA 55-K1P, K2P only

***SPA 55-K1P, K2P, K3P

•SPA 55-K3P

~SPA 55-K2P

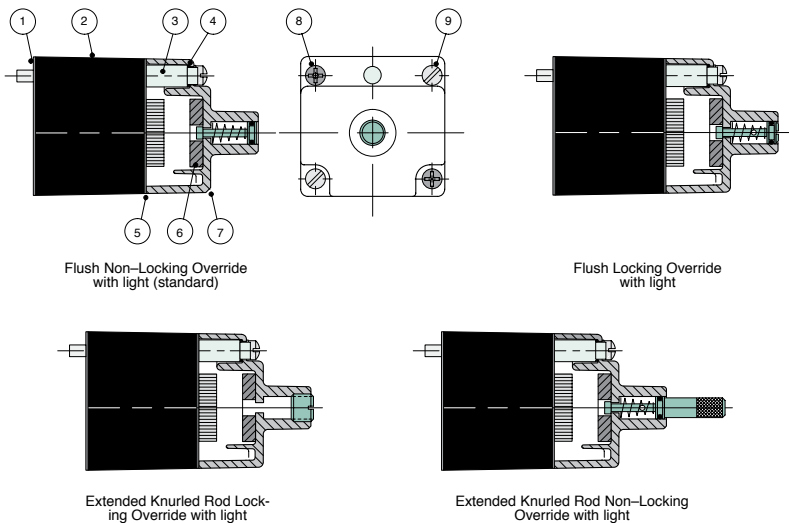


Mark 55 Solenoid Assemblies

Complete Solenoid Capsule Assemblies

End Cap Only

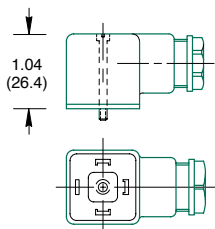
OVERRIDE TYPE	VALVE TYPE	VALVE FUNCTION	PLUG-IN	VOLTAGE AC ONLY*			LIGHT OPTION AC ONLY*	
				100-115/50 110-120/60	200-230/50 220-240-60	24/50-60	100-130V	200-260V
Flush Non-Locking (Standard)	Single	2 Position	Std. w/Light	237-475	237-474	237-476	204-314	204-315
	Double	2 Position	Std. w/Light	237-484	237-483	237-485	204-314	204-315
	Double	3 Position	Std. w/Light	237-487	237-486	237-488	204-316	204-317
Flush Non-Locking (DIN Plug)	Single	2 Position	DIN w/Light	237-493	237-492	237-494	N/A	N/A
	Double	2 Position	DIN w/Light	237-502	237-501	237-503	N/A	N/A
	Double	3 Position	DIN w/Light	237-505	237-504	237-506	N/A	N/A
Flush Locking	Single	2 Position	Std. w/Light	237-526	237-525	237-527	204-340	204-341
	Double	2 Position	Std. w/Light	237-532	237-531	237-533	204-340	204-341
	Double	3 Position	Std. w/Light	237-610	237-609	237-611	204-334	204-335
Extended Knurled Rod Locking	Single	2 Position	Std. w/Light	237-551	237-550	237-552	204-342	204-343
	Double	2 Position	Std. w/Light	237-554	237-553	237-555	204-342	204-343
	Double	3 Position	Std. w/Light	237-566	237-565	237-567	204-336	204-337
Extended Knurled Rod Non-Locking	Single	2 Position	Std. w/Light	237-765	237-764	237-766	204-344	204-345
	Double	2 Position	Std. w/Light	237-575	237-574	237-576	204-344	204-345
	Double	3 Position	Std. w/Light	237-776	237-775	—	204-338	204-339
Solenoid Only less end cap; screws and gaskets not included	Single	2 Position	Std. Plug-in	228-714	228-713	228-715	The Mark 55 Series direct solenoid acuated valve is AC voltage only. DC solenoids are not available for this series.	
	Double	2 & 3 Position	Std. Plug-in	228-717	228-716	228-718		
	Single	2 Position	DIN Plug-in	228-720	228-719	228-721		
	Double	2 & 3 Position	DIN Plug-in	228-723	228-722	228-724		



Parts List

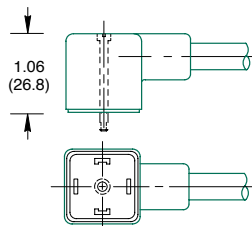
DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Gasket solenoid/valve	113-293
2	1	Solenoid Assembly	See Chart
3	1	Light Assembly:	100-115/50 230-235 110-120/60 230-235 200-230/50 230-236 220-240/60 230-236
4	1	O-Ring Seal	126-144
5	1	Gasket solenoid/end cap	113-294
6	1	Bumper:	Black for 2 position 114-142 Red for 3 position 114-143
7	1	End Cap Assembly	See Chart
8	2	Screw end cap/solenoid	127-337
9	2	Screw AC solenoid/body	127-338

Plug-in Connector Assemblies



PART NAME	PART NO.
Gray (A) Plug Ass'y	230-369
Black (B) Plug Ass'y	230-370
Plug w/24VDC Light	230-371
Plug w/110VAC Light	230-372
Plug w/220VAC Light	230-373

Superstructure Plug Connector with Cord



PART NAME	PART NO.
Plug with 4' Cord	230-213
Plug with 6' Cord	230-215

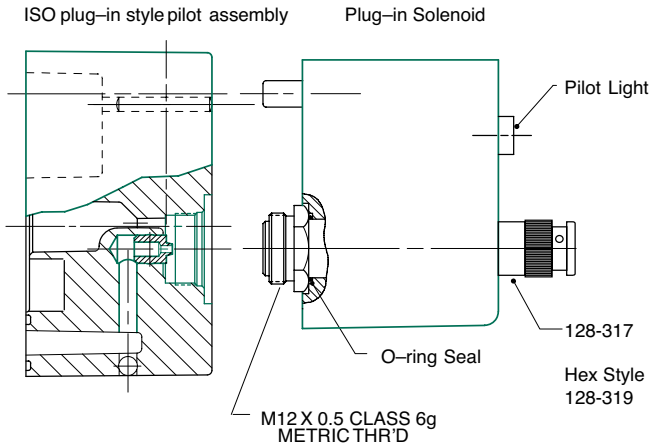
top dimensions = inches
bottom dimensions (in parenthesis) = millimeters



Mark 55, SPA55 & PA55 Series

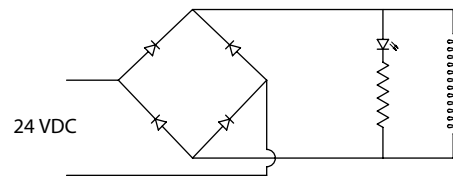
SPA 55 Solenoid Assemblies

Complete Capsule Assemblies

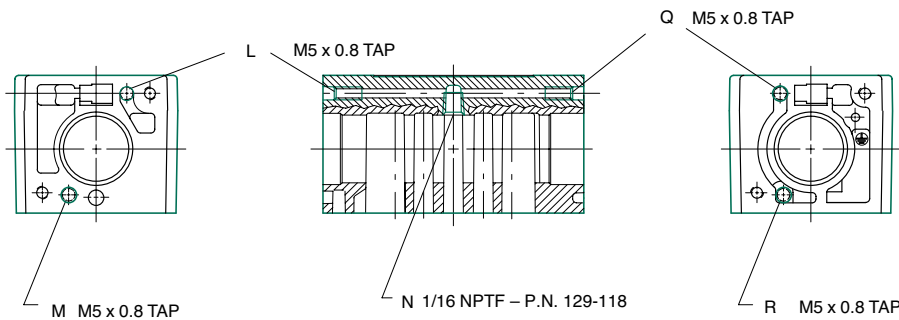


VOLTAGE	PART NO.
24/50-60 VAC (Black Coil)	237-1044
100-115/50; 110-120/60 VAC (Black Coil)	237-1045
200-230/50; 220-240/60 VAC (Black Coil)	237-1046
24 VDC (Blue Coil)	236-384

Includes solenoid, core tube, & nut 128-317
NOTE: Core tube not available separately.



SPA 55 Multi-Purpose Valve Pilot Plugging Arrangements



All pilot passages require plug #129-213. This plug is M5 x 6mm slotted tapered plug.

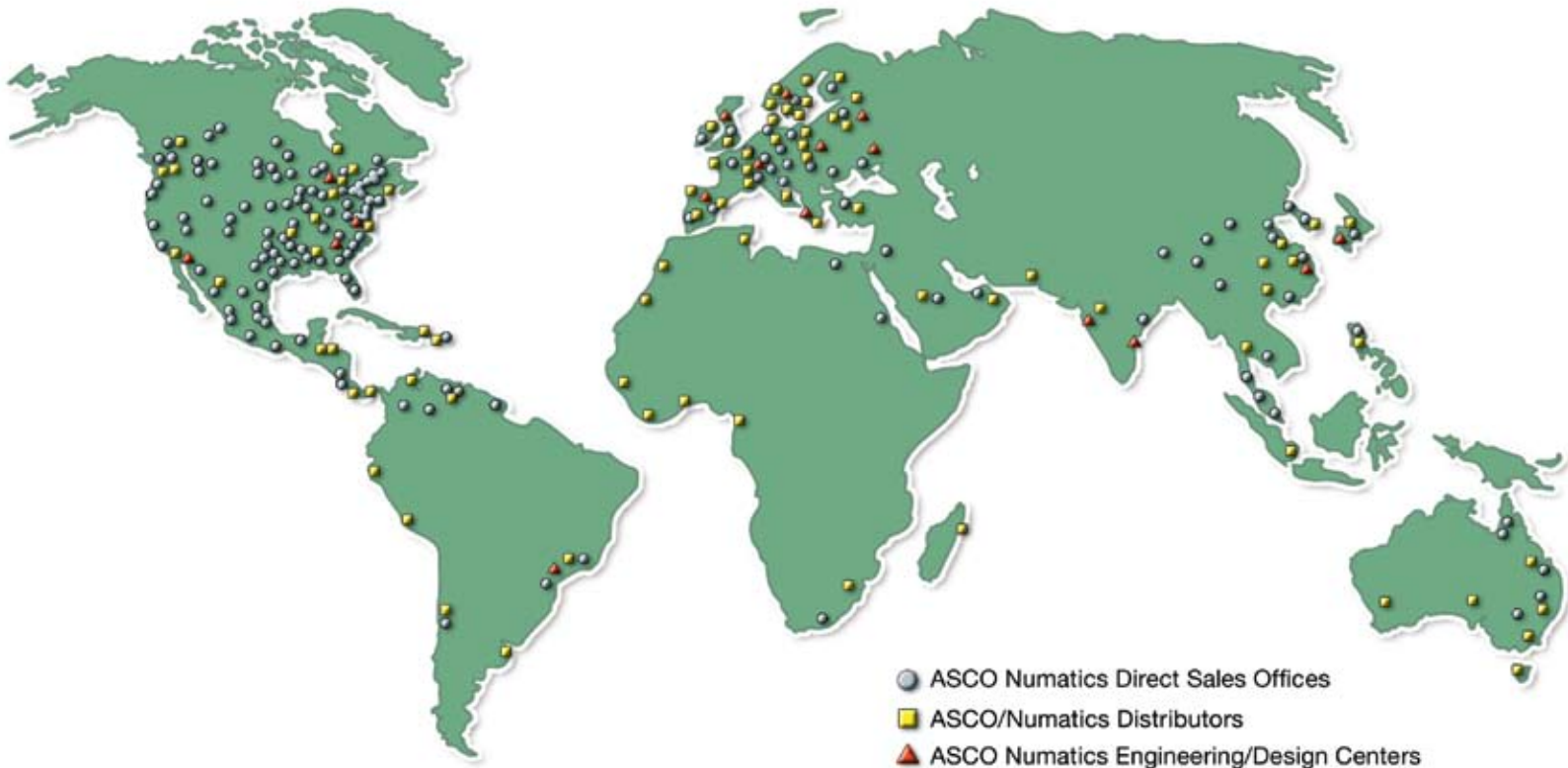
PILOT PORT	INTERNAL SUPPLY FROM PORT P		EXTERNAL SUPPLY FROM PORT CB*		EXTERNAL SUPPLY FROM PORT CA*		INTERNAL SUPPLY FROM PORT EB		INTERNAL SUPPLY FROM PORT EA	
	BA4	BB4, BB5, BB6	BA4	BB4, BB5, BB6	BA4	BB4, BB5, BB6	BA4	BB4, BB5, BB6	BA4	BB4, BB5, BB6
L	Plug	Open	N/A	Open	Plug	Open	N/A	Open	Open	Open
M	Plug	Plug	N/A	Plug	Plug	Plug	N/A	Open	Plug	Plug
N	Open	Open	N/A	Plug	Plug	Plug	N/A	Plug	Plug	Plug
Q	Open	Open	N/A	Open	Plug	Open	N/A	Open	Plug	Open
R	Plug	Plug	N/A	Plug	Plug	Plug	N/A	Plug	Open	Open

*The standard base for all internally piloted valves does not provide pilot ports. For external pilot supply and for all air piloted valves, use only bases with ports CA and CB tapped 1/8 NPTF.

NOTE: For standard plugging arrangements, see page 5.

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