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numatics®

Mark 8 Series

Direct Solenoid Actuator





www.numatics.com

EMERSON
Industrial Automation

numatics®

Numatics, Inc. is a leading manufacturer of pneumatic products and motion control products. Our broad spectrum of standard, custom developed products and application components have made a significant impact on pneumatic innovation as well as pneumatic and motion control technology. Our company has an extensive history of generating innovative concepts and technological breakthroughs. Many of today's standard features in pneumatic technology were industry firsts from Numatics. We continue our innovative approach to product development by developing electric motion control solutions and enhancing our embedded Fieldbus and I/O products to continually meet and solve our customer's application requirements.



Today Numatics is proud to be a part of the Industrial Automation Division of Emerson Electric Co.

Emerson (NYSE:EMR), based in St. Louis, Missouri (USA), is a global leader in bringing technology and engineering together to provide innovative solutions for customers in industrial, commercial, and consumer markets through its network power, process management, industrial automation, climate technologies, and appliance and tools businesses. For more information, visit www.Emerson.com.

EMERSON™
Industrial Automation

Numatics Express Shipping Program guarantees† product shipment in two, three or five business days. Unlike most traditional quick ship programs, the Numatics Express Shipping Program includes the most comprehensive offering in the industry. This program encompasses the range and options that you require!

Numatics is committed to offering you the highest level of customer service, quality and performance.

2DAY

Numatics Express 2Day shipping program guarantees† product shipment in two business days. The program includes the most popular valve, air preparation and actuator products and includes applicable switches and mounting accessories.

Numatics guarantees† to ship any order received before 3 pm EST for up to 10 2Day products* in two business days.

3DAY

Numatics Express shipping program offers a 3Day shipping program that guarantees† product shipment of a fully assembled and tested valve manifold in 3 business days. The program includes the most popular manifold configurations of the 2000 and Mark series valves:

- Sub D, Terminal Strip and Fieldbus Electronic Options
- Can be configured for DIN Rail Mounting and Muffled Exhaust
- Shipped complete and 100% tested

The 3Day Express shipping program enables you to create a 2 to 8 station manifold assembly complete with any combination of valves, regulators, and blank stations that can be configured from the valve model charts in this catalog.

Numatics guarantees† to ship any order received before 3 pm EST for up to 5 manifold assemblies configured from this catalog in three business days or Numatics pays the shipping cost.

5DAY

We are pleased to expand Numatics Express to include a broad range of products in a 5Day shipping program. Numatics guarantees† to ship up to 10 of any 5Day product** for orders received before 3 pm EST in 5 business days or Numatics pays the shipping cost.

We are committed to providing you with an unmatched level of customer service, quality, and reliability.
If you cannot locate the specific product for your application or need additional product specifications, visit **www.numatics.com** or call **888-686-2842.** Numatics Express orders cannot be canceled or adjusted once entered. Saturdays, Sundays, and Holidays are excluded.

†As industry requirements change, Numatics reserves the right to modify the contents of this catalog and program without notification. Updates on this program can be obtained from the Numatics website www.numatics.com or by calling 888-686-2842, or by contacting your local Numatics representative or distributor and referencing the Numatics Express program.

***Sentronic*^{D} Proportional Valves, CGT Compact Slides, NR Series Rodless and Air Bellows are limited to orders up to 5.**
****A Series Large Bore NFPA, ASP Series Steel Body NFPA and G Series Guide Rail Rodless are limited to orders up to 5.**

Welcome to the World of Fluid Automation...



Since 1945, Numatics has emerged as the prominent specialist in developing and manufacturing pneumatic and fluid power components for a widely diverse field of automated industry. From idea to implementation, leading engineers choose Numatics as their single source for:

- Quality Fluid Power components
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Numasizing®

Developed by Numatics, Numasizing® offers a whole new level of fluid power system optimization. Compare large amounts of component and process data against user objectives and industry benchmarks for the best possible size, pneumatic pressure, actuator stroke velocities and other part and process variable determinations.

CAD Modeling

Save critical development time with the most innovative CAD configuration program in the pneumatic component industry. Numatics in 3D eliminates the time consuming process associated with designing components from scratch based on information found in conventional paper catalogs. The models are available in 85 different native CAD formats in 2D drawings and 3D models, including all the popular formats including Catia, I-DEAS, Pro/Engineer, SolidWorks, Unigraphics and more.

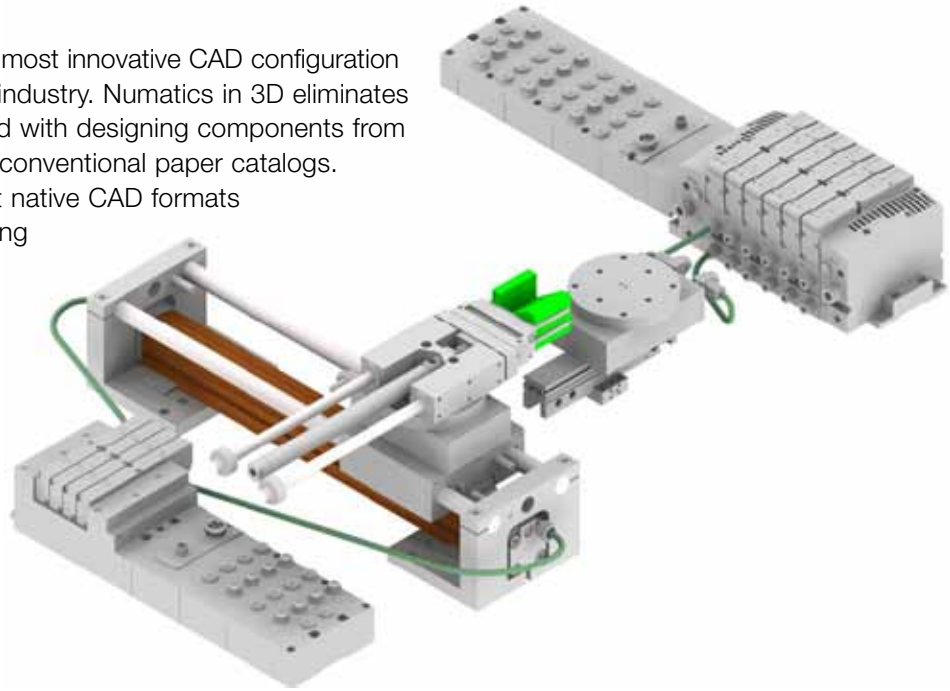


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5 Ported, 2 and 3 position, 4-way, Spool & Sleeve

Cv: 0.8 - 1.0

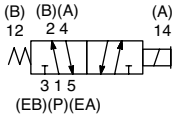
- Direct solenoid actuated
- Plug-in solenoid with indicator light
- Unlubricated or lubricated service
- Integral speed control available
- Integral regulators available
- NEMA 4



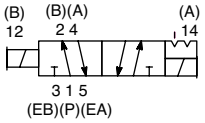
Technical Data

Valve Data	English		Metric	
Cv	1/8 NPTF = 0.80	1/4 NTPF = 1.0	1/8 G Tap = 0.80	1/4 G Tap = 1.0
Flow Capacity	37 SCFM	46 SCFM	790 Nl/m	985 Nl/m
	Upstream pressure to atmosphere @80 PSIG		@ 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	

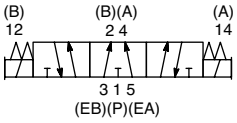
single solenoid
2 position 4-way



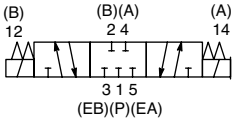
double solenoid
2 position 4-way



double solenoid
3 position 4-way
open center



double solenoid
3 position 4-way
closed center



Operating Data

All Solenoids Are Continuous Duty Rated		12 VDC	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)		6.0	6.0	N/A	N/A	N/A	N/A	N/A	N/A
Holding Current (Amps.)		0.50	0.25	0.84	0.38	0.15	0.09	0.007	0.04
Inrush Current (Amps.)		N/A	N/A	2.25	1.85	0.41	0.38	0.021	0.19
Energize in seconds	2-Position, Single, Spring Return	0.032	0.032	0.011	0.011	0.011	0.011	0.011	0.011
	2-Position, Double, Detented	0.028	0.028	0.012	0.012	0.012	0.012	0.012	0.012
	3-Position, Spring Centered	0.028	0.028	0.012	0.012	0.012	0.012	0.012	0.012
De-energize in seconds	2-Position, Single, Spring Return	0.010	0.010	0.011	0.011	0.011	0.011	0.011	0.011
	2-Position, Double, Detented	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	3-Position, Spring Centered	0.008	0.008	0.018	0.018	0.018	0.018	0.018	0.018

Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

How to Order

Valves

082 SA 4 15 K 0 000 30

Valve Series & Port Size
081* = 1/8
082 = 1/4
*Valve Unit Only

Valve Type
SA = Single Direct Solenoid, Spring Return w/Flush Non-locking Override
SS = Double Direct Solenoid w/Flush Non-locking Override

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
02 = Valve Unit w/Long Screws for use w/Speed Control or Regulator, w/o Mounting
15 = Manifold Block, Side & Bottom Cylinder Ports
16 = Manifold Block, Auxiliary Inlet, Side & Bottom Cylinder Ports
18 = Manifold Block, Alternate Outlet, Auxiliary Inlet, Side & Bottom Cylinder Ports
1B = Manifold Block, Alternate Outlet, Side & Bottom Cylinder Ports
25 = Manifold Block, Side & Bottom Cylinder Ports Speed Control
31 = Plug-in Base, Common Exhaust, Side Cylinder Ports
32 = Plug-in Base, Common Exhaust, Side & Bottom Cylinder Ports
35 = Plug-in Base, Common Exhaust, Side Cylinder Ports, Speed Control
36 = Plug-in Base, Common Exhaust, Side & Bottom Cylinder Ports, Speed Control
3A = Plug-in Base, Individual Exhaust, Side Cylinder Ports
3B = Plug-in Base, Individual Exhaust, Side & Bottom Cylinder Ports
3C Plug-in Base, Individual Exhaust, Side Cylinder Ports, Speed Control
3D = Plug-in Base, Individual Exhaust, Side & Bottom Cylinder Ports, Speed Control

Voltage
00 = Manifold Block, w/o Valve
20 = 24 VAC, 50-60 Hz
30 = 110-120 VAC, 50-60 Hz
40 = 220-240 VAC, 50-60 Hz
60 = 12 VDC
61 = 24 VDC

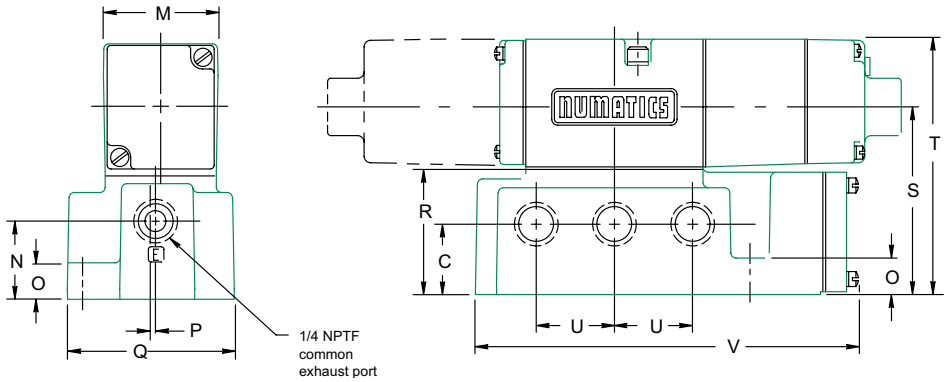
Options
000 = No Options
11B = Flush Locking Manual Override
11Y = Extended Non- Locking Manual Override
11Z = Extended Locking Manual Override
12A = FKM Seals on Sleeve Assembly
12B = Lubricant Free Assembly
13A = 4 Foot Leads
15W = 5-Pin Straight Mini Connector in Mounting; Pin 1=A+(14+), 2=A-(14-), 3=Gnd, 4=B+(12+), 5=B-(12-)
16T = Adds Bottom P (1) Port to Mounting
17N = Surge Suppression (DC Only)
19M = Terminal Block in Mounting
46T = Zinc Plated Solenoid Armature (AC Only)
47J = 5-Pin Straight Mini Connector in Mounting; Pin 1=B+(12+), 2=A-(14-), 3=Gnd, 4=A+(14+), 5=B-(12-)
56Y = 4 Pin Straight Micro Connector in Mounting; Pin 1=Not Used, 2=12+(B+), 3=Com, 4=14+(A+)

Combination Options
41W = (11B) Flush Locking Manual Override & (17N) Surge Suppression (DC Only)
48S = (11B) Flush Locking Manual Override & (19M) Terminal Block in Mounting
26K = (11B) Flush Locking Manual Override & (46T) Zinc Plated Solenoid Armature (AC Only)
46Z = (11Z) Extended Locking Manual Override & (17N) Surge Suppression (DC Only)
26C = (11Z) Extended Locking Manual Override & (19M) Terminal Block in Mounting
48Q = (11Z) Extended Locking Manual Override & (46T) Zinc Plated Solenoid Armature (AC only)
46P = (17N) Surge Suppression (DC Only) & (19M) Terminal Block in Mounting
54D = (19M) Terminal Block in Mounting & (46T) Zinc Plated Solenoid Armature (AC only)

Port Type
0 = NPTF Pressure Ports w/NPTF Conduit Ports or Valve Unit w/o Mounting
G = ISO228/1-G Pressure Ports w/IS O Metric - 1.5mm Pitch Conduit Ports

Wiring Option
K = Plug-in, w/ Light, VAC
M = Plug-in, w/ Light, VDC
2 = DIN Plug-in Solenoid, VAC
4 = DIN Plug-in Solenoid, VDC
O = Mounting Only w/ Electrical Receptacle
B = Mounting Only w/o Electrical Receptacle

Dimensions: Inches (mm)



C	M	N	O	P	Q	R	S	T	U	V
0.84 (21.3)	1.37 (34.8)	0.94 (23.9)	0.44 (11.2)	0.06 (1.5)	2.00 (50.8)	1.50 (38.1)	2.23 (56.6)	3.03 (77.0)	0.94 (23.9)	4.57 (116.1)

Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

How to Order

Regulators

082 RS 1 15 J 0 000 00

Valve Series & Port Size
081* = 1/8
082 = 1/4
*Regulator Unit Only

Regulator Type
RS = Single Pressure to Port P (1)
RD = Dual Pressure to Ports EB (3) & EA (5)
RC = Dual Pressure w/Non-relieving Checks
RQ = Dual Pressure w/Relieving Checks
RE = External Jumper Plate, Dual Pressure
RT = 2 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)

Mounting
00 = Regulator Unit Only
15 = Manifold Block w/Side and Bottom Cylinder Ports
16 = Auxiliary Inlet
18 = Alternate Outlet, Auxiliary Inlet
1B = Alternate Outlet
25 = 15 w/Speed Control (RS only)
31 = Plug-in Base, Side Ports, Common Exhaust
32 = 31 w/Bottom Ports
35 = 31 w/Speed Control (RS only)
36 = 35 w/Bottom Ports (RS only)
3A = Individual Base, Side Ports, Individual Exhaust
3B = 3A w/Bottom Ports
3C = 3A w/Speed Control (RS only)
3D = 3C w/Bottom Ports (RS only)

Wiring Option
O = Non Plug-In
J = Plug-in Receptacle Assembly
U = Long receptacle for use w/ speed control, 5-wire

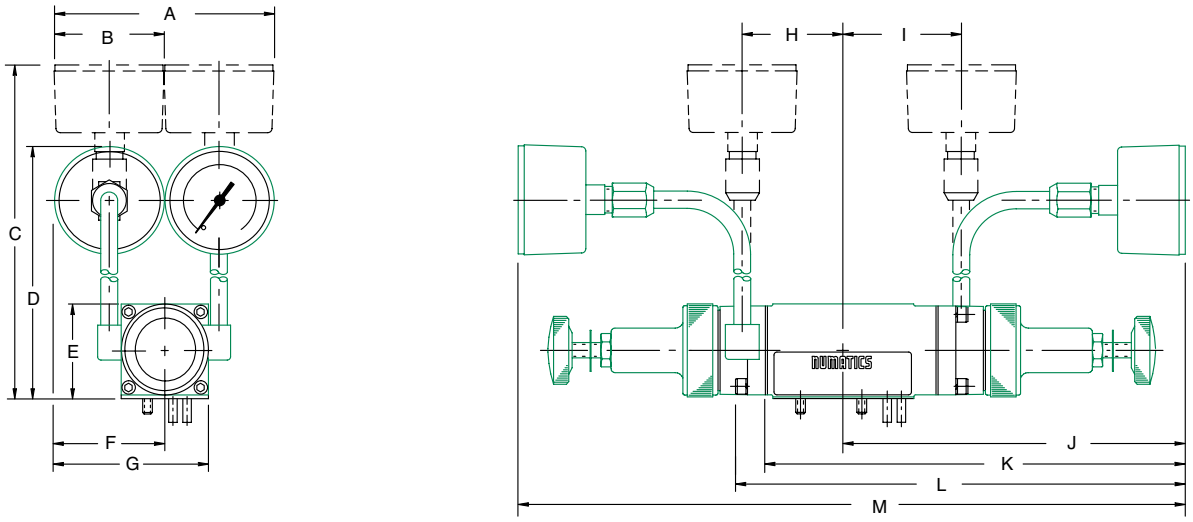
Port Type
0 = NPTF Pressure Ports w/NPTF Conduit Ports or Valve Unit w/o Mounting
G = SO228/1-G Pressure Ports w/ISO Metric - 1.5mm Pitch Conduit Ports

Voltage
00 = Not Applicable

Options
Single Options
000 = No Options
12H = Regulator Less Gauge
13A = 4 Foot Leads
15W = 5-Pin Straight Mini Connector in Mounting; Pin 1=A+, 2=A-, 3=Gnd, 4=B+, 5=B-
19M = Terminal Block in Mounting
16N = Jumper for Supply Pressure to Valve, A(14) End
16P = Jumper for Supply Pressure to Valve, B(12) End
16T = Adds Bottom P (1) Port to Mounting
16W = Fitting(s) for Top Facing Gauge
16Y = Regulator Less Gauge and Fittings
17A = Plugged Regulator Gauge Port
47J = 5-Pin Straight Mini Connector in Mounting; Pin 1=B+(12+), 2=A-(14-), 3=Gnd, 4=A+(14+), 5=B-(12-)
56Y = 4 Pin Straight Micro Connector in Mounting; Pin 1=Not Used, 2=12(B+), 3=Com, 4=14(A+)

Combination Options
27J = (12H) Regulator Less Gauge & (16N) Jumper for Supply Pressure to Valve, A(14) End
27K = (12H) Regulator Less Gauge& (16P) Jumper for Supply Pressure to Valve, B(12) End
27M = (16P) Jumper for Supply Pressure to Valve, B (12) End & (16W) Fitting(s) for Top Facing Gauge
27P = (16N) Jumper for Supply Pressure to Valve, A (14) End & (16W) Fitting(s) for Top Facing Gauge
27Q = (12H) Regulator Less Gauge & (16W) Fitting(s) for Top Facing Gauge
45E = (16N) Jumper for Supply Pressure to Valve, A (14) End & (16Y) Regulator Less Gauge and Fittings
46F = (16W) Fitting(s) for Top Facing Gauge & (19M) Terminal Block in Mounting
48D = (16P) Jumper for Supply Pressure to Valve, B (12) End & (19M) Terminal Block in Mounting
48G = (16N) Jumper for Supply Pressure to Valve, A (14) End & (19M) Terminal Block in Mounting
54A = (16P) Jumper for Supply Pressure to Valve, B (12) End & (16Y) Regulator Less Gauge and Fittings
58Z = (12H) Regulator Less Gauge & (19M) Terminal Block in Mounting
67P = (16Y) Regulator Less Gauge and Fittings & (19M) Terminal Block in Mounting

Dimensions: Inches (mm)



A	B	C	D	E	F	G	H	I	J	K	L	M	N
3.22 (82.0)	1.62 (41.0)	6.07 (154.0)	4.91 (125.0)	1.39 (35.3)	1.61 (41.0)	2.27 (58.0)	1.50 (38.0)	1.76 (45.0)	5.19 (132.0)	6.31 (160.0)	6.76 (172.0)	10.11 (257.0)	0.53 (13.5)

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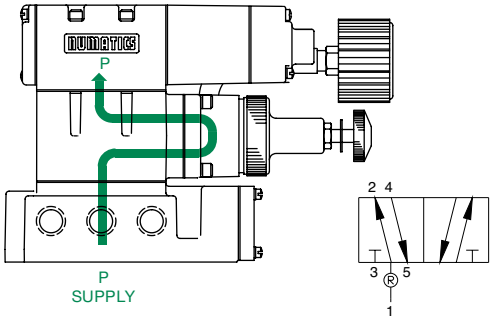
Sandwich Pressure Regulators

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.”

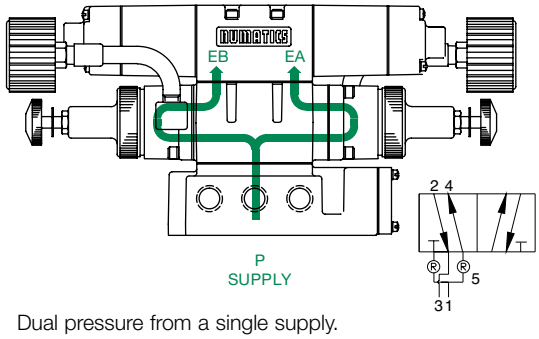
Example orders:	**Type RS**	**Type RD**
Valve unit only:	081SA400K000030	081SA400K000030
Regulator	082RS115J000000	082RD115J000000
+mounting	ASSEMBLED	ASSEMBLED

Type RS



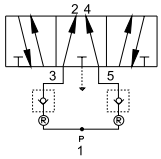
Single pressure from a single supply.

Type RD

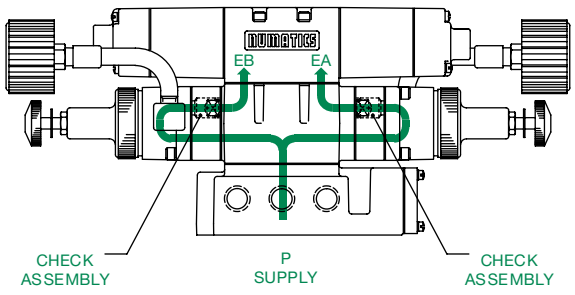


Dual pressure from a single supply.

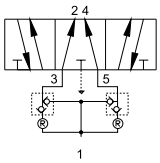
Type RC



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

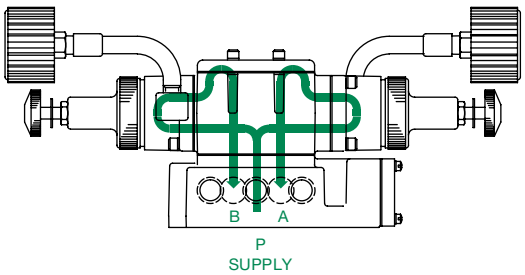


Type RQ



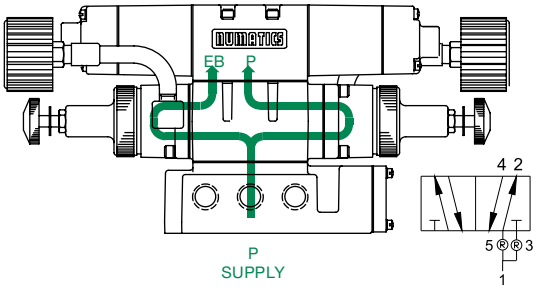
Type RQ is Relieving: exhaust pressure in cylinder if upstream pressure is exhausted.

Type RE



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

Type RT



Two-pressure selector used for multi-pressure applications.

Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

How to Order

Manifold Assembly

AK 0 H F 0000 3 N STD

Electrical/Electronics Type & Location
0 = Standard
V = For Fieldbus Electronics,
See Electronics section for ordering information

Valve Series
H = Mark 8 Series

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

Valve Series & Number of Valve Stations
Second Valve
0 = No Second Valve Series
J = Mark 15

Number of Stations of Second Valve Series
0 = None

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

Third Valve
0 = No Second Valve Series
H = Mark 8
M = Mark 55 Compact

Number of Stations of Third Valve Series
0 = None

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
A05 = All Stations Wired for Double Solenoid Valves ('AKV...' only)

Port Type
N = NPTF Pressure Ports w/ NPTF Conduit Ports
G = ISO228/1-G Pressure Ports w/ ISO Metric - 1.5mm Pitch Conduit Ports

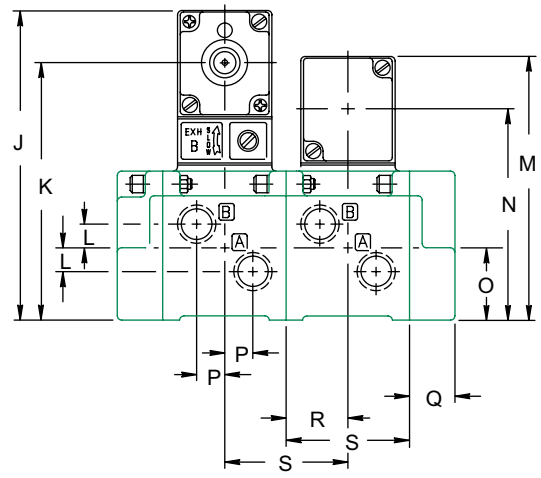
End Plate Port Size
3 = 3/8
X = Two or More Valve Series in One Manifold

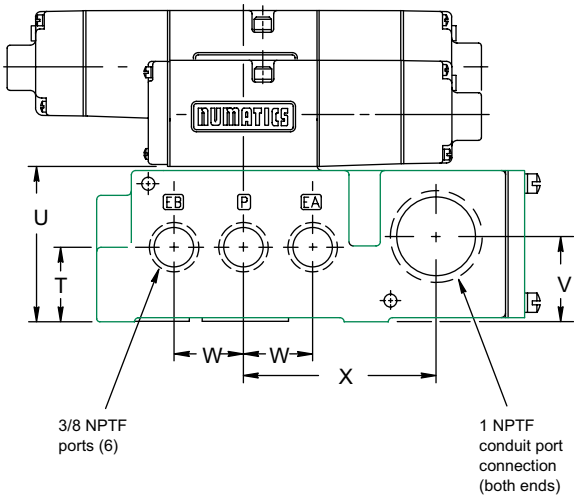
Example order

List in order, left to right, facing cylinder ports

Assembly kit	AK0HF00003NSTD
Station 1	081SA415K000030
Station 2	082SA425K000030
Station 3	082SS415K000030
Station 4	082SS415K000030
Station 5	081SA400KO00030
	082RS115J000000
Station 6	081SA415K000030
	ASSEMBLED

Dimensions: Inches (mm)

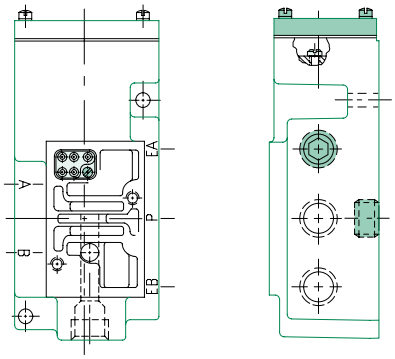




J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
4.35 (110.5)	3.55 (90.2)	0.34 (8.64)	3.72 (94.5)	2.92 (74.2)	1.03 (26.2)	0.40 (10.2)	0.64 (16.3)	0.84 (21.3)	1.68 (42.7)	1.03 (26.2)	2.19 (55.6)	1.16 (29.5)	1.00 (25.4)	2.80 (71.1)	0.20 (75.1)	1.63 (41.4)

Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

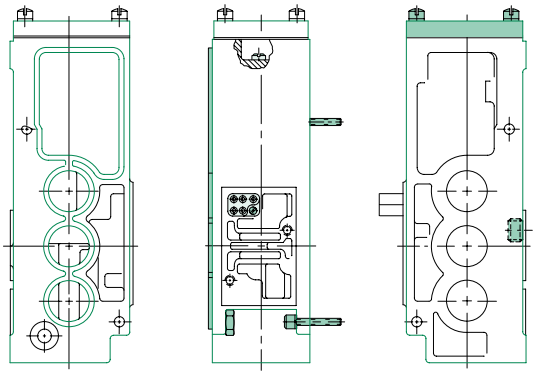
Base Assembly Kits



Base Type	1/8 NPTF			1/4 NPTF		
	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug
31 & 35	203-429	203-437	203-445	203-433	203-441	203-449
32 & 36	203-430	203-438	203-446	203-434	203-442	203-450
3A & 3C	203-427	203-435	203-443	203-431	203-439	203-447
3B & 3D	203-428	203-436	203-444	203-432	203-440	203-448

Base Type	G 1/8			G 1/4		
	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug
31 & 35	203-671	203-671	203-673	203-558	203-556	203-674
32 & 36	203-675	203-677	203-678	203-676	203-693	203-679
3A & 3C	203-680	203-682	203-684	203-681	203-649	203-685
3B & 3D	203-686	203-688	203-690	203-687	203-689	203-691

FlexiBlok Manifold Kit



FlexiBlok	1/8 NPTF			1/4 NPTF		
	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug
Side & Bottom Ports	229-669	229-675	229-681	229-670	229-676	229-682
Side & Bottom Ports w/Bottom P	229-671	229-677	229-683	229-672	229-678	229-684
Auxiliary Inlet	229-756	229-759	N/A	229-762	229-765	N/A
Alternate Outlet	229-757	229-760	N/A	229-763	229-766	N/A
Alternate Outlet, Auxiliary Inlet	229-758	229-761	N/A	229-764	229-767	N/A

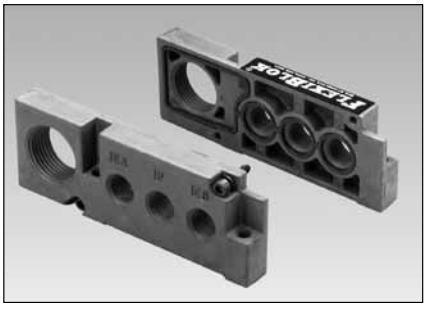
FlexiBlok	G 1/8			G 1/4		
	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug
Side & Bottom Ports	239-385	229-945	239-386	229-936	229-937	239-387
Side & Bottom Ports w/Bottom P	239-388	239-390	239-392	239-389	239-391	239-393
Auxiliary Inlet	239-394	239-396	N/A	239-385	239-397	N/A
Alternate Outlet	239-402	239-404	N/A	239-403	239-405	N/A
Alternate Outlet, Auxiliary Inlet	239-398	239-400	N/A	239-399	239-401	N/A

End Plate Kit

NPTF 229-691

G Tap 229-938
G galleries/metric conduit

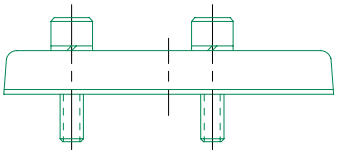
G Tap 239-529
G galleries/NPTF conduit



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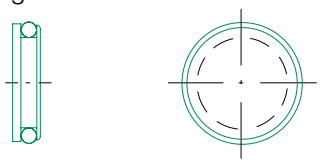
Blank Station Plate Kit 229-686

Includes gasket #113-278 and screw assemblies #127-235.



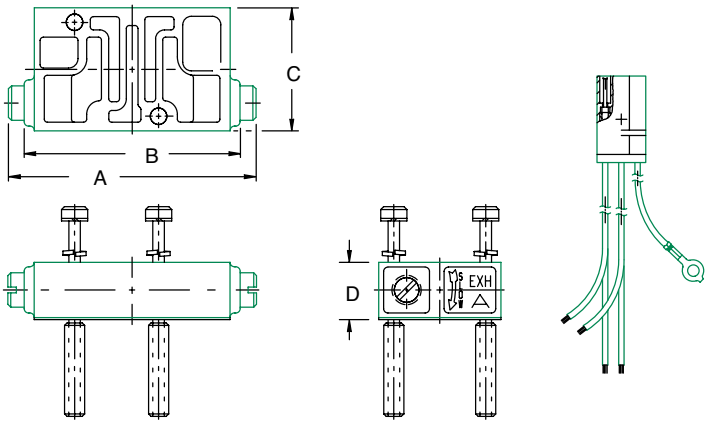
Blocking Disc Kit 229-994

Includes o-ring seal #126-204.



Speed Control Kit 229-667

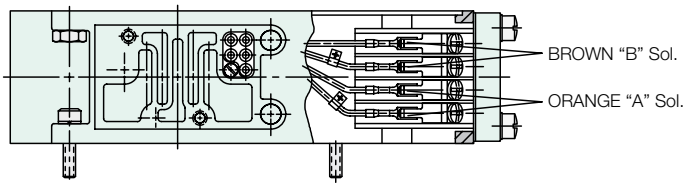
Must order extended plug, #230-276 with kit. Mounts between valve and base. May be used with type RS regulator.



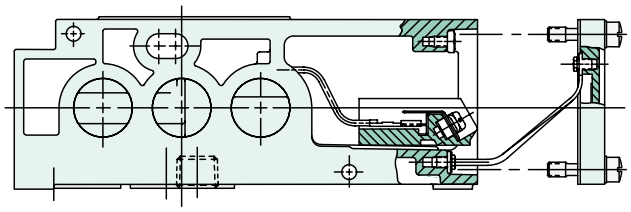
Dimensions: Inches (mm)

A	B	C	D
2.75 (70.0)	2.35 (59.7)	1.33 (33.8)	0.60 (15.3)

Terminal Block Assembly



Port Size	No Plug	STD. Plug	S.C. Plug
1/8 NPTF Ports	239-753	239-735	239-739
1/4 NPTF Ports	239-754	239-736	239-740
G 1/8 Ports	239-755	239-737	239-741
G 1/4 Ports	239-756	239-738	239-742

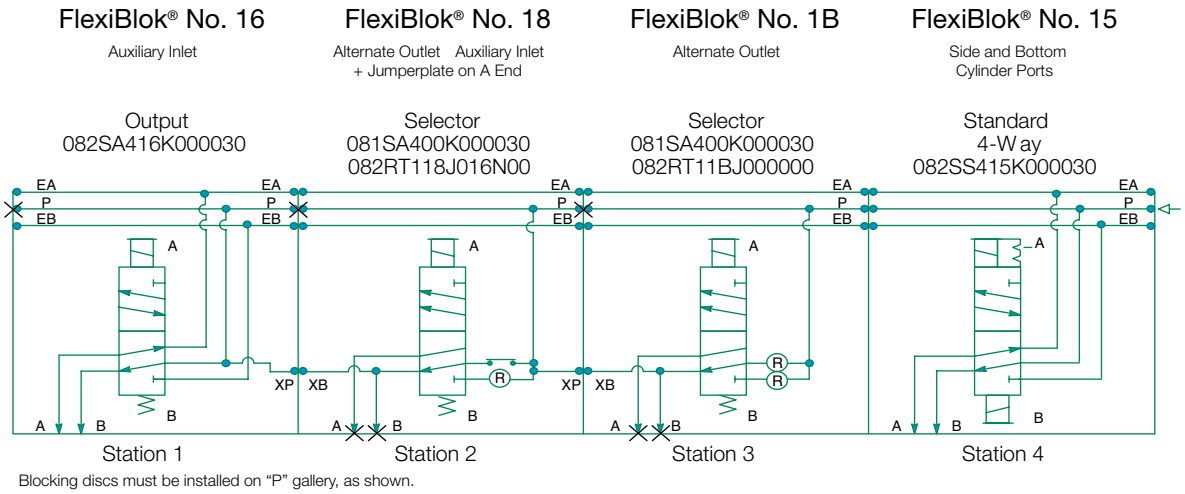


Mark 8 FlexiBlok with Terminal Block: OPTION 19tM

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FlexiBlok® Diagrams

Sample diagram with regulators 3-pressure selector FlexiBlok with output valve and separate 4 way (1/4 NPTF).



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

Mountings

15 = Manifold Block w/Side and Bottom Cylinder Ports
16 = Auxiliary Inlet
18 = Alternate Outlet, Auxiliary Inlet
1B = Alternate Outlet
25 = 15 w/Speed Control (RS only)
31 = Plug-in Base, Side Ports, Common Exhaust
32 = 31 w/Bottom Port
35 = 31 w/Speed Control (RS only)
36 = 35 w/Bottom Ports (RS only)

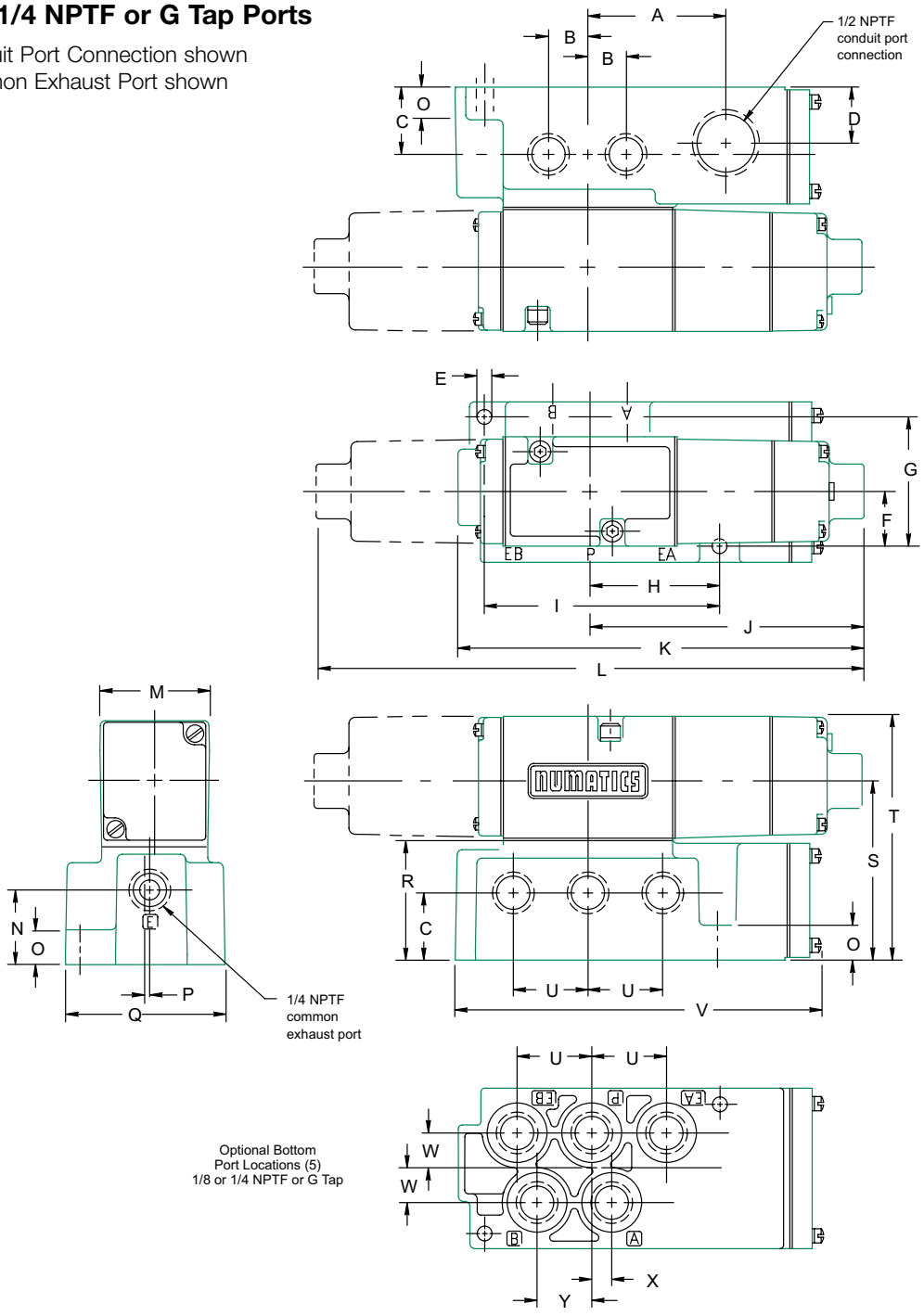
Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

Valve on Individual Base

Dimensions: Inches (mm)

Base 1/8 or 1/4 NPTF or G Tap Ports

1/2 NPTF Conduit Port Connection shown
1/4 NPTF Common Exhaust Port shown



A	B	C	D	E	F	G	H	I	J (AC)	J (DC)	K (AC)	K (DC)	L (AC)	L (DC)
1.75 (44.5)	0.47 (11.9)	0.84 (21.3)	0.69 (17.5)	0.20 (5.1)	0.69 (17.5)	1.63 (41.4)	1.63 (41.4)	2.94 (74.7)	3.44 (87.4)	4.13 (104.9)	5.07 (128.8)	5.75 (146.1)	6.89 (175.0)	8.26 (209.8)

M	N	O	P	Q	R	S	T	U	V	W	X	Y
1.37 (34.8)	0.94 (23.9)	0.44 (11.2)	0.06 (1.5)	2.00 (50.8)	1.50 (38.1)	2.23 (56.6)	3.03 (77.0)	0.94 (23.9)	4.57 (116.1)	0.45 (11.4)	0.25 (6.4)	0.69 (17.5)

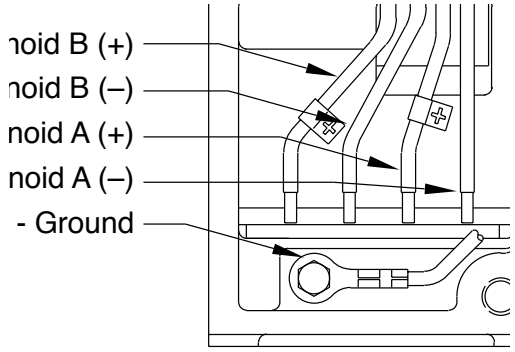
Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

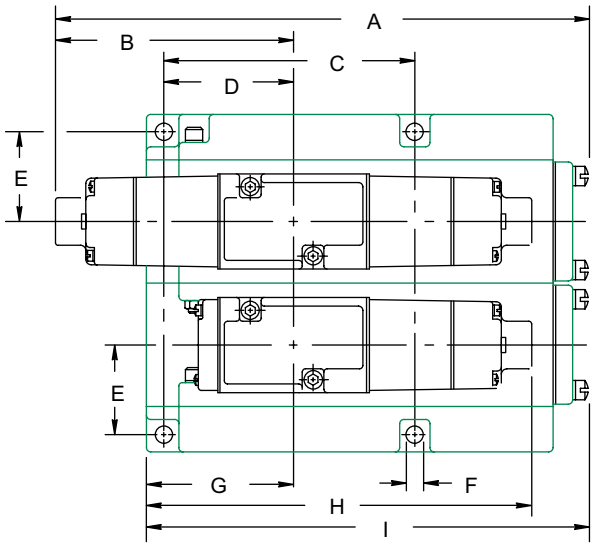
Manifold Assembly

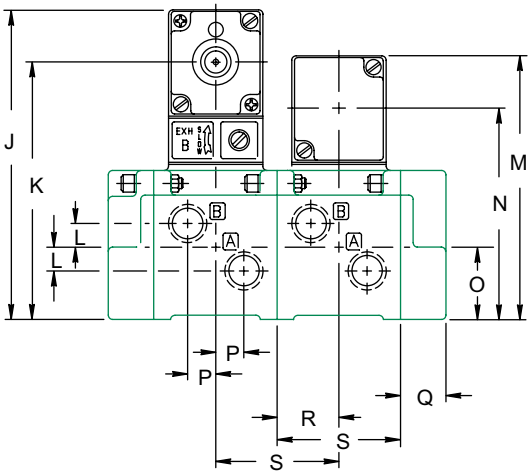
Dimensions: Inches (mm)

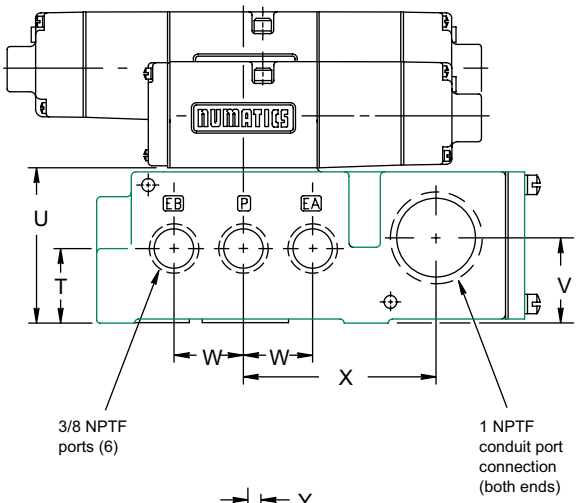
1/8 or 1/4 NPTF or G Tap Ports

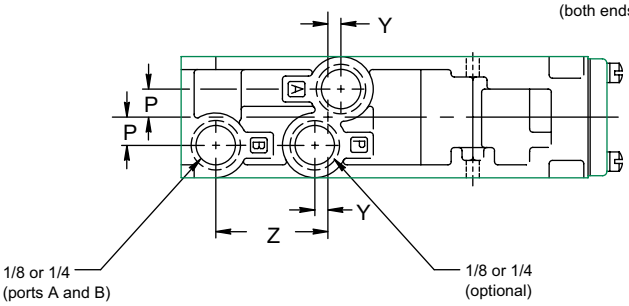
1 NPTF Conduit Port Connection shown









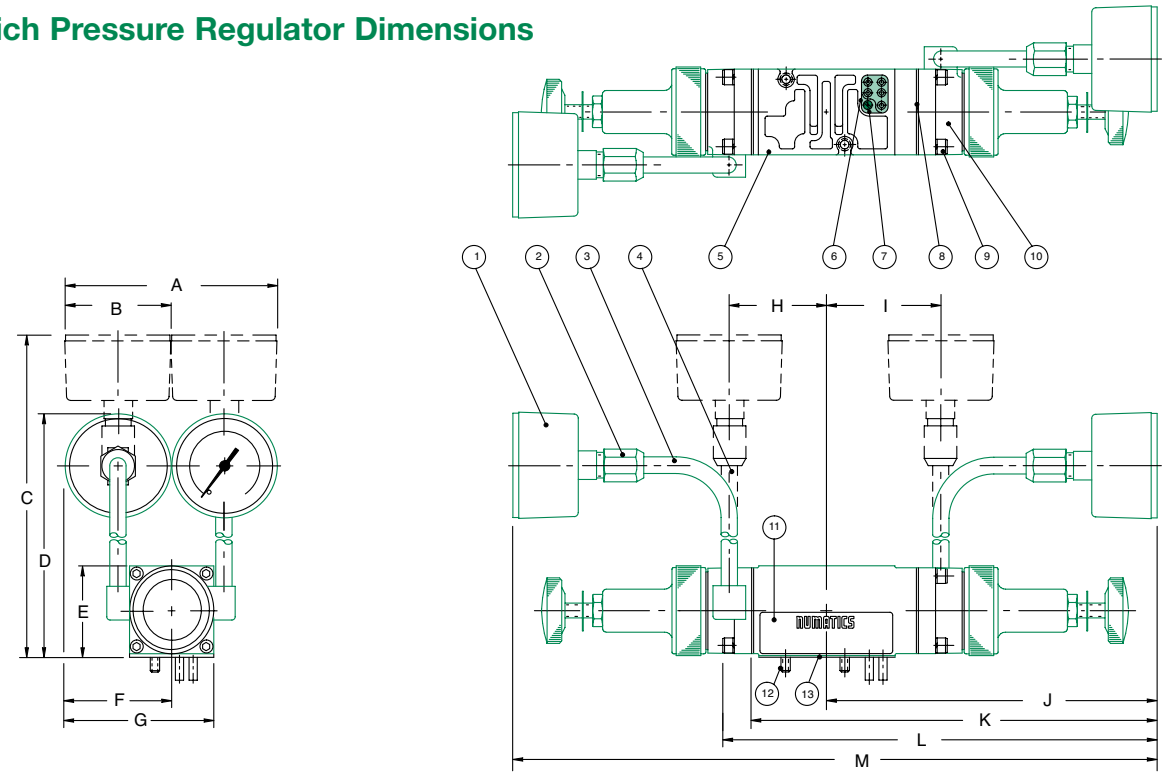


A (AC)	A (DC)	B (AC)	B (DC)	C	D	E	F	G	H (AC)	H (DC)	I	J	K	L
7.73 (196.3)	8.42 (213.9)	3.44 (87.4)	4.13 (104.9)	3.59 (91.2)	1.84 (46.7)	1.23 (31.2)	0.258 (6.55)	2.13 (54.1)	5.57 (141.5)	6.26 (159)	6.40 (162.6)	4.35 (110.5)	3.55 (90.2)	0.34 (8.64)

M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
3.72 (94.5)	2.92 (74.2)	1.03 (26.2)	0.40 (10.2)	0.64 (16.3)	0.84 (21.3)	1.68 (42.7)	1.03 (26.2)	2.19 (55.6)	1.16 (29.5)	1.00 (25.4)	2.80 (71.1)	0.20 (75.1)	1.63 (41.4)

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Sandwich Pressure Regulator Dimensions

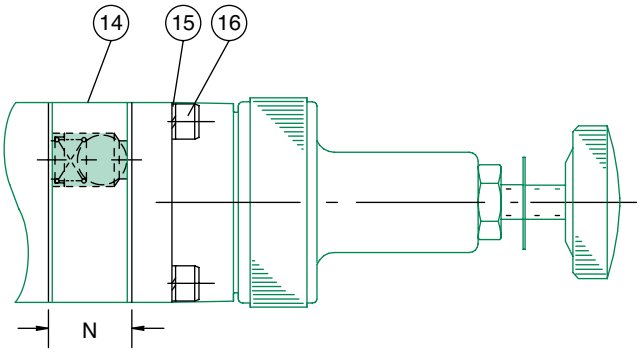


Check Assembly Kits

RC: 239-541
RQ: 239-536

Jumper Plate Kit

229-685



* RS models require (1).
** (1) for RS;
(2) for RD, RE, RT;
(4) for RC, RQ.
~ RS models require (4).
*** For converting RD into RC or RQ.

Parts List

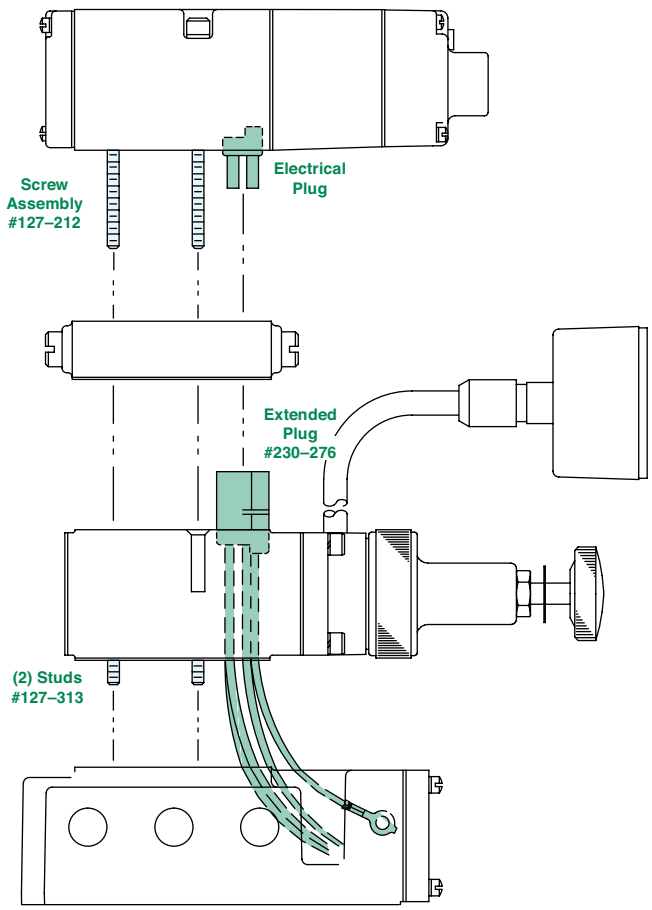
Port Type	Part. No.	Part Name	Part No.
1	2*	Gauge	
2	2*	Adaptor Fitting	134-303
3	2*	90° Tube Fitting (Std.)	134-303
4	2*	Straight Fitting (optional)	134-304
5	1	Regulator Block: RS RD, RC, RQ RT RE	125-338 125-339 125-340 125-344
6	1	Plug Receptacle RD RS, RT, RC, RQ (not req'd for RE) Plug for Speed Control	230-286 230-286 230-276
7	1	Screw	127-318
8	**	Gasket	113-281
9	8~	Screw	127-144
10	2*	Regulator Assembly (not sold Separately)	
11	1	Nameplate	122-551
12	2	Stud	127-313
13	1	Gasket	113-278
14	2	Check Assembly Kit*** RC RQ	239-541 239-536
15	8	Hi-Collar Lockwasher (RC, RQ only)	128-116
16	9	Screw (RC, RQ only)	127-606

Dimensions: Inches (mm)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
3.22 (82.0)	1.62 (41.0)	6.07 (154.0)	4.91 (125.0)	1.39 (35.3)	1.61 (41.0)	2.27 (58.0)	1.50 (38.0)	1.76 (45.0)	5.19 (132.0)	6.31 (160.0)	6.76 (172.0)	10.11 (257.0)	0.53 (13.5)

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Speed Control and Regulator Assembly



EXAMPLE

081SA402K000030

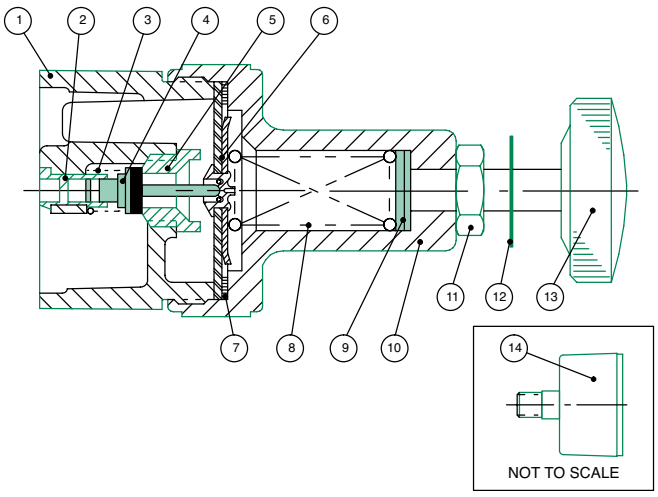
Single solenoid valve unit with plugs and extra long mounting screws for use with speed control

082RS135U000000

1/4 NPTF single pressure regulator (10–130 PSIG) with extended plug receptacle and speed control sandwich mounted on an individual base with side ports and common exhaust

EXAMPLE ORDER:
Valve: 081SA402K000030
Regulator: 082RS135U000000
ASSEMBLED

Regulator Service Kit 229-668



Parts List

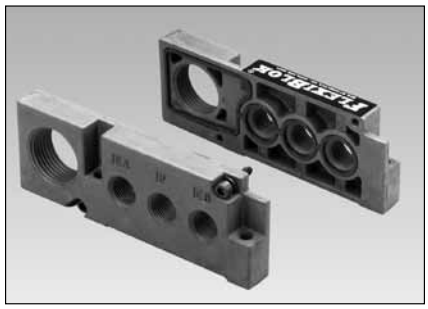
Det. No.	No. Req'd	Part Name	Pressure Range PSIG 3-30	5-60	10-130
1	1	Regulator Assembly** (not sold separately)			
2 *	1	Retainer	116-310	116-310	116-310
3 *	1	Spring	115-226	115-226	115-226
4 *	1	Poppet Assembly	221-123	221-123	221-123
5 *	1	Poppet Seat	124-148	124-148	124-148
6 *	1	Diaphragm Assembly	213-302	213-302	213-302
7 *	1	Washer	116-312	116-312	116-312
8	1	Bonnet Spring	115-211	115-212	115-213
9 *	1	Spring Guide	116-293	116-293	116-293
10	1	Bonnet	125-342	125-342	125-342
11	1	Locknut	128-177	128-177	128-177
12	1	Pressure Label	122-508	122-509	122-510
13	1	Knob Assembly	213-284	213-284	213-284
14	1	Regulator Gauges (with PSIG of...)	214-116 (0-30)	214-116 (0-30)	214-103 (0-160)
**Regulator Unit Kits (includes regulator assembly, gaskets, screws)			229-696	229-697	229-698

* Indicates parts included in kit

Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

End Plate Kit

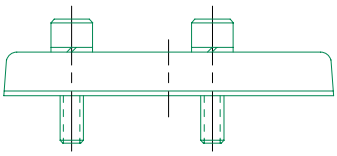
NPTF 229-691 | **G Tap 229-938** G galleries/metric conduit | **G Tap 239-529** G galleries/NPTF conduit



Number Required	Part Name	Part No. NPTF	G Tap w/ Metric Conduit	G Tap w/ NPTF Conduit
1	Gasket	113-280	113-280	113-280
1	Right End Plate	104-228	104-275	104-466
1	Left end Plate	104-227	104-276	104-467
2	Screws	127-103	127-103	127-103

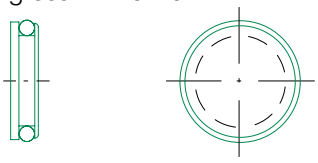
Blank Station Plate Kit 229-686

Includes gasket #113-278 and screw assemblies #127-235.



Blocking Disc Kit 229-994

Includes o-ring seal #126-204.



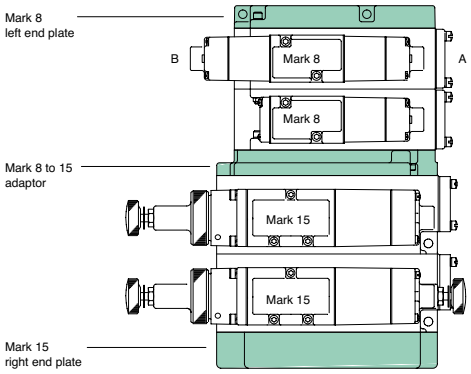
Adaptor Kits with End Plates

Mark 8 RIGHT of Mark 15 Kit 229-693

(when viewed for the cylinder ports of assembly)
Includes kit #229-692 (Mark 8 adaptor, screws, seals)
+ Mark 8 right end plate + Mark 15 left end plate
+ screw assembly

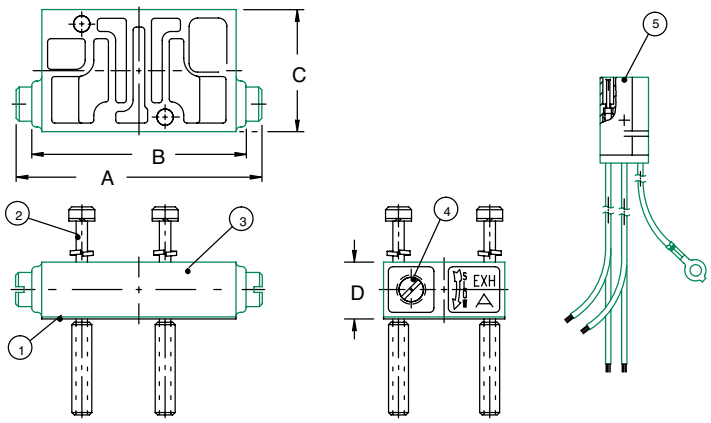
Mark 8 LEFT of Mark 15 Kit 229-695

(when viewed for the cylinder ports of assembly)
Includes kit #229-694 (Mark 8 adaptor, screws, seals)
+ Mark 8 left end plate + Mark 15 right end plate
+ screw assembly



Speed Control Kit 229-667

Must order extended plug, #230-276 with kit. Mounts between valve and base. May be used with type RS regulator.



Parts List

Port Type	Part. No.	Part Name	Part No.
1 *	1	Gasket	113-278
2 *	2	Screw Assembly	127-212
3 *	1	Speed Control (not sold separately)	
4 *	2	Metering Screw	213-219
5 *	1	Extended Plug Harness Assembly	230-276

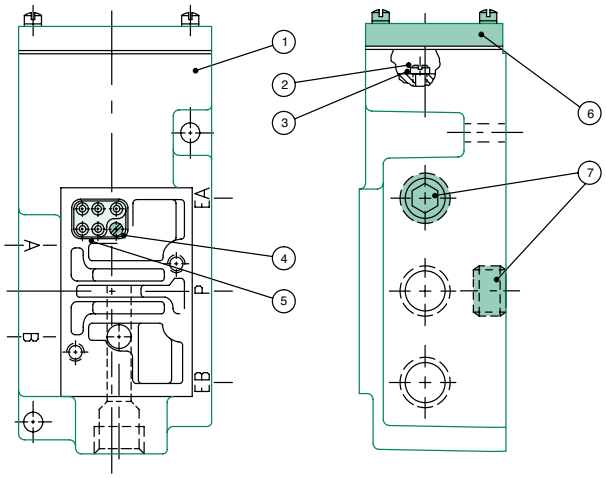
*Indicates parts included in speed control kit.

Dimensions: Inches (mm)

A	B	C	D
2.75 (70.0)	2.35 (59.7)	1.33 (33.8)	0.60 (15.3)

Information subject to change without notice. For ordering information or regarding your local sales office visit www.numatics.com.

Base Assembly Kits



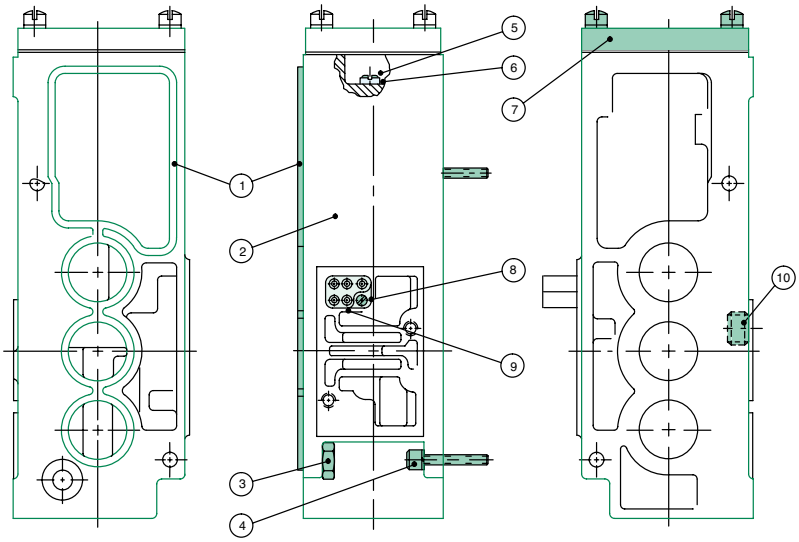
Parts List

Det. No.	No. Req'd	Part Name	Part No.
1 *	1	Base (not sold separately)	
2 *	2	Screw	127-176
3 *	1	Washer	128-162
4 *	1	Screw	127-318
5 *	1	Plug receptacle Standard: for use w/speed control:	230-274 230-276
6 *	1	Conduit Cover Assembly	205-309
7 **		Pipe Plug	Consult Factory

* Indicates parts included in kit
** Not used on 3A, 3C; # plugs vary - consult factory.

	1/8 NPTF			1/4 NPTF			G 1/8			G 1/4		
Base Type	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug
31 & 35	203-429	203-437	203-445	203-433	203-441	203-449	203-671	203-671	203-673	203-558	203-556	203-674
32 & 36	203-430	203-438	203-446	203-434	203-442	203-450	203-675	203-677	203-678	203-676	203-693	203-679
3A & 3C	203-427	203-435	203-443	203-431	203-439	203-447	203-680	203-682	203-684	203-681	203-649	203-685
3B & 3D	203-428	203-436	203-444	203-432	203-440	203-448	203-686	203-688	203-690	203-687	203-689	203-691

Flexiblok Manifold Kit



Parts List

Det. No.	No. Req'd	Part Name	Part No.
1 *	1	Gasket	113-280
2 *	1	Valve Blok (not sold separately)	
3 *	2	Nut	128-128
4 *	2	Screw	127-103
5 *	2	Screw	127-176
6 *	1	Washer	128-162
7 *	1	Conduit Cover Assembly	205-303
8 *	1	Screw	127-318
9 *	1	Plug receptacle Standard: for use w/speed control:	230-274 230-276
10	1	Pipe Plug	Consult Factory
	1	O-Ring for Aux Inlet	126-202

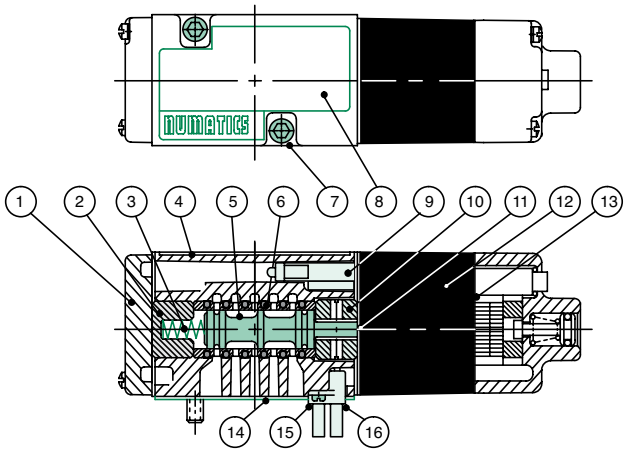
* Indicates parts included in kit

	1/8 NPTF			1/4 NPTF			G 1/8			G 1/4		
Flexiblok	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug	No Plug	STD. Plug	S.C. Plug
Side & Bottom Ports	229-669	229-675	229-681	229-670	229-676	229-682	239-385	229-945	239-386	229-936	229-937	239-387
Side & Bottom Ports w/Bottom P	229-671	229-677	229-683	229-672	229-678	229-684	239-388	239-390	239-392	239-389	239-391	239-393
Auxiliary Inlet	229-756	229-759	N/A	229-762	229-765	N/A	239-394	239-396	N/A	239-385	239-397	N/A
Alternate Outlet	229-757	229-760	N/A	229-763	229-766	N/A	239-402	239-404	N/A	239-403	239-405	N/A
Alternate Outlet, Auxiliary Inlet	229-758	229-761	N/A	229-764	229-767	N/A	239-398	239-400	N/A	239-399	239-401	N/A

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Service Kits and Parts

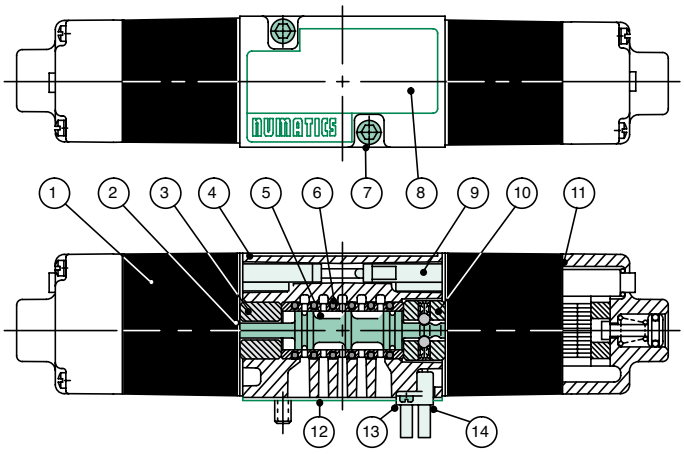
Kit No. MK8-K1 (For Models 081SA4, 082SA4)



Parts List

Det. No.	No. Req'd	Part Name	Part No.
1	1	Spring Cover Assembly	204-258
2 *	1	Spring Retainer	116-305
3 *	1	Spring	115-117
4	1	Valve Body (not sold separately)	
5	1	Sleeve Assembly w/seals	126-202
6 *	6	Seals	126-202
7	2	Screw	127-211
8	1	Nameplate	122-936
9	1	Receptacle Housing	125-331
10 *	1	Detented Body	110-114
11 *	1	Gasket solenoid/valve	113-276
12	1	Solenoid Capsule	See p.24
13 *	1	Gasket solenoid/end cap	113-277
14 *	1	Gasket valve/base	113-278
15	1	Screw	127-318
16	1	3-Wire Plug Assembly	230-267

Kit No. MK8-K2 (For Models 081SS4, 082SS4)



Parts List

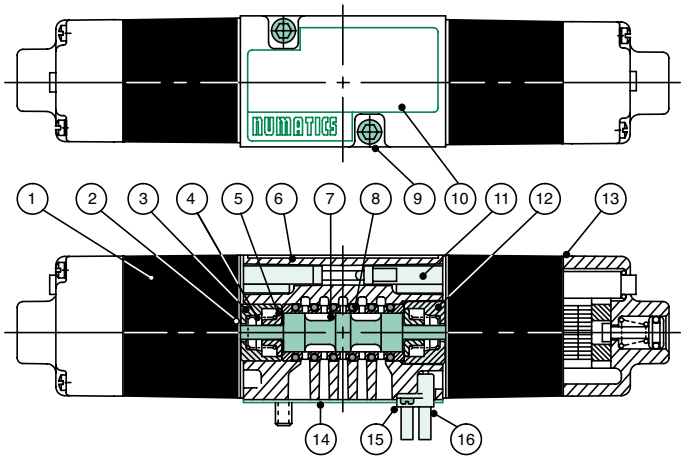
Det. No.	No. Req'd	Part Name	Part No.
1	2	Solenoid Assembly	See p.24
2 *	2	Gasket solenoid/valve	113-276
3 *	1	Spacer	116-306
4	1	Valve Body (not sold separately)	
5	1	Sleeve Assembly w/seals	209-264
6 *	6	Seals	126-202
7	2	Screw	127-211
8	1	Nameplate	122-936
9	2	Receptacle Housing	125-331
10 *	1	Detented Assembly	210-118
11 *	2	Gasket solenoid/end cap	113-277
12 *	1	Gasket valve/base	113-278
13	1	Screw	127-318
14	1	5-Wire Plug Assembly	230-268

*Indicates parts included in service kit. Spool and sleeve assemblies sold as precision matched set; spools are not interchangeable; and assemblies include (6) #126-202 seals.

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Service Kits and Parts (continued)

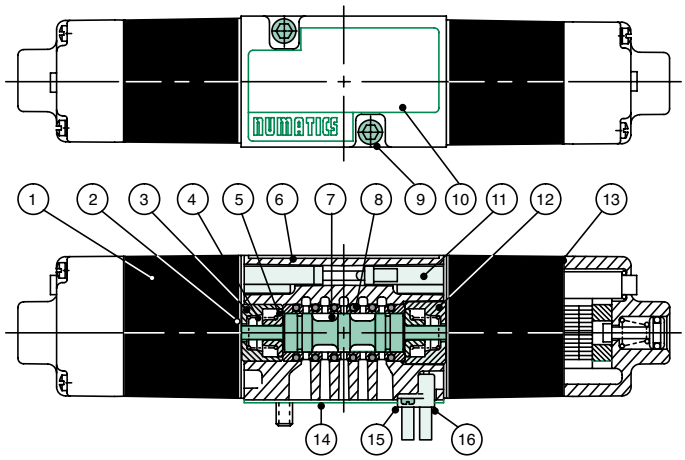
Kit No. MK8-K3 (For Models 081SS5, 082SS5)



Parts List

Det. No.	No. Req'd	Part Name	Part No.
1	2	Solenoid Assembly	See p.24
2 *	2	Gasket solenoid/valve	113-276
3 *	1	Spacer	116-307
4 *	2	Spring	115-221
5 *	2	Spring Retainer	116-309
6	1	Valve Body (not sold separately)	
7	1	Sleeve Assembly w/seals	209-265
8 *	6	Seals	126-202
9	2	Screw	127-211
10	1	Nameplate	122-936
11	2	Receptacle Housing	125-331
12 *	1	Spacer	116-308
13 *	2	Gasket solenoid/end cap	113-277
14 *	1	Gasket valve/base	113-278
15	1	Screw	127-318
16	1	5-Wire Plug Assembly	230-268

Kit No. MK8-K3 (For Models 081SS6, 082SS6)



Parts List

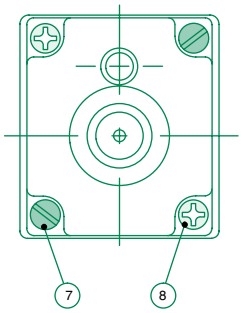
Det. No.	No. Req'd	Part Name	Part No.
1	2	Solenoid Assembly	See p.24
2 *	2	Gasket solenoid/valve	113-276
3 *	1	Spacer	116-307
4 *	2	Spring	115-221
5 *	2	Spring Retainer	116-309
6	1	Valve Body (not sold separately)	
7	1	Sleeve Assembly w/seals	209-266
8 *	6	Seals	126-202
9	2	Screw	127-211
10	1	Nameplate	122-936
11	2	Receptacle Housing	125-331
12 *	1	Spacer	116-308
13 *	2	Gasket solenoid/end cap	113-277
14 *	1	Gasket valve/base	113-278
15	1	Screw	127-318
16	1	5-Wire Plug Assembly	230-268

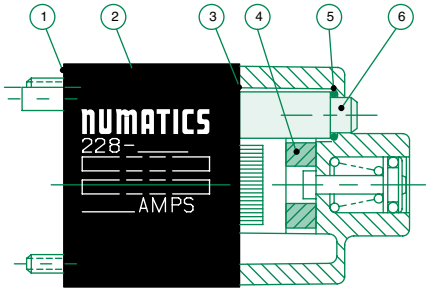
*Indicates parts included in service kit. Spool and sleeve assemblies sold as precision matched set; spools are not interchangeable; and assemblies include (6) #126-202 seals.

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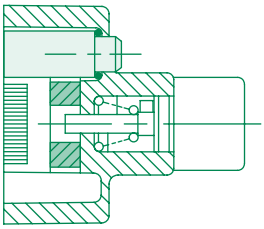
Solenoid Capsule Assemblies

Override Type	Valve Function	Plug-In	Voltage					Light Option			
			AC			DC		AC		DC	
			100-115/50 110-120/60	200-230/50 220-240-60	24/50-60	12VDC	24VDC	100-130V	200-260V	8-13VDC	14-24VDC
Flush Non-Locking	2 Position	Std. w/light	237-415	237-416	237-423	226-591	226-592	204-252	204-253	204-304	204-305
	2 Position	DIN no light	237-427	237-429	237-429	226-628	226-629	N/A	N/A	N/A	N/A
	3 Position	Std. w/light	237-417	237-418	237-424	226-595	226-596	204-254	204-255	204-308	204-309
	3 Position	DIN no light	237-430	237-431	237-432	226-632	226-633	N/A	N/A	N/A	N/A
Flush Locking	2 Position	Std. w/light	237-451	237-452	237-453	226-611	226-612	204-272	204-273	204-290	204-291
Ext. Knurled Rod Locking	2 Position	Std. w/light	237-454	237-455	237-456	226-619	226-620	204-270	204-271	204-298	204-299
Solenoid Only less end cap; screws & gaskets not included		Std. Plug-In	228-703	228-704	228-704	225-284	225-285	End Cap Only - No Light Flush non-locking std. plug 2 position Flush non-locking std. plug 3 position			204-250 204-251
		DIN Plug-In	228-675	228-676	228-676	225-238	225-239	Flush locking std. plug 2 position Extended knurled rod locking std. 2 position			204-269 204-268

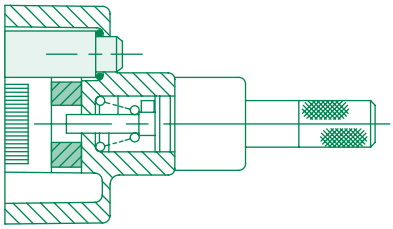




Flush Non–Locking override w/light
Standard



Flush Locking override w/light
(Add option "011B" to model no.)
Example: 081SA400K011B30



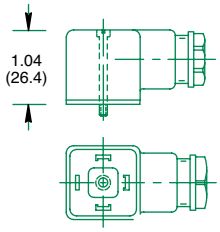
Extended Knurled Rod Locking override w/light
(Add option "011Z" to model no.)
Example: 081SA400K011Z30

Parts List

Det. No.	No. Req'd	Part Name	Part No.
1	1	Gasket solenoid/valve	113-276
2	1	Solenoid Capsule Assembly	See chart above
3	1	Gasket end cap/solenoid	113-277
4	1	Bumper: Black for 2 position Red for 3 position	 114-138 114-139
5	1	O-Ring Seal	126-144
6	1	Light Assembly: 100-115/50 110-120/60 200-230/50 220-240/60 12VDC 24VDC	 230-235 230-235 230-236 230-236 230-283 230-284
7	2	Solenoid Screws AC Solenoid Screws DC	127-314 127-316
8	2	End Cap Screws	127-315

Plug Assemblies

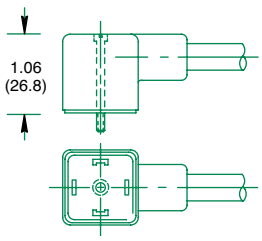
Per DIN Spec. No. 43650
Accepts cable dia. .310 – .410



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 with Cord

Per DIN Spec. No. 43650
For plug–in solenoids wiring options 2 & 4, order cord separately.



Part Name	Part No.
Plug with 4' Cord	230-213
Plug with 6' Cord	230-215

dimensions = inches
(in parenthesis = mm)

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World Headquarters

USA Numatics, Incorporated
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