

CATALOG

valves

Mark 8 Series

Direct Solenoid Actuated Valves



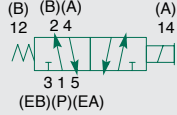
numatics®

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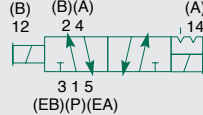


Mark 8 Series

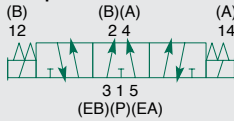
single solenoid 2 position 4-way



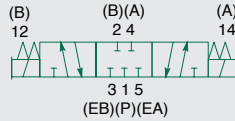
double solenoid 2 position 4-way



double solenoid 3 position 4-way open center



double solenoid 3 position 4-way closed center



5 Ported, 2 and 3 position, 4-way, Spool & Sleeve
Cv: 0.8 - 1.0

- Direct solenoid actuated
- Plug-in solenoid with indicator light
- Unlubricated or lubricated service
- Integral speed control available
- Integral regulators available
- NEMA 4 / IP 65



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 Upstream pressure to atmosphere @80 PSIG	46 SCFM	790 NI/m @ 6 bar upstream/5 bar downstream	985 NI/m
Operating Pressure Range	28" Hg. Vacuum to 150 PSIG		Vacuum to 10 Bar	
Temperature Range (ambient)	-10°F to +115°F		-23°C to +46°C	

Operating Data

ALL SOLENOIDS ARE CONTINUOUS DUTY RATED	12 VDC	24 VDC	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.)	.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
	2-Position, Double, Detented	0.028	0.028	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
De-energize in seconds	2-Position, Single, Spring Return	0.010	0.010	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
	3-Position, Spring Centered	0.008	0.008	0.018	0.018	0.018	0.018	0.018



Mark 8 Series

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 = Viton 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/ ISO 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
0 = Mounting Only w/ Electrical Receptacle
B = Mounting Only w/o Electrical Receptacle



How to Order continued

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 = ISO228/1-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



Mark 8 Series

How to Order continued

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	AKOHF00003NSTD
Station 1	081SA415K000030
Station 2	082SA425K000030
Station 3	082SS415K000030
Station 4	082SS415K000030
Station 5	081SA400KO000030
	082RS115J000000
Station 6	081SA415K000030
	ASSEMBLED

Example order w/multiple valve lines

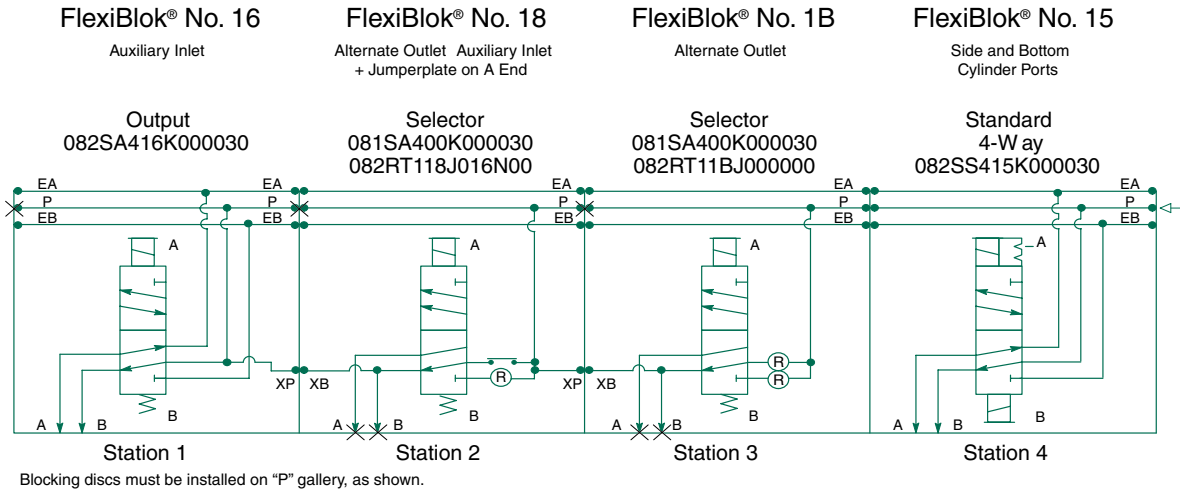
List in order, left to right, facing cylinder ports

Assembly kit	AKOHDJB00XNSTD
Station 1	082SA415K000030
Station 2	082SA415K011Z30
Station 3	082SS425K000030
Station 4	081BA400K000030
	082RD415J000000
Station 5	153SS415K000030
Station 6	153SA425K000030
	ASSEMBLED



FlexiBlok® Diagrams

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

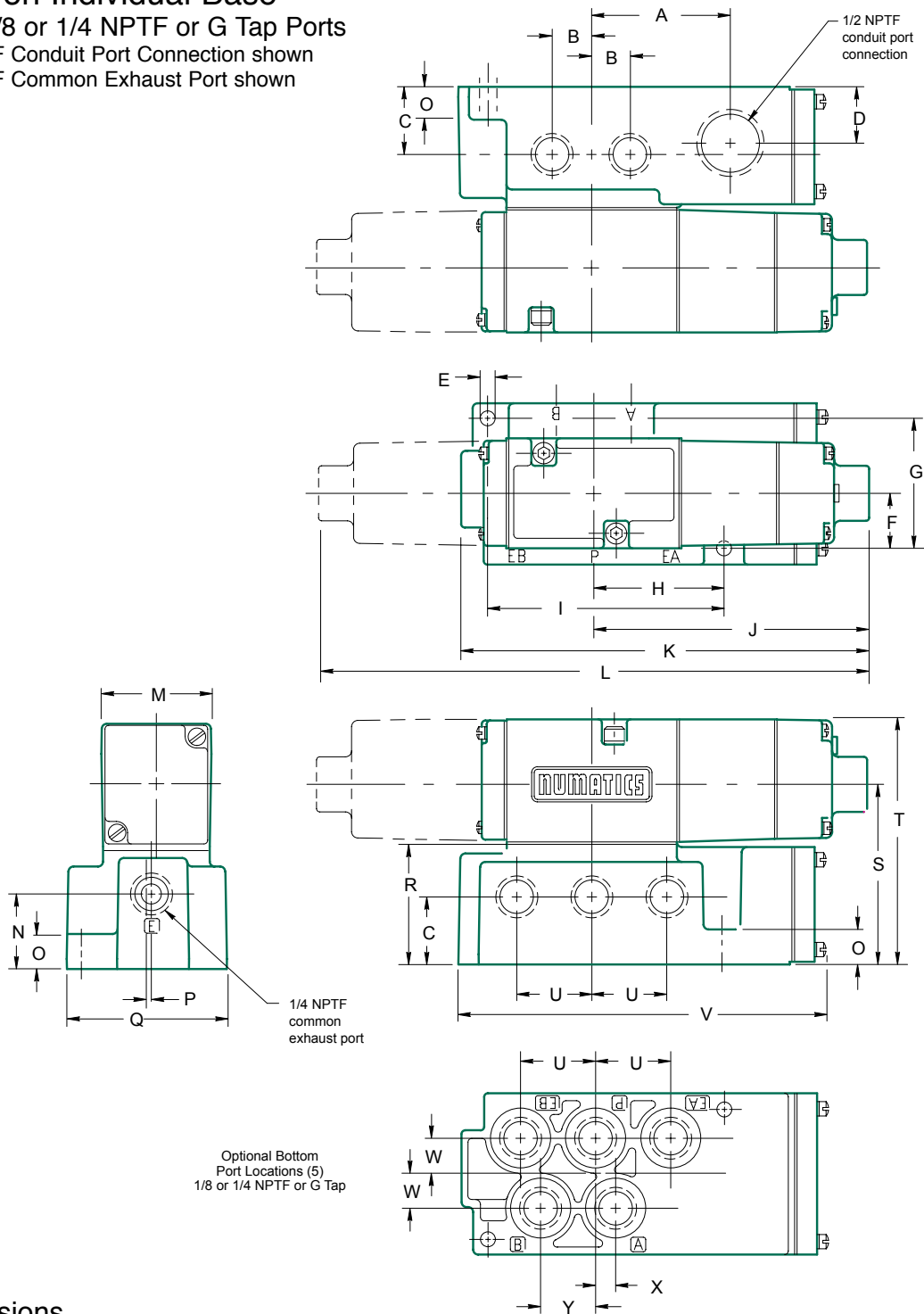




Mark 8 Series

Valve on Individual Base

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



Dimensions

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

A	B	C	D	E	F	G	H	I	J (AC)	J (DC)	K (AC)	K (DC)	L (AC)	L (DC)	M	N	O	P
1.75	0.47	0.84	0.69	0.20	0.69	1.63	1.63	2.94	3.44	4.13	5.07	5.75	6.89	8.26	1.37	0.94	0.44	0.06
(44.5)	(11.9)	(21.3)	(17.5)	(5.1)	(17.5)	(41.4)	(41.4)	(74.7)	(87.4)	(104.9)	(128.8)	(146.1)	(175.0)	(209.8)	(34.8)	(23.9)	(11.2)	(1.5)

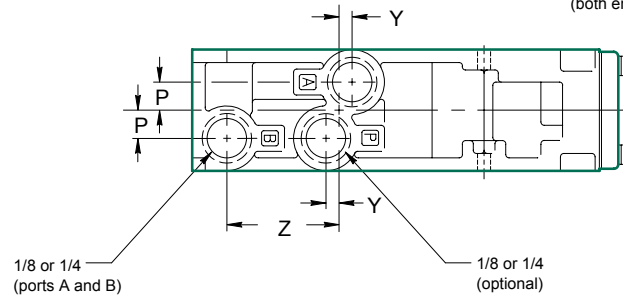
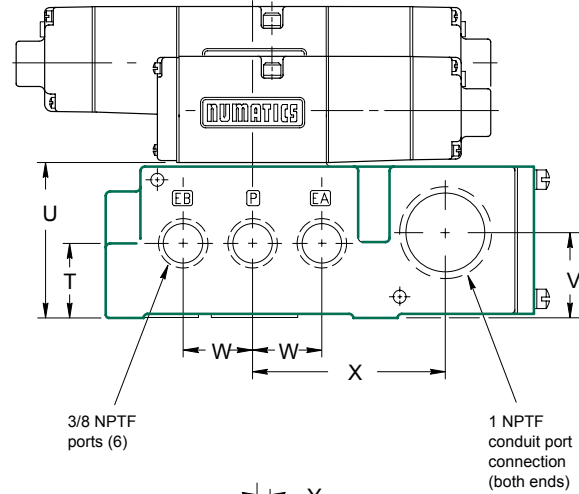
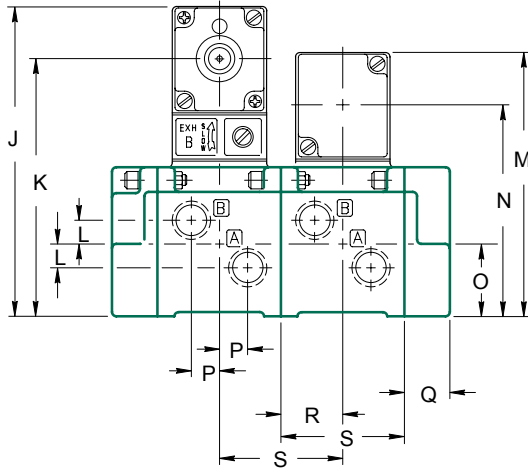
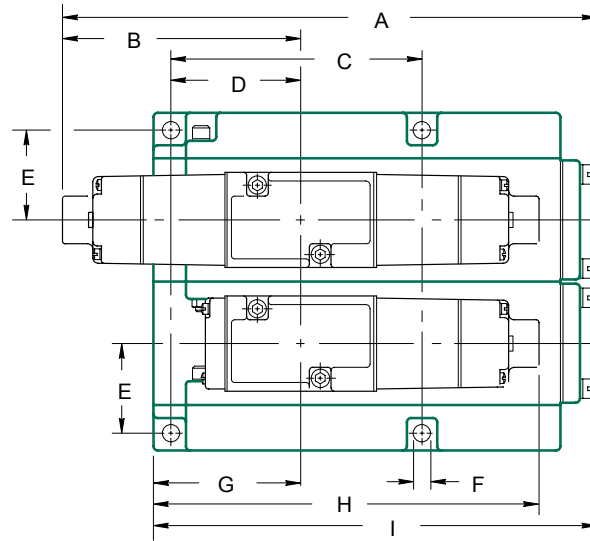
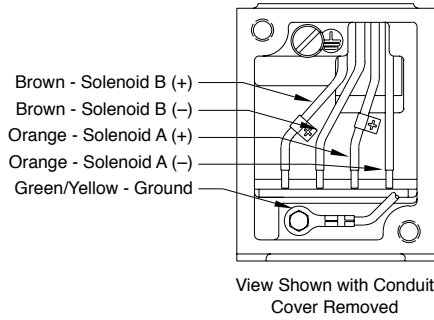
Q	R	S	T	U	V	W	X	Y
2.00	1.50	2.23	3.03	0.94	4.57	0.45	0.25	0.69
(50.8)	(38.1)	(56.6)	(77.0)	(23.9)	(116.1)	(11.4)	(6.4)	(17.5)



Manifold Assembly

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

1 NPTF Conduit Port Connection shown



Dimensions

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

A (AC)	A (DC)	B (AC)	B (DC)	C	D	E	F	G	H (AC)	H (DC)	I	J	K	L	M	N	O	P
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)	3.72 (94.5)	2.92 (74.2)	1.03 (26.2)	0.40 (10.2)
Q	R	S	T	U	V	W	X	Y	Z									
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)									



Mark 8 Series

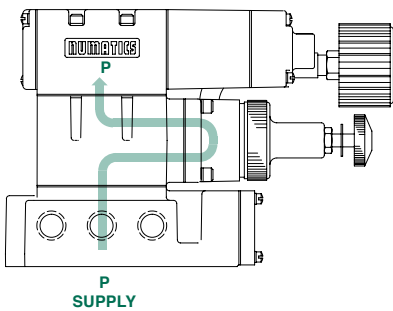
Sandwich Pressure Regulator

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."

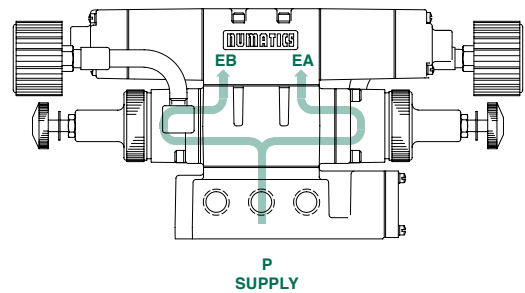
Example orders:	TYPE RS	TYPE RD
Valve unit only:	081SA400K000030	081SA400K000030
Regulator	082RS115J000000 ASSEMBLED	082RD115J000000 ASSEMBLED

Type RS



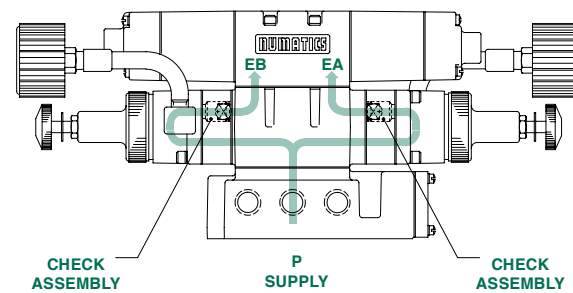
Single pressure from a single supply.

Type RD



Dual pressure from a single supply.

Type RC

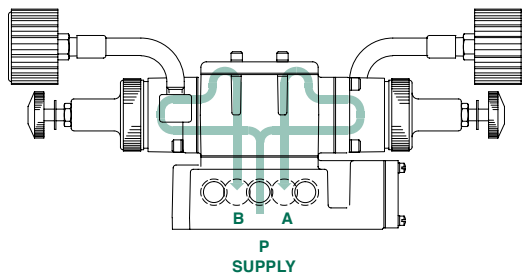


Type RC is Non-Relieving:
traps downstream pressure if
upstream pressure is exhausted.

Type RQ

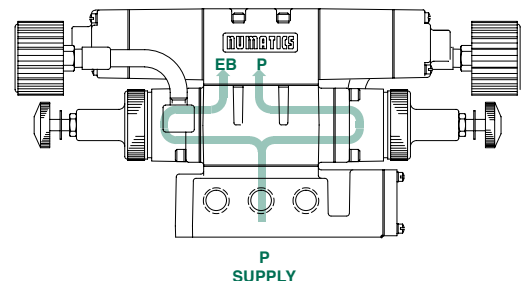
Type RQ is Relieving:
exhaust pressure in cylinder if
upstream pressure is exhausted.

Type RE



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

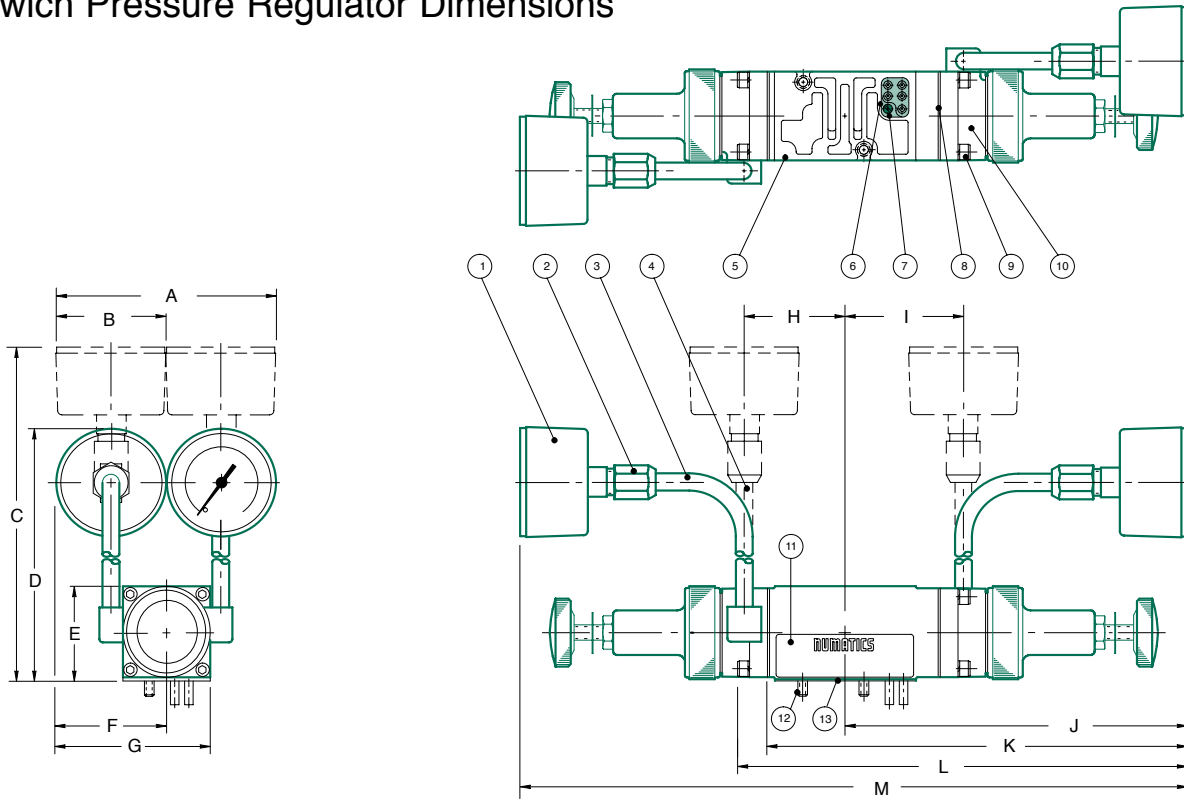
Type RT



Two-pressure selector used for multi-pressure
applications.



Sandwich Pressure Regulator Dimensions



Check Assembly Kits

RC: 239-541

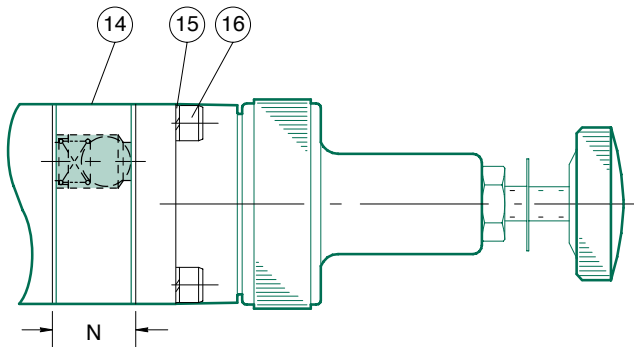
RQ: 239-536

Jumper Plate Kit

229-685

Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2*	Gauge (See chart on p. 10)	
2	2*	Adaptor Fitting	134-302
3	2*	90° Tube Fitting (Std.)	134-303
4	2*	Straight Fitting (optional)	134-304
5	1	Regulator Block:	RS 125-338 RD, RC, RQ 125-339 RT 125-340 RE 125-344
6	1	Plug Receptacle	RD 230-286 RS, RT, RC, RQ 230-286 (not req'd for RE)
		Plug for Speed Control	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 239-541 RQ 239-536
15	8	Hi-Collar Lockwasher (RC, RQ only)	128-116
16	8	Screw (RC, RQ only)	127-606



* 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.

Dimensions

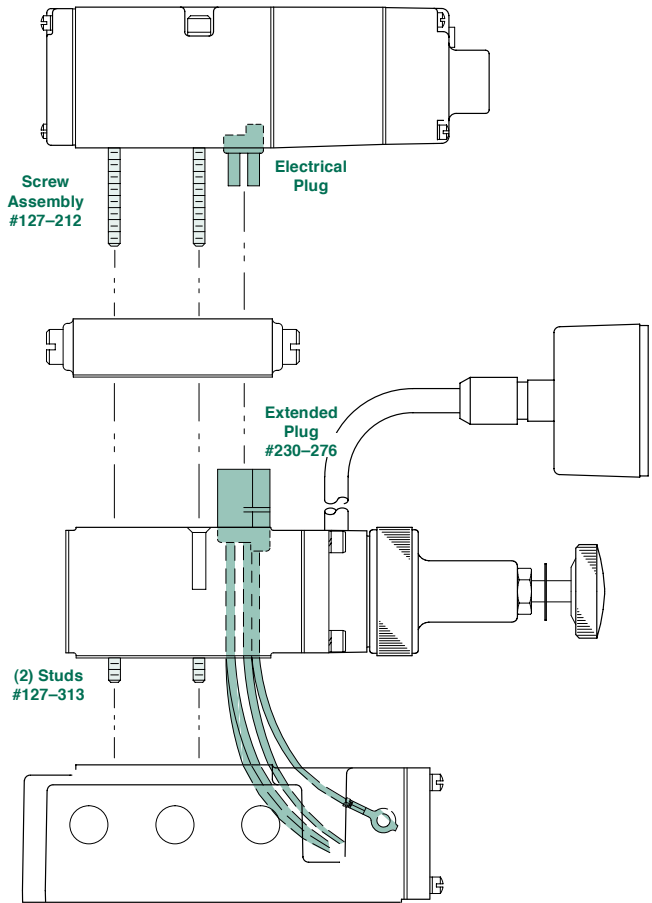
top dimensions = inches
bottom dimensions (in parenthesis) = millimeters

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



Mark 8 Series

Speed Control and Regulator Assembly



EXAMPLE

081SA402K000030

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

082RS135U000000

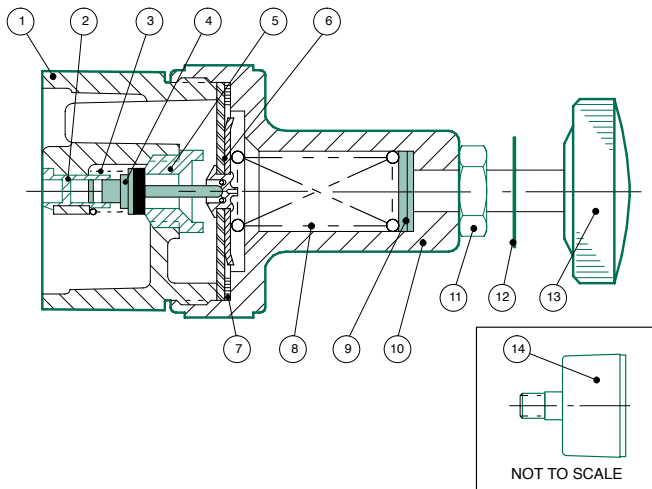
1/4 NPTF single pressure regulator (10–130 PSIG) with extended plug receptacle and speed control sandwich mounted on an individual base with side ports and common exhaust

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)	214-117 (0-100)	214-103 (0-160)

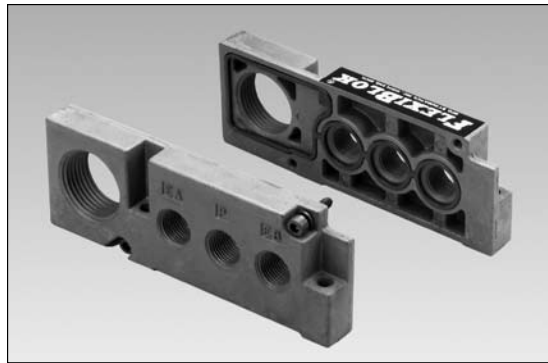
**Regulator Unit Kits 229-696 229-697 229-698
 (includes regulator assembly, gaskets, screws)

*Indicates parts included in kit.



Mark 8 Series

End Plate Kit



NPTF 229-691

G Tap 229-938 G galleries/metric conduit

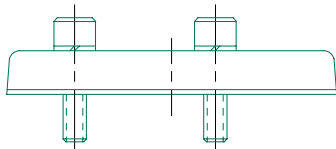
G Tap 239-529 G galleries/NPTF conduit

NO. REQ'D	PART NAME	NPTF	PART NO.	
			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.



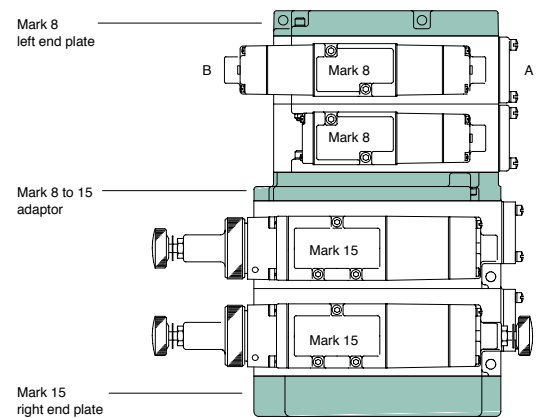
Adaptor Kits with End Plates

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

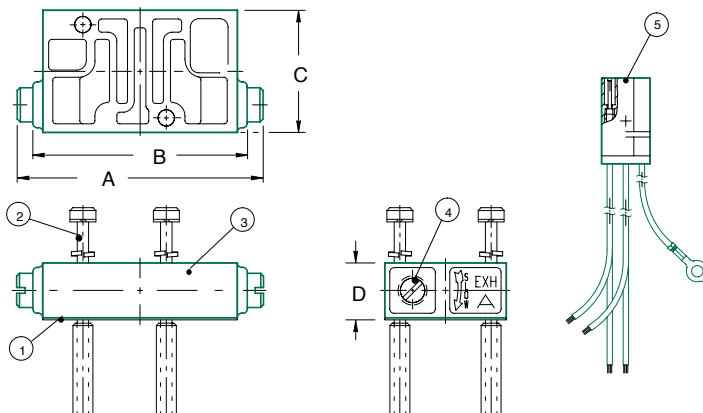
(when viewed for the cylinder ports of assembly)
Includes kit #229-694 (Mark 8 adaptor, screws, seals)
+ Mark 8 left end plate + Mark 15 right end plate
+ screw assembly



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

DET. NO.	NO. REQ'D	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 Ass'y	230-276

*Indicates parts included in speed control kit.

Dimensions

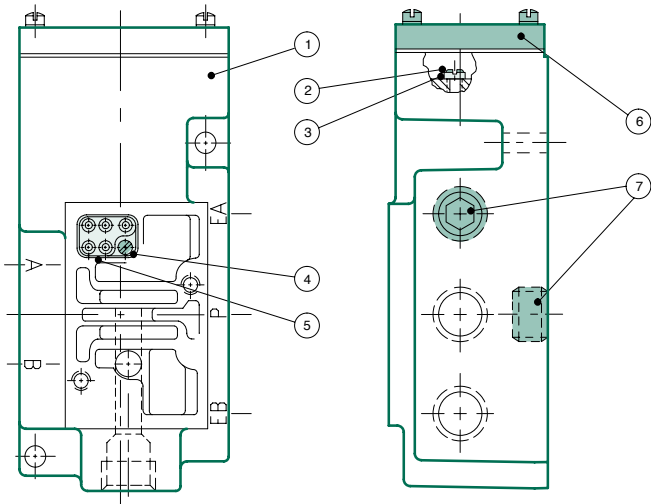
top dimensions = inches
bottom dimensions (in parenthesis) = millimeters

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



Mark 8 Series

Base Assembly Kits



Parts List

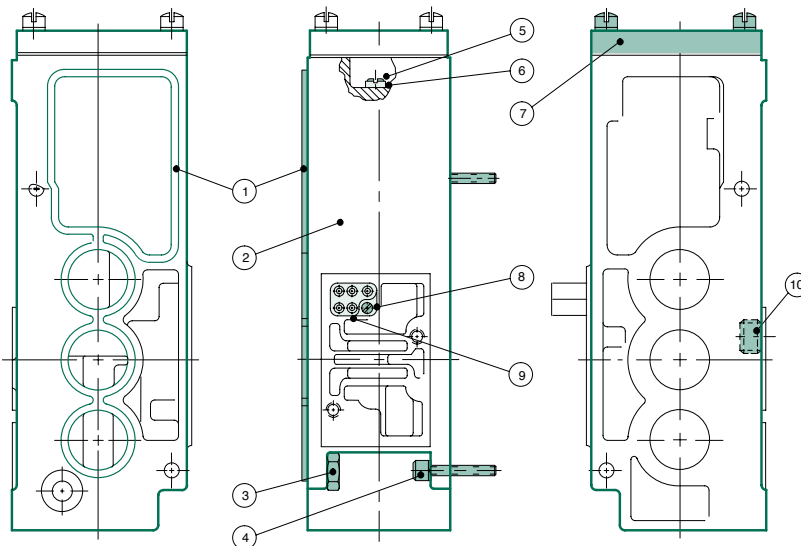
DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Base (not sold separately)	
2 *	2	Screw	127-176
3 *	1	Washer	128-162
4 *	1	Screw	127-318
5 *	1	Plug receptacle	Standard: 230-274 for use w/speed control: 230-276
6 *	1	Conduit Cover Assembly	205-309
7 **		Pipe Plug	Consult Factory

*Indicates parts included in kit.

**Not used on 3A, 3C; # plugs vary - consult factory.

BASE TYPE	1/8 NPTF			1/4 NPTF			G 1/8			G 1/4		
	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	203-672	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

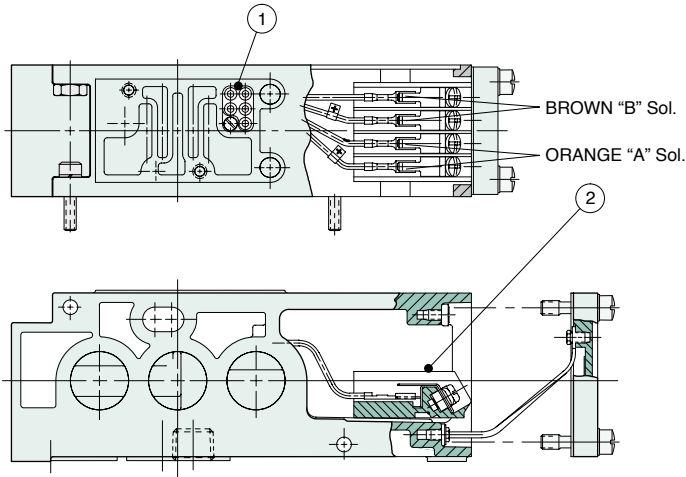
DET. NO.	NO. REQ'D	PART NAME	PART NO.
1 *	1	Gasket	113-280
2 *	1	Valve Blok (not sold separately)	
3 *	2	Nut	128-128
4 *	2	Screw	127-103
5 *	2	Screw	127-176
6 *	1	Washer	128-162
7 *	1	Conduit Cover Assembly	205-303
8 *	1	Screw	127-318
9 *	1	Plug receptacle	Standard: 230-274 for use w/speed control: 230-276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

*Indicates parts included in kit.

FLEXIBLOK	1/8 NPTF			1/4 NPTF			G 1/8			G 1/4		
	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



Terminal Block Assembly



Mark 8 FlexiBlok with Terminal Block: **OPTION 19M**

Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Plug Receptacle: Standard	230-768
		Speed Control Plug	230-769
2	1	Terminal Block Assembly	230-687

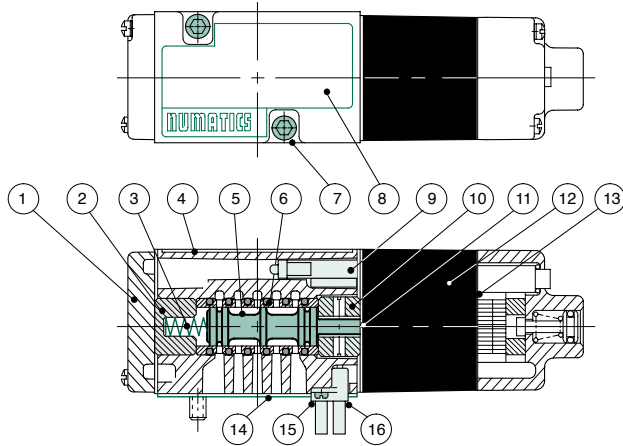
PORT SIZE	NO PLUG	STD. PLUG	S.C. PLUG
1/8 NPTF Ports	239-753	239-735	239-739
1/4 NPTF Ports	239-754	239-736	239-740
G 1/8 Ports	239-755	239-737	239-741
G 1/4 Ports	239-756	239-738	239-742



Mark 8 Series

Service Kits and Parts

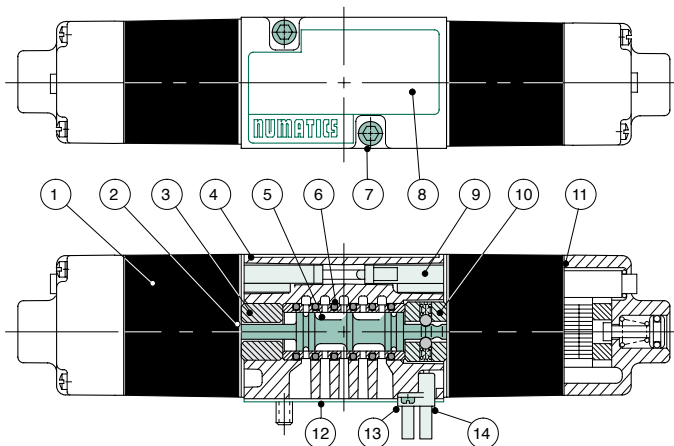
Kit No. MK8-K1 (For Models 081SA4, 082SA4)



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	209-263
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.18
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)



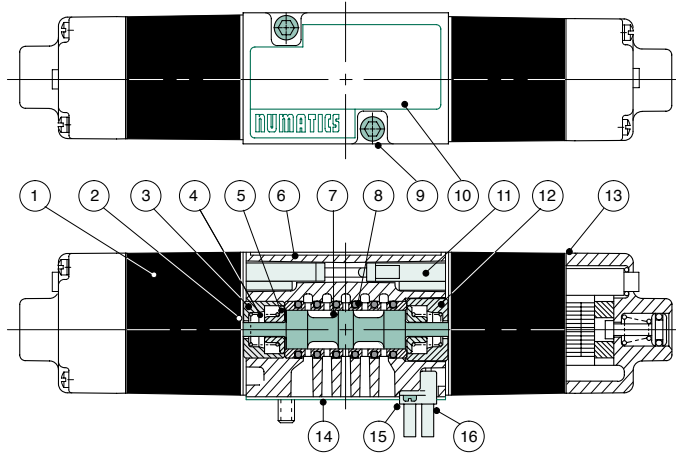
Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	Solenoid Assembly	See p.18
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.



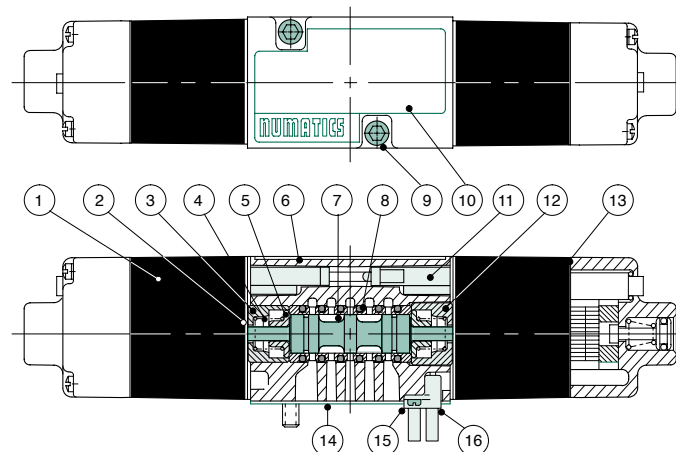
Service Kits and Parts (continued) Kit No. MK8-K3 (For Models 081SS5, 082SS5)



Parts List

DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	Solenoid Assembly	See p. 18
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. 18
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

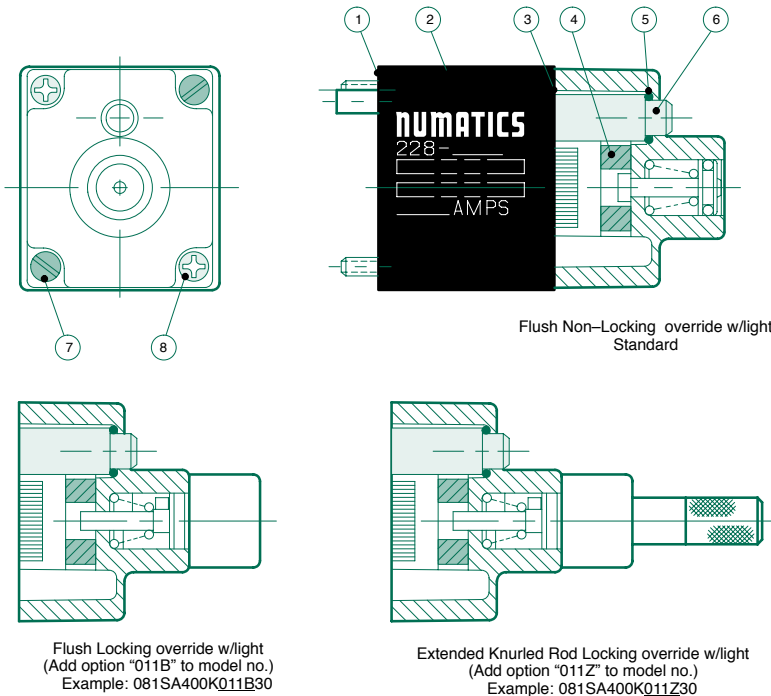
*Indicates parts included in service kit. Spool and sleeve assemblies sold as precision matched set; spools are not interchangeable; and assemblies include (6) #126-202 seals.



Mark 8 Series

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	237-428	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
								End Cap Only - No Light			
Solenoid Only less end cap; screws & gaskets not included		Std. Plug-In	228-703	228-704	228-705	225-284	225-285	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	228-677	225-238	225-239	Flush locking std. plug 2 position Extended knurled rod locking std. 2 position			204-269 204-268

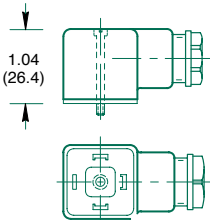


Parts List

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	114-138
		Red for 3 position	114-139
5	1	O-Ring Seal	126-144
6	1	Light Assembly:	
		100-115/50	230-235
		110-120/60	230-235
		200-230/50	230-236
		220-240/60	230-236
		12VDC	230-283
		24VDC	230-284
7	2	Solenoid Screws AC	127-314
		Solenoid Screws DC	127-316
8	2	End Cap Screws	127-315

Plug Assemblies

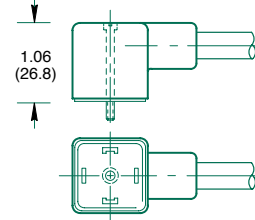
Per DIN Spec. No. 43650
Accepts cable dia. .310 - .410



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.

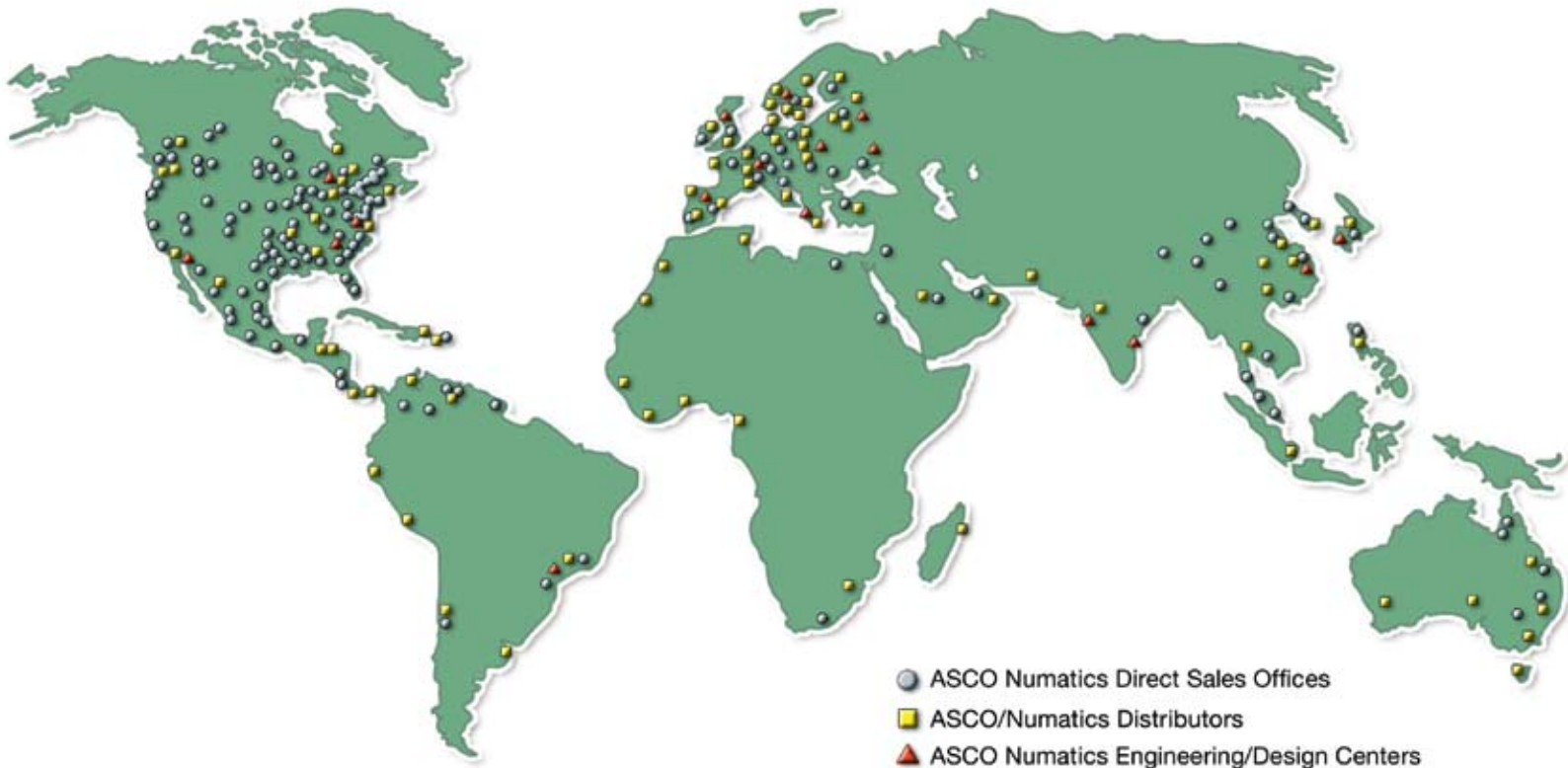


PART NAME	PART NO.
Plug with 4' Cord	230-213
Plug with 6' Cord	230-215

dimensions = inches
(in parenthesis = mm)

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