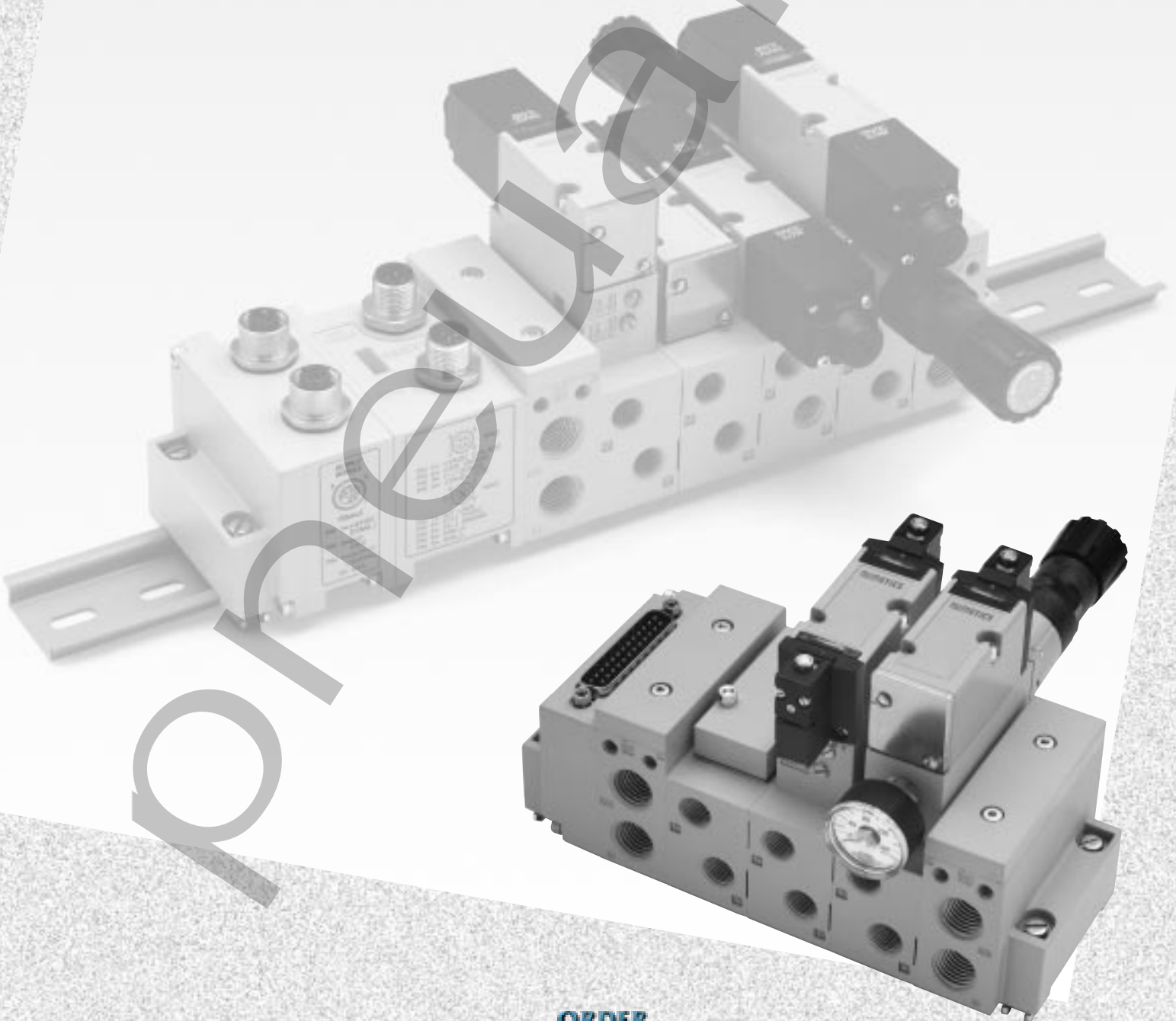




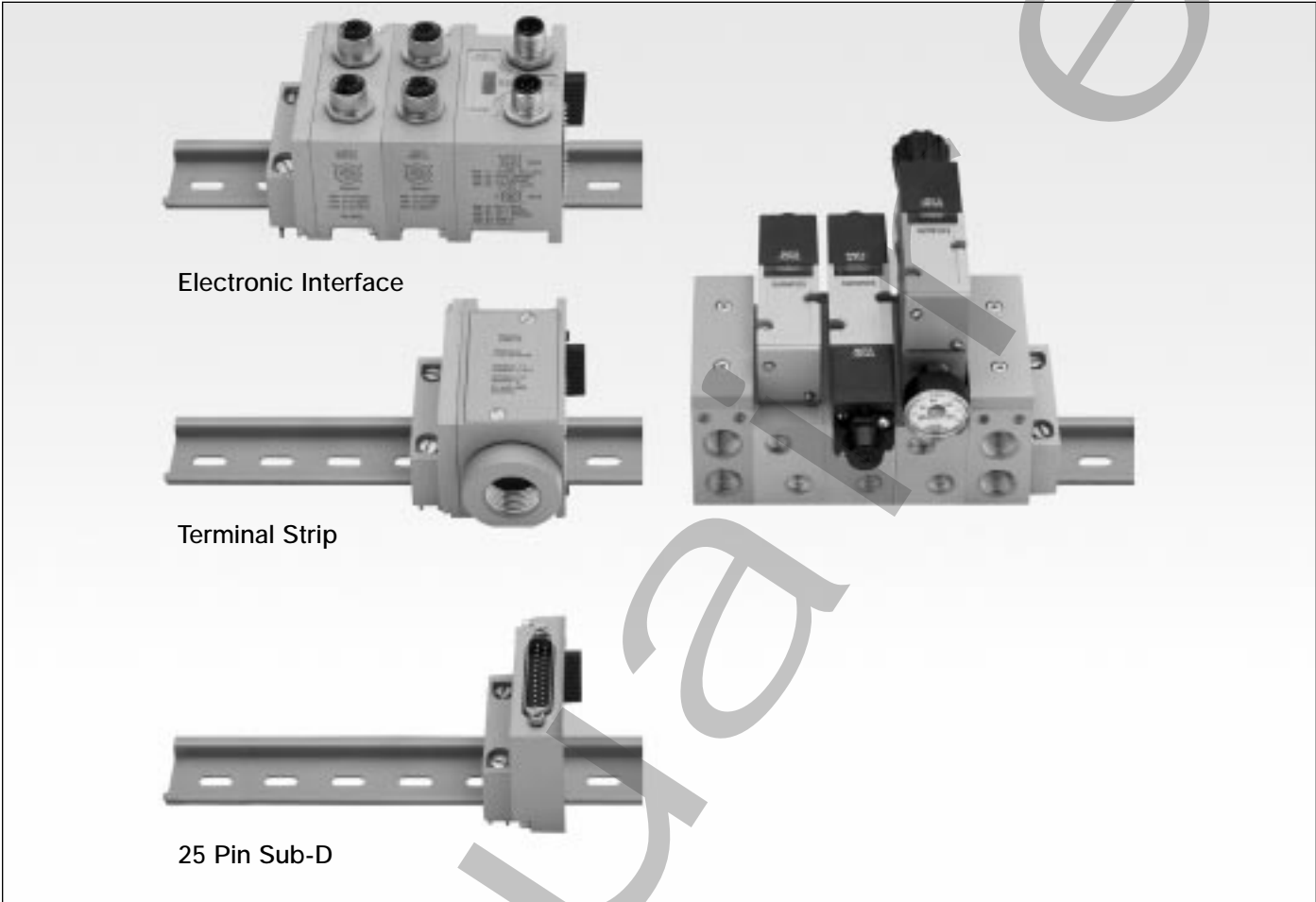
## MARK 4 Series

*Modular Reality - plug together flexibility in design!*  
miniature direct solenoid and solenoid air pilot actuated valves





MARK 4



Technical data

Valve Data	NPTF		G Tap	
	Direct	Solenoid Pilot	Direct	Solenoid Pilot
Cv:	0.35	0.40	0.35	0.40
Flow Capacity:	16 SCFM	18SCFM	345 NI/m	394 NI/m
	flow to atm @ 80 PSIG		flow @ 6 Bar upstream & 5 Bar downstream	
Operating Pressure Range:	28" HgVac to 150 PSIG		Vacuum to 10 Bar	
Temperature Range:	-10°F to +115°F ambient		-23°C to +46°C ambient	
Pilot Pressure Range:	20.0 to 115 PSIG		1.5 to 8 Bar	

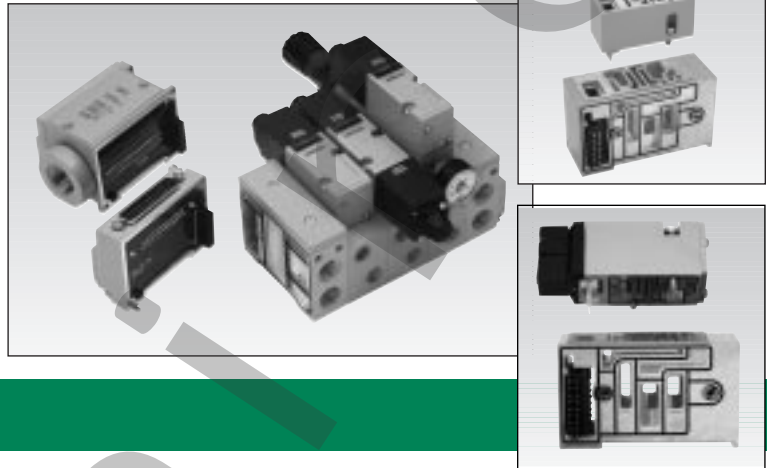
Operating data

All solenoids are continuous duty rated	24VDC				Direct Only	
	Direct		Solenoid Pilot		115 VAC/50 Hz	120 VAC/60 Hz
Power (Watts)	6.0 W		1.2 W		--	--
Holding Current (Amps)	0.25		0.05		0.063	0.052
Inrush Current (Amps)	N/A		N/A		0.093	0.090
Response Times In Seconds:	Energize		De-energize		Energize	De-energize
	Direct	Sol. Pilot	Direct	Sol. Pilot		
2-Position, Single, Spring Return	0.012	0.014	0.008	0.028	0.008	0.012
2-Position, Double, Detented	0.012	0.014	N/A	N/A	0.008	N/A
3-Position, Spring Centered	0.012	0.014	0.008	0.028	0.008	0.012

MK4-2

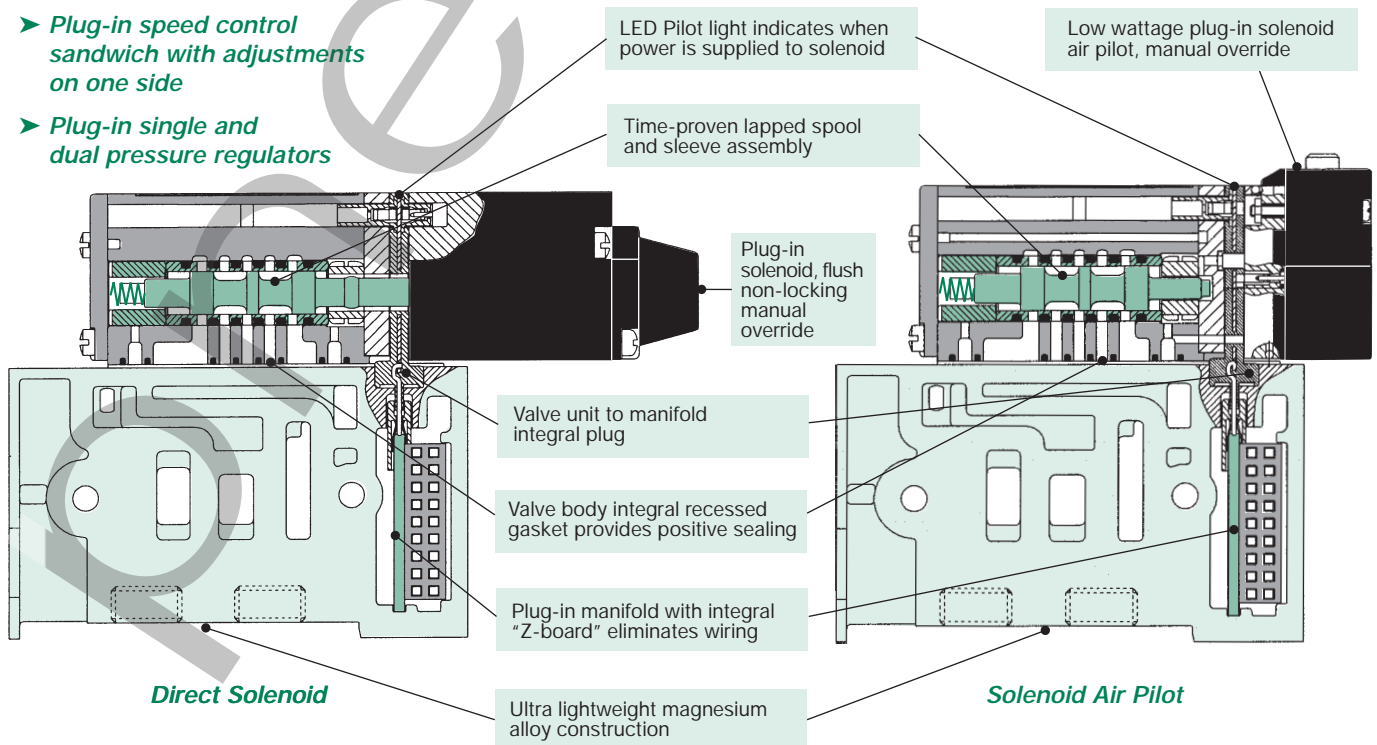
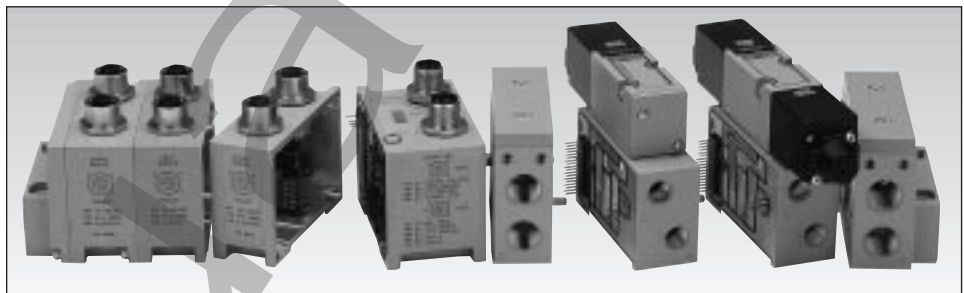
## Mark 4 plug together flexibility in design

TECHNICAL DATA .....	2
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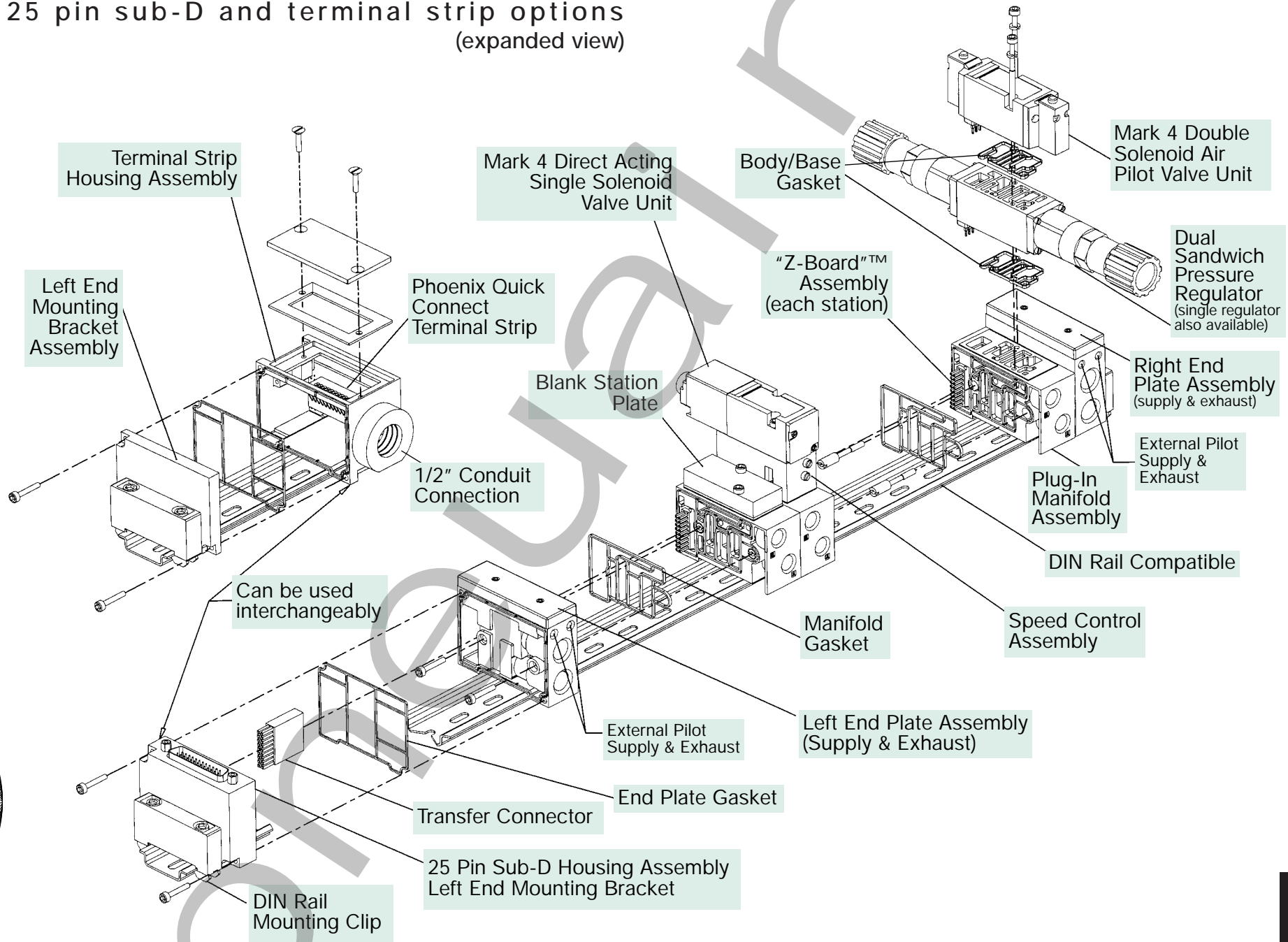


## Mark 4 Benefits...

- All internal wiring eliminated
- True plug together flexibility/expandability
- Designed to meet NEMA 4 specifications
- Compact plug together bus interface module
- 25 pin sub-D connector option
- Terminal strip option (Phoenix style)
- Plug together modular Inputs/Outputs
- Plug-in speed control sandwich with adjustments on one side
- Plug-in single and dual pressure regulators



# 25 pin sub-D and terminal strip options (expanded view)



Terminal Strip Housing Assembly

Mark 4 Direct Acting Single Solenoid Valve Unit

Body/Base Gasket

Mark 4 Double Solenoid Air Pilot Valve Unit

Left End Mounting Bracket Assembly

Phoenix Quick Connect Terminal Strip

"Z-Board"™ Assembly (each station)

Dual Sandwich Pressure Regulator (single regulator also available)

Blank Station Plate

Right End Plate Assembly (supply & exhaust)

1/2" Conduit Connection

External Pilot Supply & Exhaust

Plug-In Manifold Assembly

DIN Rail Compatible

Can be used interchangeably

Manifold Gasket

Speed Control Assembly

External Pilot Supply & Exhaust

Left End Plate Assembly (Supply & Exhaust)

End Plate Gasket

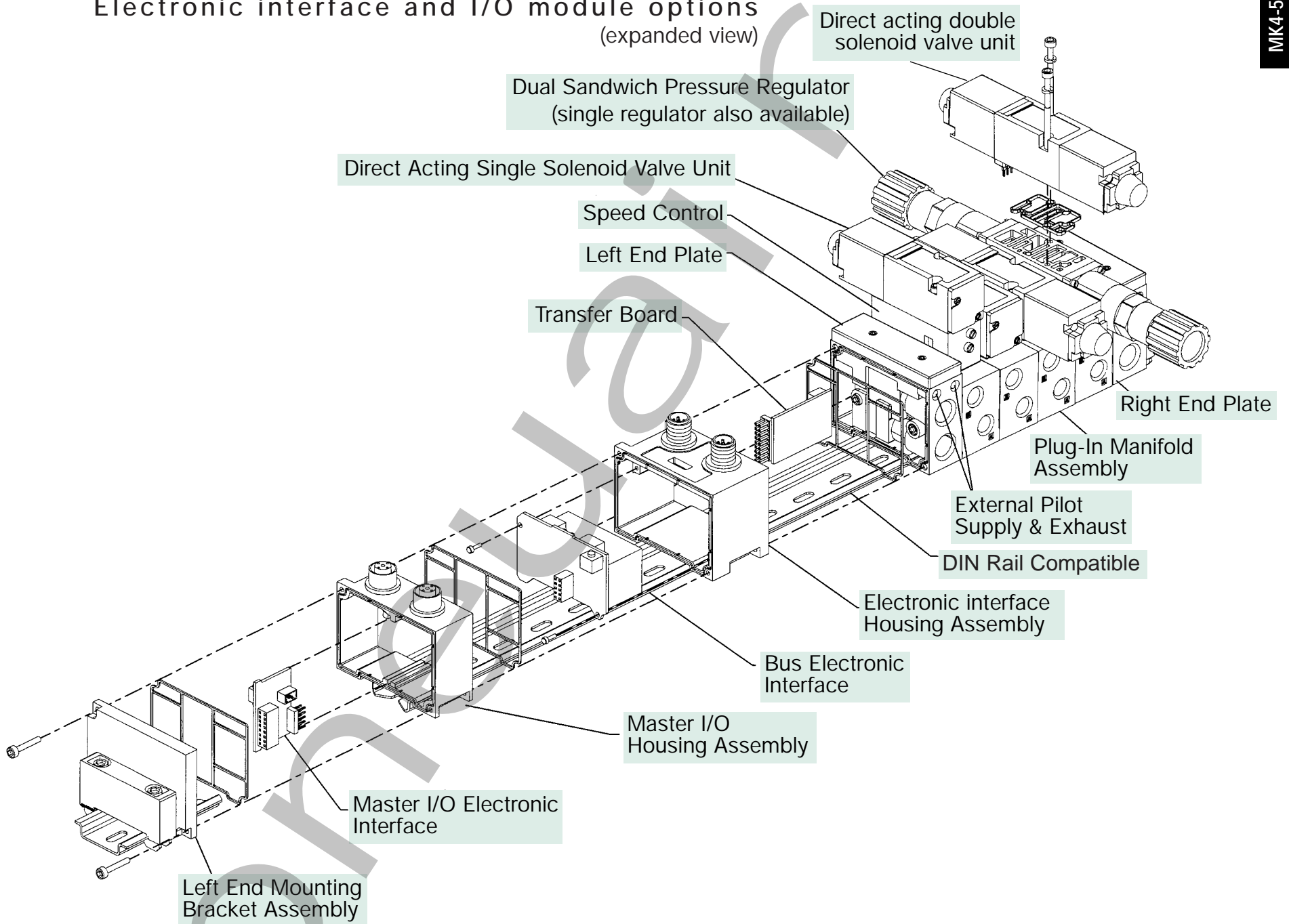
Transfer Connector

25 Pin Sub-D Housing Assembly Left End Mounting Bracket

DIN Rail Mounting Clip



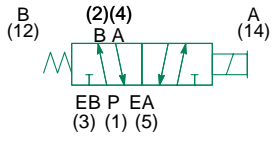
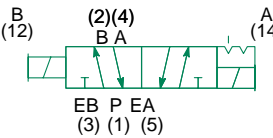
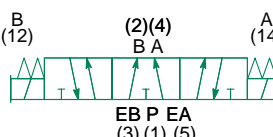
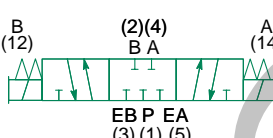
# Electronic interface and I/O module options (expanded view)





MARK 4

## Mark 4 direct solenoid model selection table (standard valve/mounting combinations)

Valve Function	Port Size	AC or DC**	FlexiBlok manifold with side & bottom cylinder ports				
			*Note: manifolds with push-in fittings are available with side ports only				
			without speed control		with speed control		
			single "z-board"™	double "z-board"™	single "z-board"™	double "z-board"™	
<b>UNIT ONLY</b> <b>041SA400K0000R (AC)</b> <b>041SA400M0000F (DC)</b> 	1/8 NPTF	AC	041SA4Z1KN000R	041SA4Z2KN000R	041SA4Z5KN000R	041SA4Z6KN000R	
	1/8 NPTF	DC	041SA4Z1MN000F	041SA4Z2MN000F	041SA4Z5MN000F	041SA4Z6MN000F	
	1/4 *w/push-in	AC	042SA4Z3KL000R	042SA4Z4KL000R	042SA4Z7KL000R	042SA4Z8KL000R	
	1/4 *w/push-in	DC	042SA4Z3ML000F	042SA4Z4ML000F	042SA4Z7ML000F	042SA4Z8ML000F	
	1/8 *w/push-in	AC	041SA4Z3KL000R	041SA4Z4KL000R	042SA4Z7KL000R	041SA4Z8KL000R	
	1/8 *w/push-in	DC	041SA4Z3ML000F	041SA4Z4ML000F	041SA4Z7ML000F	041SA4Z8ML000F	
	5/32 (4mm)*w/push-in	AC	04DSA4Z3KL000R	04DSA4Z4KL000R	04DSA4Z7KL000R	04DSA4Z8KL000R	
	5/32 (4mm)*w/push-in	DC	04DSA4Z3ML000F	04DSA4Z4ML000F	04DSA4Z7ML000F	04DSA4Z8ML000F	
	<b>UNIT ONLY</b> <b>041SS400K0000R (AC)</b> <b>041SS400M0000F (DC)</b> 	1/8 NPTF	AC	N/A	041SS4Z2KN000R	N/A	041SS4Z6KN000R
		1/8 NPTF	DC	N/A	041SS4Z2MN000F	N/A	041SS4Z6MN000F
1/4 *w/push-in		AC	N/A	042SS4Z4KL000R	N/A	042SS4Z8KL000R	
1/4 *w/push-in		DC	N/A	042SS4Z4ML000F	N/A	042SS4Z8ML000F	
1/8 *w/push-in		AC	N/A	041SS4Z4KL000R	N/A	041SS4Z8KL000R	
1/8 *w/push-in		DC	N/A	041SS4Z4ML000F	N/A	041SS4Z8ML000F	
5/32 (4mm)*w/push-in		AC	N/A	04DSS4Z4KL000R	N/A	04DSS4Z8ML000R	
5/32 (4mm)*w/push-in		DC	N/A	04DSS4Z4ML000F	N/A	04DSS4Z8ML000F	
<b>UNIT ONLY</b> <b>041SS500K0000R (AC)</b> <b>041SS500M0000F (DC)</b> 		1/8 NPTF	AC	N/A	041SS5Z2KN000R	N/A	041SS5Z6KN000R
		1/8 NPTF	DC	N/A	041SS5Z2MN000F	N/A	041SS5Z6MN000F
	1/4 *w/push-in	AC	N/A	042SS5Z4KL000R	N/A	042SS5Z8KL000R	
	1/4 *w/push-in	DC	N/A	042SS5Z4ML000F	N/A	042SS5Z8ML000F	
	1/8 *w/push-in	AC	N/A	041SS5Z4KL000R	N/A	041SS5Z8KL000R	
	1/8 *w/push-in	DC	N/A	041SS5Z4ML000F	N/A	041SS5Z8ML000F	
	5/32 (4mm)*w/push-in	AC	N/A	04DSS5Z4KL000R	N/A	04DSS5Z8KL000R	
	5/32 (4mm)*w/push-in	DC	N/A	04DSS5Z4ML000F	N/A	04DSS5Z8ML000F	
	<b>UNIT ONLY</b> <b>041SS600K0000R (AC)</b> <b>041SS600M0000F (DC)</b> 	1/8 NPTF	AC	N/A	041SS6Z2KN000R	N/A	041SS6Z6KN000R
		1/8 NPTF	DC	N/A	041SS6Z2MN000F	N/A	041SS6Z6MN000F
1/4 *w/push-in		AC	N/A	042SS6Z4KL000R	N/A	042SS6Z8KL000R	
1/4 *w/push-in		DC	N/A	042SS6Z4ML000F	N/A	042SS6Z8ML000F	
1/8 *w/push-in		AC	N/A	041SS6Z4KL000R	N/A	041SS6Z8KL000R	
1/8 *w/push-in		DC	N/A	041SS6Z4ML000F	N/A	041SS6Z8ML000F	
5/32 (4mm)*w/push-in		AC	N/A	04DSS6Z4KL000R	N/A	04DSS6Z8KL000R	
5/32 (4mm)*w/push-in		DC	N/A	04DSS6Z4ML000F	N/A	04DSS6Z8ML000F	

**NOTE: All valves ordered for manifolds with electronic interface, MUST BE 24 VOLT DC!**

\* Push-In Fitting Options: Push-in fittings are not available on FlexiBlok manifolds with bottom cylinder ports.

\*\* 14th Digit used to designate voltage. AC/DC determined by 9th digit - wiring option.

9th digit	Wiring option
K	Plug in w/light AC
M	Plug in w/light DC (Sourcing where applicable)
G	Plug in w/light DC (Sinking)
14th digit	Voltage
F	24 volt
R	120 volt

**PORT TYPE OPTIONS:**

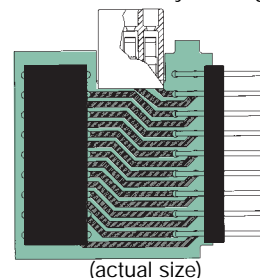
For G tap ports, use "G" in 10th digit of model number  
**EXAMPLE: 041SA4Z1KG000R**

For BSPT tap ports, use "B" in 10th digit of model number.  
**EXAMPLE: 042SS4Z4KB000R**

**Mounting & "Z-board"™ electrical interface options (Digits 7 & 8 in model selection)**

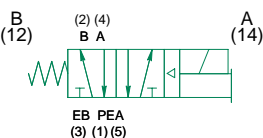
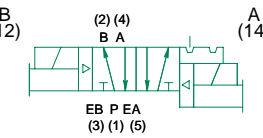
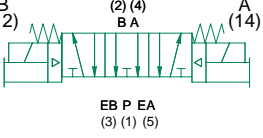
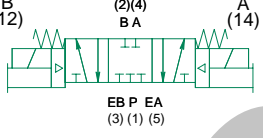
- Z1 = Side & bottom ports, single sol. output
- Z2 = Side & bottom ports, double sol. output
- Z3 = Side ports only, single sol. output
- Z4 = Side ports only, double sol. output
- Z5 = Z1 with speed control
- Z6 = Z2 with speed control
- Z7 = Z3 with speed control
- Z8 = Z4 with speed control

**"Z-Board"™ Electrical Interface Device**  
 Eliminates all wiring within the manifold.  
 Provides true flexibility in design.



Mark 4 solenoid air pilot model selection table (standard valve/mounting combinations)

MARK 4

Valve Function	Port Size	DC**	FlexiBlok manifold with side & bottom cylinder ports			
			*Note: manifolds with push-in fittings are available with side ports only			
			without speed control		with speed control	
			single "z-board"™	double "z-board"™	single "z-board"™	double "z-board"™
<b>UNIT ONLY</b> <b>041BA400M0000F (DC)</b> 	1/8 NPTF	DC	041BA4Z1MN000F	041BA4Z2MN000F	041BA4Z5MN000F	041BA4Z6MN000F
	1/4 *w/push-in	DC	042BA4Z3ML000F	042BA4Z4ML000F	042BA4Z7ML000F	042BA4Z8ML000F
	1/8 *w/push-in	DC	041BA4Z3ML000F	041BA4Z4ML000F	041BA4Z7ML000F	041BA4Z8ML000F
	5/32 (4mm)*w/push-in	DC	04DBA4Z3ML000F	04DBA4Z4ML000F	04DBA4Z7ML000F	04DBA4Z8ML000F
<b>UNIT ONLY</b> <b>041BB400M0000F (DC)</b> 	1/8 NPTF	DC	N/A	041BB4Z2MN000F	N/A	041BB4Z6MN000F
	1/4 *w/push-in	DC	N/A	042BB4Z4ML000F	N/A	042BB4Z8ML000F
	1/8 *w/push-in	DC	N/A	041BB4Z4ML000F	N/A	041BB4Z8ML000F
	5/32 (4mm)*w/push-in	DC	N/A	04DBB4Z4ML000F	N/A	04DBB4Z8ML000F
<b>UNIT ONLY</b> <b>041BB500M0000F (DC)</b> 	1/8 NPTF	DC	N/A	041BB5Z2MN000F	N/A	041BB5Z6MN000F
	1/4 *w/push-in	DC	N/A	042BB5Z4ML000F	N/A	042BB5Z8ML000F
	1/8 *w/push-in	DC	N/A	041BB5Z4ML000F	N/A	041BB5Z8ML000F
	5/32 (4mm)*w/push-in	DC	N/A	04DBB5Z4ML000F	N/A	04DBB5Z8ML000F
<b>UNIT ONLY</b> <b>041BB600M0000F (DC)</b> 	1/8 NPTF	DC	N/A	041BB6Z2MN000F	N/A	041BB6Z6MN000F
	1/4 *w/push-in	DC	N/A	042BB6Z4ML000F	N/A	042BB6Z8ML000F
	1/8 *w/push-in	DC	N/A	041BB6Z4ML000F	N/A	041BB6Z8ML000F
	5/32 (4mm)*w/push-in	DC	N/A	04DBB6Z4ML000F	N/A	04DBB6Z8ML000F

\* Push-In Fitting Options: Push-in fittings are not available on FlexiBlok manifolds with bottom cylinder ports.

\*\* 14th Digit used to designate voltage. DC determined by 9th digit - wiring option.

PORT TYPE OPTIONS:

For G tap ports, use "G" in 10th digit of model number  
 EXAMPLE: 041BA4Z1MG000F

Voltage Selection Chart	
9th digit	Wiring option
M	Plug in w/light DC (Sourcing where applicable)
G	Plug in w/light DC (Sinking)
14th digit	Voltage
F	24 volt

Mounting & "Z-board"™ electrical interface options (Digits 7 & 8 in model selection)
Z1 = Side & bottom ports, single sol. output
Z2 = Side & bottom ports, double sol. output
Z3 = Side ports only, single sol. output
Z4 = Side ports only, double sol. output
Z5 = Z1 with speed control
Z6 = Z2 with speed control
Z7 = Z3 with speed control
Z8 = Z4 with speed control



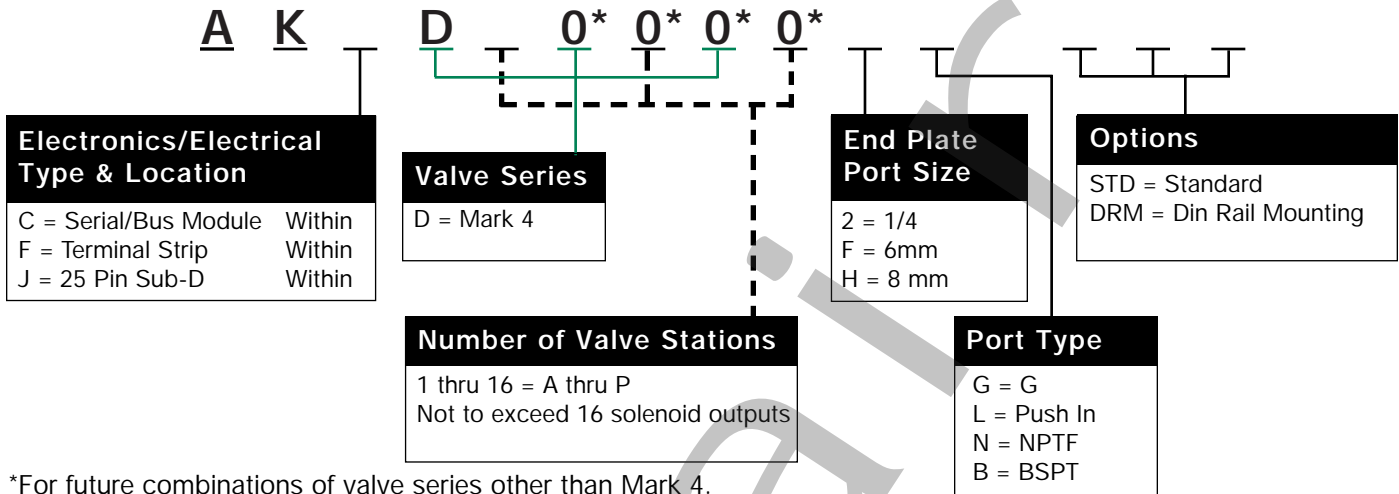
MK4-7



How to order:

MARK 4

1. Assembly kit



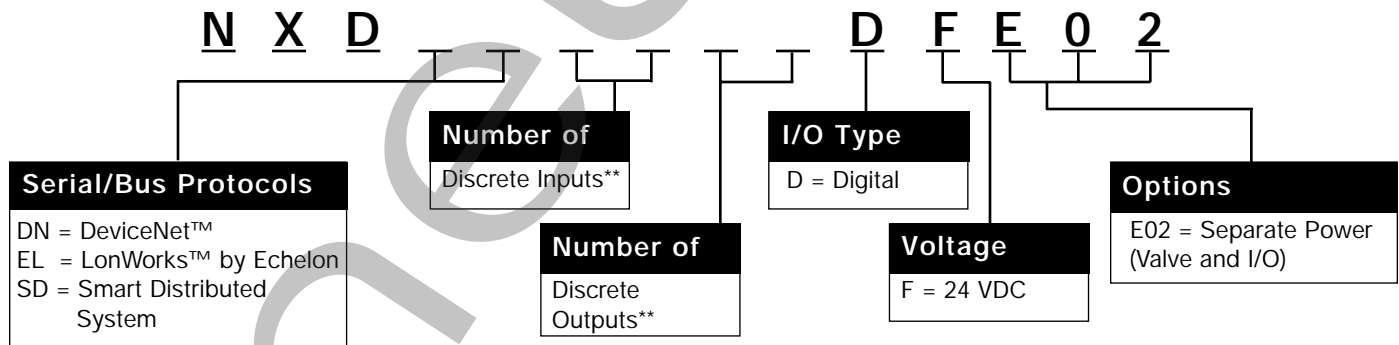
\*For future combinations of valve series other than Mark 4.

2. Valve Model Number

Valve model number with plug-in manifold base (see MK4 model selection table)

**NOTE:** Total of 16 solenoid outputs available. Either 16 single solenoid valves or 8 double solenoid valves or any combination of singles or doubles, not to exceed 16 solenoid outputs.

3. Electronic Interface



\*\* NOTE: Discrete I/O cannot exceed 16 total, 2 available per manifold station. (see I/O table)

4. I/O Per Manifold Station – Electronic Interface Option Only

(see I/O table)

When ordering up to eight (8) I/O you must order one (1) master station (which contains two (2) I/O itself). The balance required is made up of slaves, two (2) per manifold station (total 3 slaves). A maximum of sixteen (16) I/O can be configured by using two (2) masters and six (6) slaves.

I/O Table		
Note: 2 I/O per station		
HOUSING TYPE	INPUT	OUTPUT
Conn. Type	Female	Male
Master Kit #	239-974	239-975
Slave Kit #	239-976	239-977



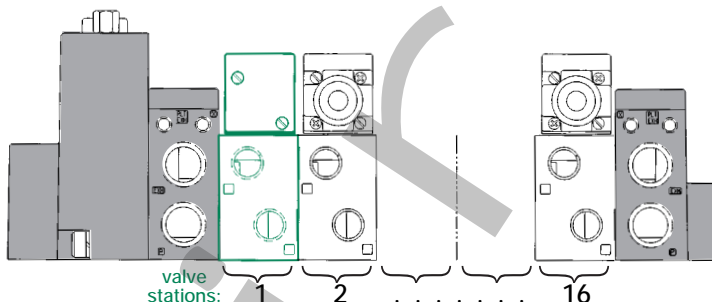
When ordering:

**AKJ 25 Pin Sub-D**

- Shaded components described by Assembly Kit (AK) model number designation. (see #1, pg. MK4-8)
- Each valve manifold station is listed in sequential order from left to right when facing the port side of the manifold as indicated.

**Example order:**

	<b>AKJDD00002NSTD</b>
valve station 1	042SA4Z3KL000R
valve station 2	042SA4Z3KL000R
valve station 3	042SS4Z4KL000R
valve station 4	042SS4Z4KL000R

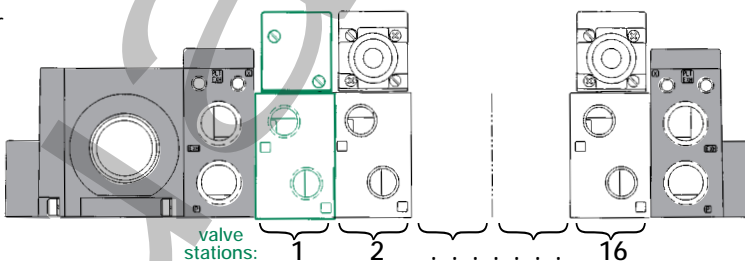


**AKF Terminal Strip**

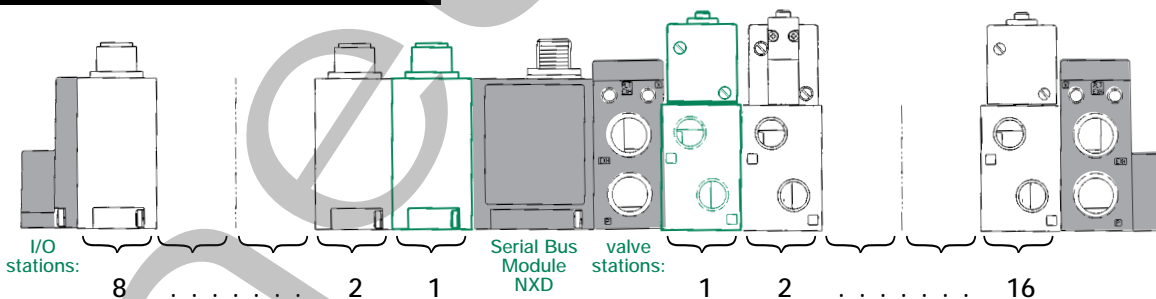
- Ordered using the same method as for 25 Pin Sub-D

**Example order:**

	<b>AKFDD0000FGSTD</b>
valve station 1	042SA4Z4KL000R
valve station 2	042SA4Z4KL000R
valve station 3	042SS4Z4KL000R
valve station 4	042SS4Z4KL000R



**AKC Serial/Bus**



- Shaded components described by Assembly Kit (AK) model number designation (see #1, pg. MK4-8), with the exception of the Serial/Bus module and number of I/O stations that are described by Electronic Interface (NXD) model number designation. (see #3, pg. MK4-8)
- Each valve manifold station is listed in sequential order from left to right when facing the port side of the manifold as indicated.
- Each discrete I/O station is listed in sequential order from RIGHT to LEFT starting from the Serial/Bus module as indicated.

NOTE: I/O station #1 must always be a MASTER KIT (see #4, pg. MK4-8)

**Example order:**

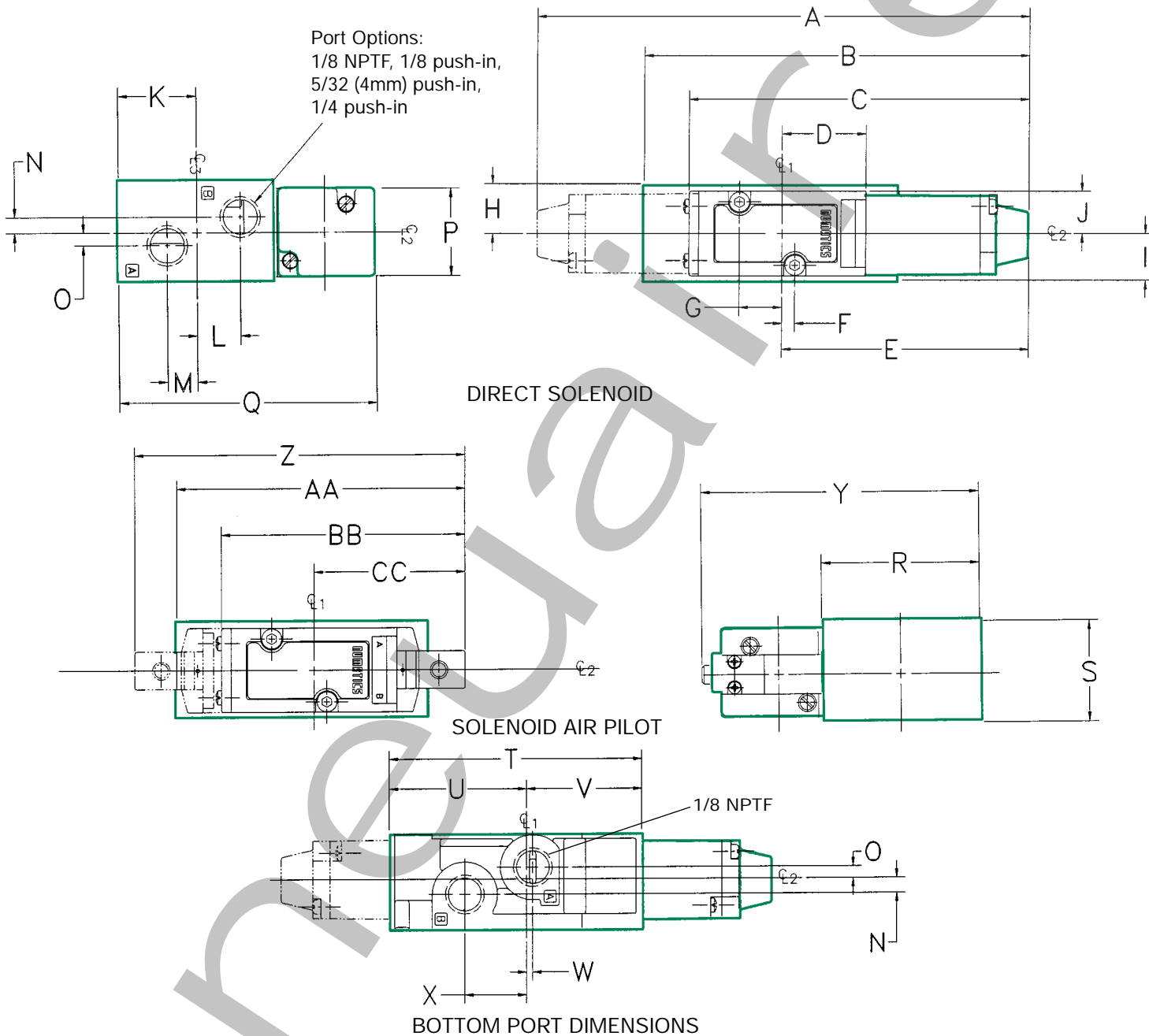
	<b>AKCDD0000HGSTD</b>
valve station 1	042BA4Z3GL000F
valve station 2	042BA4Z3GL000F
valve station 3	042BB4Z4GL000F
valve station 4	042BB4Z4GL000F
	<b>NXDDN0808DFE02</b>
I/O station 1	239-974 <i>Input Master Kit</i>
I/O station 2	239-976 <i>Input Slave Kit</i>
I/O station 3	239-976 <i>Input Slave Kit</i>
I/O station 4	239-976 <i>Input Slave Kit</i>
I/O station 5	239-975 <i>Output Master Kit</i>
I/O station 6	239-977 <i>Output Slave Kit</i>
I/O station 7	239-977 <i>Output Slave Kit</i>
I/O station 8	239-977 <i>Output Slave Kit</i>

NOTE: Total of 16 solenoid outputs available. Either 16 single solenoid valves or 8 double solenoid valves or any combination of singles or doubles, not to exceed 16 solenoid outputs.



Mark 4 assembly dimensions single station valve manifold direct solenoid and solenoid air pilot

MARK 4



Dimensions															
A	5.10 (129.6)	E	2.55 (64.8)	I	0.48 (12.3)	M	0.30 (7.6)	Q	2.57 (65.3)	U	1.43 (36.4)	Y	2.75 (69.9)	CC	1.58 (40.1)
B	3.98 (101.2)	F	0.13 (3.4)	J	0.44 (11.1)	N	0.16 (4.0)	R	1.56 (39.7)	V	1.21 (30.6)	Z	3.45 (87.6)		
C	3.52 (89.3)	G	0.44 (11.3)	K	0.78 (19.8)	O	0.13 (3.2)	S	1.00 (25.4)	W	0.06 (1.6)	AA	3.22 (81.8)		
D	0.87 (22.0)	H	0.52 (13.1)	L	0.43 (11.0)	P	0.88 (22.2)	T	2.64 (67.0)	X	0.65 (16.4)	BB	2.55 (64.77)		

dimensions = inches  
(in parenthesis = mm)

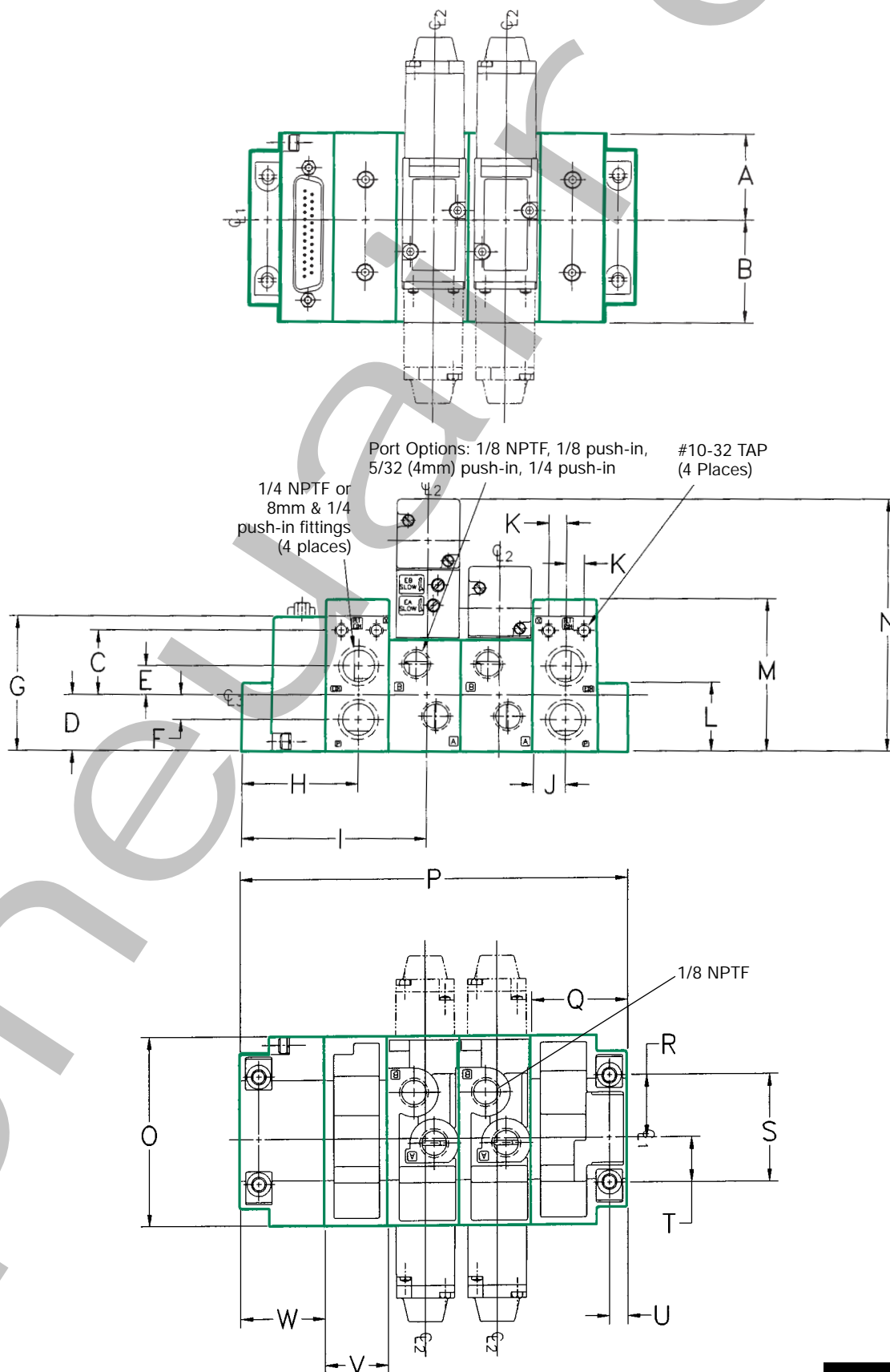
MK4-10

Mark 4 FlexiBlok® assembly dimensions  
25 pin sub-D housing assembly

MARK 4

Dimensions

A	1.21 (30.6)
B	1.43 (36.4)
C	0.90 (23.0)
D	0.78 (19.8)
E	0.41 (10.3)
F	0.34 (8.7)
G	1.88 (47.8)
H	1.62 (41.2)
I	2.58 (65.5)
J	0.44 (11.2)
K	0.25 (6.2)
L	0.96 (24.4)
M	2.13 (54.1)
N	3.51 (89.2)
O	2.64 (67.0)
P	5.39 (136.9)
Q	1.33 (33.7)
R	0.87 (22.2)
S	1.50 (38.1)
T	0.63 (15.9)
U	0.25 (6.5)
V	0.88 (22.4)
W	1.18 (30.0)



dimensions = inches  
(in parenthesis = mm)

MK4-11

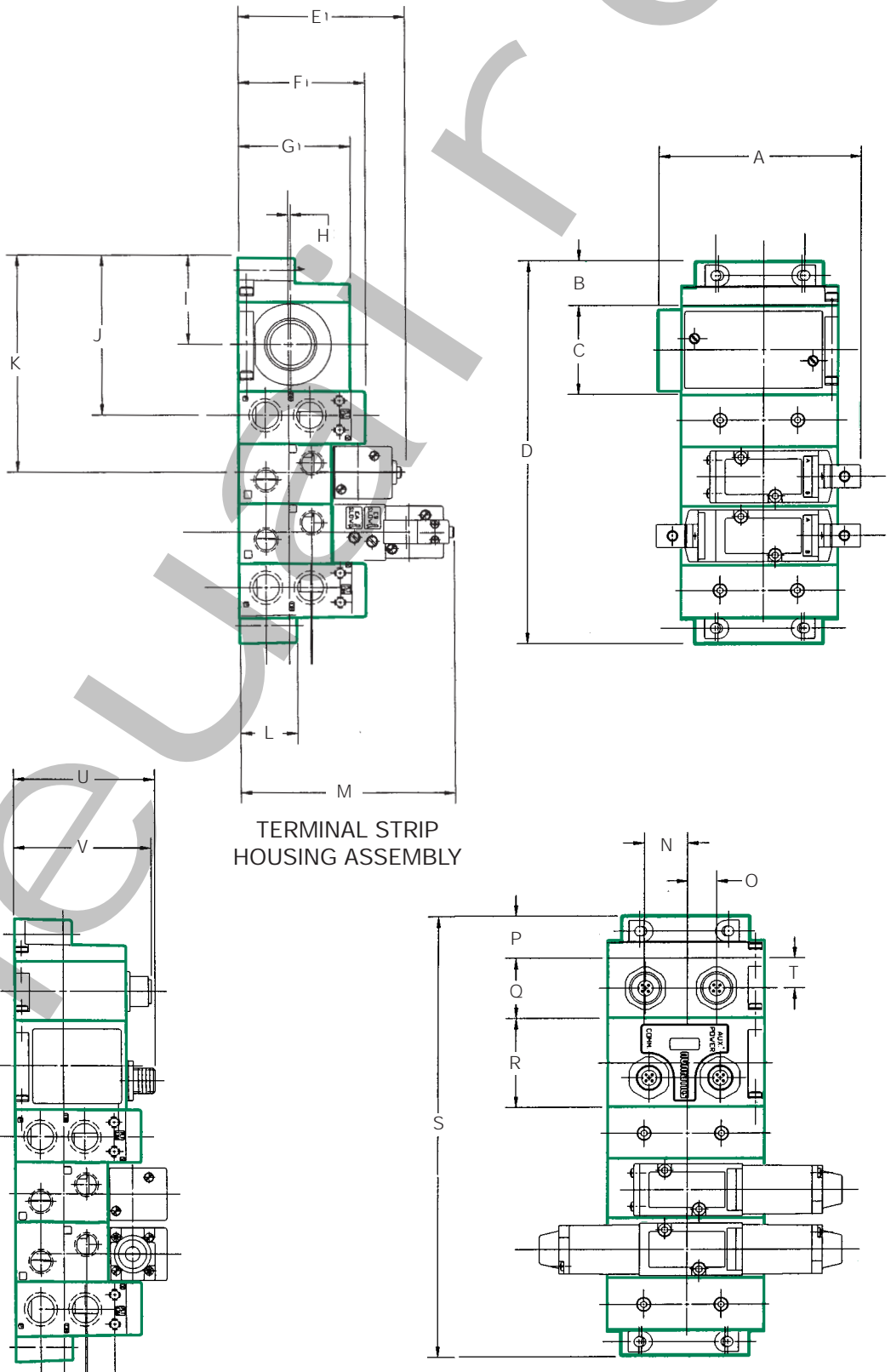
# Mark 4 Flexiblok® assembly dimensions

MARK 4

## Dimensions

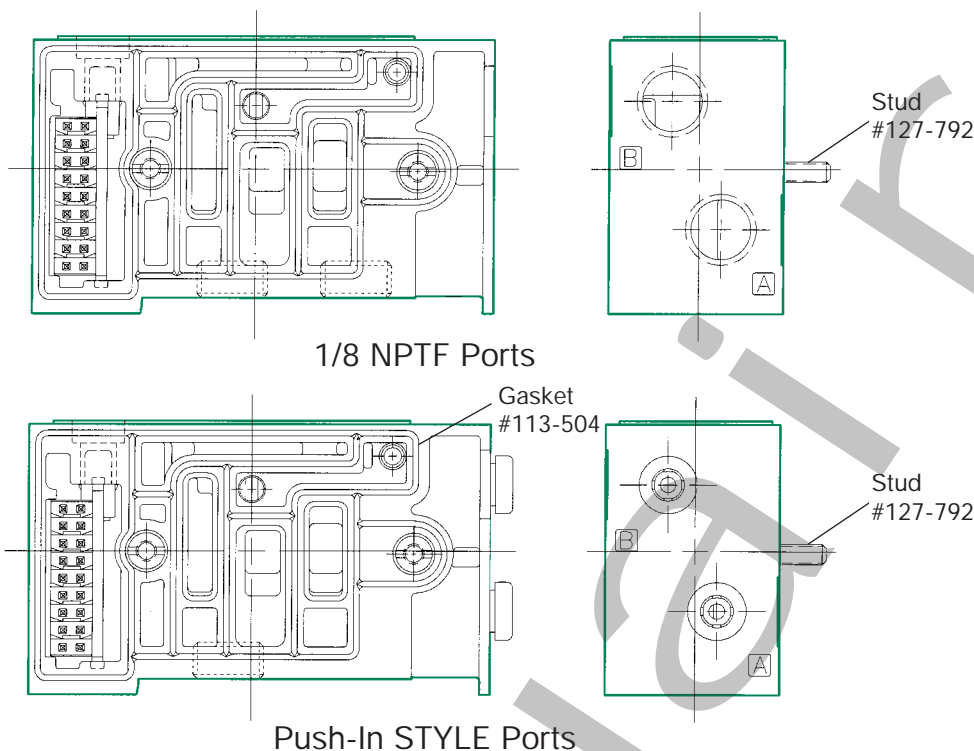
<b>A</b>	3.41 (86.6)
<b>B</b>	0.75 (19.1)
<b>C</b>	1.50 (38.1)
<b>D</b>	6.46 (164.1)
<b>E</b>	2.81 (71.4)
<b>F</b>	2.13 (54.1)
<b>G</b>	1.88 (47.8)
<b>H</b>	0.06 (1.6)
<b>I</b>	1.50 (38.1)
<b>J</b>	2.69 (68.3)
<b>K</b>	3.65 (92.7)
<b>L</b>	0.96 (24.4)
<b>M</b>	3.61 (91.7)
<b>N</b>	0.73 (18.5)
<b>O</b>	0.49 (12.5)
<b>P</b>	0.71 (18.1)
<b>Q</b>	1.00 (25.4)
<b>R</b>	1.50 (38.1)
<b>S</b>	7.42 (188.5)
<b>T</b>	0.50 (12.7)
<b>U</b>	2.38 (60.5)
<b>V</b>	2.32 (59.0)

dimensions = inches  
(in parenthesis = mm)



MK4-12

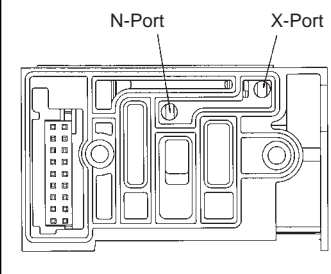
Manifolds



Instructions To Change Internal Pilot Supply To External Pilot Supply

- 1.) Disassemble manifold assembly
- 2.) Remove plug from the X-port
- 3.) Install plug into the N-port
- 4.) Reassemble manifold assembly

**NOTE:** End plate X-port must not be plugged or restricted in any way.

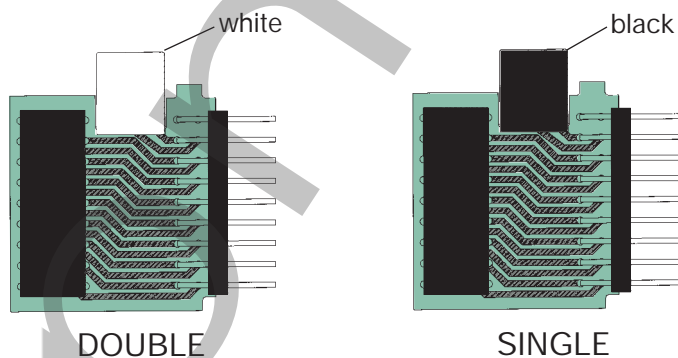


Manifold Description	1/8 NPTF	1/8 Push-In	5/32-4mm Push-In	1/4 Push-In
Single "Z-Board"™	239-935	239-937	239-939	239-982
Double "Z-Board"™	239-934	239-936	239-938	239-981

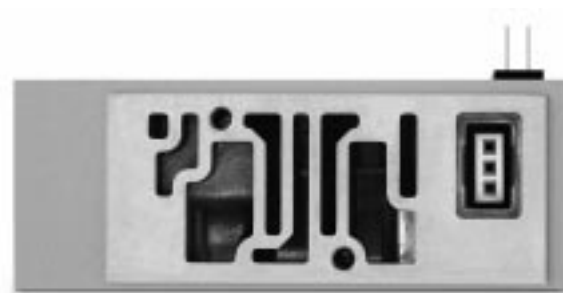
**NOTE:**

- For direct acting applications, factory will install plug into the N-port.
- For SPA applications, factory will install plug into the X-port.
- For manifolds ordered individually, pilot plugs will be packaged separately.
- If using internal pilot supply (Port N), the X-port in the left end plate must be plugged.

"Z-Boards"™



Manifold "Z-Boards"™	Part No.
Single "Z-Board"™	256-531
Double "Z-Board"™	256-530



Plug color visible from top of manifold block.



MARK 4

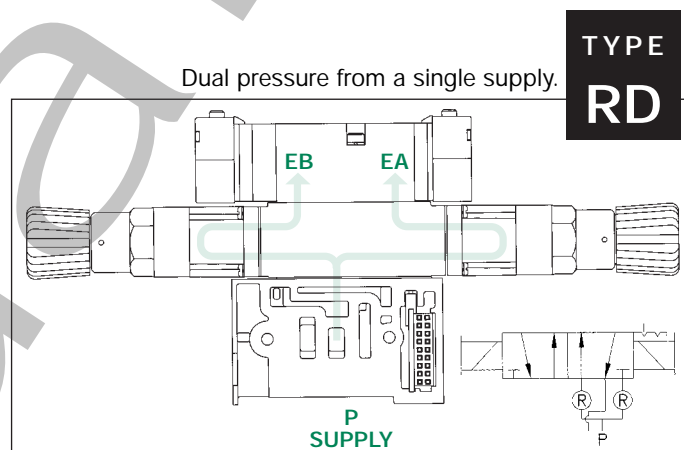
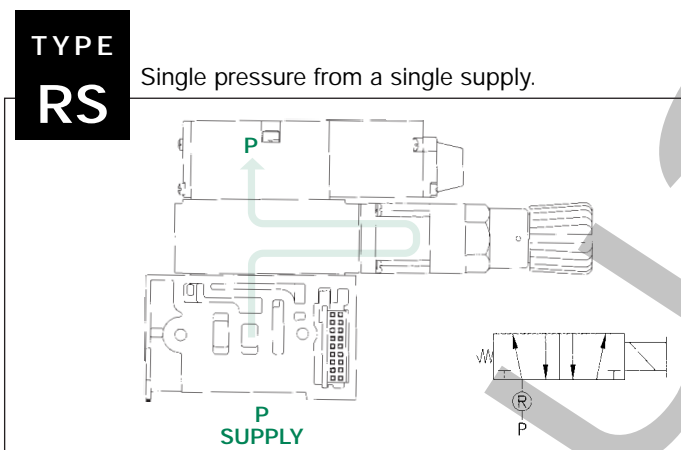
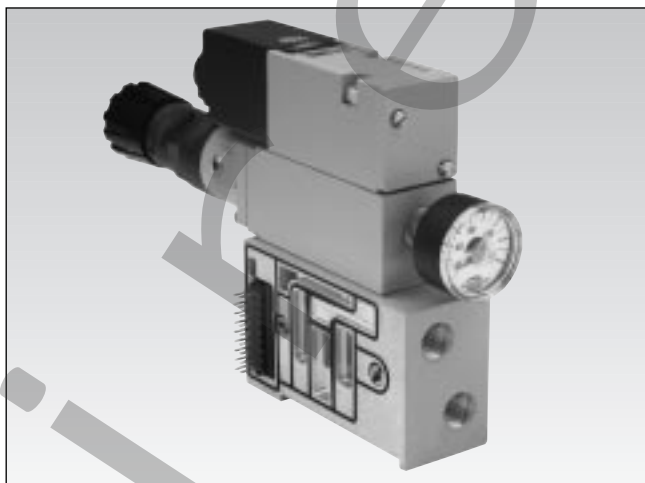
## Mark 4 sandwich pressure regulators

Types: RS / RD

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

**Example orders:**

	<b>TYPE RS</b>	<b>TYPE RD</b>
Valve unit only:	041SA400K0000R (AC)	041BB400M0000F (DC)
Regulator + mounting	041RS3Z1JN ASSEMBLED	041RD3Z2JN ASSEMBLED



### Mark 4 regulator model selection table (standard regulator/mounting combinations)

Regular Function	Port Size	FlexiBlok manifold with side & bottom cylinder ports				FlexiBlok manifold with side cylinder ports			
		0 - 30 PSIG		0 - 100 PSIG		0 - 30 PSIG		0 - 100 PSIG	
		single "z-board" <sup>TM</sup>	double "z-board" <sup>TM</sup>	single "z-board" <sup>TM</sup>	double "z-board" <sup>TM</sup>	single "z-board" <sup>TM</sup>	double "z-board" <sup>TM</sup>	single "z-board" <sup>TM</sup>	double "z-board" <sup>TM</sup>
<b>Type RS</b>	1/8	041RS3Z1JN	041RS3Z2JN	041RS7Z1JN	041RS7Z2JN	041RS3Z3JN	041RS3Z4JN	041RS7Z3JN	041RS7Z4JN
<b>UNIT ONLY 041RS700J</b>	1/4 *w/push-in	042RS3Z3JL	042RS3Z4JL	042RS7Z3JL	042RS7Z4JL	042RS3Z3JL	042RS3Z4JL	042RS7Z3JL	042RS7Z4JL
	1/8 *w/push-in	N/A	N/A	N/A	N/A	041RS3Z3JL	041RS3Z4JL	041RS7Z3JL	041RS7Z4JL
	5/32 (4mm)*w/push-in	N/A	N/A	N/A	N/A	04DRS3Z3JL	04DRS3Z4JL	04DRS7Z3JL	04DRS7Z4JL
<b>Type RS** with speed control</b>	1/8	041RS3Z5JN	041RS3Z6JN	041RS7Z5JN	041RS7Z6JN	041RS3Z7JN	041RS3Z8JN	041RS7Z7JN	041RS7Z8JN
	1/4 *w/push-in	042RS3Z7JL	042RS3Z8JL	042RS7Z7JL	042RS7Z8JL	042RS3Z7JL	042RS3Z8JL	042RS7Z7JL	042RS7Z8JL
	1/8 *w/push-in	N/A	N/A	N/A	N/A	041RS3Z7JL	041RS3Z8JL	041RS7Z7JL	041RS7Z8JL
	5/32 (4mm)*w/push-in	N/A	N/A	N/A	N/A	04DRS3Z7JL	04DRS3Z8JL	04DRS7Z7JL	04DRS7Z8JL
<b>Type RD</b>	1/8	041RD3Z1JN	041RD3Z2JN	041RD7Z1JN	041RD7Z2JN	041RD3Z3JN	041RD3Z4JN	041RD7Z3JN	041RD7Z4JN
	1/4 *w/push-in	042RD3Z3JL	042RD3Z4JL	042RD7Z3JL	042RD7Z4JL	042RD3Z3JL	042RD3Z4JL	042RS7Z3JL	042RS7Z4JL
	1/8 *w/push-in	N/A	N/A	N/A	N/A	041RD3Z3JL	041RD3Z4JL	041RD7Z3JL	041RD7Z4JL
	5/32 (4mm)*w/push-in	N/A	N/A	N/A	N/A	04DRD3Z3JL	04DRD3Z4JL	04DRD7Z3JL	04DRD7Z4JL

For "Z-Board"<sup>TM</sup> mounting descriptions see page MK4-6 or MK4-7.

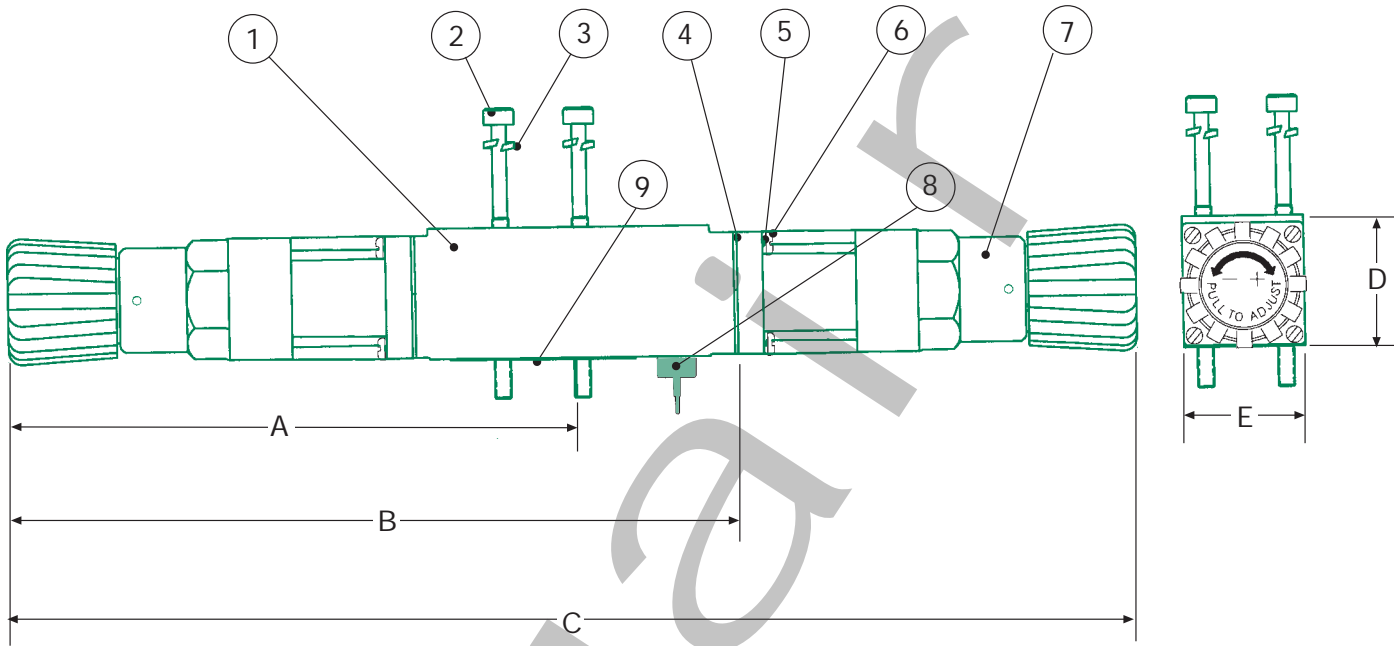
Port Tap options: For G tap ports, add "G" to the model number. Example: 041RS3Z1JG

\* Push-in fittings are not available on FlexiBlok manifolds with bottom cylinder ports. Available with side ports only.

\*\* Speed controls can only be used with TYPE RS. These model numbers include plug-in speed control + regulator + mounting. For more complete information on ordering with speed control, see page MK4-16.

Mark 4 sandwich pressure regulator dimensions

MARK 4



Dimensions					
	A	B	C	D	E
Inches	4.08	5.24	8.17	0.94	0.87
(mm)	(103.7)	(133.0)	(207.4)	(23.9)	(22.1)

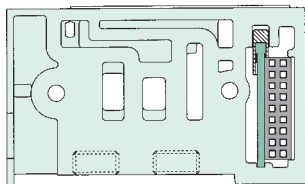
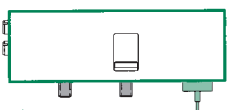
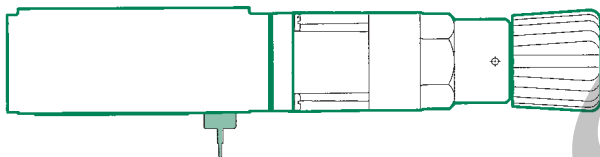
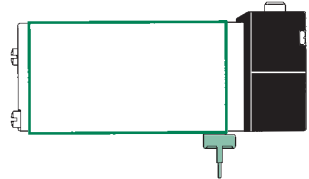
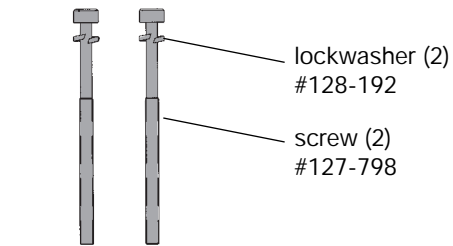
PARTS LIST			
DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Regulator Block (RD)	125-716
1	1	Regulator Block (RS)	125-715
2	2	Soc. Head Cap Screw	127-798
3	2	Lockwasher	128-192
4	*2	Gasket	113-472
5	**8	Lockwasher	128-172
6	**8	Screw	127-380
7	*2	Regulator Assembly (not sold separately)	
8	1	J Plug Board Encap.	230-835
9	1	Gasket	113-499
not shown	1	Retaining Shroud	125-717
not shown	1	Shroud	125-718
*		(1) Required for RS	
**		(4) Required for RS	
Pressure Gage			214-209





## Mark 4 valve/speed control/regulator plug-in assembly

MARK 4



EXAMPLE

**041BA400M000F**

Mark 4 single solenoid valve unit with plug-in assembly

**042RS3Z7JL**

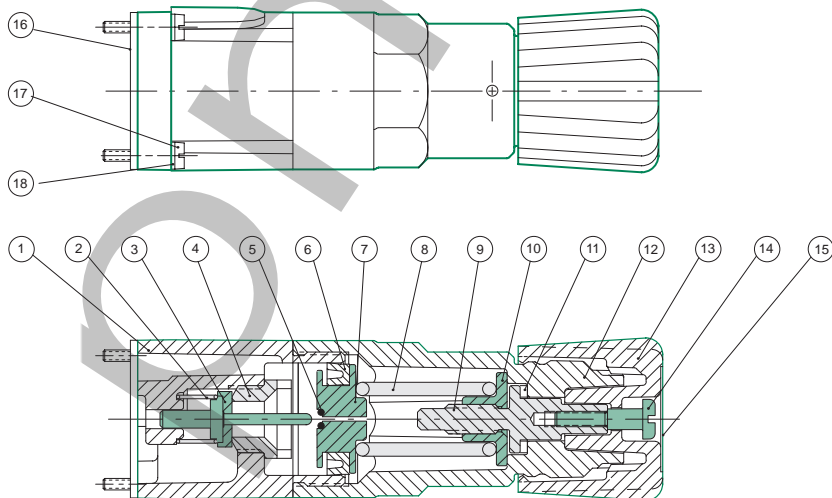
Single pressure regulator Type RS + speed control sandwich mounted on a 1/4 inch manifold with side ports and push-in fittings.

Example order: **041BA400M000F**  
 Valve: **24VDC**  
 Regulator: **042RS3Z7JL ASSEMBLED**

## Mark 4 regulator kits & service parts

**Regulator service kit 239-708**  
 (includes all parts marked with an ✦)

**Regulator unit kit (0-30 PSIG) 239-941**  
 (includes regulator assembly, gaskets, screws) **(0-100 PSIG) 239-940**



DET NO.	NO. REQ'D.	PART NAME	PART NO.
1	1	Regulator Body	101-706
* 2	1	Spring	115-226
* 3	1	Poppet Assembly	221-168
4	1	Poppet Seat	124-148
* 5	1	O-Ring	126-336
* 6	1	Seal U-Packing	124-302
7	1	Piston	125-618
8	1	Spring 0-30 PSIG 0-100 PSIG	115-352 115-342
9	1	Metering Screw	118-187
10	1	Spring Guide	112-369
* 11	1	Bearing	125-617
12	1	Bonnet	125-623
13	1	Knob	125-624
14	1	Screw	127-706
15	1	Label	122-992
* 16	1	Gasket	113-472
17	4	Screw	127-380
18	4	Lockwasher	128-172

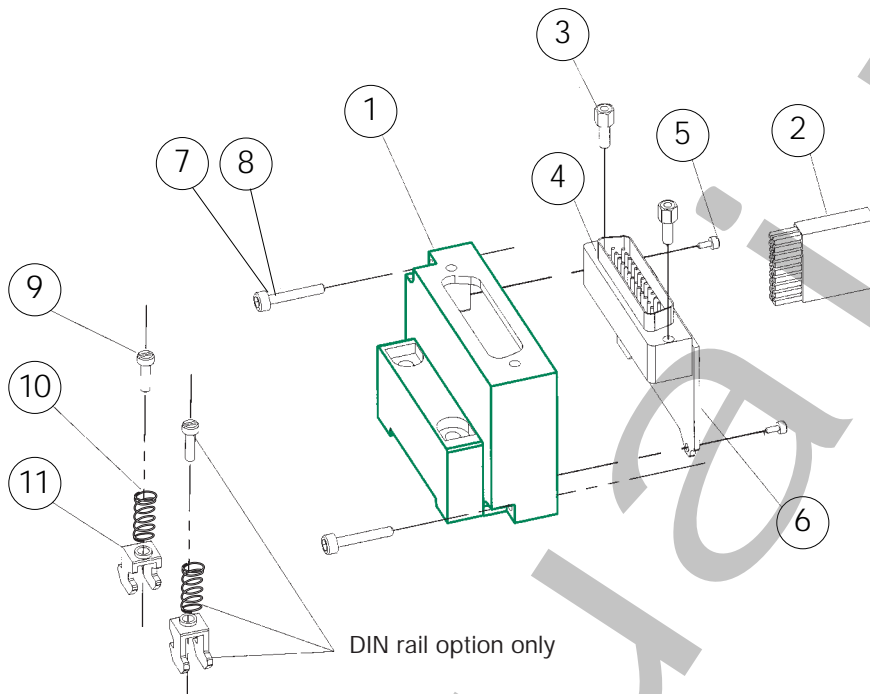
MK4-16



Mark 4 25-pin sub-D and terminal strip assemblies

MARK 4

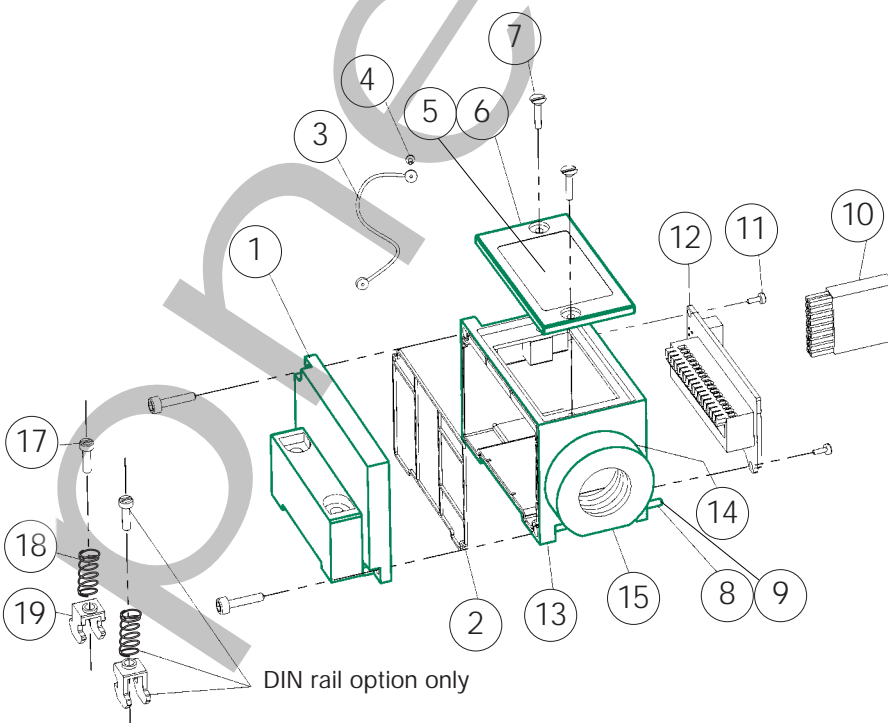
Sub-D Kit



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Housing	105-379
2	1	Transfer Connector	140-672
3	2	Hex Screw	127-825
4	1	Gasket	113-507
5	2	Screw	127-794
6	1	Sub-D Board Assembly	256-532
7	2	Screw	127-499
8	2	Lockwasher	128-192
9	2	Screw	127-472
10	2	Spring	115-355
11	2	Clamp	125-720

SUB-D HOUSING KITS	PART NO.
With DIN Rail	239-972
Without DIN Rail	239-968

Terminal Block Kit



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	LH Din Rail Mtg Cover	105-381
2	1	Gasket	113-503
3	1	Cover Strap	125-772
4	1	Stick Screw	127-180
5	1	Cover	105-384
6	1	Gasket	113-508
7	2	Screw	127-826
8	4	Screw	127-795
9	6	Lock Washer	128-192
10	1	Transfer Connector	140-672
11	3	Screw	127-794
12	1	Terminal Strip Board	256-560
13	1	Housing	125-765
14	1	Gasket	113-509
15	1	Adapter 1/2" NPTF	119-598
*16	2	Adapter Mtg. Screw	127-827
17	2	Screw	127-472
18	2	Spring	115-355
19	2	Clamp	125-720

\* Attaches det #15, not shown for clarity.

TERMINAL BLOCK KITS	PART NO.
With DIN Rail	239-1023
Without DIN Rail	239-1022

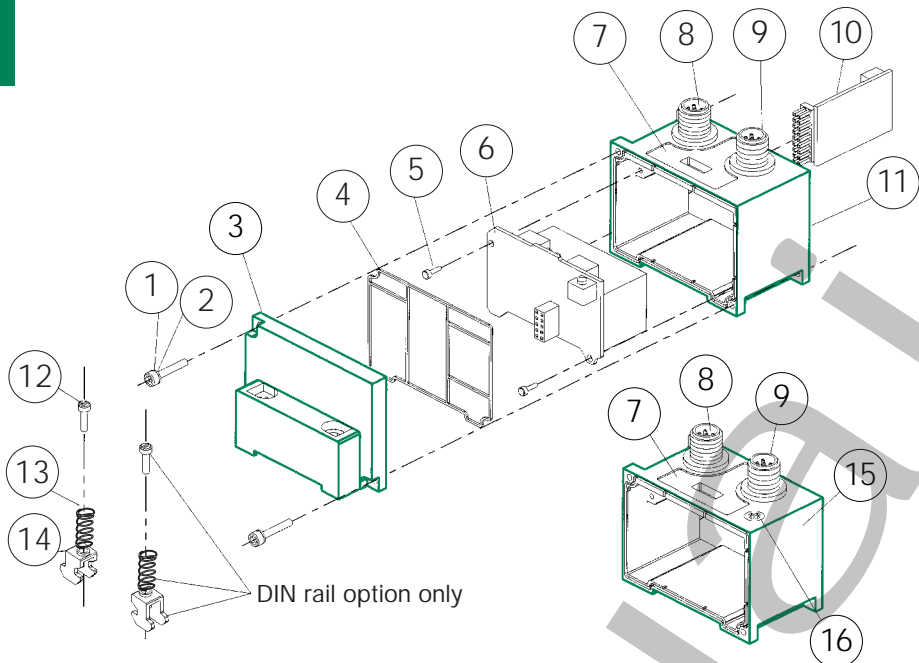
MK4-17



# Mark 4 bus electronic interface and I/O block assemblies

MARK 4


## Bus Electronic Interface Kit

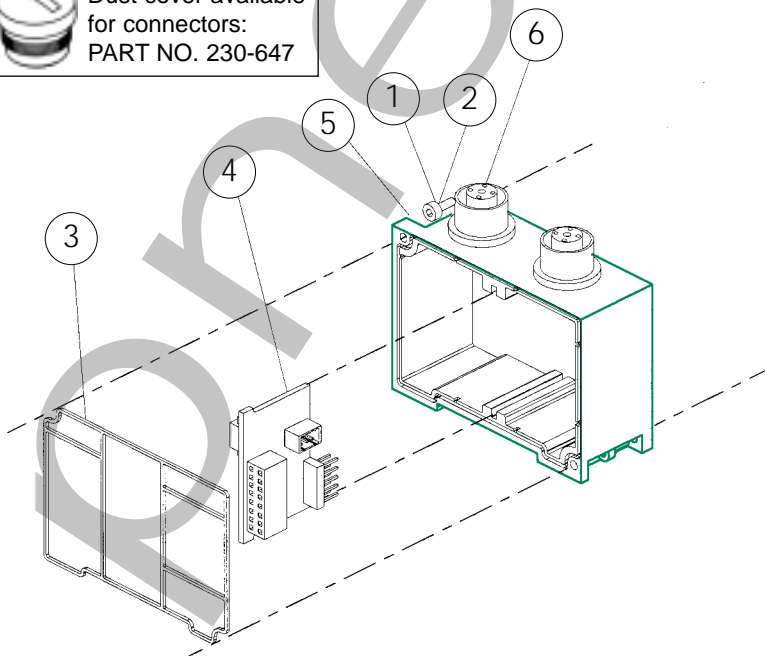


DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	4	Screw	127-795
2	4	Lockwasher	128-192
3	1	LH Din Rail Mtg Cover	105-381
4	1	Gasket	113-503
5	2	Screw	127-794
6	1	LonWorks™ PCB Assembly	256-535
6	1	SMART Dist. System PCB Assembly	256-537
6	1	DeviceNet™ PCB Assembly	256-538
7	1	Nameplate	122-1056
8	1	4 Pin Connector	230-857
9	1	5 Pin Connector	230-856
10	1	Transfer Board Assembly	256-552
11	1	Housing (DeviceNet™ & SDS)	125-763
12	2	Screw	127-472
13	2	Spring	115-355
14	2	Clamp	125-720
15	1	Housing (LonWorks)	125-729
16	1	Sealscrew	127-803

BUS ELECTRONIC INTERFACE KITS	w/DIN RAIL	w/o DIN RAIL
DeviceNet™	239-1016l	239-1017
SMART Distributed System	239-1018	239-1019
LonWorks™	239-1020	239-1021

## I/O Block Kit

 Dust cover available for connectors:  
PART NO. 230-647



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	Screw	127-795
2	2	Lockwasher	128-192
3	1	Gasket	113-503
4	1	I/O PCB Assembly	See chart
5	1	Housing	125-724
*6	2	3 Pin Output Connector	See chart

\*Input shown (female connector)

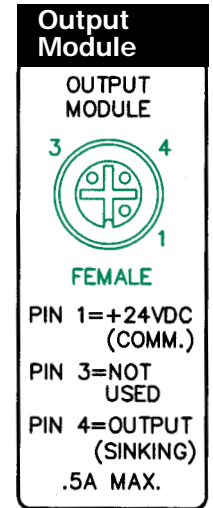
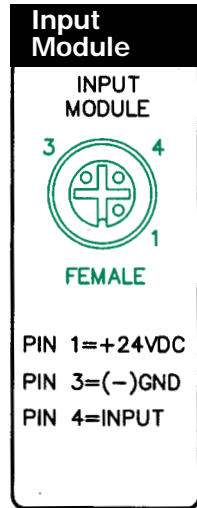
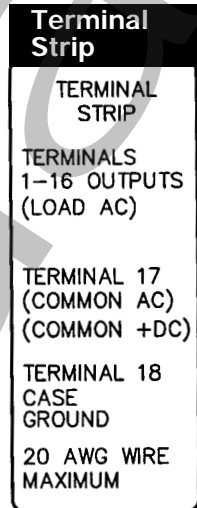
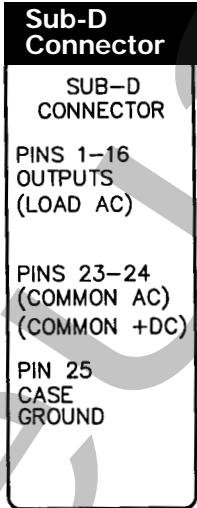
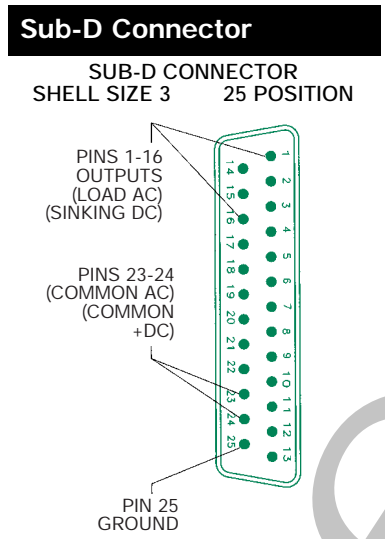
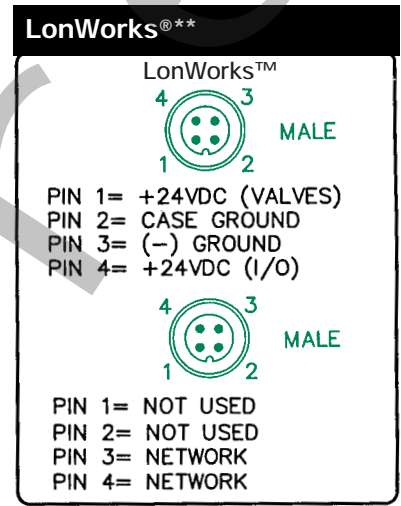
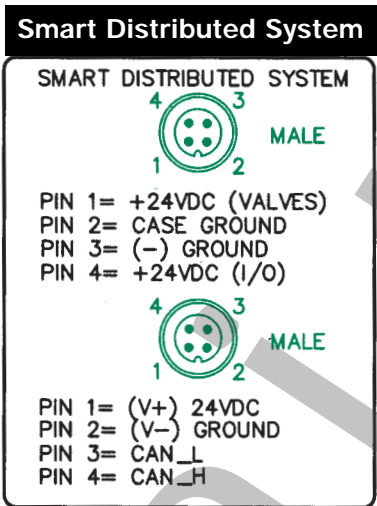
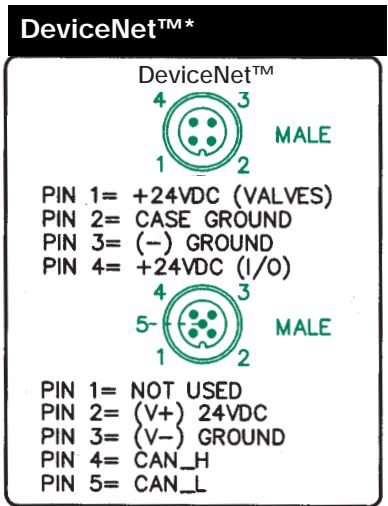
HOUSING TYPE	OUTPUT	INPUT
Conn. #	230-858	230-849
Conn. Type	Female	Female
Master Kit#	239-975	239-974
Slave Kit#	239-977	239-976

BOARD TYPE	MASTER	SLAVE
Part #	256-553	256-554

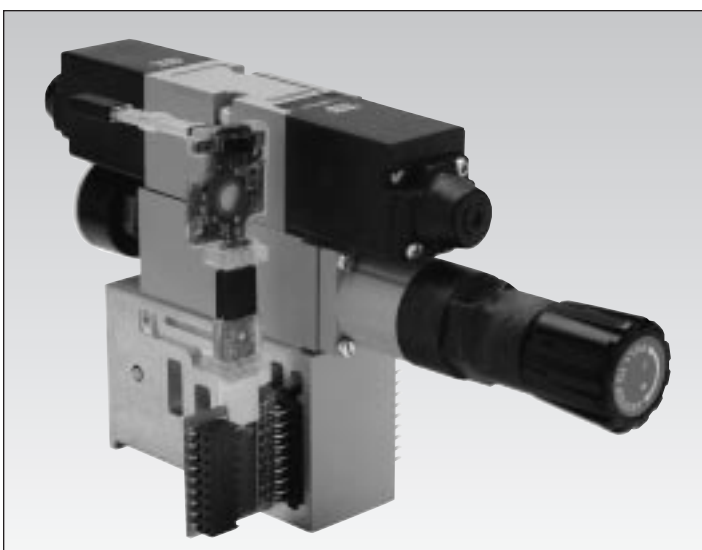
MK4-18

Mark 4 pin-out diagrams for all electrical connections

MARK 4



- Suggested Sub-D Cable Specifications:**
- Sub-D shell thickness should be a maximum of 0.720 inches.
  - Wire used in jacketed cable should be U.L. listed, CSA approved, and meet 300V RMS and 105°C insulation, 3 amp current rating per conductor.



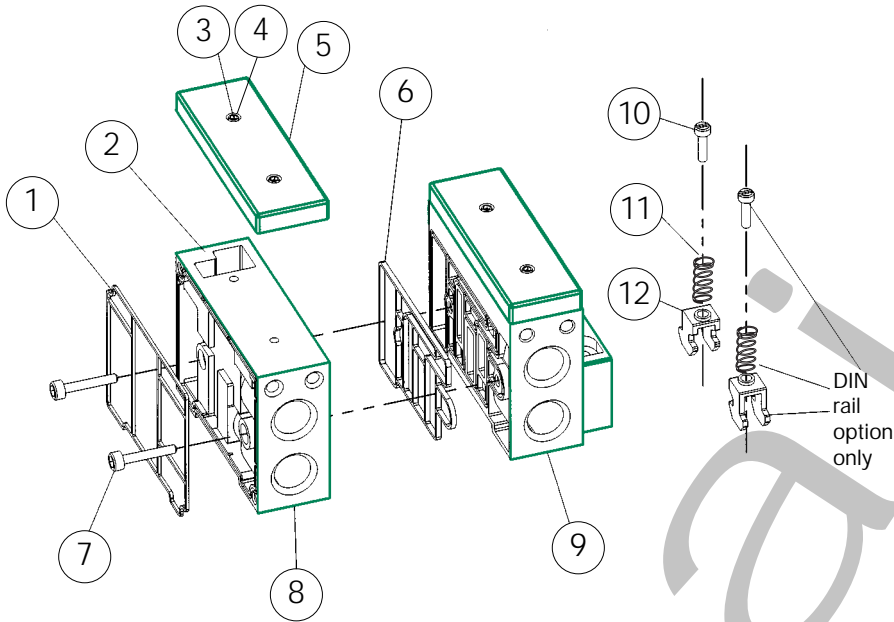
Complete elimination of internal wiring!

\*Registered Trademark of Allen-Bradley  
\*\*Registered Trademark of Echelon Corp.



## End plate assembly kit

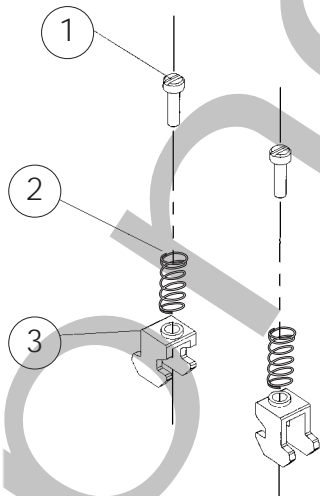
MARK 4



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Gasket	113-503
2	2	Gasket	113-500
3	4	Screw	127-795
4	4	Lockwasher	128-192
5	2	End Plate Cover	105-377
6	1	Gasket	113-504
7	2	Screw Assembly	127-563
8	1	LH End Plate	See Chart
9	1	RH End Plate	See Chart
10	2	Screw	127-472
11	2	Spring	115-355
12	2	Clamp	125-720

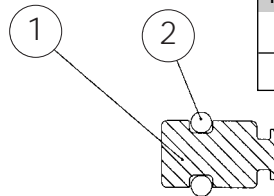
FITTING TYPE	1/4 NPTF	ISO7/1 Rc1/4	ISO228/1-G1/4	1/4 Push-in	6mm Push-in	8mm Push-in
LH End Plate	104-610	104-632	104-633	204-584	204-586	204-588
RH End Plate	104-611	104-630	104-631	204-585	204-587	204-589
Kit # w/o DIN Rail	239-943	239-944	239-945	239-946	239-947	239-948
Kit #w/DIN Rail	239-950	239-951	239-952	239-953	239-954	239-955

## DIN rail clamp kit 239-980



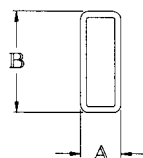
DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	4	Screw	127-472
2	4	Spring	115-355
3	4	Clamp	125-720

## Internal pilot plug assembly 213-492



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Blocking Plug	125-730
2	1	O-Ring	126-427

## Blocking disks

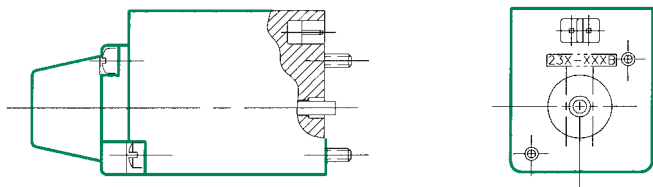


PORT	PART NO.	A	B
P	124-307	.273	.690
EA	124-308	.188	.729
EB	124-309	.238	.564

MK4-20

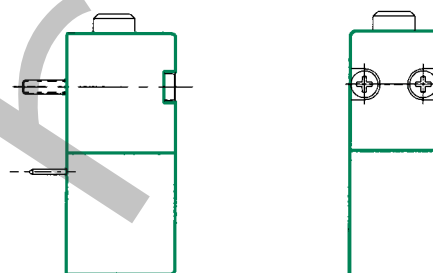
Mark 4 solenoid assemblies

Direct solenoid



VDC	PART NO.		VAC	PART NO.	
	2-Pos	3-Pos		2-Pos	3-Pos
6	236-316	236-334	220-240/60 200-230/50	237-1017	237-1014
10	236-317	236-335	110-120/60 100-115/50	237-1018	237-1015
12	236-318	236-336	24/50-60	237-1019	237-1016
24	236-319	236-337	NOTE: Mounting screws included.		
48	236-320	236-338			
115	236-321	236-339			

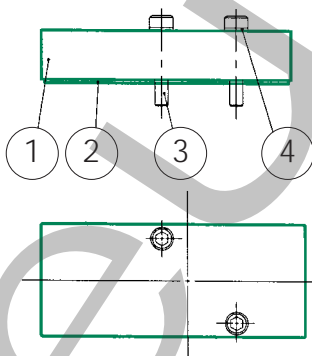
Solenoid air pilot



VDC	PART NO.
24	236-348

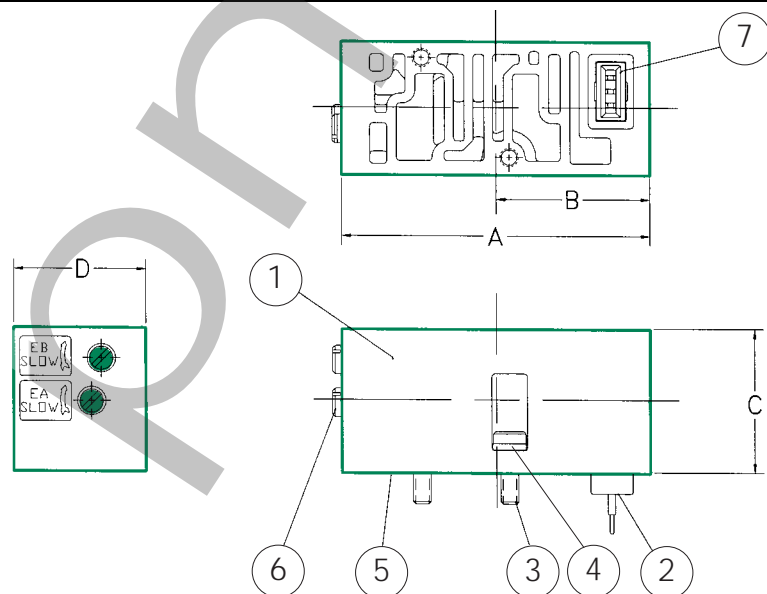
MARK 4

Blank station plate kit 239-915



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Blank Station Plate	104-638
2	1	Gasket	113-505
3	2	Screw	127-536
4	2	Lockwasher	128-192

Speed control kit 239-916



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Speed Control Body	(not sold separately)
2	1	J Plug Board Encap.	230-835
3	2	Screw	127-795
4	2	Lockwasher	128-192
5	1	Gasket	113-499
6	2	Metering Screw	118-198
7	1	Retaining Shroud	125-717
not shown	1	Shroud	125-718
not shown	2	Nylon Rod (for metering screw)	125-259

Dimensions

	A	B	C	D
Inches	2.04	1.02	0.94	0.87
(mm)	(51.8)	(25.9)	(23.8)	(22.1)

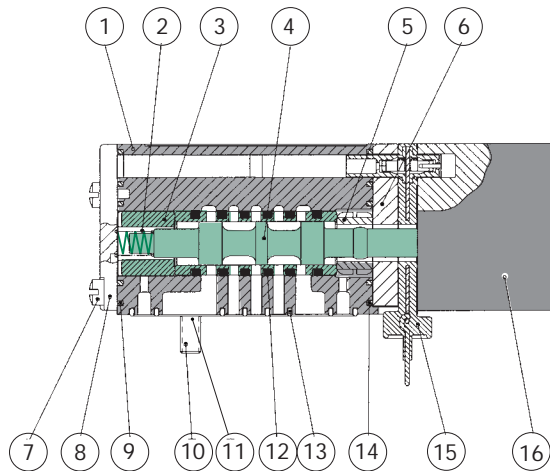
MK4-21



Mark 4 direct acting valve service kits and parts-2 position

MARK 4

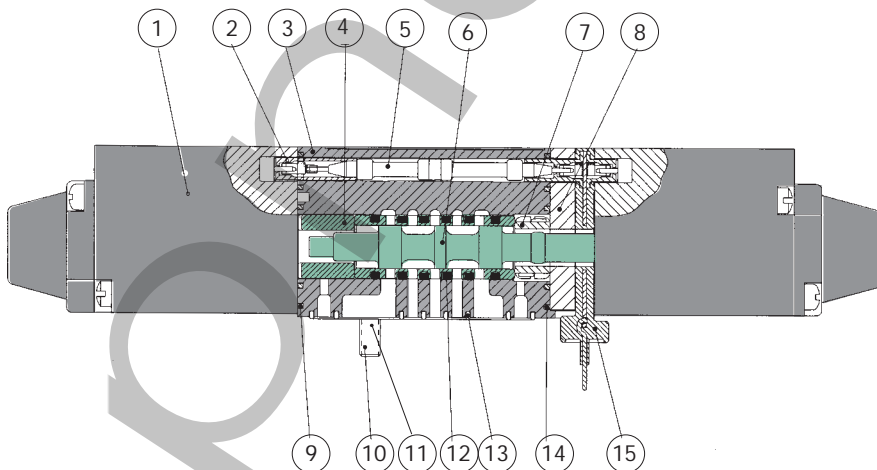
Kit No. MK4-K1\* (for models 041SA4, 042SA4, 04DSA4)



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Valve Body (not sold separately)	
*2	1	Spring	115-203
*3	1	Bumper	114-183
4	1	Sleeve Assembly w/Seals	209-547
*5	1	Detent Body	110-109
6	1	Spacer	116-496
7	2	Screw	127-797
8	1	Spring Cover	104-609
*9	1	Gasket	113-502
10	2	Screw	127-797
11	2	Lockwasher	128-192
*12	6	Seal	126-133
*13	1	Gasket	113-499
*14	1	Gasket	113-501
15	1	Solenoid Board Encap.	
16	1	Solenoid Capsule Assembly	

\* Indicates parts included in service kit.

Kit No. MK4-K1\* (for models 041SS4, 042SS4, 04DSS4)



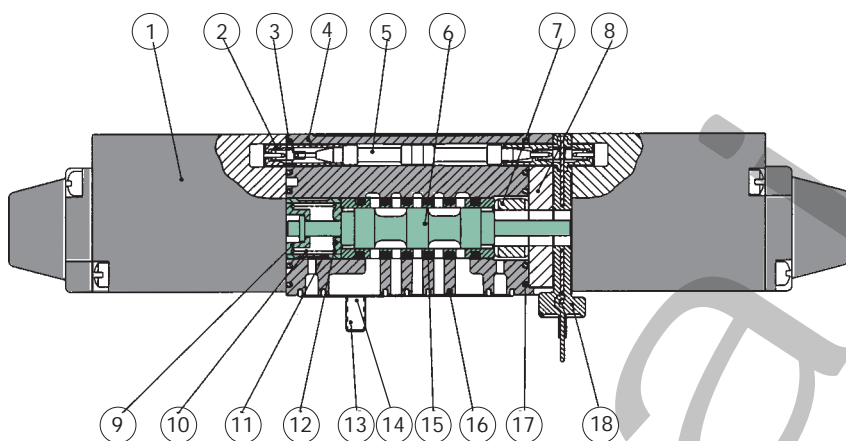
DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	Solenoid Capsule Assembly	
2	1	Duck Bill Housing	125-719
3	1	Valve Body (not sold separately)	
*4	1	Bumper	114-183
5	1	A-B Recept. Encap.	230-834
6	1	Sleeve Assembly W/Seals	209-547
*7	1	Detent Assembly	210-111
8	1	Spacer	116-496
*9	1	Gasket	113-502
10	2	Screw	127-797
11	2	Lockwasher	128-192
*12	6	Seal	126-133
*13	1	Gasket	113-499
*14	1	Gasket	113-501
15	1	Solenoid Board Encap.	

\* Indicates parts included in service kit.

MK4-22

Mark 4 **direct acting** valve service kits and parts-3 position

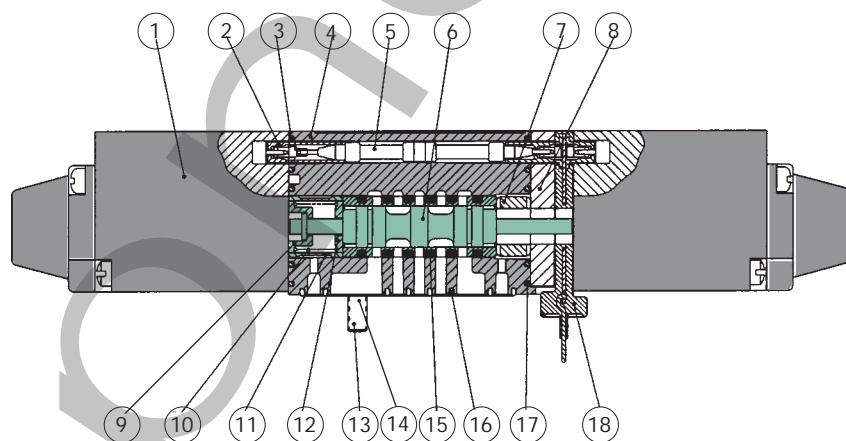
**Kit No. MK4-K3\*** (for models 041SS5, 042SS5, 04DSS5)



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	Solenoid Capsule Assembly	
2	1	Duck Bill Housing	125-719
*3	1	Gasket	113-502
4	1	Valve Body (not sold separately)	
5	1	A-B Recept. Encap.	230-834
6	1	Sleeve Assembly w/Seals	209-548
*7	1	Bumper	114-171
8	1	Spacer	116-496
*9	1	Spring Retainer	116-396
*10	1	Spring	115-291
*11	1	Spacer	116-397
*12	1	Spring Retainer	116-395
13	2	Screw	127-797
14	2	Lockwasher	128-192
*15	6	Seals	126-133
*16	1	Gasket	113-499
*17	1	Gasket	113-501
18	1	Solenoid Board Encap.	

\* Indicates parts included in service kit.

**Kit No. MK4-K3\*** (for models 041SS6, 042SS6, 04DSS6)



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	Solenoid Capsule Assembly	
2	1	Duck Bill Housing	125-719
*3	1	Gasket	113-502
4	1	Valve Body (not sold separately)	
5	1	A-B Recept. Encap.	230-834
6	1	Sleeve Assembly w/Seals	209-549
*7	1	Bumper	114-171
8	1	Spacer	116-496
*9	1	Spring Retainer	116-396
*10	1	Spring	115-291
*11	1	Spacer	116-397
*12	1	Spring Retainer	116-395
13	2	Screw	127-797
14	2	Lockwasher	128-192
*15	6	Seals	126-133
*16	1	Gasket	113-499
*17	1	Gasket	113-501
18	1	Solenoid Board Encap.	

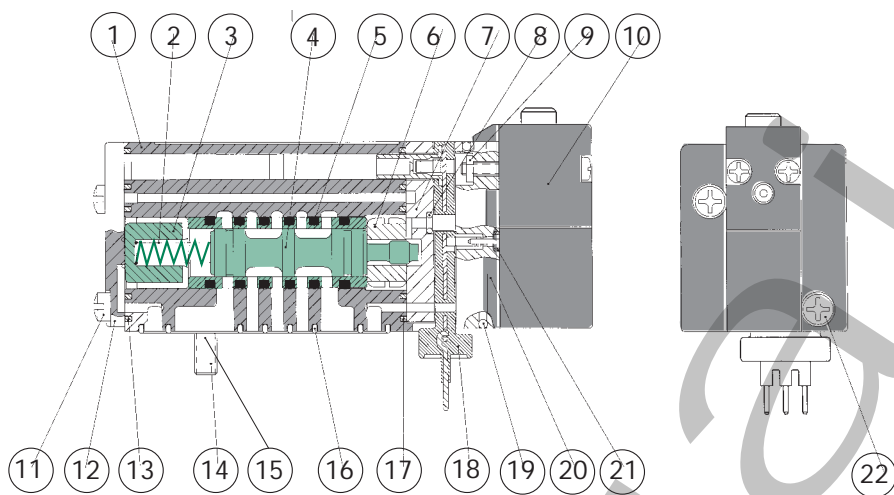
\* Indicates parts included in service kit.



Mark 4 solenoid air pilot assembly service kits and parts-2 position

MARK 4

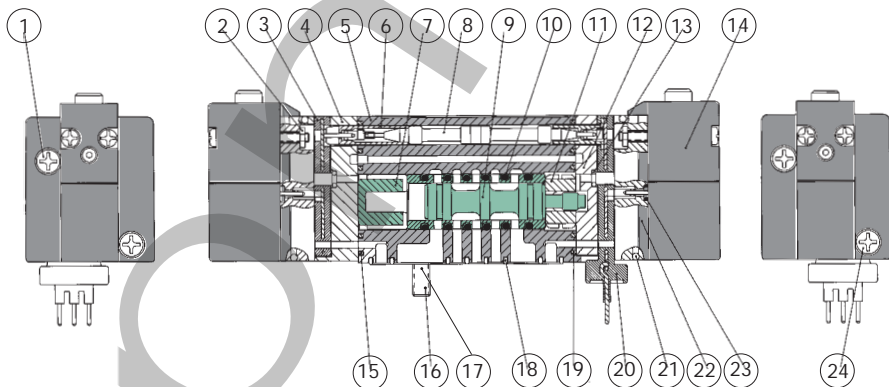
Kit No. SPA4-K1\* (for models 041BA4, 042BA4, 04DBA4)



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	1	Body (not sold separately)	
*2	1	Spring	115-356
*3	1	Spring Retainer	116-502
4	1	Sleeve Ass'y W/Seals	209-555
*5	6	Seals	126-133
*6	1	Detent Body	110-117
7	1	Spacer	116-500
*8	2	Gasket	113-512
9	2	M1.6 Hex Jam Nut	128-320
10	1	Sol. Capsule Ass'y	See pg.MK4-21
11	2	Screw	127-260
12	1	Spring Cover	104-609
*13	1	Gasket	113-502
14	2	Screw	127-797
15	2	Lockwasher	128-192
*16	1	Gasket	113-499
*17	1	Gasket	113-501
18	1	Solenoid Board Encap.	
19	2	3/64 Ball	121-142
20	1	Pilot Adapter	119-601
*21	1	Gasket	113-513
22	2	M2 x 8mm Screw	127-829

\* Indicates parts included in service kit.

Kit No. SPA4-K1\* (for models 041BB4, 042BB4, 04DBB4)



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	M2 x 14mm Screw	127-828
2	4	M1.6 Hex Jam Nut	128-320
3	1	Solenoid Board Encap.	230-854
4	1	Spacer	116-501
5	1	Body (not sold separately)	
6	1	Duck Bill Housing	125-719
*7	1	Spring Retainer	116-502
8	1	A-B Recept. Encap.	230-834
9	1	Sleeve Ass'y W/Seals	209-555
*10	6	Seals	126-133
*11	6	Detent Assembly	210-122
12	1	Spacer	116-500
*13	1	Gasket	113-512
14	2	Sol. Capsule Ass'y	See pg.MK4-21
*15	1	Gasket	113-502
16	2	Screw	127-797
17	2	Lockwasher	128-192
*18	1	Gasket	113-499
*19	1	Gasket	113-501
20	1	Solenoid Board Encap.	
21	4	3/64 Ball	121-142
22	2	Pilot Adapter	119-601
*23	1	Gasket	113-513
24	2	M2 x 8mm Screw	127-829

\* Indicates parts included in service kit.

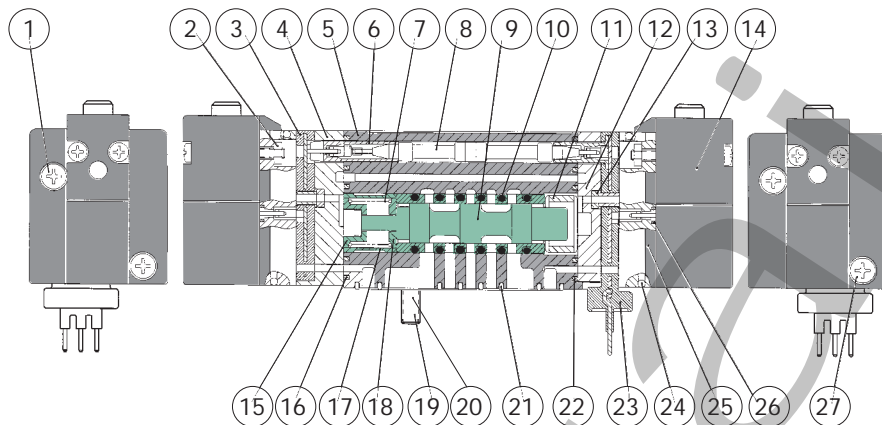
MK4-24



Mark 4 solenoid air pilot assembly service kits and parts-3 position

MARK 4

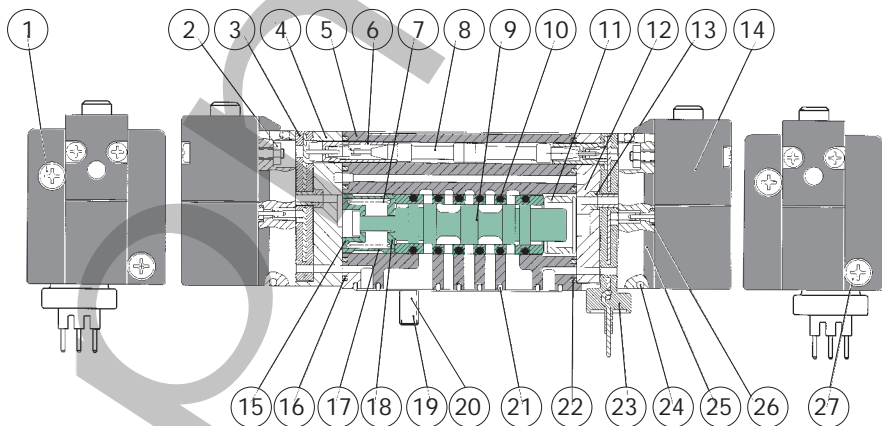
Kit No. SPA4-K3\* (for models 041BB5, 042BB5, 04DBB5)



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	Screw	127-828
2	4	Hex. Nut	128-320
3	1	Sol. Board Encap.	230-854
4	1	Spacer	116-501
5	1	Body (not sold separately)	
6	1	Duck Bill Housing	125-719
*7	1	Spring	115-291
8	1	A-B Recept. Encap.	230-834
9	1	Sleeve Ass'y w/Seals	209-556
*10	6	Seals	126-133
*11	1	Bumper	114-171
12	1	Spacer	116-500
*13	2	Gasket	113-512
14	2	Sol. Capsule Ass'y	See pg.MK4-21
*15	1	Spring Retainer	116-396
*16	1	Gasket	113-502
*17	1	Spacer	116-397
*18	1	Spring Retainer	116-395
19	2	Screw	127-797
20	2	Lockwasher	128-192
*21	1	Gasket	113-499
*22	1	Gasket	113-501
23	1	Solenoid Board Encap.	
24	4	3/64 Ball	121-142
25	2	Pilot Adapter	119-601
26	2	Gasket	113-513
27	2	Screw	127-829

\* Indicates parts included in service kit.

Kit No. SPA4-K3\* (for models 041BB6, 042BB6, 04DBB6)



DET. NO.	NO. REQ'D	PART NAME	PART NO.
1	2	Screw	127-828
2	4	Hex. Nut	128-320
3	1	Sol. Board Encap.	230-854
4	1	Spacer	116-501
5	1	Body (not sold separately)	
6	1	Duck Bill Housing	125-719
*7	1	Spring	115-291
8	1	A-B Recept. Encap.	230-834
9	1	Sleeve Ass'y w/Seals	209-557
*10	6	Seals	126-133
*11	1	Bumper	114-171
12	1	Spacer	116-500
*13	2	Gasket	113-512
14	2	Sol. Capsule Ass'y	See pg.MK4-21
*15	1	Spring Retainer	116-396
*16	1	Gasket	113-502
*17	1	Spacer	116-397
*18	1	Spring Retainer	116-395
19	2	Screw	127-797
20	2	Lockwasher	128-192
*21	1	Gasket	113-499
*22	1	Gasket	113-501
23	1	Solenoid Board Encap.	
24	4	3/64 Ball	121-142
25	2	Pilot Adapter	119-601
26	2	Gasket	113-513
27	2	Screw	127-829

\* Indicates parts included in service kit.

MK4-25