



# Directair 4 Series

Inline Valves

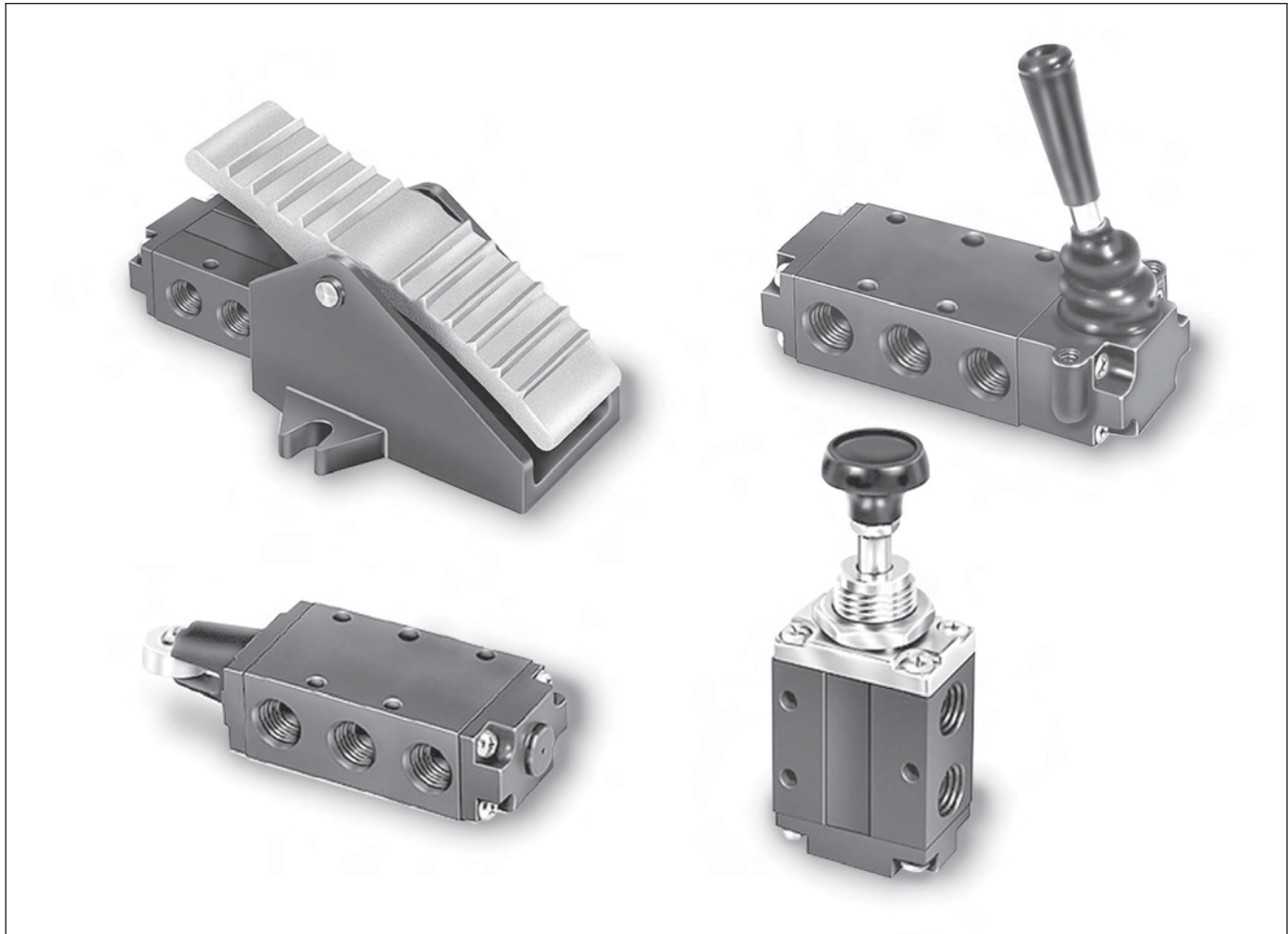
Manual / Mechanical

3 & 4-Way, 3 & 5-Port,

2 & 3-Position

Section F

[www.parker.com/pneu/directair](http://www.parker.com/pneu/directair)



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**BOLD ITEMS ARE MOST POPULAR.**



## Directair 4 Series

### Specifications

#### Inline Valve

- 1/4" Port
- 4-Way, 2 & 3-Position
- 3-Way, 2 & 3-Position

#### Manual Operators

- Lever
- Pedal
- Treadle
- Button

#### Mechanical Operators

- Roller

#### Packed Bore Style - .83 Cv

- Stainless Steel Spool
- Fluorocarbon O-rings

### Operating Pressure

- Vacuum to 150 PSI  
 (28" Hg to 1035 kPa)

### Operating Temperature

- 32 to 175°F (0 to 80°C)



**Button Operated**



**Lever Operated**



**Treadle Operated**

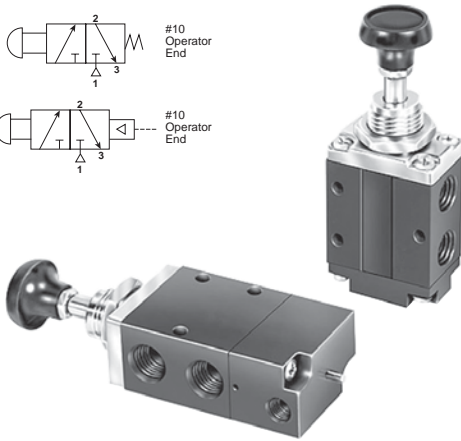
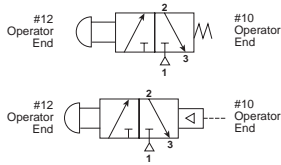
Brass Poppet
LV / EZ
M0
Viking Lever
42
Directair 4
Directair 2

**F**

## Button Operated

**524411000** Button Operated, Spring Return

**524451000** Button Operated, Pilot Return



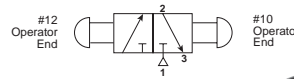
### Spring Return

*Normal Position* – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

*Actuated Position* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

## Button Operated

**524431000** Button Operated, Manual Return



### Manual Return

*Operator pulled last* – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

*Operator pushed last* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

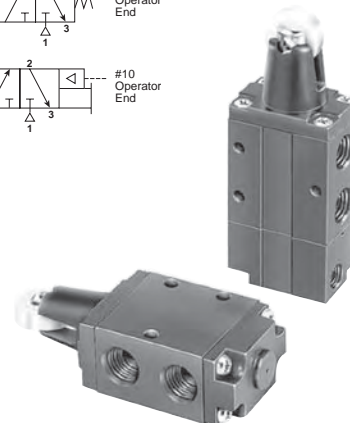
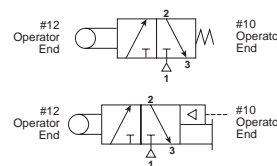
## Roller Operated

**524211000** Delrin Roller Operated, Spring Return

**524251000** Delrin Roller Operated, Pilot Return

**524A11000** Steel Roller Operated, Spring Return

**524A51000** Steel Roller Operated, Pilot Return



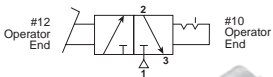
### Roller

*Normal Position* – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

*Actuated Position* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

## Treadle Operated

**524931000** Treadle Operated



### Treadle

*Toe pressed last* – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

*Heel pressed last* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.



#### CAUTION:

*This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217. See Accessories page for Pedal Guard Kit.*

Brass  
Poppet

LV / EZ

M0

Viking  
Lever

42

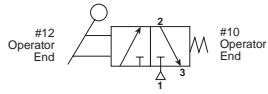
Directair  
4

Directair  
2

F

## Lever Operated

**524811000** Lever Operated, Spring Return



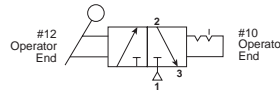
### Spring Return

*Normal Position* – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

*Actuated Position* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

## Lever Operated

**524831000** Lever Operated, Manual Return



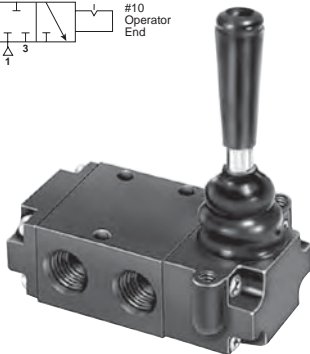
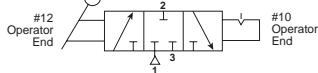
### Manual Return

*Operator pushed last (toward body)* – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

*Operator pulled last (away from body)* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

## Lever Operated – 3-Position

**523831000** Lever Operated, 3-Position Detented, All Ports Blocked



### Lever

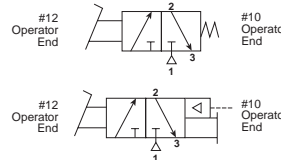
*Operator pushed last (toward body)* – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

*Operator pulled last (away from body)* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.

*Center Position* – All Ports blocked.

## Pedal Operated

**524711000** Pedal Operated, Spring Return  
**524751000** Pedal Operated, Pilot Return



### Pedal

*Normal Position* – Pressure at Inlet Port 1 is blocked. Outlet Port 2 is connected to Exhaust Port 3.

*Actuated Position* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Exhaust Port 3 is blocked.



### CAUTION:

*This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.*

*See Accessories page for Pedal Guard Kit.*

Brass  
Poppet

LV / EZ

M0

Viking  
Lever

42

Directair  
4

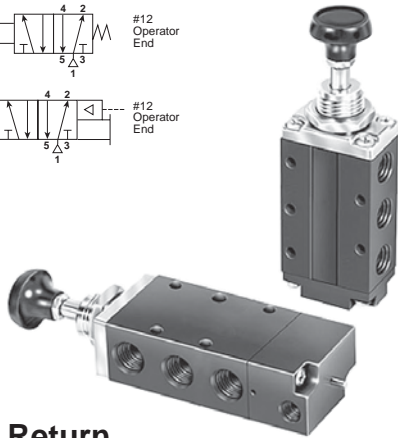
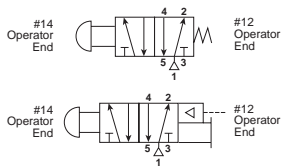
Directair  
2

F

## Button Operated

**520411000** Button Operated, Spring Return

**520451000** Button Operated, Pilot Return



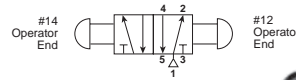
### Spring Return

*Normal Position* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

*Actuated Position* – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

## Button Operated

**520431000** Button Operated, Manual Return



### Manual Return

*Operator pulled last* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

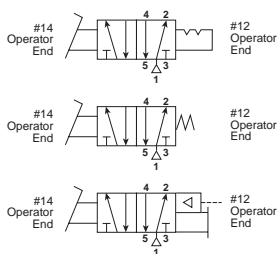
*Operator pushed last* – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

## Pedal & Treadle Operated

**520711000** Pedal Operated, Spring Return

**520751000** Pedal Operated, Pilot Return

**520931000** Treadle Operated



### Treadle

*Toe pressed last* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

*Heel pressed last* – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.



#### CAUTION:

*This valve shall not be used to actuate a punch press. Do not use this valve on punch presses or press brakes. See OSHA 1910.217.*

*See Accessories page for Pedal Guard Kit.*

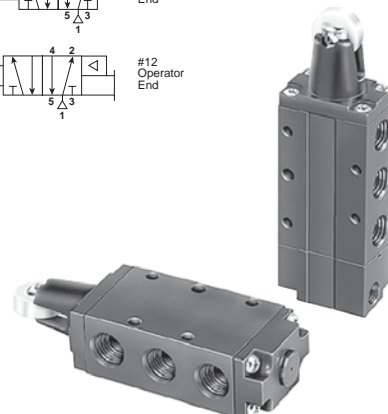
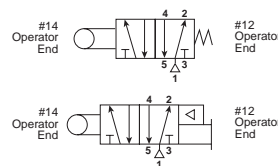
## Roller Operated

**520211000** Delrin Roller Operated, Spring Return

**520251000** Delrin Roller Operated, Pilot Return

**520A11000** Steel Roller Operated, Spring Return

**520A51000** Steel Roller Operated, Pilot Return



### Roller

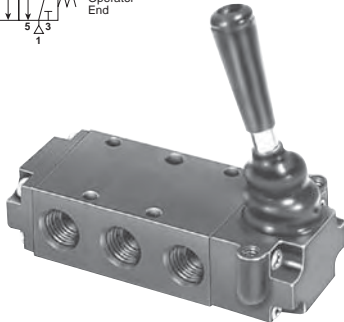
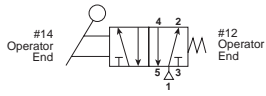
*Normal Position* – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

*Actuated Position* – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.



## Lever Operated

**520811000** Lever Operated, Spring Return



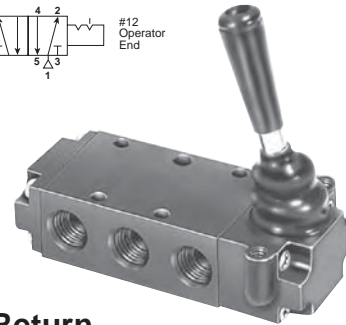
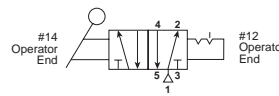
### Spring Return

**Normal Position** – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

**Actuated Position** – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

## Lever Operated

**520831000** Lever Operated, Manual Return



### Manual Return

**Operator pushed last (toward body)** – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

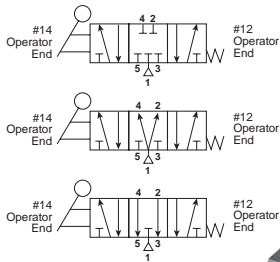
**Operator pulled last (away from body)** – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

## Lever Operated, 3-Position Lever, Spring Centered

**521811000** Type 1, Closed Center

**522811000** Type 2, Pressure Center

**529811000** Type 9, Exhaust Center



### Spring Centered, 3-Position

**Lever Pulled (away from body)** – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

**Lever Pushed (toward body)** – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

**Centered Position** –

**Type 1:** All Ports blocked.

**Type 2:** Pressure at Inlet Port 1 is connected to Outlet Ports 2 & 4.

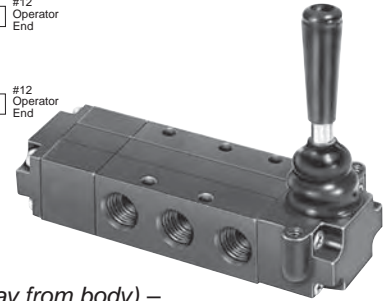
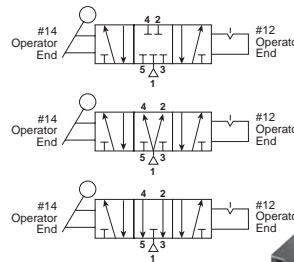
**Type 9:** Pressure at Inlet Port 1 is blocked. Outlet Ports 2 & 4 are connected to Exhaust Ports 3 & 5.

## Lever Operated, 3-Position Lever, Detented

**521831000** Type 1, Closed Center

**522831000** Type 2, Pressure Center

**529831000** Type 9, Exhaust Center



### Detented, 3-Position

**Lever Pulled Last (away from body)** – Pressure at Inlet Port 1 is connected to Outlet Port 4. Outlet Port 2 is connected to Exhaust Port 3.

**Lever Pushed Last (toward body)** – Pressure at Inlet Port 1 is connected to Outlet Port 2. Outlet Port 4 is connected to Exhaust Port 5.

**Centered Position** –

**Type 1:** All Ports blocked.

**Type 2:** Pressure at Inlet Port 1 is connected to Outlet Ports 2 & 4.

**Type 9:** Pressure at Inlet Port 1 is blocked. Outlet Ports 2 & 4 are connected to Exhaust Ports 3 & 5.

Brass  
Poppet

LV / EZ

MO

Viking  
Lever

42

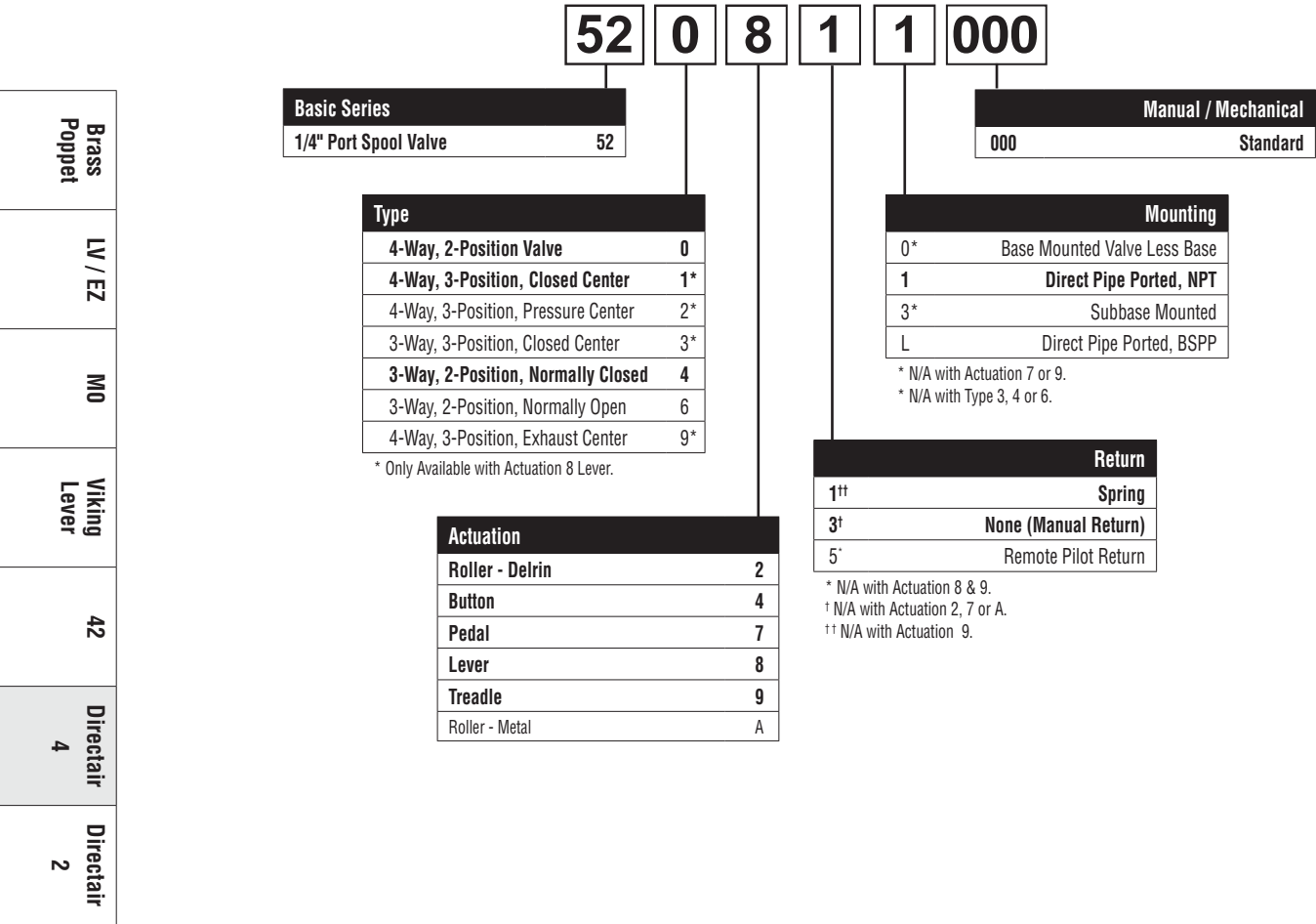
Directair  
4

Directair  
2

F

Directair 4 Series

BOLD OPTIONS ARE MOST POPULAR.

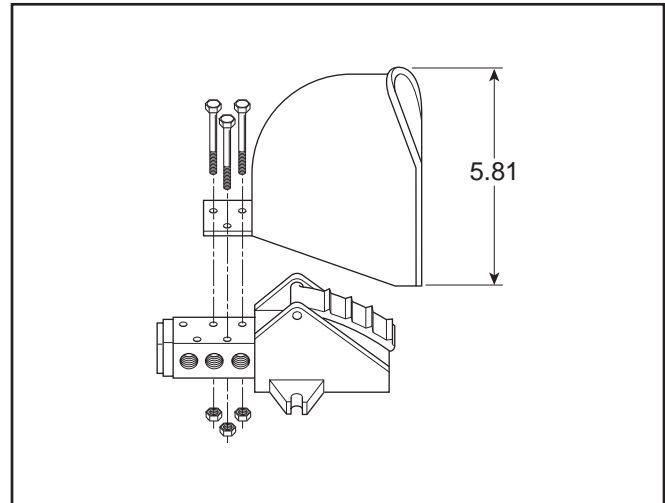


## Pedal Guard Kit No. 52071 8001

Pedal guard meets safety requirements for foot operated valves by protecting pedal from accidental tripping from all angles. Guard is constructed of lightweight aluminum casting for strength and durability. Bolts quickly into place with only three screws without special valve mounting. One model fits any pedal (not treadle) operated "Directair 4" Series valve.

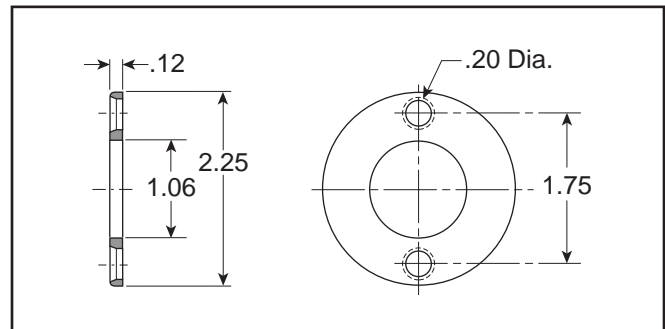
### ⚠ CAUTION:

*This valve shall not be used to actuate a punch press.  
Do not use this valve on punch presses or press brakes.  
See OSHA 1910.217.*



## Panel Mounting Kit No. 52083 8004

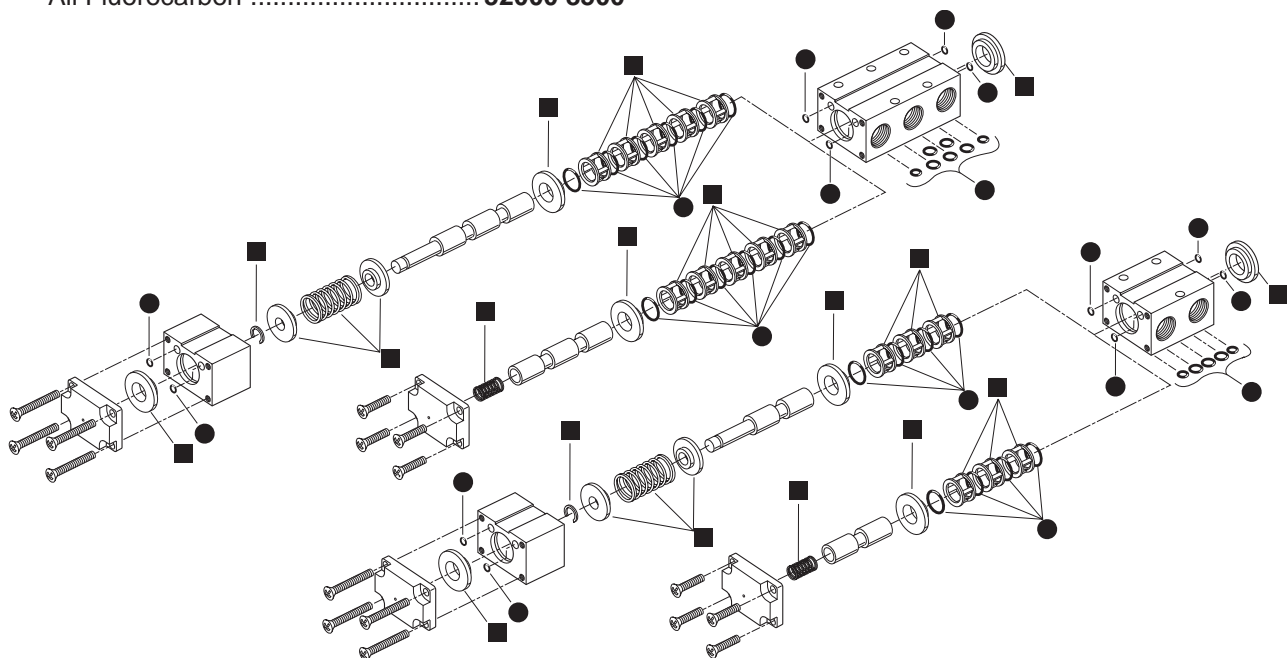
Available for panel mounting direct pipe ported, lever operated "Directair 4" Series valves only. Kit includes a flange and two screws.



## Service Kits

- Valve Seal Kit .....52000 8050  
(Contains all soft seals found in 3 & 4-Way bodies and all actuator styles.)  
All Fluorocarbon .....52000 8500

- Body Service Kit .....52001 8005  
(Contains bushing, springs, retainers and shell from 2 & 3-Position, 3 & 4-Way bodies.)



Brass  
Poppet

LV / EZ

MO

Viking  
Lever

42

Directair  
4

Directair  
2

F



## Operating Pressure

Vacuum to 150 PSI (28" Hg to 1035 kPa)

## Temperature Range

32°F to 175°F (0°C to 80°C)



### CAUTION:

*If it is possible that the ambient temperature may fall below freezing, the medium must be moisture free to prevent internal damage or unpredictable behavior.*

## Materials

Body and Operator Housings.....Aluminum Extrusion  
 Spool .....Stainless Steel  
 Bushings and Pilot Piston .....Brass  
 Dynamic Seals .....Fluorocarbon  
 U-Cups .....Buna (Nitrile)  
 Spacers .....Aluminum

## Lubrication

For maximum service life use clean, lubricated air.  
 Valves are shipped pre-lubricated and can be operated without additional lubrication with reduced service life.

## Suggested Lubricant

F442 Oil

## Flow Rating (Cv)

Flow Path	Direct Pipe Ported 1/4" Ports	Subbase Mounted 1/4" Side Ports
1 → 2	.82	.64
1 → 4	.84	.66
2 → 3	.84	.63
4 → 5	.83	.63
Avg.	.83	.64

## Mechanically Operated Actuating Forces in Lbs.

	2-Position Spring Return	2-Position Manual Return	3-Position Spring Return	3-Position Manual Return
Button Actuator	13.0	2.0	13.0	N/A
Roller Actuator	13.0	N/A	N/A	N/A
Lever Actuator	4.0	2.0	4.0	2.5

Notes: N/A = Not Applicable

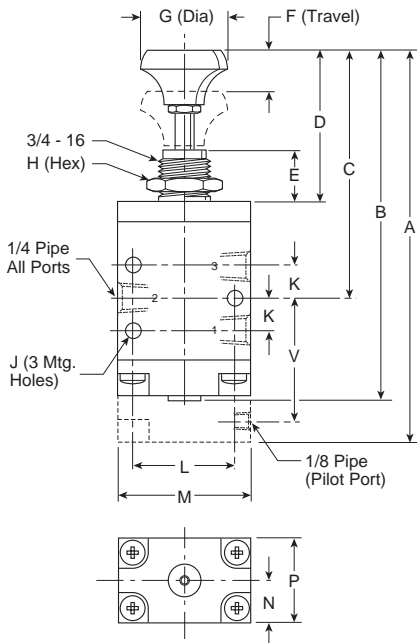
All valves are at 100 PSIG inlet pressure to the valve.



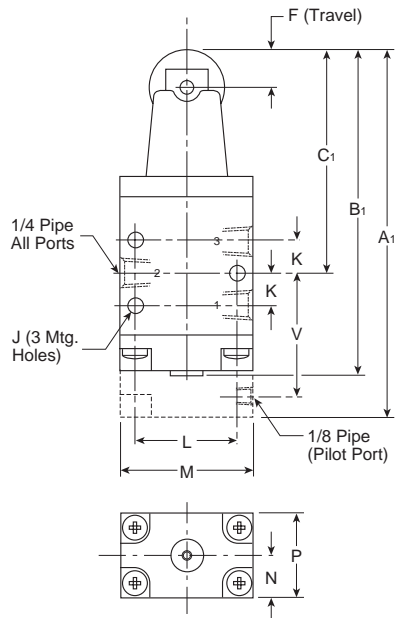
Button, Roller & Treadle Operated

3-Way, 3-Port, 2-Position

Button Operated



Roller Operated

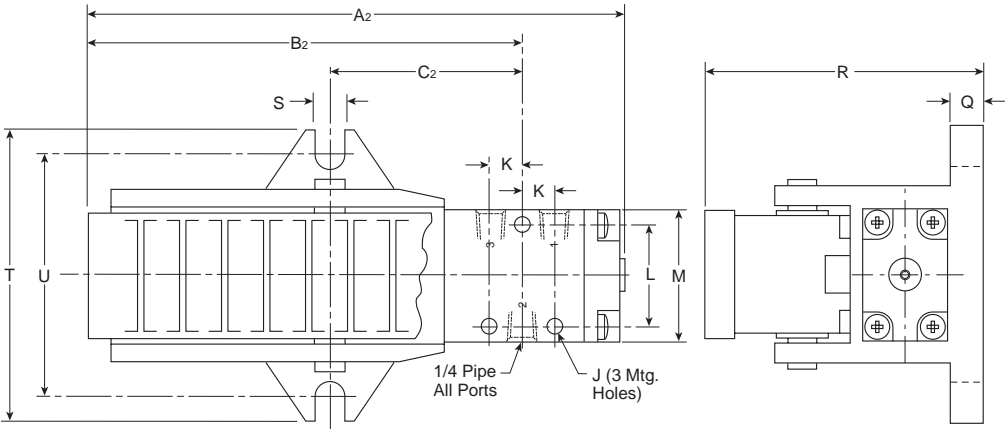


3-Way, 3-Port,  
2-Position

A	A <sub>1</sub>	A <sub>2</sub>	B	B <sub>1</sub>
4.91 (125)	4.25 (108)	6.55 (166)	4.44 (113)	3.78 (96)
B <sub>2</sub>	C	C <sub>1</sub>	C <sub>2</sub>	D
5.20 (132)	3.10 (79)	2.44 (62)	2.19 (56)	2.00 (51)
E	F	G	H	J
.63 (16)	.32 (8)	1.05 (27)	1.00 (25)	.19 (5)
K	L	M	N	P
.41 (10)	1.25 (32)	1.63 (42)	.53 (14)	1.06 (27)
Q	R	S	T	U
.37 (10)	2.40 (61)	.34 (9)	3.50 (89)	3.00 (76)
V				
1.52 (39)				

Inches (mm)

Treadle Operated

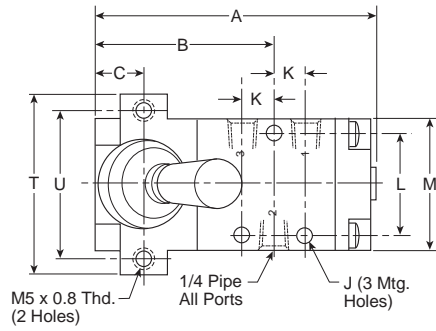


**CAUTION:**  
This valve shall not be used to actuate a punch press.  
Do not use this valve on punch presses or press  
brakes. See OSHA 1910.217.  
See Accessories page for Pedal Guard Kit.

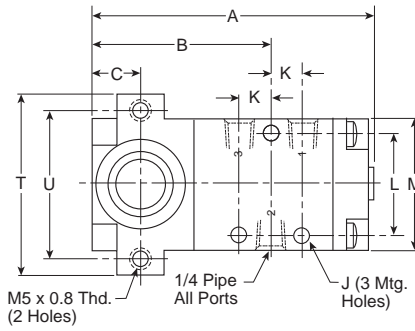
## Lever & Pedal Operated

3-Way, 3-Port, 2 & 3-Position

**Lever Operated  
2-Position**



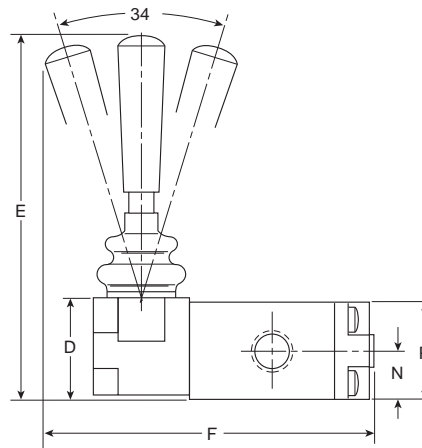
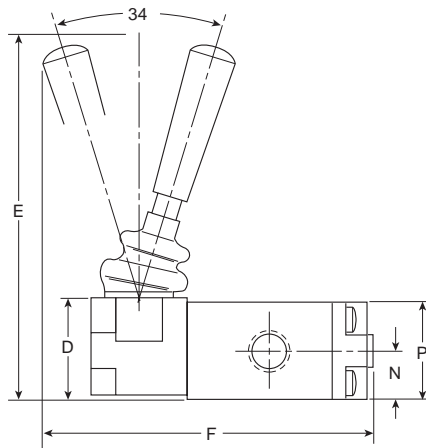
**Lever Operated  
3-Position**



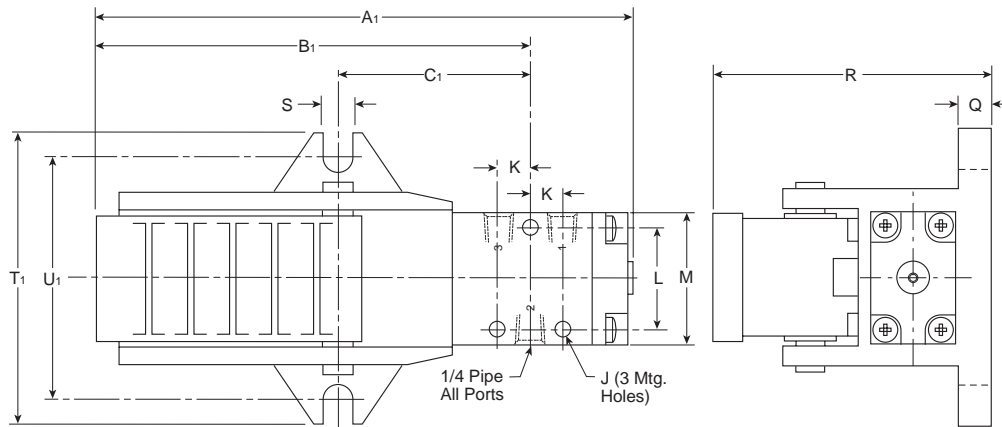
**3-Way, 3-Port,  
2 & 3-Position**

A	A <sub>1</sub>	B	B <sub>1</sub>	C
3.31 (84)	6.55 (166)	1.97 (50)	5.20 (132)	.53 (14)
C <sub>1</sub>	D	E	F	J
2.19 (56)	1.12 (28)	4.06 (103)	3.90 (99)	.19 (5)
K	L	M	N	P
.41 (10)	1.25 (32)	1.63 (42)	.53 (14)	1.06 (27)
Q	R	S	T	T <sub>1</sub>
.37 (10)	2.40 (61)	.34 (9)	2.13 (54)	3.50 (89)
U	U <sub>1</sub>			
1.75 (44)	.44 (76)			

Inches (mm)



**Pedal Operated**



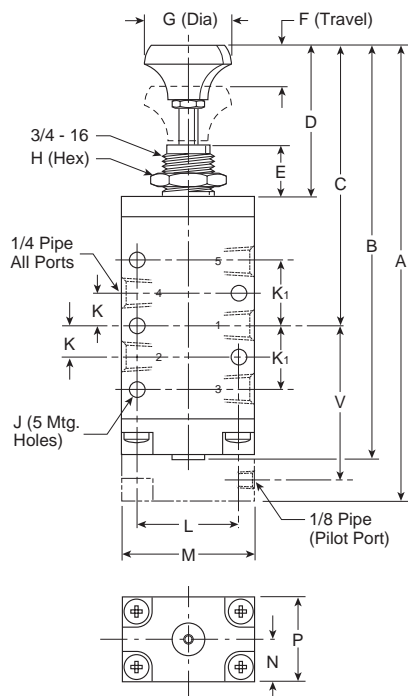
**CAUTION:**

*This valve shall not be used to actuate a punch press.  
Do not use this valve on punch presses or press  
brakes. See OSHA 1910.217.  
See Accessories page for Pedal Guard Kit.*

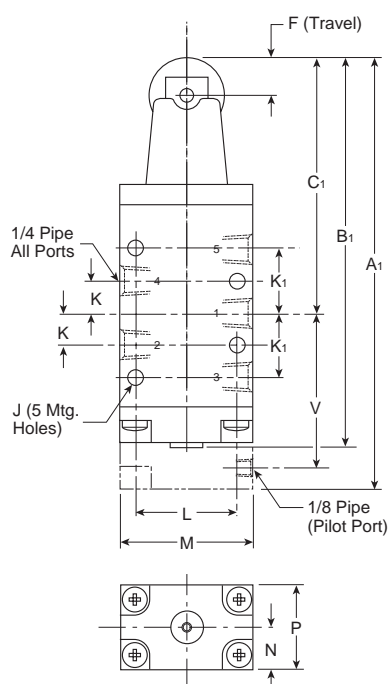
## Button, Roller, Pedal & Treadle Operated

4-Way, 5-Port, 2-Position

### Button Operated



### Roller Operated

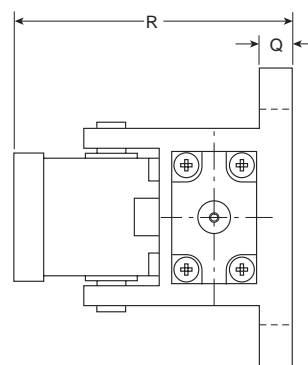
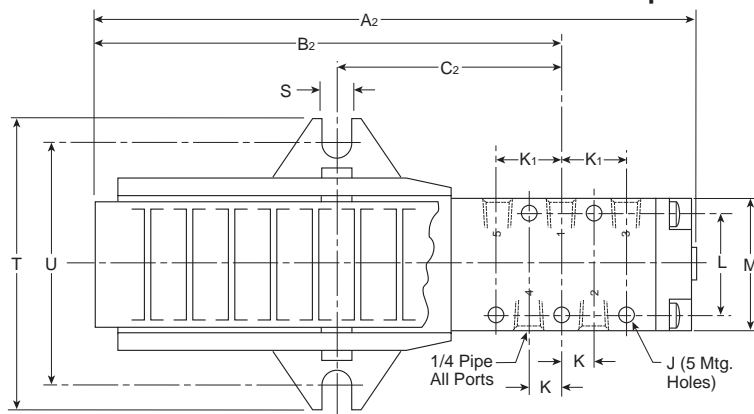


### 4-Way, 5-Port, 2-Position

A	A <sub>1</sub>	A <sub>2</sub>	B	B <sub>1</sub>
5.75 (146)	5.13 (130)	7.41 (189)	5.28 (134)	4.66 (118)
B <sub>2</sub>	C	C <sub>1</sub>	C <sub>2</sub>	D
5.63 (143)	3.50 (89)	2.88 (73)	2.64 (67)	2.00 (51)
E	F	G	H	J
.63 (16)	.32 (8)	1.05 (27)	1.00 (25)	.19 (5)
K	K <sub>1</sub>	L	M	N
.44 (11)	.84 (21)	1.25 (32)	1.63 (41)	.53 (14)
P	Q	R	S	T
1.06 (27)	.37 (10)	2.40 (61)	.34 (9)	3.50 (89)
U	V			
3.00 (76)	1.96 (50)			

Inches (mm)

### Pedal and Treadle Operated



#### CAUTION:

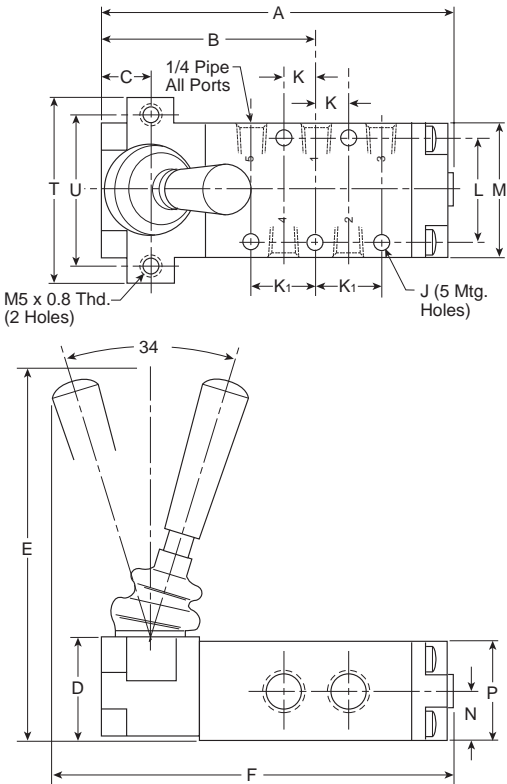
This valve shall not be used to actuate a punch press.  
Do not use this valve on punch presses or press  
brakes. See OSHA 1910.217.  
See Accessories page for Pedal Guard Kit.

Brass  
Poppet  
LV / EZ  
M0  
Viking  
Lever  
42  
Directair  
4  
Directair  
2  
F

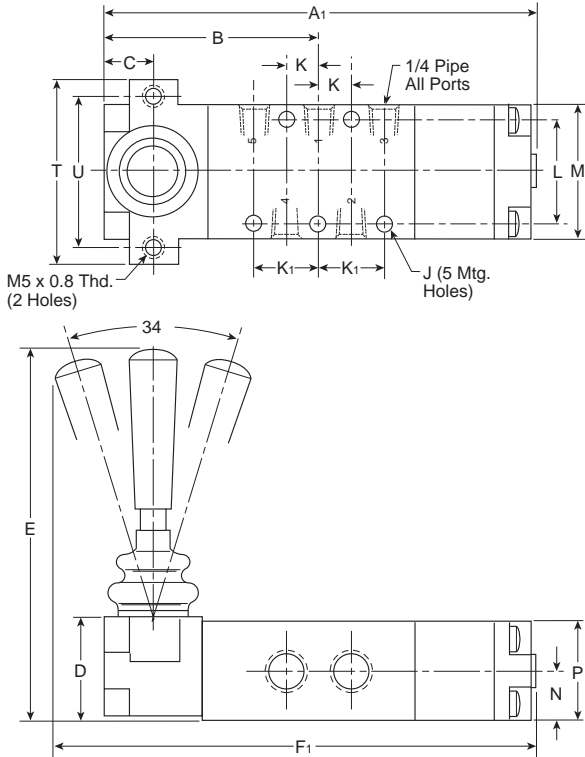
Lever Operated

4-Way, 5-Port, 2 & 3-Position

Lever Operated  
2-Position



Lever Operated  
3-Position



4-Way, 5-Port,  
2 & 3-Position

A	A <sub>1</sub>	B	C	D
4.19 (106)	5.09 (129)	2.41 (61)	.53 (14)	1.12 (28)
E	F	F <sub>1</sub>	J	K
4.06 (103)	4.78 (121)	5.78 (147)	.19 (5)	.44 (11)
K <sub>1</sub>	L	M	N	P
.84 (21)	1.25 (32)	1.63 (42)	.53 (14)	1.06 (27)
T	U			
2.13 (54)	1.75 (44)			

Inches (mm)