

N Series

For decades Parker Pneumatics and Heavy Industrial have been synonymous with durability and long life. High flow-speed N Series poppet valves have been operating in foundries, steel mills, and automotive casting & stamping plants without fail.

Features

- Continuous duty rated option
- Non-lube service
- Hi-flow, short stroke poppet
- Indicator lights available

Specifications

- 2-way NC
- 3-way NO & NC
- Selector function

Ports

- 3/8" Body – 3/8", 1/2" NPT; 3.0 to 4.4 Cv
- 3/4" Body – 1/2", 3/4", 1" NPT; 9.0 to 11.0 Cv
- 1-1/4" Body – 1", 1-1/4", 1-1/2" NPT; 20.0 to 30.0 Cv
- BSPP "G" threads available

Certification / approval

- Approved to be CE marked (Standard L-Pilot & P-Pilot)
- NEMA 4 Option
- Hazardous Duty Option IP65 Rating / NEMA 4

Material specifications

Valve body	Cast aluminum
Poppet assembly	Aluminum and stainless steel
Pilot Valve	Zinc, stainless steel, brass, copper, zinc plated steel
Seals	Nitrile

Lubrication

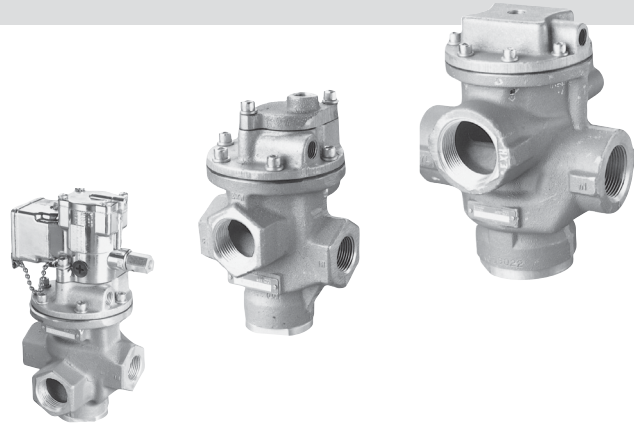
The high speed poppet valves are pre-lubricated to permit use with non-lubricated air. However, air should be lubricated to assure maximum seal life.

F442 lubricating oil is recommended. This oil is specially formulated to provide peak performance and maximum service life from air-operated equipment.

Installation

CAUTION: DO NOT RESTRICT THE INLET TO POPPET VALVES

Restriction of the inlet can starve the air supply to the pilot section of internally piloted poppet valves and result in slow shifting or failure of the valve to shift properly. Always connect the supply line directly to the inlet of the valve using the full pipe size of the valve inlet. Never use a quick coupling to connect a poppet valve to the air supply. On valves with a small inlet port, use of an upstream surge tank may be required at lower operating pressures to insure an adequate air supply and proper operation.



Operating information

Operating pressure:

Solenoid valves - internal pilot supply

3/8" Basic	3/4" Basic	1-1/4" Basic
20 to 140 PSIG (standard)	25 to 140 PSIG (200 PSIG option available)	25 to 140 PSIG (200 PSIG option available)

Solenoid valves - external pilot supply

Air pressure thru valve (PSI)	External pilot pressure required (PSI)*	
	3/8" Basic	3/4" Basic
25 PSI	35-200	35-200
50 PSI	45-200	40-200
75 PSI	55-200	50-200
100 PSI	65-200	65-200

Vacuum up to 1" HG, less than a perfect vacuum.

* With 200 PSI option. Do not exceed 140 PSI with standard pilots.

Internal pilot - remote pilot valve

Air pressure thru valve (PSI)	Remote pilot pressure (PSI)		
	3/8" Basic	3/4" Basic	1-1/4" Basic
25 PSI	30-250	30-250	30-250
50 PSI	50-250	50-250	50-250
75 PSI	70-250	75-250	70-250
100 PSI	95-250	95-250	90-250
150 PSI	140-250	145-250	130-250
200 PSI	175-250	185-250	175-250
250 PSI	215-250	230-250	205-250

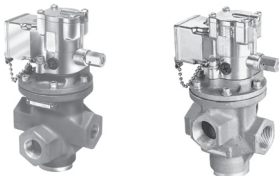
Operating temperature:

Operator type	Duty cycle*	Minimum ambient temperature	Maximum ambient temperature
Standard service	Intermittent	0°F (-18°C)	125°F (52°C)
Solenoid	Continuous	0°F (-18°C)	100°F (38°C)
Special service	Intermittent	0°F (-18°C)	125°F (52°C)
Solenoid	Continuous	0°F (-18°C)	125°F (52°C)
Remote pilot	Not applicable	0°F (-18°C)	200°F (93°C)

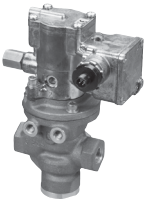
* Applications with pilot valves energized for ten (10) minutes or longer with a duty cycle greater than 70% are considered to be continuously energized.

$$\text{Duty cycle} = \frac{\text{Time energized}}{\text{Time energized} + \text{time off}} \times 100\% = \% \text{ Duty Cycle}$$

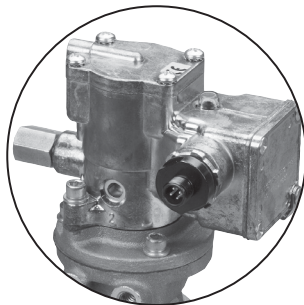
Single Solenoid, Non-locking manual override, internal "L" pilot 140 PSI, standard service, junction box w/ light.

	Body size	Cv	In / cyl ports	Exhaust port	Voltage	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
	3/8"	3.6 to 3.9	3/8"	1/2"	120VAC	N3153904553	N3553904553	N3753904553
					24VDC	N3153904549	N3553904549	N3753904549
			1/2"	1/2"	120VAC	N3154904553	N3554904553	N3754904553
					24VDC	N3154904549	N3554904549	N3754904549
	3/4"	7.7 to 9.6	1/2"	3/4"	120VAC	N3155904553	N3555904553	N3755904553
					24VDC	N3155904549	N3555904549	N3755904549
			3/4"	1"	120VAC	N3156904553	N3556904553	N3756904553
					24VDC	N3156904549	N3556904549	N3756904549
Normally Closed					120VAC	N3157904553	N3557904553	N3757904553
					24VDC	N3157904549	N3557904549	N3757904549

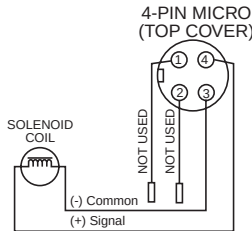
Single Solenoid, Non-locking manual override, internal "L" pilot 140 PSI, standard service, junction box w/ light, 4-pin M12.

	Body size	Cv	In / cyl ports	Exhaust port	Voltage	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
	3/8"	3.6 to 3.9	3/8"	1/2"	24VDC	N3153J04549F	N3553J04549F	N3753J04549F
			1/2"	1/2"	24VDC	N3154J04549F	N3554J04549F	N3754J04549F
	3/4"	7.7 to 9.6	1/2"	3/4"	24VDC	N3155J04549F	N3555J04549F	N3755J04549F
			3/4"	1"	24VDC	N3156J04549F	N3556J04549F	N3756J04549F
			1"	1"	24VDC	N3157J04549F	N3557J04549F	N3757J04549F

Normally Closed



4-Pin Male/Single Solenoid
(Encl. Option J, Wiring Option F)
(Per ISO 202/01)



 Most popular.



For inventory, lead time, and kit
lookup, visit www.pdnplu.com

"N" Series 3/8", 3/4" & 1-1/4" Body Sizes - Solenoid 'L' Pilot

N **315** **3** **9** **0** **45** **53**

Valve function - solenoid	
3/8" & 3/4" Body	
2-way, normally closed	315
3-way, normally closed	355
3-way, normally open	375
1-1/4" Body	
2-way, normally closed	325
3-way, normally closed	365
3-way, normally open	385

Port size / thread type	
3/8" body size	
3/8" Inlet & cyl - 1/2" exhaust - NPT	3
1/2" inlet & cyl - 1/2" exhaust - NPT	4
1/2" inlet & cyl - 1/2" exhaust - BSPP	N
3/4" body size	
1/2" inlet & cyl - 3/4" exhaust - NPT	5
3/4" inlet & cyl - 1" exhaust - NPT	6
3/4" inlet & cyl - 1" exhaust - BSPP	Q
1" inlet & cyl - 1" exhaust - NPT	7
1-1/4" body size	
1" inlet & cyl - 1 1/4" exhaust - NPT	7
1-1/4" inlet & cyl - 1-1/2" exhaust - NPT	8
1-1/4" inlet & cyl - 1-1/2" exhaust - BSPP	S*
1-1/2" inlet & cyl - 1-1/2" exhaust - NPT	9
1-1/2" inlet & cyl - 1-1/2" exhaust - BSPP	T*

* Not available with valve function 325.

Note: BSPP is to the ISO 228 standard, and requires an R-BSPT male fitting.

Solenoid enclosure / override	
Basic pilot	1
Basic pilot NLMO	2
Basic pilot LMO	3
Junction box NLMO	5
Junction box LMO	6
Junction box NLMO w/ light	8
Junction box LMO w/ light	9
Basic pilot ext. LMO	W
JIC NLMO w/ light - 3-pin Automotive	E
JIC NLMO w/ light - 4-pin M12	J
JIC NLMO w/ light - 5-pin Automotive	N

"L" pilot configuration	
Blank	None
C	Chrysler wiring - enclosure 'J' & 'N'
F	Ford wiring - enclosure 'E', 'J' & 'N'
G	GM wiring - enclosure 'J' & 'N'

"L" pilot code						
Code	Voltage			Solenoid enclosure options		
	AC 60hz	AC 50hz	DC	Standard duty (01, 45)	Cont. duty (04, 48)	200 PSI (46)
42	24	24	6	5, 6	6	
45			12	1, 5, 6		
49			24	1, 2, 3, 5, 6, 8, 9, W	6, 8, 9	9
51			48	1		
53	120	110		1, 2, 3, 5, 6, 8, 9, E, N, W	1, 6, 8, 9, N	8, 9, E
57	240	220		1, 3, W		
61			120	5, 6		
79			24	E, J	E, J	E, J

"L" pilot configuration	
01*	External pilot, std service, 140 PSI
04*	External pilot, cont duty, 140 PSI
45	Internal pilot, std service, 140 PSI
46	Internal pilot, std service, 200 PSI
48	Internal pilot, cont duty, 140 PSI

* Not available with valve function 325, 365, and 385 (1-1/4" body).

Solenoid type	
0	Standard
5*	Hazardous duty
8*	NEMA 4 solenoid

* Available with enclosure 2 & 3, 'L', pilot configuration 04 & 48, and voltage 49 & 53 ONLY.

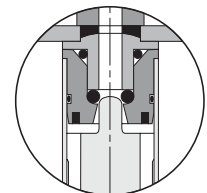
Continuous Duty Pilots

Continuous duty pilots are designed for applications where cycling is infrequent and the pilot is to be energized for indefinite periods of time . . . hours, days or weeks. Typical uses include fail-safe or emergency shutdown circuits where the pilot is to be energized and the valve open as long as the main control is "live" in order to shut off air to equipment in the event of power failure.

The Continuous duty pilot operates satisfactorily in ambient temperatures up to 125°F, even when continuously energized and without the benefit of the cooling air which normally flows through the pilot during frequent cycling. Under certain conditions,

satisfactory operation may be obtained at ambient temperatures above 125°F. CONSULT FACTORY.

Incorporating the performance-proven design features of the standard L-Pilot, the continuous duty pilot utilizes a bullet-shaped stem on the upper end of the plunger. This bullet-shaped stem, seating in a high-temperature rubber o-ring, provides both a bubble-tight seal and positive release.

**Continuous Duty Pilot**

Most popular.

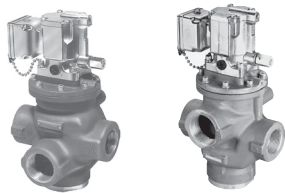


For inventory, lead times, and kit lookup, visit www.pdnplu.com

C98

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

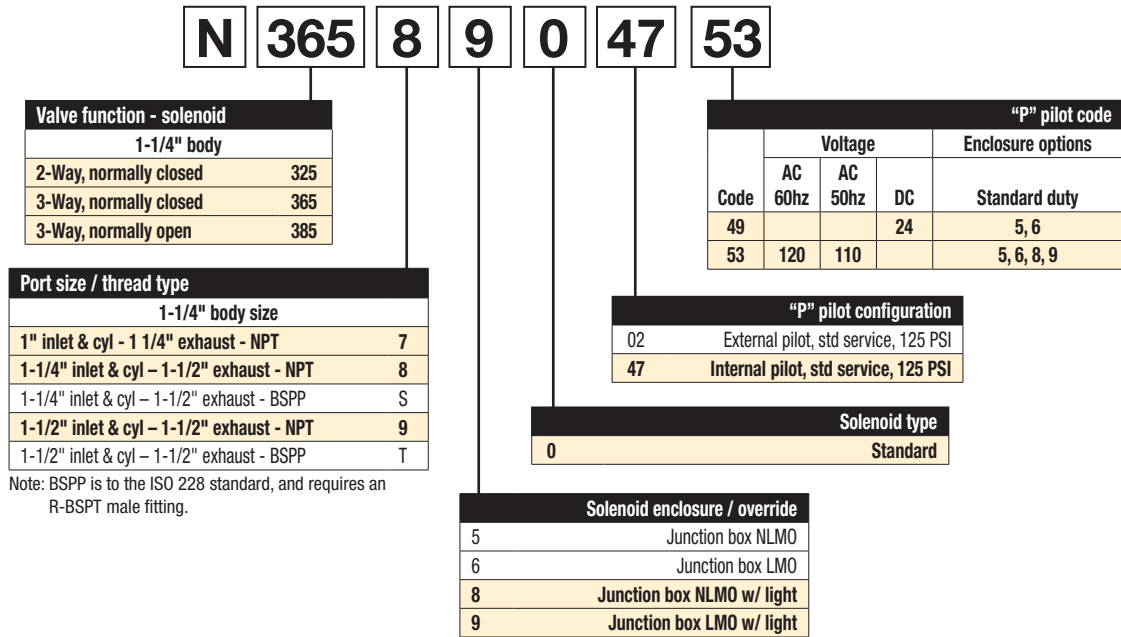
Single Solenoid, Non-locking manual override, internal “P” pilot 125 PSI, standard service, P-pilot junction box w/ light.



Normally Closed Normally Open

Body size	Cv	In / cyl ports	Exhaust port	Voltage	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
1-1/4"	19.5 to 26.7	1"	1-1/4"	120VAC	N3257904753	N3657904753	N3857904753
		1-1/4"	1-1/2"	120VAC	N3258904753	N3658904753	N3858904753
		1-1/2"	1-1/2"	120VAC	N3259904753	N3659904753	N3859904753

“N” Series 1-1/4" Body Sizes - Solenoid Hi-Flow ‘P’ Pilot



Most popular.



For inventory, lead time, and kit lookup, visit www.pdnplu.com

Single Remote Pilot, 1/4" NPT remote pilot port with internal pilot return.

 	Body size	Cv	In / cyl ports	Exhaust port	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
	3/8"	3.6 to 3.9	3/8"	1/2"	N31431091	N35431091	N37431091
			1/2"	1/2"	N31441091	N35441091	N37441091
			1/2"	3/4"	N31451091	N35451091	N37451091
	3/4"	7.7 to 9.6	3/4"	1"	N31461091	N35461091	N37461091
			1"	1"	N31471091	N35471091	N37471091

Normally Closed Normally Open

Single Remote Pilot, 1/4" NPT remote pilot port with internal pilot return.

 	Body size	Cv	In / cyl ports	Exhaust port	2-way, 2-position normally closed	3-way, 2-position normally closed	3-way, 2-position normally open
	1-1/4"	19.5 to 26.7	1"	1-1/4"	N32471091	N36471091	N38471091
			1-1/4"	1-1/2"	N32481091	N36481091	N38481091
			1-1/2"	1-1/2"	N32491091	N36491091	N38491091

Normally Closed Normally Open

"N" Series 3/8", 3/4" & 1-1/4" Body Sizes - Remote Pilot

N 314 3 1 091

Valve Function - Solenoid	Port Size / Thread Type	Pilot Configuration
3/8" & 3/4" Body	3/8" Body Size	089 External Pilot Return
2-Way, Normally Closed 314	3/8" Inlet & Cyl - 1/2" Exhaust - NPT 3	091 Internal Pilot Return
3-Way, Normally Closed 354	1/2" Inlet & Cyl - 1/2" Exhaust - NPT 4	
3-Way, Normally Open 374	1/2" Inlet & Cyl - 1/2" Exhaust - BSPP N	
1-1/4" Body	3/4" Body Size	
2-Way, Normally Closed 324	1/2" Inlet & Cyl - 3/4" Exhaust - NPT 5	
3-Way, Normally Closed 364	1/2" Inlet & Cyl - 3/4" Exhaust - BSPP P	
3-Way, Normally Open 384	3/4" Inlet & Cyl - 1" Exhaust - NPT 6	
	3/4" Inlet & Cyl - 1" Exhaust - BSPP Q	
	1" Inlet & Cyl - 1" Exhaust - NPT 7	
	1-1/4" Body Size	
	1" Inlet & Cyl - 1 1/4" Exhaust - NPT 7	
	1-1/4" Inlet & Cyl - 1-1/2" Exhaust - NPT 8	
	1-1/4" Inlet & Cyl - 1-1/2" Exhaust - BSPP S*	
	1-1/2" Inlet & Cyl - 1-1/2" Exhaust - NPT 9	
	1-1/2" Inlet & Cyl - 1-1/2" Exhaust - BSPP T*	

* Not available with Valve Function 325.
Note: BSPP is to the ISO 228 Standard, and requires an R-BSPT male fitting.

Most popular.

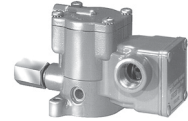


For inventory, lead times, and kit lookup, visit www.pdnplu.com

C100

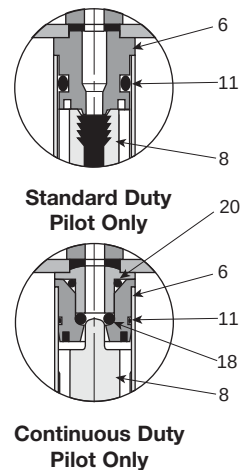
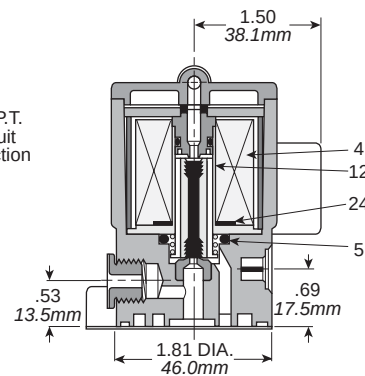
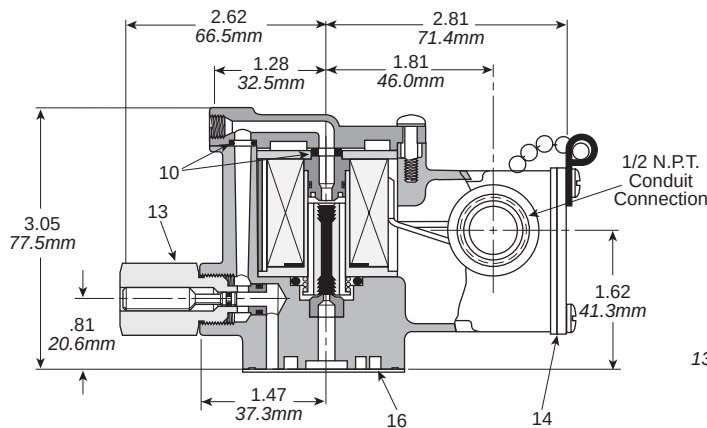
Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

Replacement Pilots



Description	Standard L-pilot		Continuous duty L-pilot	
	Locking	Non-locking	Locking	Non-locking
Override type				
Basic with override	K0653035**	K0652035**	K0853025**	K0852025**
JIC with junction box & override	K0656035**	K0655035**	K0856025**	K0855025**
JIC pilot with junction box & override & indicator lights (120VAC only)	K0659035**	K0658035**	K0859025**	K0858025**

** Voltage code - (reference model index for availability)



Parts List

Item no.	Part number	Description
4	K593025	Coil 120V 60Hz / 110V 50Hz
	K593035	Coil 240V 60Hz / 220V 50Hz
	K593003	Coil 6VDC / 24V 60Hz
	K593010	Coil 12VDC
	K593014	Coil 24VDC
	K593041	Coil 120VDC
5	H14213	Seal
6	K423006	Top Seat
	K423010	Top Seat (Continuous Duty)
8	K343002	Plunger (STD. Service)
	K343001	Plunger (Continuous Duty)
10*	H14201	Seal
11*	K41RB72011	O-Ring (STD. Service)
	H24969	O-Ring (Continuous Duty)

Item no.	Part number	Description
12	K272004	Plunger Guide
13	K152003	Override Assembly
14	K183047	Cover Gasket
16*	K183001	Gasket
18*	H13473	O-Ring
20*	H13413	O-Ring
22	H19102	120 AC Only – Indicator Light
24	K183108	Gasket

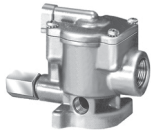
Coil leads are 19" long.

* Parts included in Service Kit.

Continuous Duty Kit K352366

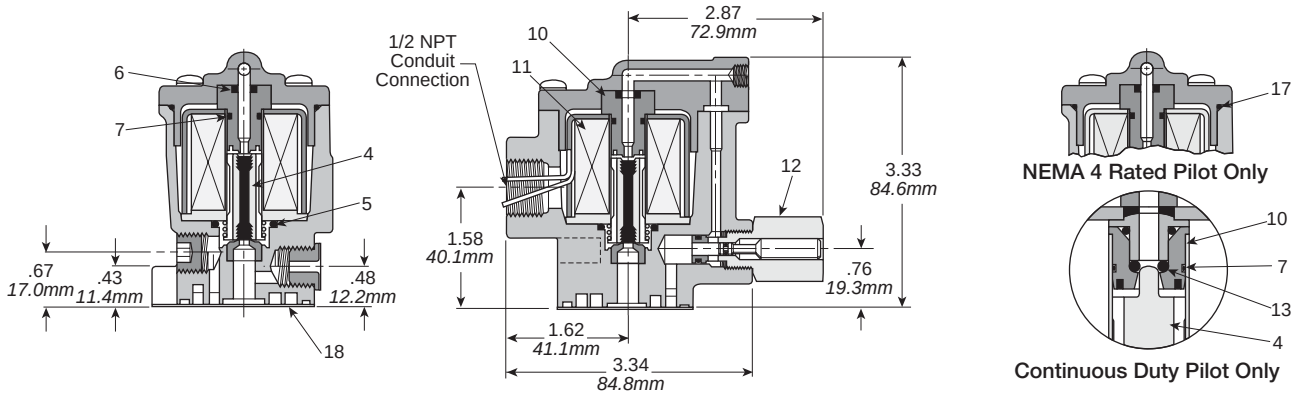
Standard Service Kit K352166

Replacement Pilots



Description	Hazardous duty L-pilot		NEMA 4 L-pilot	
	Locking	Non-Locking	Locking	Non-Locking
Hazardous duty L-pilot - UL & CSA	K0451025**	N/A		
Hazardous duty with override	K0453025**	K0452025**		
NEMA 4 with override			K2553025**	K255202549

** Voltage code - 49 & 53



Parts List

Item no.	Part number	Description	Item no.	Part number	Description
4*	K343002	Plunger (STD. Service)	12	K152003	Override Assembly
	K343001	Plunger (Continuous Duty)	13*	H13473	O-Ring
5*	K14213	Seal	17*	H13716	Gasket (NEMA 4 Rated Pilot Only)
6*	K41RB72009	O-Ring	18*	K183001	Gasket
	K41RB72008	O-Ring (STD. Service)			
7*	K41RB72011	O-Ring (STD. Service)			
	H24969	O-Ring (Continuous Duty)			
10	K423001	Top Seat			
	K423002	Top Seat (Continuous Duty)			
	K593025	Coil 120V 60Hz / 110V 50Hz			
	K593035	Coil 240V 60Hz / 220V 50Hz			
11	K593003	Coil 6VDC / 24V 60Hz			
	K593010	Coil 12VDC			
	K593014	Coil 24VDC			
	K593041	Coil 120VDC			

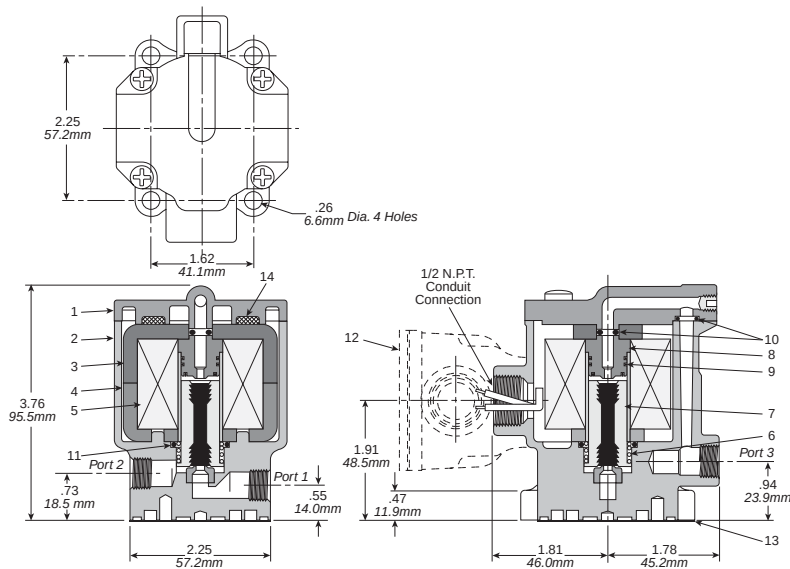
Coil leads are 19" long.
* Parts included in Service Kit.
Continuous Duty Kit **K352366**
Standard Service Kit **K352166**

Replacement Pilots



Description	Heavy duty P-Pilot		
Override type	No override	Non-locking	Locking
Basic with override	K1351045**	N/A	N/A
JIC with junction box & override	N/A	K1355045**	K1356045**
JIC Pilot with junction box & override & indicator lights (120VAC only)	N/A	K135804553	K135904553

** Voltage code - 49 & 53



Parts List

Item no.	Part number	Description
1	K062005	Cover Assy
2	K112045	Body, Man. Mtd. (1/8" Bottom Seal)
	K112046	Body, Man. Mtd. (3/16" Bottom Seal)
3	K013001	Magnet Bar
4	K272002	Sleeve Sub Assy
	K593108	Coil (115V 60Hz)
	K593112	Coil (230V 60Hz)
5*	K593097	Coil 24VDC
	K593107	Coil 115VDC

* Coil leads are 19" long.

• Parts included in Seal Kit K352064.

Item no.	Part number	Description
6	K473010	Spring N.O. Valve
	K473011	Spring N.C. Valve
7 •	K343042	Plunger
8	K423020	Top Seat (1/8" Orifice)
	K423022	Top Seat (3/16" Orifice)
9 •	H13436	Seal
10 •	H14202	Seal
11 •	H14215	Seal
12	K322004	Junction Box Kit
13 •	K183012	Gasket

C

Inline Valves

Viking
Lite

Viking
Extreme

"B"
Series

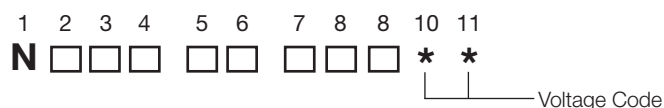
Air Saver
Unit

ADEX
Series

"N"
Series

Coils for Pilot Operated Valves

The voltage code of the valve can be identified in the 10th and 11th digit of the valve part number.



L-Pilot Valves

Voltage Code **	Voltage			Coil	
	60Hz	50Hz	DC	19" Leads	72" Leads
40	12	—	—	K593007	—
41,42	24	—	6	K593003	—
45*	—	—	12	K593010	—
49*	—	—	24 (Standard)	K593014	—
79	—	—	24 (Arc Suppressed)	K593271	—
51*	—	—	48	—	K593185
53*	120	110	—	K593025	—
57*	240	240	—	K593035	—
60	240	220	—	K593035	—
61	—	—	120	K593041	—

* Indicates voltages approved for solenoid operators designed for use in hazardous locations.

P-Pilot Valves

Voltage Code **	Voltage			Coil	
	60Hz	50Hz	DC	19" Leads	72" Leads
43	—	24	—	K593098	—
45	—	—	12	K593094	—
49	—	—	24	K593097	—
51	—	—	48	—	K593254
53	115	—	—	K593108	—
58	—	230	—	K593111	—

Solenoid Characteristics Chart

Voltage Range +10/-15% of Nominal

3/8" & 3/4" Basic – L-Pilot

Voltage/ Cycles	Amps Inrush	Amps Holding	Resistance Ohms	Watts	Insulation Class
120/60VAC	.29	.18	122	12	B
110/50VAC	.21	.14	122	12	B
240/60VAC	.18	.12	610	12	B
24/50VAC	1.2	.75	6.4	9.5	B
6VDC	—	1.4	4.5	7.6	B
12VDC	—	.66	17.7	9	B
24VDC	—	.32	71	9	B
48VDC	—	.22	216	11	B

NOTE: Continuous duty type service is for applications where pilot valve is energized more than ten (10) minutes.

Solenoid Characteristics Chart

Voltage Range +10/-15% of Nominal

1-1/4" Basic – P-Pilot

Voltage/ Cycles	Amps Inrush	Amps Holding	Resistance Ohms	Watts	Insulation Class
120/60VAC	.46	.25	35	18.5	B
110/50VAC	.36	.19	48	12	B
230/60VAC	.26	.15	125	19.5	B
220/50VAC	.20	.11	191	15	B
24/60VAC	2.3	1.4	1.3	20	B
24/50VAC	1.6	.9	2.1	12	B
12VDC	—	.7	17	8	B
24VDC	—	.33	68	8	B
48VDC	—	.16	275	7.5	B

NOTE: Continuous duty type service is for applications where pilot valve is energized more than ten (10) minutes.

Hazardous Duty Solenoid Listing

Valves with solenoid operators designed for hazardous locations are UL & CSA Approved as follows:

National Electric Code	Ambient Conditions	NEMA Classification
Class I Div. 1, Group C	Ethyl, Ether, Etc. Gases & Vapors	VII (7)
Class I Div. 1, Group D	Gasoline, Etc. Gases & Vapors	VII (7)
Class I Div. 2, Group B	Butadiene, Etc., Liquid, Fluid or Vapor Normally Contained, or Atmosphere Ventilated	VII (7)
Class II Div. 1, Group E	Metal Dust	IX (9)
Class II Div. 1, Group F	Coal, Coke, Carbon Black Dust	IX (9)
Class II Div. 1, Group G	Flour, Starch, Grain Dust	IX (9)

See Article 500 – Hazardous (Classified) Locations, National Electric Code.

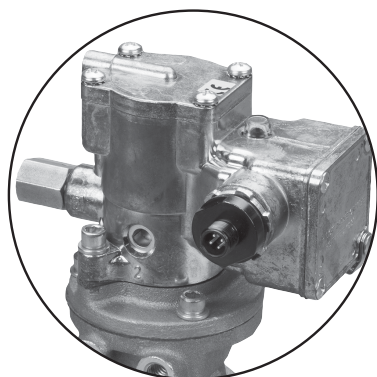


For inventory, lead times, and kit lookup, visit www.pdnplu.com

Flow

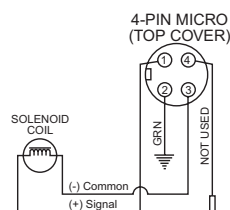
Basic Valve Size	Inlet Port Size	Exhaust Port Size	Cv Inlet to Cylinder	Cv Cylinder to Exhaust
3/8" 3-Way, Normally Closed	3/8" Pipe	1/2" Pipe	3.6	4.2
	1/2" Pipe	1/2" Pipe	3.8	4.3
3/8" 3-Way, Normally Open	3/8" Pipe	1/2" Pipe	3.6	4.1
	1/2" Pipe	1/2" Pipe	3.9	4.5
3/4" 3-Way, Normally Closed	1/2" Pipe	3/4" Pipe	8.2	9.2
	3/4" Pipe	1" Pipe	9.3	10.8
3/4" 3-Way, Normally Open	1/2" Pipe	3/4" Pipe	7.7	6.6
	3/4" Pipe	1" Pipe	9.6	11.4
1-1/4" 3-Way, Normally Closed	1" Pipe	1-1/4" Pipe	19.5	23.5
	1-1/4" Pipe	1-1/2" Pipe	23.3	26.9
	1-1/2" Pipe	1-1/2" Pipe	23.3	26.9
1-1/4" 3-Way, Normally Open	1" Pipe	1-1/4" Pipe	20.4	24.8
	1-1/4" Pipe	1-1/2" Pipe	25.0	29.1
	1-1/2" Pipe	1-1/2" Pipe	26.7	29.9

Wiring Connections

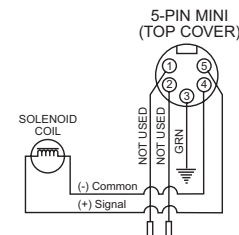


Chrysler Connection

4-Pin Male/Single Solenoid
 (Encl. Option J, Wiring Option C)

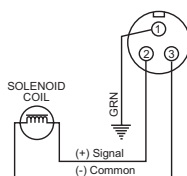


5-Pin Male/Single Solenoid
 (Encl. Option N, Wiring Option C)

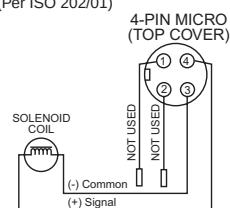


Ford Connection

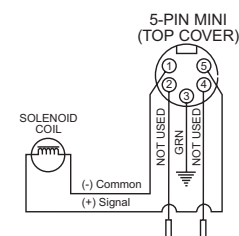
3-Pin Male/Single Solenoid
 (Encl. Option E, Wiring Option F)



4-Pin Male/Single Solenoid
 (Encl. Option J, Wiring Option F)
 (Per ISO 202/01)



5-Pin Male/Single Solenoid
 (Encl. Option N, Wiring Option F)



Automotive Connections

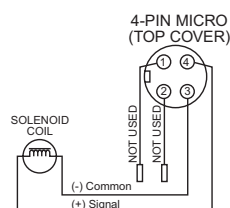
- 3-Pin & 5-Pin "Mini" (7/8 UNF Thread)
- 4-Pin "Micro" (M12 Thread)

Solenoid Configurations

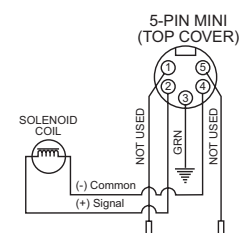
"E", "J", "N"

GM Connection

4-Pin Male/Single Solenoid
 (Encl. Option J, Wiring Option G)



5-Pin Male/Single Solenoid
 (Encl. Option N, Wiring Option G)



Selection

Although reasonable safety factors are designed into each speed poppet valve, it is important that application requirements do not exceed the rated limitation of the valve. This precaution insures a sufficient safety factor.

Life Expectancy

Normal multimillion cycle life expectancy of high speed poppet series valves is based on the use of properly filtered and lubricated air at room temperature. In actual laboratory tests, the high speed poppet valves provide maintenance-free service life in excess of 20,000,000 cycles.

Lubrication

The high speed poppet valves are pre-lubricated to permit use with non-lubricated air. However, air should be lubricated to assure maximum seal life.

F442 lubricating oil is recommended. This oil is specially formulated to provide peak performance and maximum service life from air-operated equipment.

Other good air line lubricating oils may be used provided they atomize readily and are of the medium aniline type. Aniline point range must be between 180°F - 220°F. Viscosity SUS @ 100°F of 140-170. High aniline oils will shrink seals; low aniline oils will swell seals, reducing operating life and expectancy.

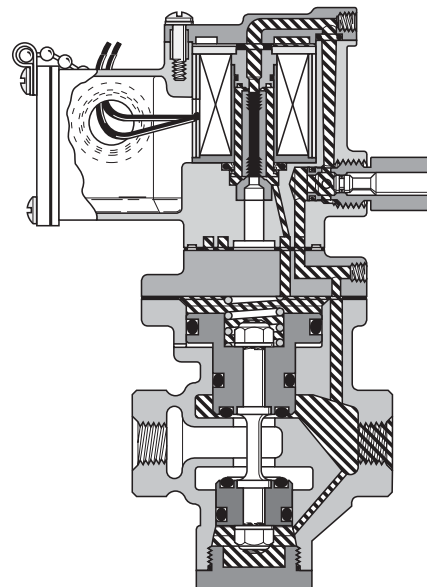
Installation

Valves should be installed with reasonable accessibility for service whenever possible. Care should be taken to hold piping length to a minimum and to protect valves from exposure to extreme heat, dirt and moisture. Piping should be clean and clear of dirt and chips. Threads should be the correct size and undamaged. Pipe joint compound should be used sparingly and only on pipe threads, never in the valve body. Care should be taken in installation to avoid undue strain on valve.

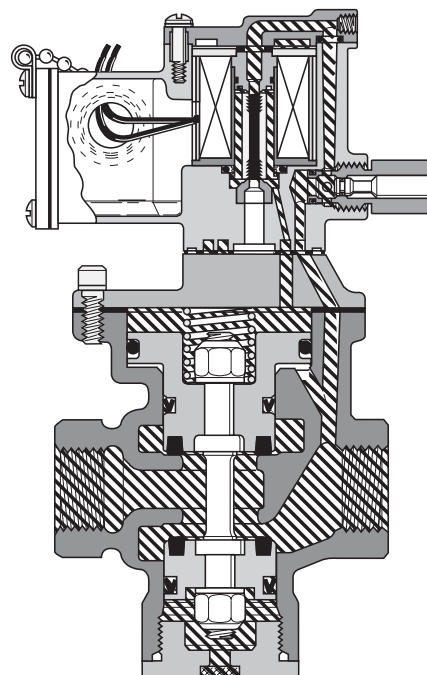
For the small port size options, it is recommended that an air reservoir is located close to the valve inlet as to not starve the valve of air pressure.

⚠ CAUTION: DO NOT RESTRICT THE INLET TO POPPET VALVES

Restriction of the inlet can starve the air supply to the pilot section of internally piloted poppet valves and result in slow shifting or failure of the valve to shift properly. Always connect the supply line directly to the inlet of the valve using the full pipe size of the valve inlet. Never use a quick coupling to connect a poppet valve to the air supply. On valves with a small inlet port, use of an upstream surge tank may be required at lower operating pressures to insure an adequate air supply and proper operation.



**3/8" Solenoid Pilot De-Energized
Normally Closed**

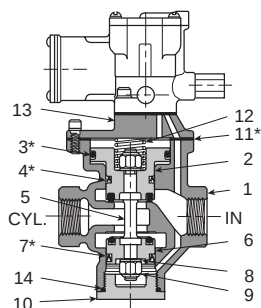


**1-1/4" Solenoid Pilot De-Energized
Normally Open**

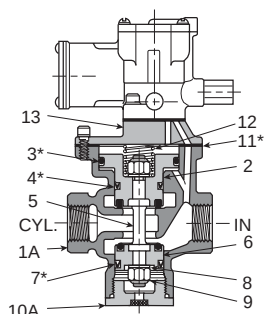
C	Inline Valves				
	Light	Viking	Extreme	"B" Series	Air Saver Unit
N	ADEX Series				
	"N" Series				

Internal Pilot - 3/8" & 3/4" Basic Body

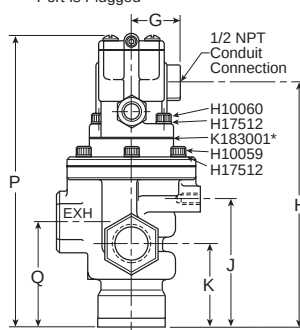
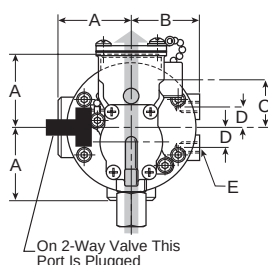
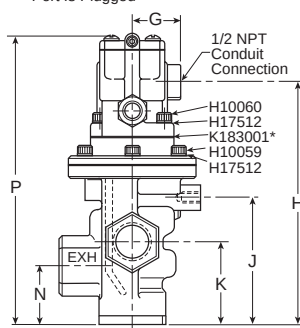
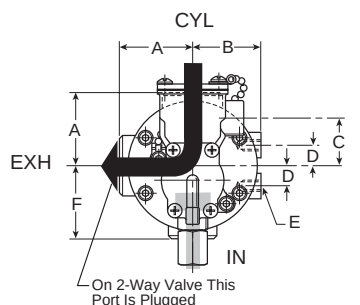
Normally Closed



Normally Open



Key	3/8" Valve	3/4" Valve	Description
1	—	1/2" Tap K053075	Body (N.C.)
	3/8" Tap K053022	3/4" Tap K053076	
	1/2" Tap K053023	1" Tap K053220	
1A	—	3/4" Tap K053077	Body (N.O.)
	3/8" Tap K053025	3/4" Tap K053078	
	1/2" Tap K053026	1" Tap K053218	
2	K212001	K212002	Upper piston assy
3*	H13648	H13728	Seal



Key	3/8" Valve	3/4" Valve	Description
4*	H14510	H13676	U-cup (3/8), o-ring (3/4)
5	K493002	K493009	Stem
6	K202001	K202002	Lower piston assy.
7*	H14509	H13676	U-cup (3/8), o-ring (3/4)
8	H17811	H17813	Washer (2)
9	H06326	H06332	Stop nut (2)
10	K103035	K103053	Bottom cap (N.C.)
10A	K092020	K092034	Bottom cap assy. (N.O.)
11*	K183049	K183057	Gasket
12	K473014	K473015	Spring
13	K563015	K563017	Adapter
14*	K41RB72121	K41RB72221	O-ring

* Parts included in seal kit

Exhaust
Pressure

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

Internal Pilot -
3/8" & 3/4" Basic Body

Key	3/8" Body		3/4" Body	
	Inch	mm	Inch	mm
A	1.56	40	2.13	54
B	1.50	38	1.94	49
C	1.81	46	1.34	34
D	.56	14	.56	14
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep	
F	1.75	44	2.25	57
G	1.50	38	1.50	38
H	5.92	150	7.14	181
J	3.19	81	3.75	95
K	1.88	47	2.44	62
N	1.44	37	1.78	45
P	7.36	196	8.58	218
Q	2.31	59	3.09	84

Service Kits

Include all parts normally required for in-service maintenance:

3/8" Basic valve with standard service L-Pilots.....**K352076**

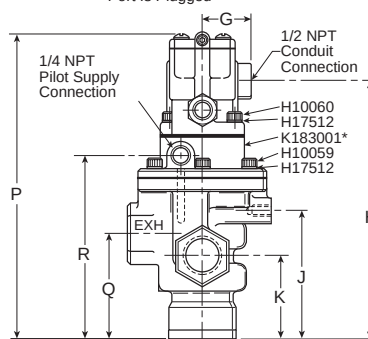
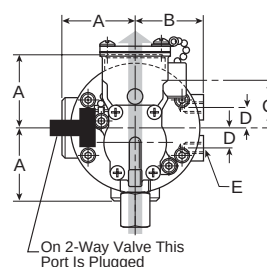
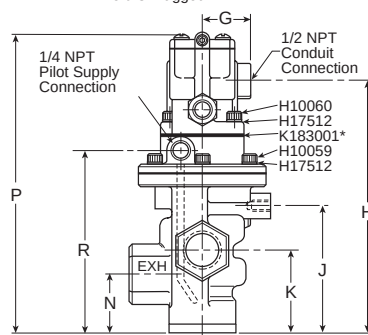
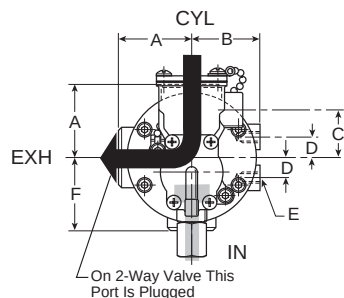
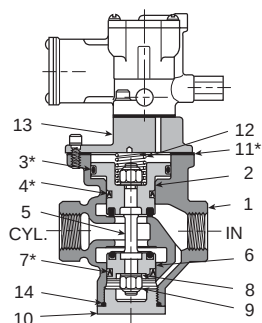
3/8" Basic valve with continuous duty L-Pilots.....**K352276**

3/4" Basic valve with standard service L-Pilots.....**K352077**

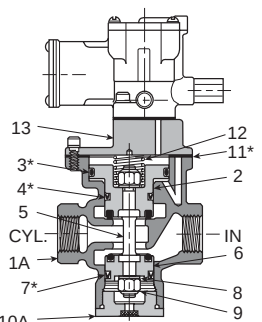
3/4" Basic valve with continuous duty L-Pilots.....**K352277**

External Pilot - 3/8" & 3/4" Basic Body

Normally Closed



Normally Open



Key	3/8" Valve	3/4" Valve	Description
1	—	1/2" Tap K053067	Body (N.C.)
	3/8" Tap K053019	3/4" Tap K053069	
	1/2" Tap K053157	1" Tap K053221	
	—	3/4" Tap K053065	
1A	3/8" Tap K053018	3/4" Tap K053070	Body (N.O.)
	1/2" Tap K053064	1" Tap K053219	
	—	3/4" Tap K053065	
2	K212001	K212002	Upper piston assy
3*	H13648	H13728	Seal

Key	3/8" Valve	3/4" Valve	Description
4*	K41RB72211	H13676	O-ring
5	K493002	K493009	Stem
6	K202001	K202002	Lower piston assy.
7*	K41RB72210	H13676	O-ring
8	H17811	H17813	Washer (2)
9	H06326	H06332	Stop nut (2)
10	K103035	K103053	Bottom cap (N.C.)
10A	K092020	K092034	Bottom cap assy. (N.O.)
11	K473014	K473015	Spring
12*	K183049	K183057	Gasket
13	K563016	K563021	Adapter
14*	K41RB72121	K41RB72221	O-ring

* Parts included in seal kit

Exhaust
Pressure

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

External Pilot -
3/8" & 3/4" Basic Body

Key	3/8" Body		3/4" Body	
	Inch	mm	Inch	mm
A	1.56	40	2.13	54
B	1.50	38	1.94	49
C	1.81	46	1.34	34
D	.56	14	.56	14
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep	
F	1.75	44	2.25	57
G	1.50	38	1.50	38
H	6.42	163	7.45	189
J	3.19	81	3.75	95
K	1.88	47	2.44	62
N	1.44	37	1.78	45
P	7.86	200	8.89	226
Q	2.31	59	3.09	84
R	4.34	110	5.38	137

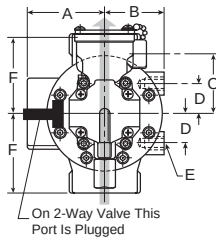
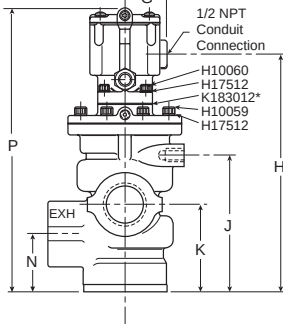
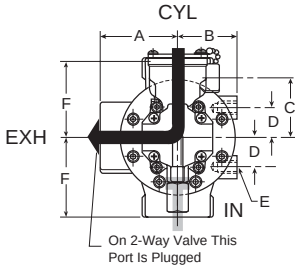
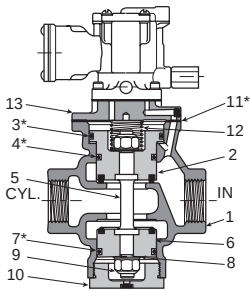
Service Kits

Include all parts normally required for in-service maintenance:

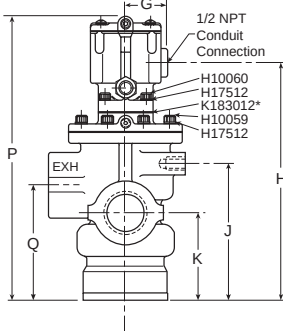
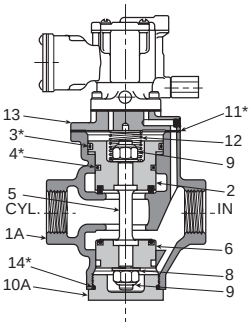
- 3/8" Basic valve with standard service L-Pilots.....**K352076**
- 3/8" Basic valve with continuous duty L-Pilots.....**K352276**
- 3/4" Basic valve with standard service L-Pilots.....**K352077**
- 3/4" Basic valve with continuous duty L-Pilots.....**K352277**

Internal Pilot - 1-1/4" Basic Body

Normally Closed



Normally Open



Key	1-1/4" Valve	Description
1	1" Tap K053111	Body (N.C.)
	1-1/4" Tap K053112	
	1-1/2" Tap K053113	
	1" Tap K053114	
1A	1-1/4" Tap K053115	Body (N.O.)
	1-1/2" Tap K053116	
	1" Tap K053114	
	1-1/4" Tap K053115	
2	K313029	Upper piston assy
3*	H13752	O-ring

Key	1-1/4" Valve	Description
4*	H13728	Seal
5	K493016	Stem
6	K313028	Lower piston
7*	H13728	Seal
8	H17817	Washer
9	H06338	Stop nut
10	K092046	Bottom cap (N.C.)
10A	K103061	Bottom cap (N.O.)
11*	K183058	Gasket
12	K473016	Spring
13	K012003	Adapter
14*	K41RB72143	O-ring

* Parts included in seal kit

Exhaust
Pressure

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

Internal Pilot -
1-1/4" Basic Body

Key	1-14" Body	
	Inch	mm
A	3.00	76
B	2.25	57
C	1.34	34
D	1.19	30
E	1/2-13 UNC 3/4 Deep	
F	3.13	80
G	1.50	38
H	9.30	236
J	5.34	136
K	3.44	87
N	2.31	59
P	11.14	283
Q	4.56	116

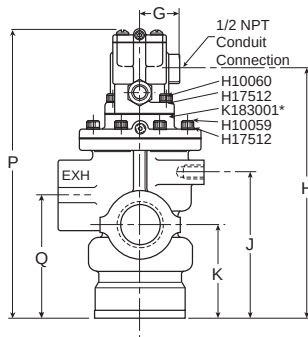
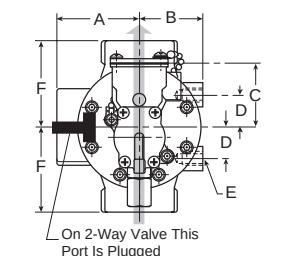
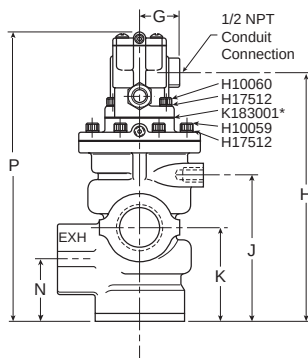
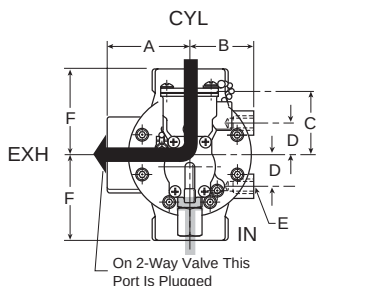
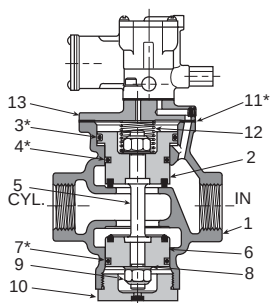
Service Kits

Include all parts normally required for in-service maintenance:

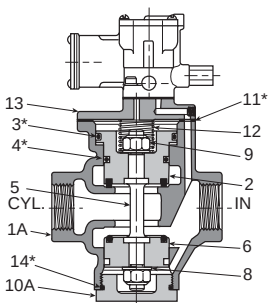
1-1/4" Basic valve with standard service P-Pilots**K352078**

Continuous Duty Pilot - 1-1/4" Basic Body

Normally Closed



Normally Open



Key	1-1/4" Valve	Description
1	1" Tap K053111	Body (N.C.)
	1-1/4" Tap K053112	
	1-1/2" Tap K053113	
	1" Tap K053114	
1A	1-1/4" Tap K053115	Body (N.O.)
	1-1/2" Tap K053116	
	1" Tap K053114	
	1-1/4" Tap K053115	
2	K313029	Upper piston assy
3*	H13752	O-Ring

Key	1-1/4" Valve	Description
4*	H13728	Seal
5	K493016	Stem
6	K313028	Lower piston
7*	H13728	Seal
8	H17817	Washer
9	H06338	Stop nut
10	K092046	Bottom cap (N.C.)
10A	K103061	Bottom cap (N.O.)
11*	K183058	Gasket
12	K473016	Spring
13	K012003	Adapter
14*	K41RB72143	O-ring

* Parts included in seal kit

Exhaust
Pressure

Top view indicates flow through 3-Way valve with coil de-energized.

NOTE: For normal valve operation, override must be in "out" position.

Continuous Duty Pilot - 1-1/4" Basic Body

Key	1-1/4" Body	
	Inch	mm
A	3.00	76
B	2.25	57
C	1.34	34
D	1.19	30
E	1/2-13 UNC	3/4 Deep
F	3.13	80
G	1.50	38
H	9.02	229
J	5.34	136
K	3.44	87
N	2.31	59
P	10.45	265
Q	4.56	116

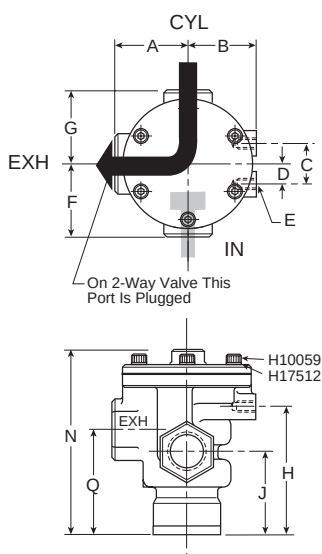
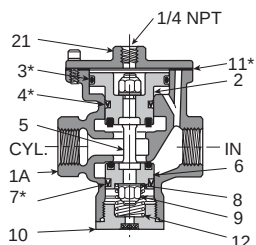
Service Kits

Include all parts normally required for in-service maintenance:

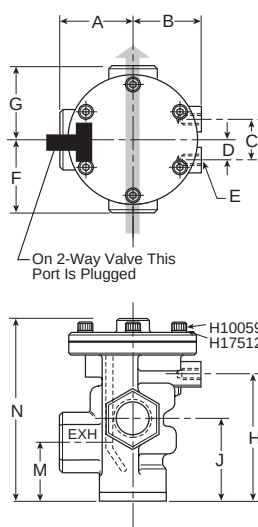
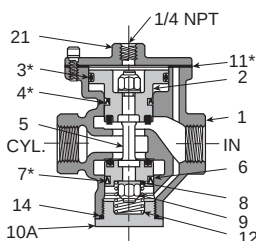
1-1/4" Basic valve with continuous duty L-Pilot.....**K352080**

Internal Return - 3/8", 3/4", 1-1/4" Basic Body

Normally Closed



Normally Open



Exhaust
Pressure

Top view indicates flow through 3-Way valve.

NOTE: For normal valve operation, override must be in "out" position.

Internal Return - 3/8", 3/4", 1-1/4"
Basic Body

Key	3/8" Body		3/4" Body		1-1/4" Body	
	Inch	mm	Inch	mm	Inch	mm
A	1.56	40	2.13	54	3.00	76
B	1.50	38	1.94	49	2.25	57
C	1.13	29	1.13	29	2.38	60
D	.56	14	.56	14	1.19	30
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep		1/2-13UNC 3/4" deep	
F	1.75	44	2.25	57	3.13	79
G	1.56	40	2.13	54	3.13	79
H	3.19	81	3.75	95	5.34	136
J	1.88	48	2.44	62	3.44	87
M	1.44	37	1.78	45	2.66	67
N	4.22	107	5.31	135	7.19	183
Q	2.31	59	3.09	78	4.56	116

Service Kits

Include all parts normally required for in-service maintenance:

3/8" Basic valve.....	K352073
3/4" Basic valve.....	K352074
1-1/4" Basic valve	K352075

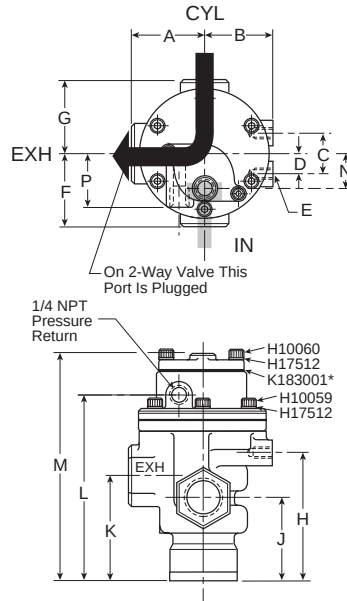
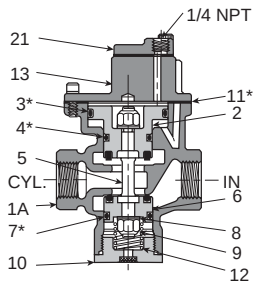
Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
1	—	1/2" Tap K053075	1" Tap K053111	Body (N.O.)
	3/8" Tap K053022	3/4" Tap K053076	1-1/4" Tap K053112	
	1/2" Tap K053023	1" Tap K053220	1-1/2" Tap K053113	
	—	1/2" Tap K053077	1" Tap K053114	
1A	3/8" Tap K053025	3/4" Tap K053078	1-1/4" Tap K053115	Body (N.C.)
	1/2" Tap K053026	1" Tap K053218	1-1/2" Tap K053116	
	2	K212001	K212002	
3*	H13648	H13728	H13752	Upper piston assy
3*	H13648	H13728	H13752	Seal
4*	H14510	H13676	H13728	Seal

Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
5	K493002	K493009	K493016	Stem
6	K202001	K202002	K313028	Lower piston assy.
7*	H13499	H13676	H13728	Seal
8	H17811	H17813	H17817	Washer (2)
9	H06326	H06332	H06338	Stop nut (2)
10	K092020	K092034	K092046	Bottom cap (N.C.)
10A	K103035	K103053	K103061	Bottom cap (N.O.)
11*	K183049	K183057	K183058	Gasket
12	K473014	K473015	K473016	Spring
14*	K41RB72121	K41RB72221	K41RB72143	O-ring
21	K123018	K123021	K123024	Cover

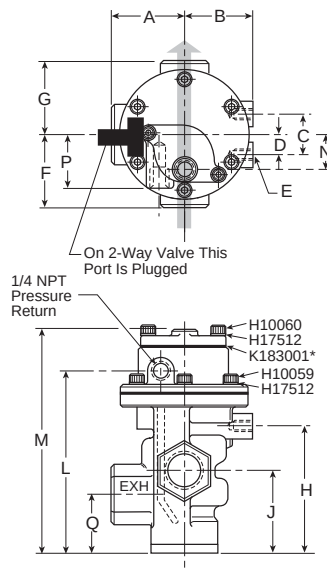
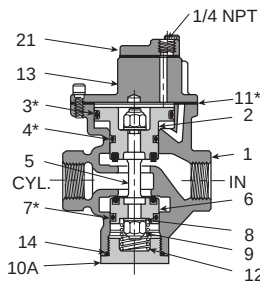
* Parts included in seal kit

External Return - 3/8", 3/4", 1-1/4" Basic Body

Normally Closed



Normally Open



Exhaust
Pressure

Top view indicates flow through 3-Way valve.

NOTE: For normal valve operation, override must be in "out" position.

Internal Return - 3/8", 3/4", 1-1/4" Basic Body

Key	3/8" Body		3/4" Body		1-1/4" Body	
	Inch	mm	Inch	mm	Inch	mm
A	1.56	40	2.13	54	3.00	76
B	1.50	38	1.94	49	2.25	57
C	1.13	29	1.13	29	2.38	60
D	.56	14	.56	14	1.19	30
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep		1/2-13UNC 3/4" deep	
F	1.75	44	2.25	57	3.13	79
G	1.56	40	2.13	54	3.13	79
H	3.19	81	3.75	95	5.34	136
J	1.88	48	2.44	62	3.44	87
K	2.31	59	3.09	78	4.56	116
L	4.34	110	5.38	137	7.31	186
M	5.31	135	6.34	161	7.88	200
N	Left of center .53		On center 1.00		On center 2.5	
Q	1.44	37	1.78	45	2.31	59

Service Kits

Include all parts normally required for in-service maintenance:

3/4" Basic valve.....**K352056**
1-1/4" Basic valve**K352083**

Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
1	1/4" Tap K053011	1/2" Tap K053067	1" Tap K053143	Body (N.O.)
	—	3/4" Tap K053069	—	
	1/2" Tap K053157	1" Tap K053221	1-1/2" Tap K053146	
	1/4" Tap K053010	1/2" Tap K053065	1" Tap K053159	
1A	—	3/4" Tap K053070	1-1/4" Tap K053144	Body (N.C.)
	1/2" Tap K053064	1" Tap K053219	1-1/2" Tap K053145	
2	K212001	K212002	K313029	Upper piston assy
3*	H13648	H13728	H13752	Seal
4*	H13529	H13676	H13728	Seal

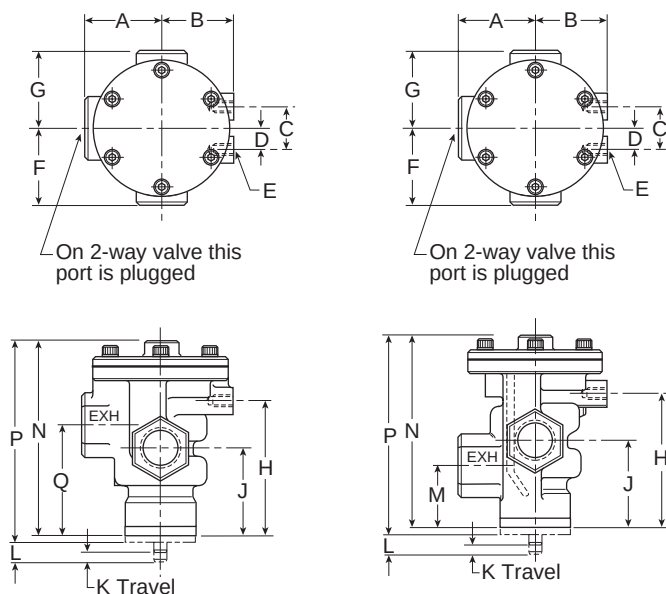
Key	3/8" Valve	3/4" Valve	1-1/4" Valve	Description
5	K493002	K493009	K493016	Stem
6	K202001	K202002	K313028	Lower piston assy.
7*	H13499	H13676	H13728	Seal
8	H17811	H17813	H17817	Washer (2)
9	H06326	H06332	H06338	Stop nut (2)
10	K092020	K092034	K092046	Bottom cap assy. (N.C.)
10A	K103035	K103053	K103061	Bottom cap (N.O.)
11*	K183049	K183057	K183058	Gasket
12	K473014	K473015	K473016	Spring
13	K563016	K563021	K563027	Adapter
14*	K41RB72121	K41RB72221	K41RB72143	O-ring
21	K323027	K323027	Not used	Cover

* Parts included in seal kit



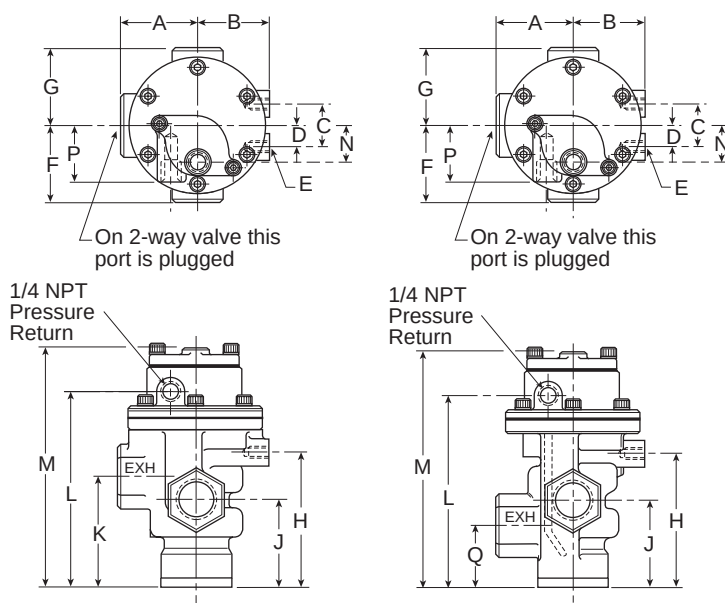
For inventory, lead times, and kit lookup, visit www.pdnplu.com

Internal Return - 3/8", 3/4" & 1-1/4" Basic Body

Internal Return -
3/8", 3/4" & 1-1/4" Basic Body

Key	3/8" Body		3/4" Body		1-1/4" Body	
	Inch	mm	Inch	mm	Inch	mm
A	1.56	40	2.13	54	3.00	76
B	1.50	38	1.94	49	2.25	57
C	1.13	29	1.13	29	2.38	60
D	.56	14	.56	14	1.19	30
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep		1/2-13UNC 3/4" deep	
F	1.75	44	2.25	57	3.13	79
G	1.56	40	2.13	54	3.13	79
H	3.19	81	3.75	95	5.34	136
J	1.88	48	2.44	62	3.44	87
K	.50	13	.50	13	.50	13
L	.11	3	.16	4	.25	6
M	1.44	37	1.78	45	2.66	67
N	4.22	107	5.31	135	7.19	183
P	4.78	121	5.56	141	7.53	191
Q	2.31	59	3.09	78	4.56	116

External Return - 3/8", 3/4" & 1-1/4" Basic Body

External Return -
3/8", 3/4" & 1-1/4" Basic Body

Key	3/8" Body		3/4" Body		1-1/4" Body	
	Inch	mm	Inch	mm	Inch	mm
A	1.56	40	2.13	54	3.00	76
B	1.50	38	1.94	49	2.25	57
C	1.13	29	1.13	29	2.38	60
D	.56	14	.56	14	1.19	30
E	3/8-16UNC 7/16" deep		3/8-16UNC 9/16" deep		1/2-13UNC 3/4" deep	
F	1.75	44	2.25	57	3.13	79
G	1.56	40	2.13	54	3.13	79
H	3.19	81	3.75	95	5.34	136
J	1.88	48	2.44	62	3.44	87
K	2.31	59	3.09	78	4.56	116
L	4.34	110	5.38	137	7.31	186
M	5.31	135	6.34	161	7.88	200
N	Left of center .53 13		On center 1.00 25			
Q	1.44	37	1.78	45	2.31	59