ASEAN Fluid Control Solenoid Valve Range

CAT.ASEAN_FCD

aerospace
climate control
electromechanic
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Parker

ENGINEERING YOUR SUCCESS

Parker Hannifin Corporation

Parker can be found on and around everything that move. We manufacture highly engineered components and systems that facilitate motion and the controlled flow of liquids and gasses for a wide variety of global markets to increase our customers' productivity and profitability.

From flying aircraft and building infrastructure; to developing more efficient energy, advancing medical science and engineered materials, providing clean food and water, and supporting military efforts.

Parker's 55,000 employees bring it all together, partnering with our customers to help solve some of the world's greatest engineering challenges.

Solving The World's Greatest Engineering

Our focus on solving some of the world's greatest engineering challenges sparks our passion for innovation and secures our future growth.

The development of more efficient energy sources; the desire to produce and distribute clean water; new drug discovery and medical advances; the building of infrastructure and transportation to support a growing population; the safe cultivation, transportation and preservation of food sources; emerging developments in defense; and the protection of our environment – all of these challenges drive Parker people forward, seeking new ways to innovate, combine technologies, collaborate, develop systems and partner with our customers to solve problems.

Partnership in Motion
From hidden costs to visible profits

Partnership is an important aspect of the Parker Hannifin business philosophy. We feel that together we can increase your productivity and profitability by utilizing all the products, services and systems in our portfolio.

Whether your needs is to develop sophisticated new machinery or to keep production lines running 24 hours a day, Parker is there to work with you to help you achieve your goals.

History

The history of our great company is an interesting account of the transformation of technology over a period of nearly 100 years.

Founded in 1918, the evolution of the Parker Appliance Company into Parker Hannifin Corporation illustrates a legacy of innovation.

We believe our future growth is assured by honoring Parker's tradition of excellence and fair dealings.

1918	Founded
822,000	Products Sold
58,151	Customers
13,000	Distribution/MRO Outlets
1,200	Markets
316	Manufacturing Plants
50	Countries

Parker Hannifin ASEAN & Australasia

ASEAN Sales Office Presence

- **SINGAPORE** (Head Office)
- **MALAYSIA**
  Kuala Lumpur
  Penang
  Johor Bahru
- **INDONESIA**
  Jakarta
- **THAILAND**
  Bangkok
- **VIETNAM**
  Ho Chi Minh City
- **PHILIPPINES**
  Manila

Australasia Sales Office Presence

- **SYDNEY** (Head Office)
- **AUSTRALIA**
  Perth
  Melbourne
  Brisbane
  Adelaide
  Mackay
  Newcastle
- **NEW ZEALAND**
  Auckland

CONTENTS

1. **A COMPLETE RANGE OF SOLENOID VALVES FOR FLUID CONTROL** — **1**
2. **A MODULAR CONCEPT FOR EVERY APPLICATION** — **2**
3. **IECEx / ATEX CERTIFICATION** — **3**
4. **WORLD CLASS STANDARDS** — **4**
5. **SOLENOID VALVES** — **5 - 21**

BRASS

2/2 VALVES FOR GENERAL PURPOSE, PILOT OPERATED — 5

2/2 VALVES FOR HOT WATER & STEAM — 6

2/2 - 3/2 VALVES FOR GENERAL PURPOSE, DIRECT OPERATED & MAGNALIFT — 7 - 8

STAINLESS STEEL

2/2 - 3/2 VALVES FOR GENERAL PURPOSE, DIRECT OPERATED & MAGNALIFT — 9

BRASS - HIGH PRESSURE VALVE

2/2 VALVES FOR HIGH PRESSURE GENERAL PURPOSE, DIRECT OPERATED & MAGNALIFT — 10

STAINLESS STEEL BODY - ANGLE BODY PISTON VALVES

2/2 ANGLE BODY SEAT VALVES — 11

ALUMINIUM & STAINLESS STEEL BODY - NAMUR VALVE

3/2 - 5/2 NAMUR VALVES — 12

3/2 - 5/2 NAMUR VALVES FOR EX APPLICATION — 13 - 14

2/2 - 3/2 VALVES FOR CHEMICAL, PETROCHEM & OFFSHORE — 15

STAINLESS STEEL & BRASS

INTRINSICALLY SAFE VALVES — 16

VALVES FOR FOOD, VENDING MACHINES, MEDICAL & INSTRUMENTATION MARKETS — 17

ACCESSORIES — 18

6. **FLUID COMPATIBILITY CHART** — **19 - 20**
7. **TECHNICAL INFORMATION** — **21 - 25**

A COMPLETE RANGE OF SOLENOID VALVES FOR FLUID CONTROL

2 WAY VALVES

- For dry or lubricated air, neutral gases and liquids
- For water and neutral liquids
- Anti water hammer
- Hot water and steam
- For hydraulic oil and neutral liquids (Max. 100 bar)
- High corrosion resistant (303 Stainless Steel) (316L Stainless Steel)
- Oil burner
- Fast switching
- Liquipure® for beverage dispensing

3 WAY VALVES

- For dry or lubricated air
- For hydraulic oil and neutral liquids (Max. 75 bar)
- High corrosion resistant (303 Stainless Steel)
- Liquipure® for beverage dispensing

5 WAY DISTRIBUTORS FOR PNEUMATIC APPLICATIONS

- Pipe mounted/ Sub-base mounting

3 & 5 WAY PNEUMATIC DISTRIBUTORS FOR ACTUATION CONTROL

- Pipe mounted
- NAMUR interface
- 316L Stainless Steel (Pipe mounted and with NAMUR interface)

COILS & ELECTRICAL PARTS

- Coils
- Housings
- Explosion-Proof Electrical Parts

A MODULAR CONCEPT FOR EVERY APPLICATION

CHOOSE BETWEEN:

ACTUATION MODES	▶ Direct Operated ▶ Magnalift ▶ Pilot Operated	▶ Manual Reset ▶ Externally Operated
MATERIAL TYPES	▶ Brass ▶ 303 Stainless St. ▶ 316L Stainless St.	▶ Anodized Aluminium ▶ Zinc Alloy ▶ POM
MOUNTING SOLUTIONS	▶ Pipe ▶ Sub-base ▶ NAMUR	▶ Banjo ▶ CETOP ▶ ISO
CONTROL FUNCTIONS	▶ Normally Closed ▶ Normally Open ▶ Universal	▶ Control by Electric Impulse ▶ Dual Solenoids ▶ PWM
INTERNAL DESIGN	▶ Piston ▶ Poppet	▶ Diaphragm ▶ Spool
SEALS	▶ FKM ▶ NBR ▶ EPDM	▶ Ruby ▶ PUR ▶ PCTFE...

IECEx / ATEX CERTIFICATION

ELECTRICAL PART ATEX CERTIFICATION

A selection of FCDE electrical parts conform to the terms of the 94/9/EC directive and are made for potentially explosive environments - zone 0/20, 1/21 and 2/22.

Within the coil section, the presence of the ATEX logo shows that the coil is ATEX approved.

MECHANICAL PART ATEX CERTIFICATION

A selection of FCDE mechanical parts conform to the terms of the 94/9/CE directive specific to non electrical equipment for use within potentially explosive environments - zones 0/20, 1/21 and 2/22.

NAMUR & piped valve ranges now include a marking which indicates mechanical ATEX approval.
Within the valve section, the presence of the ATEX logo shows that the valve is ATEX approved.

SOLENOID VALVE CERTIFICATION

When both the electrical and mechanical part are ATEX approved, the solenoid valve can be used in explosive atmospheres.

The solenoid valve will be delivered assembled and tested.

WORLD CLASS STANDARDS

QUALITY STANDARDS:

- ISO 9001
- ISO 14001
- ISO TS 16949

CERTIFICATIONS AND APPROVALS:

Our products have been approved and are compliant with the relevant market requirements including:

- CE
- ATEX
- RoHS
- UL
- Reach
- IECEx
- CSA
- Gost
- SVGW
- DIN
- AGA
- TUV
- Kosha
- IMQ
- NSF
- VDE

2/2 VALVES FOR GENERAL PURPOSE, PILOT OPERATED

WATER

The Parker 2 way valves (1 way for inlet and 1 way for outlet) for water and neutral liquids are optimized constructions for liquids handling. The exclusive diaphragm design gives a superior flow rate with one of the fastest response time.

Typical applications are:

-Water and hot water supply in plumbing installations
-Breeding
-Irrigation
-Industrial washing machines
-Car washing systems
-Fire fighting

These applications can be found in many markets dealing with water and hot water like plumbing, industries, water treatment, transportation, medical, process, etc…

2/2 normally closed

Part Number	Description	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)	Coil Type
7321BIN00	443776W	3/8"	13	50	NBR	90	20	2.0
7321BAN00	443779W	1/2"	13	50	NBR	90	20	2.0
7321BCN00	443782W	3/4"	20	140	NBR	90	20	2.0
7321BDN00	443786W	1"	25	160	NBR	90	20	2.0
7321BEN00	443790W	1 1/4"	35	420	NBR	90	10	2.0
7321BFN00	443794W	1 1/2"	40	500	NBR	90	10	2.0
7321BGN00	443798W	2"	50	620	NBR	90	10	2.0

2/2 normally open

Part Number	Description	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)	Coil Type
7322BIN00	443778W	3/8"	13	50	NBR	90	20	2.0
7322BAN00	443781W	1/2"	13	50	NBR	90	20	2.0
7322BCN00	443785W	3/4"	20	140	NBR	90	20	2.0
7322BDN00	443789W	1"	25	160	NBR	90	20	2.0
7322BEN00	443793W	1 1/4"	35	420	NBR	90	10	2.0
7322BFN00	443797W	1 1/2"	40	500	NBR	90	10	2.0
7322BGN00	4437801W	2"	50	620	NBR	90	10	2.0

For more compatible coils, see page 21 > ACCESSORIES

2/2 VALVES FOR HOT WATER & STEAM

WATER

The Parker 2 way valves (1 way for inlet and 1 way for outlet) for steam and hot water are robust constructions for fluid temperature up to 180°C.
This includes the famous Ruby seal and also the stainless steel bodies for the harshest requirements.

Typical applications are:

-Laundries
-Plastic molding
-Heating systems
-Sterilization

These applications can be found in many markets like industries, medical, process, etc…

2/2 normally closed

Part Number	Description	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)	Coil Type
7322BIN00	443805W	3/8″	13	50	NBR	90	20	2.0
7321BAH00	443806W	1/2"	13	50	EPDM	140	10	2.0
7321BCH00	443807W	3/4"	20	140	EPDM	140	10	2.0
7321BDH00	443808W	1"	25	160	EPDM	140	10	2.0
7321BEH00	443809W	1 1/4"	35	420	EPDM	140	10	2.0
7321BFH00	443810W	1 1/2"	40	500	EPDM	140	10	2.0
7321BGH00	443811W	2"	50	620	EPDM	140	10	2.0

For more compatible coils, see page 22 > ACCESSORIES

2/2 VALVES FOR GENERAL PURPOSE, DIRECT OPERATED

WATER AIR

The Parker 2 way valves (1 way for inlet and 1 way for outlet) for all fluids, including air, offer large possibilities to control many kinds of fluids with different sealing and flow capabilities according to the installation and requirements, a wide selection of robust valves is proposed to fulfill the most demanding needs.

Typical applications are:

-Shut off valves
-Filling
-Dosing
-Air handling
-Mixing

These applications can be found in many markets where reliability and performances are key factors like in industries, water treatment, transportation, medical, process, etc…

2/2 normally closed, Direct Acting Valves (0 Min Pressure)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
121K01	1/4"	5	11	VITON	100	7/2	2.0
E121K04	1/4"	1.5	1.5	PCTFE	75	60/25	2.0
E121K63	1/4"	2.5	3.5	RUBY	100	28/10	2.0
E121K65	1/4"	1.2	0.85	RUBY	100	80/36	2.0
E121K45	1/2"	11	36	VITON	100	0.7/0.3	2.0
E121K46	1/2"	8.5	25	VITON	100	1.1/0.5	2.0

2/2 normally closed, Direct Acting Valves (0 Min Pressure)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
121KBG2SV00	1/4"	5	11	VITON	100	7/2	2.0

For more compatible coils, see page 21 > ACCESSORIES

2/2 - 3/2 VALVES FOR GENERAL PURPOSE, DIRECT OPERATED & MAGNALIFT

WATER AIR

3/2 normally closed, Direct Acting Valves (0 Min Pressure)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
131KBG2LV00	1/4"	3	3	VITON	100	7	2.0

2/2 normally closed, Magnalift Valves (0 Min Pressure)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
221G15	1/2"	15	65	NBR	75	16/0	2.0
221G16	3/4"	15	80	NBR	75	16/0	2.0
221G21	1"	25	175	NBR	75	16/0	2.0
221G23	3/8"	15	65	FKM	100	16/0	2.0
221G25	1/2"	15	65	FKM	100	16/0	2.0
221G26	3/4"	15	80	FKM	100	16/0	2.0
221G27	1"	15	80	FKM	100	16/0	2.0

For more compatible coils, see page 21 > ACCESSORIES

2/2 - 3/2 VALVES FOR GENERAL PURPOSE, DIRECT OPERATED & MAGNALIFT

WATER AIR

2/2 normally closed, 303 stainless steel valves (0 Min Pressure)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
121V5163	1/4"	5	10	RUBY	140	14/6.5	2.0
71215SN2MV00	1/4"	3	4	VITON	120	14/10	2.0
73212SN2MV00	1/4"	6	10.8	VITON	120	21	2.0

2/2 normally closed, 316 stainless steel valves (0 Min Pressure)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
221S10F	3/8"	15	40	VITON	85	10/0	2.0
221S15F	1/2	15	50	VITON	85	10/0	2.0
221S20F	3/4"	24	95	VITON	85	10/0	2.0
221S25F	1"	24	105	VITON	85	10/0	2.0

2/2 normally open, 430 stainless steel valves (0 Min Pressure)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
71225SN2KF00	1/4"	2.4	2.1	PCTFE	75	12	2.2

3/2 universal, 430 stainless steel valves (0 Min Pressure)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
71335SN2ANJ1	1/4"	0.8	0.3	NBR	85	28	2.0

For more compatible coils, see page 21 > ACCESSORIES

2/2 VALVES FOR HIGH PRESSURE GENERAL PURPOSE, DIRECT OPERATED & MAGNALIFT

The Parker 2 way valves (1 way for inlet and 1 way for outlet) for all fluids, including air, offer large possibilities to control many kinds of fluids with different sealing and flow capabilities according to the installation and requirements, a wide selection of robust valves is proposed to fulfill the most demanding needs.

Typical applications are:

-Shut off valves
-Filling
-Dosing
-Air handling
-Mixing

These applications can be found in many markets where reliability and performances are key factors like in industries, water treatment, transportation, medical, process, etc…

2/2, direct acting, normally closed

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) AC/DC	Coil Type
E121K67	1/4"	1.5	1.5	Ruby	120	60/25	2.0
E321H15	1/2"	15	60	NBR	100	40	2.0

For more compatible coils, see page 21 > ACCESSORIES

2/2 ANGLE BODY SEAT VALVES

WATER OIL AIR

2/2 normally closed, BSP, 316L St/St valves, flow over seat, for steam and gas

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	dp (BAR) min/max	Pilot Pressure (Bar)
PA15S1G4R040S	1/2"	13	78	PTFE	180	0-16	3.5-10
PA20S1G5R050S	3/4"	18	150	PTFE	180	0-16	3.5-10
PA25S1G6R050S	1"	24	267	PTFE	180	0-16	4.5-10
PA32S1G7R063S	1-1/4"	31	400	PTFE	180	0-16	4.5-10
PA40S1G8R063S	1-1/2"	35	549	PTFE	180	0-16	4.5-10
PA50S1G9R080S	2"	45	881	PTFE	180	0-16	5-10
PA65S1GTR100S	2-1/2"	65	1369	PTFE	180	0-16	5-10

2/2 normally closed, BSP, 316L St/St valves, flow under seat, for liquids and anti water hammer

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	dp (BAR) min/max	Pilot Pressure (Bar)
PA15SAG4R050S	1/2"	13	78	PTFE	180	0-16	4.5-10
PA20SAG5R050S	3/4"	18	150	PTFE	180	0-10	4.5-10
PA25SAG6R063S	1"	24	267	PTFE	180	0-8	4.5-10
PA32SAG7R080S	1-1/4"	31	400	PTFE	180	0-11	4-10
PA40SAG8R080S	1-1/2"	35	549	PTFE	180	0-8	4-10
PA50SAG9R100S	2"	45	881	PTFE	180	0-9	4-10

2/2 normally closed, BSP, Aluminium Actuator with 304 SS valves

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	dp (BAR) min/max	Pilot Pressure (Bar)
PA15S1G4S040A	1/2"	13	78	PTFE	180	0-16	3-10
PA20S1G5S050A	3/4"	18	150	PTFE	180	0-16	3-4
PA25S1G6S050A	1"	24	267	PTFE	180	0-16	3-5.5
PA32S1G7S063A	1-1/4"	31	400	PTFE	180	0-16	3-5.5
PA40S1G8S063A	1-1/2"	35	549	PTFE	180	0-16	3-6.5
PA50S1G9S080A	2"	45	881	PTFE	180	0-16	3-6.6
PA65S1GTS100A	2-1/2"	65	1369	PTFE	180	0-16	3-6

2/2 normally closed, BSP, Aluminuim Actuator with 304 SS valves, anti hammer

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	dp (BAR) min/max	Pilot Pressure (Bar)
PA15SAG4S050A	1/2"	13	78	PTFE	180	0-16	4.5-10
PA20SAG5S050A	3/4"	18	150	PTFE	180	0-10	4.5-10
PA25SAG6S063A	1"	24	267	PTFE	180	0-8	4.5-10
PA32SAG7S080A	1-1/4"	31	400	PTFE	180	0-11	4-10
PA40SAG8S100A	1-1/2"	35	549	PTFE	180	0-16	4-10
PA50SAG9S100A	2"	45	1369	PTFE	180	0-9	4-10

3/2 - 5/2 NAMUR VALVES

AIR

5/2
3/2
Convertible

Product Features:

- Valves have threaded ports and NAMUR interface plates.
- Common plate changes the 3/2-5/2 function simply by rotating the interface plate180°.
- Valve construction permits easy & quick maintenance & reduces system down time.

High Flow 1/4" NAMUR valve, single solenoid, IP65

Part Number	Config	Port Size G	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)
2341N0120	3/2 or 5/2	1/4"	4	600	NBR	80	1.5 - 10

High flow 1/4" NAMUR valve, dual solenoid, IP65

Part Number	Config	Port Size G	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)
BPKAD6JNC2	3/2 or 5/2	1/4"	4	600	NBR	80	2-10

5 watt, IP65, 22mm coils for High Flow NAMUR Valves

Part Number	Voltage
481180C2	24VDC
4811803D	230VAC
C12209N21	DIN PLUG

3/2 - 5/2 NAMUR VALVES FOR EX APPLICATION

Lucifer explosion proof NAMUR Single Solenoid Valve (7000 series coils)

Part Number	Config	Port Size G	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)
341N31	3/2 or 5/2	1/4"	4	600	NBR	80	2-10

Lucifer explosion proof NAMUR double Solenoid Valve (7000 series coils)

Part Number	Config	Port Size G	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)
347N31	3/2 or 5/2	1/4"	4	600	NBR	80	2-10

9 Watt DC & 11 Watt AC, Exme IIC T3/T4, Class 1 - ZONE 1 COIL, IP66

Part Number	Voltage
492190Q1	230VAC
492190P0	24VAC
492190P2	110VAC
492190C2	24VDC
492190C4	48VDC
492190C5	110VDC

3/2 - 5/2 NAMUR VALVES FOR EX APPLICATION

AIR

Lucifer explosion proof NAMUR Single Solenoid Valve

Part Number	Config	Port Size G	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)
U341N3250	3/2 or 5/2	1/4"	4	1400	NBR	80	2-10

9 Watt DC & 11 Watt AC, Exme IIC T3/T4, Class I - ZONE 1 Coil, IP66

Part Number	Voltage
492190Q1	230VAC
492190P0	24VAC
492190P2	110VAC
492190C2	24VDC
492190C4	48VDC
492190C5	110VDC

4/2 & 5/2 single solenoid NAMUR valves

Part Number	Config	Port Size G	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)
341L9594	3/2 or 5/2	1/4"	4	1400	NBR	75	10-75

1 Watt, Ex ia IIC T6 DIN coil (IEC), IP67

Part Number	Voltage
495910N7	24VDC

2/2 - 3/2 VALVES FOR CHEMICAL, PETROCHEM & OFFSHORE

2/2 Direct solenoid operated - Normally closed (316LSS)

Part Number	Thread NPT	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) Min - Max	Coil Type
U121V5595	1/4	1	40	PUR	75	0 - 98	1 or 4
U121V55961D	1/4	1	40	PUR	75	0 - 98	3
U121V5596	1/4	1	40	PUR	75	0 - 98	3

3/2 Direct solenoid operated - Universal valves (316LSS)

Part Number	Thread NPT	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) Min - Max	Coil Type
U133V5695	1/4	2.5	220	FKM	75	0 – 8.5	2, 3, 4
U133X5156	1/4	5	680	NBR	65	0 - 10	2, 3, 4
U133X5196	1/4	5	680	NBR	65	0 - 10	2 or 3
U033X5156	1/4	5	680	NBR	65	0 - 10	1 or 3

Eex ia IIC T6 (Intrinsically safe) IP66

Part Number	Coil Type	Voltage
48287001N7	1	24VDC
49296501N7	2	24VDC
48333001N7	5	24VDC

Eex me II T5/T6 (1-1.5 Watt) ATEX coil, IP66

Part Number	Coil Type	Voltage
492210C2	4	24VDC

6 Watt,Eex me II T5/T6 (Explosion Proof) IP66

Part Number	Coil Type	Voltage
492310C2	3	24VDC
492310C4	3	48VDC
492310C5	3	110VDC
492310Q1	3	240VAC
492310P2	3	110VAC

INTRINSICALLY SAFE VALVES

WATER OIL AIR

2/2 Solenoid operated - Normally closed (Brass)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR)	Coil Type
321H1590	1/2	14.5	60	NBR	75	0.3 - 10	1
321G3790	1	25	185	NBR	75	0.3 - 10	1
321G3990	1-1/2	40	425	NBR	75	0.5 - 10	1
321G4090	2	40	540	NBR	75	0.5 - 10	1

3/2 Solenoid operated - Normally closed (303SS)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating (BAR) Min - Max	Coil Type
131V5490	1/4	1	0.6	FKM	75	0 - 10	1

1 Watt, IP67, Ex ia IIC T6 DIN coil (IEC)

Part Number	Coil Type	Voltage
495910N7	1	24VDC

VALVES FOR FOOD, VENDING MACHINES, MEDICAL & INSTRUMENTATION MARKETS

WATER OIL AIR

2/2 Direct solenoid operated - Normally closed (303SS)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating DC (BAR) Min - Max	Pressure-Rating AC (BAR) Min - Max
20CC02JV4	1/8	2	2.1	FKM	116	0 - 12.5	0 - 31
20CC02LV4	1/8	2.4	3.1	FKM	116	0 - 9	0 - 22
20CC02MV4	1/8	3.7	4	FKM	116	0 - 7	0 - 17
20CC02PV4	1/8	3.2	4.6	FKM	116	0 - 4	0 - 12

2/2 Direct solenoid operated - Normally closed (303SS)

Part Number	Coil Type	Voltage
4B2A	IP65	12VDC
4B2B	IP65	24VDC
4B2E	IP65	24 VAC
4B2F	IP65	110 VAC
4B2G	IP65	220 VAC

Part Number	Coil Type	Voltage
4D6A	IP65	12 VDC
4D6B	IP65	24 VDC
4D6E	IP65	24 VAC
4D6F	IP65	110VAC
4D6G	IP65	220 VAC

2/2 Solenoid operated - Normally closed (303SS)

Part Number	Thread BSPP	Orifice mm	Kv l/min	Seal Material	Max Temp C	Pressure Rating DC (BAR) Min - Max	Pressure-Rating AC (BAR) Min - Max
WV121S121JV	1/8	2	1.9	FKM	75	0 - 7	0 - 10
WV121S122LV	1/4	2.5	2.8	FKM	75	0 - 5	0 - 7

2/2 Solenoid operated - Normally closed (Plastic)

Part Number	Thread BSPP	Orifice mm	Seal Material	Max Temp C	Pressure Rating DC (BAR) Min - Max	Pressure-Rating AC (BAR) Min - Max
121S432KS	1/4	2.5	SILICON	75	0 - 5	0 - 7

300mm Lead, 8 Watt, IP65, UL CE coil

Part Number	Coil Type	Voltage
H-WS-C1	IP65	12 VDC
H-WS-C2	IP65	24 VDC
H-WS-B5	IP65	110 VAC
H-WS-B7	IP65	220 VAC

ACCESSORIES

9 watt, IP65, Coil + DIN Plug

Part Number	Coil Type	Voltage
4827253D	2.0	230VAC
482725C2	2.0	24VDC
482725A2	2.0	24VAC
482725A5	2.0	110VAC
482725C1	2.0	12VDC
482725C4	2.0	48VDC
482725C5	2.0	110VDC
482635P0	2.0	24VAC 50/60
482635S5	2.0	115VAC50 120VAC60
482635S6	2.0	240VAC 50/60

14W, IP65, Coil + DIN Plug, high temp

Part Number	Voltage
492727F4	2.2
492727C2	2.2
492727A2	2.2
492727A5	2.2
492727C1	2.2
492727C4	2.2
492727C5	2.2

9 watt, IP67, IEC Ex d mb IIC, T4, Coil + DIN Plug

Part Number	Coil Type	Voltage
495905F4	2.0	230VAC
495905C2	2.0	24VDC
495905A2	2.0	24VAC
495905A5	2.0	110VAC
495905C1	2.0	12VDC
495905C4	2.0	48VDC
495905C5	2.0	110VDC

9 watt, IP20, Screw Terminal Coils

Part Number	Coil Type	Voltage
481000C1	2.0	12VDC
481000C2	2.0	24VDC
481000C4	2.0	48VDC
481000C5	2.0	110VDC
481000A2	2.0	24VAC
481000A4	2.0	48VAC
4810000A	2.0	115VAC
4810003D	2.0	240VAC

Housing For Screw Terminal Coils

Part Number	Description
48427020	Protection IP44
48453820	Protection IP67

Sintered Bronze Silencers

Part Number	Description
9090050700	1/8"
9090050800	1/4"
9090050900	3/8"
9090051000	1/2"

Solenoid Valve Din Timer

Part Number	Description
ELECD4	1-120 SEC

DIN Plugs

Part Number	Description
C12209N21	Standard 22mm Connector
C18209N21	Standard 32mm Connector
S18209TA011	LED 32mm 12VDC
S18209TA021	LED 32mm 24VDC
S18209TA041	LED 32mm 110VAC
S18209TA051	LED 32mm 240VAC
S12209TA021	LED 22mm 24VDC
S12209TA041	LED 22mm 110VAC
S12209TA051	LED 22mm 240VAC
48104340 (25pcs)	Standard 22mm connector
48658640 (25pcs)	Standard 32mm connector

FLUID COMPATIBILITY CHART

1= Good 2 = Satisfactory N.B. all the fluids are at ambient temperature unless otherwise indicated.

FLUID	MATERIAL						
	STAINLESS STEEL	BRASS	NBR	VITON	EPDM	NEOPRENE	RUBY TEFLON
Acetone	1	1	-	-	1	-	1
Air	1	1	1	1	1	1	1
Ammonia	1	-	-	-	-	1	1
Animal oil	1	1	1	1	-	-	1
Amyl acetate	1	2	-	-	-	-	1
Amyl alcohol	1	2	-	2	1	2	1
Argon	1	1	-	1	1	-	-
Beer	1	1	1	1	1	1	1
Borax	1	1	2	1	1	-	1
Boric acid	1	2	1	1	1	1	1
Butane gas	1	1	1	1	-	2	-
Butane gas	1	1	1	1	-	-	-
Butyl alcohol	1	2	1	1	-	1	1
Butylene	1	1	-	1	-	-	1
Calcium bisulphite	1	2	1	1	-	1	1
Calcium chloride	1	2	1	1	1	1	1
Carbon dioxide - CO2	1	1	1	2	-	-	1
Chlorobenzene	1	2	-	1	-	-	1
Coffee	1	1	1	1	1	1	1
Cyclohexane	1	1	1	1	-	-	1
Diesel oil	1	1	1	1	-	-	1
Distilled water	1	2	1	2	1	1	1
Dry bromine	1	1	-	2	-	-	1
Ethyl alcohol	1	2	1	-	1	1	1
Ethyl chloride	1	2	1	1	1	-	1
Ethylene glycol	1	2	1	1	1	1	1
Formic acid	1	2	-	-	-	1	1
Fuel oil	1	1	1	1	-	-	1
Fruit juice	1	2	1	1	-	1	1
Fresh water	1	1	1	2	1	1	1
Glycerol	1	2	1	1	1	1	1
Glycol	1	2	1	1	1	1	1
Glucose	1	1	1	1	1	1	1
Helium	1	1	1	1	1	1	-
Heptane	1	1	1	1	-	-	1
Hexane	1	2	1	1	-	-	1
Hydrogen	1	2	1	1	1	1	-
Isoxathian	1	1	1	1	-	-	1
Kerosine	1	1	1	1	-	-	1

FLUID COMPATIBILITY CHART

1= Good 2 = Satisfactory N.B. all the fluids are at ambient temperature unless otherwise indicated.

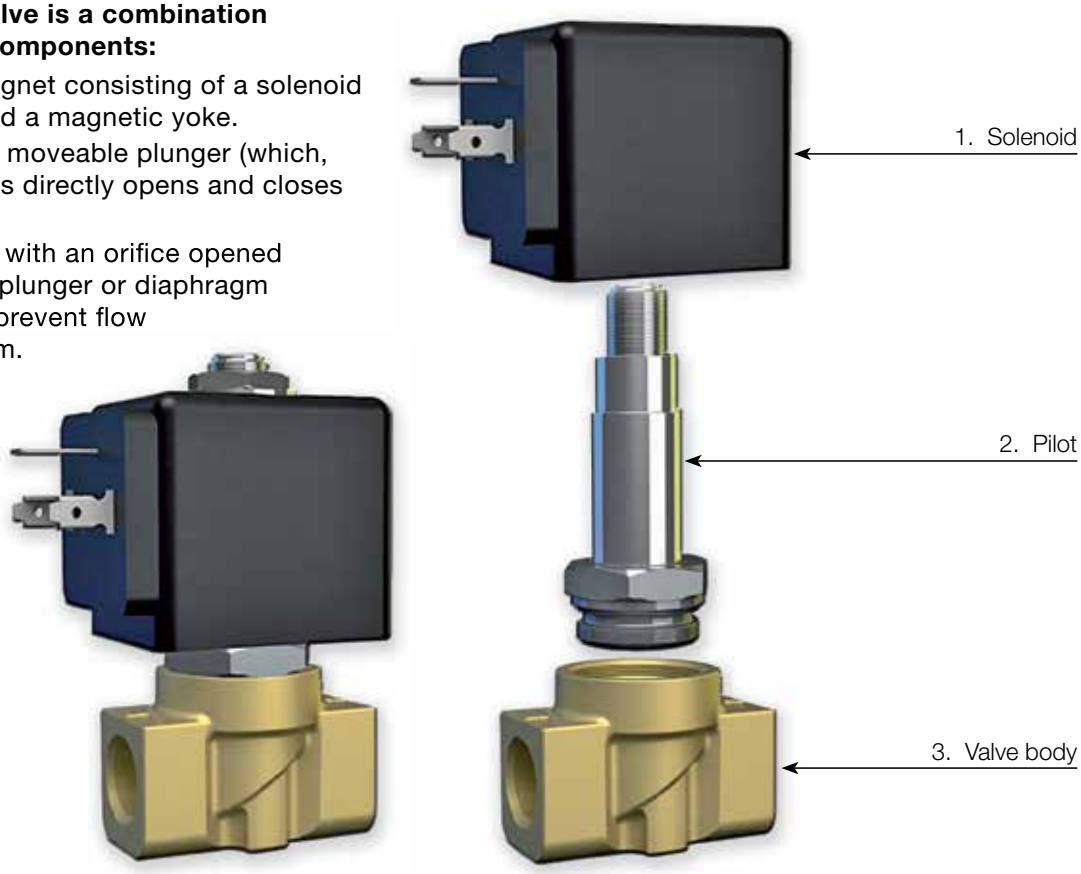
FLUID	MATERIAL						
	STAINLESS STEEL	BRASS	NBR	VITON	EPDM	NEOPRENE	RUBY TEFLON
LPG gas	1	1	1	1	-	-	1
Methane gas	1	1	1	1	-	-	-
Methyl acetate	1	1	-	-	-	-	1
Methyl alcohol	1	2	1	-	1	1	1
Methyl chloride	1	1	-	1	-	-	1
Methyl-ethyl-ketone	1	1	-	-	1	-	1
Milk	1	2	1	1	1	1	1
Mineral oil	1	1	1	1	-	2	1
Naphtha	1	2	2	1	-	-	1
Natural gas	1	1	1	1	-	-	-
Neon	1	1	1	1	1	1	-
Nitrogen	1	1	1	1	1	1	1
Oxygen	1	1	-	1	1	1	-
Ozone	1	1	-	1	1	-	-
Paint	1	1	-	1	-	-	1
Palmitic acid	1	2	-	1	-	2	1
Pentane	1	1	1	1	-	-	1
Perchloroethylene	1	2	2	1	-	-	1
Petrol	1	1	1	1	-	-	1
Petroleum	1	2	1	1	-	-	1
Phenol	1	2	-	1	-	-	1
Potassium chloride	1	2	1	1	1	1	1
Propane gas	1	1	1	1	-	-	-
Propyl alcohol	1	1	1	1	1	1	1
Sea water	1	2	1	1	1	1	1
Silicone oil	1	1	1	1	1	1	1
Soap solution	1	1	1	1	1	-	1
Sodium bicarbonate	1	2	1	1	1	1	1
Steam at 140°C	1	1	-	2	1	-	1
Steam at 180°C	1	1	-	-	1	-	1
Tartaric acid	1	1	1	1	-	-	1
Toluene	1	1	-	2	-	-	1
Trichloroethane	1	2	-	1	-	-	1
Trichlorethylene	1	2	-	1	-	-	1
Vegetable oil	1	2	1	1	-	-	1
Vinegar	1	2	-	1	-	2	1
Wet bromine	1	2	-	2	-	-	1
Xylene	1	1	-	1	-	-	1

General Information

Solenoid valves are electro-mechanical devices used for interrupting or diverting the flow of fluids by opening or closing one or more orifices.

The solenoid valve is a combination of three basic components:

1. An electromagnet consisting of a solenoid (windings) and a magnetic yoke.
2. A pilot with a moveable plunger (which, in some cases directly opens and closes the valve).
3. A valve body with an orifice opened or closed by plunger or diaphragm to enable or prevent flow of the medium.



Operating principles

The term solenoid refers to operator and coil, also known as pilot or magnetic actuator.

The coil consists of copper wire wound on a support reel. When electric current is applied into the coil, magnetic flow lines are generated which are stronger in the coil center.

This magnetic flow raises the moveable plunger in the coil until it brings it into contact with the pole piece. The valve body has an orifice through which the fluid flows when the valve is open.

The moveable plunger has an integral seat which when the solenoid coil is energised, moves off the valve (direct operated) orifice or diaphragm (pilot operated) orifice opening the valve.

When the coil is de-energised, a return spring brings the plunger back to the original closing position, thus cutting off the flow of the fluid.

Solenoid Valves

Solenoid valves are electrically operated devices used to control flow.
The most common types of solenoid valve are:

Magnalift Valves

Direct Operated Valves

Pilot Operated Valves

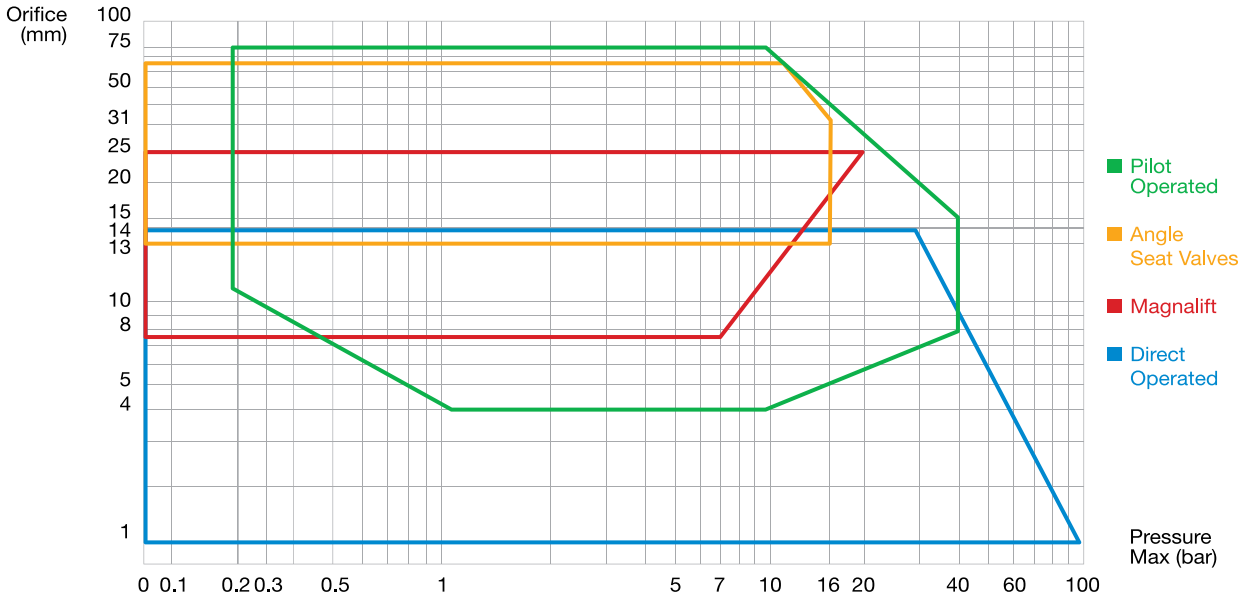
Angle Seat Valves

An angle seat valve is actuated by a pneumatically driven piston ans is capable to handle slurry solutions with particles or corrosive solutions at high temperature up to 180°C and operating pressure up to 16 Bar.

Angle Seat Valves

Area of operation:

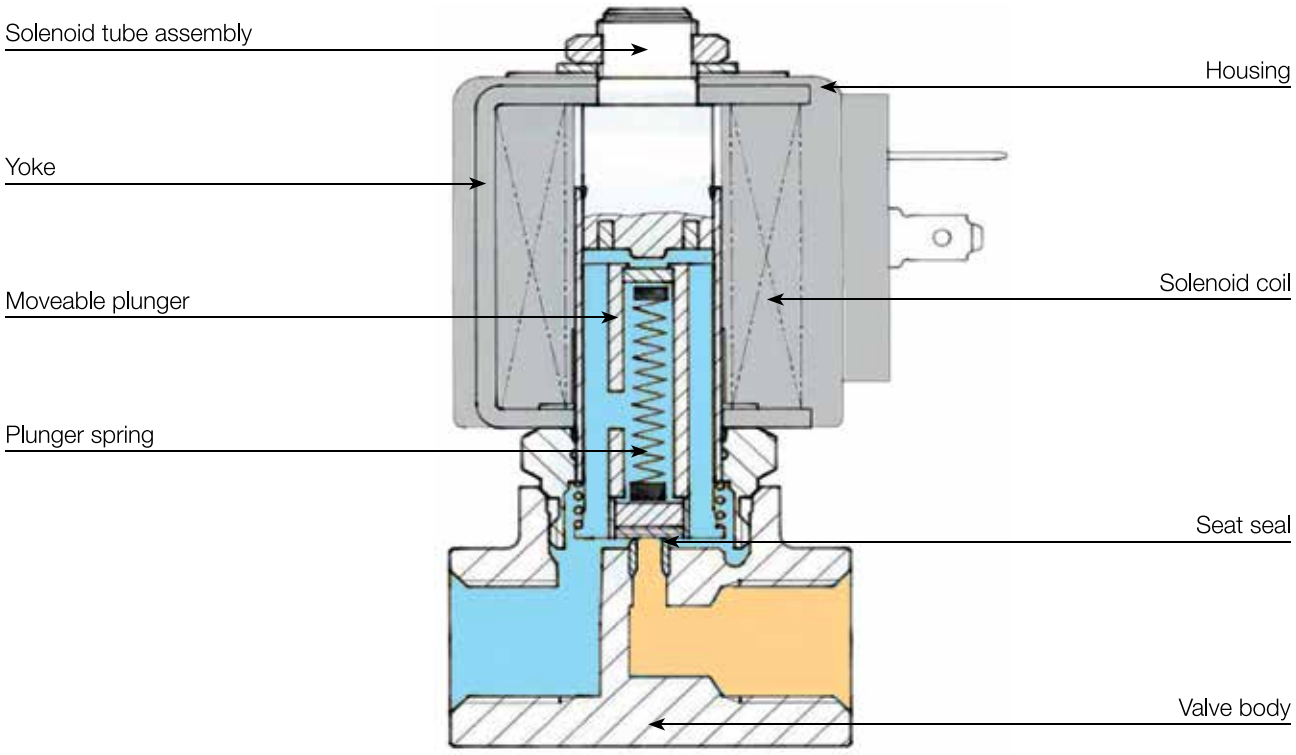
Each valve principle, as described in the previous pages, has a defined area of operation related to its pressure and flow capabilities. The following graph shows which type of valve is suitable in our complete range for a certain situation.



Areas of operation of Parker solenoid valves.

BASIC COMPONENTS OF A SOLENOID VALVE

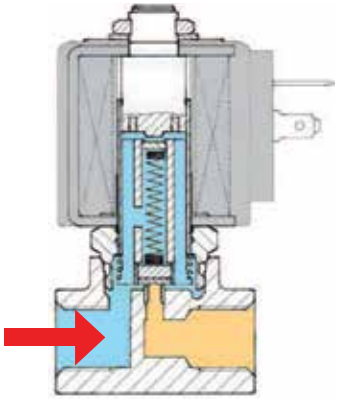
Valve body:	Main part of the solenoid valve including ports, seat and orifices.
Solenoid tube assembly:	Cylinder, in stainless steel, hermetically sealed and closed at one extremity. It is the guide channel of the moveable plunger which is moved magnetically. The solenoid coil is fitted on the external side of the enclosing tube.
Moveable plunger:	Made by ferritic stainless steel, it is attracted by the solenoid magnetic field and slides inside the tube.
Plunger spring (or return spring):	Used to hold the moveable plunger in position and to return it when de-energized.
Seat seal:	Part of the moveable plunger, it is used to close a valves main orifice or pilot orifice.
Electromagnet (or solenoid coil):	Electrical part consisting of a copper windings (solenoid) along, with a magnetic yoke (armature), when electric current flows through, it generates a magnetic field atracting the moveable plunger.
Housing:	Part that contains and protects the coil.
Yoke:	Metalic case surounding the coil and concentring electro-magnetic force on the moveable plunger.



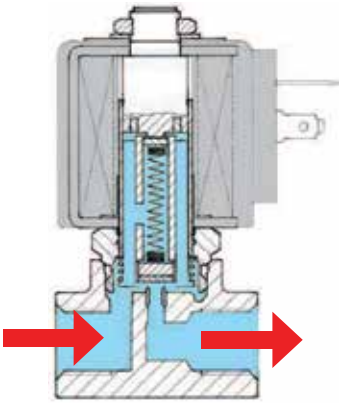
Direct Operated Valve

Magnetic force is used directly to open or close the plunger which controls the passage of the fluid. Performances are limited by the coil, the pressure, and the valve orifice size. For direct operated valves, the minimum working pressure is 0 bar and the maximum pressure relies on the combination (valve/coil) chosen.

De-energised



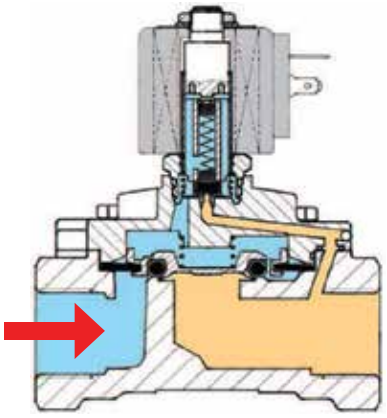
Energised



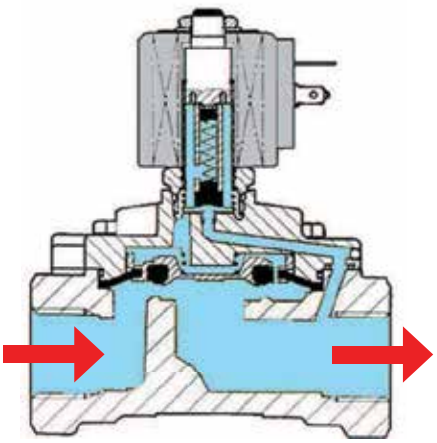
Pilot Operated Valve

To control a higher flow, it is necessary to use pilot operated valves. The supply pressure enters the direct operated "pilot stage" which directs the flow to a "pilot chamber" which, in turn, applies the pilot pressure over a large area (generally a diaphragm or piston). Therefore, a large force is generated to move the main sealing elements against higher pressure or over a large orifice. One condition of operation is to have a minimum pressure available to shift the valve (indicated in the catalogue). In most applications, this presents no particular problems (refer to magnalift valve section). The pressure rating of the valve starts between 0.1 to 0.5 bar (depending on the valve). (NB. Pilot Operated Valves are also called Servo Operated Valves).

De-energised



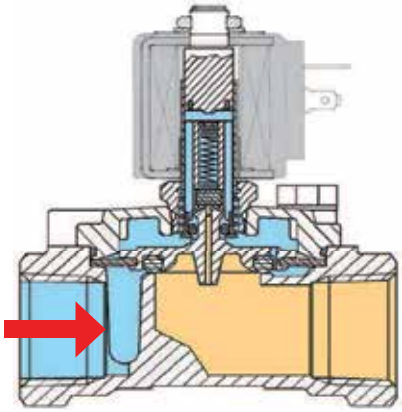
Energised



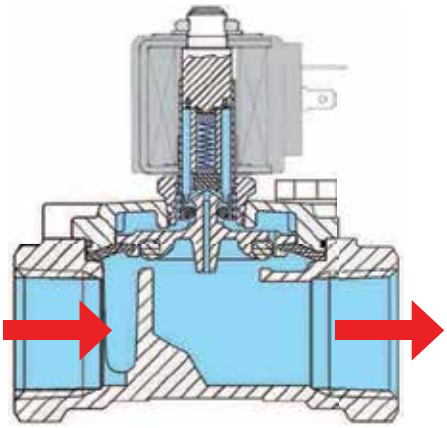
Magnalift Operated Valve

The magnalift valves combine the features of the direct operated and pilot operated valves. A mechanical link between the plunger and diaphragm retainer allows the valve to operate as a direct operated valve at low pressures and as a pilot operated valve at higher pressures. Magnalift valves are specially designed for applications where 0 pressure is needed to operate the valve, as well as bigger flow than a direct operated valve.

De-energised



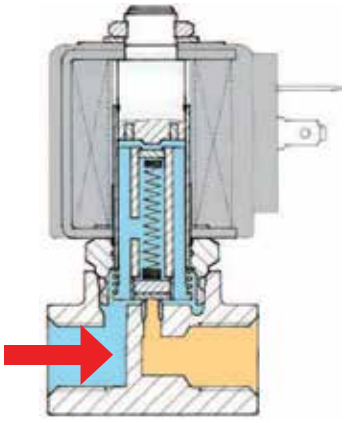
Energised



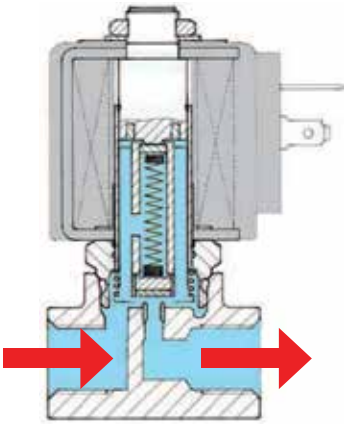
Normally Closed Valve

Most of our valves are available in normally closed and normally open configuration when not energized. In certain applications, you may require a normally open valve (open function in case of current failure). The differentiating factor of design of this technology, is based upon the design of the seat seal, which is reversed in comparison to a normally closed valve.

De-energised



Energised



PARKER HANNIFIN INDUSTRIAL MALAYSIA

No. 11, Persiaran Pasak Bumi,
Seksyen U8, Bukit Jelutong Industrial Park,
40150 Shah Alam, Selangor,
MALAYSIA

Email : parkermy@parker.com
Ph : +603 7849 0800
Fax : +603 7872 4348