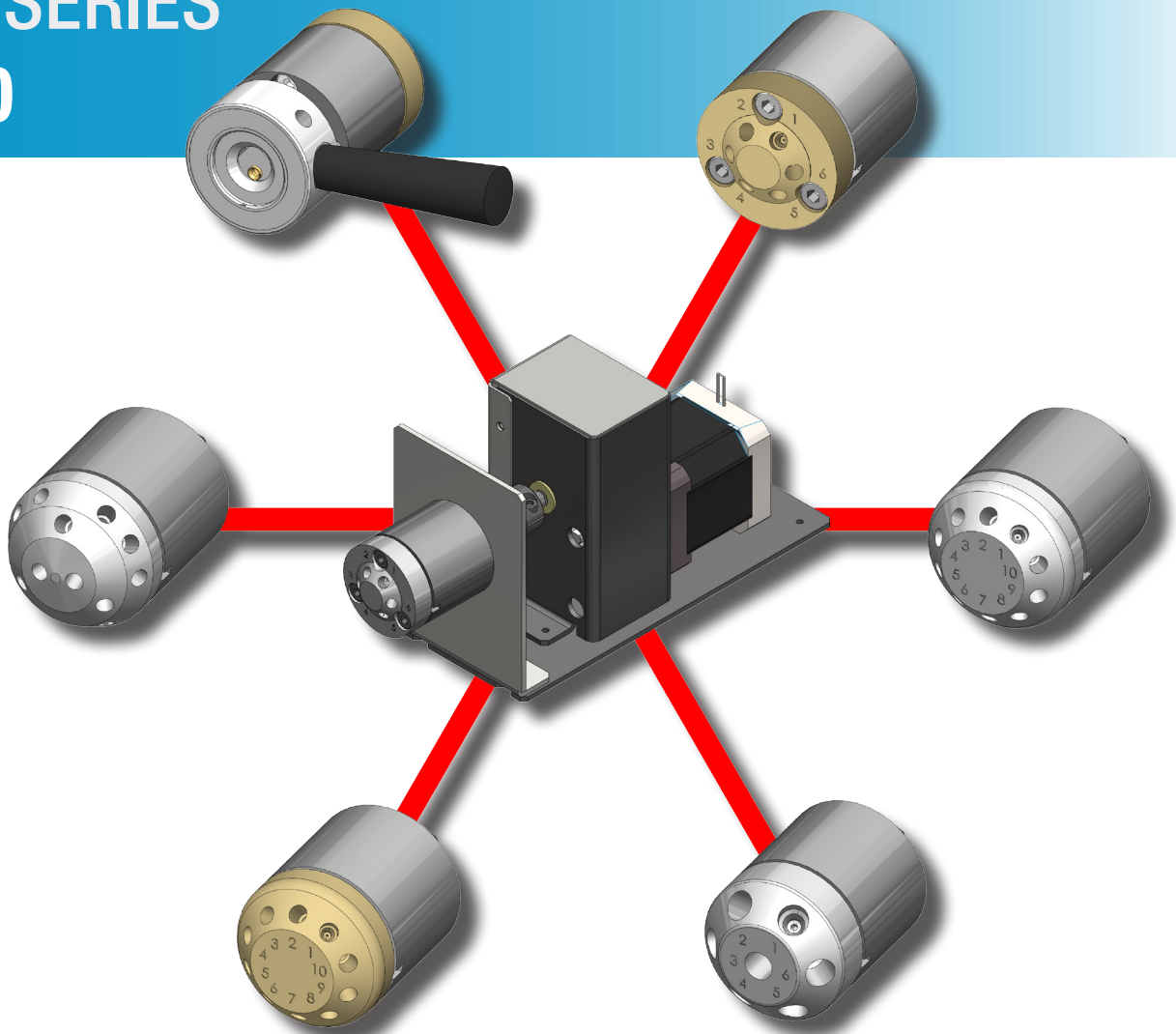


**VALVE SERIES
S 6000**



■ SYKAM S 6000 VALVE SERIES

ROTOR SEALS

Sykam offers a variety of different Rotor Seals materials to satisfy any possible application. All materials were thoroughly tested on their chemical compability and physical properties.

Available materials include:

- PEEK (modified Polyetheretherketone)
- Vespel (modified Polyimid)
- PPS (modified Polyphenylensulfid)

All S6000 series valves are delivered with PPS Rotor Seal.

Further rotor seal materials are available on request.

DiaDur PROTECTION

All S 6000 series stainless steel stators feature the *DiaDur* coating on their working face which is almost as hard as diamond . This not only protects the contact surface from wear but also improves the abrasion of the stator and rotor.

Sykam DiaDur Stator



- Low Friction & Abrasion
- Low Wear on Surface
- Chemical Stability

Conventional Stainless Steel Stator



- High Friction & Abrasion
- High Wear on Surface
- Chemical Susceptibility (e.g. salt buffers)

OEM VALVE SOLUTIONS

S 6000 Valve Series is also available as OEM product for instrument manufacturers. A minimum number of 50 valves per year are required for an OEM customer.

Besides special OEM prices for all S 6000 Valve products, Sykam offers individual OEM solutions. These include the following:

- one specific color for valve body and/or switching handle (see list of available colors below)
- specific flow geometries are available on request

OEM Valves Color Table

| Valve Body |
|---------------|
| Yellow / Gold |
| Red |
| Blue |
| Green |
| Dark Bronze |
| Silver |



Color examples for OEM valves

SYKAM SAMPLE LOOPS

Sykam offers the whole range of stainless steel and PEEK sample loops. All sample loops are precision-cut for avoiding dead volume and leaking connections.

The high quality standards of the S6000 valve series is continued with these sample loops.

The volume of the sample loops is a nominal volume only as inner diameter of the used capillaries vary over the length.

ORDER INFORMATION

| Cat. No. | Nominal Volume | Material | I.D. |
|-----------|----------------|-----------------|------------------|
| 21 23 001 | 2 μ l | Stainless Steel | 0.12 mm (0.005") |
| 21 23 002 | 5 μ l | Stainless Steel | 0.12 mm (0.005") |
| 21 23 003 | 10 μ l | Stainless Steel | 0.25 mm (0.010") |
| 21 23 004 | 20 μ l | Stainless Steel | 0.25 mm (0.010") |
| 21 23 005 | 50 μ l | Stainless Steel | 0.50 mm (0.020") |
| 21 23 006 | 100 μ l | Stainless Steel | 0.50 mm (0.020") |
| 21 23 007 | 200 μ l | Stainless Steel | 0.75 mm (0.030") |
| 21 23 008 | 500 μ l | Stainless Steel | 0.75 mm (0.030") |
| 21 23 009 | 1 ml | Stainless Steel | 1.00 mm (0.040") |
| 21 23 010 | 2 ml | Stainless Steel | 1.00 mm (0.040") |
| 21 23 011 | 5 ml | Stainless Steel | 1.00 mm (0.040") |
| 21 24 001 | 2 μ l | PEEK | 0.12 mm (0.005") |
| 21 24 002 | 5 μ l | PEEK | 0.12 mm (0.005") |
| 21 24 003 | 10 μ l | PEEK | 0.25 mm (0.010") |
| 21 24 004 | 20 μ l | PEEK | 0.25 mm (0.010") |
| 21 24 005 | 50 μ l | PEEK | 0.50 mm (0.020") |
| 21 24 006 | 100 μ l | PEEK | 0.50 mm (0.020") |
| 21 24 007 | 200 μ l | PEEK | 0.75 mm (0.030") |
| 21 24 008 | 500 μ l | PEEK | 0.75 mm (0.030") |
| 21 24 009 | 1 ml | PEEK | 1.00 mm (0.040") |
| 21 24 010 | 2 ml | PEEK | 1.00 mm (0.040") |
| 21 24 011 | 5 ml | PEEK | 1.00 mm (0.040") |



SYKAM S 6010/6110 ANALYTICAL INJECTION VALVE



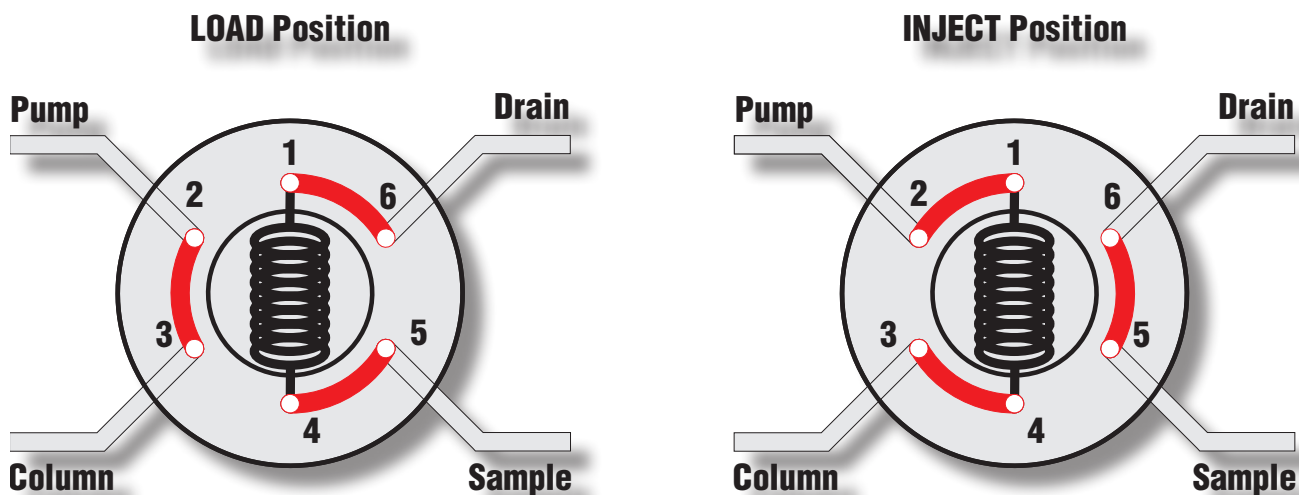
The S 6010 is a stainless steel analytical injection valve to be used in autosamplers or other motor-driven applications. The 6110 is the identical valve with inert PEEK stator.

These valves feature the No-Flow-Interruption (NFI) technology which reduces pressure spikes during position switching to a minimum.

The S 6010/6110 is shipped with a 20 μ l sample loop; it is otherwise identical with the S6030/6130 valve.

A variety of rotor seal materials are available to cover any type of application.

S 6010/6110 FLOW SCHEME



ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|--|
| 20 32 001 | S 6010 | Stainless Steel | 400 bar (6000 PSI) | NFI* Injection valve w. 20 μ l Sample Loop |
| 20 32 008 | S 6110 | PEEK | 350 bar (5250 PSI) | |

* No-Flow-Interruption : position change without noticeable interruption of flow

SYKAM S 6011/6111 PREPARATIVE INJECTION VALVE

The S 6011 is a stainless steel preparative injection valve to be used in autosamplers or other motor-driven applications. The 6111 is the identical valve with inert PEEK stator. The valves have standard 1/8" ports instead of the usual 1/16". The higher diameter is necessary for high-flow preparative applications.

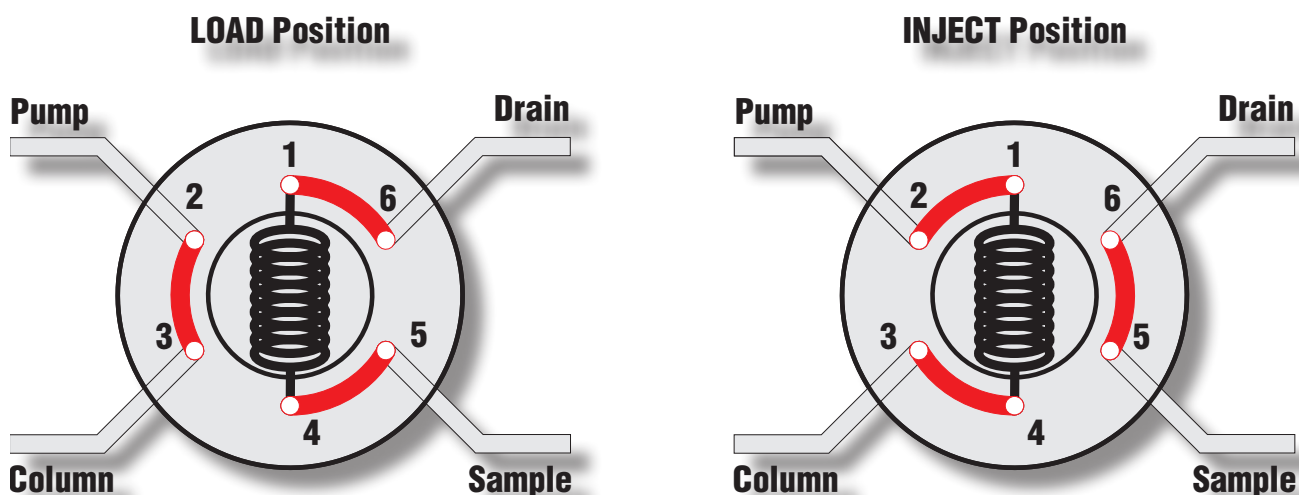
These valves feature the No-Flow-Interruption (NFI) technology which reduces pressure spikes during position switching to a minimum.

The S 6011/6111 is shipped with a 1 ml sample loop; it is otherwise identical with the S6031/6131 valve.

A variety of rotor seal materials are available to cover any type of application.



S 6011/6111 FLOW SCHEME



ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|--|
| 20 32 002 | S 6011 | Stainless Steel | 250 bar (3750 PSI) | NFI* Injection valve w. 1 ml Sample Loop |
| 20 32 009 | S 6111 | PEEK | 250 bar (3750 PSI) | |

* No-Flow-Interruption : position change without noticeable interruption of flow

SYKAM S 6020/6120 NEEDLE INJECTION VALVE



The S 6020 is a stainless steel 2-position valve with needle injection port on the front side. The 6120 is the identical valve with inert PEEK stator.

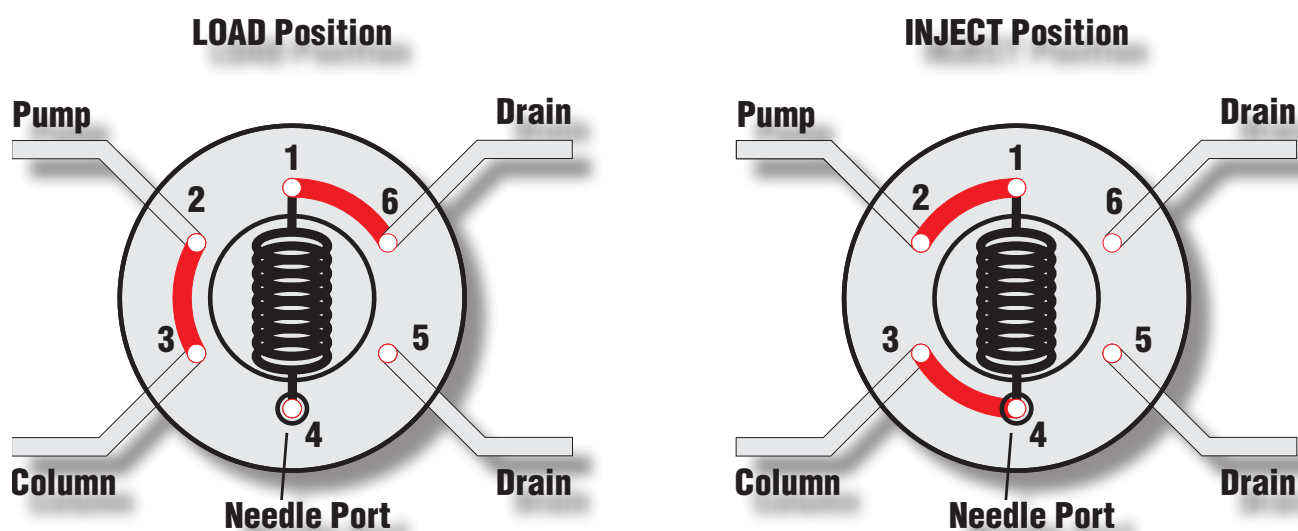
These valves feature the **No-Flow-Interruption (NFI)** technology which reduces pressure spikes during position switching to a minimum.

The needle port can be used with standard microliter syringes (e.g. Hamilton) or plastic type syringes with 0.7mm needles.

The S 6020/6120 have a built-in position sensor for starting data acquisition precisely at the point of injection.

A variety of rotor seal materials are available to cover any type of application.

S 6020/6120 FLOW SCHEME



ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|--|
| 20 32 003 | S 6020 | Stainless Steel | 400 bar (6000 PSI) | NFI* Needle Injection valve with injection sensor & 20 μ l Sample Loop |
| 20 32 010 | S 6120 | PEEK | 350 bar (5250 PSI) | |

* No-Flow-Interruption : position change without noticeable interruption of flow

SYKAM S 6021/6121 PREP. NEEDLE INJECTION VALVE

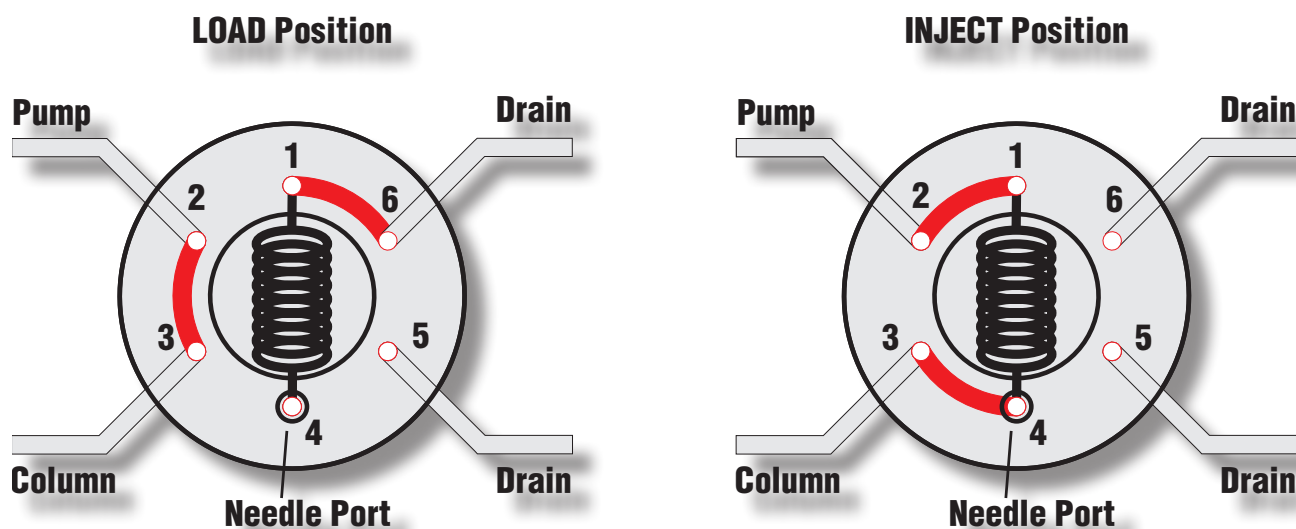
The S 6021 is a stainless steel 2-position valve with needle injection port on the front side. The 6121 is the identical valve with inert PEEK stator.

The S 6021/6121 have a built-in position sensor for starting data acquisition precisely at the point of injection.

A variety of rotor seal materials are available to cover any type of application.



S 6020/6120 FLOW SCHEME



ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|--|
| 20 32 022 | S 6021 | Stainless Steel | 250 bar (3750 PSI) | Preparative Needle Injection valve |
| 20 32 023 | S 6121 | PEEK | 250 bar (3750 PSI) | Preparative Needle Injection valve with injection sensor |

* No-Flow-Interruption : position change without noticeable interruption of flow

SYKAM S 6030/6130 2x3-WAY ANALYTICAL VALVE

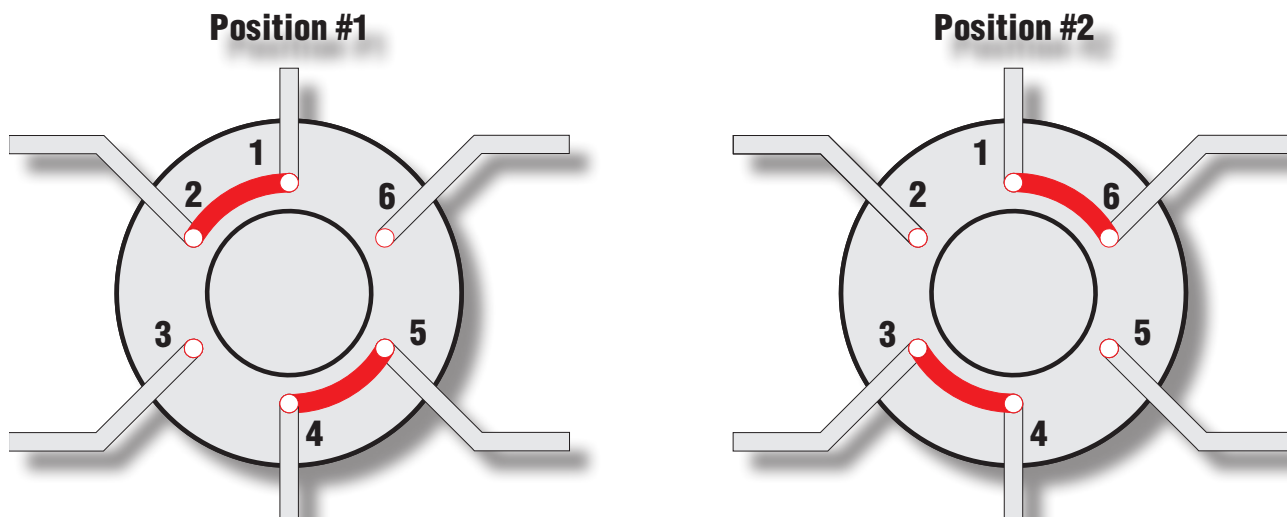


The S 6030 is a stainless steel analytical 2-Position, 3-Way switching valve to be used in instruments as motor-driven valve. The 6130 is the identical valve with inert PEEK stator.

A variety of rotor seal materials are available to cover any type of application.

An optional manual switching handle can be provided when the valve is not used in a motor-driven application.

S 6030/6130 FLOW SCHEME



ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|--------------------------|
| 20 32 004 | S 6030 | Stainless Steel | 400 bar (6000 PSI) | 2x3-Way Analytical Valve |
| 20 32 011 | S 6130 | PEEK | 350 bar (5250 PSI) | |

SYKAM S 6031/6131 2x3-WAY PREPARATIVE VALVE

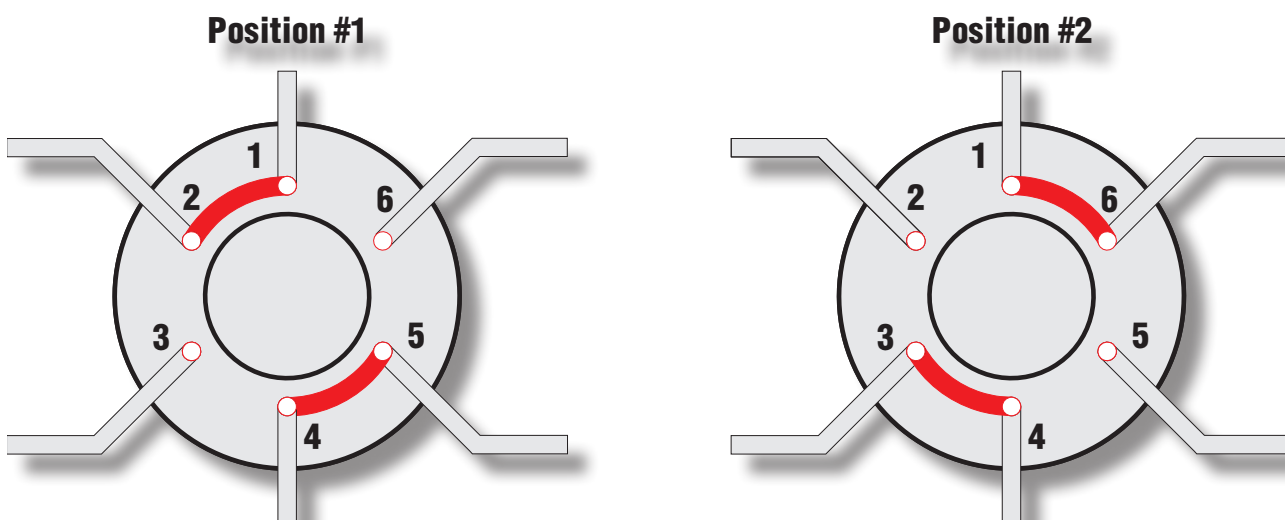
The S 6030 is a stainless steel analytical 2-Position, 3-Way switching valve to be used in instruments as motor-driven valve. The 6131 is the identical valve with inert PEEK stator.

A variety of rotor seal materials are available to cover any type of application.

An optional manual switching handle can be provided when the valve is not used in a motor-driven application.



S 6031/6131 FLOW SCHEME



ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|---------------------------|
| 20 32 005 | S 6031 | Stainless Steel | 250 bar (3750 PSI) | 2x3-Way Preparative Valve |
| 20 32 012 | S 6131 | PEEK | 250 bar (3750 PSI) | |

SYKAM S 6040/6140 1x6-WAY ANALYTICAL VALVE

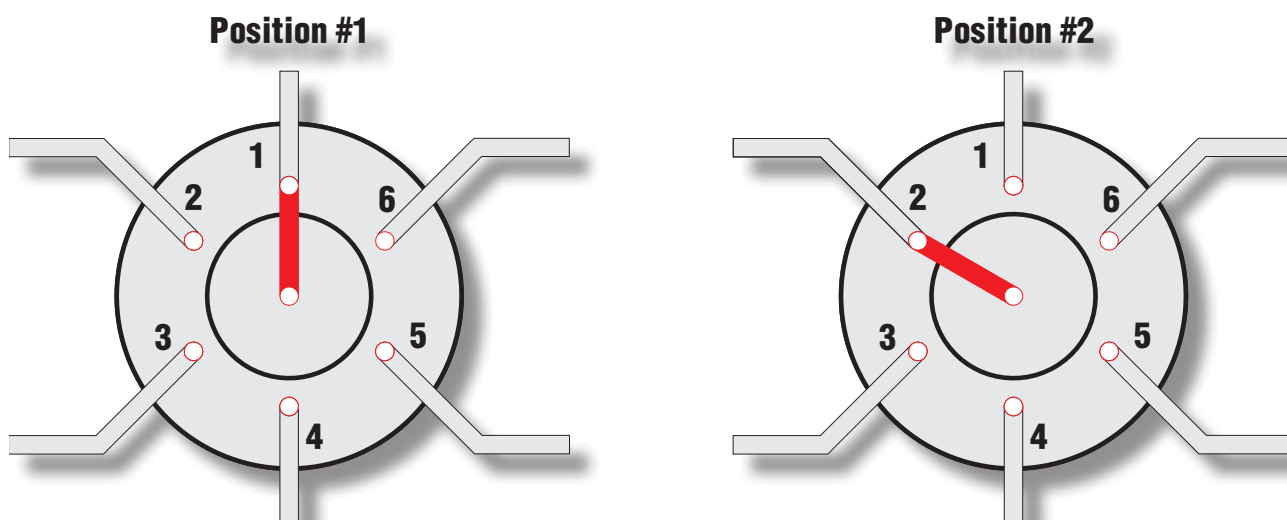


The S 6040 is a stainless steel analytical 6-Position, 1-Way switching valve to be used as selection valve. The 6140 is the identical valve with inert PEEK stator.

A variety of rotor seal materials are available to cover any type of application.

An optional manual switching handle can be provided when the valve is not used in a motor-driven application.

S 6040/6140 FLOW SCHEME*



*) only position #1 and #2 of all possible 6 positions are shown.

ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|--------------------------|
| 20 32 006 | S 6040 | Stainless Steel | 400 bar (6000 PSI) | 1x6-Way Analytical Valve |
| 20 32 013 | S 6140 | PEEK | 350 bar (5250 PSI) | |

SYKAM S 6041/6141 1x6-WAY PREPARATIVE VALVE

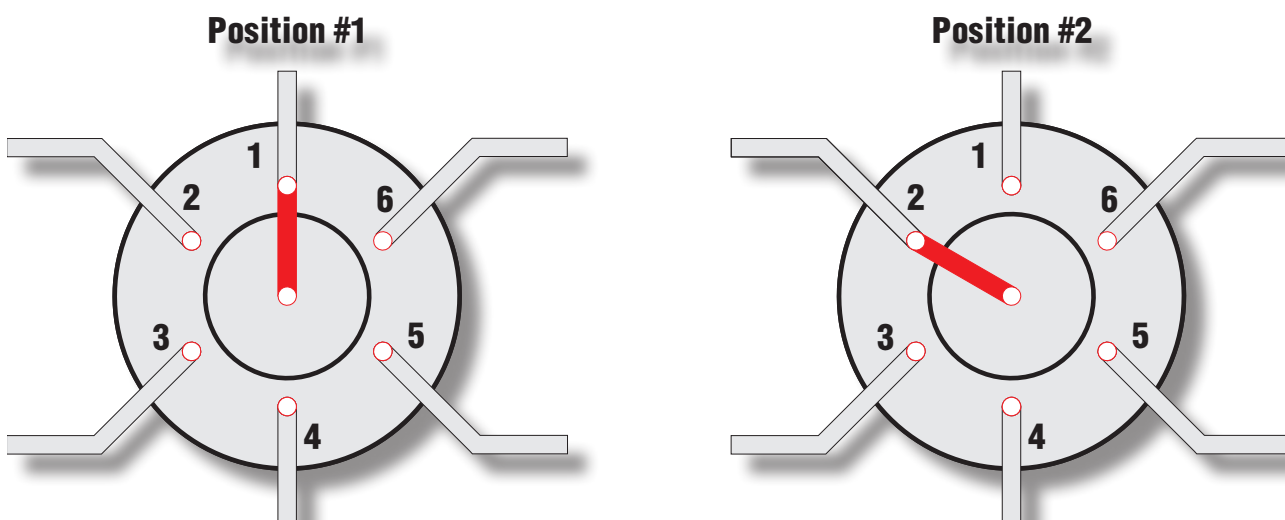
The S 6041 is a stainless steel preparative 6-Position, 1-Way switching valve to be used as selection valve. The 6141 is the identical valve with inert PEEK stator.

A variety of rotor seal materials are available to cover any type of application.

An optional manual switching handle can be provided when the valve is not used in a motor-driven application.



S 6041/6141 FLOW SCHEME*



*) only position #1 and #2 of all possible 6 positions are shown.

ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|---------------------------|
| 20 32 007 | S 6041 | Stainless Steel | 250 bar (3750 PSI) | 1x6-Way Preparative Valve |
| 20 32 014 | S 6141 | PEEK | 250 bar (3750 PSI) | |

SYKAM S 6050/6150 1x10-WAY ANALYTICAL VALVE

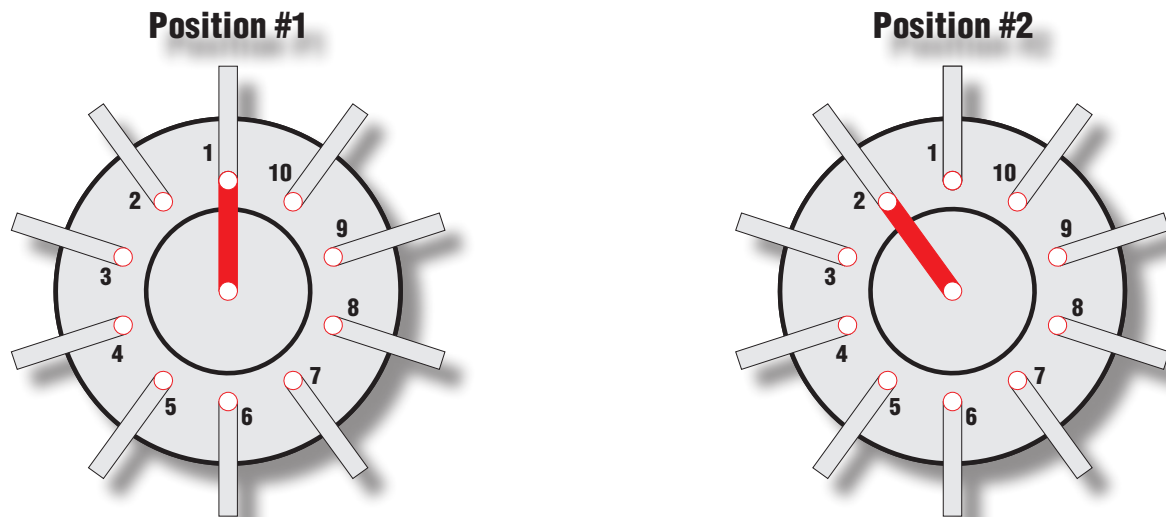


The S 6050 is a stainless steel analytical 10-Position, 1-Way switching valve to be used as selection valve. The 6150 is the identical valve with inert PEEK stator.

A variety of rotor seal materials are available to cover any type of application.

An optional manual switching handle can be provided when the valve is not used in a motor-driven application.

S 6050/6150 FLOW SCHEME*



*) only position #1 and #2 of all possible 10 positions are shown.

ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|---------------------------|
| 20 32 015 | S 6050 | Stainless Steel | 400 bar (6000 PSI) | 1x10-Way Analytical Valve |
| 20 32 016 | S 6150 | PEEK | 350 bar (5250 PSI) | |

SYKAM S 6051/6151 1x10-WAY PREPARATIVE VALVE

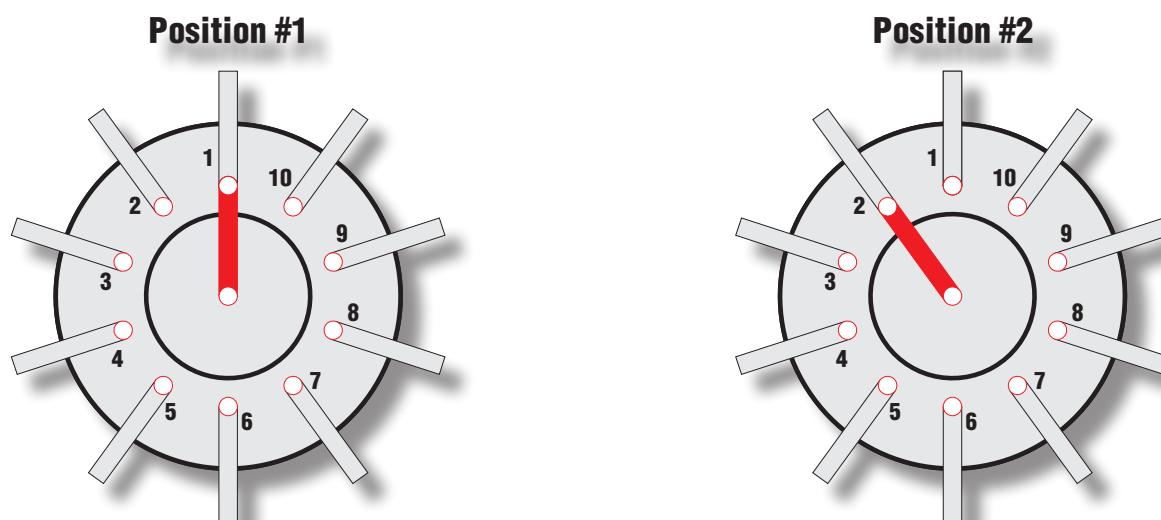
The S 6051 is a stainless steel preparative 10-Position, 1-Way switching valve to be used as selection valve. The 6151 is the identical valve with inert PEEK stator.

A variety of rotor seal materials are available to cover any type of application.

An optional manual switching handle can be provided when the valve is not used in a motor-driven application.



S 6051/6151 FLOW SCHEME*



*) only position #1 and #2 of all possible 10 positions are shown.

ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|---------------------------|
| 20 32 019 | S 6051 | Stainless Steel | 250 bar (3750 PSI) | 1x10-Way Analytical Valve |
| 20 32 020 | S 6151 | PEEK | 250 bar (3750 PSI) | |

SYKAM S 6060/6160 2x10-WAY ANALYTICAL VALVE



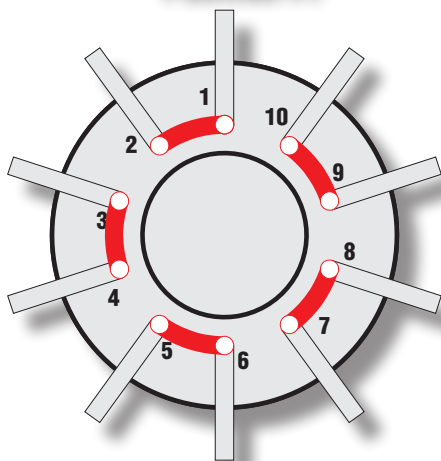
The S 6050 is a stainless steel analytical 2-Position, 10-Way switching valve to be used as selection valve. The 6160 is the identical valve with inert PEEK stator.

A variety of rotor seal materials are available to cover any type of application.

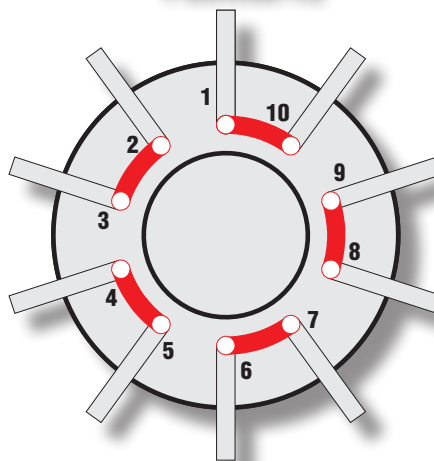
An optional manual switching handle can be provided when the valve is not used in a motor-driven application.

S 6060/6160 FLOW SCHEME

Position #1



Position #2



ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|---------------------------|
| 20 32 017 | S 6060 | Stainless Steel | 400 bar (6000 PSI) | 2x10-Way Analytical Valve |
| 20 32 018 | S 6160 | PEEK | 350 bar (5250 PSI) | |

SYKAM S 6070 COLUMN SELECTION VALVE

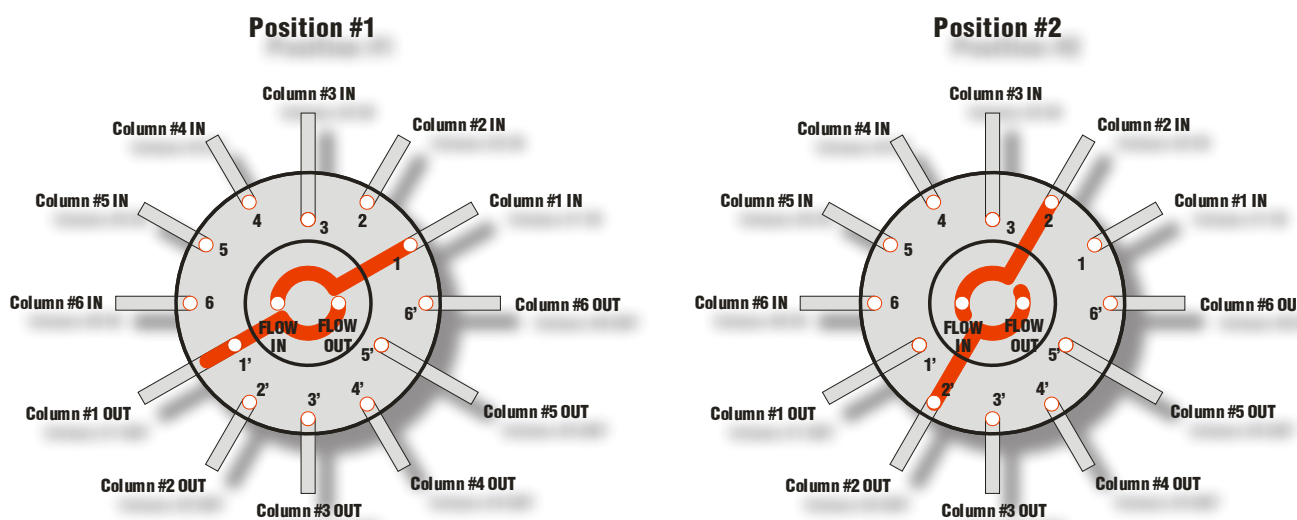
The S 6070 is a stainless steel column selection valve which can be used to choose between 6 separation columns.

A variety of rotor seal materials are available to cover any type of application.

An optional manual switching handle can be provided when the valve is not used in a motor-driven application.



S 6070 FLOW SCHEME*



*) only position #1 and #2 of all possible 6 positions are shown.

ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|------------------------|
| 20 32 021 | S 6070 | Stainless Steel | 400 bar (6000 PSI) | Column Selection Valve |

SYKAM S 6015/6115 AUTOSAMPLER INJECTION VALVE



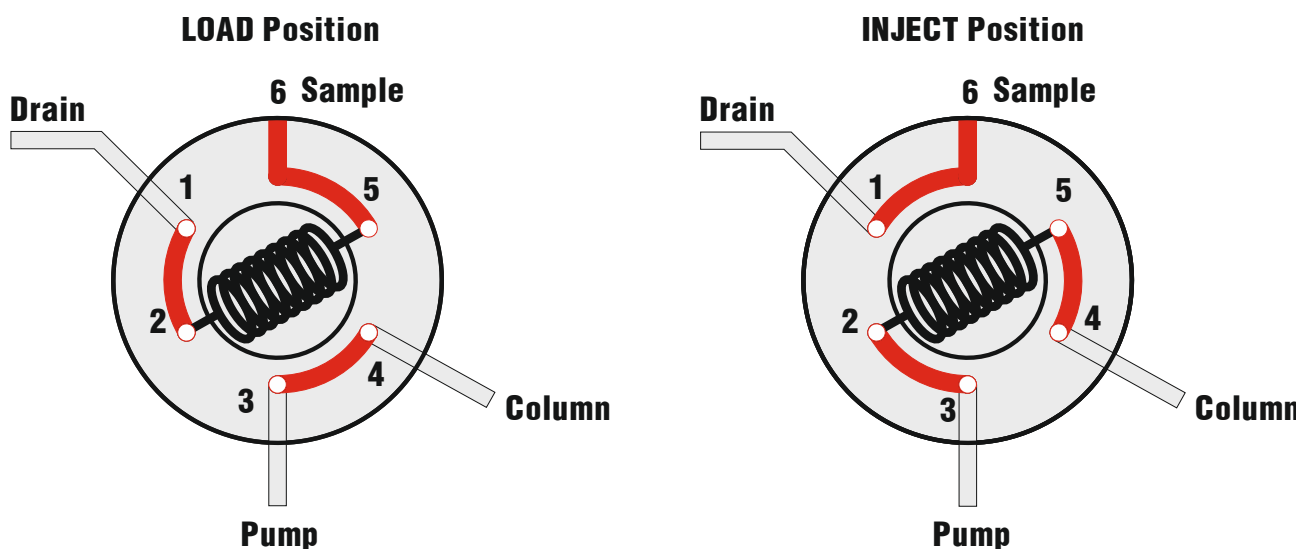
The S 6015 is a stainless steel 2-position valve with needle injection port on the top side. The 6115 is the identical valve with inert PEEK stator.

These valves feature the No-Flow-Interruption (NFI) technology which reduces pressure spikes during position switching to a minimum.

The needle port can be used with any autosampler system. The direct injection into the valve makes a separate injection port unnecessary.

A variety of rotor seal materials are available to cover any type of application.

S 6015/6115 FLOW SCHEME



ORDER INFORMATION

| Cat. No. | Model | Stator Material | Pressure | Description |
|-----------|--------|-----------------|--------------------|---|
| 20 32 024 | S 6015 | Stainless Steel | 400 bar (6000 PSI) | Autosampler Injection valve & 20 µl Sample Loop |
| 20 32 025 | S 6115 | PEEK | 350 bar (5250 PSI) | |

SYKAM S 6510 VALVE ACTUATOR



The universal S 6510 Valve Actuator is a motor-driven valve actuator which can be used with any S6000 series valves, except the S6020/6120/6021/6121 Needle Injection valves.

In contrast to many other manufacturers, the S 6510 can mount any S6000 valve without change on the actuator itself. The mounted valve can be selected on the front panel's display and used immediately.

The S 6510 features fast switching times and can be controlled via RS-232, USB, or digital closure contacts for reset and position advancing.



ORDER INFORMATION

| Cat. No. | Model | Description |
|-----------|--------|---|
| 10 61 013 | S 6510 | Motor-Drive for any S6000 series valve; Feature RS-232, USB (in development), Digital I/O Control |

SYKAM OEM VALVE ACTUATORS

Besides the S 6510 Valve Actuator, Sykam offers OEM Valve Actuators, ready to be used in any instrument.

The interface options include RS-232, USB and digital I/O.

OEM BELT-TRANSMISSION VALVE ACTUATOR

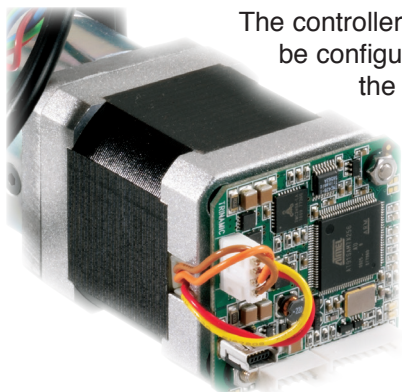
The OEM Belt-Transmission Valve Actuator can be used in any instrument to actuate any S6000 Valve. The flexible setup can be universally used for all types of valves without changing any parts of the actuator.

A separate controller board for the valve actuator is available on request.

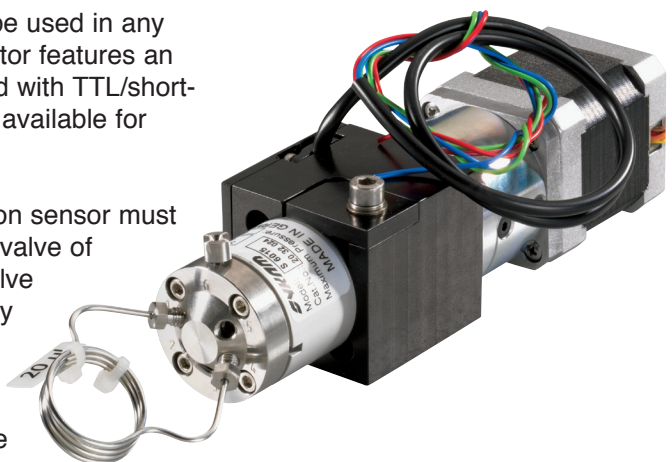


OEM GEAR-TRANSMISSION VALVE ACTUATOR

The OEM Gear-Transmission Valve Actuator can be used in any instrument where space is limited. The valve actuator features an integrated controller board which can be interfaced with TTL/short-circuit contacts or RS-232. A short-circuit output is available for injection valve actuators.



The controller board and position sensor must be configured for a specific valve of the S6000 series. Valve changes are only possible after firmware update and exchange of the position sensor.



SYKAM PRODUCTS

S 500 Series HPLC Systems



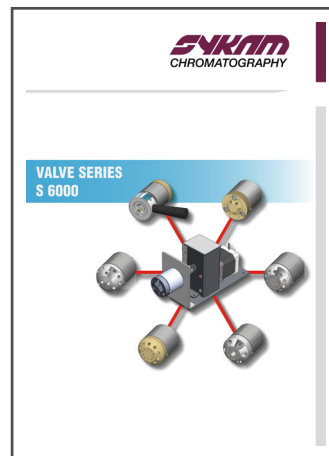
S 600 Series HPLC Systems



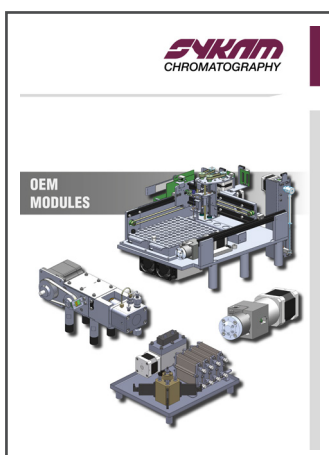
S 433 Amino Acid Analyzer



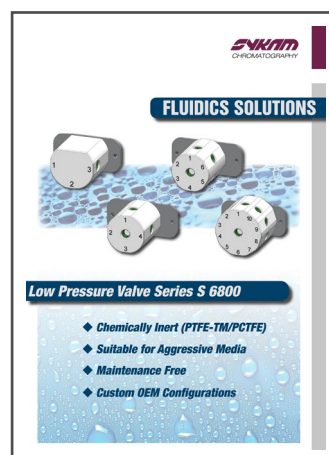
S 6000 Valve Series



Sykam OEM Modules



S 6800 LP Valve Series



■ **NOTES:**

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