

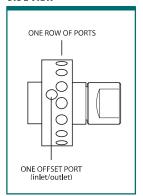


# **DEAD-END FLOWPATH** SD configuration

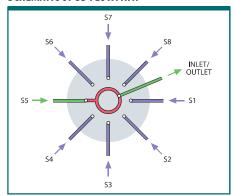
SD valves select one of 4 to 16 dead-ended streams. The selected stream flows from the outlet to a sample valve, pressure sensor, detector, column, etc. The same flowpath can also be used to direct one stream to a number of outlets in applications such as fraction collection.

For an application suggestion, see page 116.

#### **SIDE VIEW**



#### SCHEMATIC OF SD FLOWPATH



# SD selectors, low pressure

1/16" FITTINGS, 0.75 MM PORTS (.030")

Low pressure SD Dead-end

1/16" 0.75 mm

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

# SPECIFICATIONS

400 psi gas 200°C max

> Valve body: Nitronic 60 Rotor: Valcon E

	6 Position	10 Position	12 Position	16 Position
	Prod No	Prod No	Prod No	Prod No
Manual *	2CSD6MWE	2CSD10MWE	2CSD12MWE	2CSD16MWE
With air actuator	A2CSD6MWE	A2CSD10MWE	A2CSD12MWE	A2CSD16MWE
With universal act.	EUTA-2CSD6MWE	EUTA-2CSD10MWE	EUTA-2CSD12MWE	EUTA-2CSD16MWE
Replacement valve	DCSD6MWE	DCSD10MWE	DCSD12MWE	DCSD16MWE
Replacement rotor	SSACSD6MWE	SSACSD10MWE	SSACSD12MWE	SSACSD16MWE

<sup>\*</sup> Manual version is not recommended.



# TECH TIP

For low ppb gas concentrations, we offer versions of the valves on this page with an internal purge feature to vent any leakage across the sealing surfaces and/or any diffusion through the sealing material. Available with 1/16" or 1/8" fittings; not available with 1/4" fittings. (see page 86)

#### **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Larger bore available except 16 position
- Internally purged version





# SD selectors, low pressure

# 1/8" FITTINGS, 1.0 MM PORTS (.040")

## **SPECIFICATIONS**

4-8 Positions: 400 psi gas 200°C max 10-16 Positions:

200 psi gas 200°C max Valve body: Nitronic 60 Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

SD Dead-end

1.0 mm

Rotor:	Valcon E	6 Position	10 Position	12 Position	16 Position
		Prod No	Prod No	Prod No	Prod No
Manual (no	ot recommended)	2SD6MWE	2SD10MWE	2SD12MWE	2SD16MWE
With air act	tuator	A2SD6MWE	A2SD10MWE	A2SD12MWE	A2SD16MWE
With unive	rsal actuator	EUTA-2SD6MWE	EUTA-2SD10MWE	EUTA-2SD12MWE	EUTA-2SD16MWE
Replaceme	nt valve	DSD6MWE	DSD10MWE	DSD12MWE	DSD16MWE
Replaceme	nt rotor	SSASD6MWF	SSASD10MWF	SSASD12MWF	SSASD16MWF

#### **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Internally purged version

SD selectors, low pressure

# 1/4" FITTINGS, 4.0 MM PORTS (.156")

# **SPECIFICATIONS**

With air actuator With universal actuator Replacement valve

Replacement rotor

100 psi gas 75°C max

Valve body: Nitronic 60 Rotor: Valcon E2

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Manual version not available.

Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

**Dead-end** 4.0 mm

Low pressure

SD

4 Position	6 Position	8 Position	10 Position
Prod No	Prod No	Prod No	Prod No
AH2VLSD4MWE2	AH2VLSD6MWE2	AH2VLSD8MWE2	AH2VLSD10MWE2
EUTA-2VLSD4MWE2	EUTA-2VLSD6MWE2	EUTA-2VLSD8MWE2	EUTA-2VLSD10MWE2
DVLSD4MWE2	DVLSD6MWE2	DVLSD8MWE2	DVLSD10MWE2

- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)



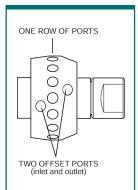


# **COMMON OUTLET FLOWPATH** SC configuration

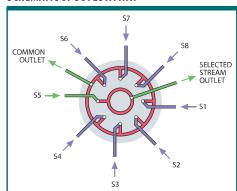
SC selectors are similar to the SD configuration, except that instead of being dead-ended the non-selected streams flow to a common outlet.

For an application suggestion, see page 117.

#### **SIDE VIEW**



#### SCHEMATIC OF SC FLOWPATH



## **SC** selectors

1/16" FITTINGS, 1.0 MM PORTS (.040")

Low pressure

SC Common outlet

1/16" 1.0 mm

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

# **SPECIFICATIONS**

200 psi gas 200°C max

> Valve body: Nitronic 60 Rotor: Valcon E

	6 Position	10 Position	12 Position	16 Position
	Prod No	Prod No	Prod No	Prod No
Manual *	2CSC6MWE	2CSC10MWE	2CSC12MWE	2CSC16MWE
With air actuator	A2CSC6MWE	A2CSC10MWE	A2CSC12MWE	A2CSC16MWE
With universal actuator	EUTA-2CSC6MWE	EUTA-2CSC10MWE	EUTA-2CSC12MWE	EUTA-2CSC16MWE
Replacement valve	DCSC6MWE	DCSC10MWE	DCSC12MWE	DCSC16MWE
Replacement rotor	SSACSC6MWE	SSACSC10MWE	SSACSC12MWE	SSACSC16MWE

<sup>\*</sup> Manual version is not recommended.

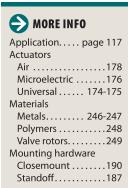


# **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Internally purged version



For low ppb gas concentrations, we offer versions of the valves on this page with an internal purge feature to vent any leakage across the sealing surfaces and/or any diffusion through the sealing material. Available with 1/16" or 1/8" fittings; not available with 1/4" fittings. (see page 86)





#### **SC** selectors

# 1/8" FITTINGS, 1.0 MM PORTS (.040")

# **SPECIFICATIONS**

200 psi gas 200°C max

Valve body: Nitronic 60 Rotor: Valcon E

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

SC **Common outlet** 

1.0 mm

	6 Position	10 Position	12 Position	16 Position
	Prod No	Prod No	Prod No	Prod No
Manual (not recommended)	2SC6MWE	2SC10MWE	2SC12MWE	2SC16MWE
With air actuator	A2SC6MWE	A2SC10MWE	A2SC12MWE	A2SC16MWE
With universal actuator	EUTA-2SC6MWE	EUTA-2SC10MWE	EUTA-2SC12MWE	EUTA-2SC16MWE
Replacement valve	DSC6MWE	DSC10MWE	DSC12MWE	DSC16MWE
Replacement rotor	SSASC6MWE	SSASC10MWE	SSASC12MWE	SSASC16MWE

#### **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Larger bore available except 16 position
- Internally purged version

# 1/4" FITTINGS, 4.0 MM PORTS (.156")

# **SC** selectors **SPECIFICATIONS**

100 psi gas 75°C max

Valve body: Nitronic 60 Rotor: Valcon E2

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Manual version not available.

Universal actuator: 24 VDC, with autosensing 24 VDC power supply.

Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

SC Common outlet

4.0 mm

	4 Position	6 Position	8 Position
	Prod No	Prod No	Prod No
With air actuator	AH2VLSC4MWE2	AH2VLSC6MWE2	AH2VLSC8MWE2
With universal actuator	EUTA-2VLSC4MWE2	EUTA-2VLSC6MWE2	EUTA-2VLSC8MWE2
Replacement valve	DVLSC4MWE2	DVLSC6MWE2	DVLSC8MWE2
Replacement rotor	SSAVLSC4MWE2	SSAVLSC6MWE2	SSAVLSC8MWE2

- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)



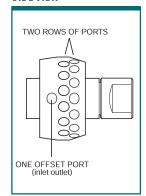


# **FLOW-THROUGH FLOWPATH** SF configuration

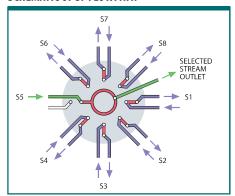
SD and SC valves select and isolate one of 4 to 16 streams, with the remainder dead-ended in the SD and flowing to a common outlet in the SC. The SF selector is similar, but carries the evolution a step further with the non-selected streams flowing through individual outlets.

For an application suggestion, see page 118.

#### **SIDE VIEW**



#### **SCHEMATIC OF SF FLOWPATH**



#### SF selectors

1/16" FITTINGS, 1.0 MM PORTS (.040")

Low pressure SF

Flow-through

1/16" 1.0 mm

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

# SPECIFICATIONS

200 psi gas 200°C max

> Valve body: Nitronic 60 Rotor: Valcon E

	6 Position	10 Position	12 Position	16 Position
	Prod No	Prod No	Prod No	Prod No
Manual *	2CSF6MWE	2CSF10MWE	2CSF12MWE	2CSF16MWE
With air actuator	A2CSF6MWE	A2CSF10MWE	A2CSF12MWE	A2CSF16MWE
With universal actuator	EUTA-2CSF6MWE	EUTA-2CSF10MWE	EUTA-2CSF12MWE	EUTA-2CSF16MWE
Replacement valve	DCSF6MWE	DCSF10MWE	DCSF12MWE	DCSF16MWE
Replacement rotor	SSACSF6MWE	SSACSF10MWE	SSACSF12MWE	SSACSF16MWE

<sup>\*</sup> Manual version is not recommended.



**8 POSITION SF SELECTOR** 1/16" fittings, 2" standoff

TECH TIP

For low ppb gas concentrations, we offer versions of the valves on this page with an internal purge feature to vent any leakage across the sealing surfaces and/or any diffusion through the sealing material. Available with 1/16" or 1/8" fittings; not available with 1/4" fittings. (see page 86)

# **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Internally purged version





#### SF selectors

# 1/8" FITTINGS, 1.0 MM PORTS (.040")

## **SPECIFICATIONS**

200 psi gas 200°C max

Valve body: Nitronic 60 Rotor: Valcon E

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

	6 Position	10 Position	12 Position	16 Position
	Prod No	Prod No	Prod No	Prod No
Manual (not recommended)	2SF6MWE	2SF10MWE	2SF12MWE	2SF16MWE
With air actuator	A2SF6MWE	A2SF10MWE	A2SF12MWE	A2SF16MWE
With universal actuator	EUTA-2SF6MWE	EUTA-2SF10MWE	EUTA-2SF12MWE	EUTA-2SF16MWE
Replacement valve	DSF6MWE	DSF10MWE	DSF12MWE	DSF16MWE
Replacement rotor	SSASF6MWE	SSASF10MWE	SSASF12MWE	SSASF16MWE

#### **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Larger bore available except 16 position
- Internally purged version

# 1/4" FITTINGS, 4.0 MM PORTS (.156")

# **SF selectors SPECIFICATIONS**

100 psi gas 75°C max

Valve body: Nitronic 60 Rotor: Valcon E2

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Manual version is not available.

Universal actuator: 24 VDC, with autosensing 24 VDC power supply.

Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

Flow-through

4.0 mm

	4 Position	6 Position	8 Position
	Prod No	Prod No	Prod No
With air actuator	AH2VLSF4MWE2	AH2VLSF6MWE2	AH2VLSF8MWE2
With universal actuator	EUTA-2VLSF4MWE2	EUTA-2VLSF6MWE2	EUTA-2VLSF8MWE2
Replacement valve	DVLSF4MWE2	DVLSF6MWE2	DVLSF8MWE2
Replacement rotor	SSAVLSF4MWE2	SSAVLSF6MWE2	SSAVLSF8MWE2

- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)





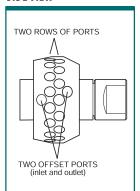


# TRAPPING FLOWPATH ST configuration

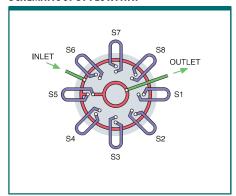
ST selectors are used for multi-column, multi-sample, or multi-trap operations. Each of the 4 to 16 positions is associated with a pair of ports to connect devices such as columns, loops, spargers in purge and trap systems, sample vessels, adsorption tubes, collection vials, etc.

For an application suggestion, see page 119.

#### SIDE VIEW



#### **SCHEMATIC OF ST FLOWPATH**



# ST selectors, low pressure

1/16" FITTINGS, 0.75 MM PORTS (.030")

Low pressure

ST **Trapping** 

1/16" 0.75 mm

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

#### **SPECIFICATIONS**

200 psi gas 200°C max

Valve body: Nitronic 60 Valcon E Rotor:

	<b>6 Position</b> <i>Prod No</i>	<b>10 Position</b> <i>Prod No</i>	<b>12 Position</b> <i>Prod No</i>	<b>16 Position</b> <i>Prod No</i>
Manual *	2CST6MWE	2CST10MWE	2CST12MWE	2CST16MWE
With air actuator	A2CST6MWE	A2CST10MWE	A2CST12MWE	A2CST16MWE
With universal actuator	EUTA-2CST6MWE	EUTA-2CST10MWE	EUTA-2CST12MWE	EUTA-2CST16MWE
Replacement valve	DCST6MWE	DCST10MWE	DCST12MWE	DCST16MWE
Replacement rotor	SSACST6MWE	SSACST10MWE	SSACST12MWE	SSACST16MWE

<sup>\*</sup> Manual version is not recommended.





#### **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Internally purged version

## 1/16" Stainless steel loops

Each stainless steel loop includes two stainless nuts and two stainless ferrules. Order special fittings separately. Request matched loops when loops will be installed on a single valve.

These loops are for use with valves on this page.

Volume	Prod No	Volume	Prod No
50 μl	SL50CSTP	1 ml	SL1KCSTP
100 μΙ	SL100CSTP	2 ml	SL2KCSTP
250 μΙ	SL250CSTP	5 ml	SL5KCSTP
500 μl	SL500CSTP	10 ml	SL10KCSTP

# ABOUT LOOPS

- Other materials are available in many sizes: Electroformed Nickel, Hastelloy C, Nickel 200, PEEK, PTFE, and Titanium
- 1/16" loops > 2 ml are made from 1/8" OD tubing with TIG welded 1/16" tube ends or reducing unions.
- Sample loop shape and dimensions may vary from batch to batch due to fluctuations in tubing ID. Loop volume is controlled as closely as possible, but is not calibrated.

MO

# RE INFO

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# ST selectors, low pressure

# 1/8" FITTINGS, 1.0 MM PORTS (.040")

#### **SPECIFICATIONS**

200 psi gas 200°C max

> Valve body: Nitronic 60 Rotor: Valcon E

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

**Trapping** 

1.0 mm

	6 Position	10 Position	12 Position	16 Position
	Prod No	Prod No	Prod No	Prod No
Manual (not recommended)	2ST6MWE	2ST10MWE	2ST12MWE	2ST16MWE
With air actuator	A2ST6MWE	A2ST10MWE	A2ST12MWE	A2ST16MWE
With universal actuator	EUTA-2ST6MWE	EUTA-2ST10MWE	EUTA-2ST12MWE	EUTA-2ST16MWE
Replacement valve	DST6MWE	DST10MWE	DST12MWE	DST16MWE
Replacement rotor	SSAST6MWE	SSAST10MWE	SSAST12MWE	SSAST16MWE

#### **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Larger bore available except 16 position
- Internally purged version



10 POSITION ST SELECTOR 1/8" fittings, 2" standoff



# TECH TIP

Standard ST type valves are not suitable for trace gas analysis applications. For low ppb gas concentrations, we offer versions of these valves with an internal purge feature to vent any leakage across the sealing surfaces and/ or any diffusion through the sealing material. Consult the factory.



# ABOUT LOOPS

- Other materials are available in many sizes: Electroformed Nickel, Hastelloy C, Nickel 200, PEEK, PTFE, and Titanium
- 1/8" loops <  $100 \mu l$  are made from 1/16" OD tubing with TIG welded 1/8" tube ends.
- Sample loop shape and dimensions may vary from batch to batch due to fluctuations in tubing ID. Loop volume is controlled as closely as possible, but is not calibrated.

# 1/8" Stainless steel loops

Each stainless steel loop includes two stainless nuts and two stainless ferrules. Order special fittings separately. Request matched loops when loops will be installed on a single valve.

These loops are for use with valves on this page.

Volume	Prod No	Volume	Prod No
100 µl	SL100STP	1 ml	SL1KSTP
250 µl	SL250STP	2 ml	SL2KSTP
500 μl	SL500STP	5 ml	SL5KSTP
		10 ml	SL10KSTP

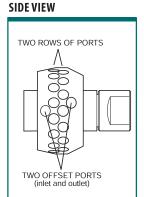




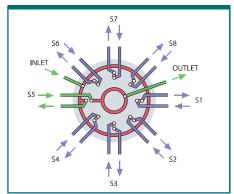
# TRAPPING/FLOW-THROUGH FLOWPATH STF configuration

The STF selector is a variation of the ST flowpath, with the single difference that the non-selected streams are returned to their own vents or sources rather than being dead-ended or trapped as they are in the standard ST configuration.

For an application suggestion, see page 120.



#### **SCHEMATIC OF STF FLOWPATH**



## **STF selectors**

1/16" FITTINGS, 0.75 MM PORTS (.030")

Low pressure

STF Trap/ flow-throw

1/16" 0.75 mm

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

SD	ш	~	۱TI	A1	IIC.

200 psi gas 200°C max

Valve body: Nitronic 60 Valcon E Rotor:

	6 Position	10 Position	12 Position	16 Position
	Prod No	Prod No	Prod No	Prod No
Manual *	2CSTF6MWE	2CSTF10MWE	2CSTF12MWE	2CSTF16MWE
With air actuator	A2CSTF6MWE	A2CSTF10MWE	A2CSTF12MWE	A2CSTF16MWE
With universal actuator	EUTA-2CSTF6MWE	EUTA-2CSTF10MWE	EUTA-2CSTF12MWE	EUTA-2CSTF16MWE
Replacement valve	DCSTF6MWE	DCSTF10MWE	DCSTF12MWE	DCSTF16MWE
Replacement rotor	SSACSTF6MWE	SSACSTF10MWE	SSACSTF12MWE	SSACSTF16MWE

<sup>\*</sup> Manual version is not recommended.





For low ppb gas concentrations, we offer versions of the valves on this page with an internal purge feature to vent any leakage across the sealing surfaces and/or any diffusion through the sealing material. Available with 1/16" or 1/8" fittings; not available with 1/4" fittings. (see page 86)

#### **OPTIONS**

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Internally purged version



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# **STF selectors**

# 1/8" FITTINGS, 1.0 MM PORTS (.040")

## **SPECIFICATIONS**

200 psi gas 200°C max

Valve body: Nitronic 60 Rotor: Valcon E

Includes 2" standoff. Ask about closemount assembly if valve will not be heated. Universal actuator: 24 VDC, with autosensing 24 VDC power supply. Includes RS232/485 serial interface. See page 174 for other interface options.

Low pressure

STF Trap/ flow-throw

1.0 mm

	<b>6 Position</b> Prod No	<b>10 Position</b> <i>Prod No</i>	<b>12 Position</b> Prod No	<b>16 Position</b> <i>Prod No</i>
Manual (not recommended)	2STF6MWE	2STF10MWE	2STF12MWE	2STF16MWE
With air actuator	A2STF6MWE	A2STF10MWE	A2STF12MWE	A2STF16MWE
With universal actuator	EUTA-2STF6MWE	EUTA-2STF10MWE	EUTA-2STF12MWE	EUTA-2STF16MWE
Replacement valve	DSTF6MWE	DSTF10MWE	DSTF12MWE	DSTF16MWE
<u>'</u>				
Replacement rotor	SSASTF6MWE	SSASTF10MWE	SSASTF12MWE	SSASTF16MWE

- 4 and 8 positions available
- 3", 4", and 6" standoffs
- Materials: Hastelloy C, Inconel 600, Monel 400, Nickel 200, Nitronic 50, Titanium (see pages 246-247)
- Larger bore available except 16 position
- Internally purged version



**10 POSITION STF SELECTOR** 1/8" fittings, 2" standoff