General Description: The Parker R-max™ is a multi-functional system capable of integrating both stream switching and filtering into one unique compact assembly. The system is designed to control both gases and liquids in analytical systems ranging from vacuum to 500 psig while requiring only 40 psig actuating air pressure. The system was engineered with a focus on improved product reliability and reduced cost of ownership. The Parker R-max™ Stream Switching System utilizes state-of-the-art surface mount technology to reduce leak paths, internal volume, and dead volume. With surface mounting, system components may be easily removed and replaced without breaking process connections. In addition, the Parker R-max™ system utilizes an internal self-purging outlet header to eliminate the need for an additional outlet loop.

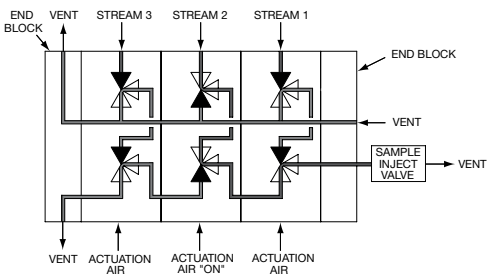
Features:

- Surface Mount Technology enhances maximum system flexibility and enables the user to add additional streams to a system without interrupting installed units.
- PCTFE Sealing Technology provides maximum sealing capability for both gases and liquids to eliminate leakage often found when using elastomeric O-ring seat designs.
- Low Internal Volume ensures maximum system efficiency by reducing purge time and expensive purge gas.
- Modular Valve Design offers maximum serviceability for quick and easy in-system repair and reduced downtime.
- Internal Loop Design eliminates the need for an external loop and provides maximum capability with minimum system footprint.
- Visual Position Indicator enables the user to easily determine valve position for maximum system safety.
- Low Actuation Pressure design for maximum sealing capability with minimum air supply needs.
- Patent Pending

Specifications:

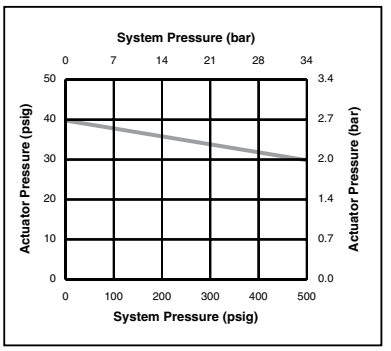
PRESSURE RATING	TEMPERATURE RATINGS	FLOW DATA (IN A TWO STREAM SYSTEM)
500 psig CWP	Fluorocarbon Rubber -15 °F to 400 °F	Stream 1: C_v = 0.128; x_T = 0.64
	Buna-N Rubber -30 °F to 275 °F	Stream 2: C_v = 0.099; x_T = 0.68
	Ethylene Propylene Rubber -70 °F to 275 °F	Tested in accordance with ISA S75.02.
	Neoprene Rubber -45 °F to 250 °F	Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.
	Highly Fluorinated Fluorocarbon Rubber -25 °F to 200 °F	

Flow Diagram - Three Stream Switching System

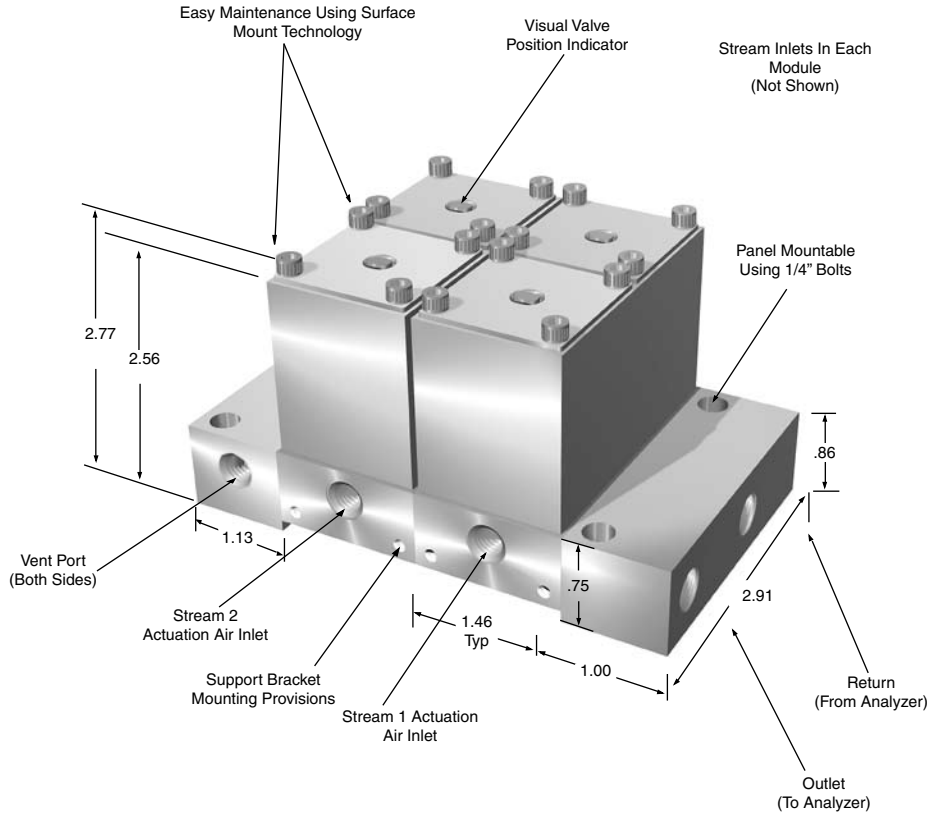


System shown with Stream 2 open to the sample inject valve

Actuation Pressure vs. System Pressure



FACTORY ASSEMBLED TWO MODULE STREAM SWITCHING SYSTEM



STREAM SWITCHING SYSTEMS AND ACCESSORIES

HOW TO ORDER

The correct part number is easily derived by following the circled number sequence. The seven product characteristics required are coded as shown below.

Example: **2F** - **R2** [ ] **K** - **V** - **SS** - **2**

① ② ③ ④ ⑤ ⑥ ⑦

Describes a complete two stream switching system having 1/8" female NPT inlet and outlet ports, PCTFE valve seats, fluorocarbon rubber seals, and stainless steel construction.

Example: **2F** - **R2** **GC** **K** - **EPR** - **SS** - **4**

① ② ③ ④ ⑤ ⑥ ⑦

Describes a complete four stream switching system with GC Module having 1/8" female NPT inlet and outlet ports, PCTFE valve seats, ethylene propylene rubber seals, and stainless steel construction.*

① End Connection	② Valve Series	③ Base Option	④ Seat Material	⑤ Seal Material	⑥ Body Material**	⑦ Number of Modules*
2F **4A7** **4Z7**	**R2**	**Blank** - None **GC** - GC Service **LS** - Lab Switch **EM** - Valve Expansion Module **S** - Single Valve	**K** - PCTFE	**V** - Fluorocarbon Rubber **BN** - Buna-N Rubber **EPR** - Ethylene Propylene Rubber **NE** - Neoprene Rubber **KZ** - Highly Fluorinated Fluorocarbon Rubber	**SS** - Stainless Steel **M** - Alloy N04400	**Numeric Value** **Blank** - LS, EM or S Base Options

*The number of stream modules should not include a GC module in the count if ordered as part of the system.
**Alloy N04400 not available on Single Valve units

FAST LOOP FILTERS

HOW TO ORDER

The correct part number is easily derived by following the circled number sequence. The seven product characteristics required are coded as shown below.

Example: **2F** - **FR2** **EPR** **S** **100** - **SS** - **B**

① ② ③ ④ ⑤ ⑥ ⑦

Describes a FR2 Series Fast Loop Filter with 1/8" FNPT inlet and bypass outlets, ethylene propylene rubber seals, 100 micron 316SS sintered metal filter element, stainless steel construction, and designed to be attached to a Parker *R-max*™ Stream Switch having inverted CPI™ or A-LOK® stream inlet ports.

① Inlet and Bypass Outlet	② Filter Series	③ O-Ring Seals	④ Filtration Type	⑤ Element Type		⑥ Body Material	⑦ R-Max™ Connection Type
				Balston® P and C	Sintered Meal (S)		
2F - 1/8" Female NPT	**FR2**	**V** - Fluorocarbon Rubber **BN** - Buna-N Rubber **EPR** - Ethylene Propylene Rubber **NE** - Neoprene Rubber **KZ** - Highly Fluorinated Fluorocarbon Rubber	**P** - Particulate **C** - Coalescing **S** - Sintered Metal	**93** - 93% Microfibre **99** - 99% Microfibre	**100** - 100 micron **70** - 70 micron **40** - 40 micron **20** - 20 micron **10** - 10 micron **5** - 5 micron	**SS** Stainless Steel	**A** - 2F **B** - 4A7 or 4Z7