

FS190 Series

Excess Flow Shutoff Valve

Stainless Steel



Value Proposition:

Parker's FS190 Series excess flow shutoff valve operates within a wide range of inlet pressures from 10 to 3,500 psig. A non-attitude sensitive valve, FS190 can be used between a high-pressure source at the inlet to the pressure regulator or in low-pressure delivery lines to a process. In both applications, this control valve will automatically shut off delivery of gas should the flow exceed the preset limit.

Product Features:

- Offered with six different pressure / flow limits
- Differential pressure created is not affected by mounting orientation (non-attitude sensitive)
- Actuating knob designed to manually operate valve and clearly indicate relative operating position - Open (Reset) or Auto (Shutoff)
- Pneumatic actuator available to reset the valve remotely
- Oxygen cleaned in accordance with ASTM G93 Level C

Specifications:

Functional Performance	
Design	
Burst Pressure	10,500 psig (724 barg)
Proof Pressure	5,250 psig (362 barg)
Leak Rate	
Internal	Bubble Tight
External (NPT Threaded)	Bubble Tight
Internal Volume	1.86 cc
Approximate Weight	12.5 oz. (0.32 kg)
Operating Conditions	
Temperature	-10°F to 150°F (-23°C to 66°C)
Supply Pressure	Based on Flow Limit Setting
A-D Flow Limits:	10 psig to 3,500 psig (0.7 barg to 241 barg)
E-F Flow Limits:	20 psig to 3,500 psig (1.4 barg to 241 barg)
Differential Pressure	5 psig or 12 psig (0.3 barg or 0.8 barg)
Flow Limit Settings	6 available - see Ordering Information section

Material of Construction	
Wetted	
Body	316L Stainless Steel
Compression Member	316L Stainless Steel
Diaphragm	Elgiloy® or equivalent
Poppet	316L Stainless Steel
Spring	Hastelloy® C-22
Orifice	316L Stainless Steel
Seat	PCTFE

Non-Wetted	
Cap	316L Stainless Steel
Stem	303 Stainless Steel
Knob	Aluminum (Red)

For additional information on materials of construction, functional performance and operating conditions, please contact factory.

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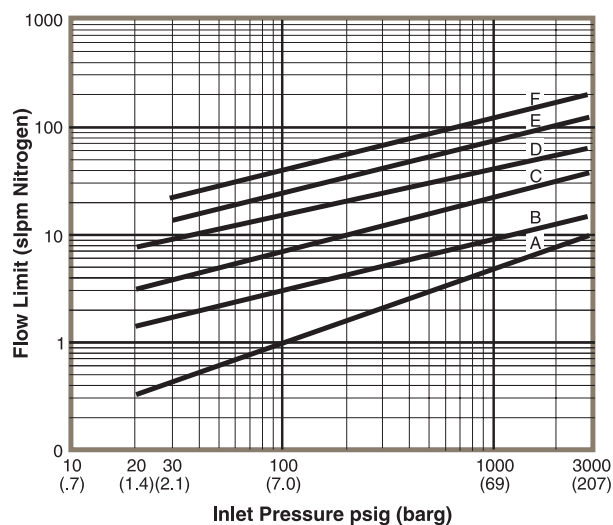


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FS190 Series

Flow Curve:



Ordering Information:

Building a Part Number: *Example: FS190SAPAOP*

Example Part Number:	FS190	S	A	P	AOP
Ordering Parameters/Options:	Series	Material	Flow Limit Setting	Connection (Inlet and Outlet)	Optional Features
Table Reference: (see below)	A	B	C	D	E

A - Series

FS190	FS190 Series Valve
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D - Connection (Inlet and Outlet)

P	1/4" NPTF
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B - Body Material

S	316L Stainless Steel
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E - Optional Features (This section can have multiple options)

AOP	Air Operated
LOTO	Lock Out Tag Out

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C - Flow Limit Settings (Nominal Flow Limit at:)

	1,000 psig Inlet	30 psig Inlet
A	4.8 SLPM	0.4 SLPM
B	9.1 SLPM	1.7 SLPM
C	21.8 SLPM	3.9 SLPM
D	39.5 SLPM	9.0 SLPM
E	72.3 SLPM	14.4 SLPM
F	120.6 SLPM	22.5 SLPM

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Gas Chart:

Gas Name	Symbol	Gas MW	Specific Gravity	Conversion Factor	Correction for Nitrogen (X)
Acetylene	C ₂ H ₂	26.04	0.89901605	1.055	1.020287015
Air	Air	28.965	1	1.000	0.9674
Ammonia	NH ₃	17.03	0.58795098	1.304	1.26164022
Argon	Ar	39.948	1.37918177	0.852	0.823749813
Butadiene	C ₄ H ₆	54.092	1.86749525	0.732	0.7079072
Butene	C ₄ H ₈	56.11	1.93716554	0.718	0.695060671
Carbon Dioxide	CO ₂	44.01	1.51941999	0.811	0.784814765
Carbon Monoxide	CO	28.01	0.96702917	1.017	0.98375351
Chlorine	Cl ₂	35.45	1.2238909	0.904	0.874449492
Chloroform	CHCl ₃	119.38	4.12152598	0.493	0.476515533
Dimethyl Ether	C ₂ H ₆ O	46.07	1.59054031	0.793	0.767067784
Dimethylpropane	C ₅ H ₁₂	72.15	2.49093734	0.634	0.612949481
Ethane	C ₂ H ₆	30.07	1.03814949	0.981	0.949458825
Ethyl Chloride	C ₂ H ₅ Cl	64.51	2.22717072	0.670	0.648230302
Ethylene	C ₂ H ₄	28.05	0.96841015	1.016	0.983051832
Ethylene Oxide	C ₂ H ₄ O	44.05	1.52080097	0.811	0.784458355
Helium	He	4	0.1380977	2.691	2.603231878
Hydrogen	H ₂	2.015	0.06956672	3.791	3.667797281
Hydrogen Sulfide	H ₂ S	34.1	1.17728293	0.922	0.891590967
Isobutane	C ₄ H ₁₀	58.12	2.00655964	0.706	0.682936063
Krypton	Kr	83.8	2.8931469	0.588	0.568749254
Methane	CH ₄	16.04	0.55377179	1.344	1.299991963
Methyl Chloride	CH ₃ Cl	50.49	1.74313827	0.757	0.732723574
Methyl Mercaptan	CH ₄ S	48.11	1.66097014	0.776	0.75062871
Neon	Ne	20.18	0.69670292	1.198	1.158996884
Nitrogen	N ₂	28.02	0.96737442	1.017	0.000
Nitrogen Dioxide	NO ₂	46.01	1.58846884	0.793	0.767567774
Nitrous Oxide	N ₂ O	44.013	1.51952356	0.811	0.784788018
Oxygen	O ₂	31.998	1.10471258	0.951	0.92041022
Propane	C ₃ H ₈	44.1	1.52252719	0.810	0.784013525
Propylene	C ₃ H ₆	42.08	1.45278785	0.830	0.802610771
Sulfur Dioxide	SO ₂	64.07	2.21197998	0.672	0.650452351
Transbutene	C ₄ H ₈	56.11	1.93716554	0.718	0.695060671
Vinyl Chloride	C ₂ H ₃ Cl	62.5	2.15777663	0.681	0.658571361
Xenon	Xe	131.29	4.53271189	0.470	0.45438818

NOTE: Values are approximate

Calculation:

Actual Flow = (Nitrogen Flow from Chart) (Correction Factor X)

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