



Hydraulik - Pneumatik

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# Veriflo QFS Quantum Flow System

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# Veriflo QFS

Quantum Flow System



# Veriflo QFS

## Quantum Flow System

Parker Hannifin Corporation's Veriflo Division presents the QFS, Quantum Flow System. The QFS is a pressure based system that will maintain a constant pressure to an orifice with a pressure regulator. The system also incorporates a pressure rate-of-decay system within the controller, (flow verification) which eliminates sensor drift.



## Features

- ▶ Multi-Functioned Flow Control System
  - Digital Mass Flow Controller
  - Pressure Regulator
  - Pressure Transducer
  - Temperature Sensor
  - Particle Filter
  - Positive Valve Shutoff
- ▶ Total Inlet Pressure Immunity
  - Delivers continuous, precise flow
  - Upstream pressure regulator eliminated
- ▶ Flow Verification
  - On-board system
  - Replaces ROR chamber
- ▶ True Gas Independence
  - Self-Calibrating
  - Configure custom gas mix from any SEMI Gas
  - No need for factory re-calibration
- ▶ Auto Correction
  - Ensures long term, precise flow delivery
  - Service required notification
- ▶ High Speed Startup
  - Typically less than 0.3 seconds to stable flow

## Specifications

### Operating Conditions

|   |                           |
|---|---------------------------|
| Maximum Inlet Pressure.....                   | 70 psig                   |
| Minimum Inlet Pressure (for full range).....  | 45 psia                   |
| Maximum Outlet Pressure (for full range)..... | 50 Torr                   |
| Control Range* .....                          | 10 - 100% of full scale   |
| Ambient Temperature Range.....                | 32°F - 122°F (0°C - 50°C) |
| Proof Pressure.....                           | 105 psig                  |

### Functional Performance

|                               |                               |
|-------------------------------|-------------------------------|
| Accuracy.....                 | 1% Set Point @ 10 - 100% Flow |
| Repeatability.....            | ±0.1% of Full Scale           |
| Pressure Coefficient .....    | 0%                            |
| Temperature Coefficient ..... | 0%                            |
| Attitude Sensitivity .....    | 0%                            |
| Flow Startup Timing.....      | Full Flow in <500 msec        |
| Leakage                       |                               |
| External .....                | <2 <sup>-10</sup> sccm He     |
| Internal .....                | <1x10 <sup>-6</sup> sccm He   |

### Electrical Interface

|                         |                                  |
|-------------------------|----------------------------------|
| Command Signal.....     | Analog (0-5vdc), Digital (RS485) |
| Output Signal.....      | Analog (0-5vdc), Digital (RS485) |
| Input Power.....        | +/- 15 Vdc                       |
| Power Consumption ..... | 12 Watt max                      |
| Electrical Connections  |                                  |
| Digital.....            | DB9 (UDU9), Card Edge            |
| Analog .....            | DB9 (UDU9), Card Edge            |

### Mechanical Connections

- .29 IGS 'C' Seal; Face Seal
- Other Connections Available Upon Request

### Wetted Surface

"VeriClean" 316L Stainless Steel

### Standards Compliance

SEMI, CE

### Approximate Weight

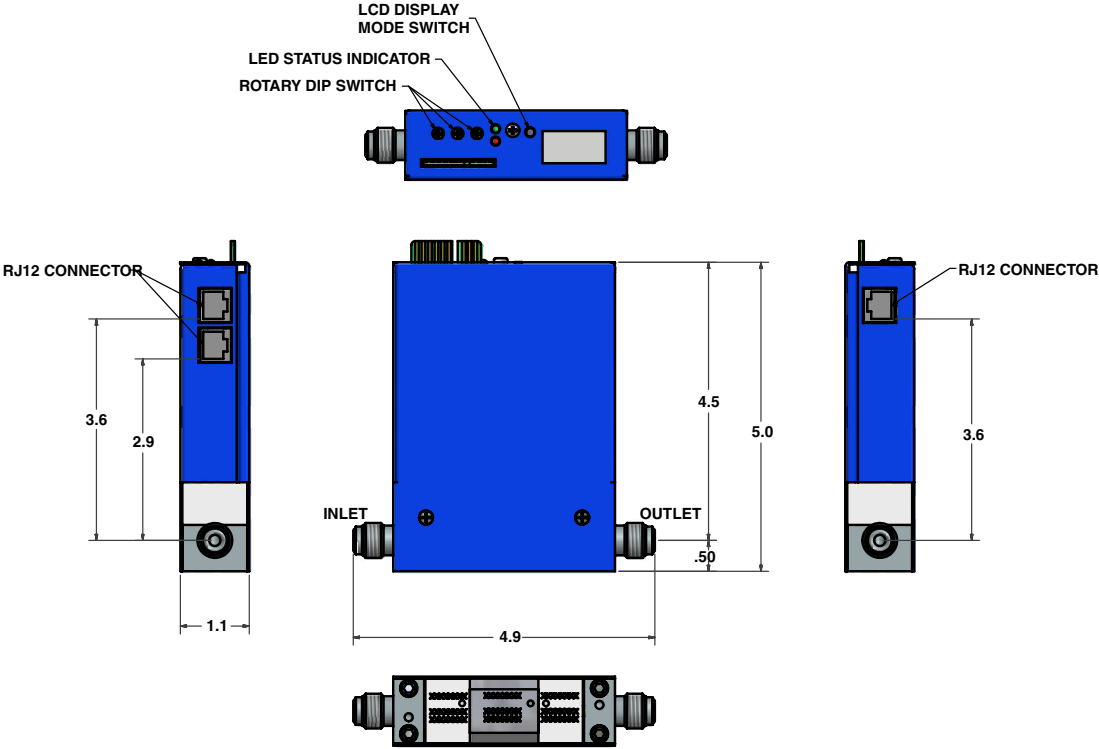
2.4 lbs (1.1 kgm)

\* Extended Flow Available

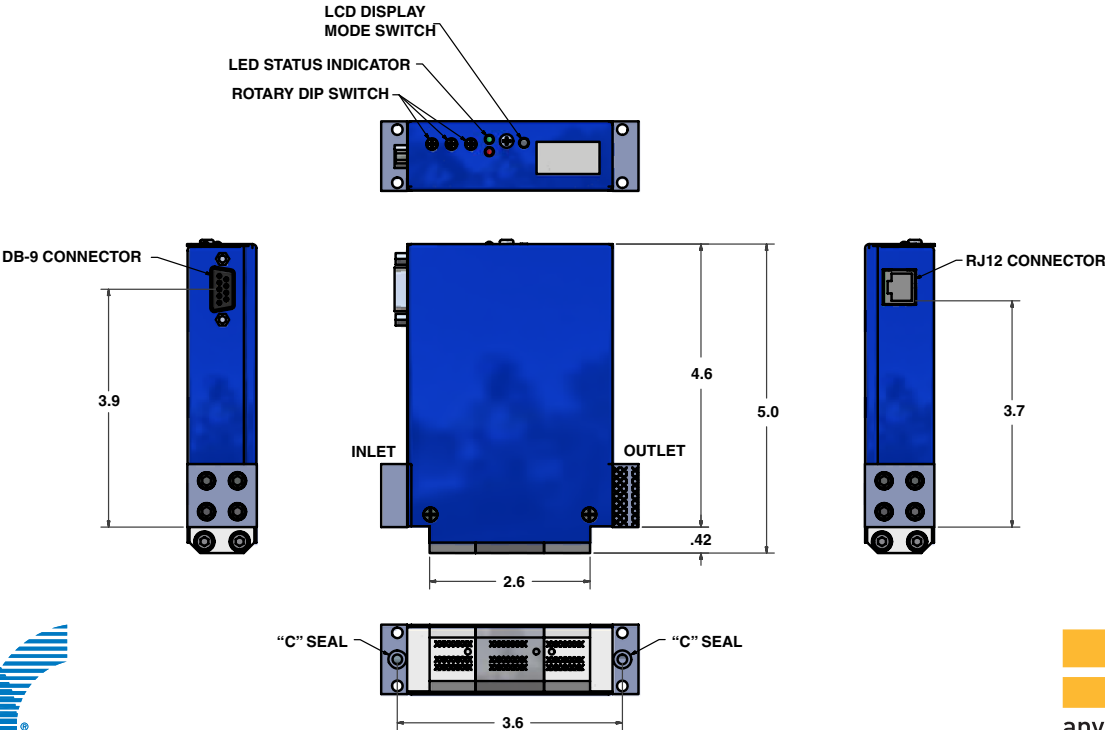


## Dimensional Data

### QFS Face Seal w/Card Edge Communication



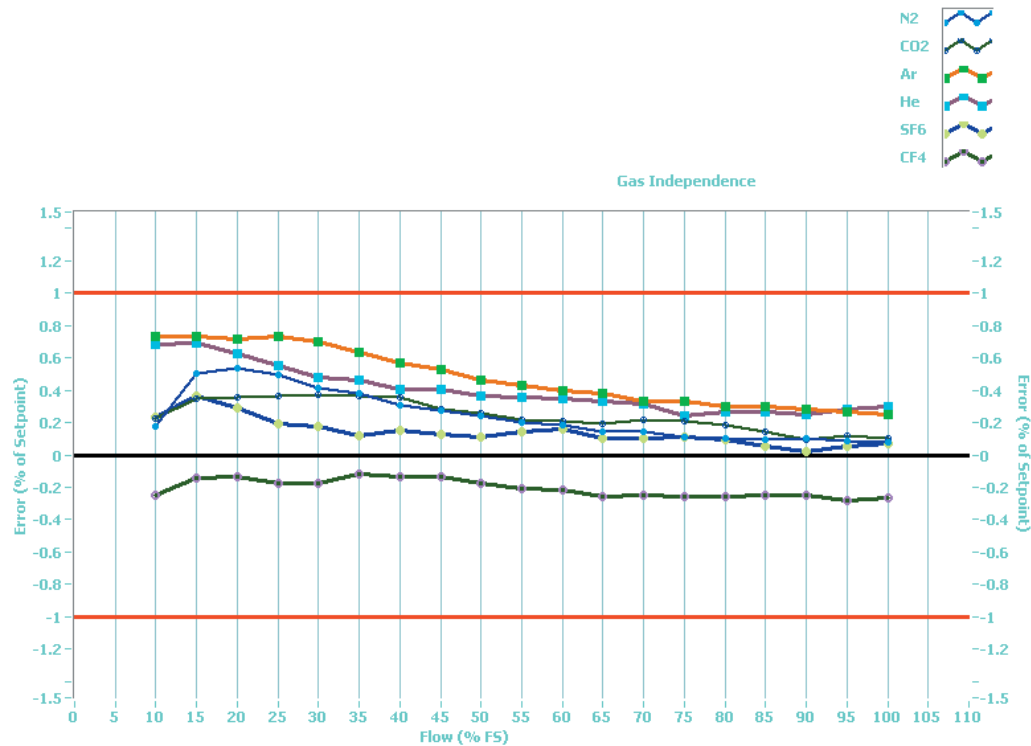
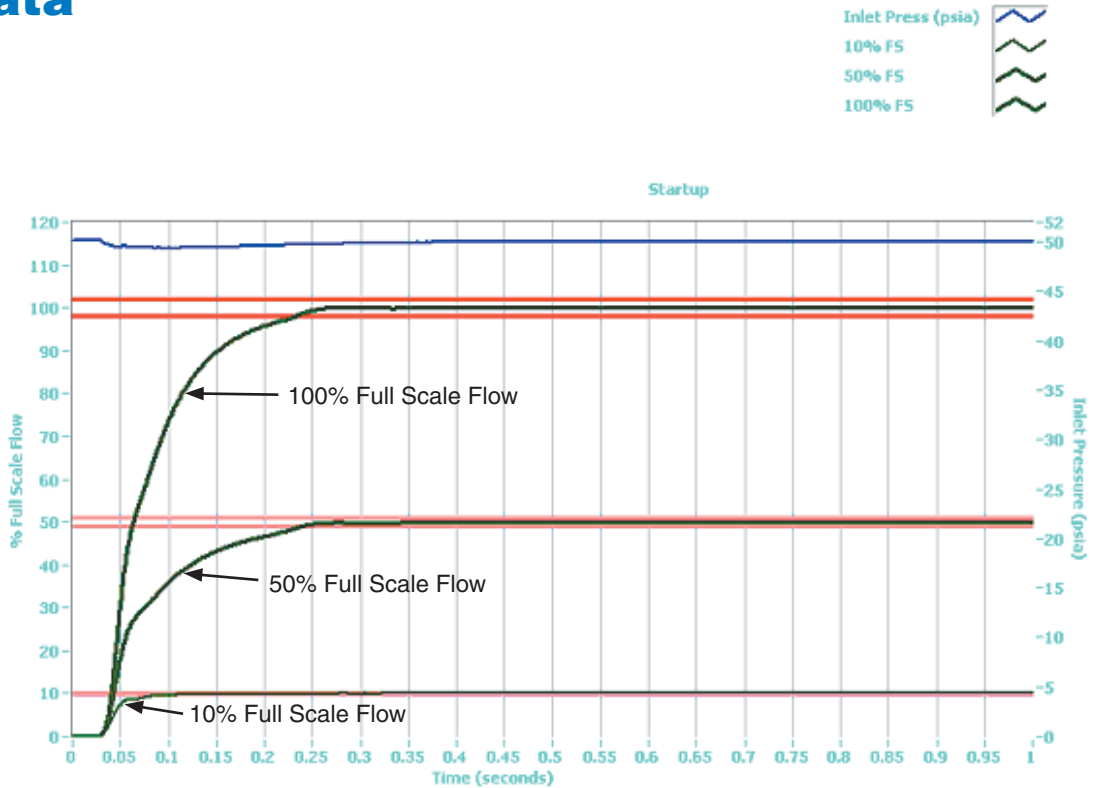
### QFS Surface Mount 'C' Seal w/DB9 Communication



## Sample Data

As shown here, the QFS has a consistent, high speed startup response for all gases at all flow rates.

Typically, gas flow reaches set point within 300 msec from command signal.

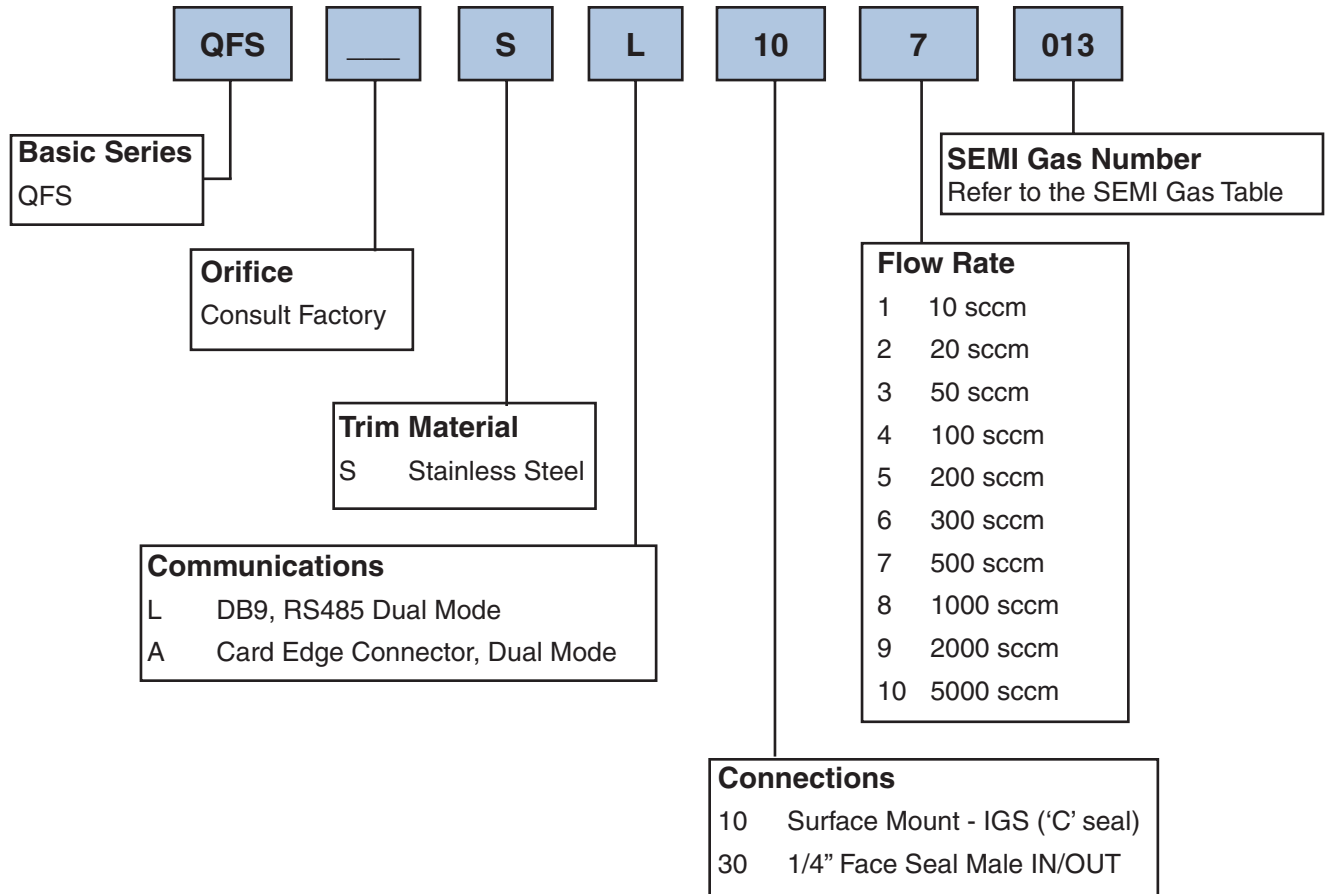


Shown here is QFS flow accuracy for various gases.

This represents better than 1% set point accuracy for a flow range from 10% to 100% or 10:1 turn ratio.

# Veriflo QFS

## Product Configuration





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