

Swagelok Company
 29495 F.A. Lennon Drive
 Solon, Ohio 44139 U.S.A.

Ver 00
 May 13, 2025
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TITLE

Low Pressure Flow Curves for Swagelok® KLF Series Pressure-Reducing Regulators

PRODUCT TESTED

Lock-up and Flow Curves	
KLF1BCA411A20000	0.02 Cv, PCTFE
KLF1BCA412A20000	0.06 Cv, PCTFE
KLF1BCA415A20000	0.20 Cv, PCTFE
KLF1BCA417A20000	0.50 Cv, PCTFE

Lock-up only	
KLF1BCA421A20000	0.02 Cv, PEEK
KLF1BCA422A20000	0.06 Cv, PEEK
KLF1BCA425A20000	0.20 Cv, PEEK
KLF1BCA427A20000	0.50 Cv, PEEK

PURPOSE

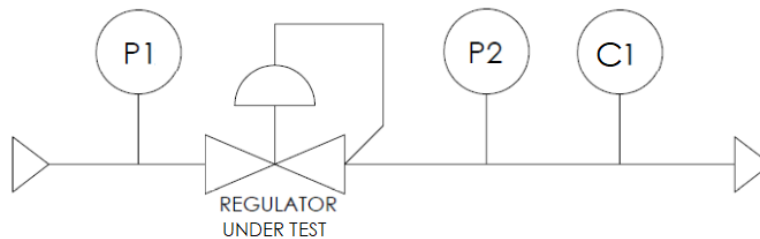
Flow Curves for Swagelok KLF Series Pressure-Reducing Regulators with 15 psig Maximum Inlet Pressure and 0 – 2.0 psig Pressure Control Range were produced to demonstrate Flow performance data consistent with other standard Maximum Inlet Pressure and Pressure Control Range offerings.

TEST CONDITIONS

C_v: 0.02, 0.06, 0.20, and 0.50
 Inlet Pressure: 15 psig (1.0 bar) and 5.0 psig (0.34 bar)
 Set Pressure: 2.0 psig (0.14 bar) and 1.0 psig (0.07 bar)
 Temperature: 70°F (20°C)
 Media: Nitrogen Gas
 Original test date: April 2025

TEST METHOD

The regulators were tested under the conditions stated above. Regulator set pressure was set at 0.00035 std ft³/min (0.01 std L/min) flow. Lock-up was recoded and for the performance was monitored in terms of outlet pressure (P2) and flow (C1). For each C_v Flow curves were produced using the above test conditions and the diagram shown below.





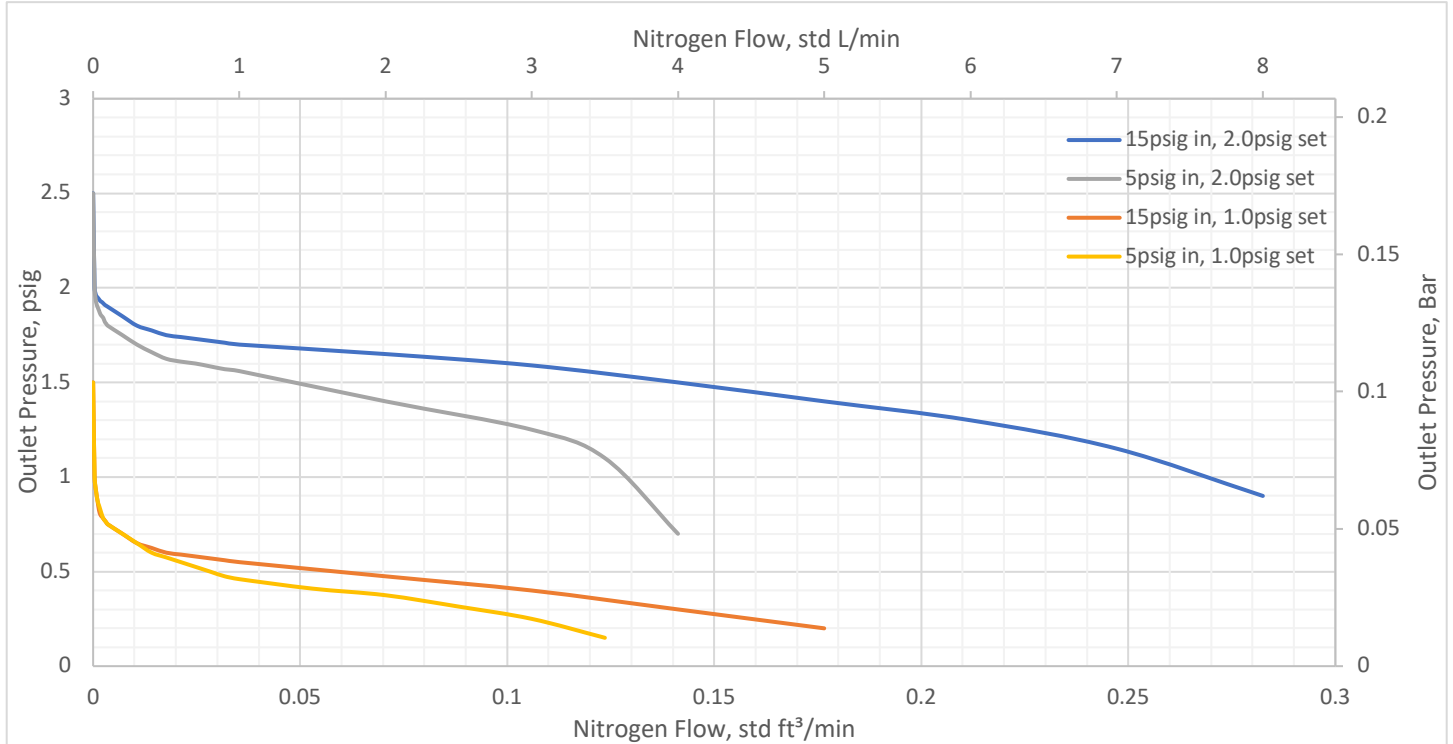
Product Test Report

PTR-5050

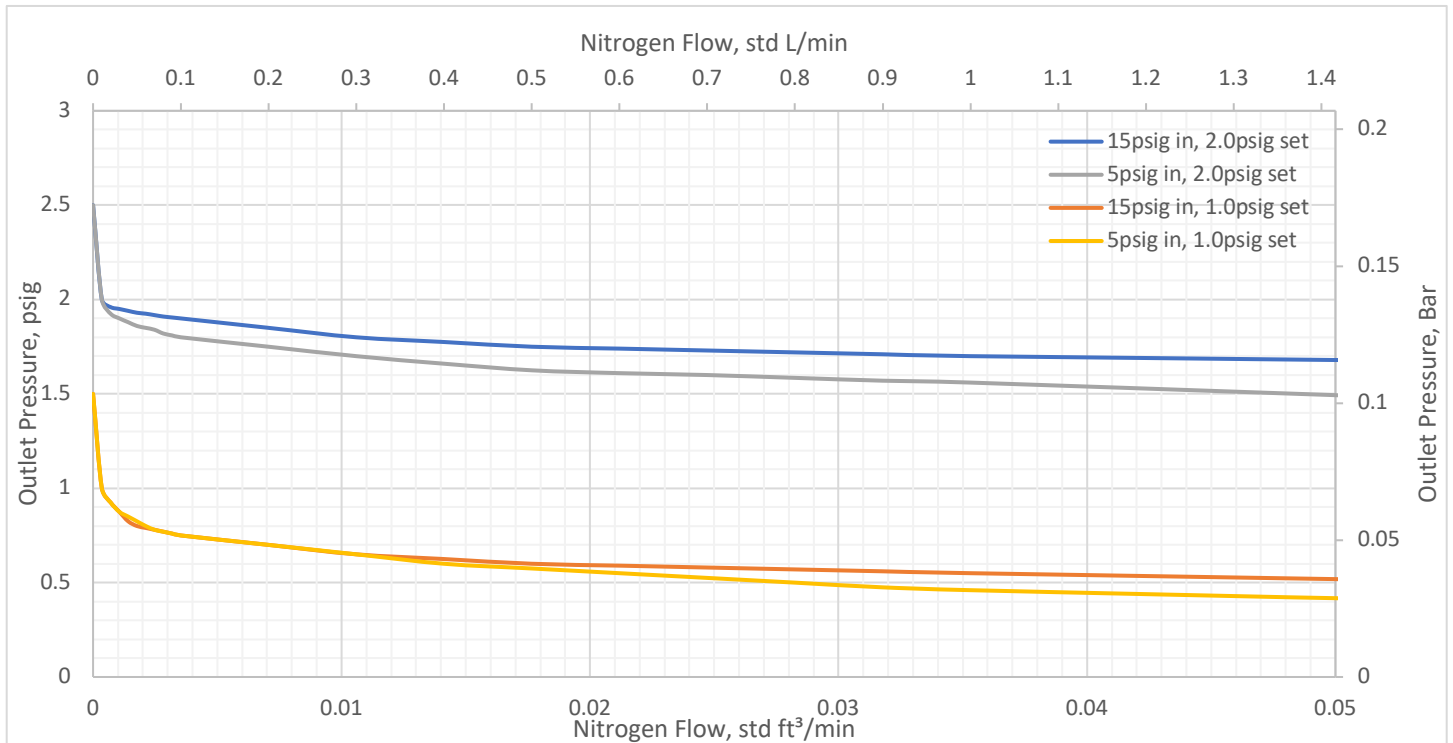
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TEST RESULTS – 0.02 C_v



Detail View:





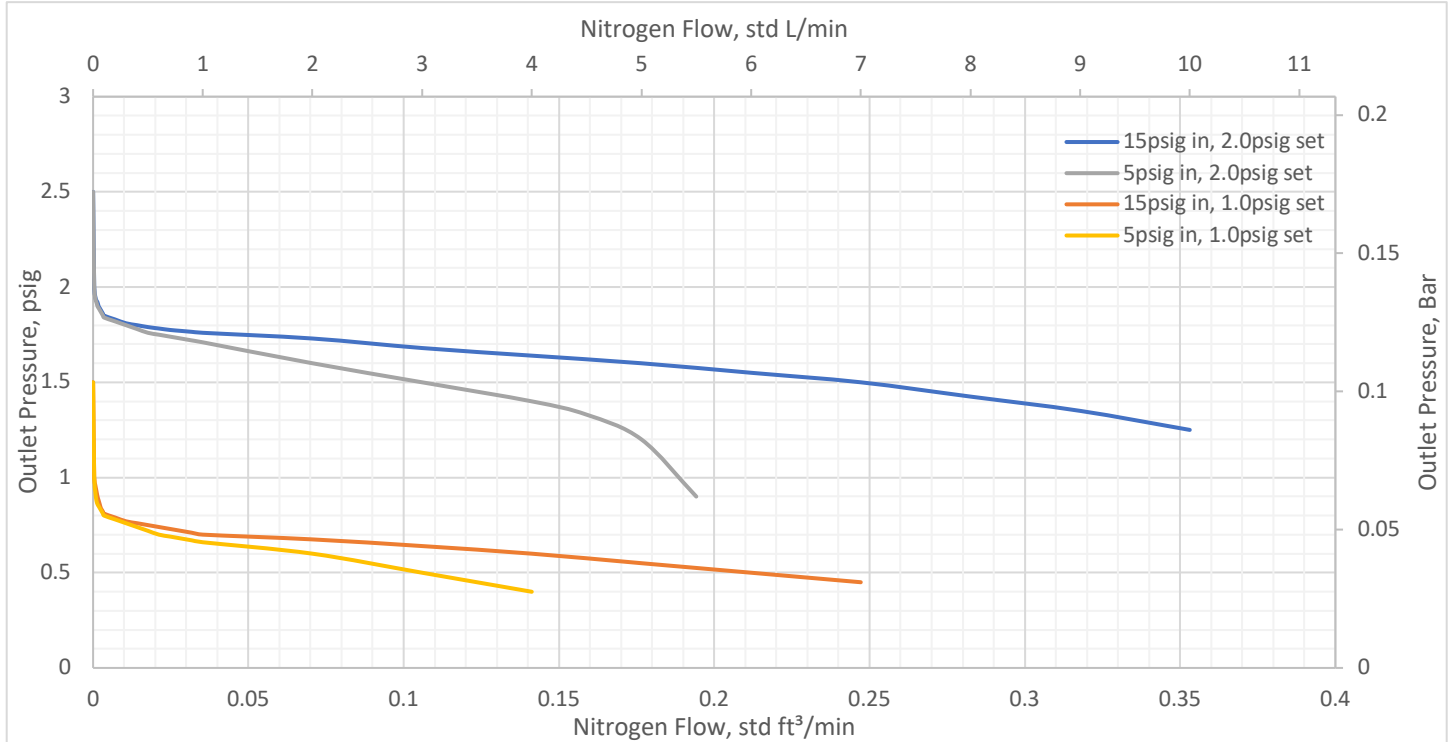
Product Test Report

PTR-5050

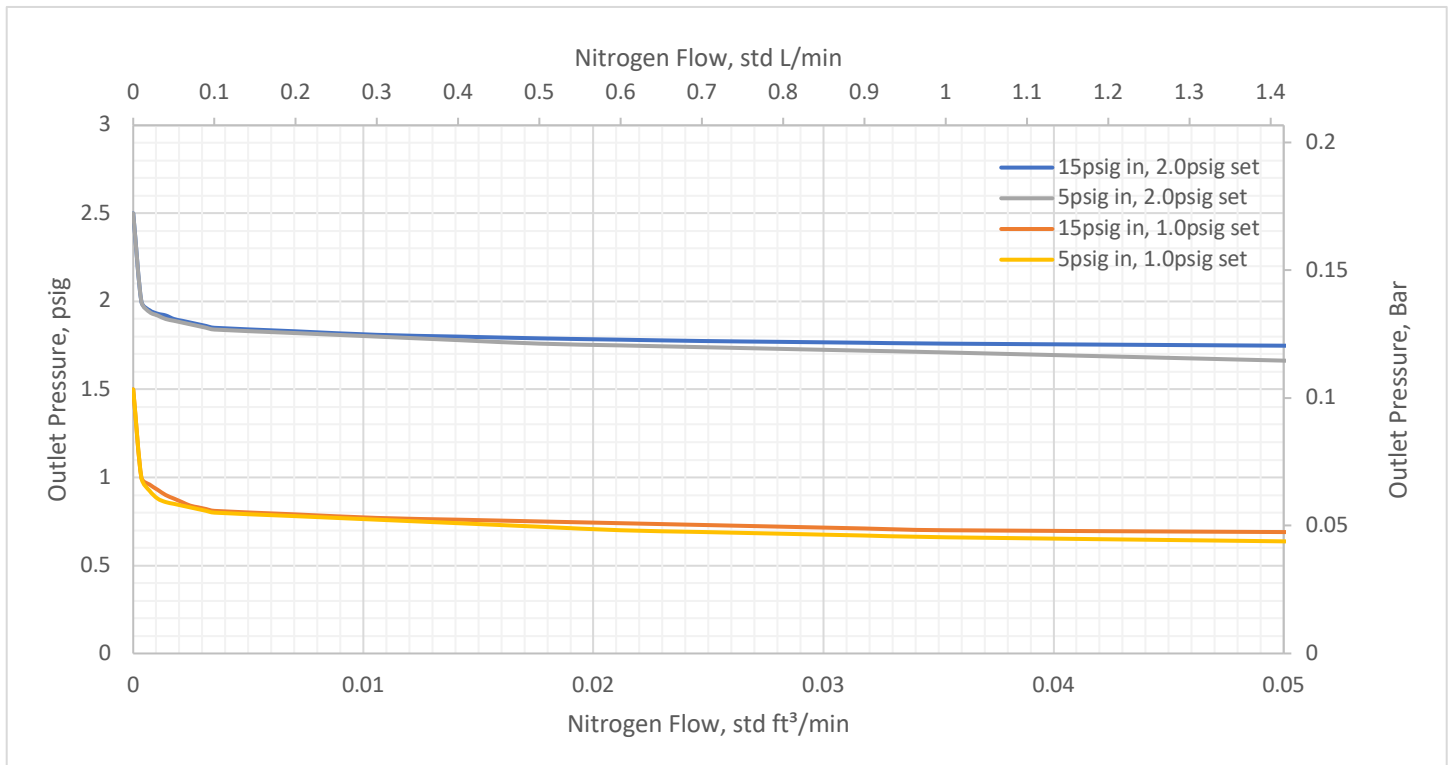
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TEST RESULTS – 0.06 C_v



Detail View:





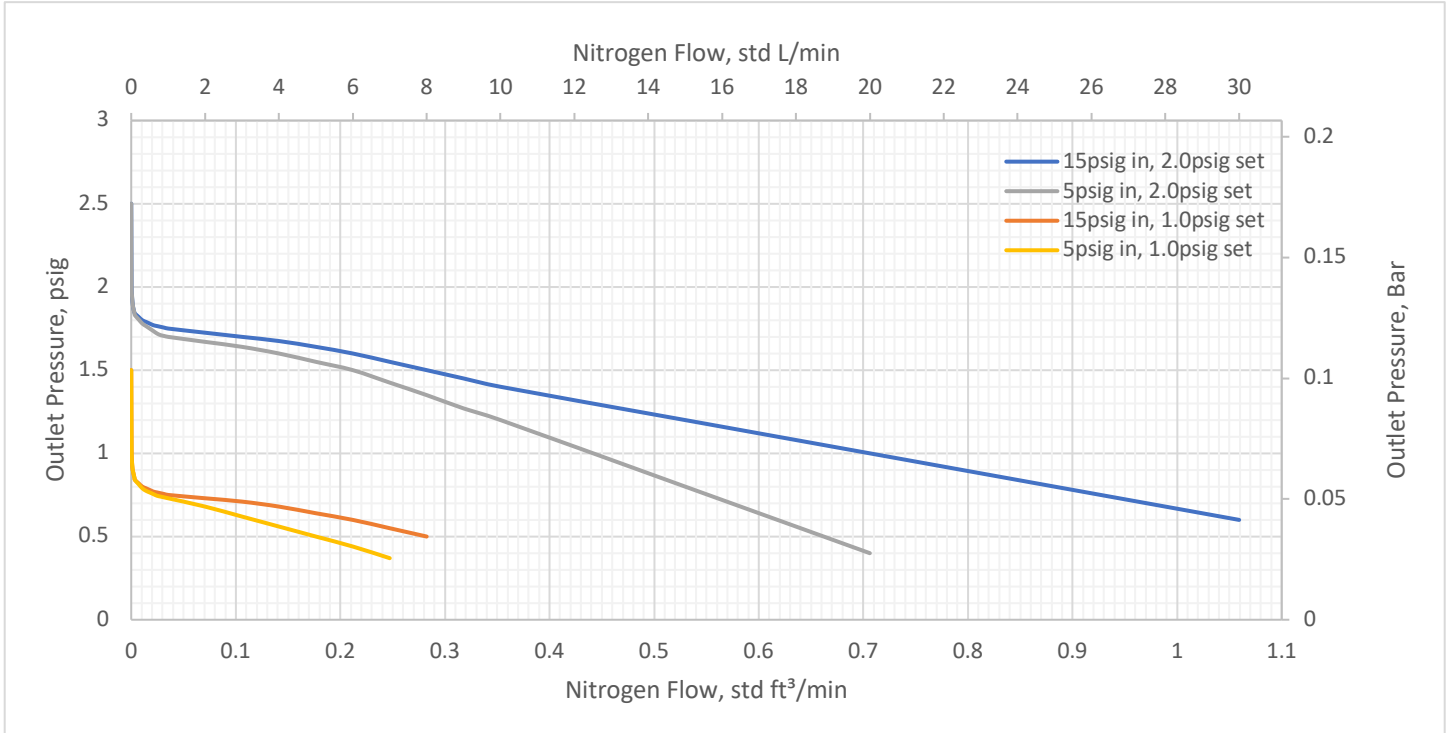
Product Test Report

PTR-5050

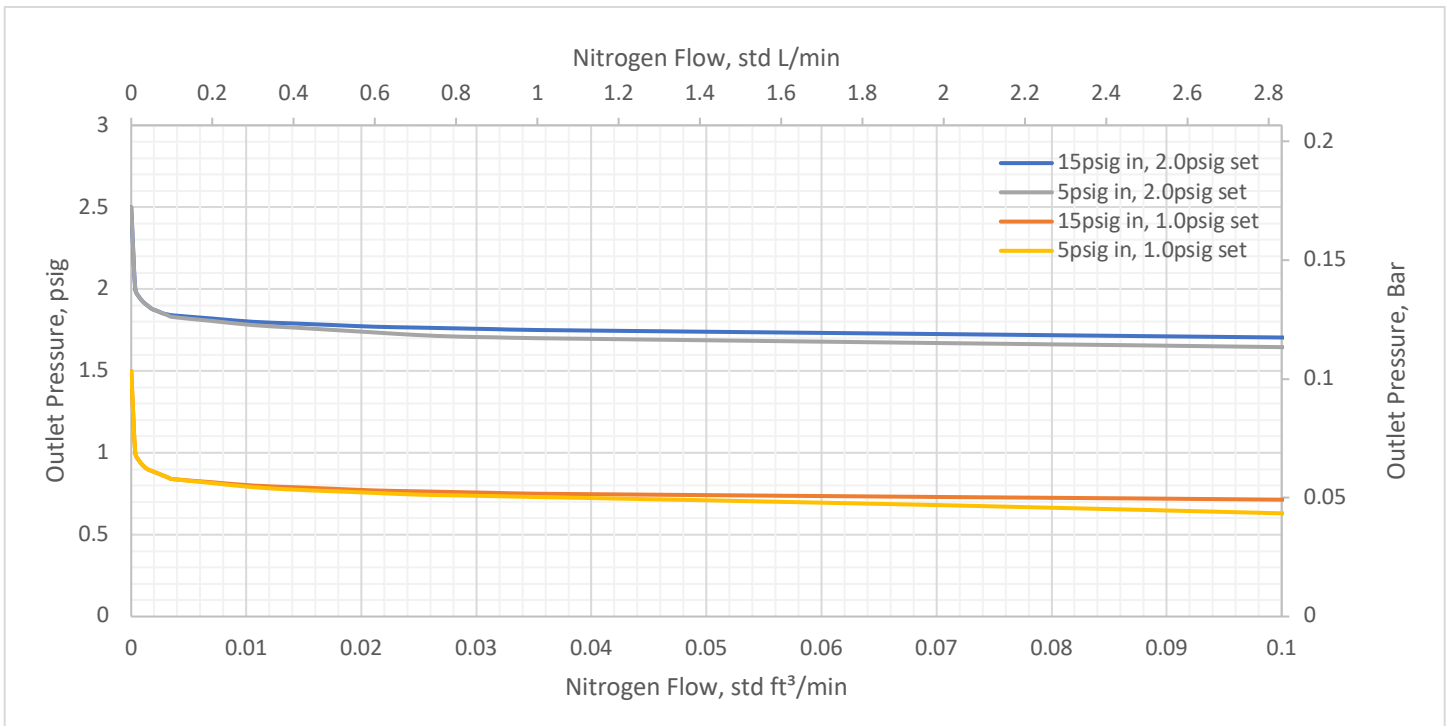
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TEST RESULTS – 0.20 C_v



Detail View:





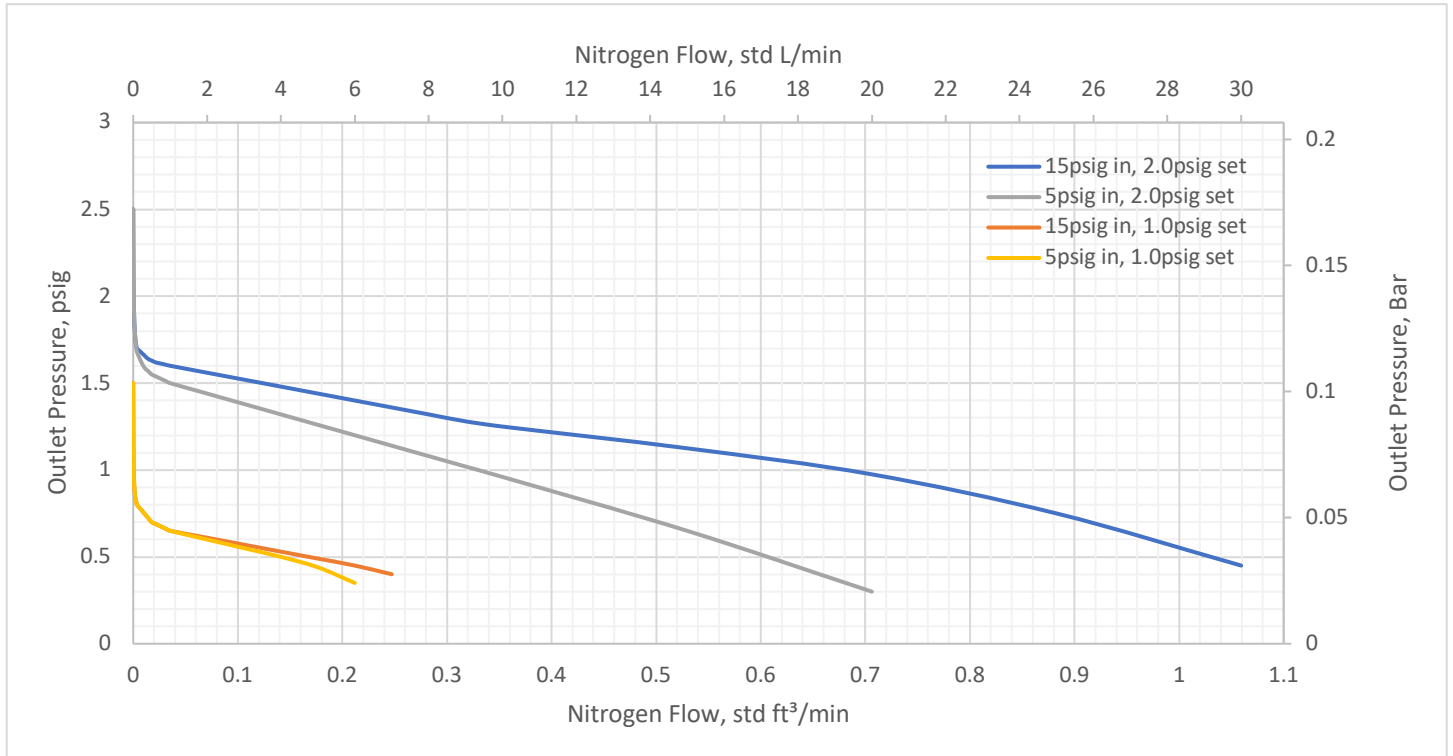
Product Test Report

PTR-5050

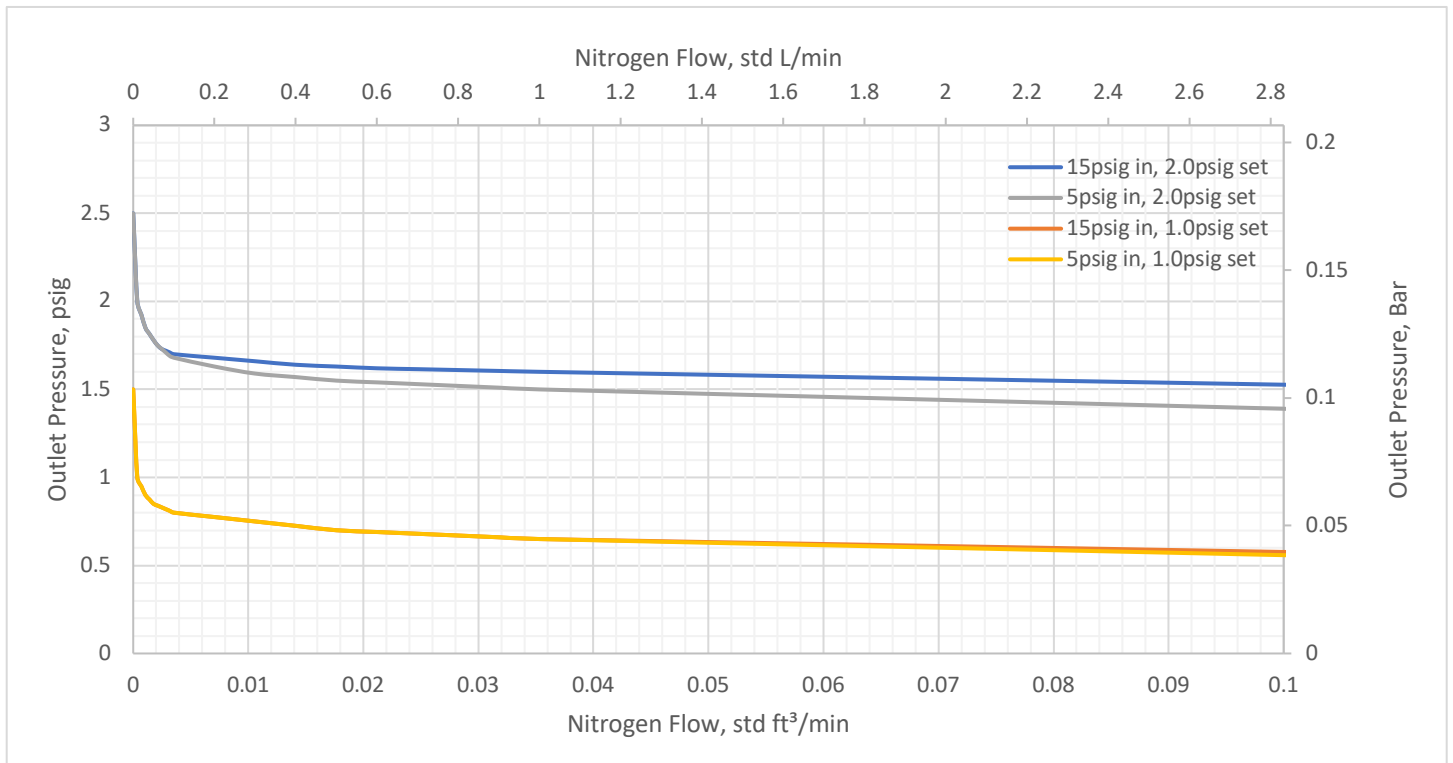
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TEST RESULTS – 0.50 C_v



Detail View:





Product Test Report

PTR-5050

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Lock-up

Lock-up shown in the graphs is the average of recorded values using PCTFE Seat Material. The table below shows the maximum, minimum, and average recorded lock-up values to indicate expected variance.

	PCTFE	PEEK
Max.	0.7	0.9
Min.	0.3	0.5
Average	0.5	0.6

These tests were performed to consider a specific set of conditions and should not be considered valid outside those conditions. Swagelok Company makes no representation or warranties regarding these selected conditions, or the results attained. Laboratory tests cannot duplicate the variety of actual operating conditions. Test results are not offered as statistically significant. See the product catalog for technical data.

SAFE PRODUCT SELECTION

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

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