



AEROSPACE STANDARD	AS1284	REV. B
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	Superseding AS1284A	
Standard Test Procedure and Limit Value for Shutoff Surge Pressure of Pressure Fuel Dispensing Systems		

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. PURPOSE: This standard establishes a test procedure and related limit value for shutoff surge pressure of pressure fuel dispensing systems.
2. SCOPE: The test procedure and related limit value are intended to apply to fixed and mobile ground pressure fuel dispensing systems and to aerial refueling tankers.

3. PROCEDURE:

- 3.1 Test Equipment:

- 3.1.1 For Systems with Single Dispensing Line: Test apparatus as shown in Figure 1 shall be connected at the dispensing system pressure fueling nozzle. The test adapter, line segments and valves shall have flow areas at least equal to that of the dispensing system flow line. The length of the line segment between the adapter and the test shutoff valve (inlet line segment, item 4 in Figure 1) shall not exceed 30 diameters. The test shutoff valve (item 6 in Figure 1) closure time shall be 0.5 seconds $\pm 5\%$ with a linear time rate of change of flow area, $\pm 5\%$, from full open to zero flow area. The shutoff valve shall incorporate a means to record its shutoff characteristic. To assure that dispensing system flow is not abnormally restricted, the pressure drop of the test shutoff valve, in its full open position, shall not be greater than that length equivalent to 50 diameters of adjacent line. The pressure transducer (item 5 in Figure 1) shall be connected to a high response, recording, pressure measuring device, such as an oscillograph. The pressure transducer and recording measuring device shall have a suitable pressure range and its minimum frequency response shall be 600 Hertz. It shall be verified by static pressure calibration that the error of the transducer and recording, measuring device at 120 psig (830 kPa) is not greater than $\pm 1\%$.

The flow control valve (item 8 in Figure 1) shall provide readily adjustable throttling and shall have a maximum pressure drop, in its full open position, not greater than that length equivalent to 50 diameters of adjacent line. The total length of the discharge line segments shall not exceed 50 diameters.