



ACCEPTANCE TEST PROCEDURE		
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Original Issue Date:	MM-DD-YYYY	Page: 1 of 8
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Engineering Approval/Date:	A.B.C.	MM-DD-YYYY

SAMPLE ACCEPTANCE TEST PROCEDURE
FOR THE
PART NUMBER
SENSOR, FERROUS DEBRIS

REVISION HISTORY		
Rev.	ECO #:	Date:
A	Initial Release	MM-DD-YYYY

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1.0 Purpose

This document establishes the procedure and inspection requirements for the Development Acceptance Testing of a Ferrous Debris Sensor, KasperAero Drawing *PART NUMBER*.

2.0 Sample Rate

Inspection:

100% Sample Rate

Weight:

A minimum sample size equal to 10% of the production lot, or 10 units, whichever is greater, shall be subjected to weighing.

Test:

100% of units shall be tested.

3.0 Test Fluid(s):

- Water

4.0 Instrumentation

All equipment that shall be used during ATP requiring calibration will be calibrated per Kasper Quality Standards (KQS).

5.0 Documentation

The result of each test shall be recorded on a physical or digital data card. All data cards shall be marked with the testers stamp affirming the recorded results before parts leave ATP.

6.0 Test Conditions

6.1 CLEANING:

Prior to testing the unit, all parts normally in contact with the fluid used in service shall be thoroughly cleaned to remove all foreign matter.

6.2 TEMPERATURE:

Room Ambient Temperature: $70^{\circ}\text{F} \pm 10^{\circ}\text{F}$

Fluid Temperature: $70^{\circ}\text{F} \pm 10^{\circ}\text{F}$

Ambient Humidity: $60\% \pm 30\% \text{ RH}$

7.0 Test Facilities

Testing location that are valid for the required in this Acceptance Test Procedure shall be governed per Kasper Quality Document KQD0001.

8.0 Equipment Required

Note: Equivalent substitutes may be used.

- 8.1 0-8.8 Lb. Scale, Accuracy $> \pm .005$ Lbs.
- 8.2 Hydrostatic Hand Pump
- 8.3 Drip Tray
- 8.4 0-250 PSI Pressure Gage, 2.0% Accuracy of Scale
- 8.5 Misc. Shut off valves and plumbing equipment
- 8.6 $\varnothing 1.00" \pm 0.0005"$ High Carbon Steel Ball Bearing
- 8.6 $\varnothing 0.375"$ High Carbon Steel Ball Bearing or Larger
- 8.7 $\varnothing 0.0625" \pm 0.0005"$ High Carbon Steel Ball Bearing
- 8.8 $\varnothing 0.03125" \pm 0.0005"$ High Carbon Steel Ball Bearing
- 8.9 Dielectric Withstand Tester and Insulation Resistance Tester
- 8.10 F-00010 or F-00011, Pressure Test Fixture
- 8.11 F-00012, Wiring Harness Adapter
- 8.12 F-00013 or F-00014, Fixture, Conductive Housing
- 8.13 F-00015, Wiring Harness Adapter
- 8.14 F-00021, Sensitivity Alignment Guide (.0625)
- 8.15 F-00022, Sensitivity Alignment Guide (.03125)

9.0 Tests

9.1 EXAMINATION OF PRODUCT

- 9.1.1 100% of products shall be examined regardless of testing sample rate.
- 9.1.2 Remove Capplugs from test units. Inspect the face of Ferrous Debris Sensor for signs of FOD. Remove any FOD.
- 9.1.3 Examine each unit to determine conformance with KasperAero Drawing with respect to design, dimensions, materials finishes, marking, workmanship and any other requirements for which there are no specific functional tests.
- 9.1.4 Inspect each unit for any visible defects, such as cracks, dents, dings, or nicks.
- 9.1.5 Ensure that the unit's markings, labels, and serial numbers are clear and legible.
- 9.1.6 Confirm that there are no irregularities, corrosion, contamination, or foreign debris on the surface that would affect functionality. (Yes = Pass, No = Fail).

9.2 WEIGHT

- 9.2.1 Sample in accordance with Section 2.0. Weights must be recorded using a calibrated scale. Compare the weight with the acceptable weight range specified on the data card
- 9.2.2 Record if the units weight is acceptable on the data card. (Yes = Pass, No = Fail).

9.3 LOW PRESSURE EXTERNAL LEAKAGE TESTING

- 9.3.1 The external leakage test fluid shall be water.
- 9.3.2 Create the Test Setup as shown in Figure 1.
- 9.3.3 Place test unit(s) in the F-00010 or F-00011 test fixtures.
- 9.3.4 Raise the pressure to 5 psi (-0/+5psi). Maintain pressure for 60 seconds.
- 9.3.5 By visual observation there shall be zero leakage. (Yes = Pass, No = Fail).

9.4 PROOF PRESSURE TESTING

- 9.4.1 The Proof Pressure test fluid shall be water.
- 9.4.2 Create the Test Setup as shown in Figure 1.
- 9.4.3 Place test unit(s) in the F-00010 or F-00011 test fixtures.
- 9.4.4 Raise the pressure to 120 psi (-0/+20psi). Maintain pressure for 60 seconds.
- 9.4.5 By visual observation there shall be zero leakage. (Yes = Pass, No = Fail).

9.5 MAGNET STRENGTH

- 9.5.1 Using the test unit, lift a Ø1.00" diameter carbon steel ball. (Yes = Pass, No = Fail).

9.6 FERROUS MATERIAL SENSITIVITY

- 9.6.1 Wire the test unit to as shown in Figure 2.
- 9.6.2 With no debris on the sensor, the sensor's analog output shall read 2.10 ± 0.10 VDC. (Yes = Pass, No = Fail)
- 9.6.3 Using a Ø 0.375" diameter or larger high carbon steel ball, fully saturate the sensor. The sensor's analog output voltage shall be 4.3 ± 0.10 VDC. (Yes = Pass, No = Fail)
- 9.6.4 Using the F-00022 sensitivity alignment guide, place a Ø.0625" diameter high carbon steel ball on the exact center of the sensor face. Measure and record the sensor's analog output.
- 9.6.5 Using the F-00023 sensitivity alignment guide, place a Ø.03125" diameter high carbon steel ball on the exact center of the sensor face. Measure and record the sensor's analog output.

9.7 DIELECTRIC STRENGTH (HIPOT)

- 9.7.1 Place the F-00013 or F-00014 conductive housing test fixture on an insulated, non-conductive mat. Ensure the test area is guarded to prevent accidental contact during testing.
- 9.7.2 Place test unit(s) in the F-00013 or F-00014 fixtures. Seat the test units fully.
- 9.7.3 Connect the F-00013 or F-00014 test fixture to the Dielectric Withstand Tester's return/ground terminal using a tether.
- 9.7.4 Connect all of the wire leads of the test unit to the high-voltage lead of the Insulation Resistance Tester. Use the F-00012 wiring harness adapter (see Figure 3).
- 9.7.5 Gradually apply an AC test voltage of 450–500 VAC over a period of at least 5 seconds. Maintain the full test voltage for 60 seconds while monitoring for breakdown, flashover, or abnormal current draw. Measure the leakage current.
- 9.7.6 Reduce the voltage to zero before disconnecting the test unit.
- 9.7.7 Acceptance criteria (Yes = Pass, No = Fail):
 - No breakdown, arcing, or insulation failure shall occur.
 - The leakage current shall remain below 5 mA for the duration of the test.

9.8 INSULATION RESISTANCE

- 9.8.1 Place the F-00013 or F-00014 conductive housing test fixture on an insulated, non-conductive mat. Ensure the test area is guarded to prevent accidental contact during testing.
- 9.8.2 Place test unit(s) in the F-00013 or F-00014 fixtures. Seat the test units fully.
- 9.8.3 Connect the F-00013 or F-00014 test fixture to the Insulation Resistance Tester's return/ground terminal using a tether.
- 9.8.4 Connect all of the wire leads of the test unit to the high-voltage lead of the Insulation Resistance Tester. Use the F-00012 wiring harness adapter (see Figure 3).
- 9.8.5 Apply a DC test voltage of 500 VDC (per IEC 60079 insulation resistance requirements). Allow the voltage to stabilize and maintain the test for at least 60 seconds. Record the measured insulation resistance.
- 9.8.6 Acceptance criteria (Yes = Pass, No = Fail):
 - No breakdown, arcing, or insulation failure shall occur.
 - The measured insulation resistance shall be $\geq 1 \text{ M}\Omega$, unless otherwise specified by the product design standard or certification file.



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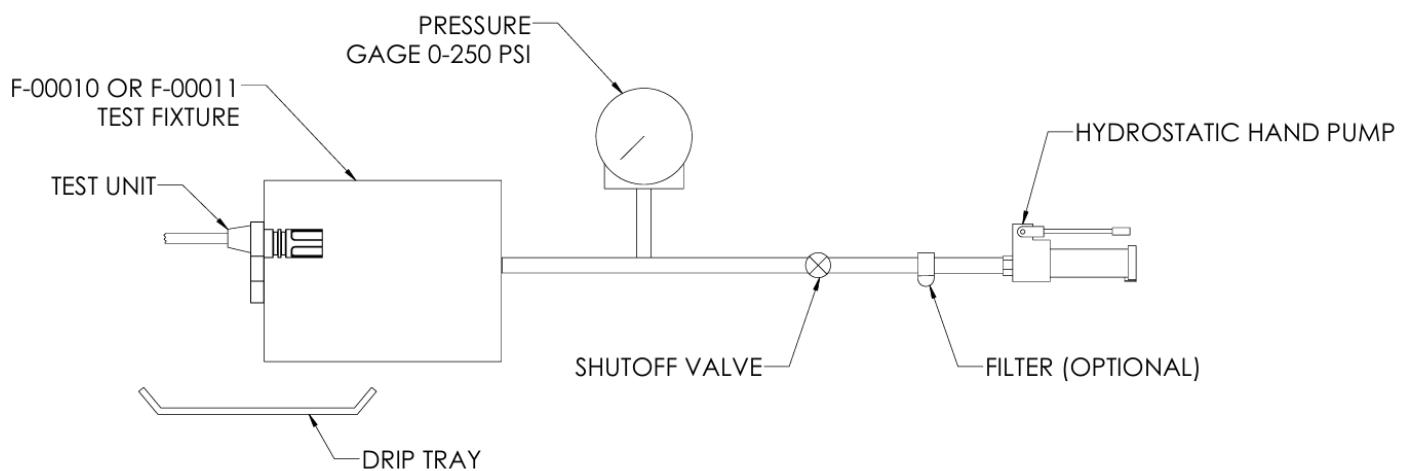


FIGURE 1: EXTERNAL LEAKAGE AND PROOF PRESSURE TEST SETUP

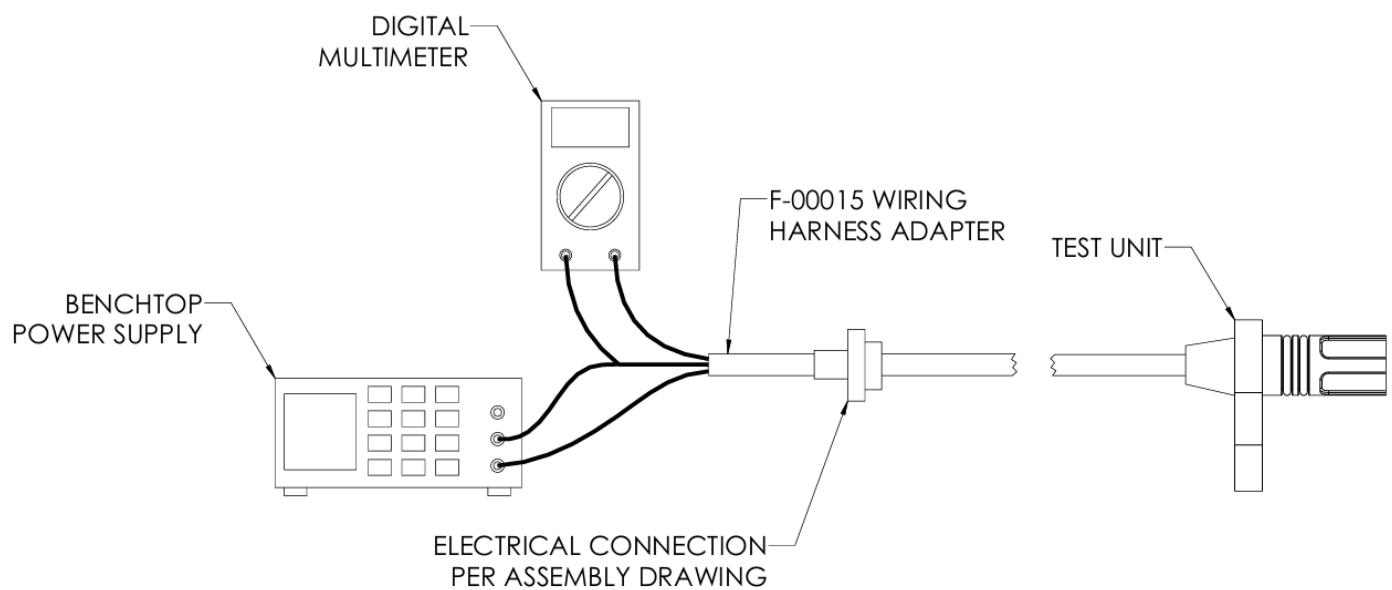


FIGURE 2: FERROUS SENSITIVITY TEST SETUP

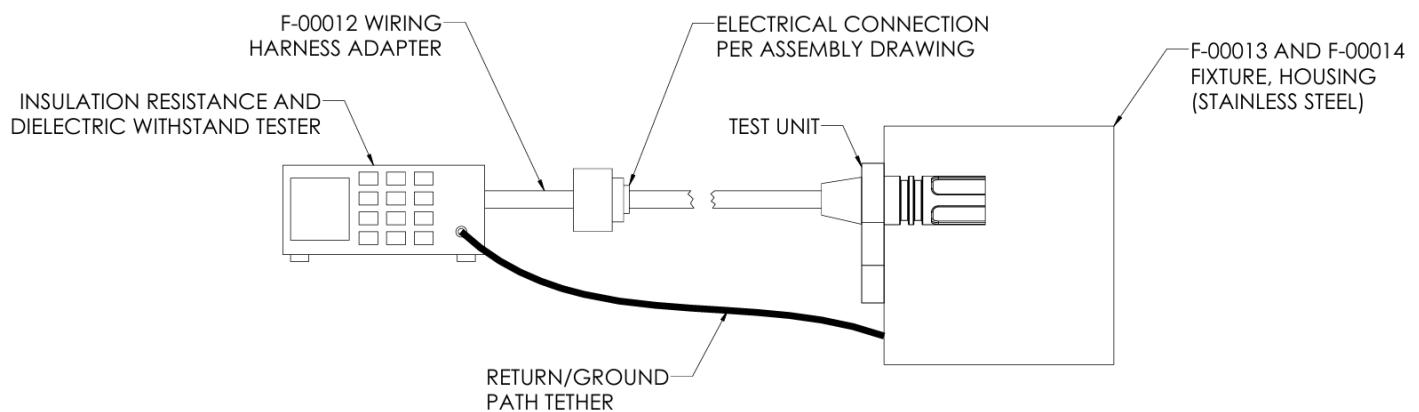


FIGURE 3: DIELECTRIC STRENGTH AND INSULATION RESISTANCE TEST SETUP



Kasper Aero

DATA CARD PARTS LIST

KASPERAERO PART NUMBER:

CUSTOMER:

CUSTOMER PART NUMBER:

ATP: KR ATP#XXXXXX

ATP REVISION: A

DRAWING REVISION:

LOT NUMBER:

BEGINNING SERIAL NUMBER:

ENDING SERIAL NUMBER:

PRODUCTION / DEVELOPMENT / QUALIFICATION

BEGINNING TEST DATE:

END TEST DATE:

TEST OPERATOR(S):

CHECK BOX IF ANY TEST UNITS FAILED

DATA TRANSCRIBED TO DIGITAL FORMAT

SUPERVISOR SIGNATURE: _____

DATE: _____ (MM/DD/YYYY)



DATA CARD PARTS LIST

REVISION HISTORY

REVISION	ADCN / ECO	DATE: (mm/dd/yyyy)	PREPARED BY:	REVIEWED BY:
A	INITIAL RELEASE	MM/DD/YYYY	A.B.C.	A.B.C.
B				
C				
D				
E				
F				

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