

DOCUMENT TITLE: **TE0084021 ARC METERING SYRINGE DRIVE TEST SYSTEM
CALIBRATION / PREVENTIVE MAINTENANCE PROCEDURE**

DOCUMENT TYPE: ☒ Calibration ☒ Preventive Maintenance

EQUIPMENT NAME: **ARC METERING SYRINGE DRIVE TESTER**

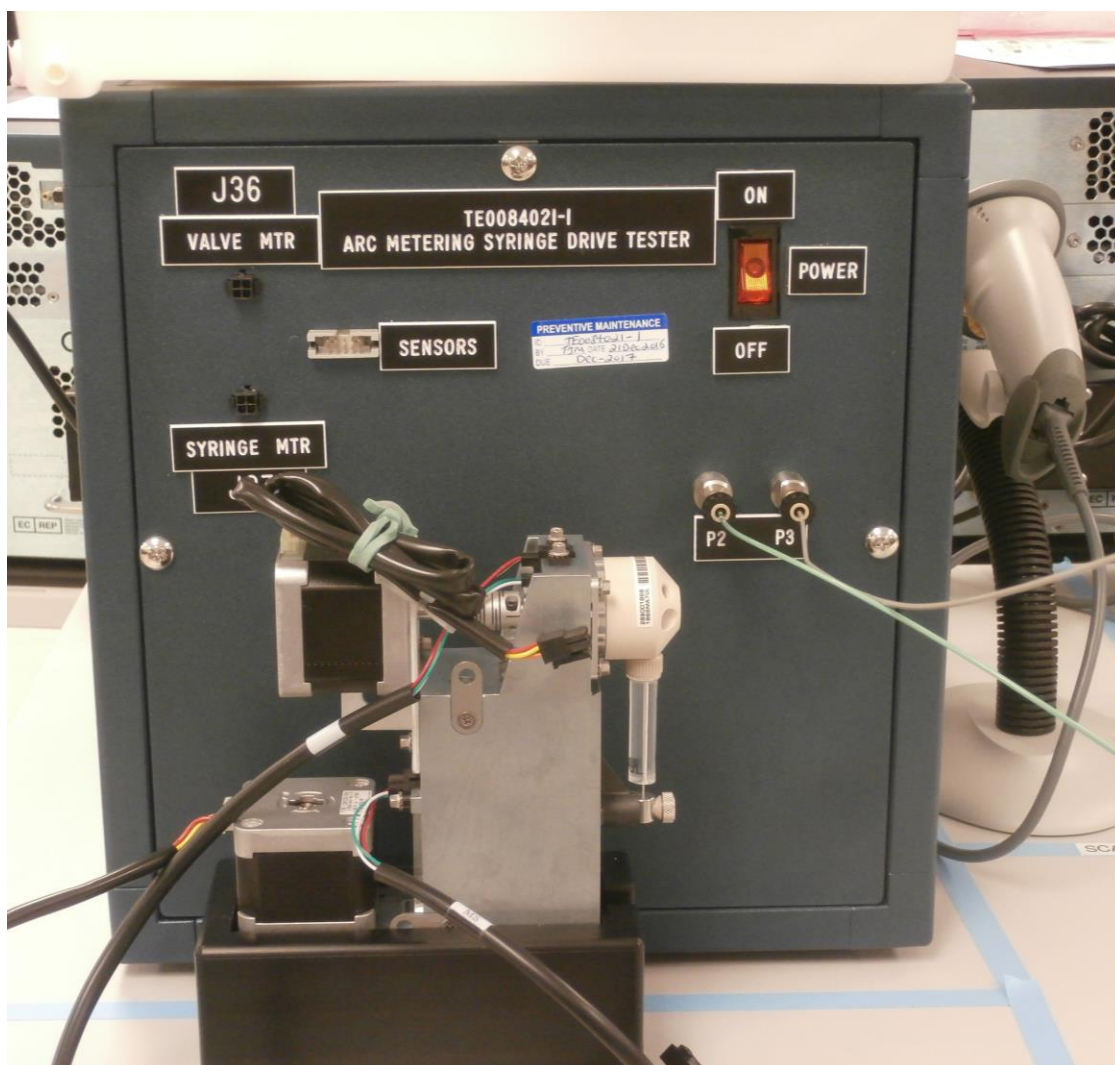
EQUIPMENT NUMBER: **TE0084021**

AUTHOR(S): **MARK JUSSAUME**

DATE: **August 18, 2016**

REVISED BY: **NA**

DATE: **NA**



EQUIPMENT REQUIRED

Quantity	Part Number	Description
1	TE0084021	Arc Metering Syringe Drive Tester
1	279003341	Arc Metering Syringe Drive Assembly
1	NA	Calibrated pressure source capable of 250 psi

DISPOSABLES REQUIRED

Quantity	Part Number	Description
AR	NA	100% Methanol

REFERENCE DOCUMENTATION

Document Number	Description
730001799	Operating Procedure, Calibration and PM
730000295MP	Quality System Document Control
735003828	Arc Metering Syringe Test Procedure
TE0084021	Test Equipment design Folder

DEFINITIONS AND ABBREVIATIONS

Term	Definition/Abbreviation
Calibration	A process to ensure that equipment is capable of producing accurate results. This includes verifying measurements and/or making adjustment(s) to ensure measurement accuracy.
PM	Preventive Maintenance: The servicing, for the purpose of maintaining equipment in satisfactory working order, by performing systematic inspection, detection, and correction of potential failures. PM activities may include tests, measurements, and parts replacement.
VDC	Volts Direct Current
psi	Pounds Per Square Inch
UUT	Unit Under Test

PROCEDURE**1. PREVENTATIVE MAINTANENCE**

- 1.1. Visually inspect "J36 VALVE MTR" connector in front of tester. Look for excessive wear on connectors and pins. Replace as necessary.
- 1.2. Visually inspect "J37 SYRINGE MTR" connector in front of tester. Look for excessive wear on connectors and pins. Replace as necessary.
- 1.3. Visually inspect "SENSORS" connector in front of tester. Look for excessive wear on connectors and pins. Replace as necessary.
- 1.4. Visually inspect ports "P2" and "P3" tubing. Tubes should be kink free and ferrules should show no signs of excessive compressions. If questionable, replace all tubes.

2. CALIBRATION

- 2.1. Connect calibrated pressure source to inlet port ("P3") on the test system.
- 2.2. Use Hyperterminal program on PC to send command "sysinit -out" this will position inject valve.
- 2.3. Increase pressure source to 100 psi.
- 2.4. Send the command "getsamplepress" to acquire pressure reading. The acquired pressure should be 100 ± 5 psi.
- 2.5. If pressure reading is out of range, relieve pressure and allow it to go to zero. Send command "calpress" to re-zero transducer. Repeat steps 2.3 & 2.4. If still bad, replace.

3. VERIFICATION

- 3.1. Connect known good Arc Syringe Drive assembly (UUT) to test system per procedure 735003828.
- 3.2. Perform test per procedure 735003828. UUT should pass all tests.

4. END of CALIBRATION/PREVENTATIVE MAINTANENCE

- 4.1. Fill out CAL/PM label and place on the test system. Place expired label onto notes section of RECORD at end of this procedure.
- 4.2. Completely fill out RECORD at end of this procedure.
- 4.3. Make sure RECORD is given to Calibration Data Base administrator to be filed appropriately.

WATERS CORPORATION TE0084021 ARC METERING SYRINGE DRIVE TEST SYSTEM CALIBRATION / PREVENTIVE MAINTENANCE RECORD

Date:	Performed By:	Procedure:
Equipment I.D.	Location:	
Due Date:	Interval (Months):	Next Due Date:

Test Equipment Used	Serial Number/Identification Number	Calibration/PM Date

SECTION 1: MAINTENANCE	RESULT	NOTES
Step 1.1: "J36 VALVE MTR" Wiring/Connector Inspection	PASS ☐ FAIL ☐	
Step 1.2: "J37 VALVE MTR" Wiring/Connector Inspection	PASS ☐ FAIL ☐	
Step 1.3: "SENSORS" Wiring/Connector Inspection	PASS ☐ FAIL ☐	
Step 1.4: "P2" & "P3" Tubing/Fittings Inspection	PASS ☐ FAIL ☐	

SECTION 2: CALIBRATION	RESULT	NOTES
Step 2.4: Pressure Reading (95 – 105 psi)	PASS ☐ FAIL ☐ Actual: _____psi	

SECTION 3: VERIFICATION	RESULT	NOTES
Step 3.2: Test UUT	PASS ☐ FAIL ☐	

NOTES
Place Expired Label Here