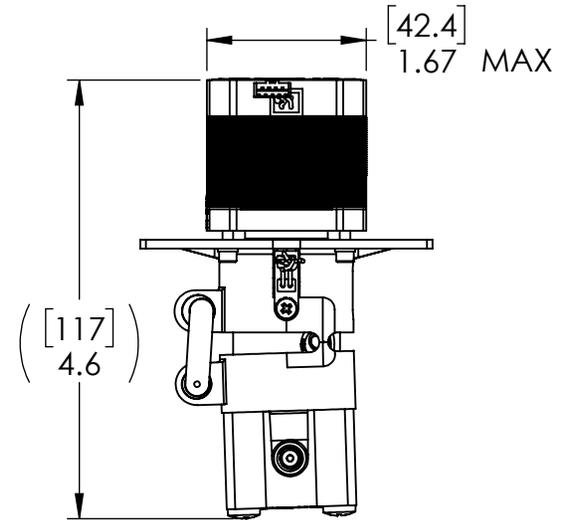
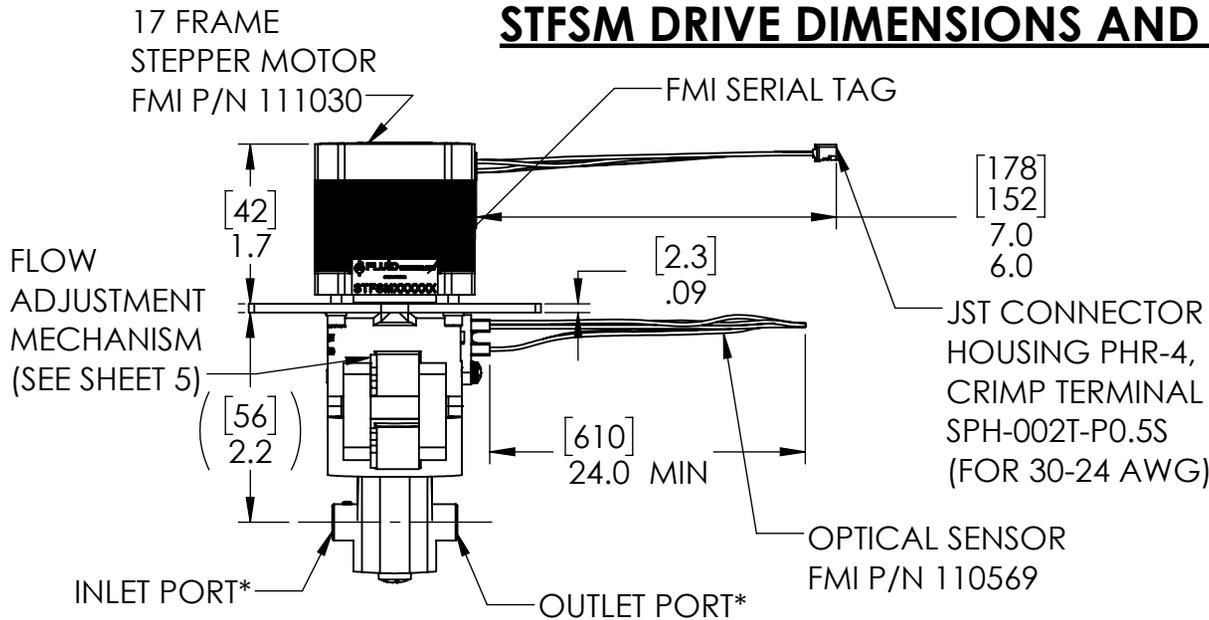
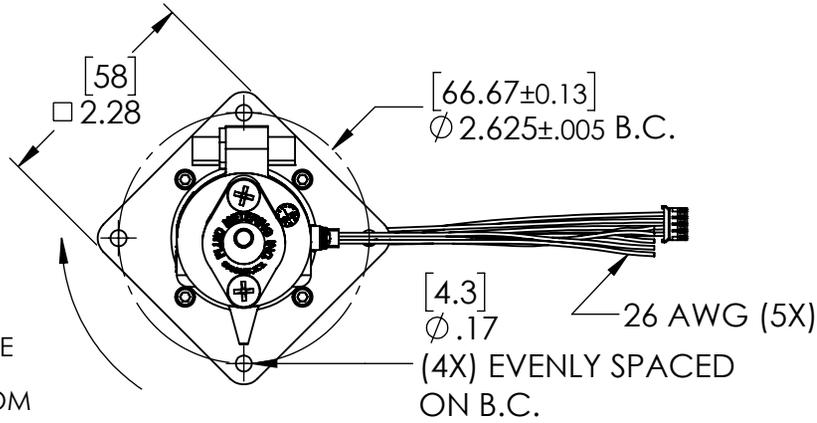


STFSM DRIVE DIMENSIONS AND MOUNTING



NOTE: PUMP HEAD NOT INCLUDED. SHOWN FOR REFERENCE.



*CLOCKWISE ROTATION VIEWED FROM THIS END

NOTICE TO PERSONS RECEIVING THIS DRAWING

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DIMENSIONS ARE IN INCHES [MILLIMETERS]
TOLERANCES UNLESS OTHERWISE SPECIFIED:
.X = ±.06 [1.5] .XX = ±.02 [0.5] .XXX = ±.01 [0.25]

FMI P/N STFSM



Fluid Metering Inc.
5 Aerial Way, Suite 500
Syosset, NY 11791

TITLE

STF SM DUAL ECCENTRIC BUSHING DRIVE MODULE

DWG NO.
600377

REV
A

SHT NO 1 of 5

PUMP PERFORMANCE AND SPECIFICATIONS

STROKE VOLUME: UP TO 0.025 mL/REV FOR THE 1/4" AND UP TO 0.005 mL/REV FOR THE 1/8"

REPEATABILITY: SEE CHART

MAX PRIME SPEED: 500 RPM

PUMP CALIBRATED AND TESTED IN CLOCKWISE DIRECTION WITH HIGH PURITY WATER.

1.5' INLET AND 2' OUTLET TUBING LENGTH USED.

PUMP CAN WORK IN REVERSE FLOW CONDITION. PRECISION AND ACCURACY MAY NOT BE THE SAME AS IN THE CLOCKWISE DIRECTION.

TUBING RECOMMENDATIONS:

INLET - 1/32" ID FOR < 0.005 mL/REV

OUTLET - 1/32" ID

TUBING LENGTH < 3'

PRIMING RECOMMENDATIONS:

PERFORM AN ALCOHOL FLUSH PRIOR TO WORKING FLUID.

START AT 300RPM AND INCREASE SPEED UP TO 500RPM.

MAY NEED TO PERFORM START/STOP AND CW/CCW OPERATION TO CLEAR AIR.

MAX OPERATING PRESSURE: NOT SUITED FOR DISPENSING INTO PRESSURE.

MAX FLUID TEMPERATURE: 100°C

LIFE EXPECTANCY AND PUMP MAINTENANCE:

DEPENDENT ON APPLICATION. CONSULT FACTORY.

NOTE:

SUCTION LIFT OF PUMP DECREASES WITH SMALLER DISPENSE/STROKE.

PUMP HEIGHT ABOVE SUPPLY: 1' @ 0.001 mL/REV WITH 1/32" ID TUBING.

CERTIFICATIONS:
REACH AND RoHS

STROKE VOLUME ADJUSTMENTS MAY BE NEEDED
WHEN INTEGRATING PUMP INTO CUSTOMER SYSTEM.

WEIGHT: 1LB

FMI P/N	FLUID PATH MATERIALS	SEAL MATERIALS
H1CKCSM	CERAMIC (ALUMINA) PVDF	UHMWPE FKM
H00ZKCSM	ZIRCONIA PVDF	UHMWPE FKM
H1CTCSM	CERAMIC (ALUMINA) ETFE	UHMWPE FFKM
H00ZTCSM	ZIRCONIA ETFE	UHMWPE FFKM



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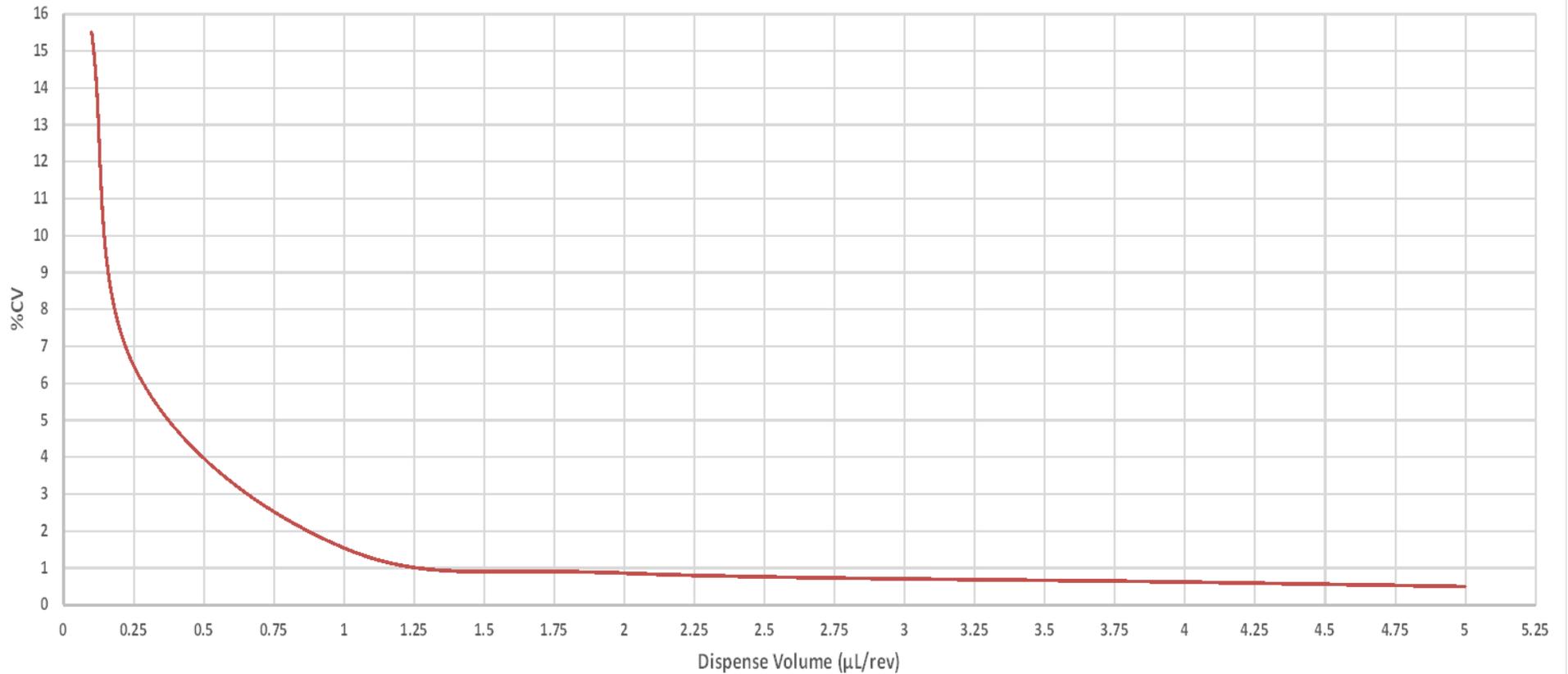
REV

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PUMP PERFORMANCE AND SPECIFICATIONS

Dispense Volume vs %CV



FOR DISPENSE VOLUMES GREATER THAN 0.005mL/REV IS $\leq 0.5\%$ CV .

CHART DATA IS TAKEN WITH AN 1/8" PUMP HEAD.



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ELECTRICAL SPECIFICATIONS

MOTOR SPECIFICATIONS	
DUTY	CONTINUOUS
MOTOR FRAME SIZE	NEMA SIZE 17
STEP ANGLE	1.8° FULL STEP
NUMBER OF PHASES	2 PHASES
RATED CURRENT	2.0 AMPS/PHASE
INDUCTANCE	2.26mH ± 20% PER PHASE
RESISTANCE	1.10 OHMS ± 10%
AMBIENT OPERATING TEMP	-20°C TO 50°C
RELATIVE HUMIDITY RANGE	15 TO 85% RH, NON CONDENSING
ATMOSPHERIC RANGE	700 TO 1060 hPA
MAGNET WIRE CLASS	F
DI-ELECTRIC STRENGTH	500V
PLASTIC INSULATORS	CLASS "B"
MOTOR NOISE AT 50cm	< 50 dBa

MOTOR WIRING (CW ROTATION)		
PIN	COLOR	PHASE
1	RED	A
2	BLUE	\bar{A}
3	GREEN	B
4	BLACK	\bar{B}

SWITCHING SEQUENCE					
C.C.W. ↓	COLOR	RED	BLU	GRN	BLK
	STEP	A	\bar{A}	B	\bar{B}
	1	+	-	+	-
	2	+	-	-	+
	3	-	+	-	+
	4	-	+	+	-
1	+	-	+	-	

MOTOR ROTATION VIEWED FROM FRONT SHAFT END

SENSOR WIRING	
WIRE COLOR	FUNCTION
RED	ANODE
BLACK	CATHODE
WHITE	Vcc
BLUE	OUTPUT
GREEN	GROUND



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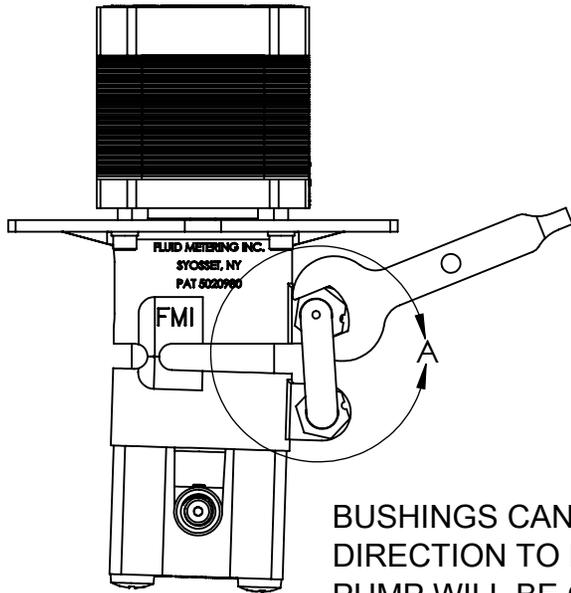
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REV

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FLOW RATE ADJUSTMENT INSTRUCTIONS

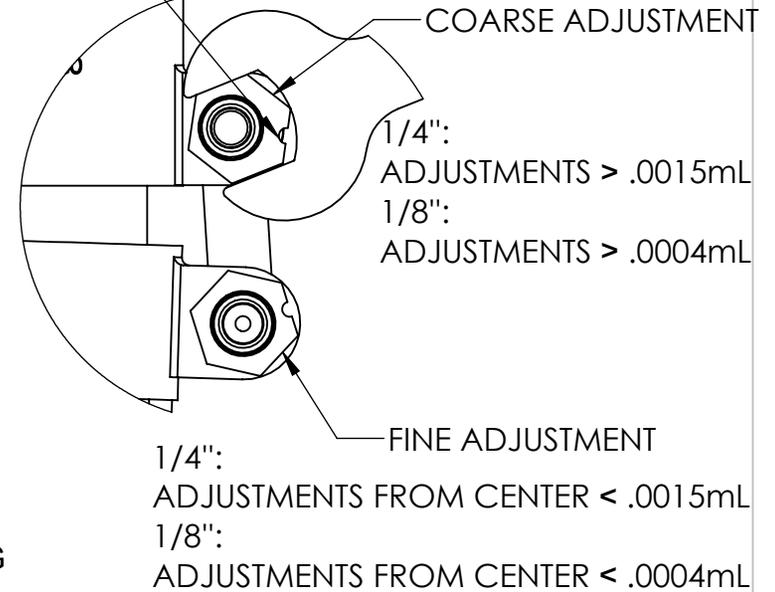


BUSHINGS CAN BE ROTATED IN CW OR CCW DIRECTION TO MODIFY FLOW RATE. UPON RECEIPT, PUMP WILL BE CALIBRATED PER SHEET 2 DETAILS. THE NOTCHES IN THE BUSHING ARE FOR IDENTIFYING ORIENTATION. THE "TOP" BUSHING IS FOR COARSE ADJUSTMENT. THE "BOTTOM" BUSHING IS FOR FINE ADJUSTMENT. WHEN BOTH NOTCHES FACE AWAY FROM EACH OTHER, THE FLOW RATE IS AT IT'S GREATEST. WHEN THE NOTCHES ARE FACING INWARDS, THE FLOW RATE IS AT A MINIMUM. A HALF ROTATION OF THE BUSHINGS WILL ALTER THE FLOW FROM MINIMUM TO MAXIMUM; A FULL ROTATION IS NOT NECESSARY.

NOTE: MANUFACTURING TOLERANCES OF THE VARIOUS PUMP COMPONENTS MEANS THAT BUSHING NOTCH WILL NOT ALWAYS BE IN EXACTLY THE SAME POSITION WHEN FACTORY CALIBRATED.

DETAIL A
(SHOWN WITHOUT LINK
IN FRONT OF BUSHING)

NOTCH FOR ORIENTATION



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