

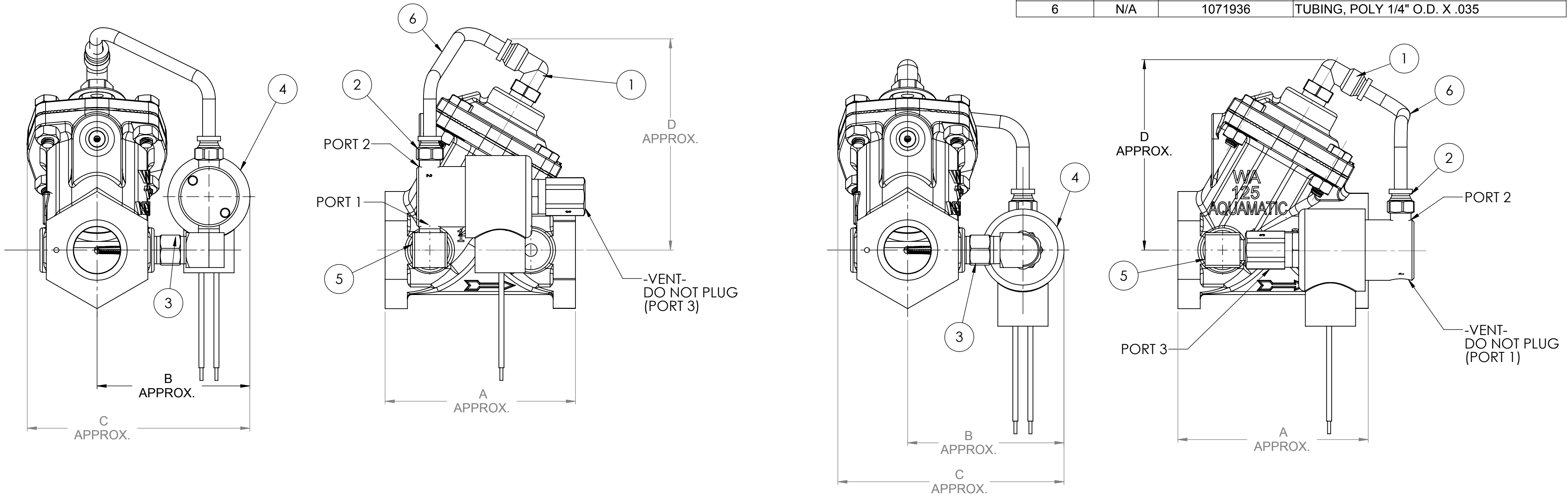
**NOTE:**

1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE.
2. B.S.P.T. AVAILABLE UPON REQUEST.
3. DIAPHRAGM VALVE IS NORMALLY OPEN, PRESSURE TO CLOSE.
4. BOSS NO. 1 ON VALVE TAPPED 1/4" N.P.T.
5. SEE PAGE 2 FOR DRY DRAIN OPTION & PAGE 3 FOR INDEPENDENT PRESSURE.
6. ALL V42J, V42K, & V42L FLANGED VALVES HAVE (1) 43947 FITTING THAT IS NOT SHOWN. FITTING GOES BETWEEN ITEM #3, & THE SOLENOID.

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
	100876	E	REDRAWN IN SOLID WORKS ADDED DRY DRAIN VIEW PG2 (WAS: DWG #1078114)	07/23/12	TJM
	101838	F	ADDED SOLENOIDS; 1075634, 1075635, 1077611, ADDED PG 4 TO SHOW NEMA 3 SOLENOID LAYOUT	04/09/13	TJM
	104368	G	1-ADD'D: NOTE-6 PG-1, 2-ADD'D: NOTE-6 PG-2	13MAR15	TJM
	1001	H	AQ Matic update & verified part numbers	20JAN17	MGS

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	1078766	FITTING, ELBOW, TUBE, 1/4MNPT X
2	1	1078763	FITTING, CONNECTOR, 1/8MNPT X
3	1	1074004	STRAINER ASSY, 1/4 MPT
4	1	1070652	SOLENOID, 3 WAY, 120/60
		1070651	SOLENOID, 3 WAY, 24VDC
		1070650	SOLENOID, 3 WAY, 12VDC
		1070649	SOLENOID, N1, 24/60 AC
		1070648	SOLENOID, 3 WAY, 220/60, 220/50
5	1	1074040	FITTING, ELBOW, REDUCER, BRS
6	N/A	1071936	TUBING, POLY 1/4" O.D. X .035



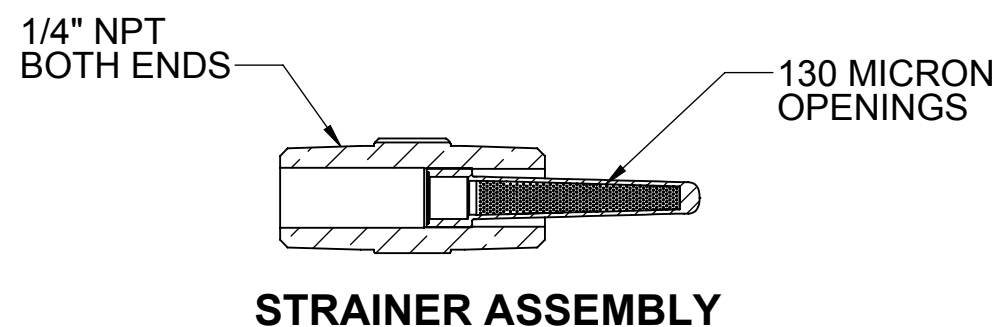
**ENERGIZED TO CLOSE**

**SOLENOID ENERGIZED.**  
UPSTREAM PRESSURE, FROM SOLENOID PORT 1 TO PORT 2, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.  
**SOLENOID DE-ENERGIZED**  
PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

VALVE SERIES	PIPE SIZE	A	B	C	D
V42B	3/4"	3.69	3.25	4.63	3.81
		93.7	82.5	117.5	96.8
V42C	1"	3.69	3.25	4.63	3.81
		93.7	82.5	117.5	96.8
V42D	1-1/4"	4.75	3.56	5.31	4.56
		120.6	90.5	134.9	115.9
V42E	1-1/2"	4.75	3.56	5.31	4.56
		120.6	90.5	134.9	115.9
V42F	2"	6.62	3.94	6.63	5.94
		168.3	100	168.3	150.8
V42G	2"	7.38	4.19	7.25	6.25
		187.3	106.4	184.3	158.8
V42H	2-1/2"	7.38	4.19	7.25	6.25
		187.3	106.4	184.3	158.8
V42J	3" THREADED	9.00	4.63	8.25	7.00
		228.6	117.5	209.5	177.8
V42J	3" FLANGED	10.62	4.63	8.25	7.00
		269.9	117.5	209.5	177.8
V42K	4"	11.75	5.13	9.50	8.75
		298.5	130.3	241.3	222.3

**ENERGIZED TO OPEN**

**SOLENOID DE-ENERGIZED**  
UPSTREAM PRESSURE, FROM SOLENOID PORT 3 TO PORT 2, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.  
**SOLENOID ENERGIZED.**  
PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.  
**\*\*SOLENOID DE-ENERGIZED (FOR 1075634, 1075645, & 1075611 SOLENOIDS)**  
UPSTREAM PRESSURE, FROM SOLENOID PORT 3 TO PORT 1, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.



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ANGLES: ± 1°  
1 PLACE .X: ± .015 [0.38]  
2 PLACE .XX: ± .01 [0.3]  
3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION	APPROVALS	DATE	 AQ Matic Valve & Controls Company Inc.
	DRAWN	07/10/12	
	APPROVED		
	CHECKED		

TITLE: CATALOG SHEET, V420, SOLENOIDS

SIZE: B DWG NO.: 1078113 REV: H

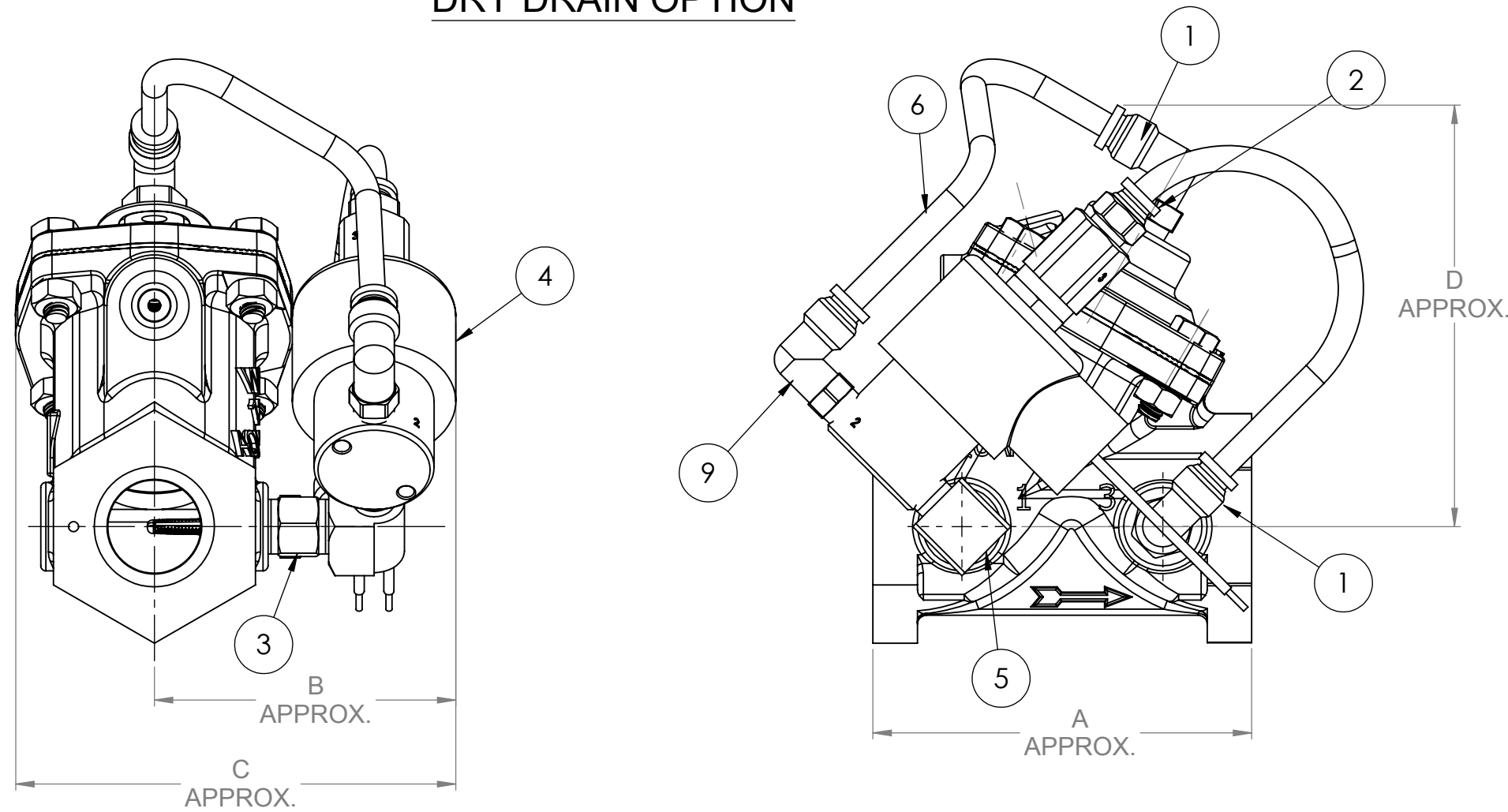
SCALE: 2:3 SHEET 1 OF 4

NOTE:

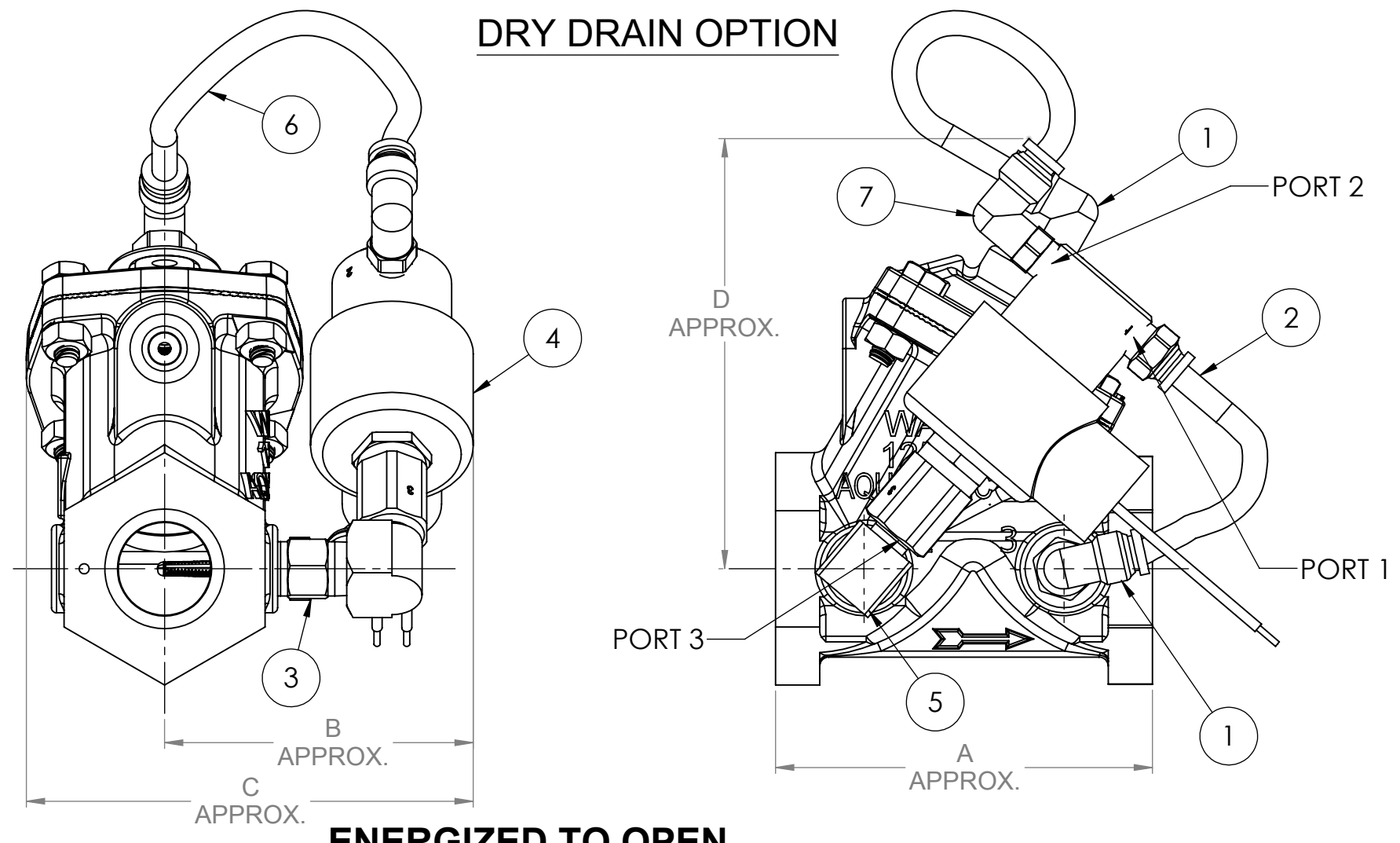
- 1. LENGTH OF TUBING VARIES WITH EACH SIZE OF DIAPHRAGM VALVE.
- 2. B.S.P.T. AVAILABLE UPON REQUEST.
- 3. DIAPHRAGM VALVE IS NORMALLY OPEN, PRESSURE TO CLOSE.
- 4. BOSS NO. 1 AND NO. 3 ON VALVE TAPPED 1/4" N.P.T.
- 5. ALL V42J, V42K, & V42L FLANGED VALVES HAVE (1) 43947 FITTING THAT IS NOT SHOWN. FITTING GOES BETWEEN ITEM #3, & THE SOLENOID.

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
SEE SHEET ONE FOR LIST OF CHANGES					
ITEM NO.	QTY.	PART NUMBER	DESCRIPTION		
1	2	1078766	FITTING, ELBOW, TUBE, 1/4MNPT X		
2	1	1078763	FITTING, CONNECTOR, 1/8MNPT X		
3	1	1074004	STRAINER ASSY, 1/4 MPT		
4	1	1070652	SOLENOID, 3 WAY, 120/60		
		1070651	SOLENOID, 3 WAY, 24VDC		
		1070650	SOLENOID, 3 WAY, 12VDC		
		1070649	SOLENOID, N1, 24/60 AC		
		1070648	SOLENOID, 3 WAY, 220/60, 220/50		
5	1	1074040	FITTING, ELBOW, REDUCER, BRS		
		1071936	TUBING, POLY 1/4" O.D. X .035		
6	N/A	BR1078765	FITTING, ELBOW, TUBE, 1/8MNPT X		

DRY DRAIN OPTION



DRY DRAIN OPTION



ENERGIZED TO CLOSE

**SOLENOID ENERGIZED.**  
UPSTREAM PRESSURE, FROM SOLENOID PORT 1 TO PORT 2, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

**SOLENOID DE-ENERGIZED**  
PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED, THROUGH SOLENOID PORT 2 TO PORT 3 TO DRAIN. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

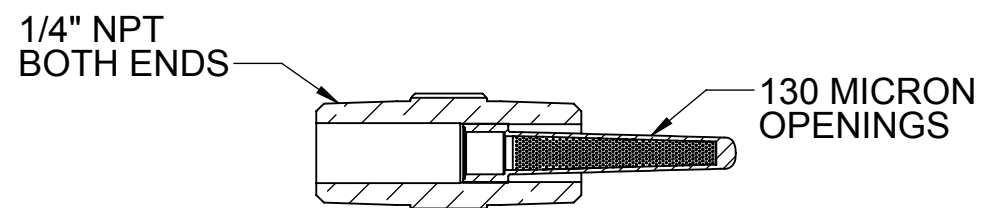
ENERGIZED TO OPEN

**SOLENOID DE-ENERGIZED**  
UPSTREAM PRESSURE, FROM SOLENOID PORT 3 TO PORT 2, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

**SOLENOID ENERGIZED.**  
PRESSURE FROM UPPER DIAPHRAGM CHAMBER IS VENTED, THROUGH SOLENOID PORT 2 TO PORT 1 TO DRAIN. UPSTREAM PRESSURE OPENS THE DIAPHRAGM VALVE.

**\*\*SOLENOID DE-ENERGIZED (FOR 1075634, 1075645, & 1075611 SOLENOIDS)**  
UPSTREAM PRESSURE, FROM SOLENOID PORT 3 TO PORT 1, IS APPLIED TO UPPER DIAPHRAGM CHAMBER TO CLOSE THE DIAPHRAGM VALVE.

VALVE SERIES	PIPE SIZE	A	B	C	D
V42B	3/4"	3.69 93.7	3.25 82.5	4.63 117.5	3.81 96.8
V42C	1"	3.69 93.7	3.25 82.5	4.63 117.5	3.81 96.8
V42D	1-1/4"	4.75 120.6	3.56 90.5	5.31 134.9	4.56 115.9
V42E	1-1/2"	4.75 120.6	3.56 90.5	5.31 134.9	4.56 115.9
V42F	2"	6.62 168.3	3.94 100	6.63 168.3	5.94 150.8
V42G	2"	7.38 187.3	4.19 106.4	7.25 184.3	6.25 158.8
V42H	2-1/2"	7.38 187.3	4.19 106.4	7.25 184.3	6.25 158.8
V42J	3" THREADED	9.00 228.6	4.63 117.5	8.25 209.5	7.00 177.8
V42J	3" FLANGED	10.62 269.9	4.63 117.5	8.25 209.5	7.00 177.8
V42K	4"	11.75 298.5	5.13 130.3	9.50 241.3	8.75 222.3



STRAINER ASSEMBLY

DRY DRAIN OPTION

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 ANGLES: ± 1°  
 1 PLACE .X: ± .015 [0.38]  
 2 PLACE .XX: ± .01 [0.3]  
 3 PLACE .XXX: ± .005 [0.13]

THIRD ANGLE PROJECTION	APPROVALS	DATE	 AQ Matic Valve & Controls Company Inc.
	NE	07/10/12	

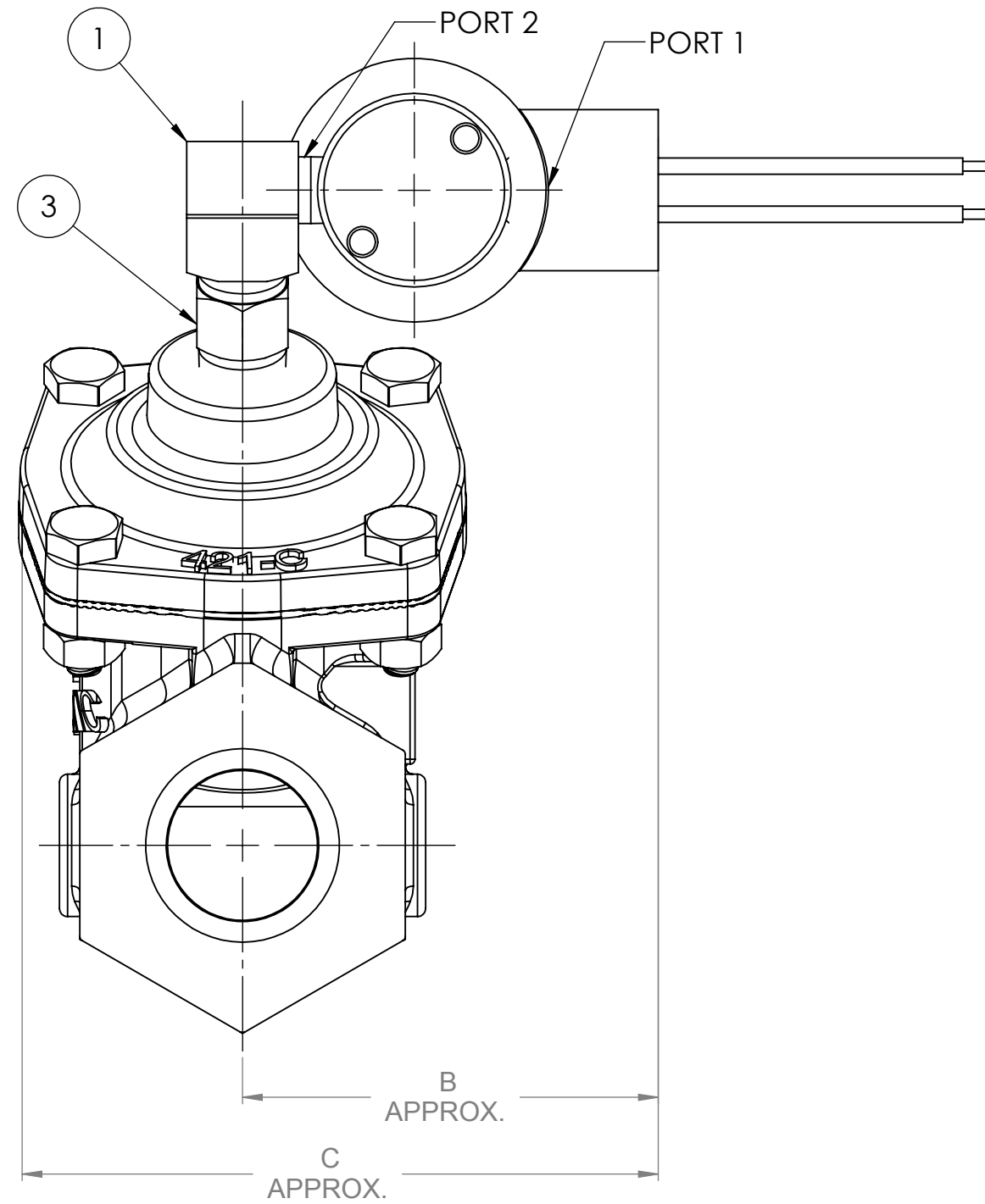
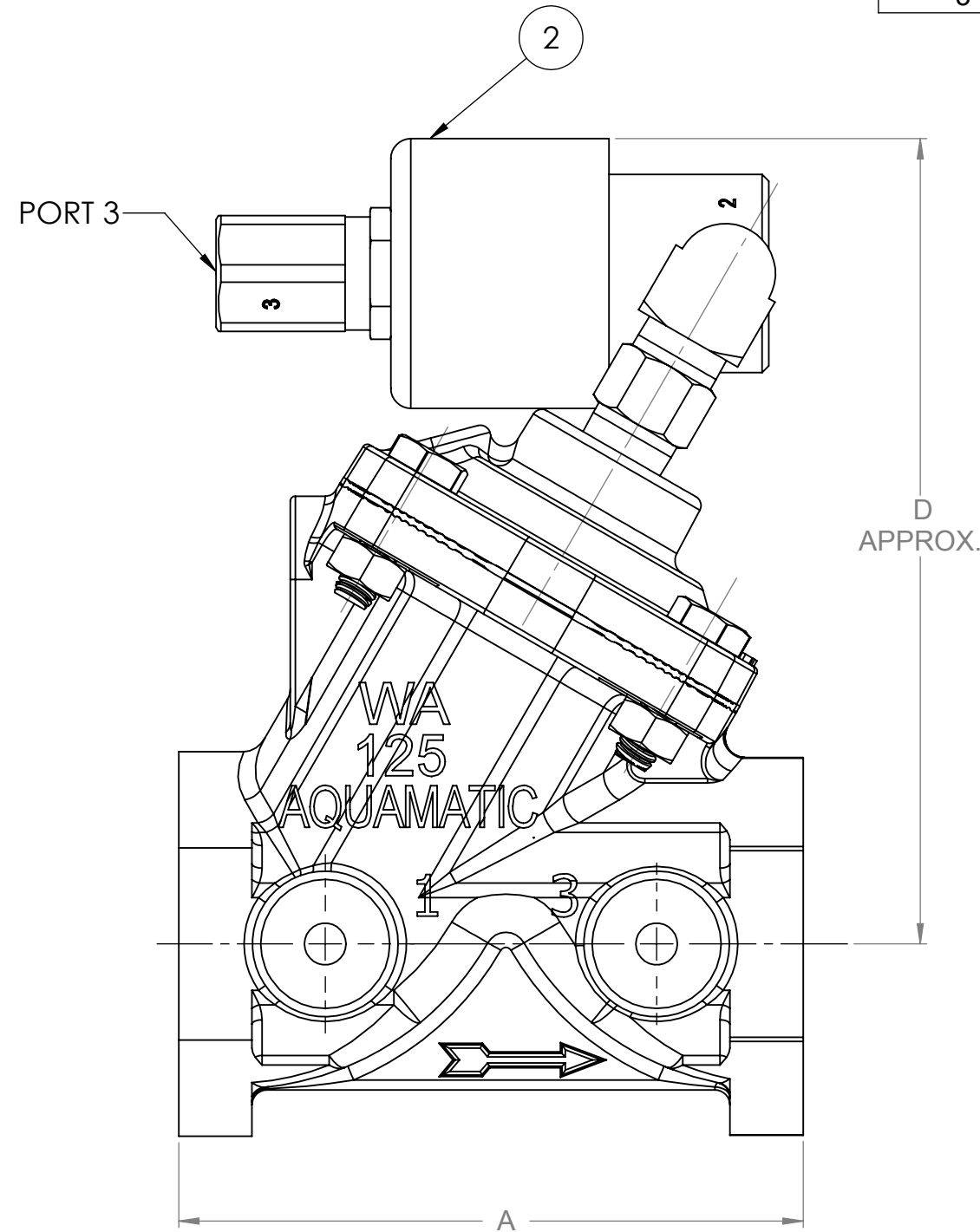
TITLE	SIZE	DWG NO.	REV
CATALOG SHEET, V420, SOLENOIDS	B	1078113	H
SCALE	SHEET 2 OF 4		
2:3			



**NOTE:**  
 1. B.S.P.T. AVAILABLE UPON REQUEST.  
 2. DIAPHRAGM VALVE IS NORMALLY OPEN.

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	1074040	FITTING, ELBOW,REDUCER,BRS
2	1	1070652	SOLENOID, 3 WAY, 120/60
		1070651	SOLENOID, 3 WAY, 24VDC
		1070650	SOLENOID, 3 WAY, 12VDC
		1070649	SOLENOID, N1, 24/60 AC
		1070648	SOLENOID, 3 WAY, 220/60, 220/50
3	1	1075634	SOLENOID, 120/60, 110/50
3	1	1081648	FITTING, NIPPLE 1/4MNPTX1.38

REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
SEE SHEET ONE FOR LIST OF CHANGES					



**INDEPENDENT CONTROL PRESSURE**

**ENERGIZE TO OPEN**

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 3  
 (PORT NO. 1 VENTED)

**ENERGIZE TO CLOSE**

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 1  
 (PORT NO. 3 VENTED)

CONTROL PRESSURE MUST BE EQUAL TO OR GREATER  
 THAN LINE PRESSURE.

**\*\*INDEPENDENT CONTROL PRESSURE**

FOR (1075634, 1075635, & 1075611 SOLENOIDS)

**ENERGIZE TO OPEN**

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 3  
 (PORT NO. 2 VENTED)

**ENERGIZE TO CLOSE**

APPLY CONTROL PRESSURE AT SOLENOID PORT NO. 2  
 (PORT NO. 3 VENTED)

CONTROL PRESSURE MUST BE EQUAL TO OR GREATER  
 THAN LINE PRESSURE.

VALVE SERIES	PIPE SIZE	A	B	C	D
V42B	3/4"	3.69 93.7	2.44 91.9	3.81 96.8	4.63 117.5
V42C	1"	3.69 93.7	2.44 91.9	3.81 96.8	4.63 117.5
V42D	1-1/4"	4.75 120.6	2.44 91.9	4.19 106.4	5.38 136.5
V42E	1-1/2"	4.75 120.6	2.44 91.9	4.19 106.4	5.38 136.5
V42F	2"	6.63 168.3	2.69 68.3	5.38 136.5	6.75 171.5
V42G	2"	7.38 187.3	3.06 77.7	6.13 155.6	7.06 179.4
V42H	2-1/2"	7.38 187.3	3.06 77.7	6.13 155.6	7.06 179.4
V42J	3" THREADED	9.00 228.6	3.63 92.1	7.25 184.1	7.81 198.4
V42J	3" FLANGED	10.63 269.9	3.63 92.1	7.25 184.1	7.81 198.4
V42K	4"	11.75 298.5	4.44 111.1	8.75 222.3	9.56 242.9

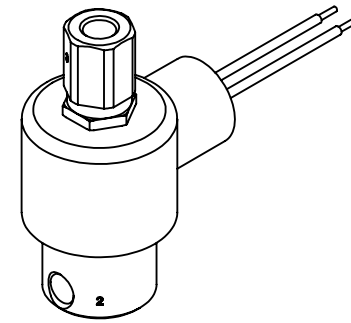
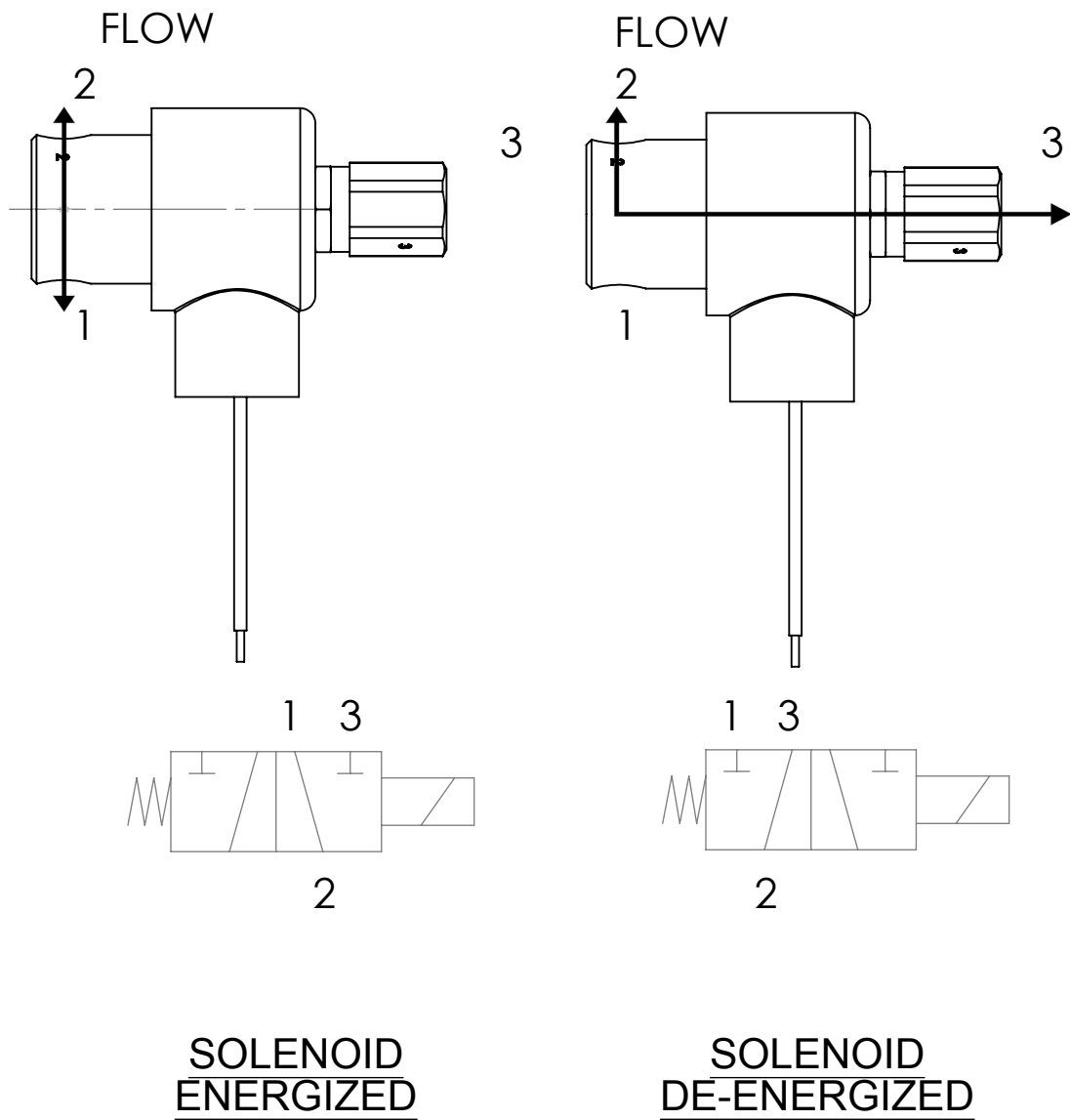
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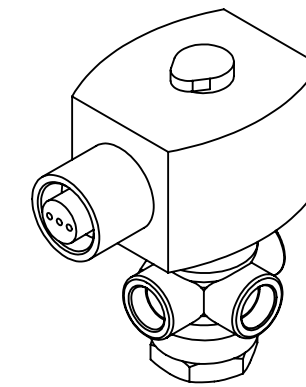
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THIRD ANGLE PROJECTION	APPROVALS	DATE	<p><b>AQ Matic</b> Valve &amp; Controls Company Inc.</p>
	NE	07/10/12	
TITLE <b>CATALOG SHEET, V420, SOLENOIDS</b>			SIZE <b>B</b> DWG NO. <b>1078113</b> REV <b>H</b>
SCALE 2:3 SHEET 3 OF 4			

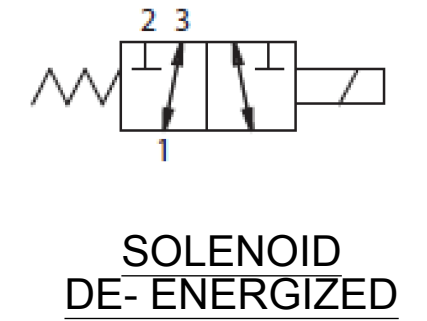
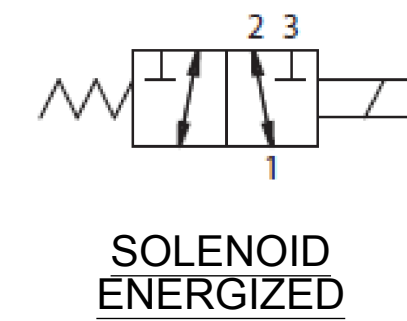
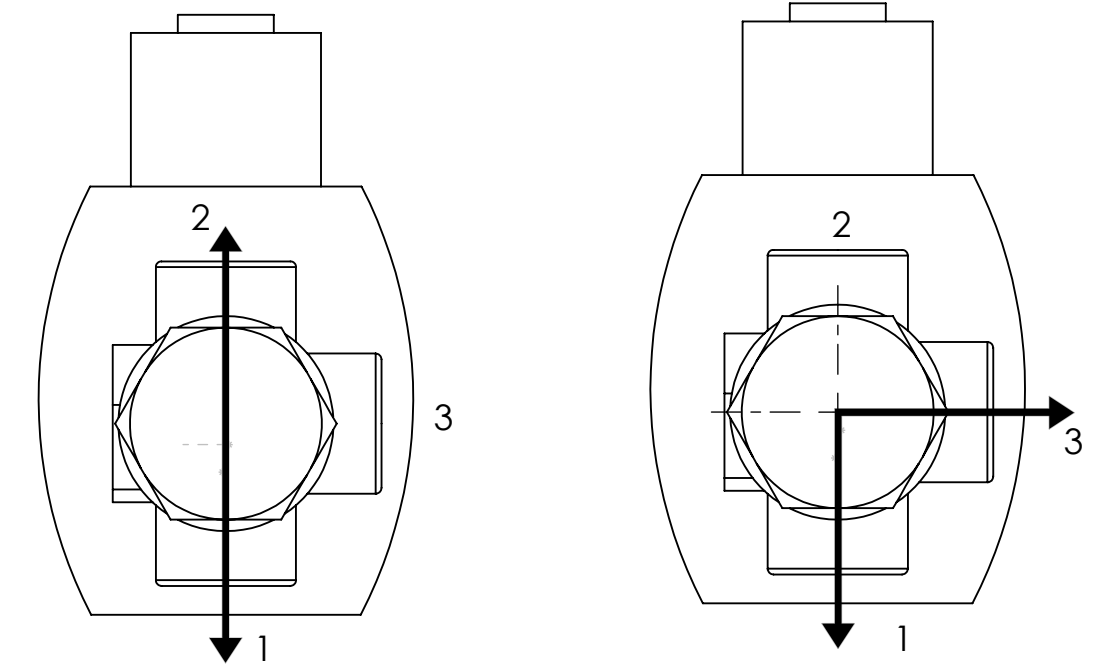
REVISIONS					
ZONE	ECN	REV.	DESCRIPTION	DATE	APP'D
			SEE SHEET 1 FOR LIST OF CHANGES		



NEMA; 3, 3S, 4, 4X, 6, 6P, 7 & 9



POWER SUPPLY
120/60-110/50
220/50-240/60
24/60



CURRENT DRAIN (AMPERES)		
VOLTAGE	INRUSH	HOLDING
24V 60Hz	1.1	0.65
120V 60Hz	0.2	0.1
220V 50Hz	0.1	0.07
12 VDC	-	0.6
24 VDC	-	0.3

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THIRD ANGLE PROJECTION		AQ Matic Valve & Controls Company Inc.	
APPROVALS	DATE	TITLE	
DRAWN	NE	CATALOG SHEET, V420, SOLENOIDS	
APPROVED	07/10/12	SIZE	DWG NO.
CHECKED		B	1078113
		SCALE	REV
		2:3	H
			SHEET 4 OF 4