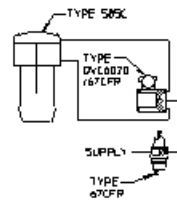
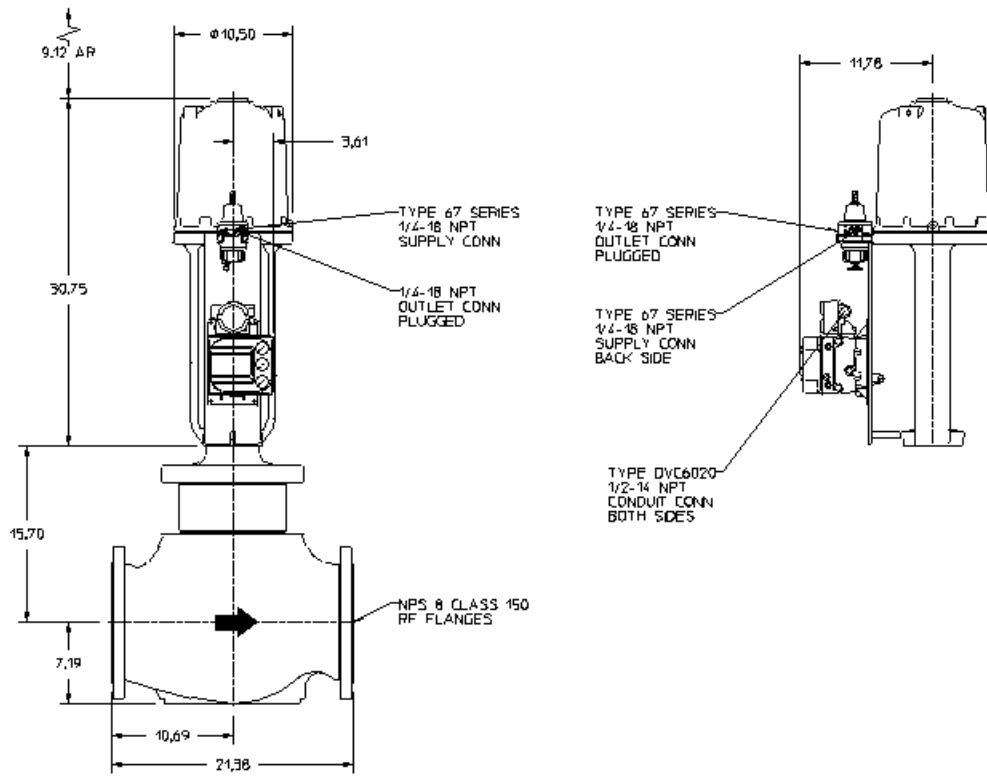


FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



ACTUATOR TRAVEL = 5 INCHES

AR = ACTUATOR REMOVAL CLEARANCE

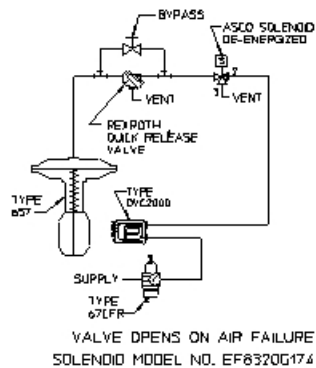
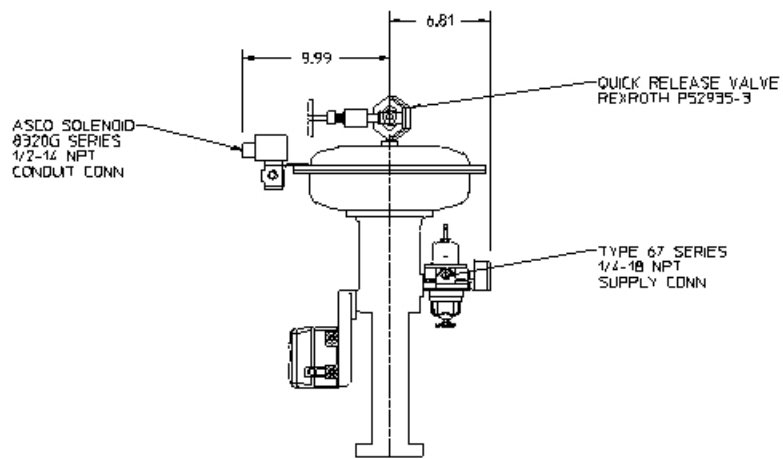
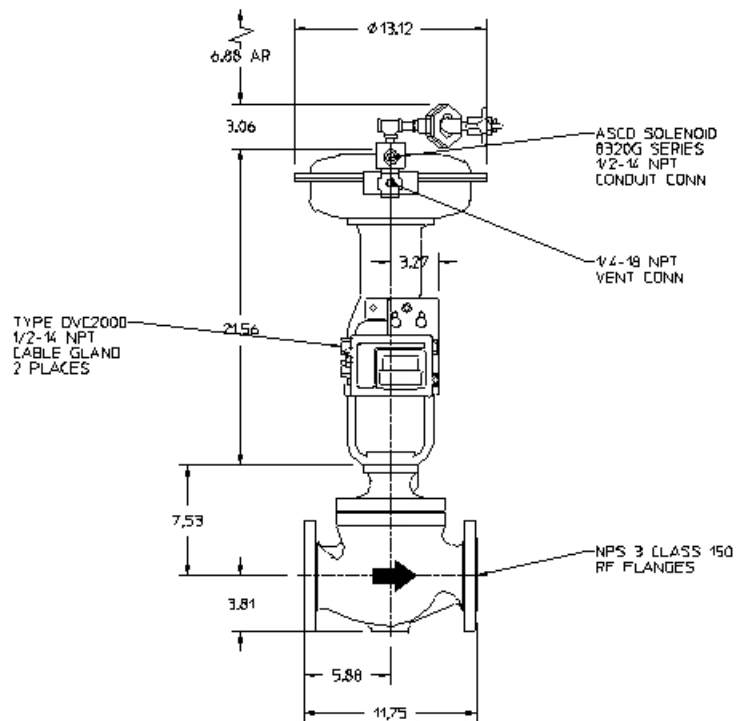
TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%:
755 lb

UNLESS OTHERWISE SPECIFIED:
UNIT OF MEASURE: INCHES

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS				DATE Sep/15/09	
CUST: CUST REF NO: FISHER REF NO: 003-IM-090915-0049624 TAG NO:				NPS 8 EWT 585C SIZE 60 DVC6020 SS 4200 SS ASCO REXROTH QUICK RELEASE SPECIAL PRO	
SERIAL NO: CUST ITEM:					
REV	DATE	BY	APP'D	ITEM D180	E
				DWG. NO.	REV.
© Fisher Controls Int. LLC 2009			EMERSON Process Management		NONE

FV-1231A1

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



AR - ACTUATOR REMOVAL CLEARANCE

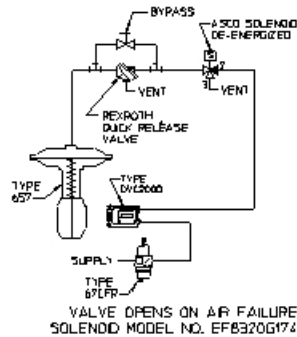
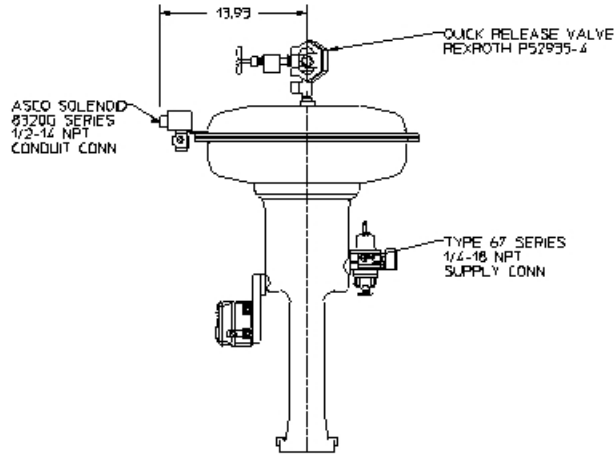
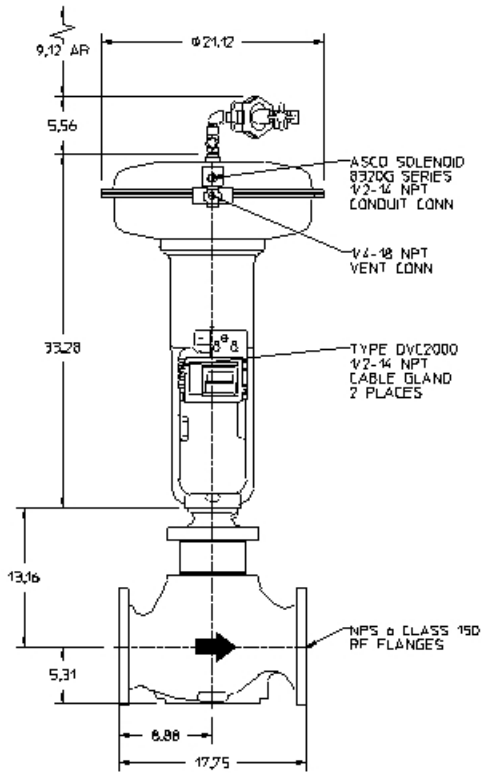
TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%
192 lb

UNLESS OTHERWISE SPECIFIED:
UNIT OF MEASURE: INCHES

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS				DATE Sep/15/09							
CUST: CUST REF NO: FISHER REF NO: 003-JM-090915-0049624 TAO NO:			NPS 3 ET 657 SIZE 40 DVC2000 SS ASCO REXROTH QUICK RELEASE PROCESS LEVEL 2 29440								
SERIAL NO: CUST ITEM:											
<table border="1"> <tr> <td>DATE</td> <td>APP'D</td> <td>REV</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>			DATE	APP'D	REV				ITEM 0350		E
DATE	APP'D	REV									
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CHKD	APCD	SCALE									
		NONE									
© Fisher Controls Int., LLC 2009			EMERSON Process Management								

FV-1231A2

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



AR = ACTUATOR REMOVAL CLEARANCE

TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%:
 593 lb

UNLESS OTHERWISE SPECIFIED:
 UNIT OF MEASURE: INCHES

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS				DATE Sep 15/09	
CUST: CUST REF NO: FISHER REF NO: 003-IM-090915-0049624 TAG NO:				NPS 6 EWT 657 SIZE 70 DVC2000 SS ASCO REXROTH QUICK RELEASE PROCESS LEVEL 2 2941	
SERIAL NO: CUST ITEM:					
REV	DATE	APP'D	SCALE	ITEM 0060	E
			NONE		REV.

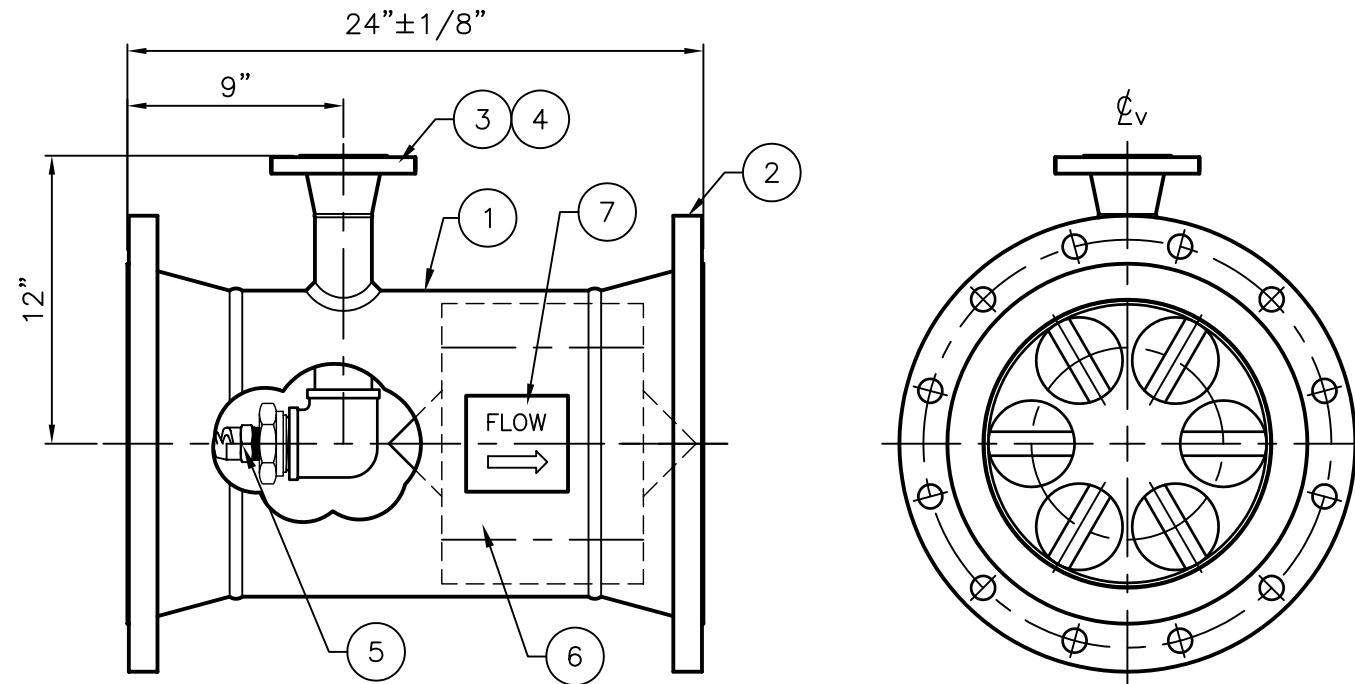
© Fisher Controls Int. LLC 2009



FV-1231A3

REVISION BLOCK

REV. NO.	DATE	DESCRIPTION	DRAWN	APPR.
△1	07-01-09	PER CUSTOMER'S REQUEST	DP	LN



RIGHT SIDE VIEW
1st STAGE SUCTION DESUPERHEATER

NOTES: △1

1. MWP: 200 PSIG
2. MWT: -20/250°F
3. HYDROTEST: 300 PSIG PER ASME B31.3 WITH REPORTS REQUIRED.
4. UNITS TO BE BUILT PER ASME B31.3
5. MATERIAL TEST REPORTS REQUIRED.
6. UNITS TO BE PREPARED FOR SHIPMENT PER MSB-1 REV. H AS APPLICABLE. LOADING WITH NITROGEN AND PRESSURE GAUGE AND HARDWARE INCLUDED.
7. NO MATERIALS FROM CHINA, INDIA, PHILIPPINES & MEXICO.

UNLESS OTHERWISE NOTED:
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:

- 1 PLACE DECIMAL ± .030"
- 2 PLACE DECIMAL ± .015"
- 3 PLACE DECIMAL ± .005"
- FRACTIONAL ± 1/16" ANGULAR ± 1/2°

KOMAX "GLCX" GAS-LIQUID CONTACTOR

LIST OF MATERIALS

THIS DOCUMENT IS THE PROPERTY OF KOMAX SYSTEMS, INC. THE INFORMATION HEREON MAY NOT BE USED NOR REPRODUCED WITHOUT THE WRITTEN PERMISSION OF KOMAX SYSTEMS, INC.

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS
3201813 3923288, 4034965, 4208136, 4614440, 4808007, 5066137, 5176448, 5484203, 5758967, 5947597, 6024842, 6027241, 6082713, 6102561, 6132079, 6276823
OTHER U.S. AND FOREIGN PATENTS PENDING

KOMAX SYSTEMS, INC.
P.O. BOX 1323 WILMINGTON, CA 90748-1323 310-830-4320 FAX: 310-830-9826

OUTLINE & MOUNTING CONFIGURATION

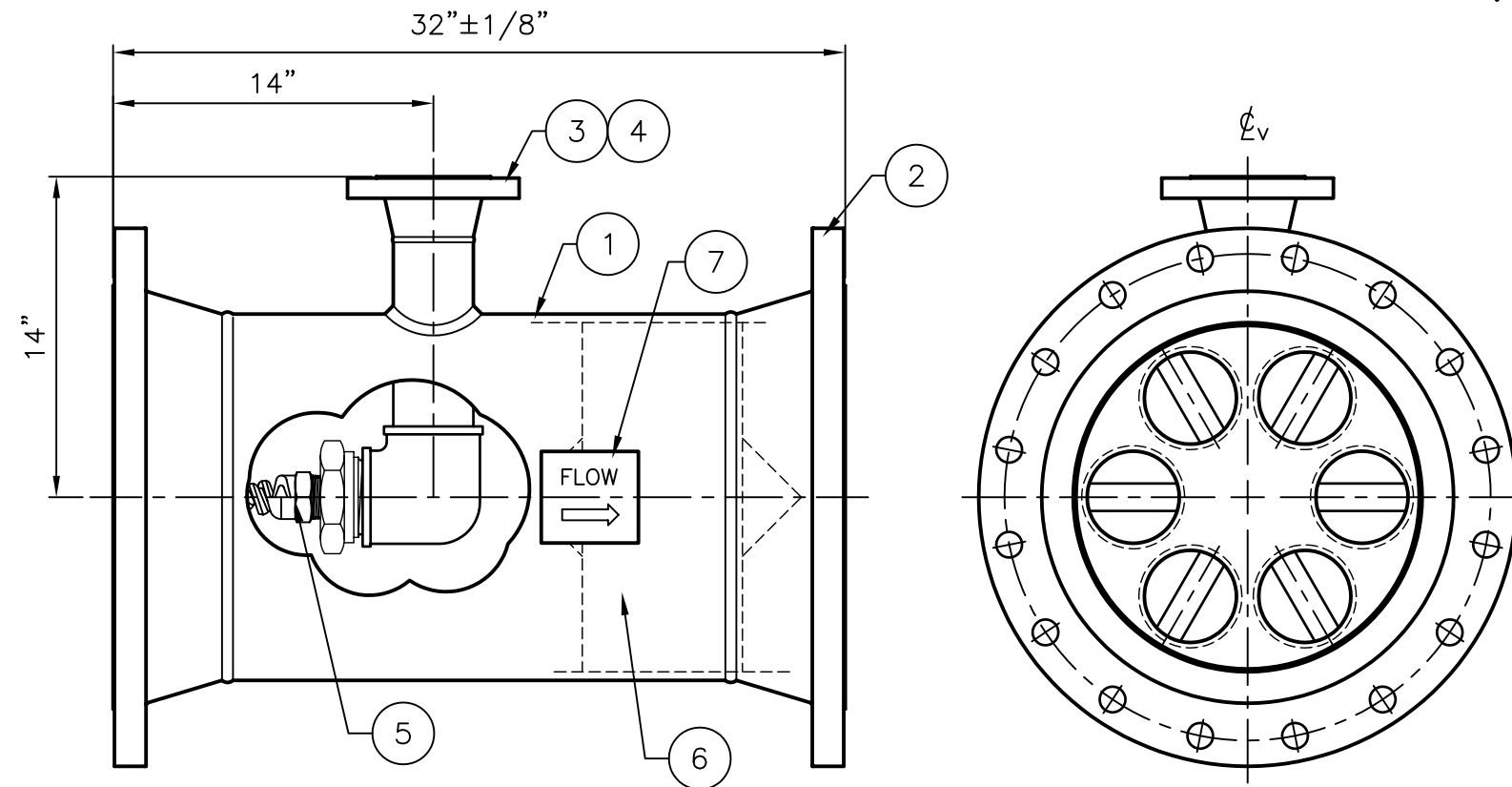
KOMAX MODEL NO. GLC-55789

ITEM NO.	QTY.	KOMAX PART NO.	DESCRIPTIONS	MATERIAL / REMARKS
1	1	---	HOUSING, 12 INCH DIAMETER SCHEDULE 40 PIPE	C.S.
2	1	---	FLANGES, 12"-150# RFWN, SCH 40 BORE	A105 C.S.
3	1	---	SIDEPORT, 2 INCH DIAMETER SCHEDULE 40 PIPE	C.S.
4	1	---	FLANGE, 2"-150# RFWN, SCH 40 BORE	A105 C.S.
5	1	CAPACITY SIZE 340	SPRAY NOZZLE, 1" NPT (SPRAYING SYSTEMS CO.)	S.S.
6	1	---	KOMAX EQUALIZER MODULE (HP-30)	C.S.
7	1	---	NAMEPLATE ASSEMBLY	C.S./S.S.
8	A/R	---	PAINT, RUST INHIBITIVE RED OXIDE PRIMER	---

SCALE: 1/8" = 1"	APPROVED BY:	DRAWN BY: DP
DATE: 04-20-09	LN	REV. DATE: 07-01-09
CUSTOMER:	QUOTE NO.: 53994-09	CODE#
JOHNSON CONTROLS, INC.	JOB NO.: 25086-09	015
		DRAWING NUMBER:
		33687

REVISION BLOCK

REV. NO.	DATE	DESCRIPTION	DRAWN	APPR.
△1	07-01-09	PER CUSTOMER'S REQUEST	DP	LN



RIGHT SIDE VIEW

2nd STAGE SUCTION DESUPERHEATER

NOTES: △1

1. MWP: 200 PSIG
2. MWT: -20/250°F
3. HYDROTEST: 300 PSIG PER ASME B31.3 WITH REPORTS REQUIRED.
4. UNITS TO BE BUILT PER ASME B31.3
5. MATERIAL TEST REPORTS REQUIRED.
6. UNITS TO BE PREPARED FOR SHIPMENT PER MSB-1 REV. H AS APPLICABLE. LOADING WITH NITROGEN AND PRESSURE GAUGE AND HARDWARE INCLUDED.
7. NO MATERIALS FROM CHINA, INDIA, PHILIPPINES & MEXICO.

UNLESS OTHERWISE NOTED:
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:

- 1 PLACE DECIMAL ± .030"
- 2 PLACE DECIMAL ± .015"
- 3 PLACE DECIMAL ± .005"

FRACTIONAL ± 1/16" ANGULAR ± 1/2°

KOMAX "GLCX" GAS-LIQUID CONTACTOR

LIST OF MATERIALS

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MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS
3201813 3923288, 4034965, 4208136, 4614440, 4808007,
5066137, 5176448, 5484203, 5758967, 5947597, 6024842,
6027241, 6082713, 6102561, 6132079, 6276823
OTHER U.S. AND FOREIGN PATENTS PENDING

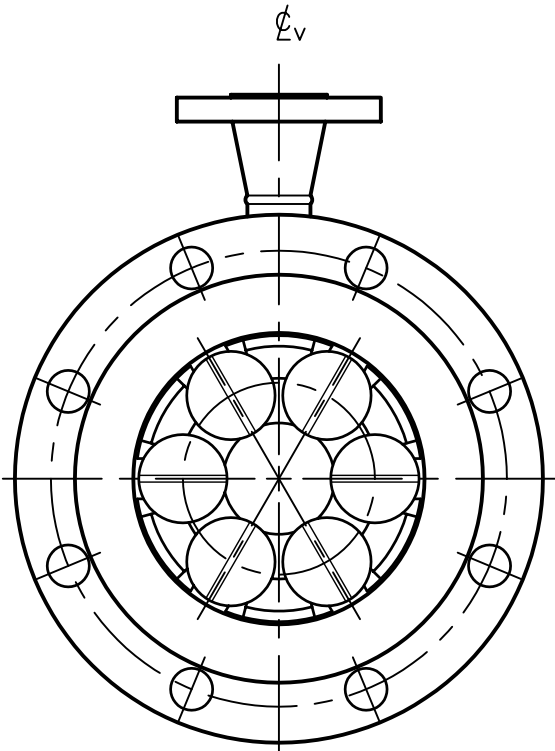
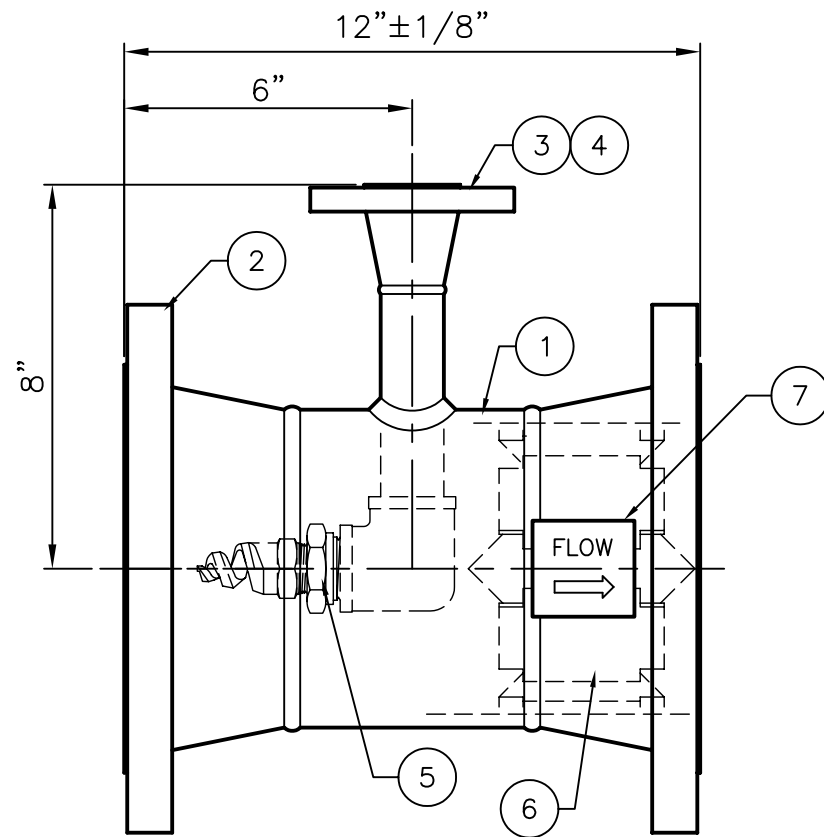
KOMAX SYSTEMS, INC.
P.O. BOX 1323 WILMINGTON, CA 90748-1323 310-830-4320 FAX: 310-830-9826

OUTLINE & MOUNTING CONFIGURATION

KOMAX MODEL NO. GLC-55790

ITEM NO.	QTY.	KOMAX PART NO.	DESCRIPTIONS	MATERIAL / REMARKS
1	1	---	HOUSING, 16 INCH DIAMETER SCHEDULE STD (3/8"THK) PIPE	C.S.
2	2	---	FLANGES, 16"-150# RFWN, SCH STD BORE	A105 C.S.
3	1	---	SIDEPORT, 3 INCH DIAMETER SCHEDULE 40 PIPE	C.S.
4	1	---	FLANGE, 3"-150# RFWN, SCH 40 BORE	A105 C.S.
5	1	CAPACITY SIZE 820	SPRAY NOZZLE, 1 1/2" NPT (SPRAYING SYSTEMS, CO.)	S.S.
6	1	---	KOMAX EQUALIZER MODULE ASSEMBLY (HP-30)	C.S.
7	1	---	NAMEPLATE ASSEMBLY	C.S./S.S.
8	A/R	---	PAINT, RUST INHIBITIVE RED OXIDE PRIMER	---

SCALE: 1/8" = 1"	APPROVED BY:	DRAWN BY: DP
DATE: 04-20-09	LN	REV. DATE: 07-01-09
CUSTOMER:	QUOTE NO.: 53994-09	CODE#
JOHNSON CONTROLS	JOB NO.: 25086-09	015
		DRAWING NUMBER:
		33688



RIGHT SIDE VIEW

3RD STAGE SUCTION DESUPERHEATER

REVISION BLOCK				
REV. NO.	DATE	DESCRIPTION	DRAWN	APPR.
△1	05-18-09	PER CUSTOMER'S REQUEST	DP	LN
△2	06-19-09	PER CUSTOMER'S REQUEST	DP	LN
△3	07-01-09	PER CUSTOMER'S REQUEST	DP	LN

NOTES: △3

1. MWP: 200 PSIG
2. MWT: -20/250°F
3. HYDROTEST: 300 PSIG PER ASME B31.3 WITH REPORTS REQUIRED.
4. UNITS TO BE BUILT PER ASME B31.3
5. MATERIAL TEST REPORTS REQUIRED.
6. UNITS TO BE PREPARED FOR SHIPMENT PER MSB-1 REV. H AS APPLICABLE. LOADING WITH NITROGEN AND PRESSURE GAUGE AND HARDWARE INCLUDED.
7. NO MATERIALS FROM CHINA, INDIA, PHILIPPINES & MEXICO.

UNLESS OTHERWISE NOTED:
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
1 PLACE DECIMAL ± .030"
2 PLACE DECIMAL ± .015"
3 PLACE DECIMAL ± .005"
FRACTIONAL ± 1/16" ANGULAR ± 1/2"

KOMAX "GLCX" GAS-LIQUID CONTACTOR

LIST OF MATERIALS

ITEM NO.	QTY.	KOMAX PART NO.	DESCRIPTIONS	MATERIAL / REMARKS
1	1	---	HOUSING, 6 INCH DIAMETER SCHEDULE 40 SEAMLESS PIPE	A106 B C.S.
2	2	---	FLANGES, 6"-150# RFWN, SCH 40 BORE	A105 C.S.
3	1	---	SIDEPORT, 1 INCH DIAMETER SCHEDULE 40 SEAMLESS PIPE	A106 B C.S.
4	1	---	FLANGE, 1"-150# RFWN SCH 40 BORE	A105 C.S.
5	1	CAPACITY SIZE 210 △1	SPRAY NOZZLE, 3/4" NPT (SPRAYING SYSTEMS, CO.)	S.S.
6	1	---	KOMAX EQUALIZER MODULE	T316S.S.
7	1	---	NAMEPLATE ASSEMBLY	C.S./S.S.
8	A/R	---	PAINT, RUST INHIBITIVE RED OXIDE PRIMER	---

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MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS
3201813 3923288, 4034965, 4208136, 4614440, 4808007,
5066137, 5176448, 5484203, 5758967, 5947597, 6024842,
6027241, 6082713, 6102561, 6132079, 6276823
OTHER U.S. AND FOREIGN PATENTS PENDING

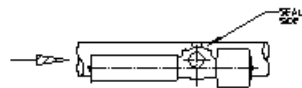
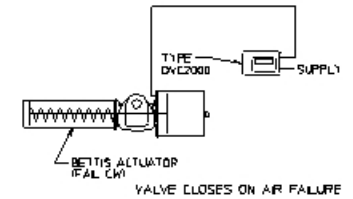
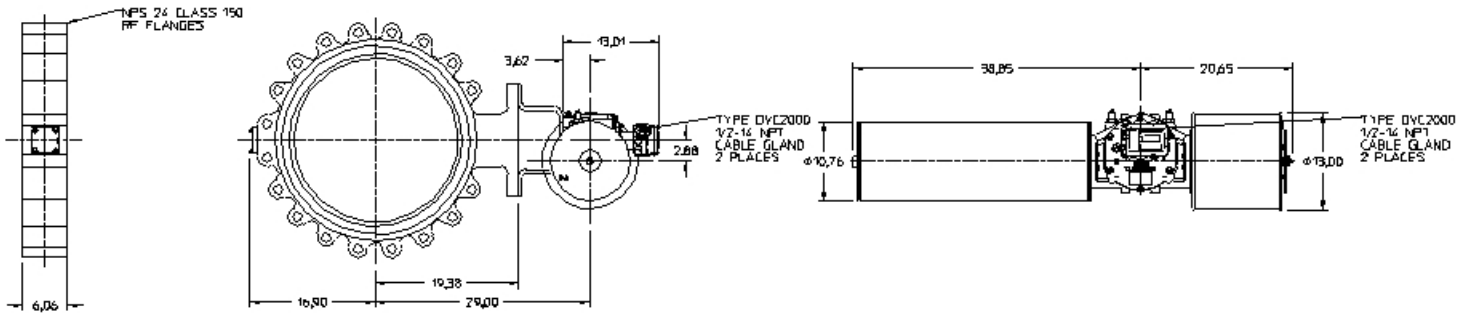
KOMAX SYSTEMS, INC.
P.O. BOX 1323 WILMINGTON, CA 90748-1323 310-830-4320 FAX: 310-830-9826

OUTLINE & MOUNTING CONFIGURATION

KOMAX MODEL NO. GLC-55791

SCALE: 1/4" = 1"	APPROVED BY:	DRAWN BY: DP
DATE: 04-20-09	LN	REV. DATE: 07-01-09
CUSTOMER: JOHNSON CONTROLS	QUOTE NO.: 53994-09 JOB NO.: 25086-09	CODE# 015 DRAWING NUMBER: 33689

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



ACTUATOR
ORIENTATION
PARALLEL

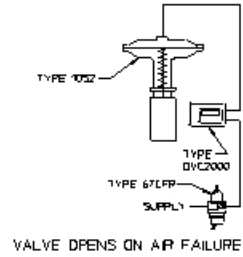
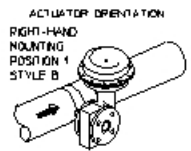
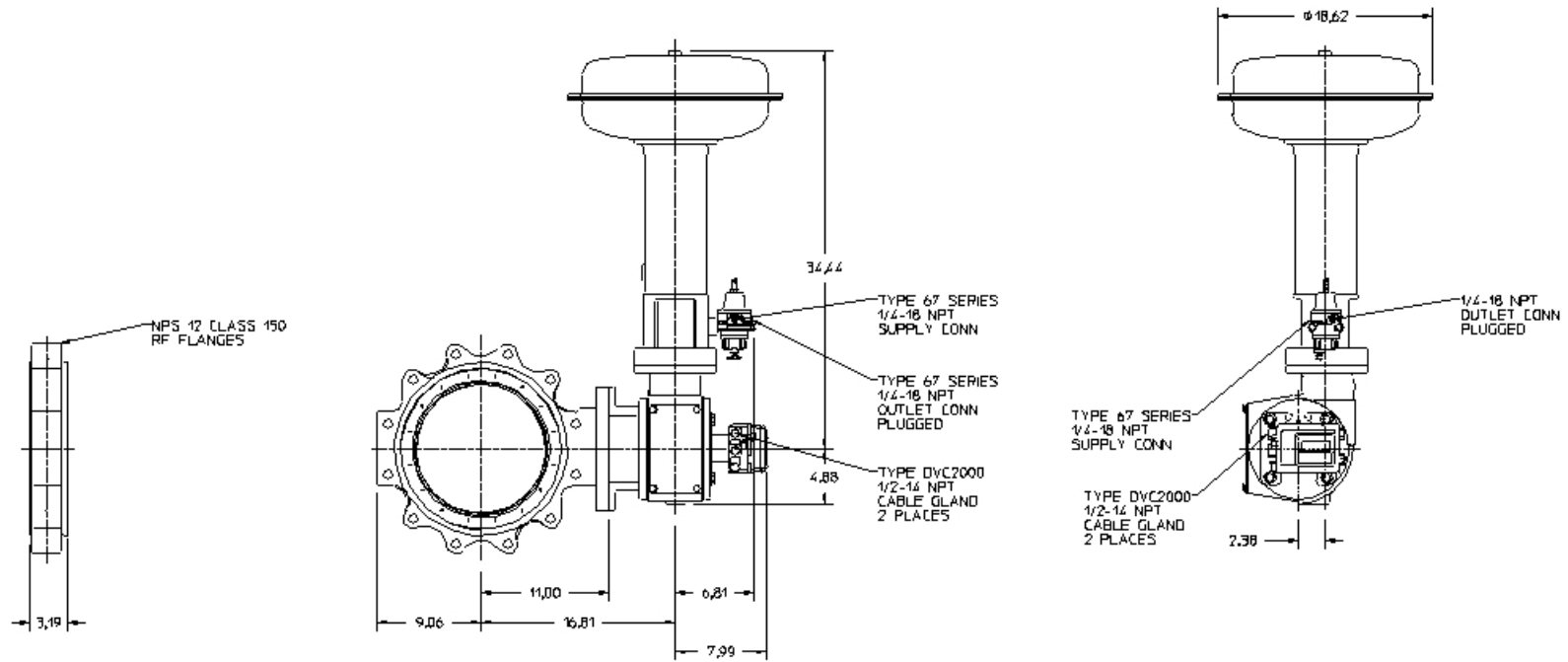
TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%
1418 lb

UNLESS OTHERWISE SPECIFIED:
UNIT OF MEASURE: INCHES

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS				DATE Sep/15/09	
CUST: CUST REF NO: FISHER REF NO: 003-IM-090915-D049624 TAG NO: SERIAL NO: CUST ITEM:			NPS 24 A31A BETTIS-B-SERIES SIZE Q2012-SR3 DVC2000 RTY 29410052P33 Q2012SR BETTIS AGTUATOR SR3		
DWG.	ADS	Sep/15/09	ITEM	D210	E
DWG.	DWG.	APPL	DWG. NO.		REV.
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REVISING			NONE		

PV-1231A1

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%: 354 lb

UNLESS OTHERWISE SPECIFIED: UNIT OF MEASURE: INCHES

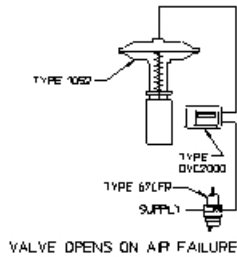
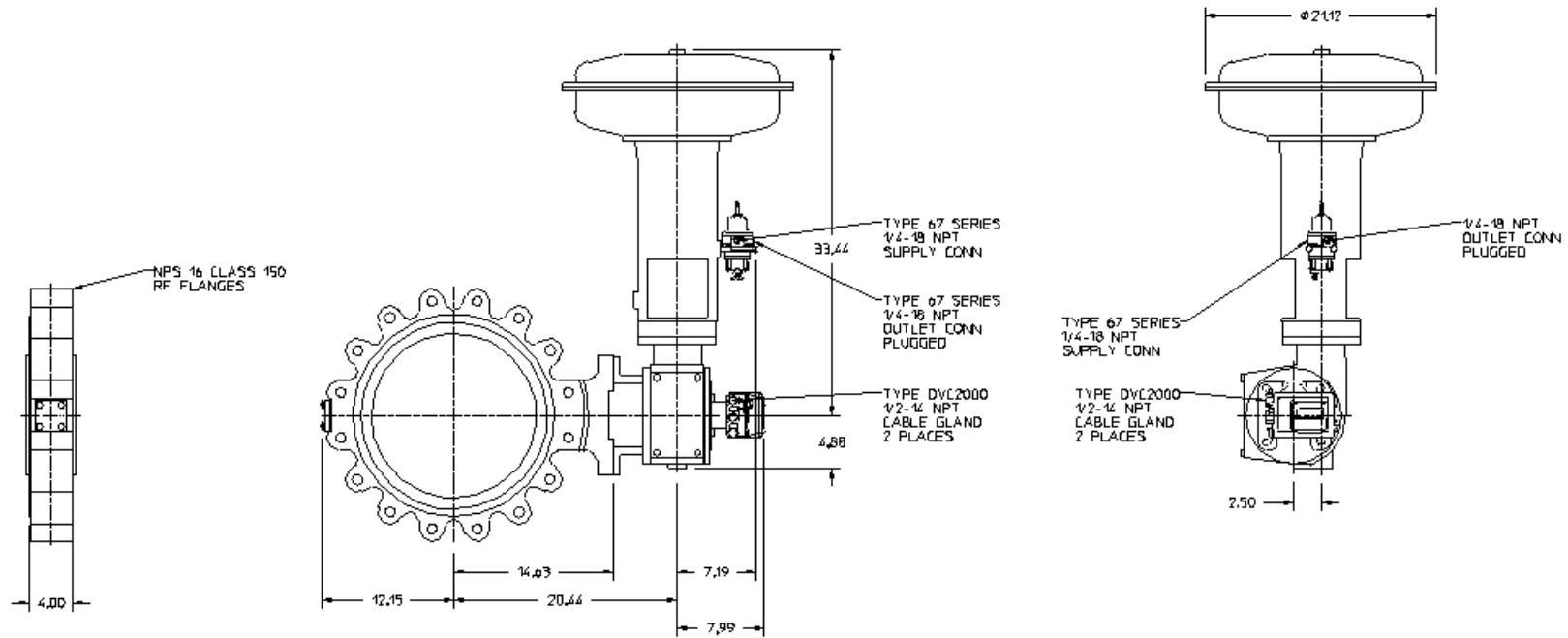
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CUST REF NO:			
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TAG NO:			
SERIAL NO:			
CUST ITEM:			
DRW:	ADS	Sep 15/09	ITEM 0310
DATE:			DWG. NO.
APPL:			REV.
SCALE:		NONE	

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EMERSON
Process Management

PV-1231A2

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



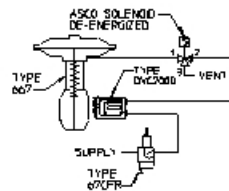
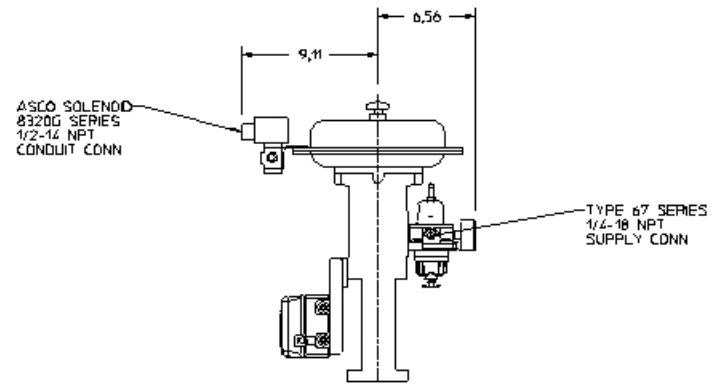
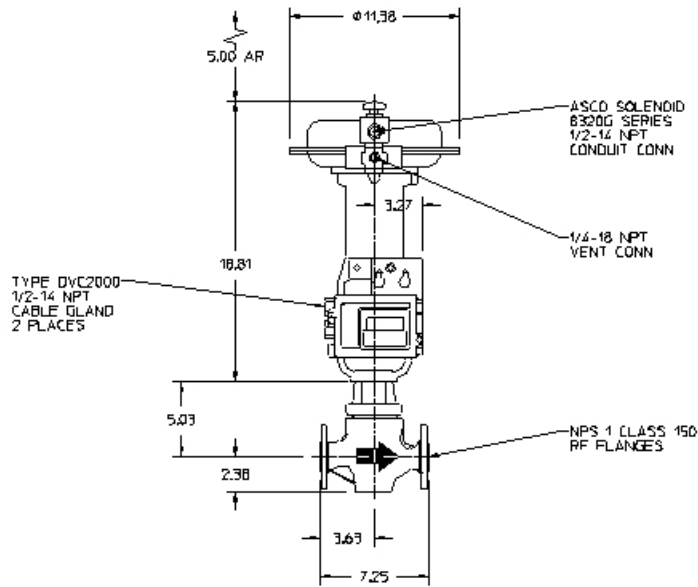
TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%:
642 lb

UNLESS OTHERWISE SPECIFIED:
UNIT OF MEASURE: INCHES

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS				DATE Sep/15/09	
CUST: CUST REF NO: FISHER REF NO: 003-IM-090915-0049624 TAG NO:				NPS 16 8532 1052 SIZE 70 DVC2000 RTV 29410052P37	
SERIAL NO: CUST ITEM:					
REV.	DATE	APP'D.	SCALE	ITEM D410	E
			NONE		REV.
© Fisher Controls Int. LLC 2009					
EMERSON Process Management					

PV-1231A3

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



VALVE CLOSSES ON AIR FAILURE
SOLENOID MODEL NO. EF8320G174

AR = ACTUATOR REMOVAL CLEARANCE

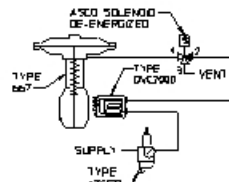
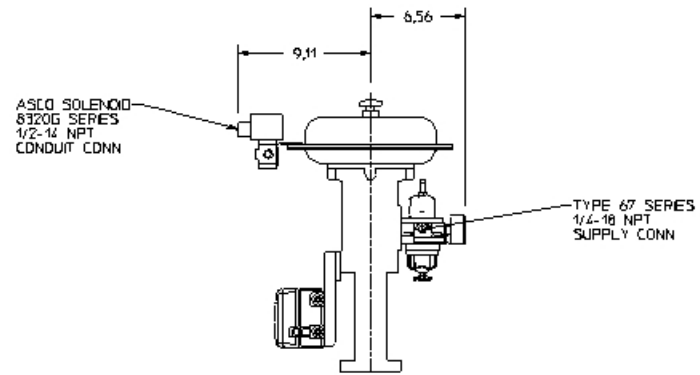
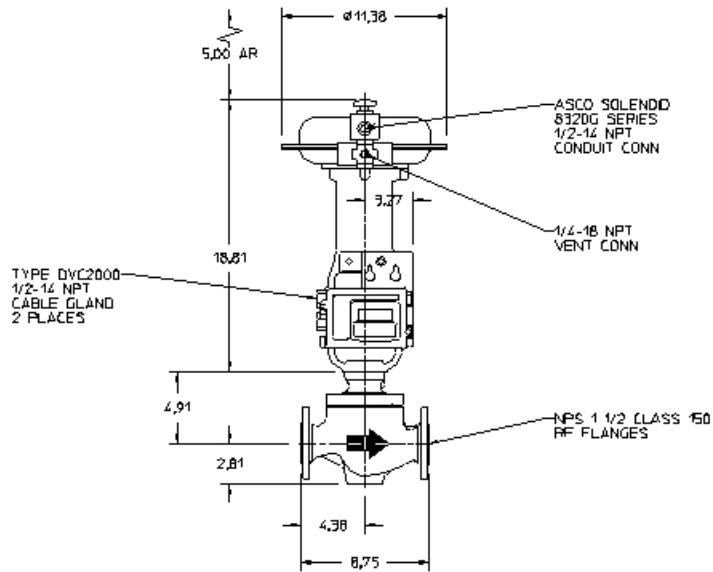
TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%:
71 lb

UNLESS OTHERWISE SPECIFIED:
UNIT OF MEASURE: INCHES

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS				DATE Sep 15/09	
CUST: CUST REF NO: FISHER REF NO: 003-IM-090915-0049624 TAG NO:				NPS 1 ET 667 SIZE 30 DVC2000 SS ASCO PROCESS LEVEL 2 29410052P29	
SERIAL NO: CUST ITEM:					
REV	DATE	APP'D	SCALE	ITEM D10A	E
			NONE	DWG. NO.	REV.
© Fisher Controls Int. LLC 2009					

TV-1231A4

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



VALVE CLOSES ON AIR FAILURE
SOLENOID MODEL NO. EF8320G174

AR = ACTUATOR REMOVAL CLEARANCE

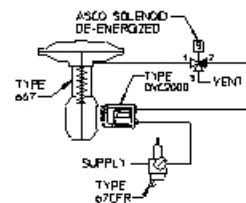
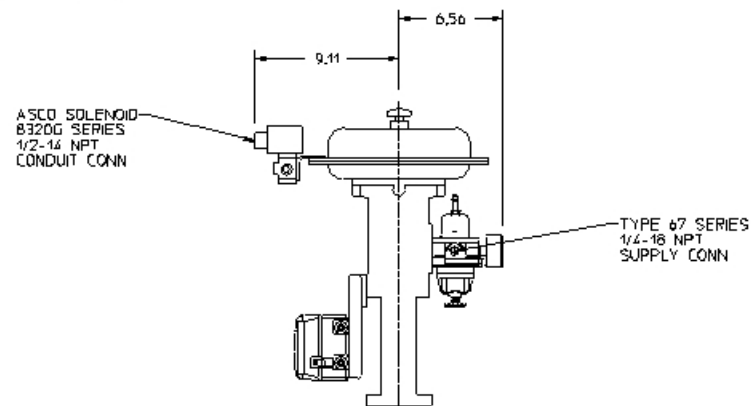
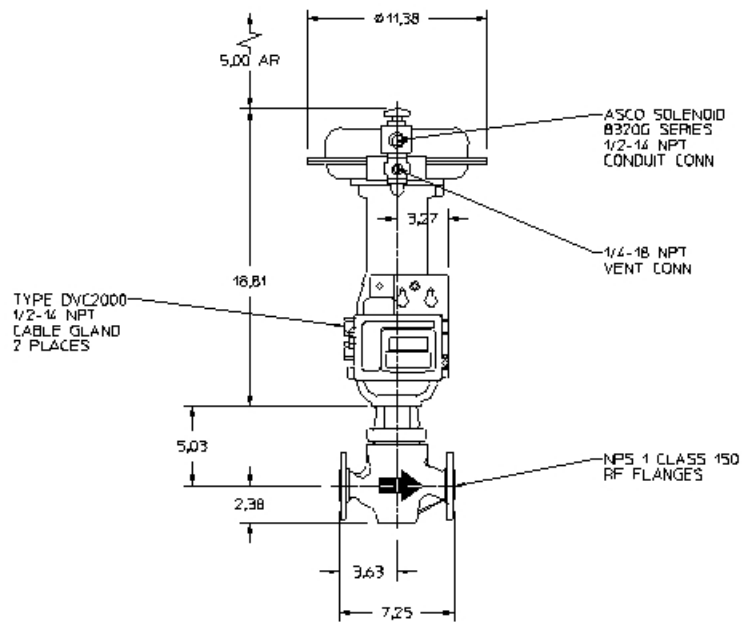
TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%:
85 lb

UNLESS OTHERWISE SPECIFIED:
UNIT OF MEASURE: INCHES

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS				DATE Sep 15/09	
CUST: CUST REF NO: FISHER REF NO: 003-IM-090915-0049624 TAG NO:				NPS 1 1/2 ET 667 SIZE 3D DVC2000 SS ASCO PROCESS LEVEL 2 29410052P31	
SERIAL NO: CUST ITEM:					
REV	DATE	APP'D	SCALE	ITEM D110	E
			NONE	DWG. NO.	REV.
© Fisher Controls Int. LLC 2009			EMERSON Process Management		

TV-1231A5

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



VALVE CLOSES ON AIR FAILURE
SOLENOID MODEL NO. EF8320G174

AR - ACTUATOR REMOVAL CLEARANCE

TOTAL CALCULATED ASSEMBLY WEIGHT +/- 10%
71 lb

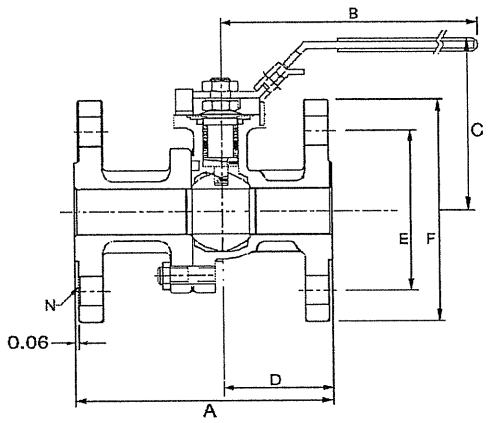
UNLESS OTHERWISE SPECIFIED:
UNIT OF MEASURE: INCHES

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS				DATE Sep/15/09	
CUST: CUST REF NO: FISHER REF NO: 003-JM-090915-0049624 TAO NO:				NPS 1 EZ 667 SIZE 30 DVC2000 SS ASCO PROCESS LEVEL 2 29410052P34	
SERIAL NO: CUST ITEM:					
				ITEM 0260	E
				DWG NO.	REV.
			DWG. A03 CHG. 0 APD. 0 SCALE: NONE	Sep/15/09	
© Fisher Controls Int., LLC 2009					

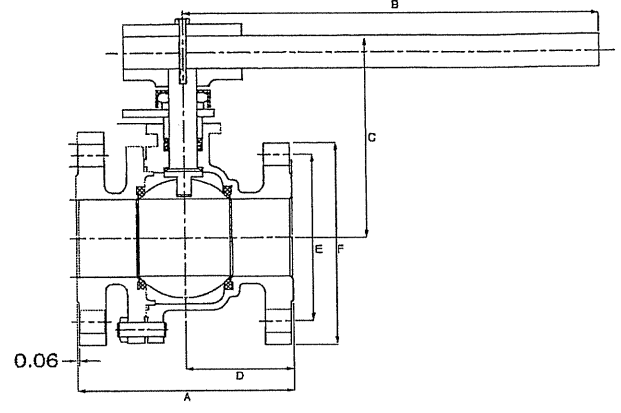
TV-1231A6

**SERIES 50
DIMENSIONS**

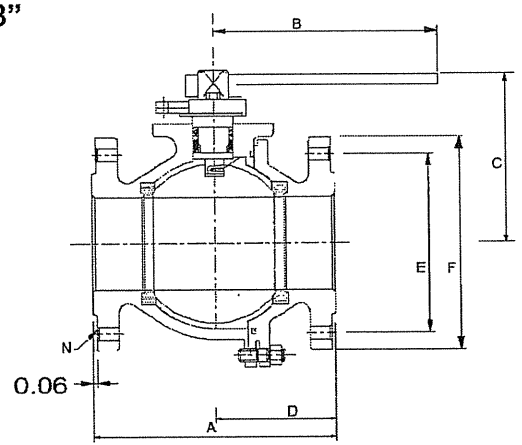
1/2" - 2"



2-1/2" - 4"



6" - 8"



CV DATA

1/2"	26
3/4"	50
1"	94
1-1/2"	260
2"	480
2-1/2"	750
3"	1300
4"	2300
6"	5400
8"	10000

PORT

1/2"	0.59
3/4"	0.78
1"	1.00
1-1/2"	1.50
2"	2.00
2-1/2"	2.55
3"	3.00
4"	4.00
6"	6.00
8"	7.88

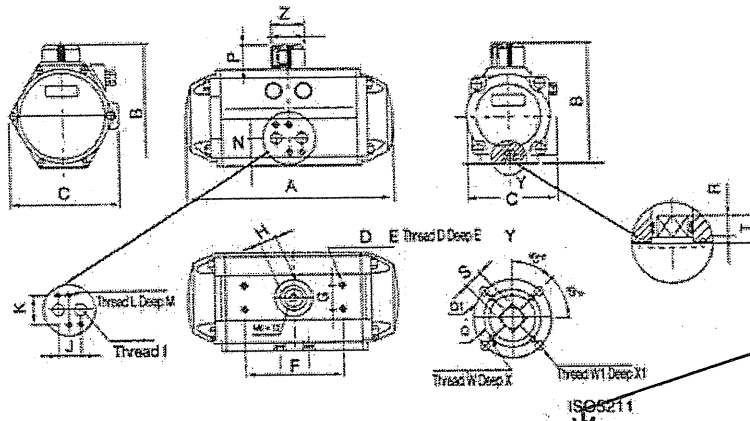
WEIGHT (lbs.)

1/2"	4
3/4"	6
1"	8
1-1/2"	15
2"	20
2-1/2"	36
3"	45
4"	75
6"	135
8"	290

XV-1231A2

SIZE	A	B	C	D	E	F	N	G	H	I	J	K	W
1/2"	4.25	4.75	3.60	1.80	2.38	3.50	4	1.39	3/8-24 UNF	.22	.28	.63	M5
3/4"	4.62	4.75	3.75	2.00	2.75	3.85	4	1.39	3/8-24 UNF	.22	.28	.63	M5
1"	5.00	6.22	3.75	2.12	3.13	4.25	4	1.39	7/16-20 UNF	.30	.30	.90	M6
1-1/2"	6.50	9.00	4.50	2.76	3.56	5.00	4	1.94	9/16-18 UNF	.35	.42	1.18	M8
2"	7.00	9.00	4.80	3.08	4.75	6.00	4	1.94	9/16-18 UNF	.35	.42	1.18	M8
2-1/2"	7.50	13.75	6.70	3.09	5.50	7.00	4	2.84	M20	.55	.55	1.83	M10
3"	8.00	13.75	7.00	3.74	6.00	7.48	4	2.84	1-14 UNS	.745	.66	1.83	M10
4"	9.00	13.75	7.70	4.46	7.50	9.01	8	2.84	1-14 UNS	.745	.66	1.83	M10
6"	15.50	38.97	11.22	7.61	9.50	10.98	8	3.89	1.02	1.64	1.46	3.00	M12
8"	18.00	38.97	11.57	8.34	11.75	13.50	8	4.59	1.02	1.64	1.46	3.00	M12

DIMENSIONS & TECHNICAL DATA 180° ACTUATOR



MODEL	DIMENSIONS IN INCH						
SIZE	SPN050-P8	SPN063-P8	SPN075-P8	SPN085-P8	SPN100-P8	SPN125-P8	SPN180-P8
A	7.76	8.72	11.75	13.70	15.02	19.53	24.65
B	3.50	4.13	3.72	4.19	5.79	7.36	10.65
C	2.78	3.27	4.80	5.31	4.84	5.96	8.03
D	M5	M5	M5	M5	M5	M5	M5
E	0.31	0.31	0.31	0.31	0.31	0.31	0.31
F	3.15	3.15	3.15	3.15	3.15	3.15	5.12
G	1.18	1.18	1.18	1.18	1.18	1.18	1.18
H	0.43	0.43	0.58	0.58	0.58	0.83	1.26
I	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
J	0.94	0.94	0.94	0.94	0.94	0.94	0.94
K	1.26	1.26	1.26	1.26	1.26	1.26	1.26
L	M5	M5	M5	M5	M5	M5	M5
M	0.31	0.31	0.31	0.31	0.31	0.31	0.31
N	1.04	1.22	1.20	1.32	1.48	1.81	2.28
P	0.79	0.79	0.79	0.79	0.79	1.18	1.97
Q	1.65	1.97	1.97	1.97	2.76	2.76	5.51
Q1			2.76	2.76	4.02	4.02	
R	0.47	0.63	0.71	0.71	0.87	1.06	1.54
S	0.43	0.55	0.67	0.67	0.87	1.06	1.42
T	0.49	0.65	0.77	0.77	0.93	1.12	1.61
W	M5	M6	M6	M6	M8	M8	M16
W1			M8	M8	M10	M10	
X	0.35	0.35	0.35	0.35	0.47	0.47	0.94
X1			0.47	0.47	0.59	0.59	
ISO5211	F04	F05	F05/F07	F05/F07	F07/F10	F07/F10	F14
Z	1.57	1.57	1.57	1.57	1.57	2.20	3.15

MODEL SIZE	SPN050-8	SPN063-8	SPN075-8	SPN085-8	SPN100-8	SPN125-8	SPN180-8
Cylinder Bore	1.97	2.48	2.95	3.35	3.94	4.92	6.30
Bolt Stroke Adjustment	1/6 turn	1/6 turn	1/6 turn	1/5 turn	1/5 turn	1/4 turn	1/4 turn
Air Volume Opening (cu. in.)	10.4	17.7	34.2	56.2	79.4	171.1	348.3
Air Volume Closing (cu. in.)	16.5	28.7	53.8	85.6	122.2	256.7	537.8
Open Times DA (Seconds)	0.31	0.39	0.47	0.63	0.79	1.41	2.36
Closed times DA (Seconds)	0.39	0.47	0.63	0.79	1.10	1.88	2.83
Approximate Weight DA (Lbs.)	3.3	5.5	9.6	13.1	17.7	33.7	64.5

EPIC™ 360 & 366 Series

Non-Contact HART® Enabled Position Transmitter



AREA CLASSIFICATIONS	
Class I, Groups B, C, D	
Class II, Groups E, F, G, Divisions 1 & 2	
Class I, Group A, Division 2	

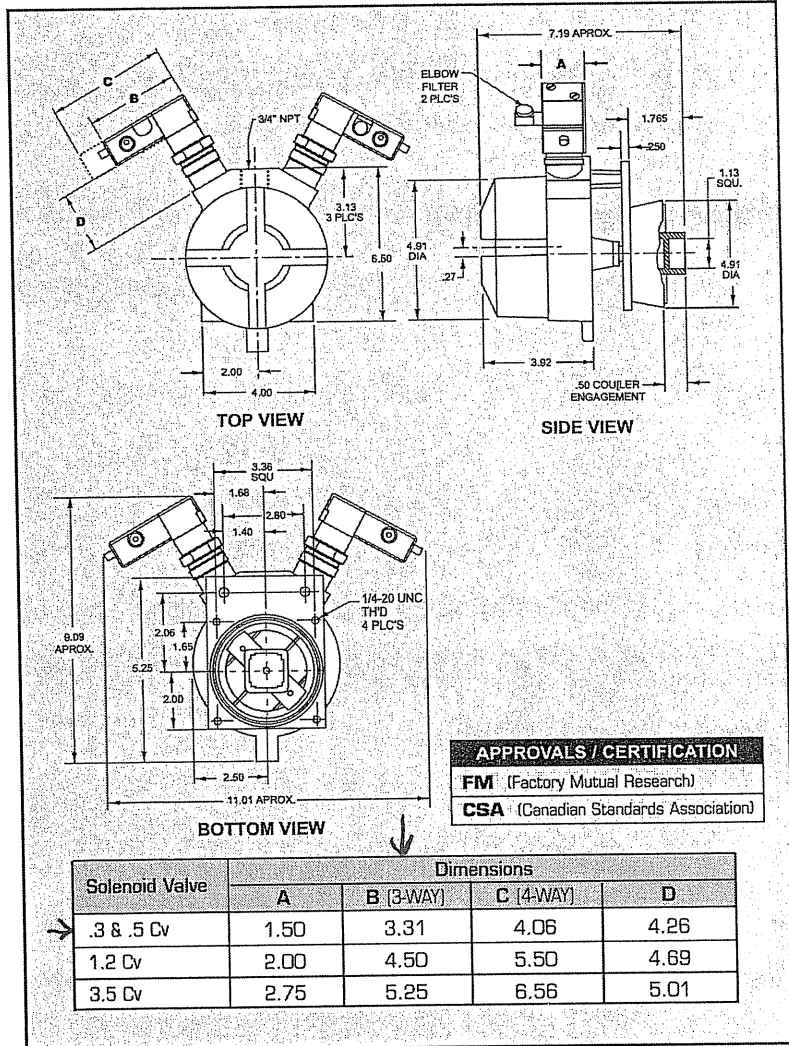
MATERIALS OF CONSTRUCTION		
360	Housing/Cover	Cast Aluminum
366	Housing/Cover	Cast 316 Stainless Steel

ORDERING GUIDE (FALCON™ SOLENOID)

COILS	CV	Body	3-Way	4-Way
XSO 24 VDC 0.55 watts	.3 Cv	Brass	2100	2500
		Alum.	3100	3500
		303 S.S.	4100	4500
XAO 120 VAC 4.0 watts	.5 Cv	316 S.S.	5100	5500
		Brass	2200	2600
XVO 125 VDC 1.0 watts	.5 Cv	Alum.	3200	3600
		303 S.S.	4200	4600
		316 S.S.	5200	5600
XHO 220 VAC 4.0 watts	1.2 Cv	Brass	2300	2700
		Alum.	3300	3700
		303 S.S.	4300	4700
	316 S.S.	5300	5700	
	3.5 Cv	Alum.	3400	3800

OPTIONAL FEATURES (See BULLETIN NO. Q-18.02)

DIMENSIONS (inches/mm)



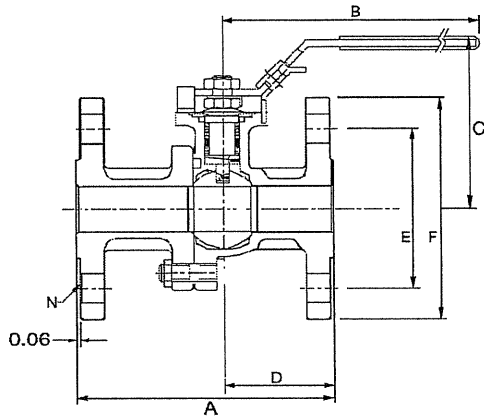
Ordering Example

D470-RO-X-3-2100-1-1-1

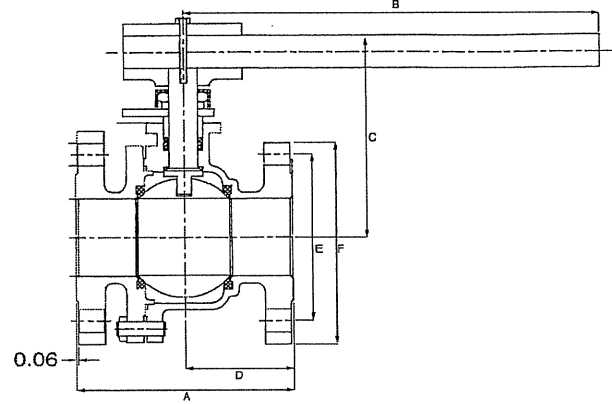
- Beacon Options "1" = Black/Yellow (for add. options refer to Price Book)
 - Special Operation Options "0" = No Special Option, "1" = ESD/PST Relay Controller
 - Solenoid Coil Options "6" = XSO 24Vdc, 0.5W (for additional options refer to Price Book)
 - Solenoid Override Options "0" = None (for options E, L, M, N, R or S refer to Price Book)
 - Solenoid Valve Body "0" = No Solenoid, 2100- 4800 (see Falcon Solenoid Ordering Guide)
 - Conduit Options "1" = 1/2" NPT, "2" = M20, "3" = 3/4" NPT, "6" = M25
 - Area Class Option "X" = Explosion Proof (Class I, Div. 1, Grps B-D/Class I, Div. 2, Grps A-G)
 - Valve Type Options "RO" = Rotary Valve, "RR" = Rotary Valve with Remote Option
 - Enclosure Options "60" = 360- Aluminum Single/Dual Coil Falcon "70" = 366- Stainless Steel Single/Dual Coil Falcon
 - Product Code for Digital Epic **D4**
- For additional solenoid options (3rd character) refer to Price Book.

**SERIES 50
DIMENSIONS**

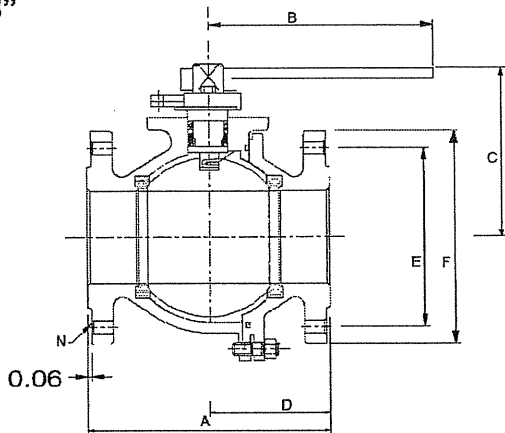
1/2" - 2"



2-1/2" - 4"



6" - 8"



CV DATA

1/2"	26
3/4"	50
1"	94
1-1/2"	260
2"	480
2-1/2"	750
3"	1300
4"	2300
6"	5400
8"	10000

PORT

1/2"	0.59
3/4"	0.78
1"	1.00
1-1/2"	1.50
2"	2.00
2-1/2"	2.55
3"	3.00
4"	4.00
6"	6.00
8"	7.88

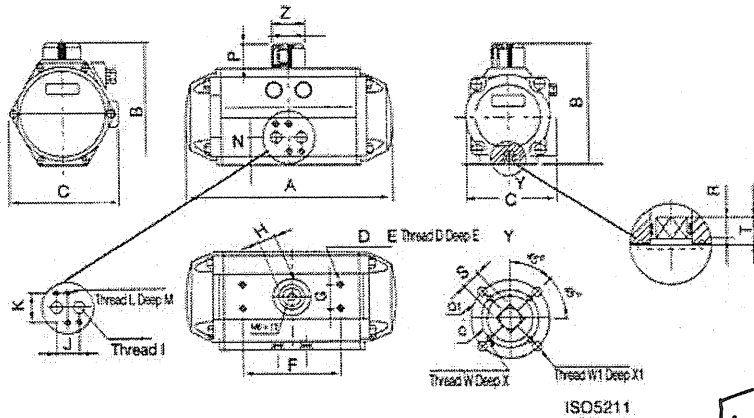
WEIGHT (lbs.)

1/2"	4
3/4"	6
1"	8
1-1/2"	15
2"	20
2-1/2"	36
3"	45
4"	75
6"	135
8"	290

XU-123143

SIZE	A	B	C	D	E	F	N	G	H	I	J	K	W
1/2"	4.25	4.75	3.60	1.80	2.38	3.50	4	1.39	3/8-24 UNF	.22	.28	.63	M5
3/4"	4.62	4.75	3.75	2.00	2.75	3.85	4	1.39	3/8-24 UNF	.22	.28	.63	M5
1"	5.00	6.22	3.75	2.12	3.13	4.25	4	1.39	7/16-20 UNF	.30	.30	.90	M6
1-1/2"	6.50	9.00	4.50	2.76	3.56	5.00	4	1.94	9/16-18 UNF	.35	.42	1.18	M8
2"	7.00	9.00	4.80	3.08	4.75	6.00	4	1.94	9/16-18 UNF	.35	.42	1.18	M8
2-1/2"	7.50	13.75	6.70	3.09	5.50	7.00	4	2.84	M20	.55	.55	1.83	M10
3"	8.00	13.75	7.00	3.74	6.00	7.48	4	2.84	1-14 UNS	.745	.66	1.83	M10
4"	9.00	13.75	7.70	4.46	7.50	9.01	8	2.84	1-14 UNS	.745	.66	1.83	M10
6"	15.50	38.97	11.22	7.61	9.50	10.98	8	3.89	1.02	1.64	1.46	3.00	M12
8"	18.00	38.97	11.57	8.34	11.75	13.50	8	4.59	1.02	1.64	1.46	3.00	M12

DIMENSIONS & TECHNICAL DATA 180° ACTUATOR



MODEL	DIMENSIONS IN INCH						
SIZE	SPN050-P8	SPN063-P8	SPN075-P8	SPN085-P8	SPN100-P8	SPN125-P8	SPN180-P8
A	7.76	8.72	11.75	13.70	15.02	19.53	24.65
B	3.50	4.13	3.72	4.19	5.79	7.36	10.65
C	2.78	3.27	4.80	5.31	4.84	5.96	8.03
D	M5	M5	M5	M5	M5	M5	M5
E	0.31	0.31	0.31	0.31	0.31	0.31	0.31
F	3.15	3.15	3.15	3.15	3.15	3.15	5.12
G	1.18	1.18	1.18	1.18	1.18	1.18	1.18
H	0.43	0.43	0.58	0.58	0.58	0.83	1.26
I	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
J	0.94	0.94	0.94	0.94	0.94	0.94	0.94
K	1.26	1.26	1.26	1.26	1.26	1.26	1.26
L	M5	M5	M5	M5	M5	M5	M5
M	0.31	0.31	0.31	0.31	0.31	0.31	0.31
N	1.04	1.22	1.20	1.32	1.48	1.81	2.28
P	0.79	0.79	0.79	0.79	0.79	1.18	1.97
Q	1.65	1.97	1.97	1.97	2.76	2.76	5.51
Q1			2.76	2.76	4.02	4.02	
R	0.47	0.63	0.71	0.71	0.87	1.06	1.54
S	0.43	0.55	0.67	0.67	0.87	1.06	1.42
T	0.49	0.65	0.77	0.77	0.93	1.12	1.61
W	M5	M6	M6	M6	M8	M8	M16
W1			M8	M8	M10	M10	
X	0.35	0.35	0.35	0.35	0.47	0.47	0.94
X1			0.47	0.47	0.59	0.59	
ISO5211	F04	F05	F05/F07	F05/F07	F07/F10	F07/F10	F14
Z	1.57	1.57	1.57	1.57	1.57	2.20	3.15

MODEL SIZE	SPN050-8	SPN063-8	SPN075-8	SPN085-8	SPN100-8	SPN125-8	SPN180-8
Cylinder Bore	1.97	2.48	2.95	3.35	3.94	4.92	6.30
Bolt Stroke Adjustment	1/6 turn	1/6 turn	1/6 turn	1/5 turn	1/5 turn	1/4 turn	1/4 turn
Air Volume Opening (cu. in.)	10.4	17.7	34.2	56.2	79.4	171.1	348.3
Air Volume Closing (cu. in.)	16.5	28.7	53.8	85.6	122.2	256.7	537.8
Open Times DA (Seconds)	0.31	0.39	0.47	0.63	0.79	1.41	2.36
Closed times DA (Seconds)	0.39	0.47	0.63	0.79	1.10	1.88	2.83
Approximate Weight DA (Lbs.)	3.3	5.5	9.6	13.1	17.7	33.7	64.5

EPIC™ 360 & 366 Series

Non-Contact HART® Enabled Position Transmitter



AREA CLASSIFICATIONS	
Class I, Groups B, C, D	
Class II, Groups E, F, G, Divisions 1 & 2	
Class I, Group A, Division 2	

MATERIALS OF CONSTRUCTION		
360	Housing/Cover	Cast Aluminum
366	Housing/Cover	Cast 316 Stainless Steel

ORDERING GUIDE (FALCON™ SOLENOID)

COILS	CV	Body	3-Way	4-Way
XSO 24 VDC 0.55 watts	.3 Cv	Brass	2100	2500
		Alum.	3100	3500
		303 S.S.	4100	4500
		316 S.S.	5100	5500
XAO 120 VAC 4.0 watts	.5 Cv	Brass	2200	2600
		Alum.	3200	3600
		303 SS	4200	4600
		316 S.S.	5200	5600
XVO 125 VDC 1.0 watts	1.2 Cv	Brass	2300	2700
		Alum.	3300	3700
		303 S.S.	4300	4700
		316 S.S.	5300	5700
XHO 220 VAC 4.0 watts	3.5 Cv	Alum.	3400	3800

OPTIONAL FEATURES (See BULLETIN NO. Q-18.02)

DIMENSIONS (inches/mm)

APPROVALS / CERTIFICATION
FM (Factory Mutual Research)
CSA (Canadian Standards Association)

Solenoid Valve	Dimensions			
	A	B (3-WAY)	C (4-WAY)	D
.3 & .5 Cv	1.50	3.31	4.06	4.26
1.2 Cv	2.00	4.50	5.50	4.69
3.5 Cv	2.75	5.25	6.56	5.01

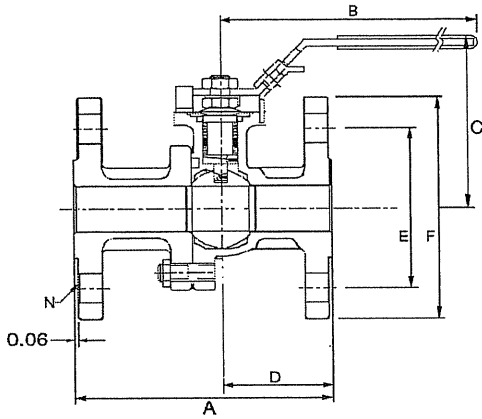
Ordering Example

D4 70-RO-X-3-2100-1-1-1

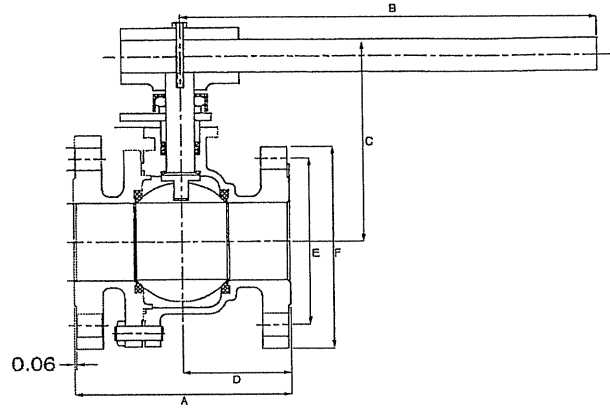
- Product Code for Digital Epic **D4**
- Enclosure Options "**60**" = 360- Aluminum Single/Dual Coil Falcon "**70**" = 366- Stainless Steel Single/Dual Coil Falcon
- Valve Type Options "**RO**" = Rotary Valve, "**RR**" = Rotary Valve with Remote Option
- Area Class Option "**X**" = Explosion Proof (Class I, Div. 1, Grps B-D/Class I, Div. 2, Grps A-G)
- Conduit Options "**1**" = 1/2" NPT, "**2**" = M20, "**3**" = 3/4" NPT, "**6**" = M25
- Solenoid Valve Body "**0**" = No Solenoid, 2100- 4800 (see Falcon Solenoid Ordering Guide)
For additional solenoid options (3rd character) refer to Price Book.
- Solenoid Override Options "**0**" = None (for options E, L, M, N, R or S refer to Price Book)
- Solenoid Coil Options "**6**" = XSO 24Vdc, 0.5W (for additional options refer to Price Book)
- Special Operation Options "**0**" = No Special Option, "**1**" = ESD/PST Relay Controller
- Beacon Options "**1**" = Black/Yellow (for add. options refer to Price Book)

**SERIES 50
DIMENSIONS**

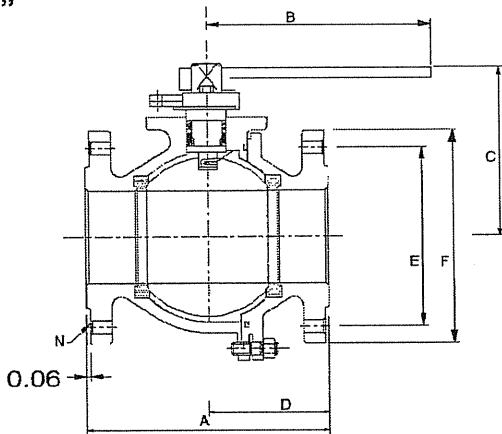
1/2" - 2"



2-1/2" - 4"



6" - 8"



CV DATA

1/2"	26
3/4"	50
1"	94
1-1/2"	260
2"	480
2-1/2"	750
3"	1300
4"	2300
6"	5400
8"	10000

PORT

1/2"	0.59
3/4"	0.78
1"	1.00
1-1/2"	1.50
2"	2.00
2-1/2"	2.55
3"	3.00
4"	4.00
6"	6.00
8"	7.88

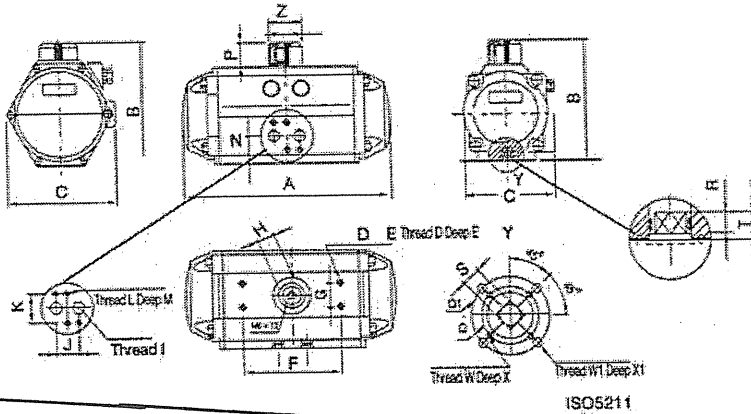
WEIGHT (lbs.)

1/2"	4
3/4"	6
1"	8
1-1/2"	15
2"	20
2-1/2"	36
3"	45
4"	75
6"	135
8"	290

XU-1231A4

SIZE	A	B	C	D	E	F	N	G	H	I	J	K	W
1/2"	4.25	4.75	3.60	1.80	2.38	3.50	4	1.39	3/8-24 UNF	.22	.28	.63	M5
3/4"	4.62	4.75	3.75	2.00	2.75	3.85	4	1.39	3/8-24 UNF	.22	.28	.63	M5
1"	5.00	6.22	3.75	2.12	3.13	4.25	4	1.39	7/16-20 UNF	.30	.30	.90	M6
1-1/2"	6.50	9.00	4.50	2.76	3.56	5.00	4	1.94	9/16-18 UNF	.35	.42	1.18	M8
2"	7.00	9.00	4.80	3.08	4.75	6.00	4	1.94	9/16-18 UNF	.35	.42	1.18	M8
2-1/2"	7.50	13.75	6.70	3.09	5.50	7.00	4	2.84	M20	.55	.55	1.83	M10
3"	8.00	13.75	7.00	3.74	6.00	7.48	4	2.84	1-14 UNS	.745	.66	1.83	M10
4"	9.00	13.75	7.70	4.46	7.50	9.01	8	2.84	1-14 UNS	.745	.66	1.83	M10
6"	15.50	38.97	11.22	7.61	9.50	10.98	8	3.89	1.02	1.64	1.46	3.00	M12
8"	18.00	38.97	11.57	8.34	11.75	13.50	8	4.59	1.02	1.64	1.46	3.00	M12

DIMENSIONS & TECHNICAL DATA 180° ACTUATOR



XV-123144

DIMENSIONS IN INCH							
MODEL	SPN050-P8	SPN063-P8	SPN075-P8	SPN085-P8	SPN100-P8	SPN125-P8	SPN180-P8
SIZE	SPN050-P8	SPN063-P8	SPN075-P8	SPN085-P8	SPN100-P8	SPN125-P8	SPN180-P8
A	7.76	8.72	11.75	13.70	15.02	19.53	24.65
B	3.50	4.13	3.72	4.19	5.79	7.36	10.65
C	2.78	3.27	4.80	5.31	4.84	5.96	8.03
D	M5	M5	M5	M5	M5	M5	M5
E	0.31	0.31	0.31	0.31	0.31	0.31	0.31
F	3.15	3.15	3.15	3.15	3.15	3.15	5.12
G	1.18	1.18	1.18	1.18	1.18	1.18	1.18
H	0.43	0.43	0.58	0.58	0.58	0.83	1.26
I	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
J	0.94	0.94	0.94	0.94	0.94	0.94	0.94
K	1.26	1.26	1.26	1.26	1.26	1.26	1.26
L	M5	M5	M5	M5	M5	M5	M5
M	0.31	0.31	0.31	0.31	0.31	0.31	0.31
N	1.04	1.22	1.20	1.32	1.48	1.81	2.28
P	0.79	0.79	0.79	0.79	0.79	1.18	1.97
Q	1.65	1.97	1.97	1.97	2.76	2.76	5.51
Q1			2.76	2.76	4.02	4.02	
R	0.47	0.63	0.71	0.71	0.87	1.06	1.54
S	0.43	0.55	0.67	0.67	0.87	1.06	1.42
T	0.49	0.65	0.77	0.77	0.93	1.12	1.61
W	M5	M6	M6	M6	M8	M8	M16
W1			M8	M8	M10	M10	
X	0.35	0.35	0.35	0.35	0.47	0.47	0.94
X1			0.47	0.47	0.59	0.59	
ISO5211	F04	F05	F05/F07	F05/F07	F07/F10	F07/F10	F14
Z	1.57	1.57	1.57	1.57	1.57	2.20	3.15

MODEL SIZE	SPN050-B	SPN063-B	SPN075-B	SPN085-B	SPN100-B	SPN125-B	SPN180-B
Cylinder Bore	1.97	2.48	2.95	3.35	3.94	4.92	6.30
Bolt Stroke Adjustment	1/6 turn	1/6 turn	1/6 turn	1/5 turn	1/5 turn	1/4 turn	1/4 turn
Air volume Opening (cu. in.)	10.4	17.7	34.2	56.2	79.4	171.1	348.3
Air Volume Closing (cu. in.)	16.5	28.7	53.8	85.6	122.2	256.7	537.8
Open Times DA (Seconds)	0.31	0.39	0.47	0.63	0.79	1.41	2.36
Closed times DA (Seconds)	0.39	0.47	0.63	0.79	1.10	1.88	2.83
Approximate Weight DA (Lbs.)	3.3	5.5	9.6	13.1	17.7	33.7	64.5

EPIC™ 360 & 366 Series

Non-Contact HART® Enabled Position Transmitter



AREA CLASSIFICATIONS	
Class I, Groups B, C, D	
Class II, Groups E, F, G, Divisions 1 & 2	
Class I, Group A, Division 2	

MATERIALS OF CONSTRUCTION		
360	Housing/Cover	Cast Aluminum
366	Housing/Cover	Cast 316 Stainless Steel

ORDERING GUIDE (FALCON™ SOLENOID)

COILS	CV	Body	3-Way	4-Way	
XSO 24 VDC 0.55 watts	.3 Cv	Brass	2100	2500	
		Alum.	3100	3500	
		303 S.S.	4100	4500	
XAO 120 VAC 4.0 watts	.5 Cv	316 S.S.	5100	5500	
		Brass	2200	2600	
		Alum.	3200	3600	
XVO 125 VDC 1.0 watts	.5 Cv	303 S.S.	4200	4600	
		316 S.S.	5200	5600	
		Brass	2300	2700	
XHO 220 VAC 4.0 watts	1.2 Cv	Alum.	3300	3700	
		303 S.S.	4300	4700	
		316 S.S.	5300	5700	
		Alum.	3400	3800	
		3.5 Cv	Alum.	3400	3800

OPTIONAL FEATURES (See BULLETIN NO. Q-18.02)

DIMENSIONS (inches/mm)

APPROVALS / CERTIFICATION

FM (Factory Mutual Research)

CSA (Canadian Standards Association)

Solenoid Valve	Dimensions			
	A	B (3-WAY)	C (4-WAY)	D
.3 & .5 Cv	1.50	3.31	4.06	4.26
1.2 Cv	2.00	4.50	5.50	4.69
3.5 Cv	2.75	5.25	6.56	5.01

D4 70-RO-X-3-2100-1-1-1

Ordering Example

- Beacon Options "1" = Black/Yellow (for add. options refer to Price Book)
- Special Operation Options "0" = No Special Option, "1" = ESD/PST Relay Controller
- Solenoid Coil Options "6" = XSO 24Vdc, 0.5W (for additional options refer to Price Book)
- Solenoid Override Options "0" = None (for options E, L, M, N, R or S refer to Price Book)
- Solenoid Valve Body "0" = No Solenoid, 2100- 4800 (see Falcon Solenoid Ordering Guide)
For additional solenoid options (3rd character) refer to Price Book.
- Conduit Options "1" = 1/2" NPT, "2" = M20, "3" = 3/4" NPT, "6" = M25
- Area Class Option "X" = Explosion Proof (Class I, Div. 1, Grps B-D/Class I, Div. 2, Grps A-G)
- Valve Type Options "RO" = Rotary Valve, "RR" = Rotary Valve with Remote Option
- Enclosure Options "60" = 360- Aluminum Single/Dual Coil Falcon "70" = 366- Stainless Steel Single/Dual Coil Falcon
- Product Code for Digital Epic **D4**