



# Sliding Stem Valve Specification

Customer: <b>UOP RUSSELL LLC</b>	Vinson Process Controls	
Contact: <b>JAKE GASKINS</b>	Contact: <b>Ron Berte</b>	
Customer Reference: <b>JOB 488 SC6 RSV PLANT</b>	Sales Office Reference:	Lead Time: <b>10 WKS</b>
Item: <b>9</b>	Rev:                      Qty: <b>1</b>	Quote: <b>027D-RCB-171013-0211425</b>
Tags: <b>FCV-101</b>	Date Last Modified: <b>10/13/2017</b>	Rev: <b>A</b>
Description: <b>NPS 3 ET 657 Size 45i DVC6200 TopWorx Switches Factory Mtgs DVC6200/DVC2000</b>	Total Price:	
Price Each:		
Service Description:		

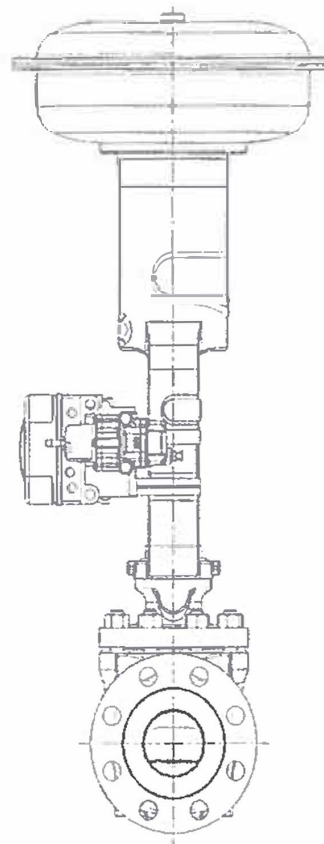
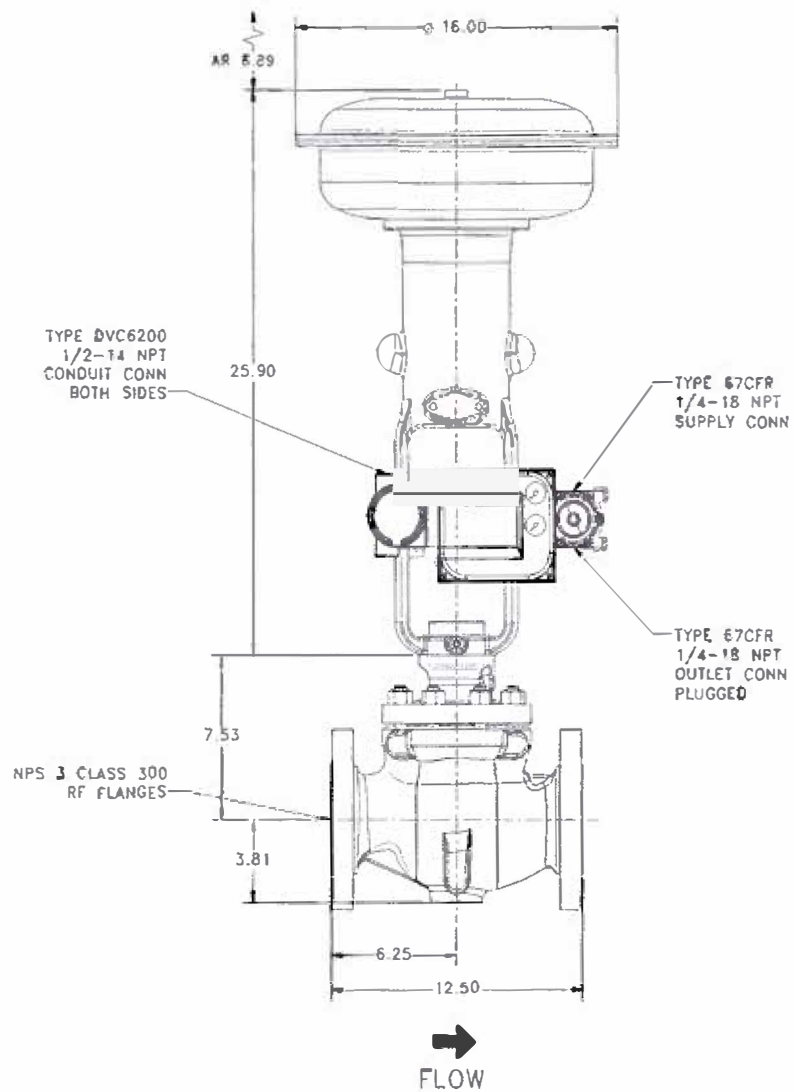
Service:	Positioner Type:	<b>DVC6200,HART Communicating-HC</b>
Size and Type: <b>NPS 3 ET</b>	Input Signal:	<b>4 to 20 mA dc</b>
Body Style: <b>Globe</b>	Access:	<b>67CFR Filter/Regulator</b>
Design Temp: <b>250 deg F</b>	Gauges:	<b>0-60 psig/0-4 bar</b>
Design Press: <b>500 psig</b>	Action:	<b>Direct</b>
End Connect/In/Out: <b>CL300/RF Flg/RF Flg</b>	Certification:	<b>Explosion Proof/Intrinsic Safe/Nonincendive,FM</b>
Material: <b>WCC Steel</b>	Controller Type:	
Ports: <b>1</b>	Action:	
Flow Direction: <b>Down</b>	Measure Element:	
Trim Number: <b>1</b>	Range:	
Cage Matl: <b>CB7Cu-1 SST</b>	Output:	
Retainer Matl:	Mounting:	
Bushing Matl:	Airset:	
Seat Ring Matl: <b>S41600 SST</b>	Mounting:	
VALVE PLUG	Transducer:	
Material: <b>S41600 SST</b>	Input Signal:	
Guiding: <b>Cage</b>	Output Signal:	
Balance: <b>Balanced</b>	Action:	
Shutoff Class: <b>ANSI CL IV</b>	Mounting:	
Port Size: <b>3 7/16 Inch</b>	Airset:	
Characteristic: <b>Linear</b>	Certifications:	
Stem Material: <b>S31600 SST</b>	Line In:	<b>3 in, SCH STD</b>
Stem Size: <b>1/2 Inch</b>	Line Out:	<b>3 in, SCH STD</b>
Bonnet Style: <b>Plain</b>	Insulation:	
Boss Size: <b>2 13/16</b>	Service Cond:	<b>THROTTLING</b>
Packing: <b>Single PTFE</b>	Process Fluid:	<b>NATURAL GAS (0.65 SG)</b>
Access: <b>No</b>	Critical Pressure:	<b>669.000 psia</b>
Bolt, Bonnet: <b>SA-193-B7 Studs/2H Nuts NCF2</b>	Shutoff Drop:	<b>257 psi</b>
PackFlg/Bltg: <b>SST Pkg Flg, SST Studs &amp; Nuts</b>		
Actuator: <b>Spring &amp; Diaphragm</b>		
Type/Size: <b>657/45i</b>		
Travel: <b>1 1/2 Inch</b>		
Bench Set: <b>6-22 psi</b>		
Push Down To: <b>PDTC</b>		
Supply: <b>Air</b>		
To Actuator: <b>0 to 33 psig</b>		
Fails Valve: <b>Open</b>		
Handwheel: <b>None</b>		
	Max Rated Cv:	<b>148.0</b>

Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Gas (w)	lb/h	16815.000	42037.000	49455.000
Inlet Pressure (P1)	psig	257.000	257.000	257.000
Pressure Change (dP)	psi	72.000	72.000	72.000
Inlet Temperature (T1)	deg F	157.000	157.000	157.000
M / Gg	SG	0.650	0.650	0.650
Specific heats ratio (gamma)		1.280	1.280	1.280
Dynamic Viscosity (Mu)	cP	0.010	0.010	0.010
Sizing Coefficient (Cv)		40.808	101.498	119.990
% Open		24	58	71
Valve LpA(LpAeValve1m)	dB(A)	88	94	95

NOTES:  
1. SST TUBING & FITTINGS  
2. INCLUDES TOPWORX DXP-MX1GN4B STEM POSITION TRANSMITTER & SWITCHES.

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Inc. LLC 2018	
CUST: UOP RUSSELL LLC CUST REF NO: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO: 027D-RCB-161121-0190534 TAG NO: FCV-101 PROJECT NAME:			ET VALVE BODY SIZE 3 657 ACTUATOR SIZE 431		
			CUST ITEM: 0009		S.MO
TOTAL CALCULATED Wt +/- 10% TOTAL WEIGHT: 203.3 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			REV	DATE	SWN
			A	01-08-16	FDS
GENERAL ARRANGEMENT			EMERSON Process Management		SCALE: NONE
					SHEET 1 OF 1

**FISHER**

# Sliding Stem Valve Specification

Customer: **UOP RUSSELL LLC**

Vinson Process Controls

Contact: **Dennis Paden**Contact: **Ron Berte**

Customer Reference

**UOP RUSSELL, SC6**Sales Office Reference: **VVES**Lead Time: **10 WKS****STD PLANT**Item **3**

Rev

Qty **1**Rev **A**Tags: **FCV-141**Date Last Modified: **11/08/2016**Description: **NPS 3 ET 667 Size 451 DVC6200****Service Description:**

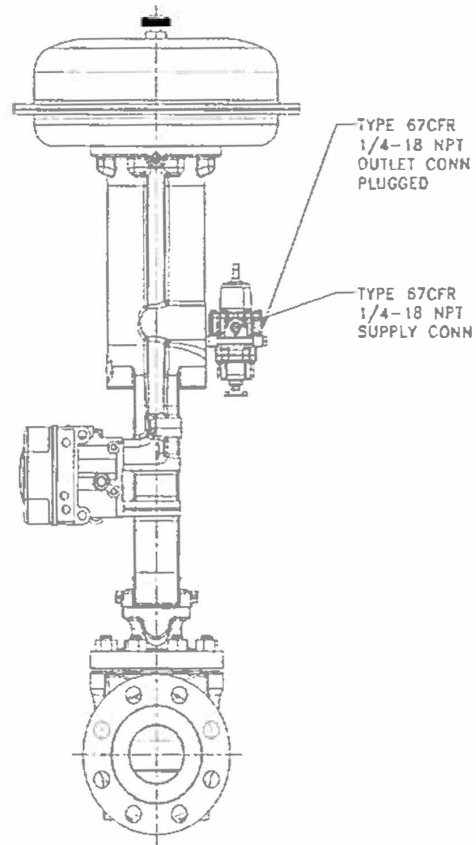
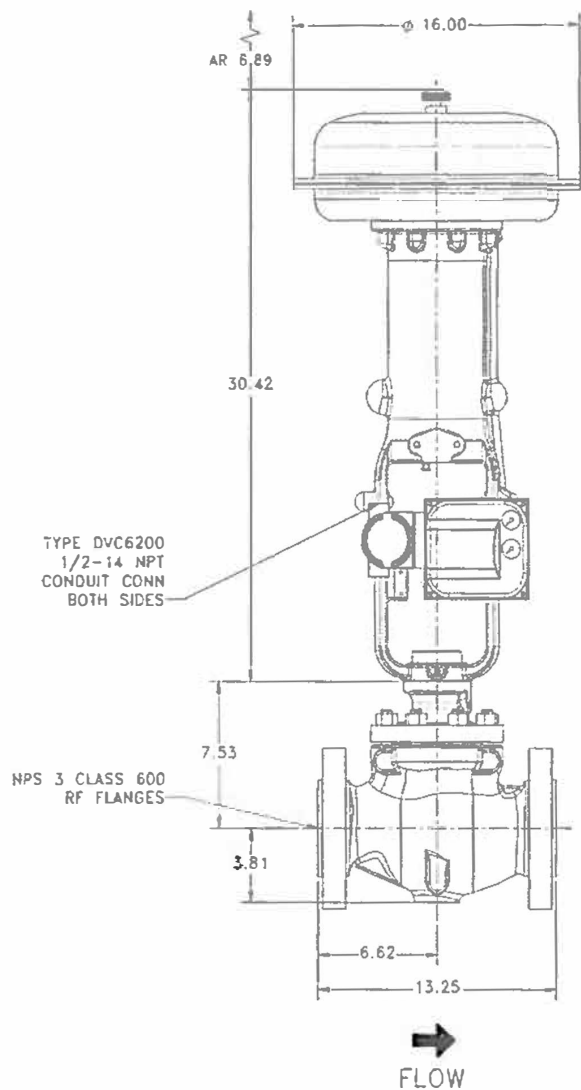
Service		Positioner Type:	<b>DVC6200,HART Communicating-HC</b>
Size and Type:	<b>NPS 3 ET</b>	Input Signal:	<b>4 to 20 mA dc</b>
Body Style:	<b>Globe</b>	Access:	<b>67CFR Filter/Regulator</b>
Design Temp:	<b>150 deg F</b>	Gauges:	<b>0-60 psig/0-4 bar</b>
Design Press:	<b>1100 psig</b>	Action:	<b>Direct</b>
End Connect/In/Out:	<b>CL600/RF Flg/RF Flg</b>	Certification:	<b>FM,Explosion Proof/Intrinsic Safe/Nonincendi se</b>
Material:	<b>WCC Steel</b>	Controller Type:	
Ports:	<b>1</b>	Action:	
Flow Direction:	<b>Down</b>	Measure Element:	
Trim Number:	<b>1</b>	Range:	
Cage Matl:	<b>CB7Cu-1 SST</b>	Output:	
Retainer Matl:		Mounting:	
Bushing Matl:		Airset:	
Seat Ring Matl:	<b>S41600 SST</b>	Mounting:	
<b>VALVE PLUG</b>		Transducer:	
Material:	<b>S41600 SST</b>	Input Signal:	
Guiding:	<b>Cage</b>	Output Signal:	
Balance:	<b>Balanced</b>	Action:	
Shutoff Class:	<b>ANSI CL IV</b>	Mounting:	
Port Size:	<b>2 5/16 inch</b>	Airset:	
Characteristic:	<b>Equal Percent</b>	Certifications:	
Stem Material:	<b>S31600 SST</b>	Line In:	<b>4 in, SCH XS</b>
Stem Size:	<b>1/2 inch</b>	Line Out:	<b>4 in, SCH XS</b>
Bonnet Style:	<b>Plain</b>	Insulation:	
Boss Size:	<b>2 13/16</b>	Service Cond:	<b>THROTTLING</b>
Packing:	<b>Single PTFE</b>	Process Fluid:	<b>NATURAL GAS (0.66 SG)</b>
Access:	<b>No</b>		
Bolt, Bonnet:	<b>SA-193-B7 Studs/2H Nuts</b>		
PackFlg/Bltg:	<b>SST Pkg Flg, SST Studs &amp; Nuts</b>		
Actuator:	<b>Spring &amp; Diaphragm</b>		
Type/Size:	<b>667/451</b>		
Travel:	<b>1 1/8 inch</b>		
Bench Set:	<b>10-30 psi</b>		
Push Down To:	<b>PDTC</b>		
Supply:	<b>Air</b>		
To Actuator:	<b>0 to 33 psig</b>		
Fails Valve:	<b>Close</b>		
Handwheel:	<b>None</b>		
		Max Rated Cv:	<b>70.7</b>

Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Gas (w)	lb/h	7616.000	18790.000	20878.000
Inlet Pressure (P1)	psig	924.000	924.000	924.000
Pressure Change (dP)	psi	49.000	49.000	49.000
Inlet Temperature (T1)	deg F	80.000	80.000	80.000
M / Gg	SG	0.660	0.660	0.660
Specific heats ratio (gamma)		1.280	1.280	1.280
Dynamic Viscosity (Mu)	cP	0.010	0.010	0.010
Sizing Coefficient (Cv)		9.225	23.316	26.913
% Open		46	66	68
Valve LpA(LpAValve1m)	dB(A)	56	63	64

**NOTES:****1. SST TUBING & FITTINGS**

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 inch  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Int'l. LLC 2018															
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 0270-RCB-161121-0190534 TAG NO.: FCV-141 PROJECT NAME:			ET VALVE BODY SIZE 3 667 ACTUATOR SIZE 451																
TOTAL CALCULATED WT +/- 10% TOTAL WEIGHT: 228.9 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0003		S.NO.														
<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DWR</th> <th>CHKD</th> <th>APVE</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>21-06-16</td> <td>FDS</td> <td></td> <td></td> </tr> </tbody> </table>		REV	DATE	DWR	CHKD	APVE	A	21-06-16	FDS			<table border="1"> <thead> <tr> <th>SCALE</th> <th>NONE</th> </tr> </thead> <tbody> <tr> <td>SCALE</td> <td>NONE</td> </tr> </tbody> </table>		SCALE	NONE	SCALE	NONE		
REV	DATE	DWR	CHKD	APVE															
A	21-06-16	FDS																	
SCALE	NONE																		
SCALE	NONE																		
GENERAL ARRANGEMENT		SHEET 1 OF 1		A															



# Sliding Stem Valve Specification

Customer: <b>UOP RUSSELL LLC</b>	Vinson Process Controls	
Contact: <b>JAKE GASKINS</b>	Contact: <b>Ron Berte</b>	
Customer Reference: <b>JOB 488 SC6 RSV PLANT</b>	Sales Office Reference:	Lead Time: <b>19 WKS</b>
Item: <b>12</b>	Rev:                      Qty: <b>1</b>	Quote: <b>027D-RCB-171013-0211425</b>
Tags: <b>FCV-402A</b>	Date Last Modified: <b>10/13/2017</b>	Rev: <b>A</b>
Description: <b>NPS 1 1/2 ET 667 Size 34i DVC6200 ASCO Factory Mtgs DVC6200/DVC2000</b>		
Price Each:	Total Price:	
Service Description:		

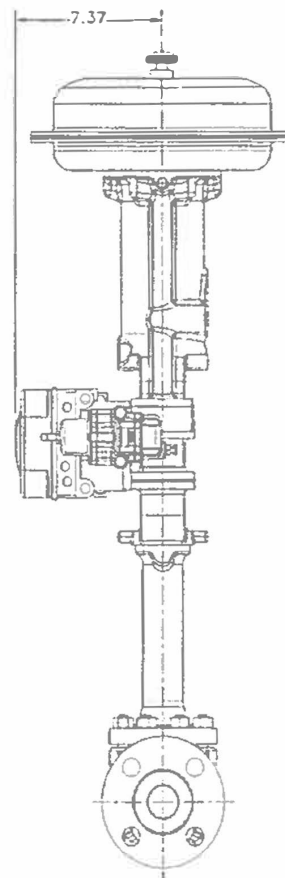
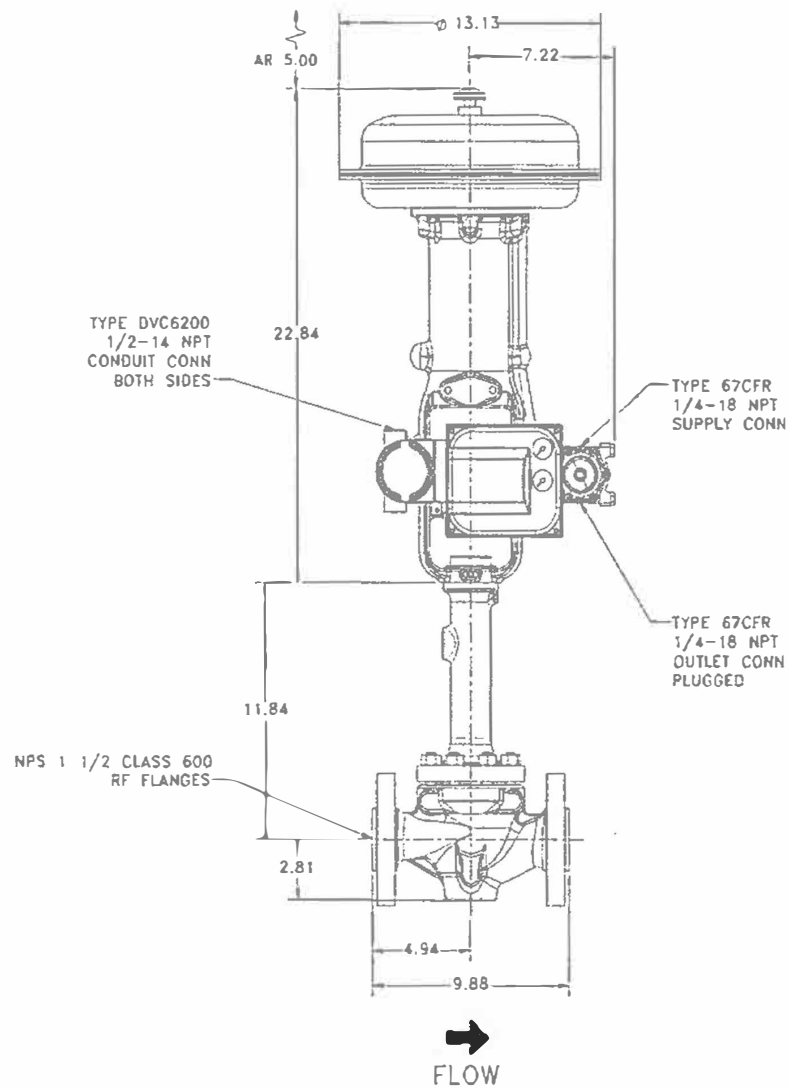
Service: Size and Type: <b>NPS 1 1/2 ET</b> Body Style: <b>Globe</b> Design Temp: <b>-59 TO +150 F</b> Design Press: <b>1100 psig</b> End Connect/In/Out: <b>CL600/RF Flg/RF Flg</b> Material: <b>CF8M SST</b> Ports: <b>1</b> Flow Direction: <b>Down</b> Trim Number: <b>27</b> Cage Matl: <b>S31600 SST/ENC</b> Retainer Matl: Bushing Matl: Seat Ring Matl: <b>CoCr-A Seat</b> VALVE PLUG Material: <b>S31600 SST/CoCr-A Seat/Guide</b> Guiding: <b>Cage</b> Balance: <b>Balanced</b> Shutoff Class: <b>ANSI CL IV</b> Port Size: <b>1 7/8 Inch</b> Characteristic: <b>Equal Percent</b> Stem Material: <b>S31600 SST</b> Stem Size: <b>3/8 Inch</b> Bonnet Style: <b>Style 2 Extension</b> Boss Size: <b>2 1/8</b> Packing: <b>Single PTFE</b> Access: <b>No</b> Bolt, Bonnet: <b>SA-193-B8M Str Hd Studs/8M Nuts</b> PackFlg/Bltg: <b>SST Pkg Flg, SST Studs &amp; Nuts</b> Actuator: <b>Spring &amp; Diaphragm</b> Type/Size: <b>667/34i</b> Travel: <b>3/4 Inch</b> Bench Set: <b>10-30 psi</b> Push Down To: <b>PDTC</b> Supply: <b>Air</b> To Actuator: <b>0 to 33 psig</b> Fails Valve: <b>Close</b> Handwheel: <b>None</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b> Input Signal: <b>4 to 20 mA dc</b> Access: <b>67CFR Filter/Regulator</b> Gauges: <b>0-60 psig/0-4 bar</b> Action: <b>Direct</b> Certification: <b>FM,Explosion Proof/Intrinsic Safe/Nonincendive</b> Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting: Transducer: Input Signal: Output Signal: Action: Mounting: Airset: Certifications: Line In: <b>2 in, SCH XS</b> Line Out: <b>2 in, SCH XS</b> Insulation: Service Cond: <b>THROTTLING</b> Process Fluid: <b>HC LIQ</b> Critical Pressure: <b>1095.000 psia</b> Shutoff Drop: <b>909 psi</b> Max Rated Cv: <b>35.8</b>
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Variable Name	Unit	Minimum	Normal	Maximum	
Mass Flow Rate Liquid (wl)	lb/h	3351.000	8377.000	9855.000	
Inlet Pressure (P1)	psig	909.000	909.000	909.000	
Pressure Change (dP)	psi	5.000	5.000	5.000	
Inlet Temperature (T1)	deg F	-83.000	-83.000	-83.000	
SG		0.420	0.420	0.420	
Dynamic Viscosity (Mu)	cP	0.073	0.073	0.073	
Vapor Pressure (Pv)	psia	15.000	15.000	15.000	
Sizing Coefficient (Cv)		4.626	11.598	13.664	
% Open		35	61	64	
Valve Lpa (LpAe1m)	dB(A)	< 50	< 50	< 50	

NOTES:  
 1. SST TUBING & FITTINGS  
 2. INCLUDED ASCO MODEL EF8320G200 24VDC SOL VVE DE-ENG TO VENT.  
 3. SPRING LOADED SEAL RING

FEATURES PICTORIALY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 Inch  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Int'l. LLC 2016	
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 0270-RCB-161121-0190534 TAG NO.: FCV-402A PROJECT NAME:			ET VALVE BODY SIZE 1 1/2 667 ACTUATOR SIZE 341		
TOTAL CALCULATED WT +/- 10% TOTAL WEIGHT: 117.3 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0013		S.N.O.
GENERAL ARRANGEMENT			SCALE: NONE		REV
EMERSON Fisher Controls International			SHEET 1 OF 1		A



# Sliding Stem Valve Specification

Customer: **UOP RUSSELL LLC** Vinson Process Controls  
 Contact: **JAKE GASKINS** Contact: **Ron Berte**  
 Customer Reference: **JOB 488 SC6 RSV PLANT** Sales Office Reference:  
 Item: **8** Rev: Qty: **1** Quote: **027D-RCB-171013-0211425** Lead Time: **14 WKS**  
 Tags: **FCV-501** Date Last Modified: **10/13/2017** Rev: **A**  
 Description: **NPS 2 EZ-C 667 Size 45i DVC6200 ASCO Factory Mtgs DVC6200/DVC2000**  
 Price Each: Total Price:  
 Service Description:

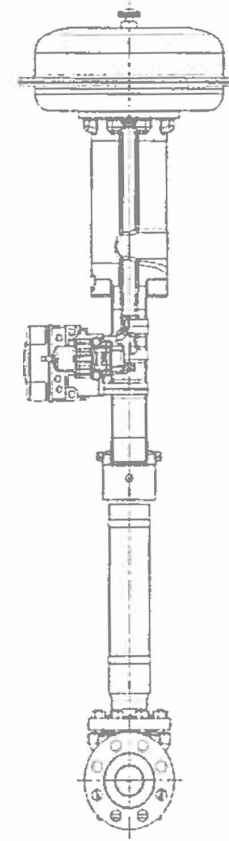
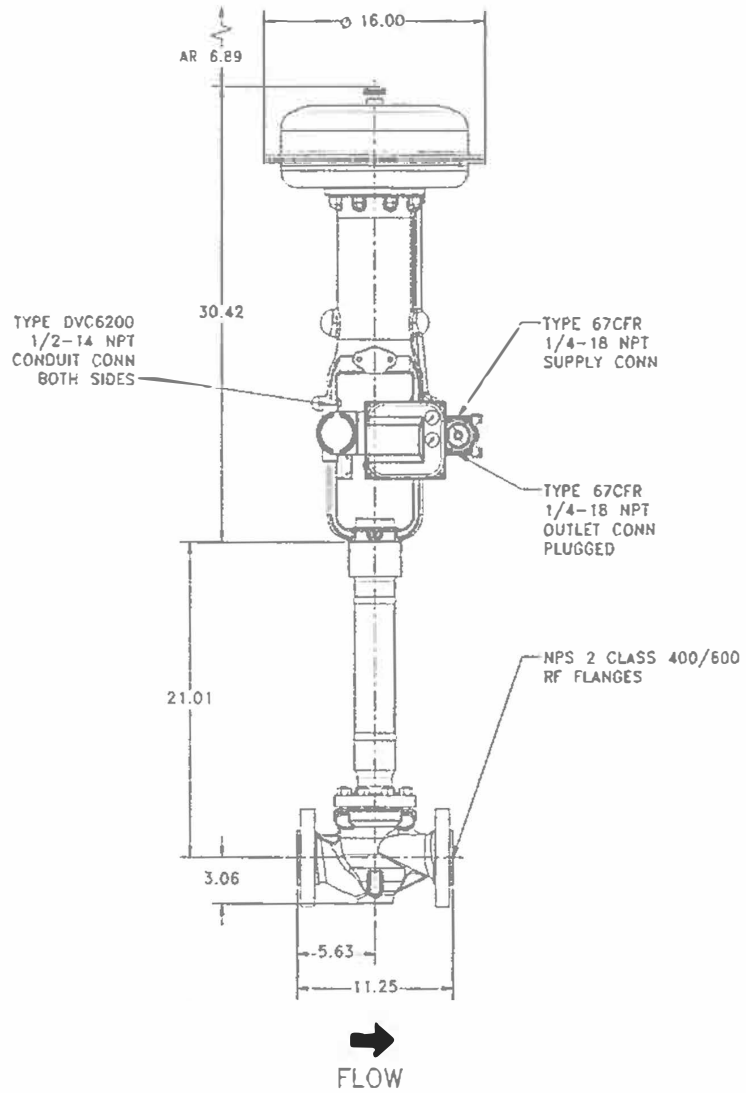
Service:	Positioner Type:	<b>DVC6200,HART Communicating-HC</b>
Size and Type: <b>NPS 2 EZ-C</b>	Input Signal:	<b>4 to 20 mA dc</b>
Body Style: <b>Globe</b>	Access:	<b>67CFR Filter/Regulator</b>
Design Temp: <b>-132 TO +150 F</b>	Gauges:	<b>0-60 psig/0-4 bar</b>
Design Press: <b>1100 psig</b>	Action:	<b>Direct</b>
End Connect/In/Out: <b>CL600/RF Fig/RF Fig</b>	Certification:	<b>FM,Explosion Proof/Intrinsic Safe/Nonincendive</b>
Material: <b>CF8M SST</b>	Controller Type:	
Ports: <b>1</b>	Action:	
Flow Direction: <b>Up</b>	Measure Element:	
Trim Number: <b>327</b>	Range:	
Cage Matl:	Output:	
Retainer Matl: <b>CF8M SST</b>	Mounting:	
Bushing Matl: <b>R30006 Cobalt Alloy</b>	Airset:	
Seat Ring Matl: <b>S31600 SST</b>	Mounting:	
VALVE PLUG	Transducer:	
Material: <b>S31600 SST/CoCr-A Seat/Guide</b>	Input Signal:	
Guiding: <b>Post</b>	Output Signal:	
Balance: <b>Unbalanced</b>	Action:	
Shutoff Class: <b>ANSI CL IV</b>	Mounting:	
Port Size: <b>1 Inch</b>	Airset:	
Characteristic: <b>Equal Percentage</b>	Certifications:	
Stem Material: <b>S20910 SST</b>	Line In:	<b>4 in, SCH 40S</b>
Stem Size: <b>1/2 Inch</b>	Line Out:	<b>4 in, SCH 40S</b>
Bonnet Style: <b>Style 3 Fabricated Extension</b>	Insulation:	
Boss Size: <b>2 13/16</b>	Service Cond: <b>THROTTLING</b>	
Packing: <b>Single PTFE</b>	Process Fluid: <b>HC LIQ</b>	
Access:	Critical Pressure: <b>1095.000 psia</b>	
Bolt, Bonnet: <b>SA-193-B8M Str Hd Studs/8M Nuts</b>	Shutoff Drop: <b>904 psi</b>	
PackFlg/Bltg: <b>SST Pkg Flg, SST Studs &amp; Nuts</b>		
Actuator: <b>Spring &amp; Diaphragm</b>		
Type/Size: <b>667/45i</b>		
Travel: <b>3/4 Inch</b>		
Bench Set: <b>14-30 psi</b>		
Push Down To: <b>PDTC</b>		
Supply: <b>Air</b>		
To Actuator: <b>0 to 33 psig</b>		
Fails Valve: <b>Close</b>		
Handwheel: <b>None</b>		
	Max Rated Cv:	<b>15.9</b>

Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Liquid (wl)	lb/h	10986.000	27466.000	30518.000
Inlet Pressure (P1)	psig	904.000	904.000	904.000
Pressure Change (dP)	psi	704.000	704.000	704.000
Inlet Temperature (T1)	deg F	-83.000	-83.000	-83.000
SG		0.360	0.360	0.360
Dynamic Viscosity (Mu)	cP	0.052	0.052	0.052
Vapor Pressure (Pv)	psia	545.000	545.000	545.000
Sizing Coefficient (Cv)		1.774	4.438	4.932
% Open		25	53	56
Valve Lpa (LpAe1m)	dB(A)	< 85	< 85	< 85

NOTES:  
 1. SST TUBING & FITTINGS  
 2. INCLUDED ASCO MODEL EF8320G200 24VDC SOL VVE DE-ENG TO VENT.

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 Inch  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Int'l. LLC 2018	
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 027D-RCB-161121-0190534 TAG NO.: FCV-501 PROJECT NAME:			EZ-C VALVE BODY SIZE 2 667 ACTUATOR SIZE 451		
TOTAL CALCULATED WT +/- 10% TOTAL WEIGHT: 195.2 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0002		S.NO.
GENERAL ARRANGEMENT			SCALE: NONE		REV
			EMERSON FISHER CONTROLS		A
			SHEET 1 OF 1		



# Sliding Stem Valve Specification

Customer: **UOP RUSSELL LLC**

Contact: **Dennis Paden**

Customer Reference:

**UOP RUSSELL, SC6**

Vinson Process Controls

Contact: **Ron Berte**

Sales Office Reference: **VVES**

Lead Time **14 WKS**

**STD PLANT**

Item **12**

Rev:

Qty: **1**

Rev: **A**

Tags **LCV-402**

Date Last Modified: **11/08/2016**

Description **NPS 2 EZ 667 Size 46I DVC6200 ASCO**

## Service Description:

Service: Size and Type: <b>NPS 2 EZ</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b> Input Signal: <b>4 to 20 mA dc</b>
Body Style: <b>Globe</b> Design Temp: <b>-69 TO +150 F</b> Design Press: <b>1100 psig</b>	Access: <b>67CFR Filter/Regulator</b> Gauges: <b>0-60 psig/0-4 bar</b> Action: <b>Direct</b> Certification: <b>FM,Explosion Proof/Intrinsic Safe/Nonincendive</b>
End Connect/In/Out: <b>CL600/RF Flg/RF Flg</b>	Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting:
Material: <b>CF8M SST</b> Ports: <b>1</b> Flow Direction: <b>Up</b>	Transducer: Input Signal: Output Signal: Action: Mounting: Airset: Certifications:
Trim Number: <b>127</b> Cage Matl: Retainer Matl: <b>CF8M SST</b> Bushing Matl: <b>R30006 Cobalt Alloy</b> Seat Ring Matl: <b>S31600 SST/CoCr-A Seat</b>	Line In: <b>4 in, SCH XS</b> Line Out: <b>4 in, SCH XS</b> Insulation: Service Cond: <b>THROTTLING</b> Process Fluid: <b>HC LIQ</b>
<b>VALVE PLUG</b> Material: <b>S31600 SST/CoCr-A Seat/Guide</b> Guiding: <b>Post</b> Balance: <b>Unbalanced</b> Shutoff Class: <b>ANSI CL IV</b> Port Size: <b>1 Inch</b> Characteristic: <b>Equal Percent</b> Stem Material: <b>S31600 SST</b> Stem Size: <b>1/2 Inch</b>	Max Rated Cv: <b>15.9</b>
Bonnet Style: <b>Style 2 Extension</b> Boss Size: <b>2 13/16</b> Packing: <b>Single PTFE</b> Access: <b>No</b> Bolt, Bonnet: <b>SA-193-B8M Str Hd Studs/8M Nuts</b> PackFig/Bltg: <b>SST Pkg Fig, SST Studs &amp; Nuts</b>	
Actuator: <b>Spring &amp; Diaphragm</b> Type/Size: <b>667/46I</b> Travel: <b>3/4 Inch</b> Bench Set: <b>14-30 psi</b> Push Down To: <b>PDTC</b> Supply: <b>Air</b> To Actuator: <b>0 to 33 psig</b> Falls Valve: <b>Close</b> Handwheel: <b>None</b>	

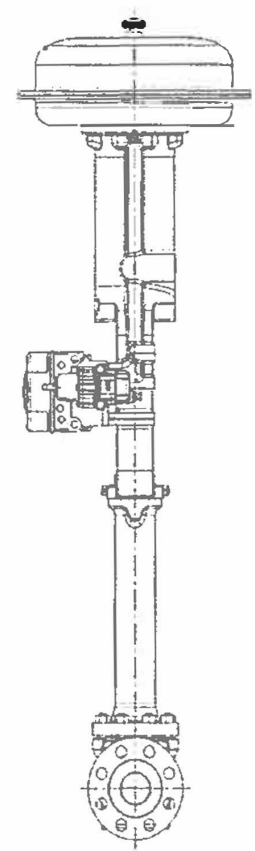
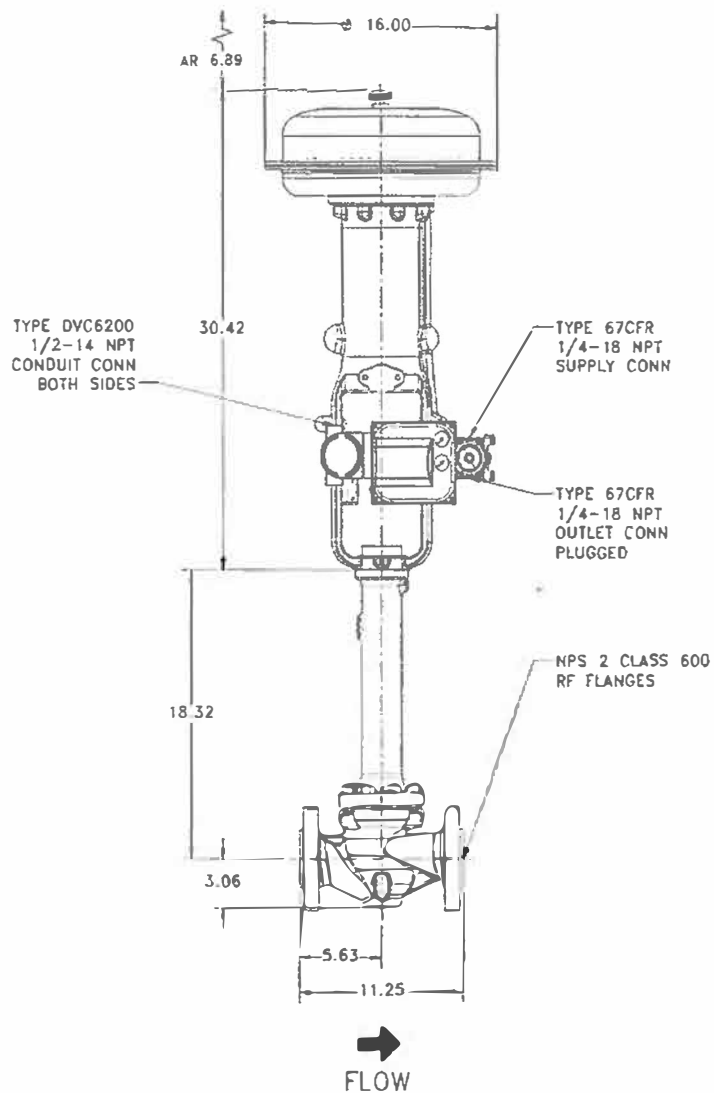
Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Liquid (wl)	lb/h	22338.000	55845.000	62050.000
Inlet Pressure (P1)	psig	909.000	909.000	909.000
Pressure Change (dP)	psi	694.000	694.000	694.000
Inlet Temperature (T1)	deg F	-83.000	-83.000	-83.000
SG		0.420	0.420	0.420
Dynamic Viscosity (Mu)	cP	0.073	0.073	0.073
Sizing Coefficient (Cv)		2.616	6.547	7.277
% Open		38	64	67

## NOTES:

1. SST TUBING & FITTINGS
2. INCLUDED ASCO MODEL EF8320G200 24VDC SOL VVE DE-ENG TO VENT.

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 Inch  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Int. LLC 2016												
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 027D-RCB-161121-0190534 TAG NO.: LCV-402 PROJECT NAME:			EZ VALVE BODY SIZE 2 667 ACTUATOR SIZE 451													
CUST ITEM: 0012			S.H.O.													
TOTAL CALCULATED Wt +/- 10% TOTAL WEIGHT: 198 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>ISSN</th> <th>CHKD</th> <th>APPR</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>21-MAR-16</td> <td>FDS</td> <td></td> <td></td> </tr> </tbody> </table>		REV	DATE	ISSN	CHKD	APPR	A	21-MAR-16	FDS			SCALE: NONE DWG NO BEV <b>EMERSON</b> Process Management SHEET 1 OF 1	
REV	DATE	ISSN	CHKD	APPR												
A	21-MAR-16	FDS														
GENERAL ARRANGEMENT			A													

**FISHER**

# Sliding Stem Valve Specification

Customer: **UOP RUSSELL LLC**      Vinson Process Controls  
 Contact: **Dumris Paden**      Contact: **Ron Berte**  
 Customer Reference: **UOP RUSSELL, SC6**      Sales Office Reference: **VVES**      Lead Time: **12 WKS**  
**STD PLANT**  
 Item **14**      Rev      Qty **1**      Date Last Modified: **11/08/2016**      Rev: **A**  
 Tags **LCV-404**  
 Description **NPS 2 HPS 667 Size 45I DVC6200 ASCO**  
 Service Description:

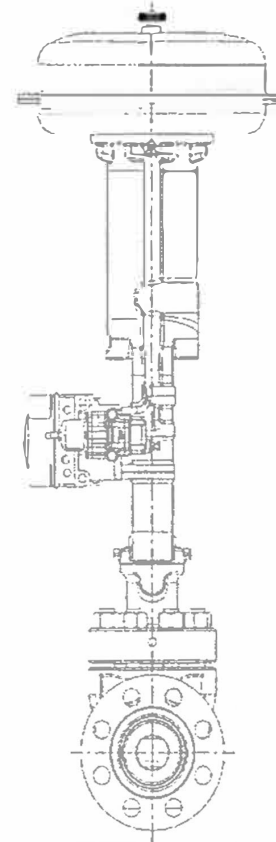
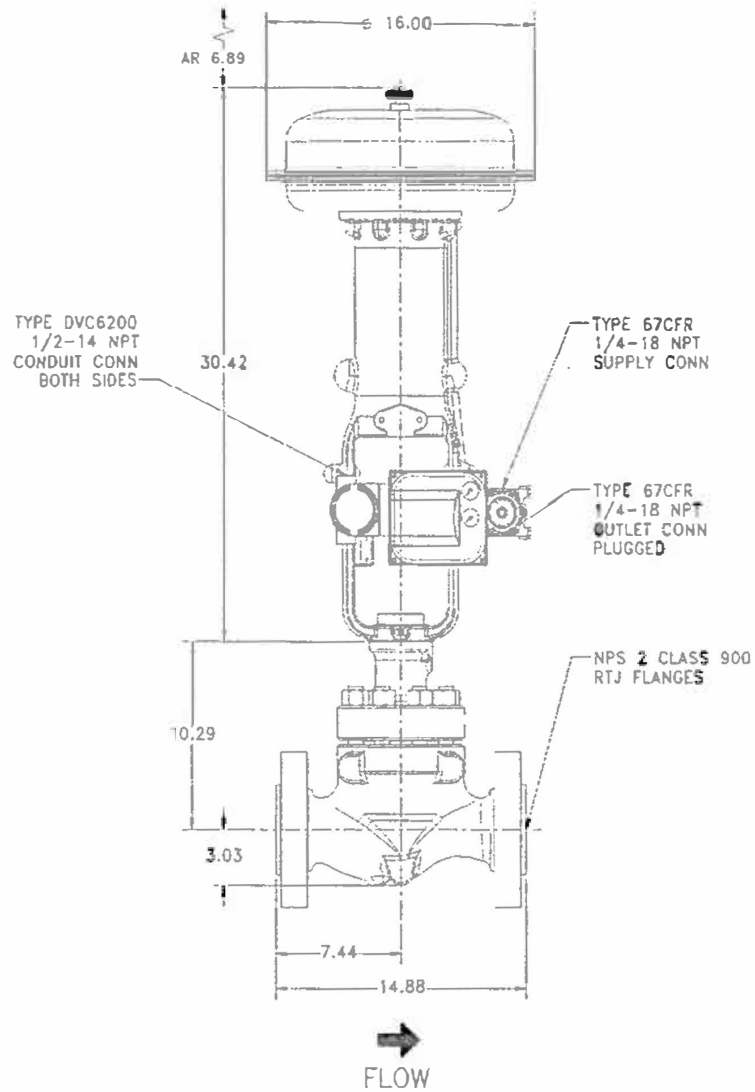
Service: Size and Type: <b>NPS 2 HPS</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b> Input Signal: <b>4 to 20 mA dc</b> Access: <b>67CFR Filter/Regulator</b> Gauges: <b>0-60 psig/0-4 bar</b> Action: <b>Direct</b> Certification: <b>FM,Explosion Proof/Intrinsic Safe/Nonincendive</b>
Body Style: <b>Globe</b> Design Temp: <b>200 F</b> Design Press: <b>1440 psig</b> End Connect/In/Out: <b>2 CL900/CL1500/RTJ Flg/RTJ Flg</b>	Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting:
Material: <b>WCC Steel</b> Ports: <b>1</b> Flow Direction: <b>Up</b>	Transducer: Input Signal: Output Signal: Action: Mounting: Airset: Certifications:
Trim Number: <b>201A</b> Cage Matl: <b>S17400 SST</b> Retainer Matl: Bushing Matl: Seat Ring Matl: <b>S41600 SST</b> <b>VALVE PLUG</b> Material: <b>S41600 SST</b> Guiding: <b>Cage</b> Balance: <b>Unbalanced</b> Shutoff Class: <b>ANSI CL IV</b> Port Size: <b>3/4 Inch</b> Characteristic: <b>Micro Form (Eq Pct)</b> Stem Material: <b>S20910 SST</b> Stem Size: <b>1/2 Inch</b>	Line In: <b>3 in, SCH XS</b> Line Out: <b>3 in, SCH XS</b> Insulation: Service Cond: <b>THROTTLING</b> Process Fluid: <b>HC LIQ</b>
Bonnet Style: <b>Plain</b> Boss Size: <b>2 13/16</b> Packing: <b>Single PTFE</b> Access: Bolt, Bonnet: <b>SA-193-B7 Studs/2H Nuts</b> PackFlg/Bltg: <b>SST Pkg Flg, SST Studs &amp; Nuts</b>	
Actuator: <b>Spring &amp; Diaphragm</b> Type/Size: <b>667/45i</b> Travel: <b>3/4 Inch</b> Bench Set: <b>10-30 psi</b> Push Down To: <b>PDTC</b> Supply: <b>Air</b> To Actuator: <b>0 to 33 psig</b> Fails Valve: <b>Close</b> Handwheel: <b>None</b>	
Max Rated Cv: <b>11.9</b>	

Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Liquid (wl)	lb/h	11478.000	28696.000	33760.000
Inlet Pressure (P1)	psig	645.000	645.000	645.000
Pressure Change (dP)	psi	325.000	325.000	325.000
SG		0.460	0.460	0.460
Dynamic Viscosity (Mu)	cP	0.079	0.079	0.079
Sizing Coefficient (Cv)		1.877	4.693	5.522
% Open		46	71	74

NOTES:  
 1. SST TUBING & FITTINGS  
 2. INCLUDED ASCO MODEL EF8320G200 24VDC SOL VVE  
 DE-ENG TO VENT.

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 Inch  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER	Fisher Controls Inc. 2016
CUST: UOP RUSSELL LLC		HPS VALVE BODY SIZE 2 667 ACTUATOR SIZE 451	
CUST REF NO.: JOB 445, UOP RUSSELL, SC6 STD PLANT			
FISHER REF NO.: 0270-RCB-160811-0184180			
TAG NO.: LCV-404			
PROJECT NAME:			
		CUST ITEM: D014	S.N.D.:
TOTAL CALCULATED Wt +/- 10%		REV	SCALE: NONE
TOTAL WEIGHT: 272.8 lb		4	12-Aug-16
UNLESS OTHERWISE SPECIFIED		DES	DES
UNIT OF MEASURE: INCH		EMERSON Process Management	
GENERAL ARRANGEMENT		SHEET 1 OF 1	

**FISHER****Sliding Stem Valve Specification**Customer: **UOP RUSSELL LLC**

Vinson Process Controls

Contact: **Dennis Paden**Contact: **Ron Berte**

Customer Reference

**UOP RUSSELL, SC6**Sales Office Reference: **VVES**Lead Time: **10 WKS****STD PLANT**Item: **1**

Rev:

Qty: **1**Rev: **A**Tags: **LCV-441A**Date Last Modified: **11/08/2016**Description: **NPS 1 D4 846**

Service Description:

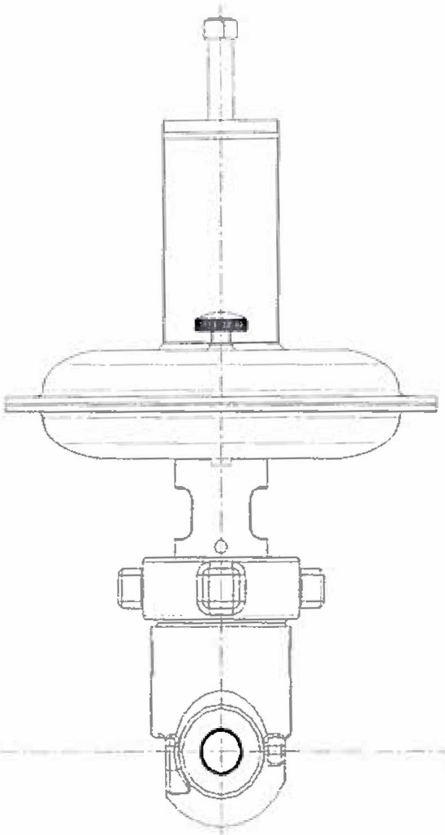
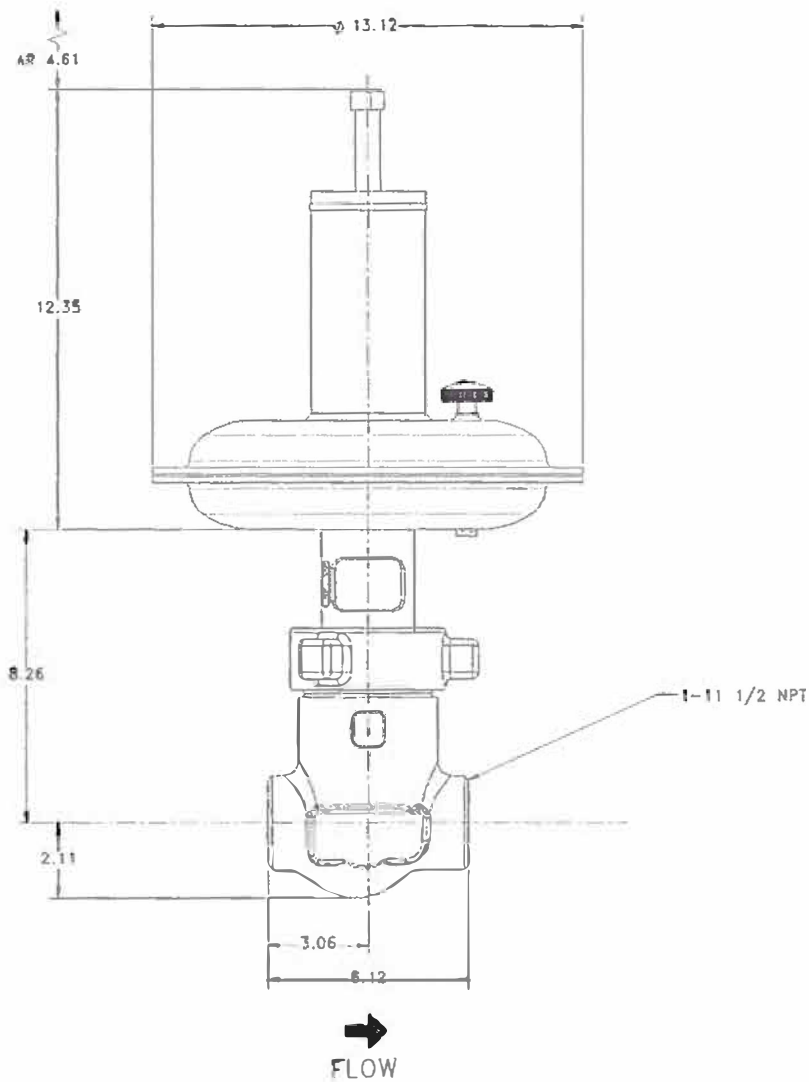
Service:		Positioner Type:	
Size and Type:	<b>NPS 1 D4</b>	Input Signal:	
Body Style:	<b>Globe</b>	Access:	<b>None</b>
Design Temp:	<b>150 F</b>	Gauges:	
Design Press:	<b>1100 psig</b>	Action:	
End Connect/In/Out:	<b>4250 psi @ 100 Deg F/NPT/NPT</b>	Certification:	
Material:	<b>LCC Steel 20B101</b>	Controller Type:	
Ports:	<b>1</b>	Action:	
Flow Direction:	<b>Up</b>	Measure Element:	
Trim Number:	<b>S17400 SST H1150 Tungsten Carbide</b>	Range:	
Cage Mat:		Output:	
Retainer Mat:		Mounting:	
Bushing Mat:		Airset:	
Seat Ring Mat:	<b>S17400 SST DBL H1150/ST Carbide</b>	Mounting:	
VALVE PLUG		Transducer:	<b>846</b>
Material:	<b>S17400 SST DBL H1150/ST Carbide</b>	Input Signal:	<b>4 to 20 mA dc</b>
Guiding:	<b>Post</b>	Output Signal:	<b>0.5 to 33 psig</b>
Balance:		Action:	<b>Direct</b>
Shutoff Class:	<b>ANSI CL IV</b>	Mounting:	<b>Casing</b>
Port Size:	<b>1/4 inch</b>	Airset:	<b>67CFR Filter/Regulator</b>
Characteristic:	<b>Micro-Form (Eq Pct)</b>	Certifications:	<b>Exp. Proof/Intrinsically Safe/Non-Incendive/Dust Ignition, FM and CSA</b>
Stem Material:	<b>S20910 SST</b>	Line In:	<b>1 in, SCH 160</b>
Stem Size:		Line Out:	<b>1 in, SCH 160</b>
Bonnet Style:	<b>Standard</b>	Insulation:	
Boss Size:		Service Cond:	<b>ON-OFF</b>
Packing:	<b>Live Loaded PTFE</b>	Process Fluid:	<b>WASTE</b>
Access:			
Bolt, Bonnet:			
PackFlg/Bltg:			
Actuator:	<b>DIAPH</b>		
Type/Size:	<b>D4/40</b>		
Travel:	<b>3/4 inch</b>		
Bench Set:			
Push Down To:	<b>PDTC</b>		
Supply:	<b>AIR</b>		
To Actuator:	<b>0-30, 0-33, 0-35, 0-50 or 6-30 psig</b>		
Fails Valve:	<b>CLOSED</b>		
Handwheel:	<b>None</b>		
		Max Rated Cv:	<b>1.76</b>

Variable Name	Unit	Minimum	Normal	Maximum
Volumetric Flow Rate Liquid (Ql)	<b>gpm(US)</b>	<b>2.000</b>	<b>5.000</b>	<b>10.000</b>
Inlet Pressure (P1)	<b>psig</b>	<b>900.000</b>	<b>900.000</b>	<b>900.000</b>
Pressure Change (dP)	<b>psi</b>	<b>880.000</b>	<b>880.000</b>	<b>880.000</b>
SG		<b>0.990</b>	<b>0.990</b>	<b>0.990</b>
Dynamic Viscosity (Mu)	<b>cP</b>	<b>0.530</b>	<b>0.530</b>	<b>0.530</b>
Sizing Coefficient (Cv)		<b>0.069</b>	<b>0.172</b>	<b>0.345</b>
% Open		<b>5</b>	<b>31</b>	<b>52</b>

**NOTES:****1. SST TUBING & FITTINGS**

FEATURES PICTORIALY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 INCH  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER	© Fisher Controls Inc. LLC 2018										
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 0270-RCB-161121-0190534 TAG NO.: LCV-441A PROJECT NAME:		D4 VALVE BODY SIZE 1 ACTUATOR SIZE 40											
		CUST ITEM: 0001	S.NO.:										
TOTAL CALCULATED WT +/- 10% TOTAL WEIGHT: 66.7 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH		<table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>CHKD</th> <th>APPV</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>21-Nov-18</td> <td>195</td> <td></td> <td></td> </tr> </tbody> </table>	REV	DATE	BY	CHKD	APPV	A	21-Nov-18	195			SCALE: NONE
REV	DATE	BY	CHKD	APPV									
A	21-Nov-18	195											
GENERAL ARRANGEMENT		 SHEET 1 OF 1											



# Sliding Stem Valve Specification

Customer: UOP RUSSELL LLC  
 Contact: Dennis Paden  
 Customer Reference: UOP RUSSELL, SC6  
 Item: 2 Rev Qty: 1  
 Tags: LCV-441B  
 Description: NPS 1 D4 846

Vinson Process Controls  
 Contact: Ron Berte  
 Sales Office Reference: VVES  
 Date Last Modified: 11/08/2016

Lead Time: 10 WKS  
 Rev: A

### Service Description:

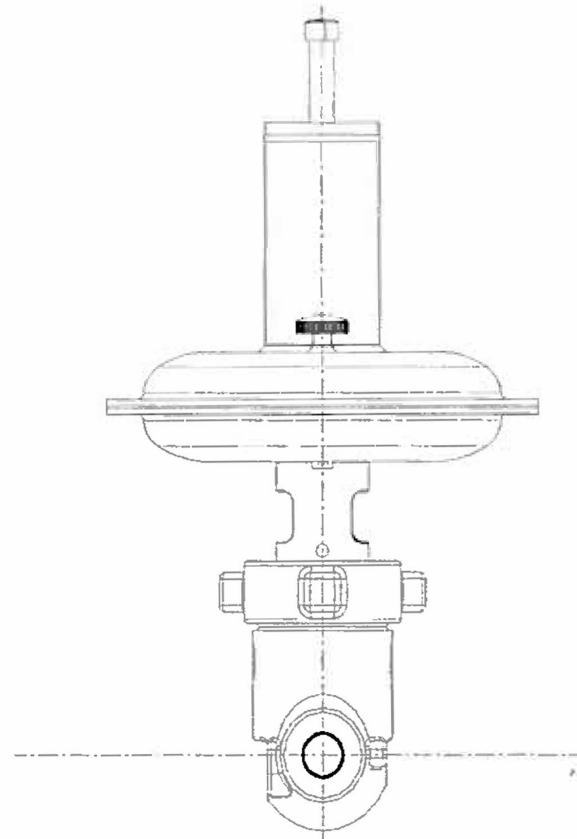
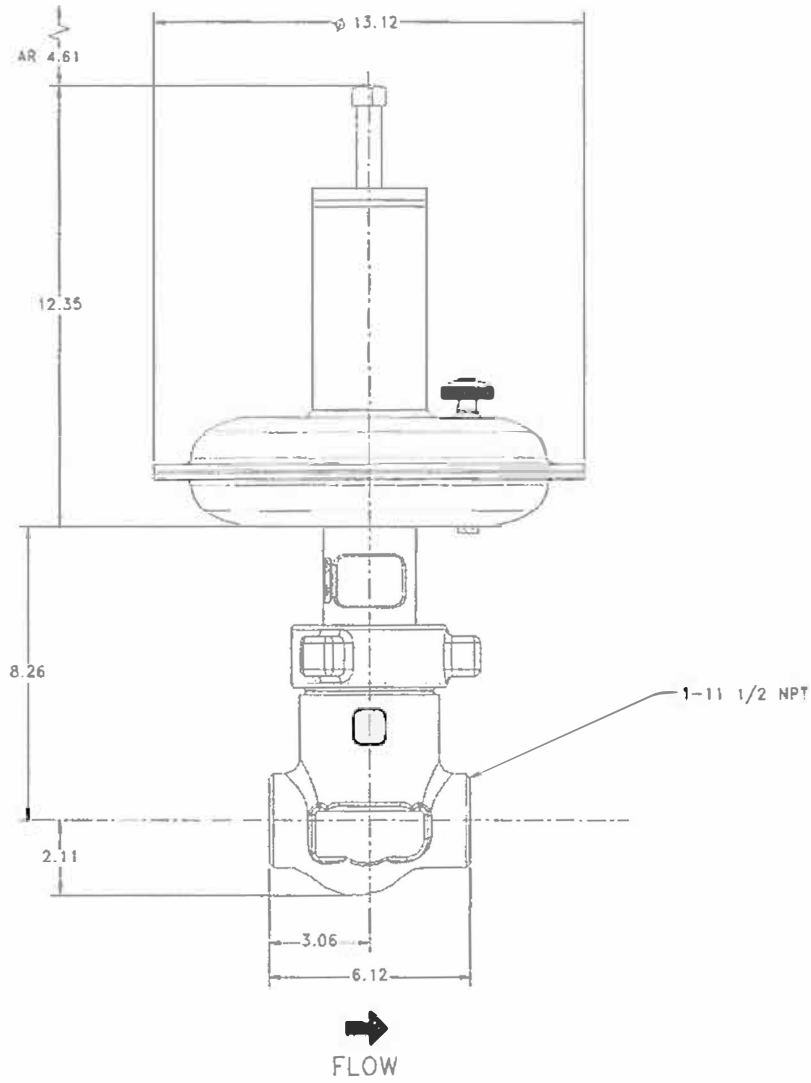
Service		Positioner Type:	
Size and Type:	NPS 1 D4	Input Signal:	
Body Style:	Globe	Access:	None
Design Temp:	150 F	Gauges:	
Design Press:	1100 psig	Action:	
End Connect/In/Out:	4250 psi @ 100 Deg F/NPT/NPT	Certification:	
Material:	LCC Steel 20B101	Controller Type:	
Ports:	1	Action:	
Flow Direction:	Up	Measure Element:	
Trim Number:	S17400 SST H1150 Tungsten Carbide	Range:	
Cage Matl:		Output:	
Retainer Matl:		Mounting:	
Bushing Matl:		Airset:	
Seat Ring Matl:	S17400 SST DBL H1150/ST Carbide	Mounting:	
VALVE PLUG		Transducer:	846
Material:	S17400 SST DBL H1150/ST Carbide	Input Signal:	4 to 20 mA dc
Guiding:	Post	Output Signal:	0.6 to 33 psig
Balance:		Action:	Direct
Shutoff Class:	ANSI CL IV	Mounting:	Casing
Port Size:	1/4 inch	Airset:	67CFR Filter/Regulator
Characteristic:	Micro-Form (Eq Pct)	Certifications:	FM and CSA, Exp. Proof/Intrinsically Safe/Non-Incendive/Dust Ignition
Stem Material:	S20910 SST	Line In:	1 in, SCH 160
Stem Size:		Line Out:	1 in, SCH 160
Bonnet Style:	Standard	Insulation:	
Boss Size:		Service Cond:	ON-OFF
Packing:	Live Loaded PTFE	Process Fluid:	WASTE
Access:			
Bolt, Bonnet:			
PackFlg/Bitg:			
Actuator:	DIAPH		
Type/Size:	D4/40		
Travel:	3/4 inch		
Bench Set:			
Push Down To:	PDTC		
Supply:	AIR		
To Actuator:	0-30, 0-33, 0-35, 0-50 or 6-30 psig		
Falls Valve:	CLOSED		
Handwheel:	None		
		Max Rated Cv:	1.75

Variable Name	Unit	Minimum	Normal	Maximum
Volumetric Flow Rate Liquid (Ql)	gpm(US)	2.000	5.000	10.000
Inlet Pressure (P1)	psig	900.000	900.000	900.000
Pressure Change (dP)	psi	880.000	880.000	880.000
SG		0.990	0.990	0.990
Dynamic Viscosity (Mu)	cP	0.530	0.530	0.530
Sizing Coefficient (Cv)		0.069	0.172	0.345
% Open		5	31	52

NOTES:  
 1. SST TUBING & FITTINGS

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 INCH  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Int. LLC 2016	
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 0270-RCB-161121-0190534 TAG NO.: LCV-441B PROJECT NAME:			D4 VALVE BODY SIZE 1 ACTUATOR SIZE 40		
			CUST ITEM: 0002		S.N.O.
TOTAL CALCULATED Wt +/- 10% TOTAL WEIGHT: 66.7 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH		REV	DATE	SWR	CHK'D
		1	21-Nov-16	FGS	
GENERAL ARRANGEMENT		EMERSON Process Management		SCALE: NONE	REV
					A
				SHEET 1 OF 1	



# Sliding Stem Valve Specification

Customer: **UOP RUSSELL LLC**      Vinson Process Controls  
 Contact: **Dennis Paden**      Contact: **Ron Berte**  
 Customer Reference: **UOP RUSSELL, SC6**      Sales Office Reference: **VVES**      Lead Time: **10 WKS**  
**STD PLANT**  
 Item: 4      Rev:      Qty: 1      Rev. A  
 Tags: **LCV-447**      Date Last Modified: **11/08/2016**  
 Description: **NPS 1 D4 846**

### Service Description:

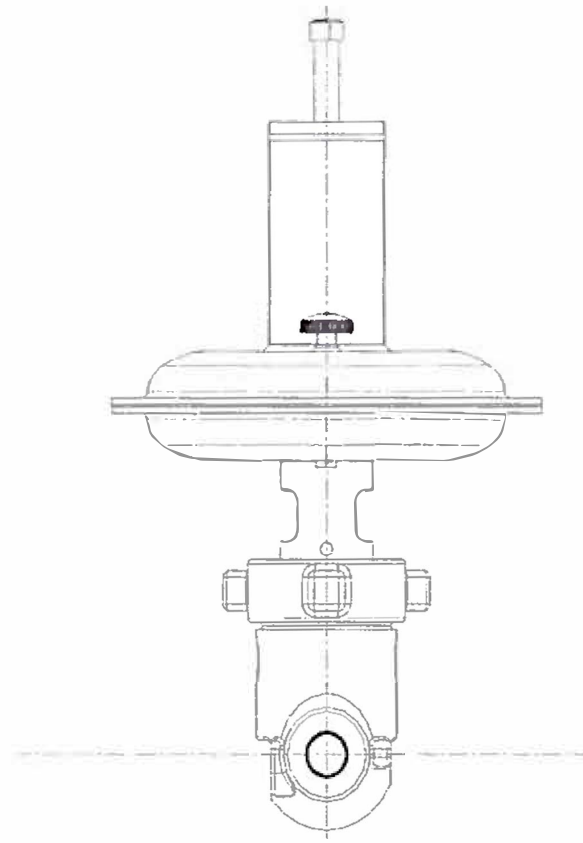
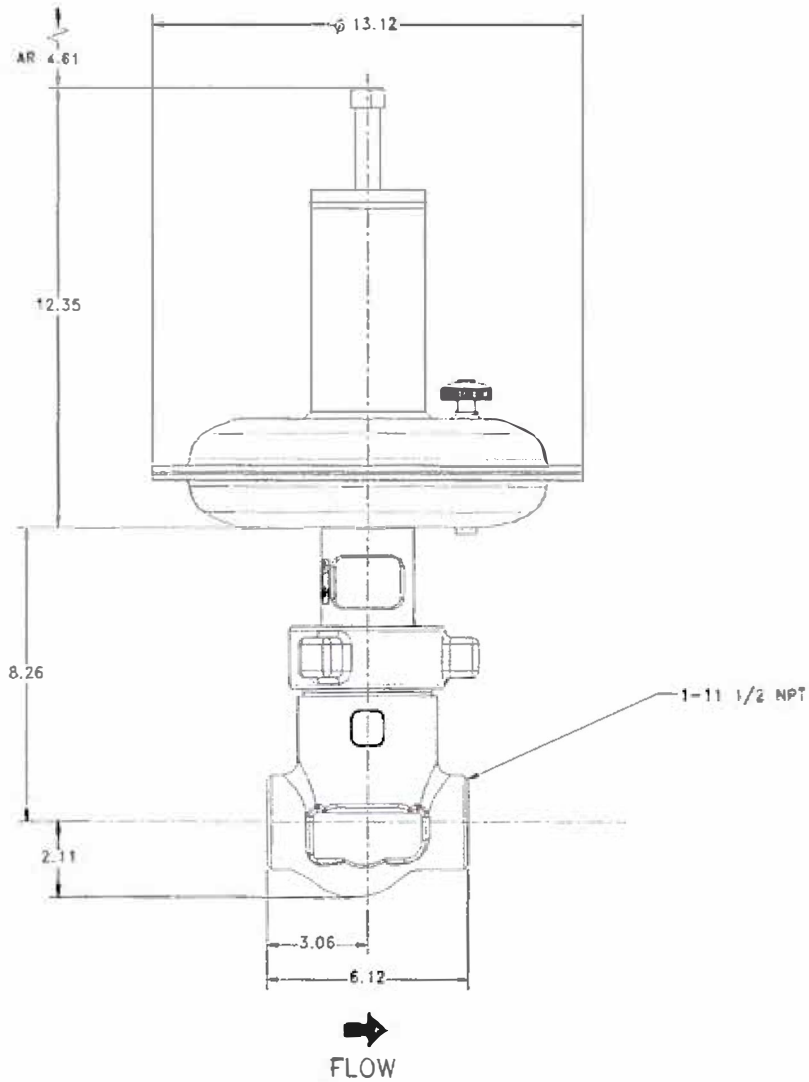
Service: Size and Type: <b>NPS 1 D4</b>	Positioner Type: Input Signal: Access: <b>None</b> Gauges Action: Certification:
Body Style: <b>Globe</b> Design Temp: <b>150 F</b> Design Press: <b>1100 psig</b> End Connect/In/Out: <b>4260 psi @ 100 Deg F/NPT/NPT</b> Material: <b>LCC Steel 20B101</b> Ports: <b>1</b> Flow Direction: <b>Up</b>	Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting:
Trim Number: <b>S17400 SST H1150 Tungsten Carbide</b> Cage Matl: Retainer Matl: Bushing Matl: Seat Ring Matl: <b>S17400 SST DBL H1150/ST Carbide</b> <b>VALVE PLUG</b> Material: <b>S17400 SST DBL H1150/ST Carbide</b> Guiding: <b>Post</b> Balance: Shutoff Class: <b>ANSI CL IV</b> Port Size: <b>1/4 Inch</b> Characteristic: <b>Micro-Form (Eq Pct)</b> Stem Material: <b>S20910 SST</b> Stem Size:	Transducer: <b>846</b> Input Signal: <b>4 to 20 mA dc</b> Output Signal: <b>0.5 to 33 psig</b> Action: <b>Direct</b> Mounting: <b>Casing</b> Airset: <b>67CFR Filter/Regulator</b> Certifications: <b>FM and CSA, Exp. Proof/Intrinsically Safe/Non-Incendive/Dust Ignition</b>
Bonnet Style: <b>Standard</b> Boss Size: Packing: <b>Live Loaded PTFE</b> Access: Bolt, Bonnet: PackFlg/Bltg:	Line In: <b>1 in, SCH 160</b> Line Out: <b>1 in, SCH 160</b> Insulation: Service Cond: <b>ON-OFF</b> Process Fluid: <b>WASTE</b>
Actuator: <b>DIAPH</b> Type/Size: <b>D4/40</b> Travel: <b>3/4 Inch</b> Bench Set: Push Down To: <b>PDTC</b> Supply: <b>AIR</b> To Actuator: <b>0-30, 0-33, 0-35, 0-50 or 6-30 psig</b> Fails Valve: <b>CLOSED</b> Handwheel: <b>None</b>	Max Rated Cv: <b>1.76</b>

Variable Name	Unit	Minimum	Normal	Maximum
Volumetric Flow Rate Liquid (Ql)	gpm(US)	2.000	6.000	10.000
Inlet Pressure (P1)	psig	900.000	900.000	900.000
Pressure Change (dP)	psi	880.000	880.000	880.000
SG		0.990	0.990	0.990
Dynamic Viscosity (Mu)	cP	0.530	0.530	0.530
Sizing Coefficient (Cv)		0.069	0.172	0.345
% Open		5	31	52

NOTES:  
 1. SST TUBING & FITTINGS

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 INCH  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Inc. LLC 2018	
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 0270-RCB-161121-0190534 JAG NO: LCV-447 PROJECT NAME:			D4 VALVE BODY SIZE 1 ACTUATOR SIZE 40		
TOTAL CALCULATED Wt +/- 10% TOTAL WEIGHT: 66.7 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0004		S.H.O.
REV	DATE	DRW	CHKD	APVE	SCALE: NONE
A	21-Nov-16	FES			0.00
GENERAL ARRANGEMENT					EMERSON www.emerson.com
					SHEET 1 OF 1

A



# Sliding Stem Valve Specification

Customer: **UOP RUSSELL LLC** Vision Process Controls  
 Contact: **Dennis Padon** Contact: **Ron Berte**  
 Customer Reference: **UOP RUSSELL, SC6** Sales Office Reference: **VVES** Lead Time: **20 WKS**  
**STD PLANT**  
 Item 10 Rev: Qty 1 Rev. A  
 Tags: **PCV-402B** Date Last Modified: **11/08/2016**  
 Description: **NPS 4 ET 667 Size 45i DVC6200 TopWorx Switches ASCO**

### Service Description:

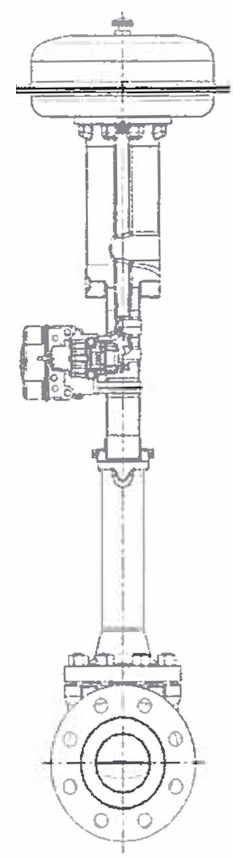
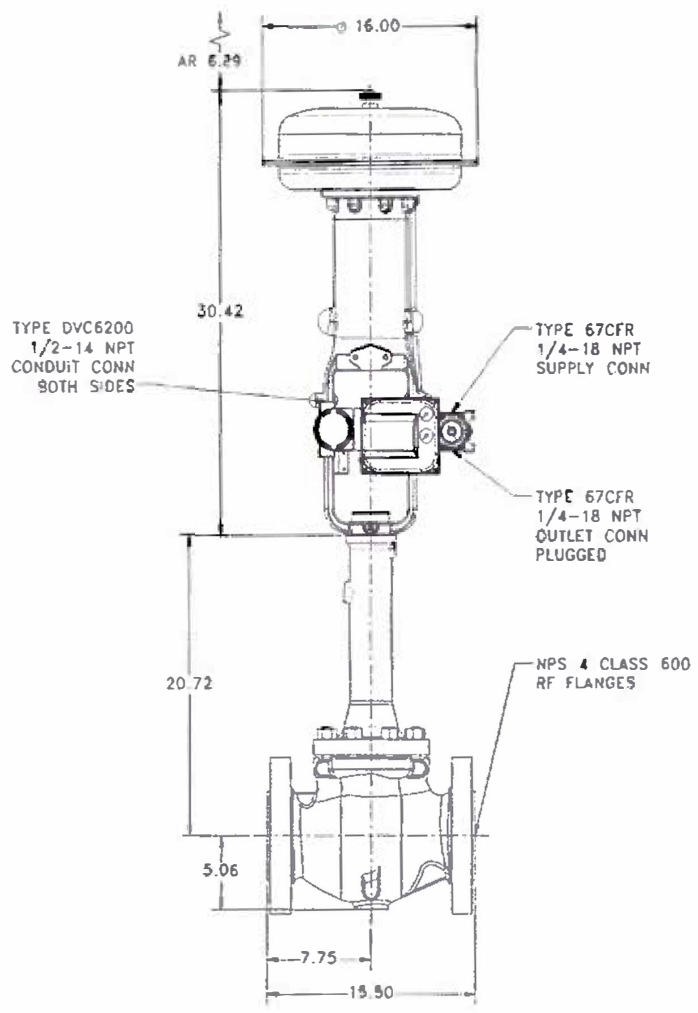
Service:		Positioner Type:	DVC6200,HART Communicating-HC
Size and Type:	NPS 4 ET	Input Signal:	4 to 20 mA dc
Body Style:	Globe	Access:	67CFR Filter/Regulator
Design Temp:	-67 TO +150F	Gauges:	0-60 psig/0-4 bar
Design Press:	1100 psig	Action:	Direct
End Connect/In/Out:	CL600/RF Flg/RF Flg	Certification:	FM,Explosion Proof/Intrinsic Safe/Nonincendive
Material:	CF8M SST	Controller Type:	
Ports:	1	Action:	
Flow Direction:	Up	Measure Element:	
Trim Number:	312G	Range:	
Cage Matl:	S31600 SST/ENC	Output:	
Retainer Matl:		Mounting:	
Bushing Matl:		Airset:	
Seat Ring Matl:	R30006 Cobalt Alloy	Mounting:	
VALVE PLUG		Transducer:	
Material:	S31600 SST/CoCr-A Seat/Guide	Input Signal:	
Guiding:	Cage	Output Signal:	
Balance:	Balanced	Action:	
Shutoff Class:	ANSI CL IV	Mounting:	
Port Size:	4 3/8 Inch	Airset:	
Characteristic:	Whisper III (Linear)	Certifications:	
Stem Material:	S20910 SST	Line In:	8 in, SCH 80
Stem Size:	1/2 Inch	Line Out:	8 in, SCH 80
Bonnet Style:	Style 2 Extension	Insulation:	
Boss Size:	2 13/16	Service Cond:	THROTTLING
Packing:	Single PTFE	Process Fluid:	HC VAPOR
Access:	No		
Bolt, Bonnet:	SA-193-B8M Str Hd Studs/8M Nuts		
PackFlg/Bltg:	SST Pkg Flg, SST Studs & Nuts		
Actuator:	Spring & Diaphragm		
Type/Size:	667/45i		
Travel:	2 Inch		
Bench Set:	11-31 psi		
Push Down To:	PDTC		
Supply:	Air		
To Actuator:	0 to 33 psig		
Fails Valve:	Close		
Handwheel:	None		
		Max Rated Cv:	57 CV

Variable Name	Unit	NEW MIN	NEW NORM	NEW MAX 1/2" TR	4
Mass Flow Rate Gas (w)	lb/h	34772.000	65200.000	112800.000	113964.819
Inlet Pressure (P1)	psig	909.000	909.000	909.000	909.000
Pressure Change (dP)	psi	709.000	709.000	709.000	709.000
Inlet Temperature (T1)	deg F	20.000	20.000	20.000	20.000
M / Gg	SG	0.700	0.700	0.700	0.700
Specific heats ratio (gamma)		1.280	1.280	1.280	1.280
Dynamic Viscosity (Mu)	cP	0.010	0.010	0.010	0.010
Sizing Coefficient (Cv)		17.326	32.619	56.417	57.000
% Open		74	89	99	100
Valve LpA(LpAValve1m)	dB(A)	81	86	91	91

NOTES:  
 1. SST TUBING & FITTINGS  
 2. INCLUDES TOPWORX DXP-MX1GN4B STEM POSITION TRANSMITTER & SWITCHES.  
 3. INCLUDES ASCO EF8320G200 24VDC SOL VVE JE-ENG TO VENT.  
 4. SPRING LOADED SEAL RING

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



→  
FLOW

FACE TO FACE TOLERANCE IS +/- 0.06 Inch  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		©Fisher Controls Int'l, LLC 2016	
CUST: UOP RUSSELL LLC CUST REF NO: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO: 027D-RCB-161121-0190534 TAG NO: PCV-402B PROJECT NAME:			ET VALVE BODY SIZE 4 667 ACTUATOR SIZE 451		
TOTAL CALCULATED WT +/- 10% TOTAL WEIGHT: 316.1 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0010		S.W.D.:
GENERAL ARRANGEMENT			SCALE: NONE		DATE: 10/13/16
EMERSON Process Management			SHEET # OF 1		A



# Sliding Stem Valve Specification

Customer: **UOP RUSSELL LLC** Vinson Process Controls  
 Contact: **Dennis Padon** Contact: **Ron Berte**  
 Customer Reference: **UOP RUSSELL, SC6** Sales Office Reference: **VVES** Lead Time: **10 WKS**  
**STD PLANT**  
 Item: **17** Rev: **Qty 1** Rev: **A**  
 Tags: **PCV-481A** Date Last Modified: **11/08/2016**  
 Description: **NPS 1 1/2 EZ 667 Size 34I DVC6200 ASCO**  
 Service Description:

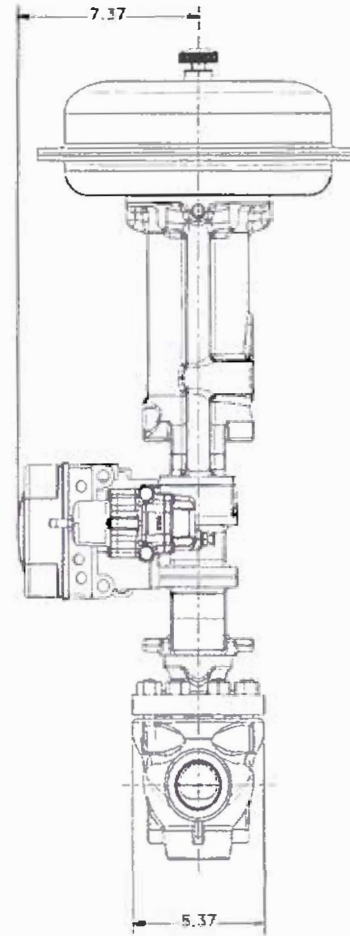
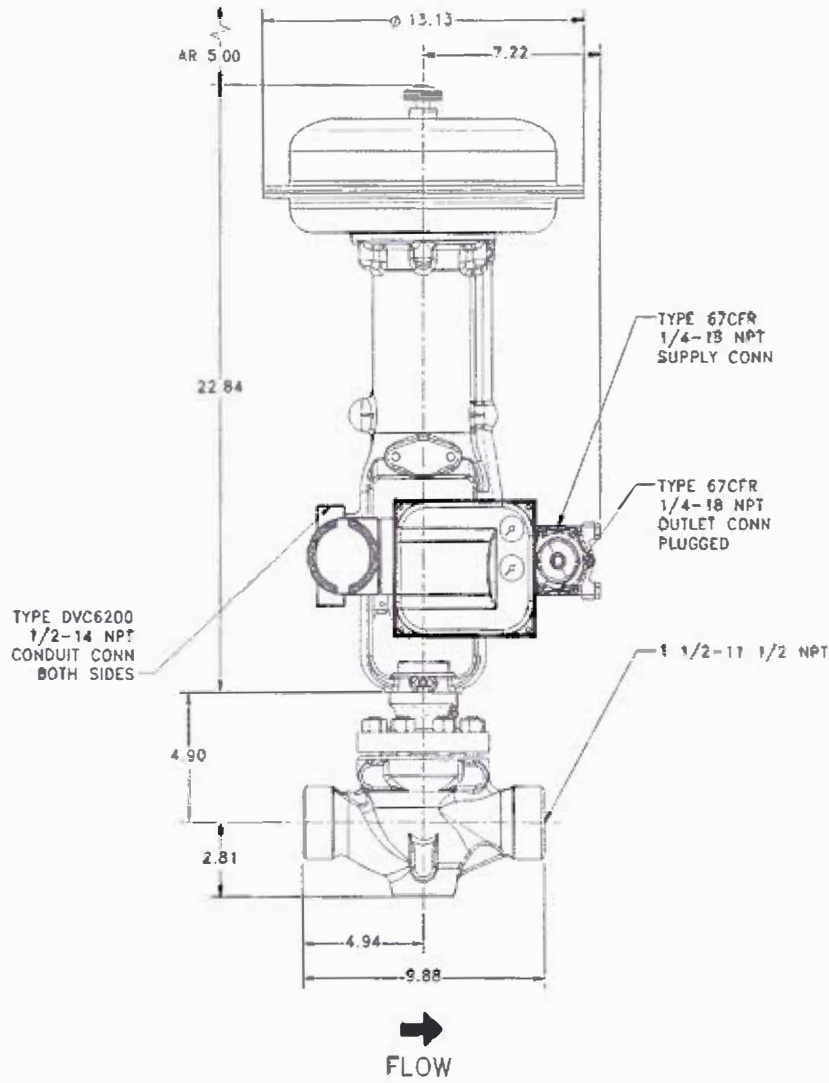
Service Size and Type: <b>NPS 1 1/2 EZ</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b> Input Signal: <b>4 to 20 mA dc</b> Access: <b>67CFR Filter/Regulator</b> Gauges: <b>0-60 psig/0-4 bar</b> Action: <b>Direct</b> Certification: <b>FM,Explosion Proof/Intrinsic Safe/Nonincendive</b>
Body Style: <b>Globe</b> Design Temp: <b>150 deg F</b> Design Press: <b>400 psig</b> End Connect/In/Out: <b>CL600/NPT/NPT</b>	Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting:
Material: <b>WCC Steel</b> Ports: <b>1</b> Flow Direction: <b>Up</b>	Transducer: Input Signal: Output Signal: Action: Mounting: Airset: Certifications:
Trim Number: <b>101</b> Cage Matl: <b>CB7Cu-1 SST</b> Retainer Matl: <b>S17400 SST</b> Bushing Matl: <b>S41600 SST</b> Seat Ring Matl: <b>S41600 SST</b> <b>VALVE PLUG</b> Material: <b>S41600 SST</b> Guiding: <b>Post</b> Balance: <b>Unbalanced</b> Shutoff Class: <b>ANSI CL IV</b> Port Size: <b>3/4 Inch</b> Characteristic: <b>Micro-Form (Eq Pct)</b> Stem Material: <b>S31600 SST</b> Stem Size: <b>3/8 Inch</b>	Line In: <b>3 in, SCH STD</b> Line Out: <b>3 in, SCH STD</b> Insulation: Service Cond: <b>THROTTLING</b> Process Fluid: <b>NATURAL GAS (0.65 SG)</b>
Bonnet Style: <b>Plain</b> Boss Size: <b>2 1/8</b> Packing: <b>Single PTFE</b> Access: <b>No</b> Bolt, Bonnet: <b>SA-193-B7 Studs/2H Nuts</b> PackFlg/Bltg: <b>SST Pkg Flg, SST Studs &amp; Nuts</b>	Max Rated Cv: <b>10.2</b>
Actuator: <b>Spring &amp; Diaphragm</b> Type/Size: <b>667/34i</b> Travel: <b>3/4 Inch</b> Bench Set: <b>10-30 psi</b> Push Down To: <b>PDTC</b> Supply: <b>Air</b> To Actuator: <b>0 to 33 psig</b> Fails Valve: <b>Close</b> Handwheel: <b>None</b>	

Variable Name	Unit	Minimum	Normal	Maximum	4
Mass Flow Rate Gas (w)	lb/h	340.000	849.000	943.000	2681.955
Inlet Pressure (P1)	psig	185.000	185.000	185.000	185.000
Pressure Change (dP)	psi	100.000	100.000	100.000	35.000
Inlet Temperature (T1)	deg F	104.000	104.000	104.000	104.000
M / Gg	SG	0.640	0.640	0.640	0.640
Specific heats ratio (gamma)		1.280	1.280	1.280	1.280
Dynamic Viscosity (Mu)	cP	0.010	0.010	0.010	0.010
Sizing Coefficient (Cv)		0.950	2.474	2.697	10.200
% Open		28	53	55	

NOTES:  
 1. SST TUBING & FITTINGS  
 2. INCLUDED S ASCO MODEL EF8320G200 24VDC SOL VVE  
 DE-ENG TO VENT.

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 Inch  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Int'l LLC 2016	
CUST: UOP RUSSELL LLC CUST REF NO: JOB 447 UOP RUSSELL, SC6 STD PLANT FISHER REF NO: 0270-RCB-161121-0190534 TAG NO.: PCV-481A PROJECT NAME:			E2 VALVE BODY SIZE 1 1/2 66" ACTUATOR SIZE 341		
TOTAL CALCULATED Wt +/- 10% TOTAL WEIGHT: 99.9 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0017		S.M.O.
GENERAL ARRANGEMENT		EMERSON Process Management		SCALE: NONE	
				SHEET 1 OF 1	

A



# Sliding Stem Valve Specification

Customer: **UOP RUSSELL LLC**      Vinson Process Controls  
 Contact: **Dennis Paden**      Contact: **Ron Berte**  
 Customer Reference: **UOP RUSSELL, SC6**      Sales Office Reference: **VVES**      Lead Time: **20 WKS**  
**STD PLANT**  
 Item: **11**      Rev:      Qty: **1**      Rev: **A**  
 Tags: **PCV-501B**      Date Last Modified: **11/08/2016**  
 Description: **NPS 6 ET 657 Size 70i DVC6200**

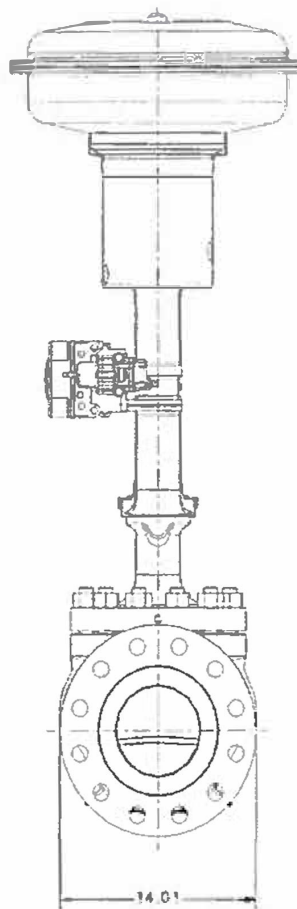
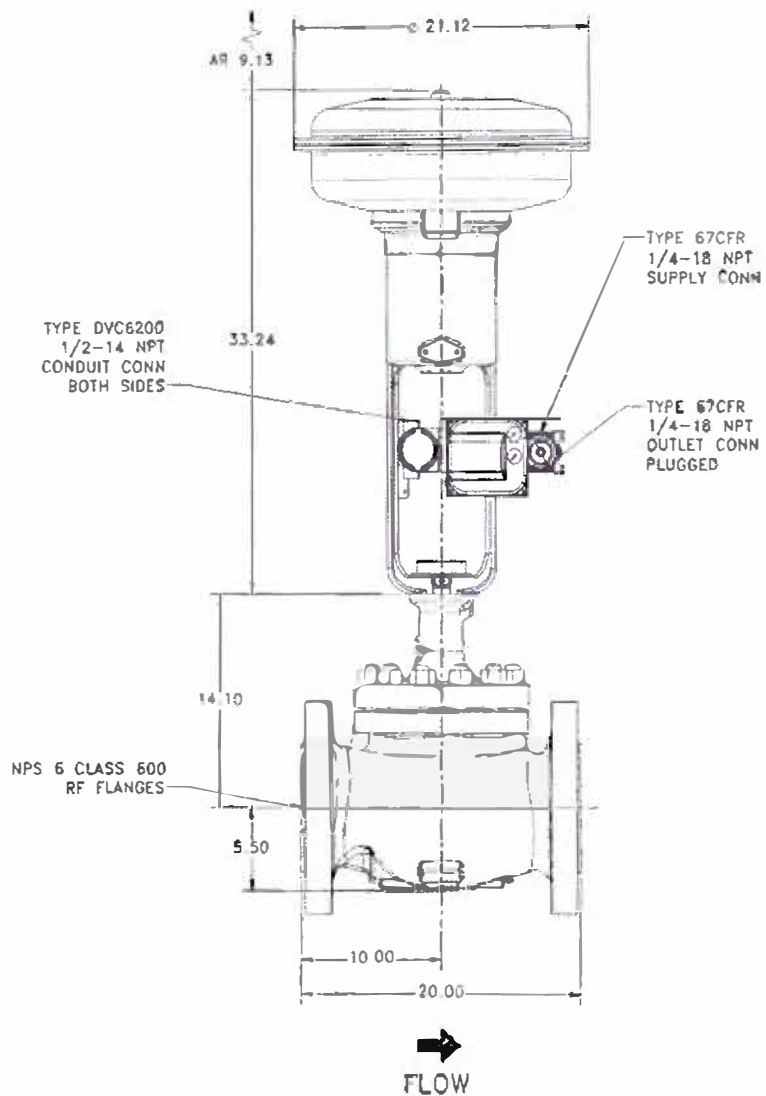
Service: Size and Type: <b>NPS 6 ET</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b> Input Signal: <b>4 to 20 mA dc</b>
Body Style: <b>Globe</b> Design Temp: <b>-7 TO + 150 F</b> Design Press: <b>1100 psig</b>	Access: <b>67CFR Filter/Regulator</b> Gauges: <b>0-60 psig/0-4 bar</b> Action: <b>Direct</b> Certification: <b>FM,Explosion Proof/Intrinsic Safe/Nonincendive</b>
End Connect/In/Out: <b>CL600/RF Flg/RF Flg</b>	Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting:
Material: <b>WCC Steel</b> Ports: <b>1</b> Flow Direction: <b>Down</b>	Transducer: Input Signal: Output Signal: Action: Mounting: Airset: Certifications:
Trim Number: <b>27</b> Cage Matl: <b>S31600 SST/ENC</b> Retainer Matl: Bushing Matl: Seat Ring Matl: <b>CoCr-A Seat</b> <b>VALVE PLUG</b> Material: <b>S31600 SST/CoCr-A Seat/Guide</b> Guiding: <b>Cage</b> Balance: <b>Balanced</b> Shutoff Class: <b>ANSI CL IV</b> Port Size: <b>7 Inch</b> Characteristic: <b>Equal Percent</b> Stem Material: <b>S31600 SST</b> Stem Size: <b>3/4 inch</b>	Line In: <b>6 in, SCH 40</b> Line Out: <b>6 in, SCH 40</b> Insulation: Service Cond: <b>THROTTLING</b> Process Fluid: <b>HC GAS/LIQUID</b>
Bonnet Style: <b>Style 1 Extension</b> Boss Size: <b>3 9/16</b> Packing: <b>Single PTFE</b> Access: <b>No</b> Bolt, Bonnet: <b>SA-193-B7 Studs/2H Nuts</b> PackFlg/Bltg: <b>SST Pkg Flg, SST Studs &amp; Nuts</b>	<b>Max Rated Cv: 394.0</b>
Actuator: Type/Size: <b>Spring &amp; Diaphragm 657/70i</b> Travel: <b>2 Inch</b> Bench Set: <b>6-17 psi</b> Push Down To: <b>PDTC</b> Supply: <b>Air</b> To Actuator: <b>0 to 33 psig</b> Fails Valve: <b>Open</b> Handwheel: <b>None</b>	

Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Gas (w)	lb/h	8693.000	21732.000	26667.000
Mass Flow Rate Liquid (wl)	lb/h	2294.000	6734.000	6746.000
Inlet Pressure (P1)	psig	909.000	909.000	909.000
Pressure Change (dP)	psi	5.000	5.000	5.000
Sizing Coefficient (Cv)		56.148	140.366	165.125
% Open		35	66	60

**NOTES:**  
 1. SST TUBING & FITTINGS  
 2. SPRING LOADED SEAL RING

FEATURES PICTORIALLY TYPICAL

ORIENTATION MAY DIFFER



FACE TO FACE TOLERANCE IS +/- 0.06 Inch  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTR 0.5		FISHER	© Fisher Controls Int. LLC 2016
CUST: UOP RUSSELL LLC		ET VALVE BODY SIZE 8	
CUST REF NO: JOB 447, UOP RUSSELL SC6 STD PLANT		657 ACTUATOR SIZE 701	
FISHER REF NO: D27D-RCB-16:121-0190534			
TAG NO: PCV-501B			
PROJECT NAME:			
		CUST ITEM: 0011	S.M.O.:
TOTAL CALCULATED WT +/- 10%		SCALE: NONE	
TOTAL WEIGHT: 668.1 lb		S.M.O.	
UNLESS OTHERWISE SPECIFIED		EMERSON Process Management	
UNIT OF MEASURE: INCH		SHEET 1 OF 1	
GENERAL ARRANGEMENT		A	



# Sliding Stem Valve Specification

Customer: UOP RUSSELL LLC      Vinson Process Controls  
 Contact: Dennis Paden      Contact: Ron Berte  
 Customer Reference: UOP RUSSELL, SC6      Sales Office Reference: VVES      Lead Time: 10 WKS  
**STD PLANT**  
 Item: 6      Rev:      Qty: 1      Rev: A  
 Tags: PCV-501C      Date Last Modified: 11/08/2016  
 Description: NPS 3 ET 667 Size 45I DVC6200

### Service Description:

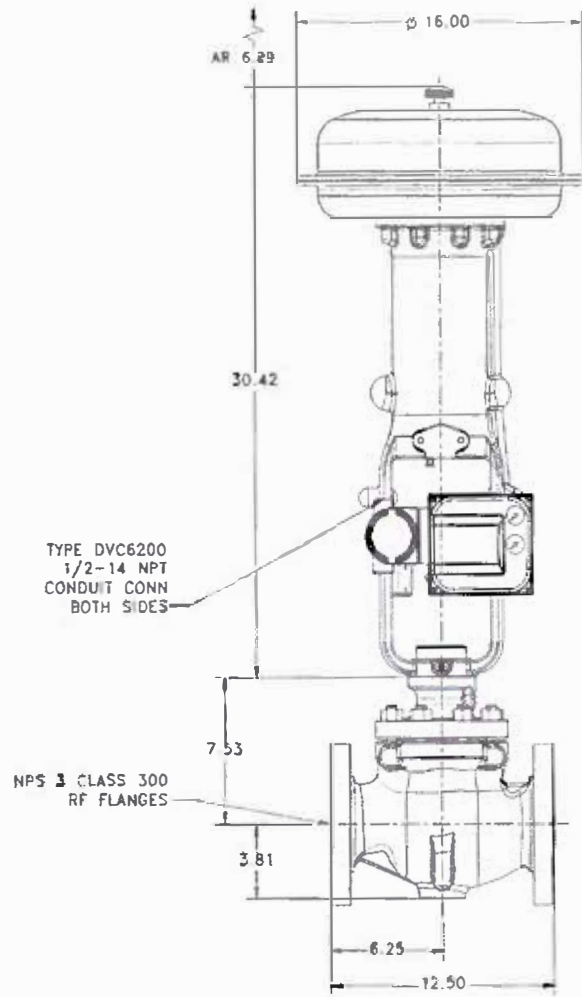
Service: Size and Type: <b>NPS 3 ET</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b>
Body Style: <b>Globe</b> Design Temp: <b>150 deg F</b> Design Press: <b>400 psig</b>	Input Signal: <b>4 to 20 mA dc</b> Access: <b>67CFR Filter/Regulator</b> Gauges: <b>0-60 psig/0-4 bar</b> Action: <b>Direct</b>
End Connect/In/Out: <b>CL300/RF Flg/RF Flg</b>	Certification: <b>FM,Explosion Proof/Intrinsic Safe/Nonincendive</b>
Material: <b>WCC Steel</b> Ports: <b>1</b> Flow Direction: <b>Down</b>	Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting, a:
Trim Number: <b>1</b> Cage Matl: <b>CB7Cu-1 SST</b> Retainer Matl: Bushing Matl: Seat Ring Matl: <b>S41600 SST</b> VALVE PLUG Material: <b>S41600 SST</b> Guiding: <b>Cage</b> Balance: <b>Balanced</b> Shutoff Class: <b>ANSI CL IV</b> Port Size: <b>3 7/16 Inch</b> Characteristic: <b>Equal Percent</b> Stem Material: <b>S31600 SST</b> Stem Size: <b>1/2 Inch</b>	Transducer: Input Signal: Output Signal: Action: Mounting: Airset: Certifications:
Bonnet Style: <b>Plain</b> Boss Size: <b>2 13/16</b> Packing: <b>Single PTFE</b> Access: <b>No</b> Bolt, Bonnet: <b>SA-193-B7 Studs/2H Nuts</b> PackFig/Bltg: <b>SST Pkg Flg, SST Studs &amp; Nuts</b>	Line In: <b>4 in, SCH STD</b> Line Out: <b>4 in, SCH STD</b> Insulation: Service Cond: <b>THROTLING</b> Process Fluid: <b>RESIDUE GAS</b>
Actuator: <b>Spring &amp; Diaphragm</b> Type/Size: <b>667/45I</b> Travel: <b>1 1/2 Inch</b> Bench Set: <b>10-30 psi</b> Push Down To: <b>PDTC</b> Supply: <b>Air</b> To Actuator: <b>0 to 33 psig</b> Fails Valve: <b>Close</b> Handwheel: <b>None</b>	Max Rated Cv: <b>136.0</b>

Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Gas (w)	lb/h	6794.000	16984.000	17878.000
Inlet Pressure (P1)	psig	185.000	185.000	185.000
Pressure Change (dP)	psi	155.000	155.000	155.000
Inlet Temperature (T1)	deg F	104.000	104.000	104.000
M / Gg	SG	0.640	0.640	0.640
Specific heats ratio (gamma)		1.280	1.280	1.280
Dynamic Viscosity (Mu)	cP	0.010	0.010	0.010
Sizing Coefficient (Cv)		18.882	48.763	51.368
% Open		42	62	64
Valve LpA(LpAValve1m)	dB(A)	93	101	102

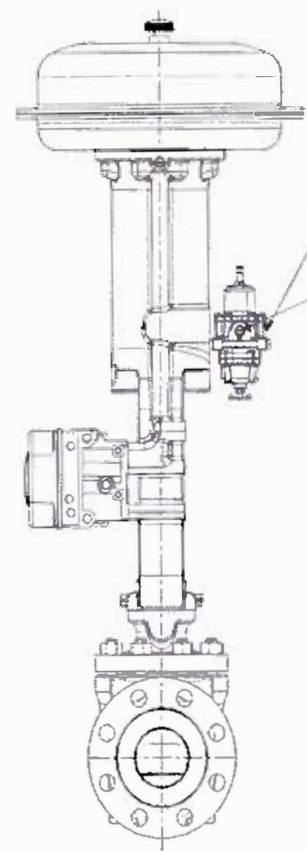
### NOTES:

1. SST TUBING & FITTINGS

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



→  
FLOW



FACE TO FACE TOLERANCE IS +/- 0.06 INCH  
AR = ACTUATOR REMOVAL CLEARANCE

DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls INT. LLC 2016	
CUST. UOP RUSSELL LLC CUST REF NO: JOB 447, UOP RUSSELL SC& STD PLANT FISHER REF NO: 027D-RCB-161121-0190534 TAG NO: PCV-501C PROJECT NAME:			ET VALVE BODY SIZE 3 667 ACTUATOR SIZE 451		
TOTAL CALCULATED WT +/- 10% TOTAL WEIGHT: 220 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			REV	DATE	DRN
			1	21-Nov-16	FDS
GENERAL ARRANGEMENT			CUST ITEM: 0006		S. NO:
			SCALE: NONE		REV
EMERSON Process Management			SHEET 1 OF 1		A



# Rotary Valve Specification

Customer: **UOP RUSSELL LLC**      Vinson Process Controls  
 Contact: **Donnis Paden**      Contact: **Ron Berte**  
 Customer Reference: **UOP RUSSELL, SC6**      Sales Office Reference: **VVES**      Lead Time: **10 WKS**  
**STD PLANT**  
 Item: **5**      Rev:      Qty: **1**      Rev: **A**  
 Tags: **TCV-201A**      Date Last Modified: **11/08/2016**  
 Description: **NPS 8 V200 2052 Size 3 DVC6200**

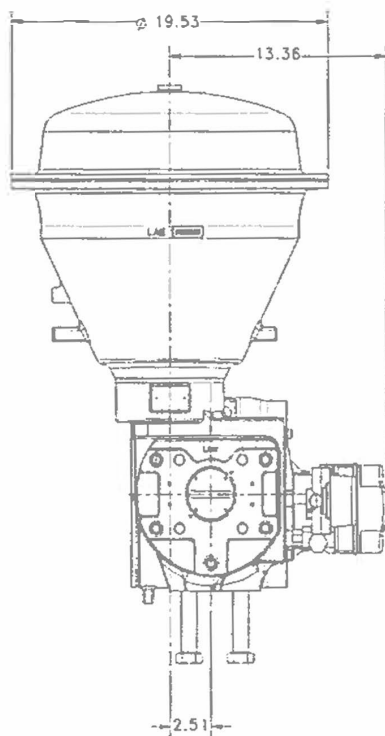
### Service Description

Service: Size and Type: <b>NPS 8 V200</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b> Input Signal: <b>4 to 20 mA dc</b>
Body Style: <b>Ball Flangeless</b> Design Temp: <b>150 deg F</b> Design Press: <b>1100 psig</b> End Connect/In/Out: <b>CL600 RF Flg Compatible RF Flg Compatible</b> Material: <b>WCC Steel</b> Flow Direction: <b>Forward</b>	Access: <b>67CFR Filter/Regulator</b> Gauges: <b>0-60 psig/0-4 bar</b> Action: <b>Direct</b> Certification: <b>Explosion Proof/Intrinsic Safe/Non-Incendive,FM</b>
Trim Number: Retainer Matl: <b>WCC Steel</b> Bushing/Bearing Matl: <b>PEEK/PTFE</b> Seal/Liner Matl: <b>TCM Plus</b> Disk/Ball Matl: <b>CG8M SST/CRPL</b> Shutoff Class: <b>ANSI CL VI</b> Port Size: <b>Full</b> Characteristic: <b>Modified Equal Percent</b> Stem Material: <b>S20910 SST</b> Stem Size: <b>1 1/4 inch</b>	Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting:
Bonnet Style: <b>None</b> Packing: <b>PTFE</b> PackFlg/Bltg: <b>SA-193-B8M Str Hd Studs/8M Nuts</b>	Transducer: Input Signal: Output Signal: Action: Mounting: Airset: Certifications:
Actuator: Type/Size: <b>Spring &amp; Diaphragm 2052/3</b> Travel: <b>90 Deg</b> Bench Set: Push Down To: <b>Push Down to Close</b> Supply: <b>Air</b> To Actuator: <b>2.0 barg (29 psig)</b> Fails Valve: <b>Open</b> Mounting: <b>Right Hand,Pos 1</b> Handwheel: <b>None</b>	Line In: <b>8 in, SCH XS</b> Line Out: <b>8 in, SCH XS</b> Insulation: Service Cond: <b>THROTTLING</b> Process Fluid: <b>INLET GAS</b>  Max Rated Cv: <b>1750.0</b>

Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Gas (w)	lb/h	62577.000	125154.000	131741.000
Inlet Pressure (P1)	psig	929.000	929.000	929.000
Pressure Change (dP)	psi	5.000	5.000	5.000
Inlet Temperature (T1)	deg F	114.000	114.000	114.000
M / Gg	SG	0.790	0.790	0.790
Specific heats ratio (gamma)		1.250	1.250	1.250
Dynamic Viscosity (Mu)	cP	0.010	0.010	0.010
Sizing Coefficient (Cv)		225.168	450.603	474.319
Deg. Open		42	59	60
Valve LpA(LpAValve 1m)	dB(A)	< 60	61	61

**NOTES:**  
**SST TUBING & FITTINGS**  
**ACTR INCLUDES ADJUSTABLE TRAVEL STOPS TO BE SET BY END USER.**

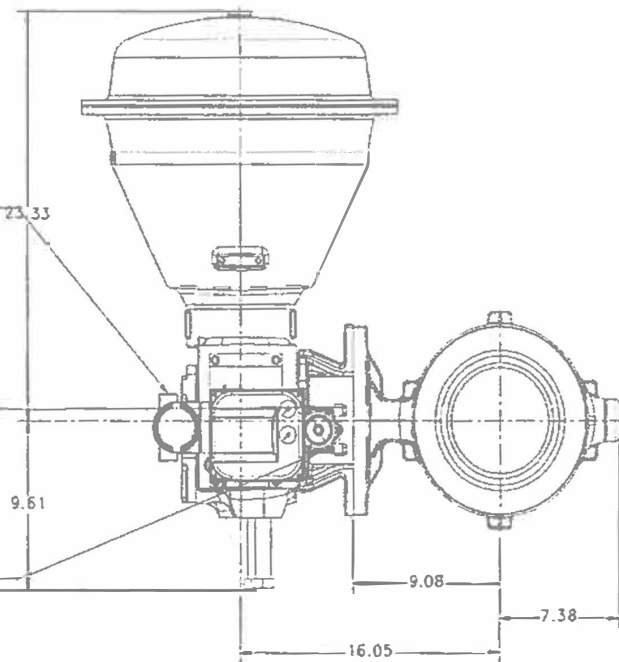
FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER



TYPE DVC6200  
1/2-14 NPT  
CONDUIT CONN  
BOTH SIDES

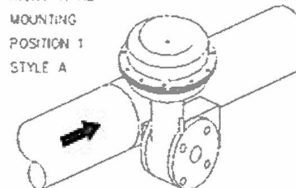
TYPE 67CFR  
1/4-18 NPT  
SUPPLY CONN

TYPE 67CFR  
1/4-18 NPT  
OUTLET CONN  
PLUGGED

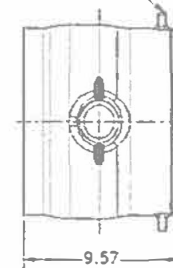


ACTUATOR ORIENTATION

RIGHT-HAND  
MOUNTING  
POSITION 1  
STYLE A



BODY COMPATIBLE WITH  
NPS 8 CLASS 600  
RF FLANGES



DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Inc. LLC 2016	
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 027D-RCB-161121-0190534 TAG NO.: TCV-201A PROJECT NAME:			V200 VALVE BODY SIZE 8 2052 ACTUATOR SIZE 3		
TOTAL CALCULATED Wt +/- 10% TOTAL WEIGHT: 412.2 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0005		S. NO.:
GENERAL ARRANGEMENT			SCALE: NONE		REV
			EMERSON Process Management		DATE
			SHEET 1 OF 1		SWR
			A		CHG'D
			A		APPR
			A		DATE
			A		21-NOV-16
			A		FDS



# Rotary Valve Specification

Customer: **UOP RUSSELL LLC**  
 Contact: **Dennis Paden**  
 Customer Reference: **UOP RUSSELL, SC6**  
 STD PLANT  
 Item: 7  
 Tags: **TCV-201B**  
 Description: **NPS 6 V200 2052 Size 2 DVC6200**

Vinson Process Controls  
 Contact: **Ron Berte**  
 Sales Office Reference: **VVES**  
 Date Last Modified: **11/08/2016**

Lead Time: **10 WKS**  
 Rev: **A**

### Service Description

Service Size and Type: <b>NPS 6 V200</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b>
Body Style: <b>Ball Flangeless</b>	Input Signal: <b>4 to 20 mA dc</b>
Design Temp: <b>150 deg F</b>	Access: <b>67CFR Filter/Regulator</b>
Design Press: <b>1100 psig</b>	Gauges: <b>0-160 psig/0-11 bar</b>
End Connect/In/Out: <b>CL600 RF Flg Compatible RF Flg Compatible</b>	Action: <b>Direct</b>
Material: <b>WCC Steel</b>	Certification: <b>Explosion Proof/Intrinsic Safe/Non-Incendive,FM</b>
Flow Direction: <b>Forward</b>	Controller Type:
Trim Number:	Action:
Retainer Matl: <b>WCC Steel</b>	Measure Element:
Bushing/Bearing Matl: <b>PEEK/PTFE</b>	Range:
Seal/Liner Matl: <b>TCM Plus</b>	Output:
Disk/Ball Matl: <b>CG6M SST/CRPL</b>	Mounting:
Shutoff Class: <b>ANSI CL VI</b>	Airset:
Port Size: <b>Full</b>	Mounting:
Characteristic: <b>Modified Equal Percent</b>	Transducer:
Stem Material: <b>S20910 SST</b>	Input Signal:
Stem Size: <b>1 inch</b>	Output Signal:
Bonnet Style: <b>None</b>	Action:
Packing: <b>PTFE</b>	Mounting:
PackFlg/Bltg: <b>SA-193-B8M Str Hd Studs/8M Nuts</b>	Airset:
Actuator: <b>Spring &amp; Diaphragm</b>	Certifications:
Type/Size: <b>2052/2</b>	Line In: <b>6 in, SCH XS</b>
Travel: <b>90 Deg</b>	Line Out: <b>6 in, SCH XS</b>
Bench Set:	Insulation:
Push Down To: <b>Push Down to Close</b>	Service Cond: <b>THROTTLING</b>
Supply: <b>Air</b>	Process Fluid: <b>INLET GAS</b>
To Actuator: <b>4.0 barg (58 psig)</b>	
Fails Valve: <b>Open</b>	
Mounting: <b>Right Hand,Pos 1</b>	
Handwheel: <b>None</b>	
	Max Rated Cv: <b>1080.0</b>

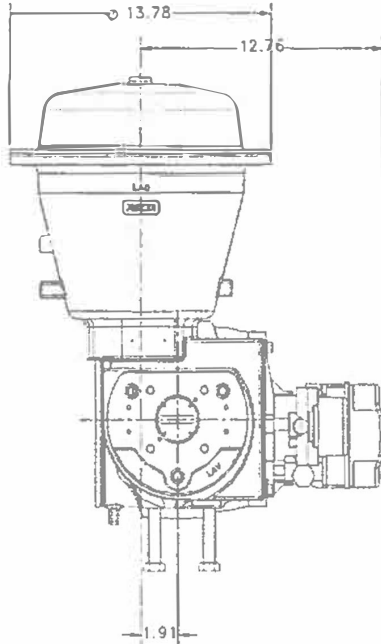
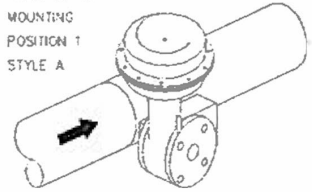
Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Gas (w)	lb/h	30037.000	75092.000	83436.000
Inlet Pressure (P1)	psig	929.000	929.000	929.000
Pressure Change (dP)	psi	54.000	54.000	54.000
Inlet Temperature (T1)	deg F	114.000	114.000	114.000
M / Gg	SG	0.790	0.790	0.790
Specific heats ratio (gamma)		1.250	1.250	1.250
Dynamic Viscosity (Mu)	cP	0.010	0.010	0.010
Sizing Coefficient (Cv)		32.448	81.281	90.313
Deg. Open		17	28	30
Valve LpA(LpAValve 1m)	dB(A)	76	80	80

NOTES:  
**SST TUBING & FITTINGS**  
  
**2052 ACTR COMES STD WITH ADJUSTABLE STOPS.**

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER

ACTUATOR ORIENTATION

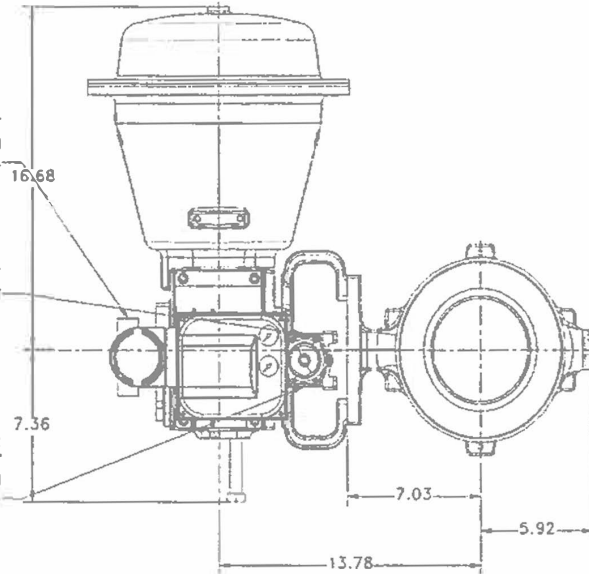
RIGHT-HAND  
MOUNTING  
POSITION 1  
STYLE A



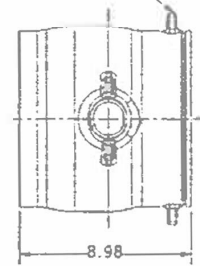
TYPE DVC6200  
1/2-14 NPT  
CONDUIT CONN  
BOTH SIDES

TYPE 67CFR  
1/4-18 NPT  
SUPPLY CONN

TYPE 67CFR  
1/4-18 NPT  
OUTLET CONN  
PLUGGED



BODY COMPATIBLE WITH  
NPS 6 CLASS 600  
RF-FLANGES



DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Int. LLC 2016	
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 027D-RC6-161121-0190534 TAG NO.: TCY-2018 PROJECT NAME:			Y20D VALVE BODY SIZE 6 2052 ACTUATOR SIZE 2		
TOTAL CALCULATED WT +/- 10% TOTAL WEIGHT: 227.6 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0007		S.N.O.
GENERAL ARRANGEMENT			SCALE: NONE		REV
EMERSON			SHEET 1 OF 1		A



# Rotary Valve Specification

Customer: <b>UOP RUSSELL LLC</b>	Vinson Process Controls	
Contact: <b>Dennis Paden</b>	Contact: <b>Ron Berte</b>	
Customer Reference: <b>UOP RUSSELL, SC6</b>	Sales Office Reference: <b>VVES</b>	Lead Time: <b>10 WKS</b>
<b>STD PLANT</b>		
Item: <b>15</b>	Rev:                      Qty: <b>1</b>	Rev: <b>A</b>
Tags: <b>TCV-501A</b>	Date Last Modified: <b>11/08/2016</b>	
Description: <b>NPS 3 V200 2052 Size 1 DVC6200</b>		
Service Description:		

<b>Service:</b> <b>Size and Type:</b> NPS 3 V200 <b>Body Style:</b> Ball Flangeless <b>Design Temp:</b> 400 deg F <b>Design Press:</b> 150 psig <b>End Connect/In/Out:</b> CL150 RF Flg Compatible RF Flg Compatible <b>Material:</b> WCC Steel <b>Flow Direction:</b> Forward <b>Trim Number:</b> <b>Retainer Mat:</b> WCC Steel <b>Bushing/Bearing Mat:</b> PEEK/PTFE <b>Seal/Liner Mat:</b> CF10SMnN SST <b>Disk/Ball Mat:</b> CG8M SST/CRPL <b>Shutoff Class:</b> ANSI CL IV <b>Port Size:</b> Full <b>Characteristic:</b> Modified Equal Percent <b>Stem Material:</b> S20910 SST <b>Stem Size:</b> 3/4 inch <b>Bonnet Style:</b> None <b>Packing:</b> PTFE <b>PackFlg/Bltg:</b> SA-193-B8M Str Hd Studs/8M Nuts <b>Actuator:</b> Spring & Diaphragm <b>Type/Size:</b> 2052/1 <b>Travel:</b> 90 Deg <b>Bench Set:</b> <b>Push Down To:</b> Push Down to Open <b>Supply:</b> Air <b>To Actuator:</b> 4.0 barg (58 psig) <b>Fails Valve:</b> Close <b>Mounting:</b> Right Hand, Pos 1 <b>Handwheel:</b> None	<b>Positioner Type:</b> DVC6200,HART Communicating-HC <b>Input Signal:</b> 4 to 20 mA dc <b>Access:</b> 67CFR Filter/Regulator <b>Gauges:</b> 0-160 psig/0-11 bar <b>Action:</b> Direct <b>Certification:</b> Explosion Proof/Intrinsic Safe/Non-Incendive,FM <b>Controller Type:</b> <b>Action:</b> <b>Measure Element:</b> <b>Range:</b> <b>Output:</b> <b>Mounting:</b> <b>Airset:</b> <b>Mounting:</b> <b>Transducer:</b> <b>Input Signal:</b> <b>Output Signal:</b> <b>Action:</b> <b>Mounting:</b> <b>Airset:</b> <b>Certifications:</b> <b>Line In:</b> 6 in, SCH STD <b>Line Out:</b> 6 in, SCH STD <b>Insulation:</b> <b>Service Cond:</b> THROTTLING <b>Process Fluid:</b> THERMINOL 55 <b>Max Rated Cv:</b> 387.0
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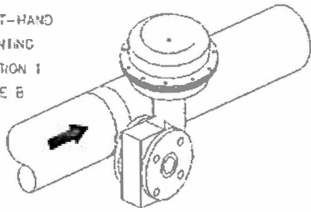
Variable Name	Unit	Minimum	Normal	Maximum	
Mass Flow Rate Liquid (wt)	lb/h	20683.000	51708.000	60833.000	
Inlet Pressure (P1)	psig	35.000	35.000	35.000	
Pressure Change (dP)	psi	10.000	10.000	10.000	
Inlet Temperature (T1)	deg F	200.000	200.000	200.000	
SG		0.830	0.830	0.830	
Dynamic Viscosity (Mu)	cP	3.310	3.310	3.310	
Sizing Coefficient (Cv)		14.370	36.159	42.668	
Deg. Open		22	34	37	

**NOTES:**  
 1. SST TUBING & FITTINGS

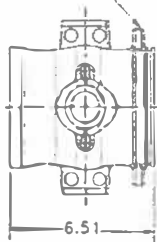
FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER

ACTUATOR ORIENTATION

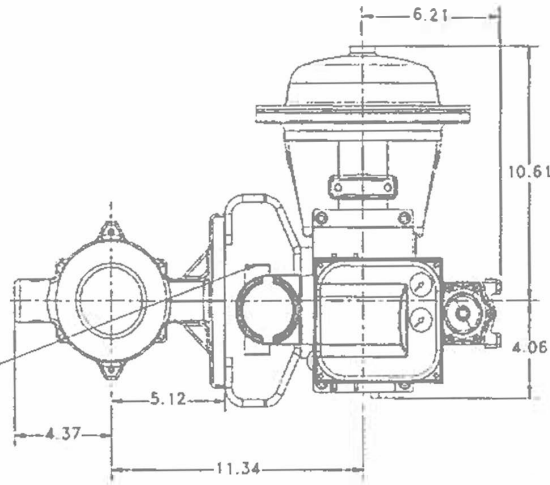
RIGHT-HAND  
MOUNTING  
POSITION 1  
STYLE B



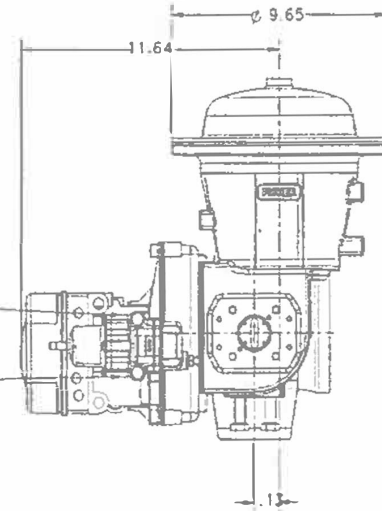
BODY COMPATIBLE WITH  
NPS 3 CLASS 150  
RF FLANGES



TYPE DVC6200  
1/2-14 NPT  
CONDUIT CONN  
BOTH SIDES



TYPE 67CFR  
1/4-18 NPT  
SUPPLY CONN  
TYPE 67CFR  
1/4-18 NPT  
OUTLET CONN  
PLUGGED



DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS		FISHER		© Fisher Controls Int'l. LLC 2018	
CUST: UOP RUSSELL LLC CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT FISHER REF NO.: 027D-RCB-161121-0190534 TAG NO.: TCV-501A PROJECT NAME:			V200 VALVE BODY SIZE 3 2052 ACTUATOR SIZE 1		
TOTAL CALCULATED Wt +/- 10% TOTAL WEIGHT: 86.4 lb UNLESS OTHERWISE SPECIFIED UNIT OF MEASURE: INCH			CUST ITEM: 0015		S.NO.
REV   DATE   DRAWN   CHECKED   APPROVED		SCALE: NONE		DWC NO.   DES.	
GENERAL ARRANGEMENT		EMERSON		SHEET 1 OF 1	
				A	



# Rotary Valve Specification

Customer: **UOP RUSSELL LLC** Vinson Process Controls  
 Contact: **Dennis Padon** Contact: **Ron Berte**  
 Customer Reference: **UOP RUSSELL, SC6** Sales Office Reference: **VVES** Lead Time: **10 WKS**  
**STD PLANT**  
 Item 16 Rev: Qty: 1 Rev: A  
 Tags: **TCV-501B** Date Last Modified: **11/08/2016**

Description: **NPS 2 V200 2052 Size 1 DVC6200**

Service Description:

Service: Size and Type: <b>NPS 2 V200</b>	Positioner Type: <b>DVC6200,HART Communicating-HC</b> Input Signal: <b>4 to 20 mA dc</b>
Body Style: <b>Ball Flangeless</b> Design Temp: <b>400 deg F</b> Design Press: <b>150 psig</b> End Connect/In/Out: <b>CL150/300/600 RF Flg Compatible RF Flg</b> Material: <b>WCC Steel</b> Flow Direction: <b>Forward</b>	Access: <b>67CFR Filter/Regulator</b> Gauges: <b>0-160 psig/0-11 bar</b> Action: <b>Direct</b> Certification: <b>Explosion Proof/Intrinsic Safe/Non-Incendive,FM</b>
Trim Number: Retainer Matl: <b>CG8M SST</b> Bushing/Bearing Matl: <b>PEEK/PTFE</b> Seal/Liner Matl: <b>CF10SMnN SST</b> Disk/Ball Matl: <b>CG8M SST/CRPL</b> Shutoff Class: <b>ANSI CL IV</b> Port Size: <b>Full</b> Characteristic: <b>Modified Equal Percent</b> Stem Material: <b>S20910 SST</b> Stem Size: <b>5/8 Inch</b>	Controller Type: Action: Measure Element: Range: Output: Mounting: Airset: Mounting:
Bonnet Style: <b>None</b> Packing: <b>PTFE</b> PackFlg/Bltg: <b>SA-193-B8M Str Hd Studs/8M Nuts</b>	Transducer: Input Signal: Output Signal: Action: Mounting: Airset: Certifications:
Actuator: Type/Size: <b>Spring &amp; Diaphragm</b> Travel: <b>2052/1</b> Travel: <b>90 Deg</b> Bench Set: Push Down To: <b>Push Down to Close</b> Supply: <b>Air</b> To Actuator: <b>4.0 barg (58 psig)</b> Fails Valve: <b>Open</b> Mounting: <b>Right Hand,Pos 1</b> Handwheel: <b>None</b>	Line In: <b>4 in, SCH STD</b> Line Out: <b>4 in, SCH STD</b> Insulation: Service Cond: <b>THROTTLING</b> Process Fluid: <b>THERMINOL55</b>  Max Rated Cv: <b>122.0</b>

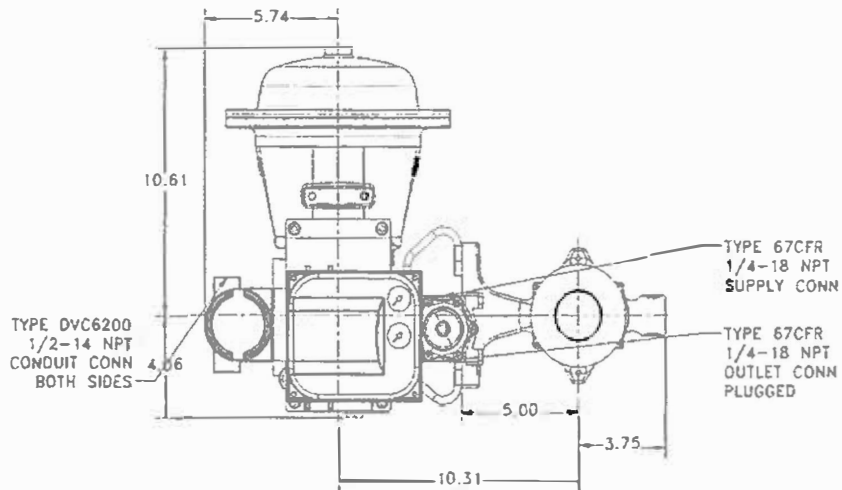
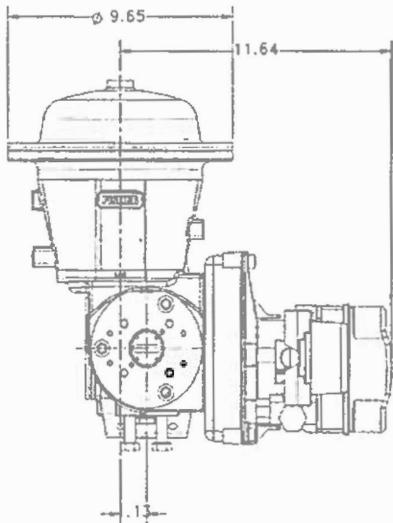
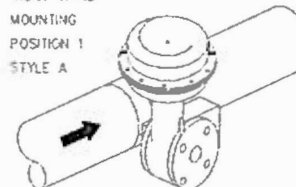
Variable Name	Unit	Minimum	Normal	Maximum
Mass Flow Rate Liquid (wl)	lb/h	10400.000	26000.000	30688.000
Inlet Pressure (P1)	psig	35.000	35.000	35.000
Pressure Change (dP)	psi	10.000	10.000	10.000
Inlet Temperature (T1)	deg F	200.000	200.000	200.000
SG		0.790	0.790	0.790
Dynamic Viscosity (Mu)	cP	1.310	1.310	1.310
Sizing Coefficient (Cv)		7.409	18.686	22.071
Deg. Open		31	44	47

NOTES:  
 1. SST TUBING & FITTINGS

FEATURES PICTORIALLY TYPICAL ORIENTATION MAY DIFFER

ACTUATOR ORIENTATION

RIGHT-HAND  
MOUNTING  
POSITION 1  
STYLE A



BODY COMPATIBLE WITH  
NPS 2 CLASS 150/600  
RF FLANGES



DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS

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CUST: UOP RUSSELL LLC  
CUST REF NO.: JOB 447, UOP RUSSELL, SC6 STD PLANT  
FISHER REF NO.: 0270-RCB-161121-0190534  
TAG NO.: TCV-501B  
PROJECT NAME:

Y200 VALVE BODY SIZE 2  
Z052 ACTUATOR SIZE 1

CUST ITEM: 0016

S.NO

TOTAL CALCULATED Wt +/- 10%  
TOTAL WEIGHT: 79.5 lb  
UNLESS OTHERWISE SPECIFIED  
UNIT OF MEASURE: INCH

REV	DATE	BY	CHKD	APPR
1	21-Dec-16	FDS		
GENERAL ARRANGEMENT				



SCALE: NONE  
SHEET 1 OF 1

A