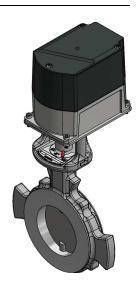
# SCC Inc.

## **Technical Instructions**

Document No. VA-3100 May 31, 2019

## **VA Series**

VA...VKF1x Valve Actuator Assemblies with VKF1... Butterfly Valves



Description	VAVKF1x valve actuator assemblies include a Siemens SQM actuator reliably mounted to a VKF1 butterfly valve.
Features	Precision machined components enable a solid shaft coupling
	<ul> <li>Shaft coupling provides a positive connection without actuator or valve shaft damage</li> </ul>
	<ul> <li>VKF1 valve sizes from 1-1/4" to 8"</li> </ul>
	<ul> <li>Includes Siemens SQM33, SQM40, SQM45, or SQM5 actuator</li> </ul>
Application	VAVKF1x valve actuator assemblies mount an SQM33, SQM40, SQM45, or SQM5 actuator to a VKF1 butterfly valve. The Siemens VKF1 valve and SQM actuator are rigidly mounted with precisely engineered brackets and couplings to ensure shaft alignment. VKF1 technical instructions (n7673us) provide sizing and additional valve information.

#### **Product Part Numbers**

The following chart provides VA...VKF1x assembly part number identification including an SQM33, SQM40, or SQM45 actuator. Technical instructions for SQM33 (n7813), SQM40 (n7817), or SQM45 (n7814) actuators are available at www.scccombustion.com.

	VA	45.2	- 2.0	VKF	10
Valve Actuator Assembly			$\Box$		
Actuator					
33 = SQM33.550A9 (stepper, 27 in-lb, for	use with LMV3)				
33.7 = SQM33.750A9 (stepper, 90 in-lb, for	use with LMV3)				
40.11 = SQM40.115R11 (12.5 sec, 135 Ohm,	/2-10 VDC, high/lo	w fire feedback)			
40.15 = SQM40.155R11 (12.5 sec, 4-20 mA,	independent aux s	switch)			
40.16 = SQM40.165R11 (12.5 sec, 3-position	n, high/low fire fee	edback)			
40.18 = SQM40.185R11 (12.5 sec, 3-position	n, 3 independent a	ux switches)			
40.21 = SQM40.215R11 (25 sec, 135 Ohm/2	-10 VDC, high/low	<pre>/ fire feedback)</pre>			
40.25 = SQM40.255R11 (25 sec, 4-20 mA, in	dependent aux sw	/itch)			
40.26 = SQM40.265R11 (25 sec, 3-position,	high/low fire feed	back)			
40.27 = SQM40.275R10 (25 sec, high/low ba	isic version)				
40.28 = SQM40.285R11 (25 sec, 3-position,	3 independent au	k switches)			
45.2 = SQM45.295B9 (stepper, for use with	n LMV5)				
Voltage					
Blank = 120 Vac SQM40 or standard SQM33	or SQM45		-		
(220) = 220 Vac (not available for SQM33 or	r SQM45 actuators	5)			
Valve Size					
1.25 = 1-1/4" VKF1x.032					
1.5 = 1-1/2" VKF1x.040					
2.0 = 2" VKF1x.050					
2.5 = 2-1/2" VKF1x.065					
3.0 = 3" VKF1x.080					
4.0 = 4" VKF1x.100					
5.0 = 5" VKF1x.125					
6.0 = 6" VKF1x.150					
8.0 = 8" VKF1x.200					
VKF Valve					
Value Truce					
Valve Type					

10 = Swing-through (360° rotation)

11 = Mechanical stop at closed position

### **Product Part Numbers (continued)**

The following chart provides VA...VKF1x assembly part number identification including an SQM50 actuator. Technical instructions for SQM5 (155-517) actuators are available at www.scccombustion.com.

	VA 50.4 Z 7 -	4.0	VKF	10
Valv	/e Actuator Assembly			
Actu	uator			
50	= SQM50			
Toro	que / Timing			
2	= 90 in-lb, 8 sec for 90° stroke			
3	= 140 in-lb, 12 sec for 90° stroke			
4	= 140 in-lb, 25 sec for 90° stroke			
Cont	trol Board			
Blank	K = AGA56.41A (4-20 mA input)			
A	= AGA56.1A97 (position proportional control)			
н	= AGA56.42A (0-135 Ω input)			
К	= AGA56.43A (0-10 Vdc input)			
Z	= AGA56.9 (all inputs/outputs)			
Pote	entiometer			
Blank	A = ASZ12.30 (1000Ω, 90°) on "G", "H", "K", or "Z" board; none on "A" board			
3	= ASZ12.30 (1000Ω, 90°) on "A" board only			
7	= ASZ22.30 (1000Ω/1000Ω, 90°)			
Volt	tage			
Blank	<pre>x = 120 Vac</pre>			
(220)	= 220 Vac			
(24)	= 24 Vac			
Valv	/e Size			
1.25	= 1-1/4" VKF1x.032			
1.5	= 1-1/2" VKF1x.040			
2.0	= 2" VKF1x.050			
2.5	= 2-1/2" VKF1x.065			
3.0	= 3" VKF1x.080			
4.0	= 4" VKF1x.100			
5.0	= 5" VKF1x.125			
6.0	= 6" VKF1x.150			
8.0	= 8" VKF1x.200			
VKF	Valve			
Valv	ие Туре			
10	= Swing-through (360° rotation)			

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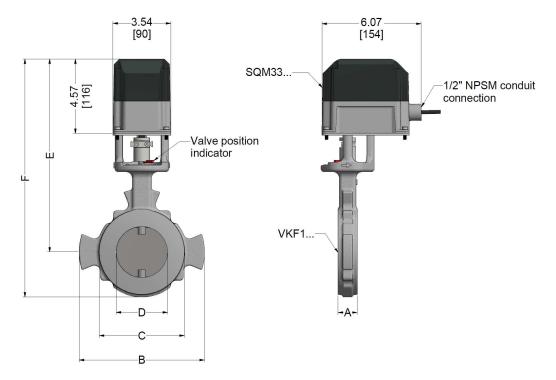
11 = Mechanical stop at closed position

Installation •		VKF1 valves can accommodate flow in either direction. The VAVKF1x assembly may be mounted in either direction for actuator wiring convenience.
	•	Assembly may be mounted in any position except upside down.
	•	Valve position indicator shows valve position.

#### Dimensions

Dimensions in inches; millimeters in brackets





#### Table 1: VA33...VKF1x Dimensions<sup>1</sup>

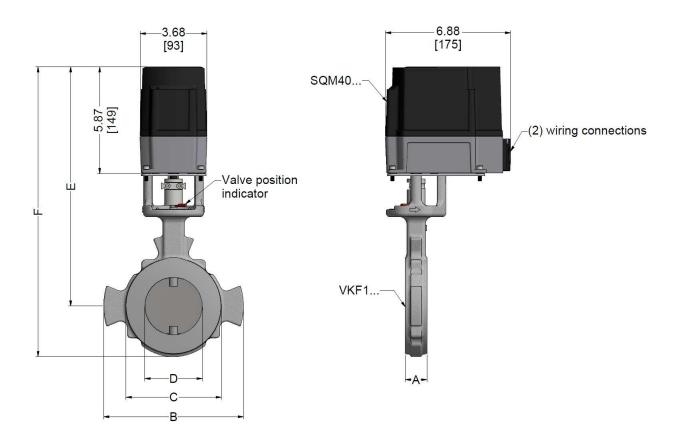
Valve Part	Valve	А	В	ſ	D	E	F
Number	Size	7	D	,	D	L	•
VKF1x.032	1-1/4"	1.18 [30]	4.72 [120]	2.83 [72]	1.26 [32]	10.91 [277]	12.34 [313]
VKF1x.040	1-1/2"	1.18 [30]	5.12 [130]	3.21 [81]	1.57 [40]	11.07 [281]	12.69 [322]
VKF1x.050	2″	1.18 [30]	6.10 [155]	3.97 [101]	1.97 [50]	11.26 [286]	13.27 [337]
VKF1x.065	2-1/2"	1.18 [30]	6.50 [165]	4.72 [120]	2.56 [65]	11.56 [294]	14.80 [376]
VKF1x.080	3″	1.18 [30]	7.68 [195]	5.21 [132]	3.15 [80]	11.85 [301]	14.63 [372]
VKF1x.100	4"	1.18 [30]	8.66 [220]	6.30 [160]	3.94 [100]	12.25 [311]	16.03 [407]
VKF1x.125	5″	1.57 [40]	9.84 [250]	7.48 [190]	4.92 [125]	13.72 [348]	18.04 [458]
VKF1x.150	6"	1.57 [40]	11.81 [300]	8.50 [216]	5.91 [150]	14.22 [361]	19.72 [501]
VKF1x.200	8″	1.57 [40]	13.39 [340]	10.67 [271]	7.87 [200]	15.20 [386]	21.89 [556]

<sup>1</sup> Mating flange bolt circles and recommended bolts can be found in VKF1... Technical Instructions n7673us.

## **Dimensions (continued)**

Dimensions in inches; millimeters in brackets

#### VA40...VKF1x Valve Actuator Assemblies



#### Table 2: VA40...VKF1x Dimensions<sup>1</sup>

Valve Part Number	Valve Size	A	В	С	D	E	F
VKF1x.032	1-1/4"	1.18 [30]	4.72 [120]	2.83 [72]	1.26 [32]	12.21 [310]	13.64 [346]
VKF1x.040	1-1/2"	1.18 [30]	5.12 [130]	3.21 [81]	1.57 [40]	12.37 [314]	13.99 [355]
VKF1x.050	2″	1.18 [30]	6.10 [155]	3.97 [101]	1.97 [50]	12.56 [319]	14.57 [370]
VKF1x.065	2-1/2"	1.18 [30]	6.50 [165]	4.72 [120]	2.56 [65]	12.86 [327]	16.10 [409]
VKF1x.080	3″	1.18 [30]	7.68 [195]	5.21 [132]	3.15 [80]	13.15 [334]	15.93 [405]
VKF1x.100	4"	1.18 [30]	8.66 [220]	6.30 [160]	3.94 [100]	13.55 [344]	17.33 [440]
VKF1x.125	5″	1.57 [40]	9.84 [250]	7.48 [190]	4.92 [125]	15.02 [382]	19.34 [491]
VKF1x.150	6"	1.57 [40]	11.81 [300]	8.50 [216]	5.91 [150]	15.52 [394]	21.02 [534]
VKF1x.200	8"	1.57 [40]	13.39 [340]	10.67 [271]	7.87 [200]	16.50 [419]	23.19 [589]

<sup>1</sup> Mating flange bolt circles and recommended bolts can be found in VKF1... Technical Instructions n7673us.

## Dimensions (continued)

Dimensions in inches; millimeters in brackets



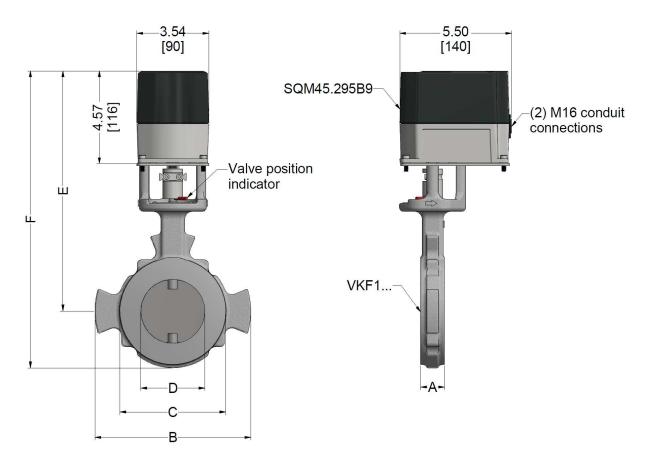


Table 3: VA45...VKF1x Dimensions<sup>1</sup>

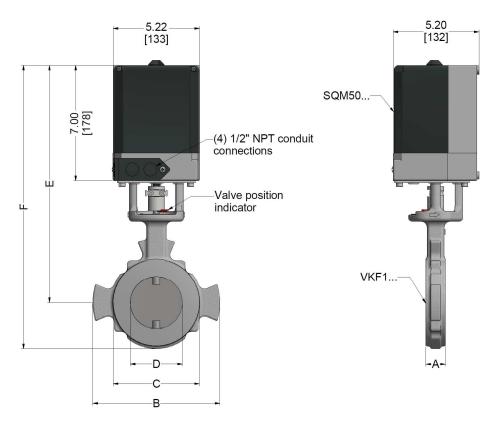
Valve Part Number	Valve Size	Α	В	С	D	E	F
VKF1x.032	1-1/4"	1.18 [30]	4.72 [120]	2.83 [72]	1.26 [32]	10.91 [277]	12.34 [313]
VKF1x.040	1-1/2"	1.18 [30]	5.12 [130]	3.21 [81]	1.57 [40]	11.07 [281]	12.69 [322]
VKF1x.050	2″	1.18 [30]	6.10 [155]	3.97 [101]	1.97 [50]	11.26 [286]	13.27 [337]
VKF1x.065	2-1/2"	1.18 [30]	6.50 [165]	4.72 [120]	2.56 [65]	11.56 [294]	14.80 [376]
VKF1x.080	3″	1.18 [30]	7.68 [195]	5.21 [132]	3.15 [80]	11.85 [301]	14.63 [372]
VKF1x.100	4″	1.18 [30]	8.66 [220]	6.30 [160]	3.94 [100]	12.25 [311]	16.03 [407]
VKF1x.125	5″	1.57 [40]	9.84 [250]	7.48 [190]	4.92 [125]	13.72 [348]	18.04 [458]
VKF1x.150	6"	1.57 [40]	11.81 [300]	8.50 [216]	5.91 [150]	14.22 [361]	19.72 [501]
VKF1x.200	8″	1.57 [40]	13.39 [340]	10.67 [271]	7.87 [200]	15.20 [386]	21.89 [556]

<sup>1</sup> Mating flange bolt circles and recommended bolts can be found in VKF1... Technical Instructions n7673us.

### **Dimensions (continued)**

Dimensions in inches; millimeters in brackets

#### VA50...VKF1x Valve Actuator Assemblies



#### Table 4: VA50...VKF1x Dimensions<sup>1</sup>

Valve Part	Valve	Α	Р	6	D	E	r
Number	Size		В	С	D	E	F
VKF1x.032	1-1/4"	1.18 [30]	4.72 [120]	2.83 [72]	1.26 [32]	13.34 [310]	14.77 [375]
VKF1x.040	1-1/2"	1.18 [30]	5.12 [130]	3.21 [81]	1.57 [40]	13.50 [314]	15.12 [384]
VKF1x.050	2″	1.18 [30]	6.10 [155]	3.97 [101]	1.97 [50]	13.69 [319]	15.70 [399]
VKF1x.065	2-1/2"	1.18 [30]	6.50 [165]	4.72 [120]	2.56 [65]	13.99 [327]	17.23 [438]
VKF1x.080	3″	1.18 [30]	7.68 [195]	5.21 [132]	3.15 [80]	14.28 [334]	17.06 [433]
VKF1x.100	4"	1.18 [30]	8.66 [220]	6.30 [160]	3.94 [100]	14.68 [344]	18.46 [469]
VKF1x.125	5″	1.57 [40]	9.84 [250]	7.48 [190]	4.92 [125]	16.15 [382]	20.47 [520]
VKF1x.150	6"	1.57 [40]	11.81 [300]	8.50 [216]	5.91 [150]	16.65 [394]	22.15 [563]
VKF1x.200	8″	1.57 [40]	13.39 [340]	10.67 [271]	7.87 [200]	17.63 [419]	24.32 [618]

<sup>1</sup> Mating flange bolt circles and recommended bolts can be found in VKF1... Technical Instructions n7673us.

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