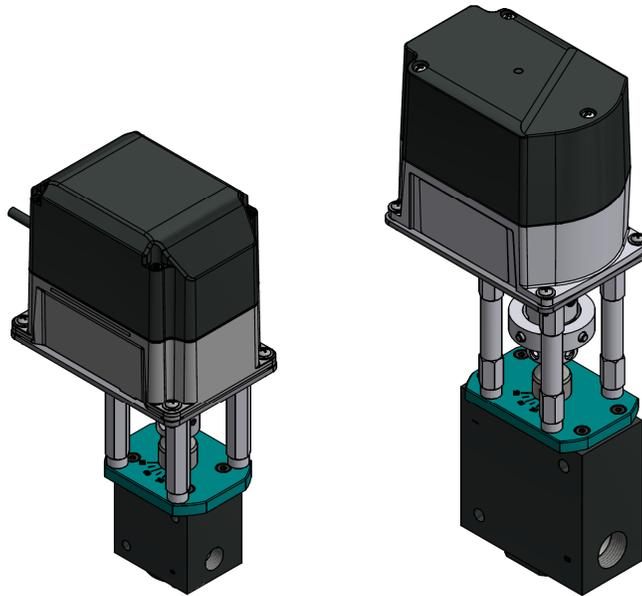


## VA Series

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### VA... Valve Actuator Assemblies with VKO... Oil Valves



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#### Description

VA... valve actuator assemblies include a Siemens SQM... actuator reliably mounted to a VKO... oil valve to control the flow of #2 oil, #4 oil, #6 oil, liquid propane, or B20 biodiesel.

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#### Features

- Precision machined components enable the use of a solid shaft coupling
- Shaft coupling provides a positive connection between the valve and actuator without actuator or valve shaft damage
- Modular design enables field actuator clocking in 90° increments

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#### Application

VA... valve actuator assemblies mount an SQM33, SQM40, SQM45, SQM48, or SQM50 actuator to a VKO... oil valve. The VKO... valve and SQM... actuator are rigidly mounted with Siemens engineered brackets and couplings to ensure precise shaft alignment. VKO technical instructions (CVLV-6000) provide sizing and additional valve information.

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## Product Part Numbers

The following chart provides VA... valve actuator assembly part number identification including an SQM33, SQM40, SQM45, or SQM48 actuator. Technical instructions for SQM33 (N7813), SQM40 (N7817), or SQM45/48 (N7814) actuators are available at [www.scccombustion.com](http://www.scccombustion.com).

### VA 45.2 - VKO11.029AU - N4

#### Valve Actuator Assembly

#### 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, 4-20 mA/135 Ohm/2-10 VDC, high/low fire feedback)
- 40.15 = SQM40.155R11 (12.5 sec, 4-20 mA, independent aux switch)
- 40.21 = SQM40.215R11 (25 sec, 4-20 mA/135 Ohm/2-10 VDC, high/low fire feedback)
- 40.25 = SQM40.255... (25 sec, 4-20 mA, independent aux switch, CCW rotation)
- 45.2 = SQM45.295B9 (stepper, 27 in-lb, for use with LMV5...)
- 48.4 = SQM48.497B9 (stepper, 177 in-lb, for use with LMV5...)

#### VKO Valve Part Number

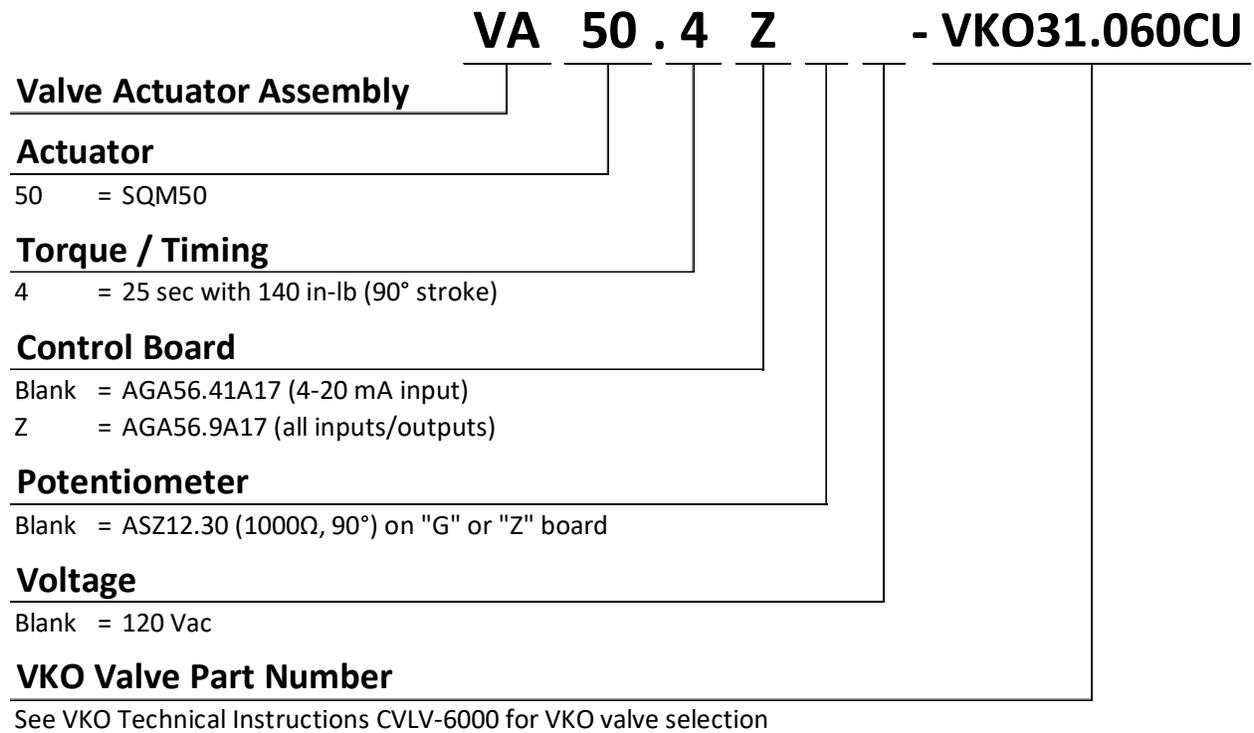
See VKO Technical Instructions CVLV-6000 for VKO valve selection

#### Actuator NEMA Rating

- Blank = NEMA 12 SQM33, SQM45, or SQM48; NEMA 4 SQM40
- N4 = NEMA 4 SQM33, SQM45, or SQM48

## Product Part Numbers (continued)

The following chart provides VA... valve actuator assembly part number identification including an SQM50... actuator. All VA... assemblies with an SQM50... actuator and a VKO... oil valve include the AGA55.5 NEMA 4 kit. Technical instructions (155-517) for SQM50... actuators are available at [www.scccombustion.com](http://www.scccombustion.com).



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## Product Part Numbers (continued)

Due to the torque required to rotate a VKO... oil valve, not all possible SQM... actuator and VKO... valve combinations are possible. SQM... actuator and VKO... valve compatibility is tabulated below.

**Table 1: SQM... Actuator and VKO... Valve Compatibility**

<b>Actuator</b>	<b>VKO1... Valves</b>	<b>VKO3... and VKO5...Valves</b>
SQM33.550A9	✓	x
SQM33.750A9	x	✓
SQM40.1...	✓	x
SQM40.2...	x	✓
SQM45.295B9	✓	x
SQM48.497B9	x	✓
SQM50.4...	x	✓

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## Installation

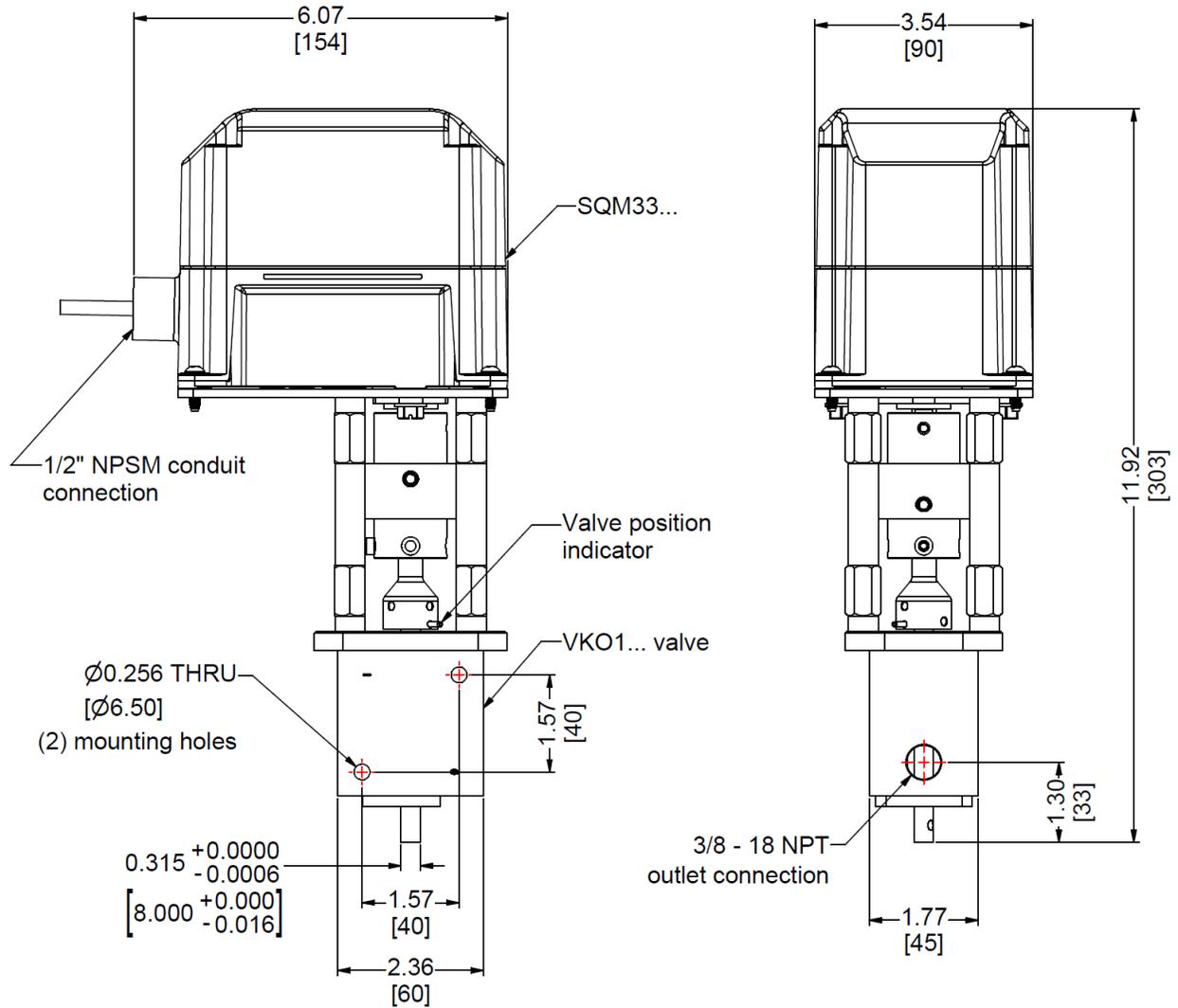
- Assembly may be mounted in any position
- Valve position indicator shows valve position
- The valve inlet connection is labeled “I” and the valve outlet connection is labeled “O”
- A 50 micron (270 mesh) or finer filter is required upstream of the VKO... valve to avoid scale and other particulates from entering the valve. Any pipe between the filter and the valve must be clean.
- Appropriate thread sealant should be applied to all NPT threaded pipe connections. Do not use more than necessary. Excess sealant could become lodged inside the valve body.
- Two unthreaded mounting holes through the valve body are provided in each VKO... valve for securing the valve to a rigid mounting surface
- The limit switches on all assemblies using an SQM40... or SQM50... actuator are set to achieve a 0-90° stroke
- When the fluid temperature exceeds 160°F and the ambient temperature exceeds 100°F, it is highly recommended to mount the assembly with the valve shaft horizontal so that the actuator is not directly above the valve. This greatly reduces the heat transfer to the actuator.
- For fluid temperatures 260°F or below, the maximum ambient temperature of the assembly is 140°F. For fluid temperatures exceeding 260°F, the maximum ambient temperature of the assembly is 120°F.



## Dimensions (continued)

### VA33-VKO11...-N4 NEMA 4 Valve Actuator Assemblies

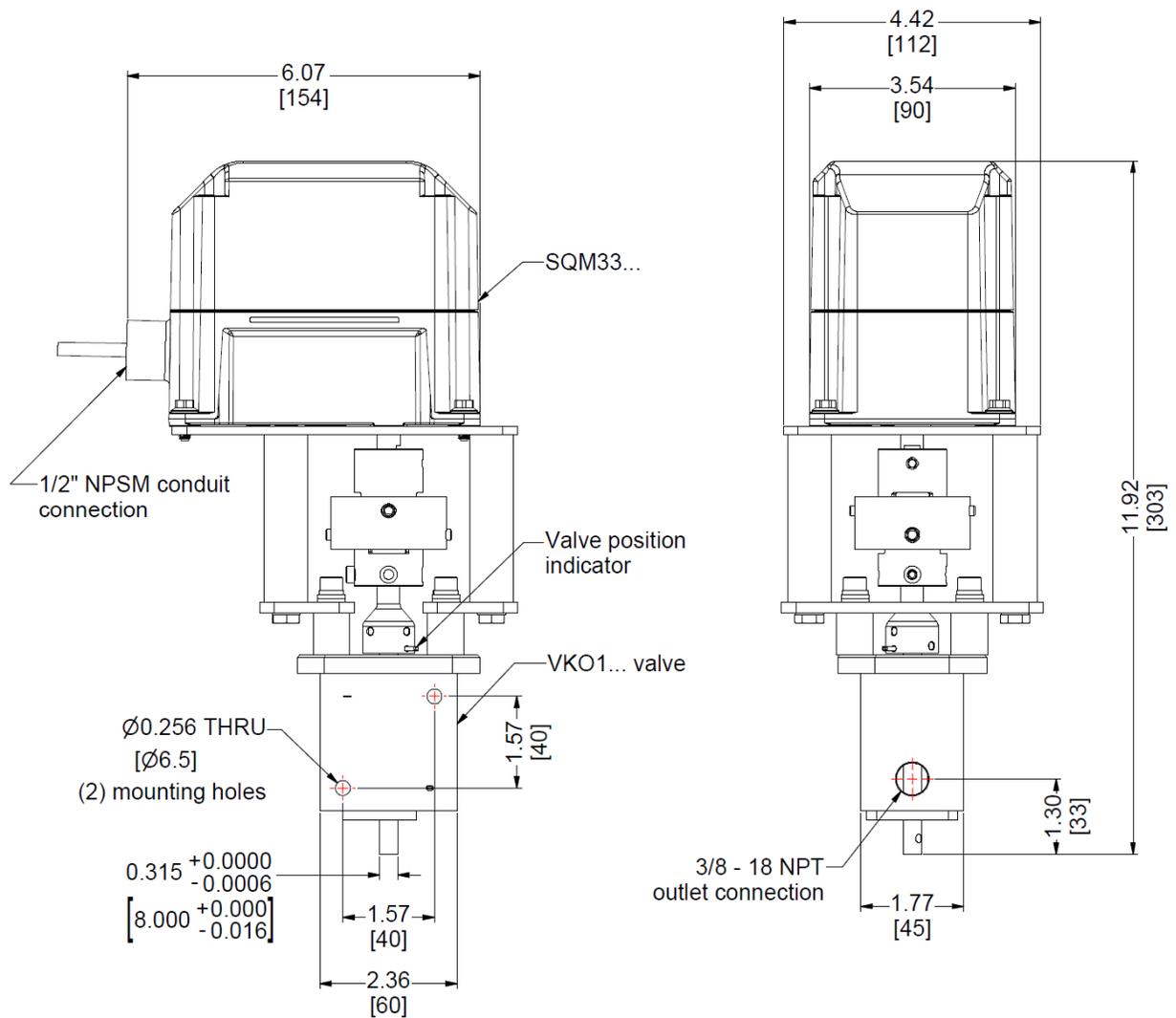
Dimensions in inches [mm]



## Dimensions (continued)

### VA33-VK010... Valve Actuator Assemblies

Dimensions in inches [mm]



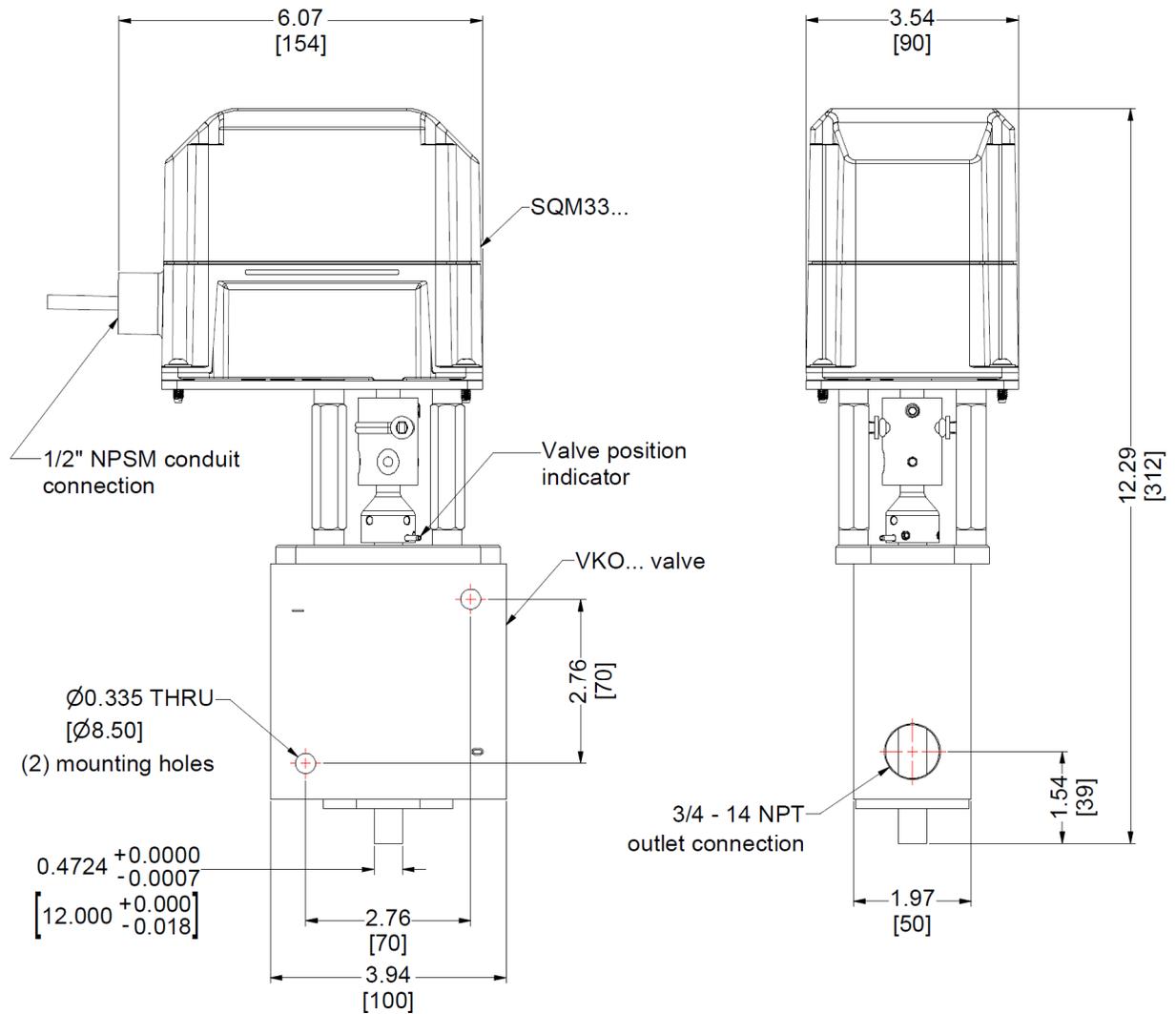
**Note:** When the fluid temperature exceeds 160°F and the ambient temperature exceeds 100°F, it is highly recommended to mount the assembly with the valve shaft horizontal so that the actuator is not directly above the valve. This greatly reduces the heat transfer to the actuator.

## Dimensions (continued)

VA33.7-VK031... NEMA 12 Valve Actuator Assemblies

VA33.7-VK051... NEMA 12 Valve Actuator Assemblies

Dimensions in inches [mm]



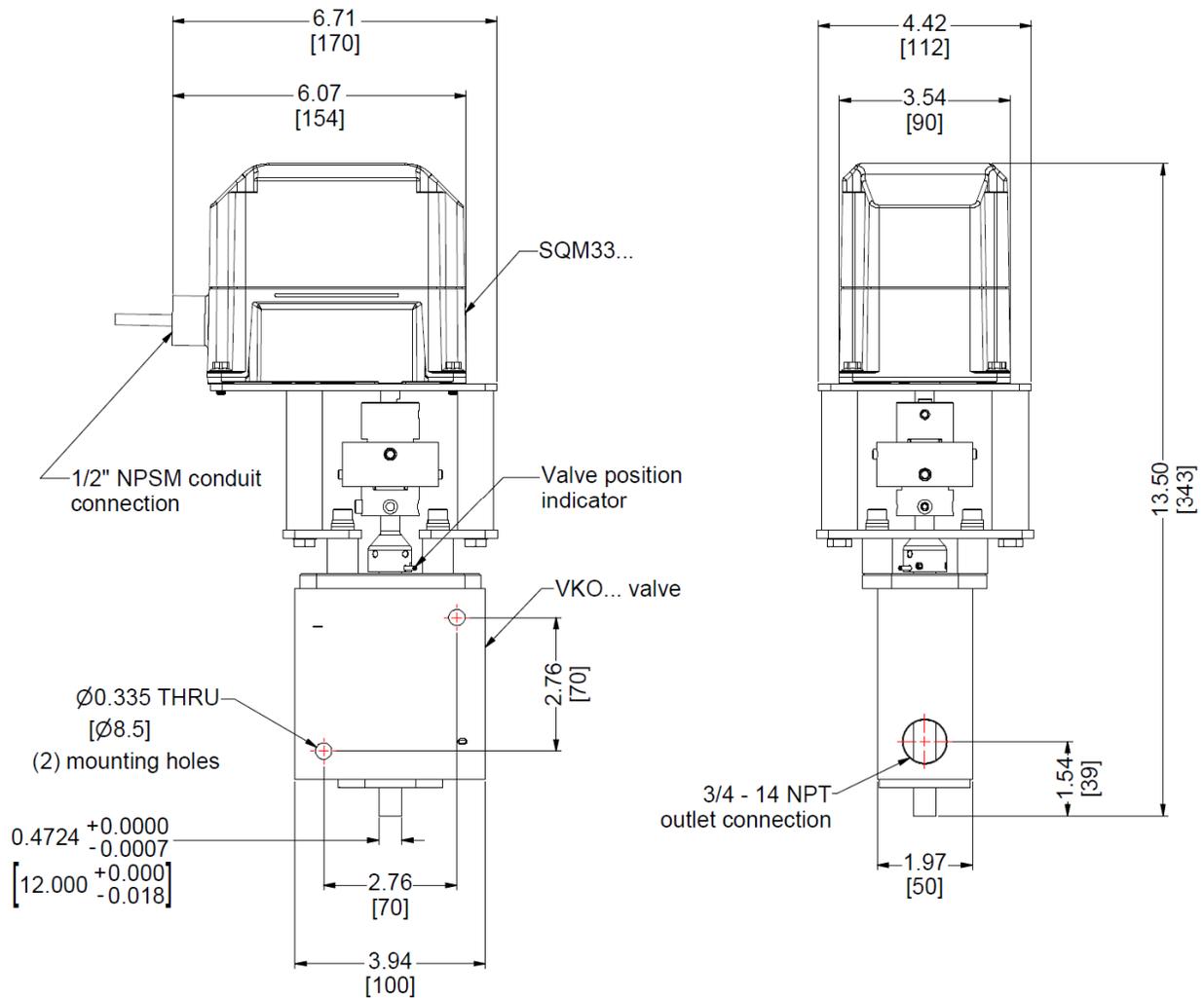


## Dimensions (continued)

### VA33.7-VKO30... Valve Actuator Assemblies

### VA33.7-VKO50... Valve Actuator Assemblies

Dimensions in inches [mm]

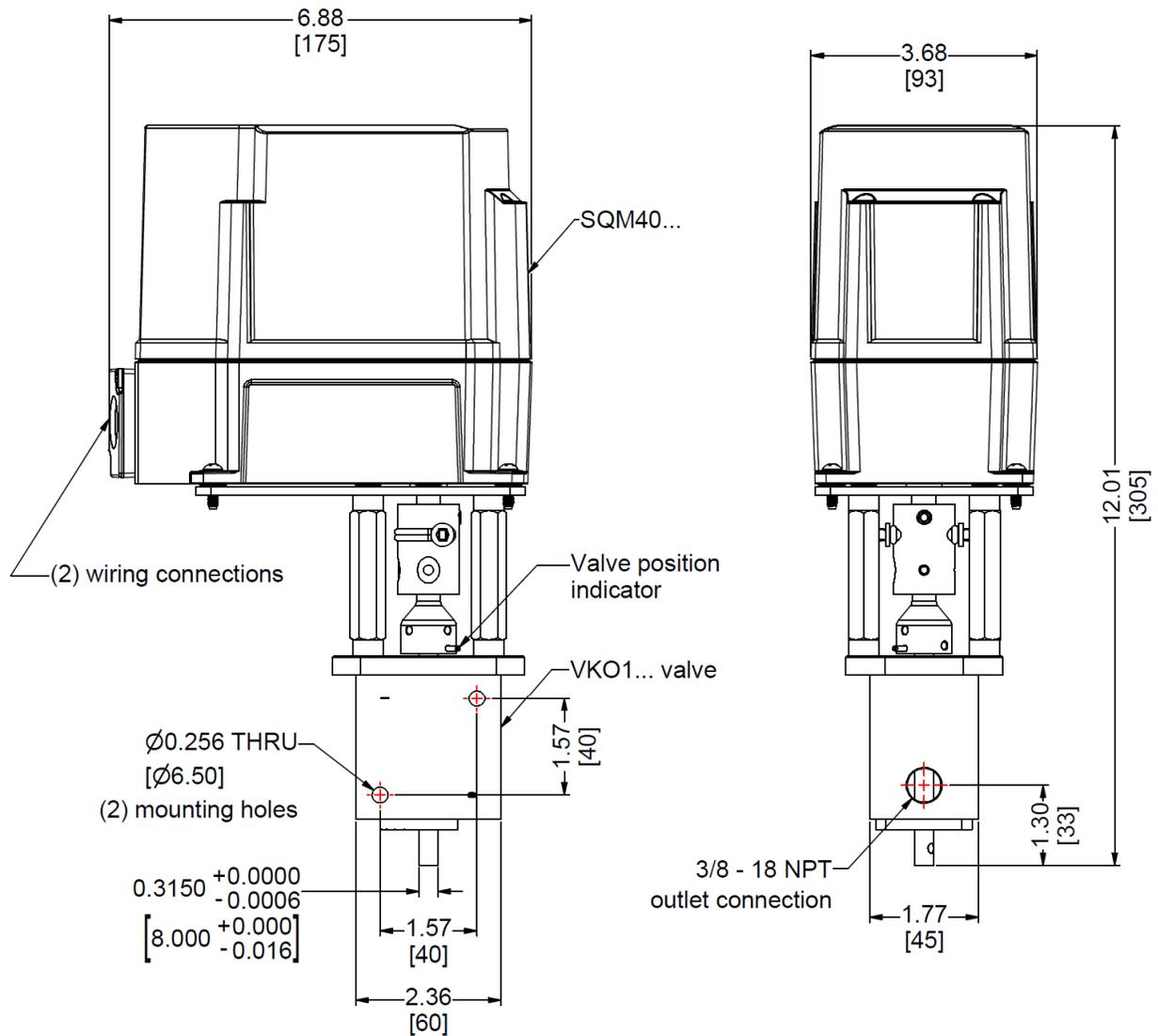


**Note:** When the fluid temperature exceeds 160°F and the ambient temperature exceeds 100°F, it is highly recommended to mount the assembly with the valve shaft horizontal so that the actuator is not directly above the valve. This greatly reduces the heat transfer to the actuator.

## Dimensions (continued)

### VA40...-VKO11... Valve Actuator Assemblies

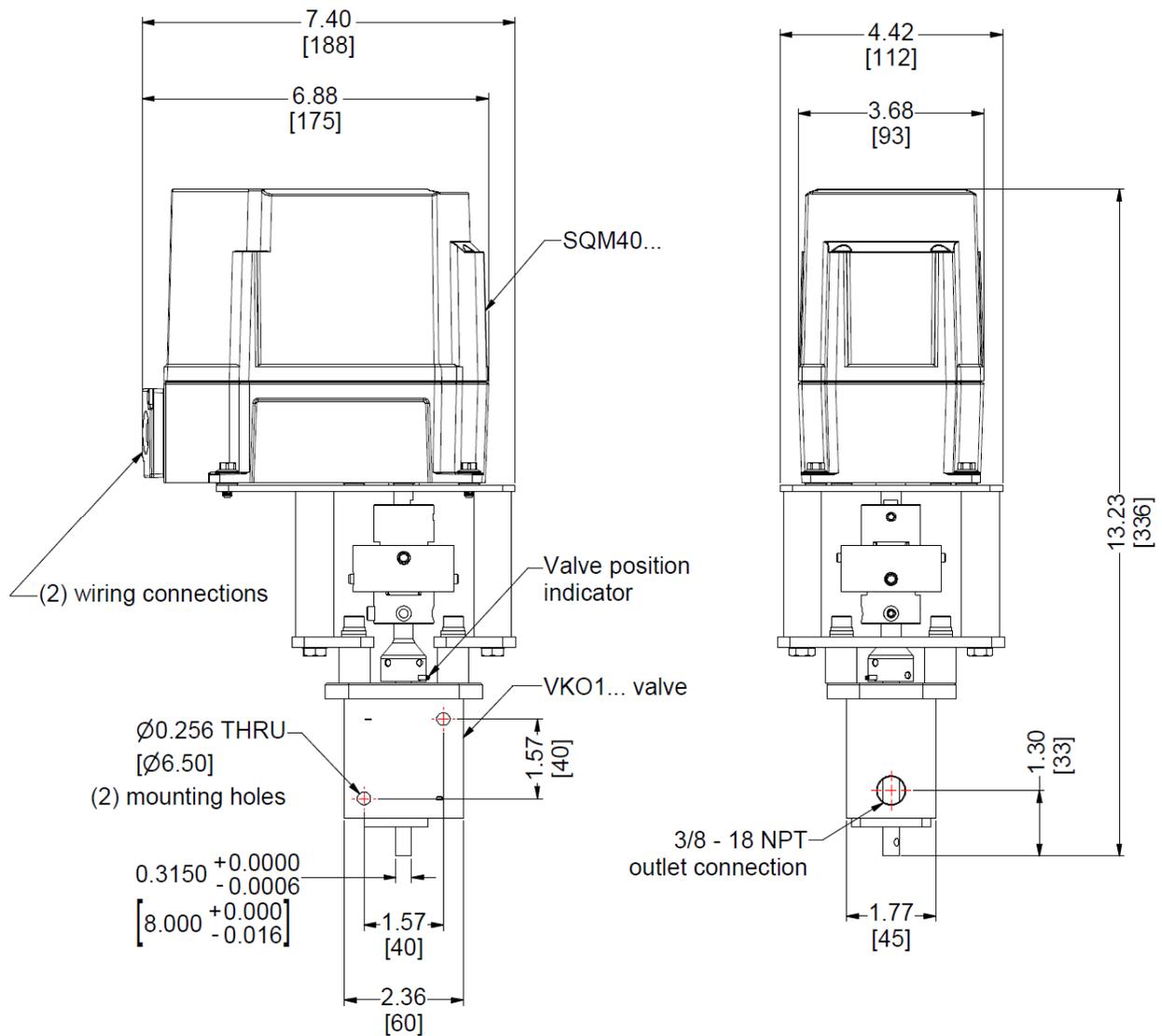
Dimensions in inches [mm]



## Dimensions (continued)

### VA40...-VKO10... Valve Actuator Assemblies

Dimensions in inches [mm]



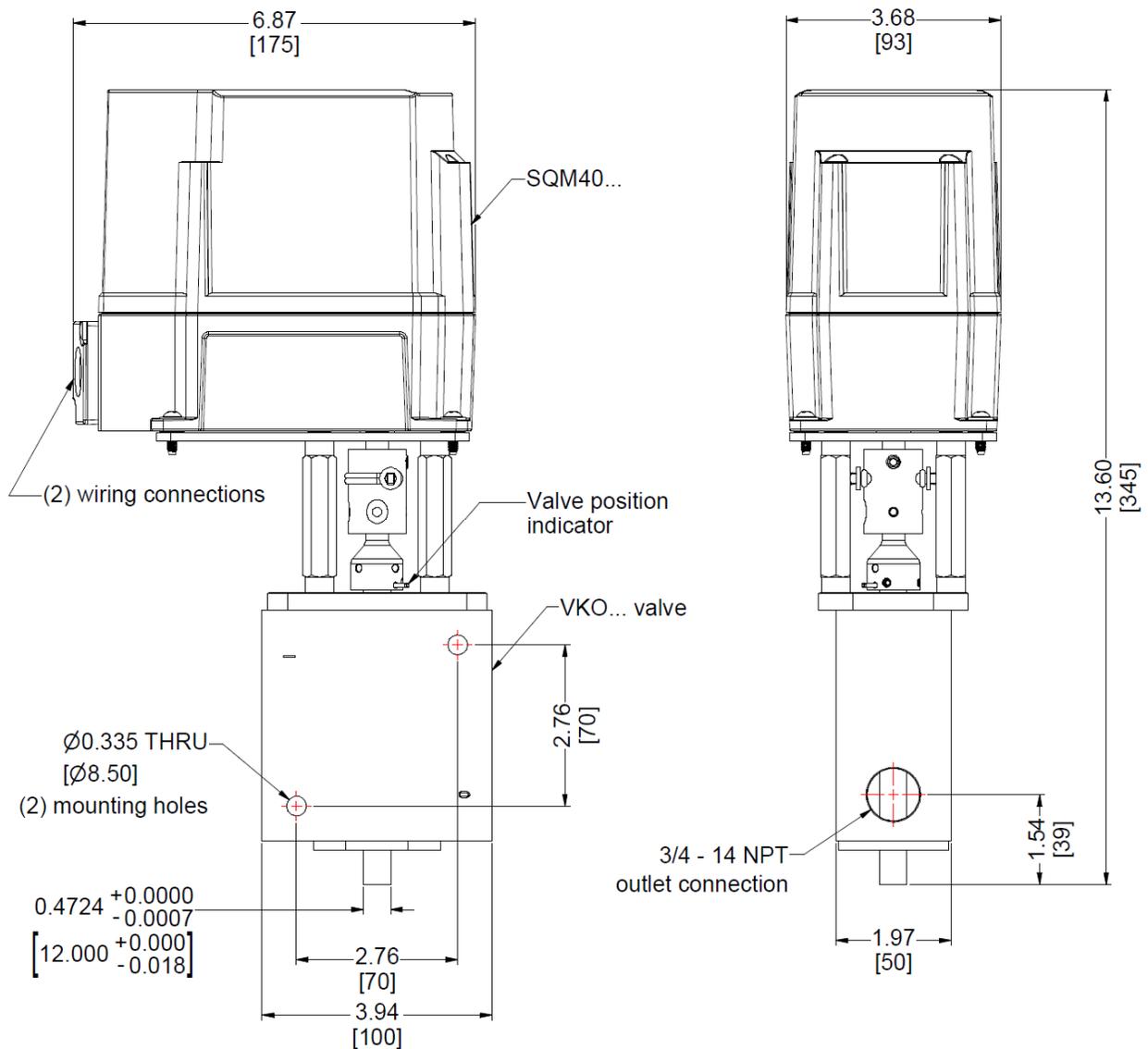
**Note:** When the fluid temperature exceeds 160°F and the ambient temperature exceeds 100°F, it is highly recommended to mount the assembly with the valve shaft horizontal so that the actuator is not directly above the valve. This greatly reduces the heat transfer to the actuator.

## Dimensions (continued)

### VA40...-VKO31... Valve Actuator Assemblies

### VA40...-VKO51... Valve Actuator Assemblies

Dimensions in inches [mm]

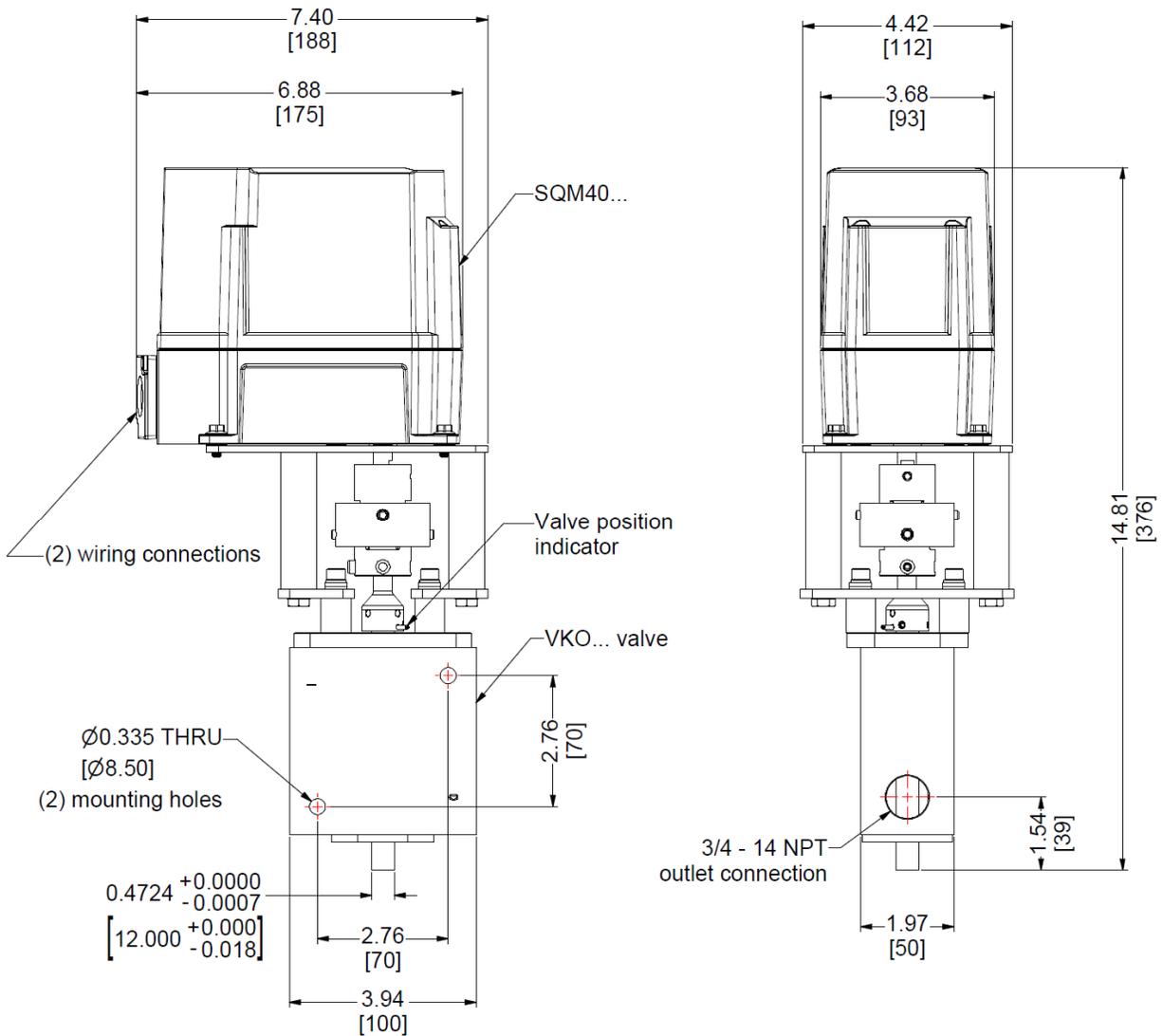


## Dimensions (continued)

VA40...-VKO30... Valve Actuator Assemblies

VA40...-VKO50... Valve Actuator Assemblies

Dimensions in inches [mm]

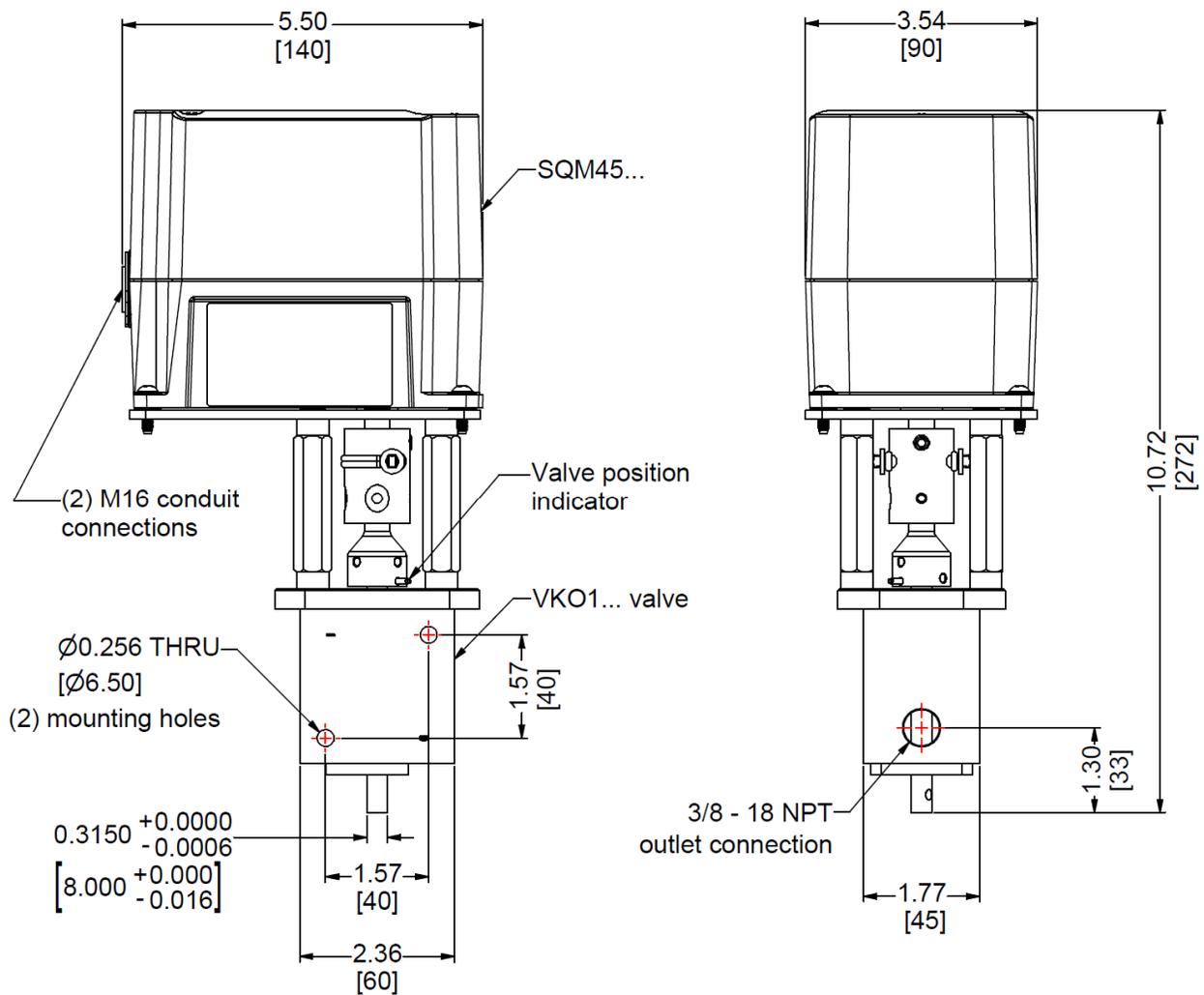


**Note:** When the fluid temperature exceeds 160°F and the ambient temperature exceeds 100°F, it is highly recommended to mount the assembly with the valve shaft horizontal so that the actuator is not directly above the valve. This greatly reduces the heat transfer to the actuator.

## Dimensions (continued)

### VA45.2-VK011... NEMA 12 Valve Actuator Assemblies

Dimensions in inches [mm]

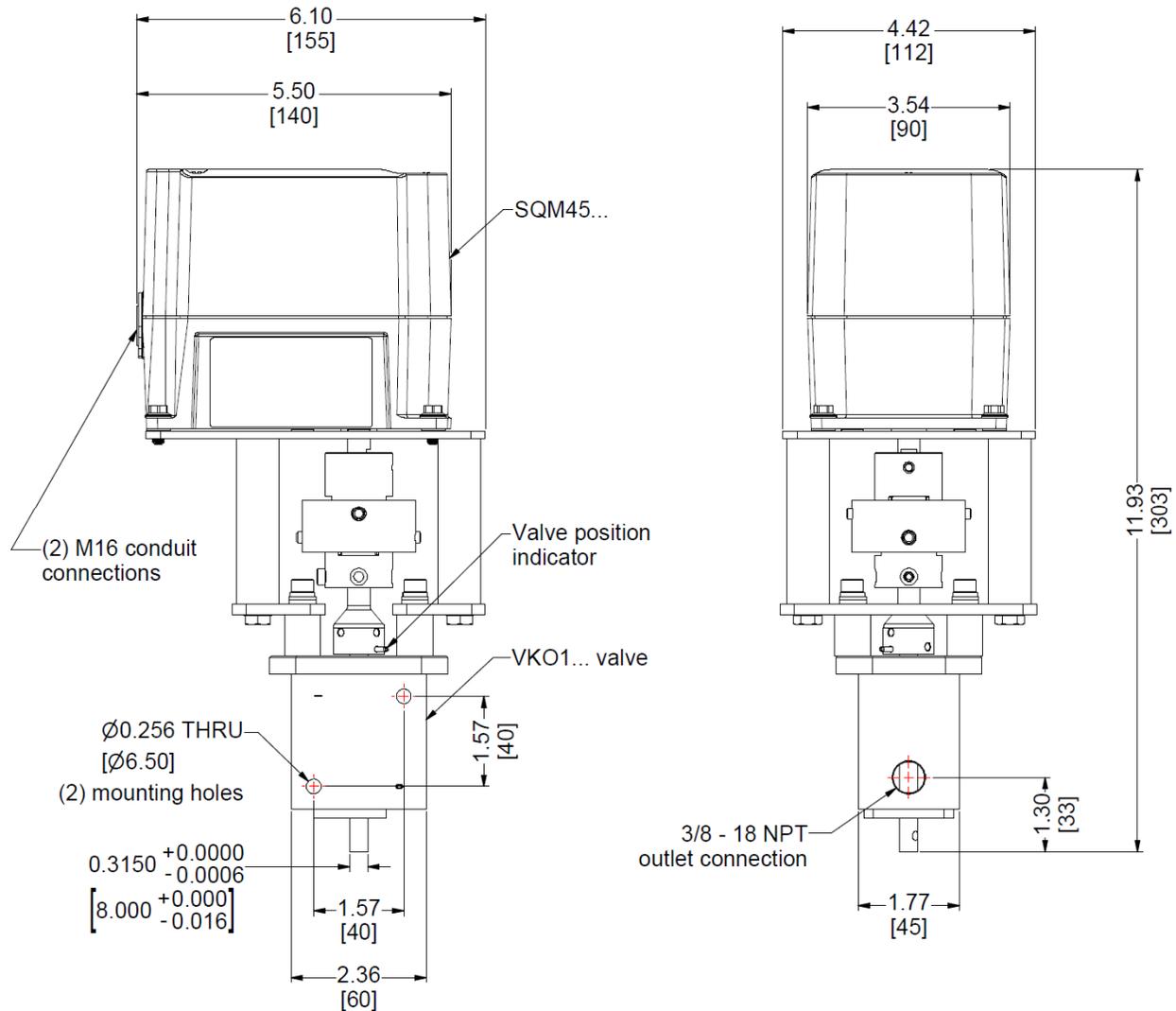




## Dimensions (continued)

### VA45.2-VKO10... Valve Actuator Assemblies

Dimensions in inches [mm]



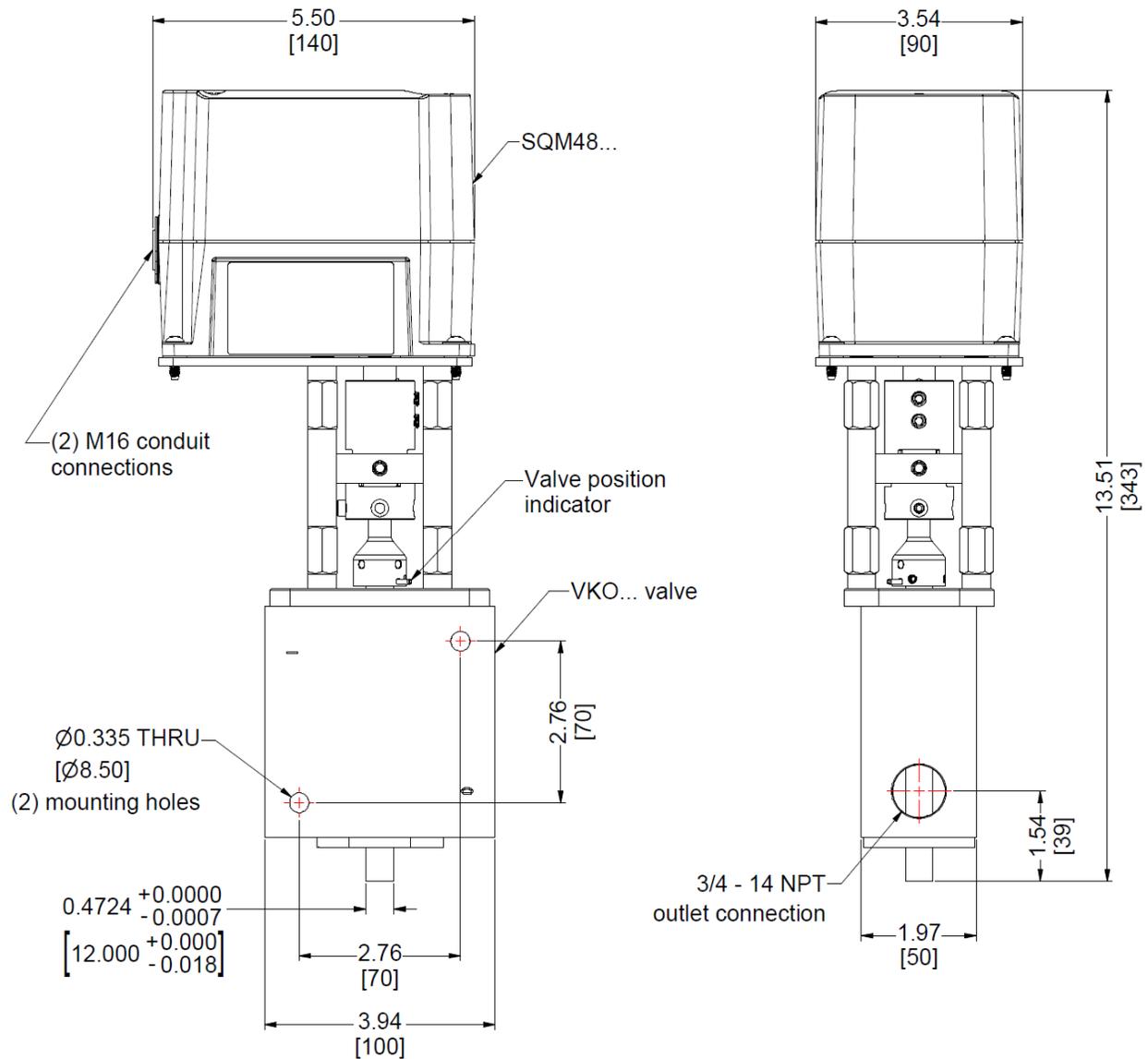
**Note:** When the fluid temperature exceeds 160°F and the ambient temperature exceeds 100°F, it is highly recommended to mount the assembly with the valve shaft horizontal so that the actuator is not directly above the valve. This greatly reduces the heat transfer to the actuator.

## Dimensions (continued)

VA48...-VKO31... Valve Actuator Assemblies

VA48...-VKO51... Valve Actuator Assemblies

Dimensions in inches [mm]



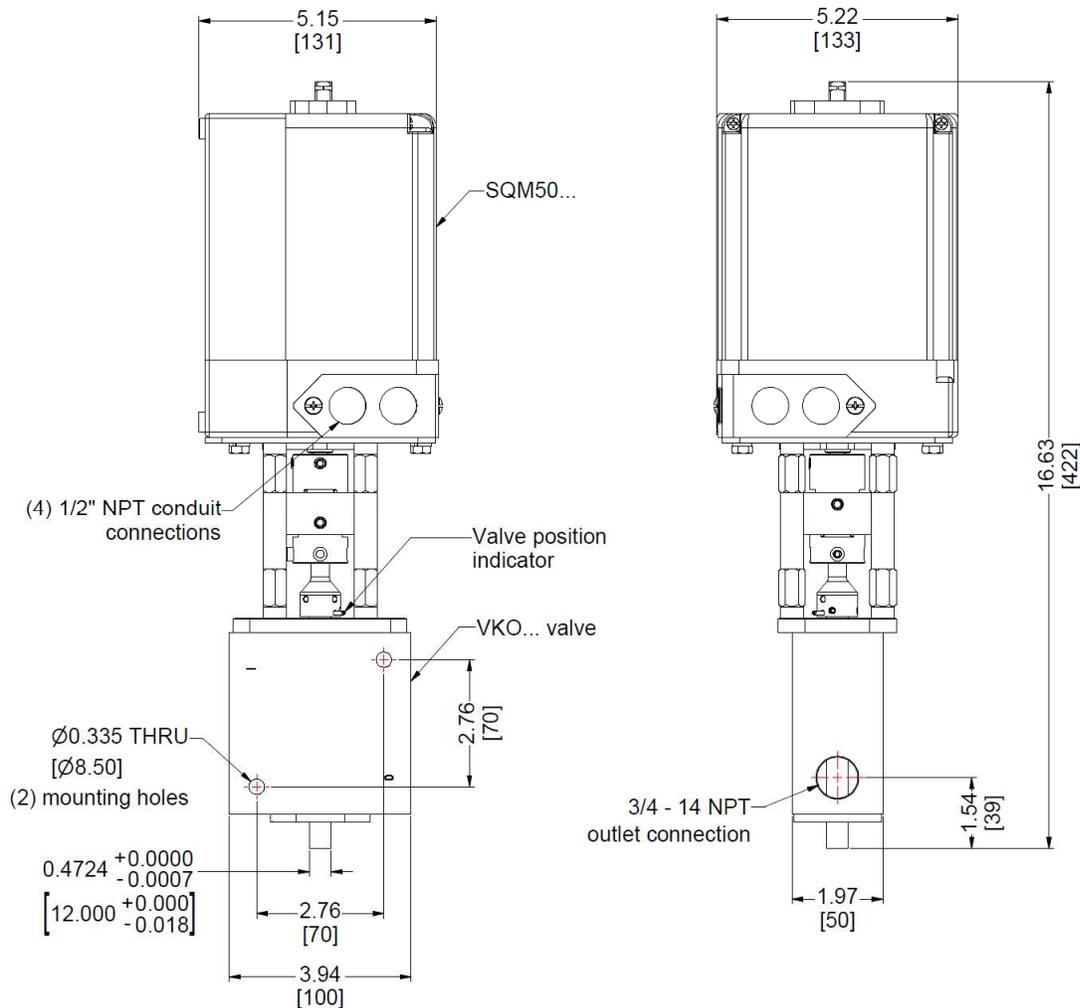


## Dimensions (continued)

### VA50...-VKO3... Valve Actuator Assemblies

### VA50...-VKO5... Valve Actuator Assemblies

Dimensions in inches [mm]



**Note:** When the fluid temperature exceeds 160°F and the ambient temperature exceeds 100°F, it is highly recommended to mount the assembly with the valve shaft horizontal so that the actuator is not directly above the valve. This greatly reduces the heat transfer to the actuator.

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