Spartan Peripheral Devices

THERMOELECTRIC CONTROL VALVES DATA SHEET

5 YEAR GUARANTEE
SPARTAN PERIPHERAL DEVICES

Silent Compact Thermoelectric Actuators (with auxiliary switch)
ME-1706S NORMALLY CLOSED

Principles of Operation

Spartan's thermoelectric actuators (ME-1706S normally closed) utilize a highly refined wax filled element with piston/stem and patented packless elastomer seal. They are silent, extremely compact, inherently fail safe and can operate on hot and cold water, and low pressure steam to 15PSI. A PTC (positive-temperature-coefficient) semi-conductive disc is both temperature control and heat source, inherently controlling at 90°C (194°F). The wax is chemically refined to melt at 70°C (158°F). The element expands in direct proportion to the amount of wax melted, driving the stem through its travel to open the valve. No other travel or thermostatic switches are required. Life expectancy is therefore in multiple decades and unconditionally guaranteed by Spartan Peripheral Devices for 5 years.

Spartan Valve Bodies

These actuators can be installed on a multitude of **Spartan** 2 way & 3 way terminal unit control valve bodies with different types of connections.

Choose from V240, V241, V243, V245, V246-12F, V243-12I, V320, V321, V323, V325, V420 series of zone valve bodies.

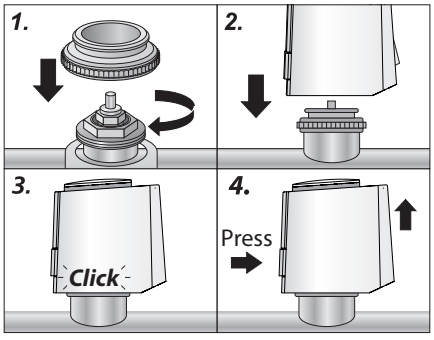
See Zone Valve Bodies Data Sheet.

QUICK BAYONET COUPLING INSTALLATION

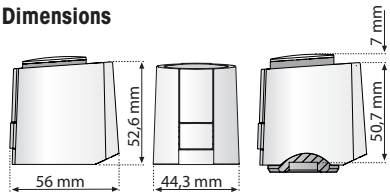
Simply snap on the ME-1706S Actuator to the manually pre-installed valve adapter. They are designed for quick and easy attachment release.

First Open Function

In its delivery condition, the Actuator is kept open when de-energised due to the First-Open function. During the first electrical start-up, the First-Open function is automatically unlocked by applying the operating voltage for more than 6 minutes.The valve drive is now fully operable .



Dimensions



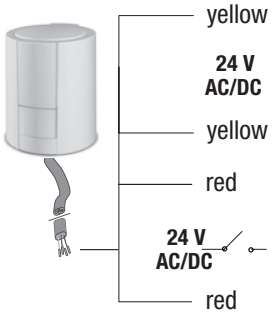
Spartan thermoelectric valves are silent and extra compact for installation in low profile cabinets.

TECHNICAL DATA

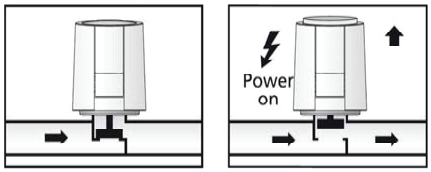
Power off position: Normally Closed
Operating voltage: 24 V AC/DC, +20%...-10%
Max. inrush curre nt: < 300 mA during max. 2 min.
Operating power: 1W
Stroke (actuator travel): 5.0 mm
Actuating force: 100 N ±5%
Switching current for micro switch: 24 V AC: 0.5 A resistive load
Switching point of micro switch: NC approx. 2 mm
Fluid temperature: 0 to +100°C 2)
Storage temperature: -25 °C to +60°C
Ambient temperature: 0 to +60°C
Housing material / colour: Polyamide / light grey (RAL 7035)
Cable length: 1 m Weight with connecting cable (1 m): approx. 150 g

Conformity
Surge protection according to: EN 60730-1 min. 2.5 kV
Degree / class of protection: IP 54 3)
CE conformity according to: EN 60730
Power supply: Class II as per UL/CSA
Conforms to ROHS

WIRING DIAGRAM



POSITION INDICATOR



The position indicator of the actuator allows you to identify, at a glance, the operating condition (valve open or closed). It is also possible to know the current operating state in the dark by feeling the position indicator (indicator up = valve open).

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Spartan Peripheral Devices

THERMOELECTRIC CONTROL VALVES DATA SHEET

ME-17065 NORMALLY CLOSED Silent Compact Thermoelectric Actuators (with auxiliary switch)

Valve Body	Description	Size	*Cartridge CV/KV selection	Actuator ME1706S	EP Cartridge Max. Close-off PSI / Bar	EB Cartridge Max. Close-off PSI / Bar
V240 - 2 way Straight valve body - union connection both ports						
V240-12X	2 Unions in-line - Select 1/2" (12) or 3/4" (34) unions, solder S or threaded N		BC- 0.15,0.25	VE240-BCXX-1706S	60 / 4.0	-
V240-12X			(EP or EB)-0.50,1.0,1.5,2.0,2.5,3.5	VE240-EP/EBXX-1706S	60 / 4.0	-
V240-34X			(EP or EB)-0.50,1.0,1.5,2.0,2.5,3.5	VE240-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V241 - 2 way Straight valve body - threaded female port in, X union connection port out						
V241-12	Single Union Straight Female port in Male union out	1/2"	BC-0.15,0.25	VE241-12-BCXX-1706S	60 / 4.0	-
V241-12		1/2"	(EP or EB)-0.50,1.0,1.5,2.0,2.5,3.5	VE241-12-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V241-34		3/4"	(EP or EB)-1.0,1.5,2.0,2.5,3.5,4.5	VE241-34-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V241-10		1"	EB-6.0,6.4,8.0,9.0	VE241-10-EP/EBXX-1706S	-	100 / 6.8
V243 - 2 way Straight valve body - threaded female port in, X threaded female port out						
V243-12	Female by Female Port Straight	1/2"	BC-0.15,0.25	VE243-12-BCXX-1706S	60 / 4.0	-
V243-12		1/2"	(EP or EB)-0.50,1.0,1.5,2.0,2.5,3.5	VE243-12-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V243-34		3/4"	(EP or EB)-1.0,1.5,2.0,2.5,3.5,4.5	VE243-34-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V243-10		1"	EB-6.0,6.4,8.0,9.0	VE243-10-EBXX-1706S	-	100 / 6.8
V245 - 2 way Straight valve body - solder female port in, X solder female port out						
V245-12	For 5/8" copper pipe	1/2"	BC-0.15,0.25	VE245-12-BCXX-1706S	60 / 4.0	-
V245-12	For 5/8" copper pipe	1/2"	(EP or EB)-0.50,1.0,1.5,2.0,2.5,3.5	VE245-12-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V245-34	For 7/8" copper pipe	3/4"	(EP or EB)-1.0,1.5,2.0,2.5,3.5,4,5	VE245-34-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V260 - 2 way Angle valve body - double union OR V261 - 2 way angle valve body - threaded female port in, union connection port out						
V260/V261-12	Angle body Single or Double Union	1/2"	(EP or EB)-0.50,1.0,1.5,2.0,2.5,3.5	VE26X-12-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V260/V261-34		3/4"	(EP or EB)-1.0,1.5,2.0,2.5,3.5,4,5	VE26X-34-EP/EBXX-1706S	45 / 3.0	100 / 6.8
V261-10		1"	EB-6.0,6.4,8.0,9.0	VE26X-10-EP/EBXX-1706S	-	100 / 6.8
V320 - 3 way Diverting valve body - unions on all three ports						
V320-12X	3 Way Diverting - Select 1/2" or 3/4" unions, solder S or threaded N		ED1.0,2.0,3.0,3.5	VE320-12-EDXX-1706S	50 / 3.4	-
V320-34X			ED1.0,2.0,3.0,3.5	VE320-34-EDXX-1706S	50 / 3.4	-
V345-34			CV5.5	VE345-34-5.5-1706S	50 / 3.4	-
V345-10			CV5.5	VE345-10-5.5-1706S	50 / 3.4	-
V321 - 3 way Mixing valve body - unions on all three ports						
V321-12-EM3.5 Sel 1/2" or 3/4" unions S or N		1/2", 3/4" 3.5	VE321-12-EM3.5-1706S	50 / 3.4	-	
V323 - 3 way Diverting valve body - thread female all ports						
V323-12	Female thread	1/2"	ED1.0,2.0,3.0	VE323-12-EDXX-1706S	50 / 3.4	-
V325 - 3 way Diverting valve body - direct solder						
V325-12	For 5/8" copper pipe	1/2"	ED1.0,2.0,3.0,3.5	VE325-12-EDXX-1706S	50 / 3.4	-
V325-34	For 7/8" copper pipe	3/4"	ED1.0,2.0,3.0,3.5	VE325-34-EDXX-1706S	50 / 3.4	-

*Select CV from available cartridges and replace XX with CV value in complete part number of the assembly. †Maximum differential pressure to prevent water noise.