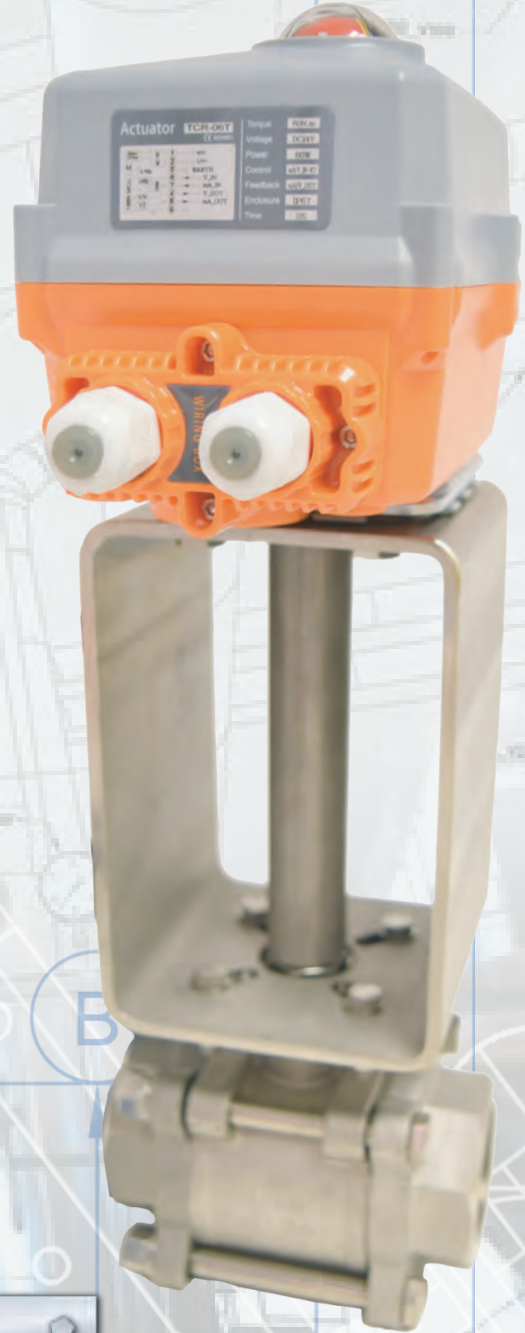


JVV V-BALL SERIES CONTROL VALVE IOM BULLETIN

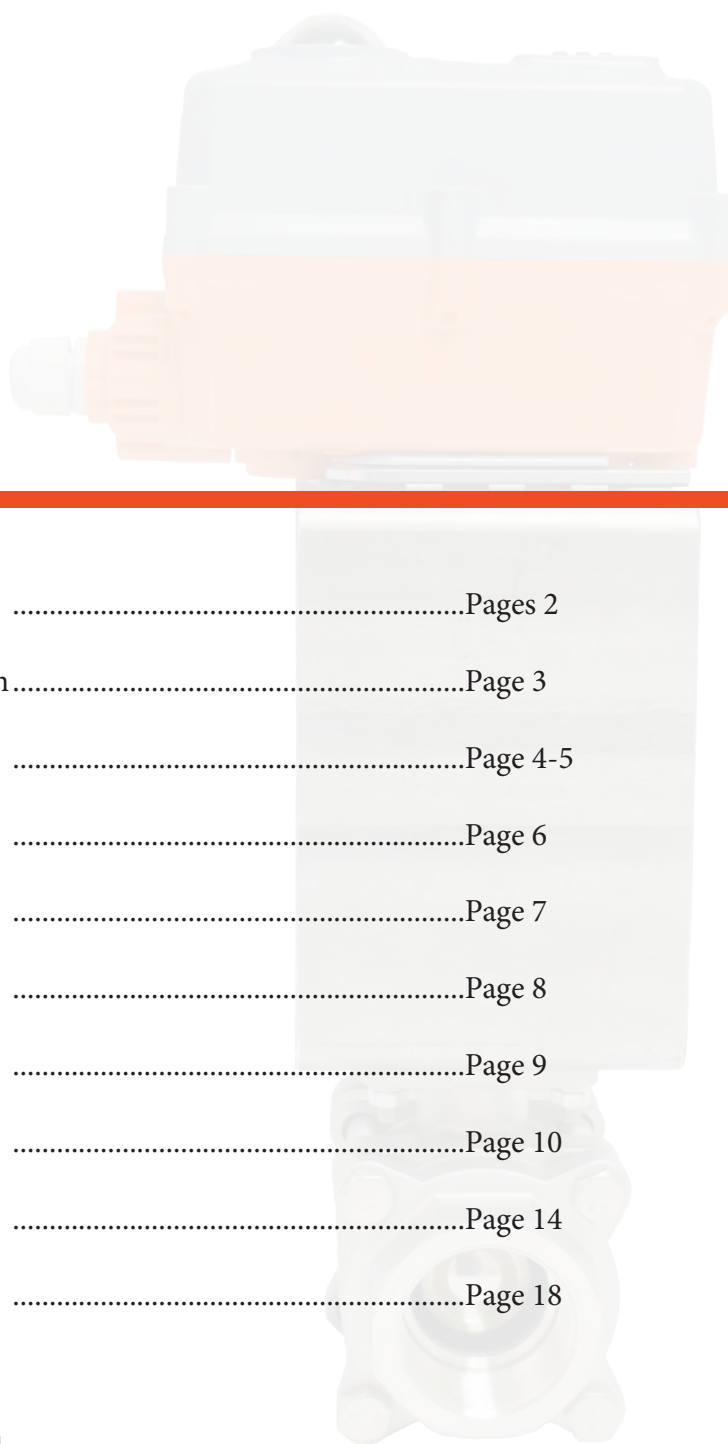


THERMAFLO
INCORPORATED

SINCE 1986

MANUFACTURERS OF STEAM FIRED SPECIALTY EQUIPMENT

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JVV V-BALL CONTROL VALVE INSTALLATION | OPERATION | MAINTENANCE BULLETIN

The ThermaFlo JVJ V-Ball Series Control Valve is designed for high speed 100% duty for temperature pressure and level control applications. Specifically designed for steam, high temperature hot water, and other rigorous control applications. Dead tight 100% Class VI Shutoff Flow.

The equal percentage segmented and V inner ball design provides the user with accurate control over a 100:1 flow turndown rangeability and 1000:1 actuator rangeability. Half the size and weight of any conventional globe control valve, the JVJ is simple to install. The high-speed electronic actuator accepts 0-10v or 4-20 ma input control signal and can be split range control when required. The JVJ Series high flow CV reduces valve size, space and overall weight of any application in your piping system.

JVV V-BALL STANDARD FEATURES

**MACHINED 316
STAINLESS STEEL CONTROL
SHAFT NON SLIP KNURL PAD**

**ENGINEERED HIGH TEMPERATURE
EXTENDED STAINLESS STEEL
MOUNTING BRACKET**

**HIGH SPEED FAIL SAFE
MODULATING ACTUATOR 0-10V OR
4-20MA CONTROL SIGNAL INPUT**

**HIGH TEMP CHEVRON SEAT AND SHAFT
SEALS IN A MACHINED BASE MOUNT**

**COMPLETE 316 STAINLESS STEEL
BODY, BALL, AND STEM CONSTRUCTION**

**BUBBLE TIGHT CLASS VI STEAM
AND HOT WATER SHUTOFF**

**HIGH V PORT CV FLOW CAPACITIES
AND EXCELLENT EQUAL PERCENTAGE
CHARACTERIZED FLOW**



**MAX OPERATING PRESSURE/TEMPERATURE 450°F
@250 PSIG (HIGHER RATINGS AVAILABLE)**

MAXIMUM AMBIENT TEMPERATURE: 130°F

CUSTOM SLOTTED BALL AND CVS AVAILABLE

**SIZES: 1/2 "THRU 2" CONNECTIONS: NPT OR SOCKET WELD
3" - 8" 150LB OR 300LB AVAILABLE**

**MATERIALS OF CONSTRUCTION: 316 STAINLESS
STEEL BODY, BALL, AND STEM**

REINFORCED TEFLON SEATS

HELPFUL PIPING HINTS

Always install on a horizontal mounting position so that heat does not migrate up the actuator shaft. If the valve can not be installed on a horizontal (3:00 or 9:00 o'clock) position, at minimum, install at a 2:00/11:00 position. The extended mounting bracket allows the actuator to operate below 200°F in steam and hot fluid applications up to 450°F. With any steam control valve installation a proper steam trap drip should be located as close to the intel as possible. If the JVV V-Ball is being used for flow turndowns in excess of 20:1 a ThermFlo HSS steam separator should be installed to remove all entrained condensate and avoid seat wear. The first choice for a drain steam trap will be the ThermaFlo FT42 series and second choice the ThermaFlo 421 Thermodynamic series.

Sizing Notes:

1. Optimum Control Range 20% to 80%.
 2. CV Reduced 40% when installed in a pipe where valve size is more than half the pipe size.
- Example: 2" Pipe and Control Valve Size 3/4"
3. When sizing for steam pressure control refer to the JVV pressure reducing sizing chart for lbs/hr capacity.

DIMENSIONS (Shown in Inches)

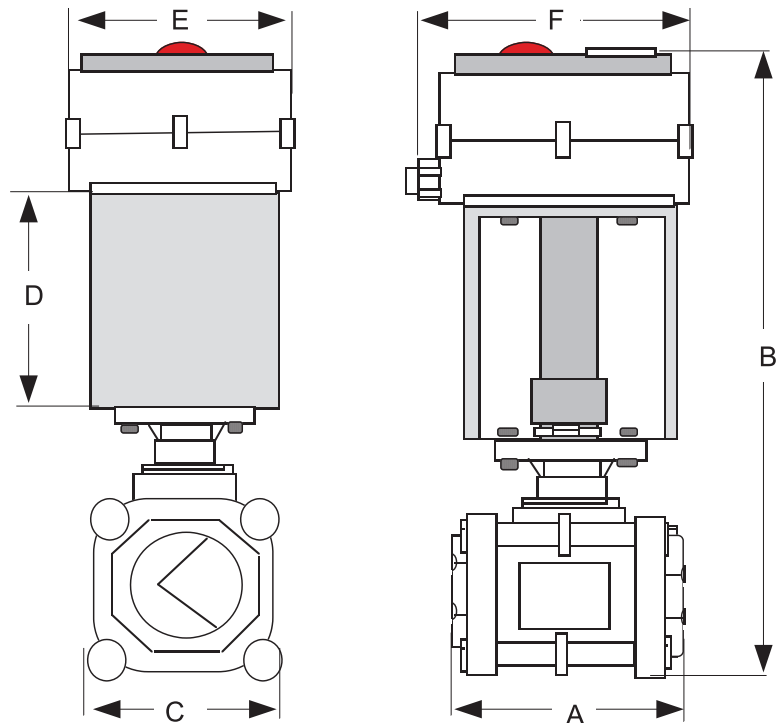
VALVE SIZE	A	B	C	D	E	F
1/2"	2.5	14	2	6	3	4
3/4"	2.9	14	2	6	3	4
1"	3.4	14.5	2.2	6	3	4
1.25"	3.7	14.6	2.9	6	4	6
1.5"	4.3	15	3.2	6	4	6
2"	5.8	15.3	3.5	6	4	6

NOTE: Dimensions may change with inlet pressures over 150 psig due to actuator selection. Consult Factory.

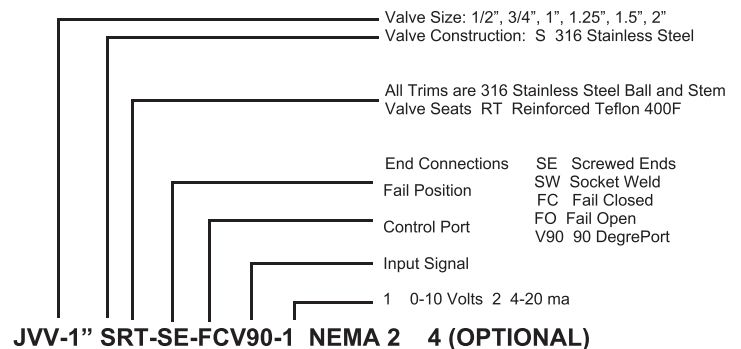
FLOW PERFORMANCE DATA VALVE CV % of Opening 90° Segmented V

SIZE	30%	50%	80%	100%
1/2"	.85	2	8	14
3/4"	1	2.6	10	20
1"	2.7	7.7	24	43
1.25"	3	10.2	34	65
1.5"	3	14	48	90
2"	7.2	25	87	167

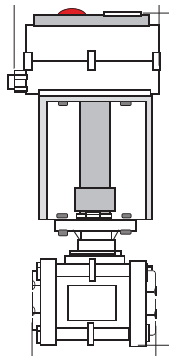
3"- 8" 150lb or 300lb **Available**



JVV V Ball Series Model Number Designation



INSTALLATION, OPERATION & MAINTENANCE FOR JVV SEGMENTED V VALVES



◀ JFE Actuator

◀ Extended Bracket

◀ V-Ball Valve

GENERAL

ThermaFlo JVV V-Ball valves have been designed and engineered to provide long lasting and trouble free service when used in accordance with the instructions and specifications herein. The following instructions refer only to JVV V-Ball Control Valves. Keep protective cover in place until moment of installation. Valve performance depends upon preventing of damage to ball surface. Upon removal of cover, make sure that the valve is completely open and free of obstruction. If requested, valves can be shipped from the factory containing a silicon based lubricant which aids in the assembly of the valve. This may be removed with a solvent if found intolerable. Certain ferrous valves are phosphate and oil dipped during the course of manufacture, but they are completely non-toxic and the valves are quite safe to use for edible or potable products.

STORAGE

All manual valves are shipped in the fully open position with protective end caps (covers). Keep all protective packaging, flange covers, or end caps attached to the valves during storage. To avoid damage to the seat due to contact with the ball's edge, leave the valve in the fully open or closed position during storage. It is recommended to keep the valves in a clean and dry environment until ready for use.

CAUTION

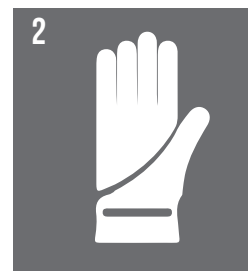
!!!SAFETY PRECAUTION!!!

BEFORE REMOVING VALVE FROM PIPELINE NOTE THAT:

Media flowing through a valve may be corrosive, toxic, flammable, a contaminant or harmful nature. Where there is evidence of harmful fluids having flowed through the valve, the utmost care must be taken. It is suggested that the following minimal safety precautions be taken when handling valves.



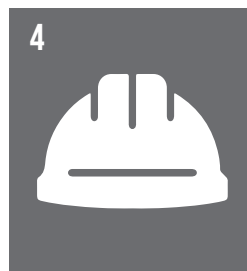
1
ALWAYS WEAR EYE
SHIELDS



2
ALWAYS WEAR GLOVES
AND OVERALLS



3
WEAR PROTECTIVE
FOOTWEAR



4
WEAR PROTECTIVE
HEADGEAR



5
ENSURE THAT RUNNING
WATER IS READILY
ACCESSIBLE



6
HAVE A SUITABLE FIRE
EXTINGUISHER READY IF
MEDIA IS FLAMMABLE

7 Be sure that you are aware of the fluid that has been passing through the valve before opening or dismantling any valve. Require MSDS information.

By checking line gauges, ensure that no pressure is present at the valve. Ensure that any media is released by operating valve slowly to half open position. Ideally, the valve should be decontaminated when the ball is in the half open position.

These valves, when installed, have body connectors which form an integral part of the pipeline and the valve cannot be removed from the pipeline without being dismantled.

Valves and accessories must not be used as a sole support of piping or human weight. Safety accessories such as safety relief (overpressure) valves are the responsibility of the system designer.

It is the user/system designer's responsibility to use insulation in high temperature applications. Refer to OSHA documents for more details.

INSTALLATION

The valve may be installed for flow or vacuum in either direction. Carefully exclude pipe sealants from the valve cavity. When installing, use standard gaskets suitable for the specific service. Tighten flange bolts or studs evenly.

NOTE: When valve is equipped with flange end connections, be sure to support the valve adequately throughout the installation process. Flange weight will exert undesirable loads on the valve body bolts.

OPERATION

JVV valves provide tight shut off when used under normal conditions and in accordance with JV's published pressure/temperature chart. If these valves are used in a partially open (throttled) position seat life may be reduced. JV valves have $\frac{1}{4}$ turn operation closing in a clock-wise direction. It is possible to see when the valve is open or closed by the position of the wrench handle. When the wrench is inline with the pipeline, the valve is open. Any media which might solidify, crystallize or polymerize should not be allowed to stand in the ball valve cavities unless regular maintenance is provided. If minimal maintenance is re-quired, JV offers steam jacketed ball valves.

TORQUE REQUIREMENTS

Torque ratings are subject to variations depending on the length of time between cycles and the media in the system. Breakaway torque is that force which must be exerted to cause the ball to begin to open. Operating torque requirements will vary depending on the length of time between cycles, media in the system, line pressure and type of valve seat.

MAINTENANCE

With self-wiping ball/seats, JV valves have a long, trouble free life, and maintenance is seldom required. When necessary, valves may be refurbished, using a small number of components, none of which require machining. JV valves are designed for easy service and assembly in the field. The following checks will help to extend valve life, or reduce plant problems. JV ball valves utilize live-loaded stem seals featuring Belleville Wash-ers (disk springs) that maintain constant pressure on the Stem Seal area even under a wide range of pressure and temperature fluctuations. If stem leakage is evident proceed as follows:

STEM LEAKAGE

Examine the disk springs (Belleville washers) for damage. If in good condition tighten the gland nut until disk springs are firmly compressed, then back nut off $\frac{1}{16}$ th of a turn. If damaged, dismantle the stem down to the gland, fit new disk springs with their outer edges touching, replace and retighten using gland nut. Further maintenance necessitates dismantling of the valve.

LEAKAGE AT BODY JOINT

Check for tightness at the body connector bolts. If loose, tighten body bolts. Excessive force will damage the bolts (see Table A). If there is still leakage, it will be necessary to dismantle the valve and replace the body seals.

IN-LINE LEAKAGE

Check that the valve is fully closed. If leakage occurs while the valve is in the closed position, a seat or ball sealant surface may be damaged and it will be necessary to disassemble the valve.

NOTE: If stem leakage and leakage at the body joint are not cured by simple means described above, it will be necessary to dismantle the valve. If there is no stem leakage the stem assembly should not be touched.



INSTALLATION, OPERATION & MAINTENANCE FOR JVV SEGMENTED V VALVES

REBUILDING

Before rebuilding, check that all the correct components are available and that they are fit for reassembly. When rebuilding, cleanliness is essential to allow long valve life and provide cost effective maintenance.

CAUTION:
NO BODY OR STEM SEALS ARE REUSABLE.

Care must be taken to avoid scratching the seats and seals during installation. NOTE: Caution must be taken with valves that have been in hazardous media. They must be decontaminated before disassembly by relieving the line pressure and flushing the line with the valve in the partially open position. Protective clothing, face shields, gloves, etc., **MUST BE USED** for this operation. Generally if a valve has been in steam service for over 10 years, it should be totally replaced.

A DISASSEMBLY OF VALVE REMOVED FROM LINE

1. Remove the End Connectors (#1) by removing the Body Bolts (#6A) and Body Bolt Nuts (#6B).
2. Once the End Connectors (#1) have been separated from the Body (#2), remove the Body Seals (#5), Seats (#4), and Seat Retainer, if applicable (#17).
3. Make sure the Ball is in the closed position, thus the Ball (#3) can be taken out easily from the Body (#2).

B REMOVING STEM ASSEMBLY 1/4" – 2"

1. Remove Handle (#12) by removing Handle Nut (#14) along with the Lock Washer (#13).
2. Remove the complete chevron packing seals. Push the Stem (#10) down into the body cavity to remove. Once removed take off the Thrust Washer (#7).

C INSPECTION

1. The ball and the surfaces of the seats should be free of pit marks and scratches. Light marring from the action of the ball against the seats is normal and will not affect the operation of the valve.
2. The stem and body surfaces, which the thrust and washer make contact with, should be free of pit marks and scratches.

D REASSEMBLY

1. Apply an adequate amount of lubricant compatible with the media being handled around the Ball (#10), Seats (#4), Body Seals (#6), Stem (#4), and Thrust Washer (#18).
2. For stem reassembly, disassembly procedure should be followed in reverse order.
3. When stem assembly is complete, tighten Stem Nut according to the values in Table A.
4. With the Stem (#10) in the closed position, insert the Ball (#3) into Body (#1) so that stem slot engages with the tang at the base of the stem.
5. Make sure the Body Seals (#6) rests squarely on the center seal surface of the Body (#1).
6. Insert Seats (#5) into the Body (#1). Make sure seats rest firmly on back surface of each recess.
7. Merge the End Connectors (#2) with the Body (#1).
8. Insert and tighten the Body Bolts (#16) diagonally, in accordance to the cross pattern procedure shown on page 5 for sizes 1/4" to 2-1/2" or page 6 for size 3".
9. In the final assembly step, ensure that the Body Bolts (#6A) are tightened according to torque values in Table A.

INSTALLATION, OPERATION & MAINTENANCE FOR JVV SEGMENTED V VALVES

TORQUE SPECS

Certain precautions need to be followed when tightening bolts down to their corresponding torques to help prevent bolt galling. There are two passes each bolt has to undergo during the process, first pass and the final pass. Once every bolt has met the first pass requirement, the final pass can be initiated. When tightening down bolts it is necessary to follow the corresponding bolt pattern shown below.

TABLE A TORQUE REQUIREMENTS
IN - LBS

Valve Size	Bolt Pattern	BODY BOLTS				Stem Nuts
		Stainless Steel		Carbon Steel		
		First Pass	Final Pass	First Pass	Final Pass	
1/4"	4	48	80	53	88	35
3/8"	4	48	80	53	88	35
1/2"	4	48	80	53	88	35
3/4"	4	48	80	53	88	35
1"	4	101	168	117	195	80
1-1/4"	4	101	168	117	195	80
1-1/2"	4	207	345	240	400	115
2"	4	207	345	240	400	115

TABLE B GENERAL REPAIR KIT
1/4" ~ 2"

Part	Quantity
Thrust Washer	1
Stem Seals	2
Chevron Packing	2
Seats	2
Body Seals	2

REPAIR KIT

Repair Kits are available from ThermaFlo. Table B below shows what the kits consist of. When ordering a Repair Kit, please be sure to specify the type, size and seating material of the valve. When repairing a valve use only ThermaFlo Inc., authorized spare parts including; bolts and nuts, etc. In addition to maintenance kits, spare parts are available from ThermaFlo. They are: balls, stems and glands. If additional parts are required (body and ends), it is normally recommended that the complete valve be replaced. Components from a different valve series should not be used with the repair of any other valve. If the valve is altered in any way, no liability can be accepted by ThermaFlo Inc.

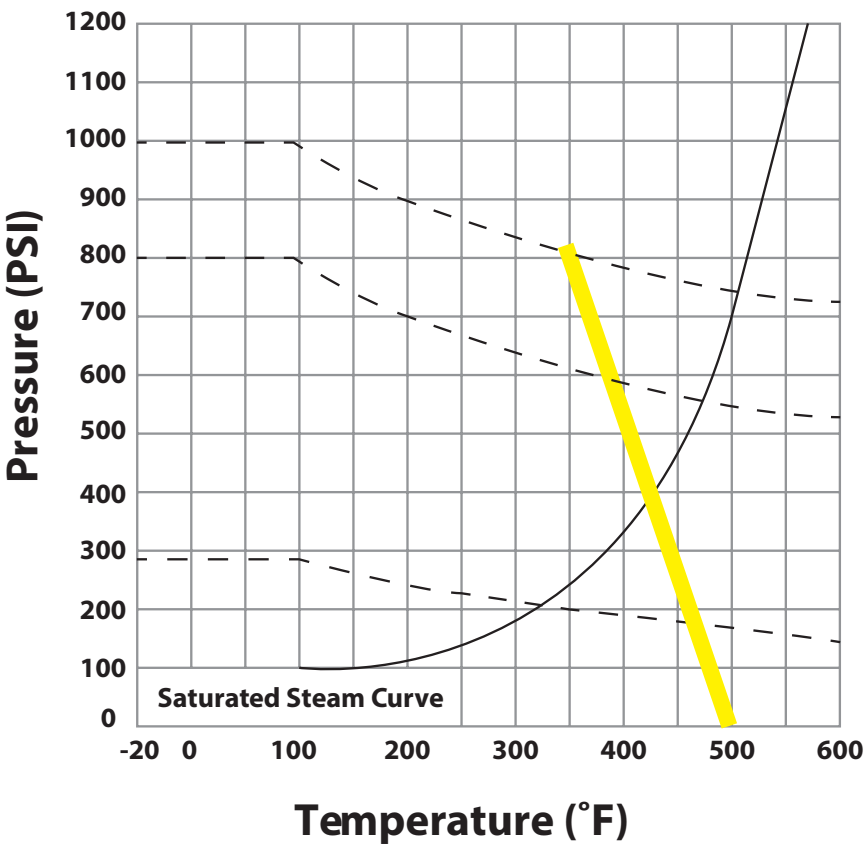
TABLE C

R8	B8
1/4"	-
3/8"	-
1/2"	-
3/4"	1/2"
1"	3/4"
1-1/4"	1"
1-1/2"	1-1/4"
2"	1-1/2"

NOTE: When ordering parts, keep in mind that standard port valves and full port valves use interchangeable parts. Refer to Table C to see the valve size comparison.

THERMAFLO GENERAL REPAIR KIT PART NO JVV-S3 16IN SPECIFY SIZE VALVE AND SERIAL NUMBER

JVV PRESSURE AND TEMPERATURE CHART



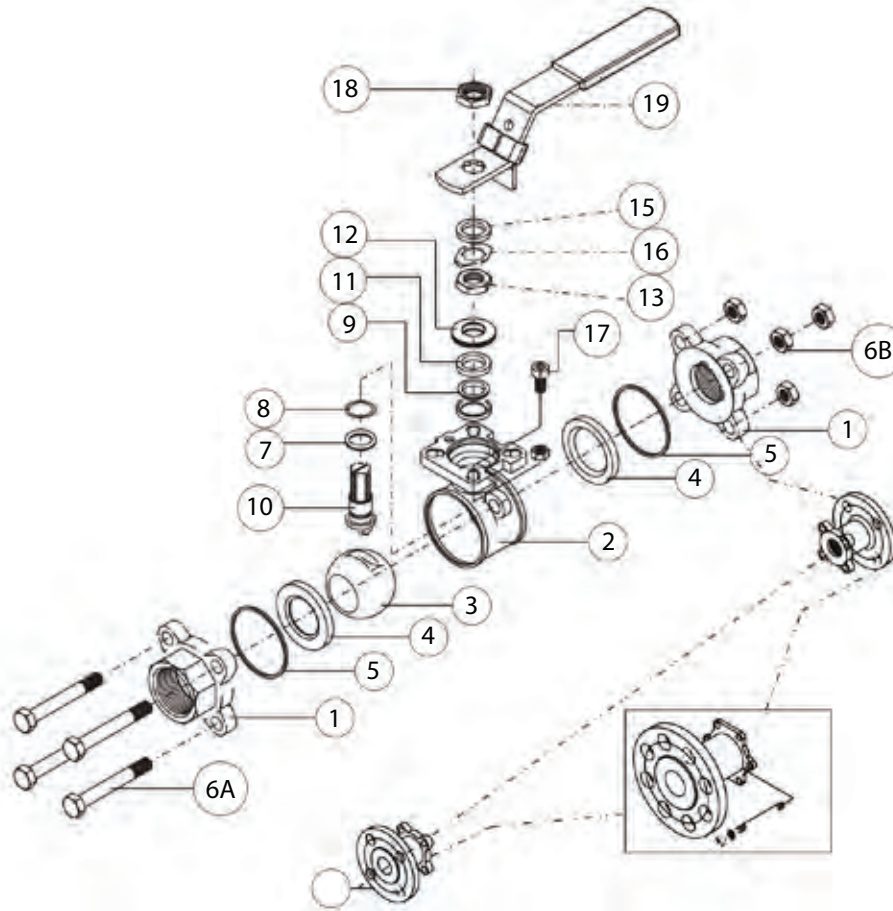
PTFE-S
USED FOR STEAM APPLICATIONS TO 150 PSIG

TORQUE VALUES

SIZE	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
GREASE	31	31	44	49	62	97	150	204
NON-GREASE	44	44	53	62	84	142	239	266

NOTE: Increase Torque value is increased by 40% when sizing JFE actuator for V-Ball.

REPLACEMENT PARTS IDENTIFICATION



No	Part Name	Materials
1	End Cap	CF8M/WCB
2	Body	CF8M/WCB
3	Ball	SS316
4	Seat	TFM
5	Gasket	TFM
6A	Bolt	SS304
6B	Nuts	SS304
7	Thrust Washer	TFM
8	O-Ring	Viton
9	Stem Packing	TFM
10	Stem	SS316
11	Gland	SS304
12	Disk Washer	SS301

No	Part Name	Materials
13	Stem Nut	SS304
14	Nut Stop	SS304
15	Space Washer	SS304
16	Plater	SS304
17	Stop Pin	SS304
18	Handle Nut	SS304
19	Handle	SS304
20	Handle Cover	Plastic
21	Set Bolt	SS304
22	Lever Head	CF8
23	Lever	Steel Pipe

TFE-02T



0.5" - 1" VALVE SIZES

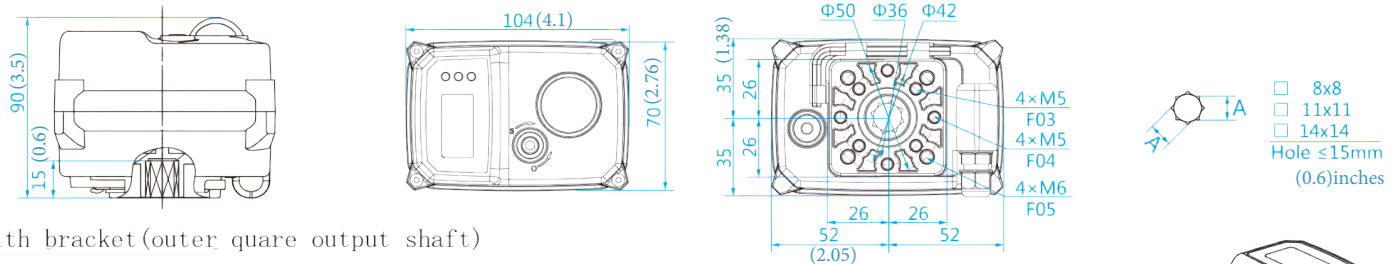
TFE-02T ALL SERIES

INTELLIGENT MODULATING ACTUATOR USAGE INSTRUCTIONS

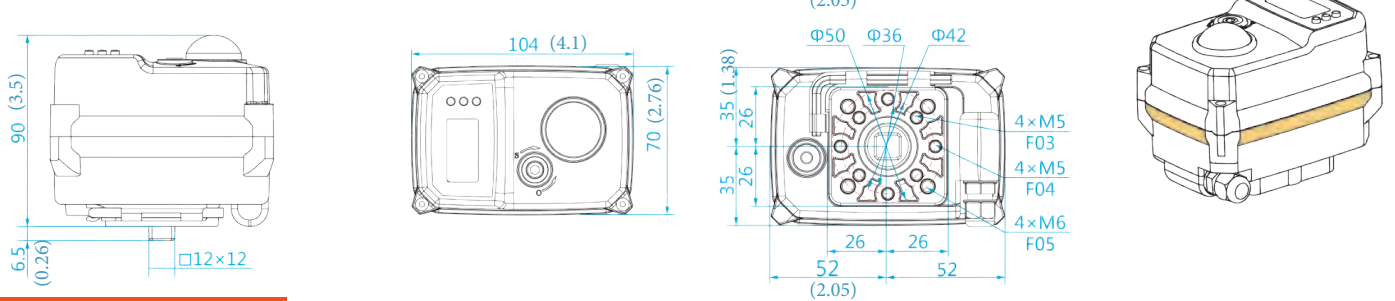
DIMENSIONS FEMALE OCTAGON

UNIT:MM (INCHES)

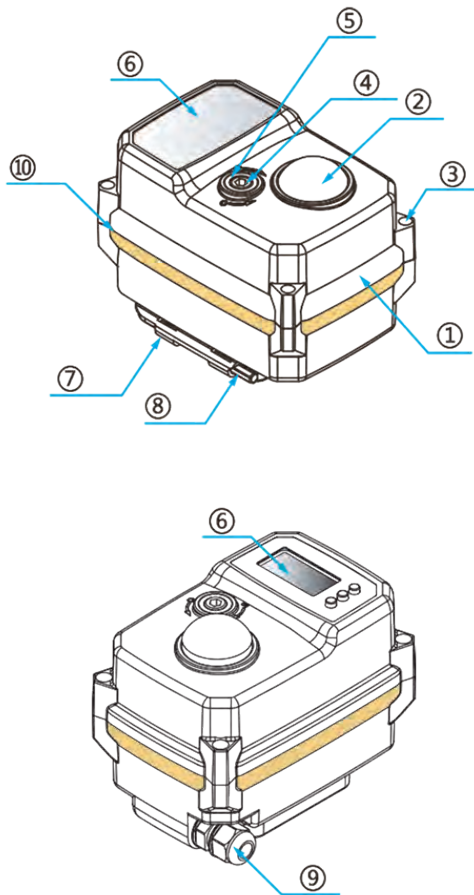
direct type(inner octagon output shaft)



with bracket(outer square output shaft)



MAIN PARTS



	component	material
1	actuator	heat resistantABS/die casting aluminum
2	Instruction window	transparentAS
3	screwx4	304
4	manual bearing	304
5	manual bearing oil seal	NBR
6	label	PVC
7	hex wrench fixed card	heat resistantABS/die casting aluminum
8	hex wrench	tool steel
9	water proof	NiLon
10	upper and lower cover seals	NBR

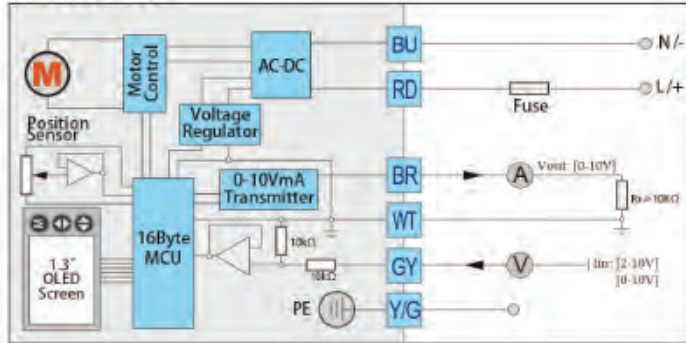


TFE-02T ALL SERIES INTELLIGENT MODULATING ACTUATOR USAGE INSTRUCTIONS

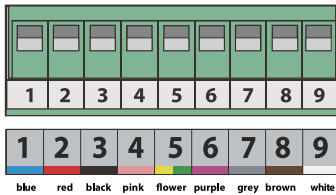
WIRING DIAGRAM

TCN-02T Actuator 1/2" - 1" Valves

0-10V/2-10V



9P-5.08 Terminal diagram



POWER REQUIREMENTS

02T 36W @ 24VDC

TCN - 02T2 Actuator to EC800 | Valve Sizes 1/2" - 1"

ONLY 0-10V Control Available

RED-8

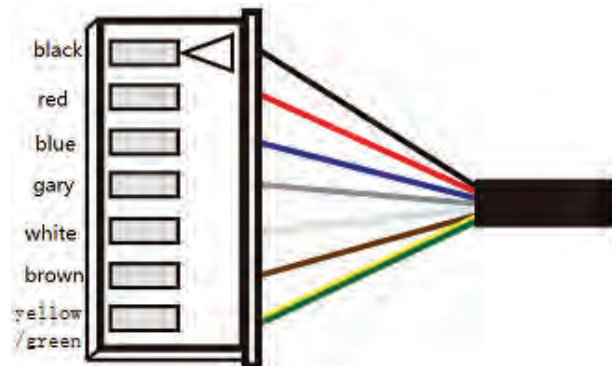
BLUE-0V

GRAY-10

WHITE-0V

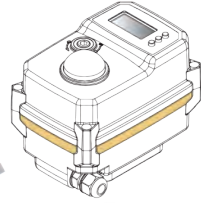
GREEN-GND

EC800 Panel Wiring



MOUNTING INSTRUCTIONS

Always use extended bracket for steam or fluid medium above 180°F and mount the actuator on a horizontal plane to avoid all heat radiation.



1. When assembly with valve, to use spring washer add flat washer in order to fasten the screw and nut.
2. It's recommend to use 704 silica gel or instant cement instead of anaerobic adhesive and UV glue.
3. Please keep the actuator housing away from organic solvents, such as: kerosene, butanone, tetrachlormethane etc., or the housing will crack.



Diagram1-1 | With Bracket
UPVC plastic ball valve add bracket assembly

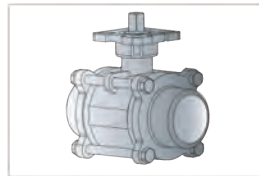


Diagram1-2 | Direct Mount
3-piece stainless steel ball valve assembly

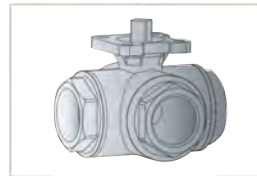


Diagram1-3 | Direct Mount
Stainless steel 3-way ball valve assembly

SAFETY NOTICE

- In order to use the device safely for a long time, please pre-read the manual carefully to ensure correct use.
- Notice item: Please understand the product specification and using method clearly to ensure personal safety or prevent device
- In order to indicate damage and danger, here we classify them as "warning" and "notice *".
- Both of contents are very important, which should be obeyed strictly.
- "Warning": It will cause death or serious injury if not obeyed.
- "Notice *": It will cause slight injury or device damage if not obeyed.

MATCHED VALVE TECHNICAL REQUIREMENTS

1. When installing ball valve, the max torque $\leq 15\text{Nm}$. If the ball valve is out of operation for a long time, and the torque value of first on or off is the max torque. Or you can choose ball valve with elastic sealing.
2. When installing butterfly valve, the max torque $\leq 13\text{Nm}$. Because the torque value will increased by 10-20% after installing.
3. When installing direct mount mode valve, the hole deep $\leq 15\text{mm}$. It requires cutting if the output shaft is longer than 15mm.
4. Please pay attention to the following items if you install the bracket and coupling by yourself:
 - The intensity of bracket should meet the using requirements: the bracket twisting extent $\leq 0.2\text{mm}$ in the process of on or off.
 - The parallelism of bracket $\leq 0.5\text{mm}$.
 - When processing the shaft hole at both end of the coupling, it is necessary to ensure the accuracy and concentricity. The purpose is to make sure the mechanical hysteresis $\leq 10^\circ$, otherwise it will cause the actuator unable to work.
5. Screw should be installed spring washer, flat washer, and we suggest you daub some glue cement around the screw in case of screw loosening.
6. After installation, user should switch the valve on and off one time with handle device first. Modifying the valve after make sure it works well

WORK ENVIRONMENT

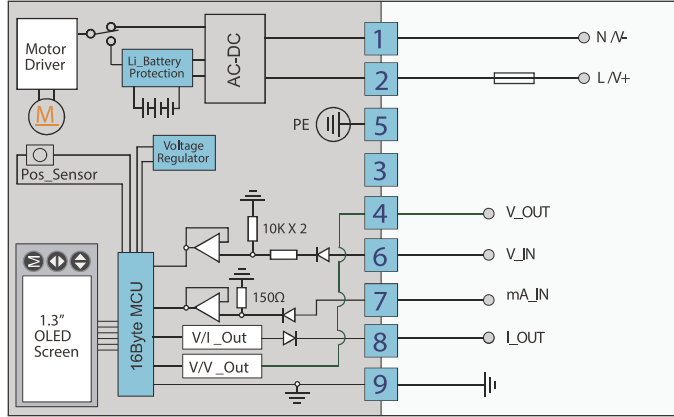
- This product can be used indoor and outdoor.
- This product is not explosion proof, do not use them in flammable and explosive environment.
- You need to install protective device for the actuator if it is exposed to the rain or sunshine.
- Please pay attention to the ambient temp.
- When installing, you need to consider the reserved space for wiring and repairing.
- When power on, it is not allowed to dismantle actuator and valve.
- When power on, it is not allowed to do wiring.
- *Forbid dropped things hit the device and lead to improper operation.
- *Forbid to step on it which will cause device malfunction or personal accident.
- *It is forbidden to do wiring project in rainy day or when there is water splash.
- 02 series is forbid to open the case for wiring, or it will damaged the Sealing performance



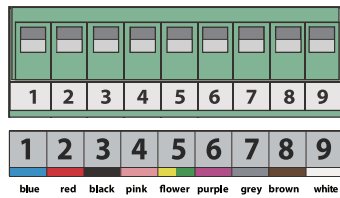
1.25" - 2" VALVE SIZES

WIRING DIAGRAM

06T and T110 Actuators



9P-5.08 Terminal diagram



POWER REQUIREMENTS

06T 60W @ 24VDC

TCR-06T Ac tuator to EC800 | Valve Sizes 1.25" to 2"

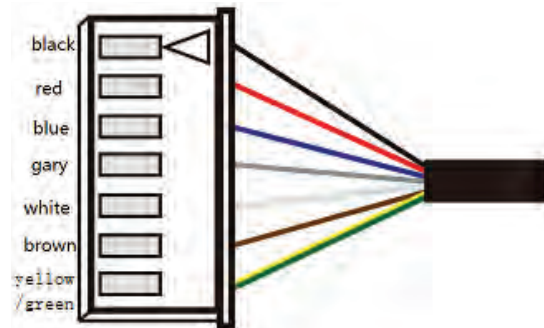
RED-8

BLUE-0V

PURPLE

WHITE-0V

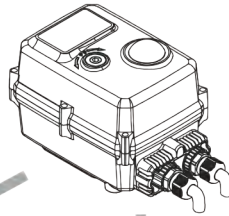
GREEN-GND



NOTE: Control Signal Can Be Changed to: 0-10v, 2-10v, or 4-20mA Please consult factory.

MOUNTING INSTRUCTIONS

Always use extended bracket for steam or fluid medium above 180°F and mount the actuator on a horizontal plane to avoid all heat radiation.



1. When assembly with valve, to use spring washer add flat washer in order to fasten the screw and nut.
2. It's recommend to use 704 silica gel or instant cement instead of anaerobic adhesive and UV glue.
3. Please keep the actuator housing away from organic solvents, such as: kerosene, butanone, tetrachlormethane etc., or the housing will crack.



Diagram | With Bracket
UPVC plastic ball valve+bracket assembly

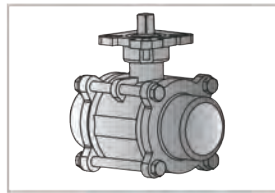


Diagram | Direct Mount
3 piece stainless steel ball valve assembly

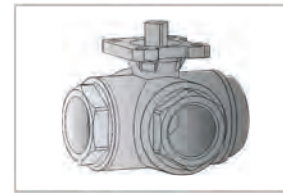


Diagram | Direct Mount
3 piece stainless steel 3-way ball valve assembly

INSTALLED VALVE TECHNICAL REQUIREMENTS

1. If the JVV V-Ball Valve is out of operation for a long time, and the torque value of first on or off is the max torque. Or you can choose ball valve with elastic sealing.
2. When installing JVV valve, the max torque. Because the torque value will increased by 20-4% after installing.
3. When installing direct mount model valve, the hole deep ≤ 20 mm. It requires cutting if the output shaft is longer than 20mm.
4. Please pay attention to the following items if you install the bracket and coupling by yourself:
 - The intensity of bracket should meet the using requirements: the bracket twisting extent ≤ 0.2 mm in the process of on or off.
 - The parallelism of bracket ≤ 0.5 mm.
 - When processing the shaft hole at both end of the coupling, it is necessary to ensure the accuracy and concentricity. The purpose is to make sure the mechanical hysteresis $\leq 10^\circ$, otherwise it will cause the actuator unable to work.
5. It is available to use Lock Tight on all small screws used for mounting this actuator.

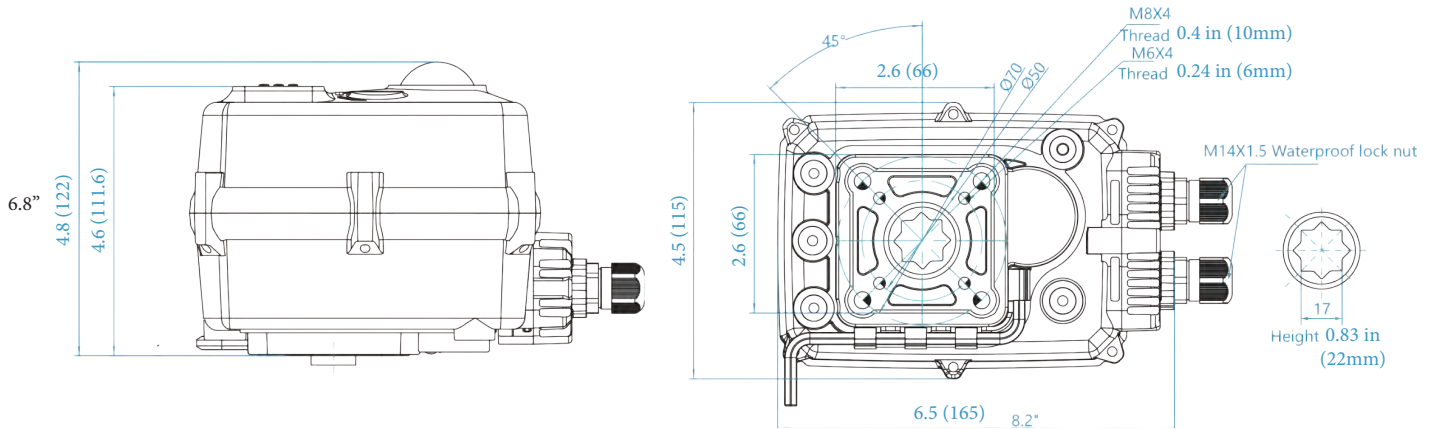


2.5" - 4" VALVE SIZES

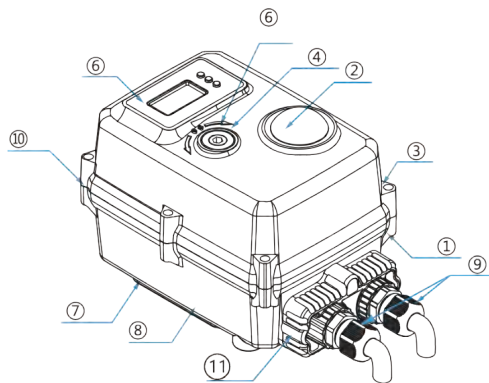


TFE-11T **ALL SERIES** INTELLIGENT MODULATING ACTUATOR USAGE INSTRUCTIONS

DIMENSIONS FEMALE OCTAGON UNIT: INCHES (MM)



MAIN PARTS



	Parts	Material		Parts	Material
1	Actuator	ABS or Casting Aluminum	8	Hexagon wrench	Tool Steel
2	Indicator	TransparentAS	9	Waterproof Cable Connector	Nil on
3	Screwx4	304	10	Seal Part between Up and Down Cover	NBR
4	Manual Shaft	304	11	Terminal Cover	ABS
5	Oil Seal	NBR			
6	Label	PVC			
7	Wrench Fixed	ABS			

NOTE: No. 5, “Oil Seal” is an inner gasket.

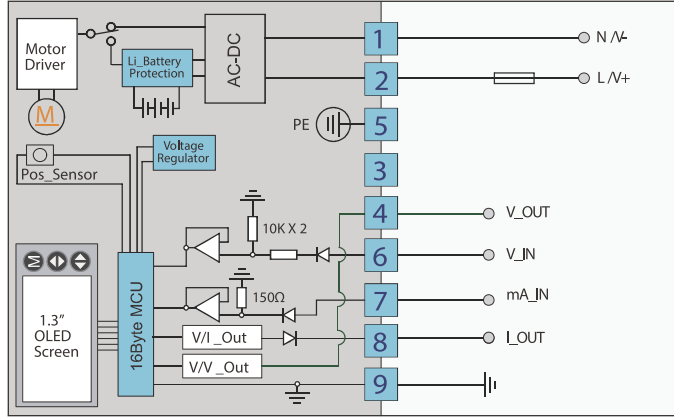


TFE-11T ALL SERIES

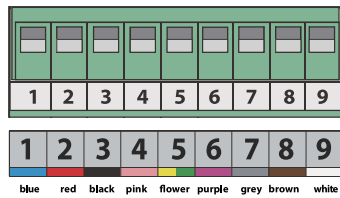
INTELLIGENT MODULATING ACTUATOR USAGE INSTRUCTIONS

WIRING DIAGRAM

06T and T110 Actuators



9P-5.08 Terminal diagram



POWER REQUIREMENTS

11T 100W @ 24VDC

JFE-T110 Actuator to EC800 | Valve Sizes 3," 4," and 6"

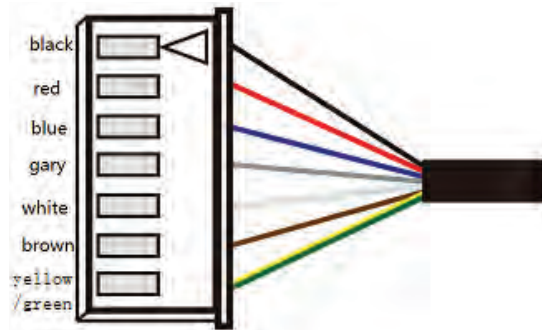
RED-8

BLUE-0V

PURPLE

WHITE-0V

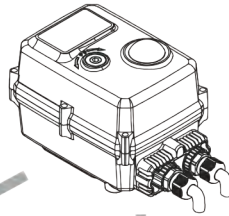
GREEN-GND



NOTE: Control Signal Can Be Changed to: 0-10v, 2-10v, or 4-20mA Please consult factory.

MOUNTING INSTRUCTIONS

Always use extended bracket for steam or fluid medium above 180°F and mount the actuator on a horizontal plane to avoid all heat radiation.



1. When assembly with valve, to use spring washer add flat washer in order to fasten the screw and nut.
2. It's recommend to use 704 silica gel or instant cement instead of anaerobic adhesive and UV glue.
3. Please keep the actuator housing away from organic solvents, such as: kerosene, butanone, tetrachlormethane etc., or the housing will crack.



Diagram | With Bracket
UPVC plastic ball valve+bracket assembly

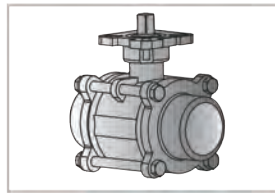


Diagram | Direct Mount
3 piece stainless steel ball valve assembly

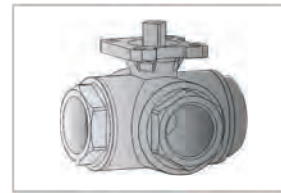


Diagram | Direct Mount
3 piece stainless steel 3-way ball valve assembly

INSTALLED VALVE TECHNICAL REQUIREMENTS

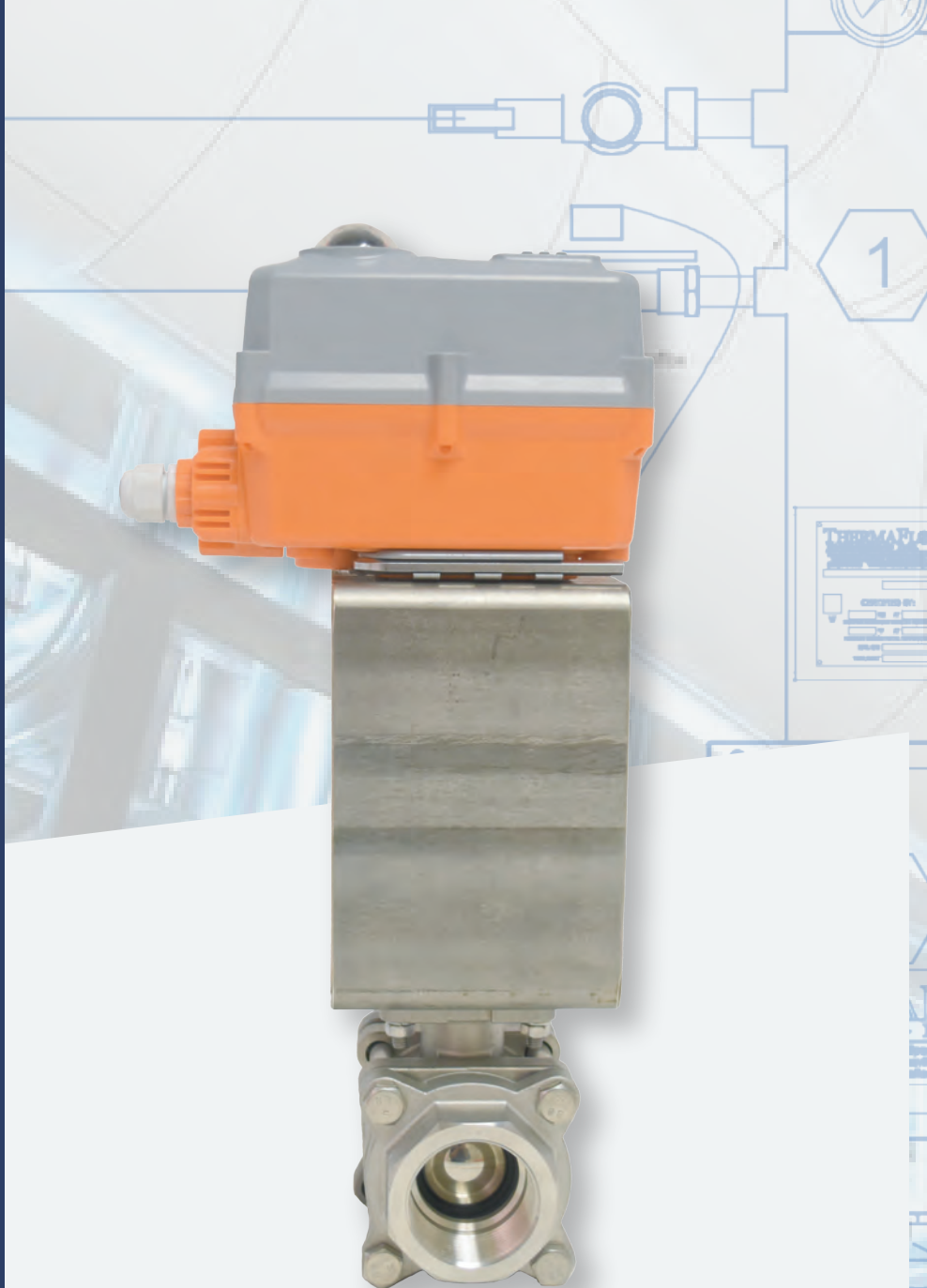
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JVV V-BALL SERIES CONTROL VALVE

The ThermaFlo JVJ V-Ball Series Control Valve is designed for high speed 100% duty for temperature, pressure and level control applications. Specifically designed for steam, high temperature hot water, and other rigorous control applications.

The equal percentage segmented V inner ball design provides the user with accurate control over a 100:1 flow turn-down range-ability. Half the size and weight of any conventional globe control valve, the JVJ is simple to install. The high-speed electronic actuator fails closed on power loss and totally eliminates air supply. The fully programmable actuator accepts 0-10V or 4-20 ma input control signal and can be split range controlled when required.

The JVJ Series high flow CVs reduces valve size, space and overall weight of any application in your piping system.



**CONSULT THERMAFLO SERVICES GROUP
FOR TECHNICAL ASSISTANCE WITH THIS PRODUCT
704-940-1228 or Your Representative**



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