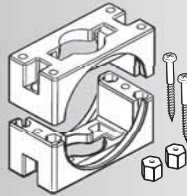




Ball Valve Mounting Accessories Installation Instructions

BVMA-3A-0409

*These instructions cover Multi-Mount Valve Mounting Brackets (Section 1), add-on Multi-Mount Actuator Mounting Platform (Section 2), Complete Multi-Mount Actuation Mounting Kit (Section 3), Mini-Mount Actuation Mounting Kit (Section 4) and Mini-Mount Combo Actuation Mounting Kit (Section 5) for use with Spears® True Union Ball Valves. The Mini-Mount Kit also fits Spears® Compact Ball Valves with mounting lugs. **IMPORTANT: Read Precautions & Warnings for all Valve Installations at the end of these instructions.***



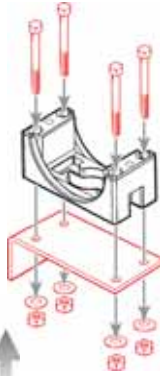
Section 1: MULTI-MOUNT BALL VALVE MOUNTING BRACKETS FOR TRUE UNION BALL VALVES.

Multi-Mount Valve Mounting Brackets provide solid, versatile valve mounting to machinery supports, panels, etc.. **Not Included: Valve, Support, Four (4) bolts, washers & nuts** required for support. All **user supplied** items are shown in **RED**.

INSTALLATION INSTRUCTIONS

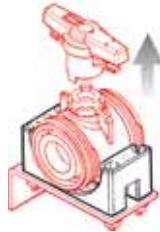
STEP 1 Manual Operation

Install mounting bracket bottom half to desired **user supplied** support or mounting surface using up to four **user supplied** hex bolts placed into the hexagonal holes located on the bracket corners. Tighten nuts.



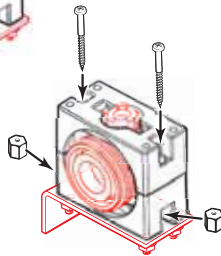
STEP 2

Remove valve handle and position valve body into the mounted bracket bottom half. Place bracket top half over valve stem, being sure bracket & self-aligning hole is fully seated against valve body.



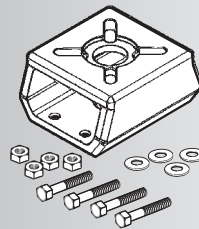
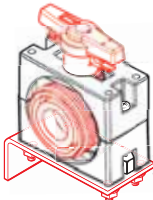
STEP 4

Install the two (2) provided multi-mount hexagonal inserts into the bottom exterior recesses provided on the bracket exterior. Place the two (2) provided self tapping pan head screws through the bracket top half recesses and into the hexagonal inserts. Tighten evenly.



STEP 5

Replace and secure valve handle, being sure that it is properly seated into the positioning stops on the valve body. Check handle for proper operation.



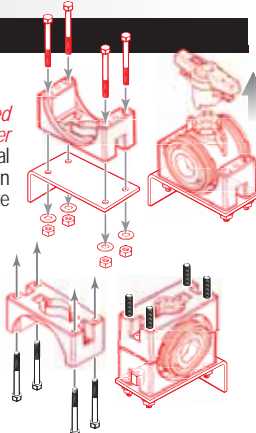
Section 2: MULTI-MOUNT ACTUATOR MOUNTING PLATFORMS.

Add-on actuator adaptor for use with Multi-Mount Valve Mounting Brackets (Section 1). Accepts ISO, MSS or comparable square bolt-pattern actuators. **Not Included: Valve, Multi-Mount Brackets, Support, Four (4) bolts, washers & nuts** required for support and/or actuator attachment. All **user supplied** items are shown in **RED**.

INSTALLATION INSTRUCTIONS

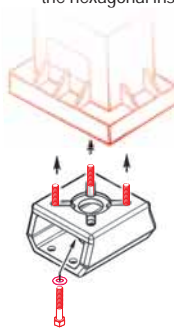
STEP 1

Install bracket bottom half to desired **user supplied** support or mounting surface using up to four **user supplied** hex bolts placed into the hexagonal holes located on the bracket corners. Tighten nuts. Remove valve handle and position valve body into the mounted bracket bottom half.



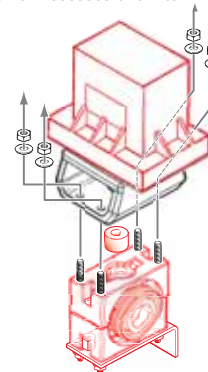
STEP 2

1. Insert four provided hex bolts upward into the hexagonal holes located on the bracket top half.
2. Place bracket top half **with bolts** over valve stem, being sure bracket & self-aligning hole is fully seated against valve body and lower bracket.
3. Install two (2) provided hexagonal inserts into the bottom exterior recesses provided on the bracket exterior. Place the two (2) provided self-tapping pan head screws through the bracket top half recesses and into the hexagonal inserts. Tighten evenly.



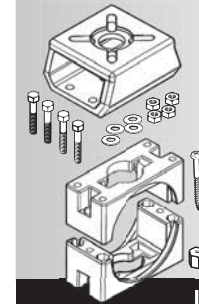
STEP 3

Position mounting platform with actuator side up and insert four (4) **user supplied** actuator attachment bolts into each of the four slots from underside as shown. Position **user supplied** actuator with **user supplied** stem coupling over the installed bolts and onto the mounting platform. Slide bolts in slot as necessary to line up with actuator mounting holes. Install **user supplied** flat washers & nuts.



STEP 4

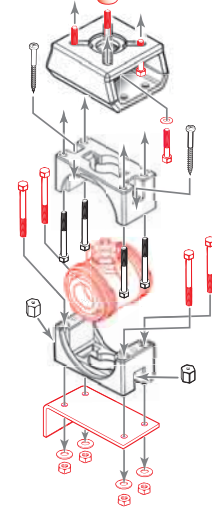
Position actuator with attached mounting platform & **user supplied** stem coupling, over bracket base top (See Step 2), being sure to align **user supplied** stem coupling with valve stem, Install provided flat washers & nuts. Tighten nuts equally and securely making sure that mounting plate is fully seated to the bracket base.



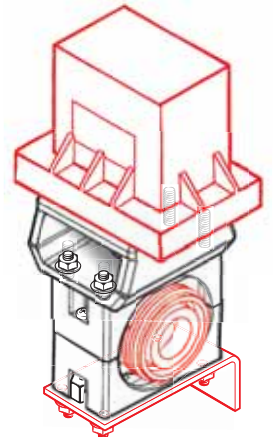
Section 3: COMPLETE MULTI-MOUNT ACTUATION MOUNTING KITS.

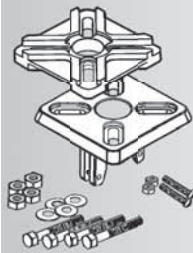
Multi-Mount Actuator Mounting Platform & Multi-Mount Valve Mounting Bracket in one kit. Provides solid, fully supported valve & actuator mounting. Accepts ISO, MSS or comparable square bolt-pattern actuators. **Not Included: Valve, Support, Four (4) bolts, washers & nuts** required for support and/or actuator attachment. All **user supplied** items are shown in **RED**.

INSTALLATION INSTRUCTIONS



For assembly of this combined kit, follow instructions in Section 2





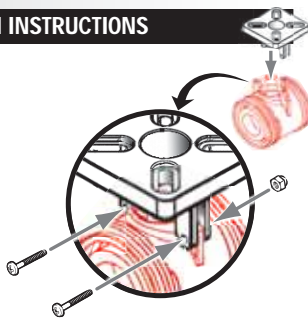
Section 4: MINI-MOUNT ACTUATION MOUNTING KITS FOR TRUE UNION AND COMPACT BALL VALVES.

Kit includes Bracket Base Hardware and Universal Actuator Mounting Plate. **Not Included: Valve, Support, Four (4) bolts, washers & nuts** required for support and/or actuator attachment. All **user supplied** items are shown in **RED**. Accepts ISO, MSS or comparable square bolt-pattern actuators.

INSTALLATION INSTRUCTIONS

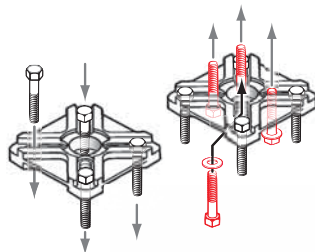
STEP 1

Position bracket base top over valve stem and handle stop. Insure Mini-Mount bracket tabs are fully engaged with valve body Lugs. Insert the two (2) provided short bolts through clamp hole on the inside of bracket, through the valve body clamp hole and through the bracket clamp hole opposite of insertion. Install lock-nuts. Tighten lock-nuts making sure that the bracket base is fully seated on the valve shoulder.



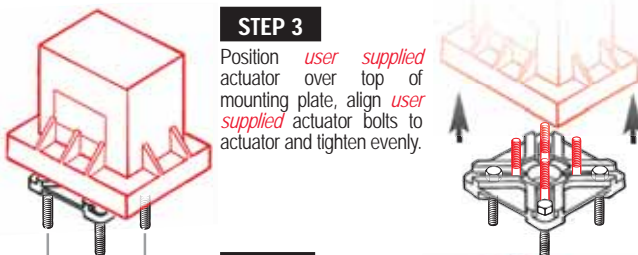
STEP 2

Insert four (4) provided bolts through top of mounting plate into each of the four slots. Note: "Actuator Side" UP as printed on the mounting plate. Next, insert the four (4) **user supplied** actuator mounting bolts through bottom of mounting plate, inside of installed provided bolts.



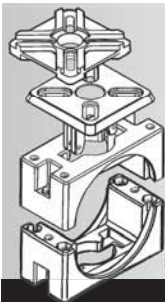
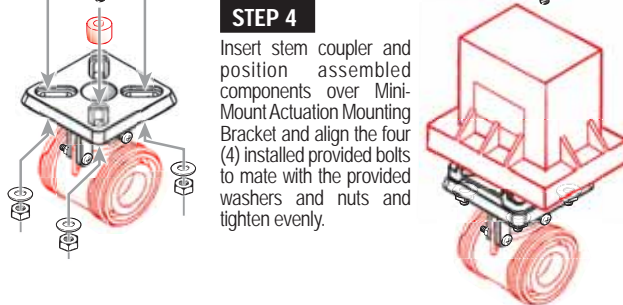
STEP 3

Position **user supplied** actuator over top of mounting plate, align **user supplied** actuator bolts to actuator and tighten evenly.



STEP 4

Insert stem coupler and position assembled components over Mini-Mount Actuation Mounting Bracket and align the four (4) installed provided bolts to mate with the provided washers and nuts and tighten evenly.



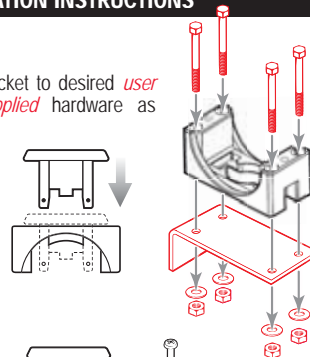
Section 5: MINI-MOUNT COMBO ACTUATION MOUNTING KITS

Combines Mini-Mount Actuation Mounting Kit and Multi-Mount Valve Mounting Brackets for increased valve support. **Not Included: Valve, Support, Four (4) bolts, washers & nuts** required for support and/or actuator attachment. All **user supplied** items are shown in **RED**. Accepts ISO, MSS or comparable square bolt-pattern actuators.

INSTALLATION INSTRUCTIONS

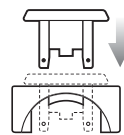
STEP 1

Attach lower half Multi Mount Bracket to desired **user supplied** support with **user supplied** hardware as illustrated.



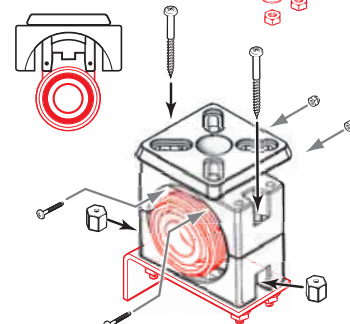
STEP 2

Insert Mini-Mount Bracket Base fully into top half of Multi-Mount Valve Mounting Bracket as illustrated.



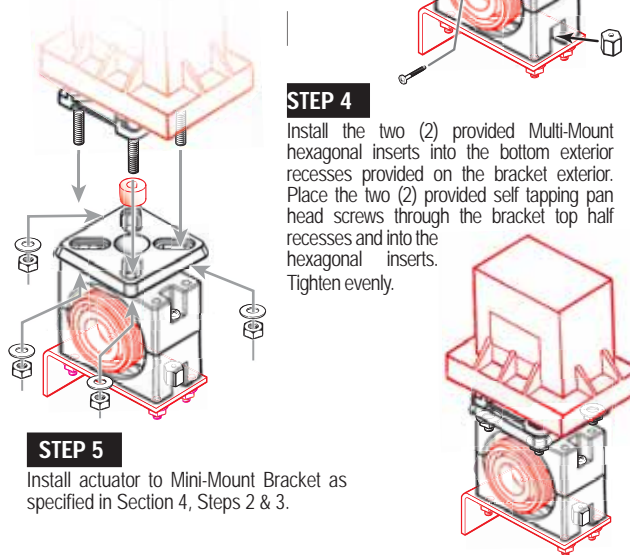
STEP 3

Seat combined upper brackets on valve body. Insure Mini-Mount bracket tabs are fully engaged with valve body Lugs. While holding Mini-Mount bracket in place against valve body, lift Multi Mount top half to expose bracket/valve mounting holes. Insert provided bolts and secure with provided lock-nuts. See Section 4, Step 1.



STEP 4

Install the two (2) provided Multi-Mount hexagonal inserts into the bottom exterior recesses provided on the bracket exterior. Place the two (2) provided self tapping pan head screws through the bracket top half recesses and into the hexagonal inserts. Tighten evenly.



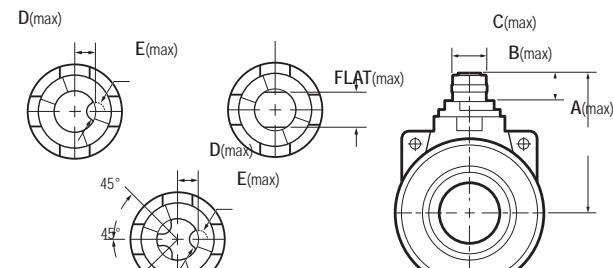
STEP 5

Install actuator to Mini-Mount Bracket as specified in Section 4, Steps 2 & 3.

STEM COUPLER SPECIFICATIONS

Valve Stem Output Detail For All True Union 2000 Ball Valves

| Size | A (max.) | B (max.) | C (max.) | D (max.) | E (max) | | FLAT (max) |
|-----------|----------|----------|----------|----------|------------|------------|------------|
| | | | | | 1-Pin Slot | 3-Pin Slot | |
| 1/2 | 1.43 | .26 | .52 | .26 | .30 | .21 | N/A |
| 3/4 | 1.79 | .33 | .56 | .28 | .30 | .21 | |
| 1 | 2.10 | .41 | .62 | .31 | .33 | .23 | |
| 1-1/4 | 2.61 | .55 | .56 | .28 | .32 | .23 | |
| 1-1/2 | 2.87 | .62 | .75 | .37 | .38 | .27 | |
| 2 | 3.52 | .65 | .95 | .47 | .44 | .31 | |
| 2-1/2 & 3 | 5.28 | 1.16 | 1.28 | .63 | .56 | N/A | |
| 4 | 5.81 | .91 | 1.86 | .93 | .75 | N/A | |
| 6 | 7.53 | 1.33 | 2.12 | N/A | N/A | N/A | |
| | | | | | | | |



PRECAUTIONS AND WARNINGS FOR ALL VALVE INSTALLATIONS

Suitability of the intended service application should be determined prior to installation. Plastic piping systems should be engineered, installed, operated & maintained in accordance with accepted standards & procedures for plastic piping systems.

It is absolutely necessary that all design, installation, operation & maintenance personnel be trained in proper handling, installation & precautions for installation & use of plastic piping systems before starting.

CAUTION: The system must be designed and installed so as not to pull the components in any direction. Pipe system must be cut and installed in such a manner as to avoid all stress loads associated with bending, pulling, or shifting. All piping systems must be supported.

NOT FOR DISTRIBUTION OF COMPRESSED AIR OR GAS.

All air must be bled from the system during the initial fluid fill. Pressure testing of the system must not be made until all solvent cement joints have properly cured. Initial pressure testing must be made at approximately 10% of the system hydrostatic pressure rating to identify potential problems prior to testing at higher pressures.



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