

# Instructions for Completing this Form

Please keep in mind that all dimensions should be taken with ALL original actuation and hardware components removed from the valve body.

Examples of dimensions A & B (**Dim A and Dim B**) relate to the TOP mounting holes on the butterfly valve body. These holes are usually arranged on the body in either an "X" pattern (**MOUNT STYLE 1**), or a cross pattern (**MOUNT STYLE 2**). This information is entered on the UFSP Series Butterfly Valve Retrofit Form in the **MOUNT STYLE** section. The length of the valve stem sticking out of the top of the valve body is recorded under **Dim C**. The TOP mounting holes are usually drilled through the top flange, but sometimes are threaded. Enter this information on the form next to the mount style information previously recorded.

Next is the valve stem data. The five styles of valve stems cover 98% of the butterfly valves ever produced. Examine the valve being retrofitted to establish which shaft style matches the diagrams above. Use caution when recording these dimensions. Careless use of calipers will result in a sloppy and possibly dysfunctional linkage system. **Dim D** refers to the valve stem diameter and should be measured at several points up and down as well as around the stem itself. **Dim E** refers to the length of the drive surface available, whether it be a key, flatted surface, or the distance a drive hole is from the top of the stem. There are two types of keys (Keyway-Shaft Style 4 and Woodruff Key-Shaft Style 5). Please select the key size as noted in the column "For Shaft Style 4 & 5". **Dim F** refers to the width of the drive surface. This is the most critical dimension for correct linkage operation. Please measure accordingly.

In addition, we require information about the environment and process in which this linkage system will be utilized.

The form must be completed in its entirety to guarantee the complete, perfect fit of your retrofit system. Keep in mind that retrofit kits are designed with close-tolerance components which afford the most efficient linkage system for the facility. Measurements rounded to the nearest  $\frac{1}{8}$  or  $\frac{1}{16}$  inch will not perform as well (sometimes not at all) as a kit designed around careful measurements using proper equipment. Our designs are typically  $\pm .005$ " tolerance.

Required tools - calipers and retrofit form.

## DISCLAIMER

*We will do our best to provide a linkage system designed around your specifications and measurements. However, we cannot be held responsible for linkages which do not fit as a result of incorrect data given to Belimo. We will re-work components which do not fit properly for a nominal fee.*

*To reduce the possibility of incorrect linkage solutions, we respectfully request that you fill out the retrofit form completely and forward that information with your order. This will serve as a double check between your valve and the actuator/linkage package designed for your application.*

*Actuation, weather shields and linkages cannot be pre-assembled at the Belimo factory prior to your receipt. The linkages are designed to be attached onto the valve body first, then optional weather shields, and finally actuation products.*

*Close-off pressures are calculated using actuator torque, valve stroke, and valve area. Other factors may affect the rated close-off pressures, including flow rates, system maintenance schedules, chemicals used in the shot feeder process, vicinity to pumps, condition of valve stem seals, and assembly of linkage material in the field.*

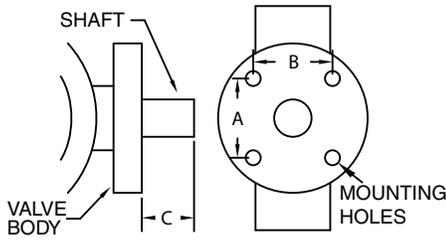
*Valves that are being considered for retrofit of actuation should be analyzed for their life expectancy before the retrofit has taken place. Valves that leak through stem seals or casings will continue to leak with the new linkage system in place, maybe even more so. Rebuilding the packing on these valves may be more costly than replacing the valves themselves. In some instances, older valve stem heights will require field modifications to the valve in order to utilize the retrofit kit. Belimo takes no responsibility for the operation of these valves after they have been modified.*

# Custom Butterfly Valve Retrofit Solution Form

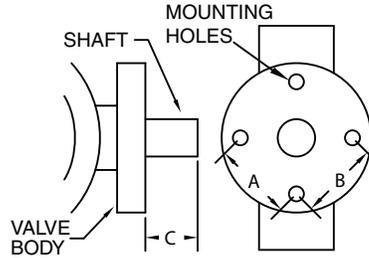
UFSP Series



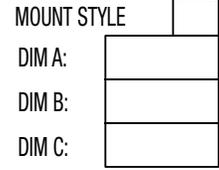
## MOUNT STYLE 1



## MOUNT STYLE 2

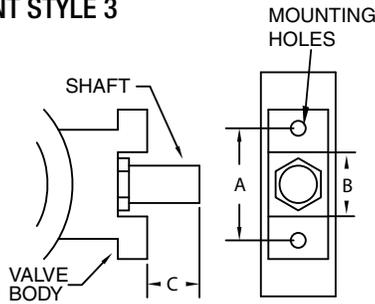


## MOUNT STYLE DIMENSIONS



DIM. A & B MEASURED FROM CENTER OF HOLE

## MOUNT STYLE 3



## MOUNT STYLE 4

SKETCH YOUR MOUNT STYLE USING MOUNT STYLE EXAMPLES.

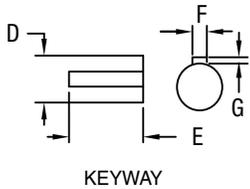
MOUNTING HOLES:

DIA Ø:  DRILLED Ex: 0.437"

THREAD:  TAPPED

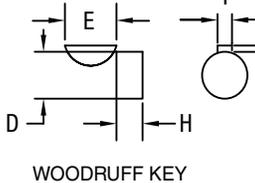
SPEC.:  Ex: 1/2-20

## SHAFT STYLE 4

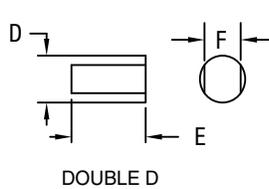


- KEY SIZE
- .125"
  - .1875"
  - .250"
  - .3125"
  - .375"
  - .4375"
  - .500"
- CHECK ONE

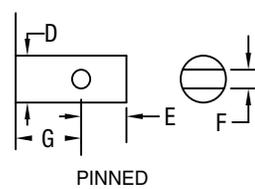
## SHAFT STYLE 5



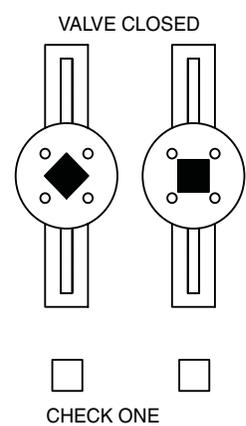
## SHAFT STYLE 6



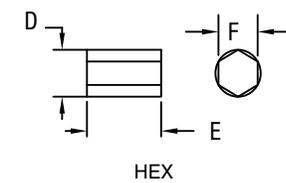
## SHAFT STYLE 8



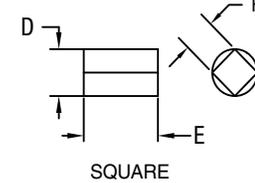
## SHAFT STYLE 9



## SHAFT STYLE 7



## SHAFT STYLE 9



SHAFT STYLE

DIM D:

DIM E:

DIM F:

DIM G:

DIM H:

## ACTUATOR

EXISTING ACTUATOR MODEL: \_\_\_\_\_ CONTROL TYPE:  ON/OFF  FLOATING POINT  VDC  PWM  
 FAIL SAFE:  YES  NO Range: \_\_\_\_\_ Range: \_\_\_\_\_  
 FAIL POSITION:  NO  NC  INDOOR  OUTDOOR  
 VOLTAGE \_\_\_\_\_

COMPANY: \_\_\_\_\_ VALVE MANUFACTURE: \_\_\_\_\_ 2 WAY/3 WAY: \_\_\_\_\_  
 JOB NAME: \_\_\_\_\_ VALVE SERIES: \_\_\_\_\_ VALVE SIZE: \_\_\_\_\_  
 PO#: \_\_\_\_\_ VALVE MODEL: \_\_\_\_\_ MEDIA TEMP: \_\_\_\_\_  
 PHONE: \_\_\_\_\_ VALVE TAG/LOCATION: \_\_\_\_\_ MEDIA TYPE: \_\_\_\_\_  
 EMAIL: \_\_\_\_\_ QUANTITY: \_\_\_\_\_ SYSTEM PRESSURE: \_\_\_\_\_

NOTE: THIS INFORMATION WILL BE UTILIZED IN THE FABRICATION OF A CUSTOM LINKAGE SYSTEM FOR YOUR VALVE REQUIREMENT; THEREFORE, IT IS ESSENTIAL THAT THE ABOVE DIMENSIONS BE FURNISHED WITH READINGS TAKEN TO THE NEAREST .001". ANY ERRONEOUS DIMENSIONS FURNISHED WHICH RESULT IN IMPROPER FIT OF THIS LINKAGE SYSTEM ARE NOT THE RESPONSIBILITY OF BELIMO AIRCONTROLS. ANY REWORK REQUIRED WILL RESULT IN AN EXTRA CHARGE.

**CUSTOM KITS ARE DESIGNED TO YOUR UNIQUE SPECIFICATIONS AND ARE NOT RETURNABLE.**

COMPANY CONTACT/DIMENSIONS PROVIDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

800-543-9038 USA

866-805-7089 CANADA

203-791-8396 LATIN AMERICA/CARIBBEAN