WARNING!

Before replacing actuator, damper must be inspected and determined to be fully functional.

INSTRUCTION SHEET
Replacement of Prefco McCabe Link Dampers with EMB2 MultiProducts Motor with Belimo FSxx Series

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WARNING!
Installer must be trained and experienced with repair of fire and smoke dampers and actuators.

www.belimo.us/firesmoke
In the “Marking & Application Guide, Dampers for Fire Barrier and Smoke Applications & Ceiling Dampers” April 2013 by Underwriters Laboratories Inc.®, page 6 they state:

**DAMPER ACTUATORS**

“... field mounting or substitution of actuators is not covered within the scope of the UL certification of the product. However, this does not necessarily preclude replacement of actuators in the field. Like any appliance, field servicing of these products is not covered under the scope of the UL certification and factory follow-up service program. As with any part of the damper, it is expected that replacement of actuators in the field be done in accordance with the damper manufacturer’s normal field servicing program.”

**Code and Standard Issues**

In general, the administrative section of codes state that all mechanical and electrical systems must be kept in working order and an individual section may state that all life safety devices and systems must be operable. NFPA 80 (Fire) & NFPA 105 (Smoke) require periodic testing and repair of dampers as soon as possible after any deficiency is uncovered.

<table>
<thead>
<tr>
<th>Chapter 7 IBC &amp; IFC “Containment” Dampers</th>
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</thead>
<tbody>
<tr>
<td>Commissioning</td>
</tr>
<tr>
<td>End of first year</td>
</tr>
<tr>
<td>Every 4 years except in hospitals every 6 years</td>
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<table>
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<th>Chapter 9 IFC “Smoke Control System” Dampers</th>
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<td>Commissioning</td>
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<td>Non-dedicated</td>
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<table>
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<th>Chapter 9 IBC &amp; IFC</th>
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<table>
<thead>
<tr>
<th>Dedicated</th>
</tr>
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<tbody>
<tr>
<td>Weekly self-test</td>
</tr>
<tr>
<td>Non-dedicated</td>
</tr>
<tr>
<td>Not required</td>
</tr>
</tbody>
</table>

Fire & smoke dampers are appliances and field replacement of components is required when failure of any component occurs.

The Authority Having Jurisdiction (local Fire Marshal and/or Building Official) must be consulted if any blade or auxiliary switches are employed and are connected to the fire alarm system or to a Fire Fighters Smoke Control System (FSCS) panel. Retesting is required. A permit and inspection may be required since connections to an alarm system have been touched.

For the Air Movement and Control Association damper maintainance manual go to:  
**NFPA 80 (Fire) & NFPA 105 (Smoke)**

NFPA requires damper inspection and repair of dampers. See [www.nfpa.org](http://www.nfpa.org) for Standards. Details not covered here.

See NFPA 80 & NFPA 105 for details. The damper cleaning and examination check list here is based on them.

Damper installation shall meet code requirements. Fire stopping and drywall integrity shall be confirmed. Damper blades shall be in plane of wall. Duct shall be fall away with no fasteners connected to damper sleeve.

a. Dampers and ducts shall be cleaned of all foreign debris and dust build-up.
b. All exposed moving parts of the damper shall be dry lubricated as required by the manufacturer. Do not use oil as it draws dirt.
c. Damper shall be examined without defective old motor or new actuator to determine:
   i. The damper shall fully close from the open position.
   ii. Damper shall fully open from the closed position.
   iii. There are no obstructions to the operation of the damper. The damper shall not be blocked from closure in any way due to rusted, bent, misaligned, or damaged frame or blades. The damper shall not have defective hinges, side &/or blade seals, or other moving parts. The damper frame shall not be penetrated by any foreign objects that would affect operation.
d. If the damper is equipped with a fusible link, the link shall be removed for testing to ensure full closure and lock-in-place if so equipped. If the link is damaged or painted, it shall be replaced with a link of the same size, temperature, and load rating.
e. The fusible link shall be reinstalled after testing is complete.

After installation and wiring of new actuator it shall be tested.
a. The checklist may be customized using material here and in NFPA Standards. Multiple geometric configurations of springs, fusible link, thermal sensor(s), and actuation are possible. Confirm with AHJ if any additional requirements exist.
b. Electric thermal sensors, if present, must be tested and replaced if defective.
c. The test shall be conducted with normal HVAC airflow.
d. When equipped with smoke detection activation, the smoke detector shall be activated and damper operation observed.

test voltage input to actuators and repair as necessary if voltage is not correct. Old breakers often deliver below 115V and failed actuators may be due to power supply problems.

A record of all repairs must be kept and made available to AHJ.
Local Code Approval

While it is not detailed in codes, the following rules should be followed for selecting Belimo actuators for replacement:

Check the technical specifications to ensure an “equal or better” actuator is used.

- **Temperature** – the replacement actuator shall have been UL555S tested at the same or better temperature as the original actuator. 250˚F or 350˚F are standard. (Code is 250˚F. However, in engineered smoke control systems the consulting engineer may have required 350˚F. Tunnels and some other applications require higher temperatures.)
- **Time** – the replacement actuator shall drive open and spring closed at a speed equal or faster than presently required by codes. (<75 seconds is UL 555S and most codes. Las Vegas is 60 seconds. Consult the AHJ with any questions.)
- **Torque** – replacement actuator shall have equal or greater torque than the failed actuator.
- **Voltage** – replacement actuator shall have the same voltage rating as the original.
- **Amperage** – the replacement actuator(s) shall not draw more amperage than the original(s) and cause the total connected amp draw on a circuit breaker to be greater than allowed by electrical code. (This is not a problem as Belimo actuators draw very low current.)
- **Final Testing** – actuated damper and associated devices shall be tested for proper operation. See Acceptance testing details below.

(Mnemonic device: TTT-VAT)

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**WARNING!**

In all cases, installation must comply with any and all local electrical and life safety codes. Operation of the system after installation must be performed to verify proper damper cycling. Final checkout requires verifying correct function.

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**WARNING!**

Note that where any fire alarm wiring is touched, the fire department must be informed.
**Cross Reference**


The EMB2 and other motors were used on these dampers.

Multiproducts and Siebe motors do not cross reference directly to any Belimo as they did not have internal springs. Linkages or direct coupling of the Belimo will replace the application, not the motor. In general this brings the assembly up to present UL standards.

All Belimo Fire & Smoke actuators (FSTF, FSLF, FSNF, FSAF_A, FSAFB) are UL555S Listed The FSLF, FSNF, & FSAF_A meet requirements for 350°F operation and the others were tested at 250°F which is the minimum per codes.

**All are also UL2043 listed for low smoke generation and may be installed in plenums per the International Mechanical Code Section 602 And the NEC 300.22 (C).**

As the old Prefco dampers are no longer manufactured, the torque to area of damper is not clear.

Assuming the damper is in good condition and not binding or corroded, Belimo conservatively recommends:

The FSTF should be used for up to 1.5 sq. ft. at 2000fpm on the Prefco cable-pulley dampers. Testing one sample of a large number to ensure proper operation is necessary. This actuator passes 2 sq.ft. in the UL555S test on modern dampers. It should NOT be used on McCabe® Link dampers without special Belimo review.

The FSLF should be used for McCabe® Link dampers up to 18” x 18” – direct coupled only where damper shafts are available. Since the actuator must drive against the shaft spring the first time it operates to set the link, de-rating is recommended.

The FSNF should be used for larger dampers. It can be direct coupled or linkage connected. It is recommended that it be used for a maximum 36” x 45” section on retrofits.

The FSAF actuators have special features (modulation, balancing, manual override, 24VDC capability) that may be employed, but normally an FSNF is sufficient.
MultiProducts

Prefco 5800 EMB

In all cases disconnect external motor spring without compromising fusible link and internal spring ability to close the blades. These are quite old and changes may have been made over the years. Investigate operation. Confirm voltage. Check fusible links or McCabe ® Link. Verify damper functions after replacement by testing damper open and spring closed.

| Use of FSLF is recommended for dampers less than 4 sq.ft. For linkage applications all FSTF & FSNF parts can be used. |
|---|---|---|
| FSTF if less than 1.5 sq.ft. | FSLF from 1.5 to 4 sq.ft. | Use -S models if auxiliary switches are required. |

| 5800EMB2XPO | FSLF120 |
| 5800EMB2XPC | FSLF120 |
| 5800EMB1 | FSLF120 | 5800EMB1 - Outside the duct, top mount, power open |
| 5800EMB7 | FSLF120 | 5800EMB7 - Inside the duct, bottom mount, power closed |
| 5800EMB10 | FSLF120 | 5800EMB10 - Outside the duct, bottom mount, power closed |
| 5800EMB5 | FSLF120 | 5800EMB5 - Inside the duct, top mount, power open |
| 5800EMB8 | FSLF24 |
| 5800EMB9 | FSLF120 |

While direct coupling is preferable, some applications require linkages. See Linkages below for an example of a FSTF linkaged to a Prefco internally.

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2430</td>
<td>120VAC</td>
<td></td>
</tr>
<tr>
<td>2553A</td>
<td>120VAC</td>
<td>1</td>
</tr>
<tr>
<td>2585</td>
<td>120VAC</td>
<td>2</td>
</tr>
<tr>
<td>2659</td>
<td>120VAC</td>
<td>3</td>
</tr>
<tr>
<td>2724</td>
<td>120VAC</td>
<td>4</td>
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<td>2781</td>
<td>24/120 VAC</td>
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</tr>
<tr>
<td>2814A-SQ</td>
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<td>6</td>
</tr>
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<td>2920</td>
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<td>2985</td>
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<td>3158</td>
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<td>5983</td>
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<td>13</td>
</tr>
<tr>
<td>6247</td>
<td>120VAC</td>
<td>14</td>
</tr>
<tr>
<td>MZRHM</td>
<td>120VAC</td>
<td>15</td>
</tr>
<tr>
<td>TB2000/1</td>
<td>120VAC</td>
<td>16</td>
</tr>
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</table>

All 120V, FSLF120

<table>
<thead>
<tr>
<th>Nailor</th>
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</thead>
<tbody>
<tr>
<td>5953</td>
</tr>
<tr>
<td>5949</td>
</tr>
<tr>
<td>M12, MZRHM</td>
</tr>
<tr>
<td>6247</td>
</tr>
<tr>
<td>5186</td>
</tr>
</tbody>
</table>
1. Square shaft inserted into damper sleeve with special crankarm. If a smoke damper, replacement may be possible and requires a new shaft and other linkage parts. If a combination fire and smoke damper, Belimo may not be capable of being used. See Air Balance with MP2553.

2. Typically these were linkaged using a crank arm on the square motor shaft and the spring was on the round shaft. Remove all linkage parts and direct couple to damper shaft.

3. Safe-Air / Imperial. Typically linkaged. There was an internal spring and fusible link for the fire function.

4. Except in rare occasions where space constraints exist, simply remove all linkage parts and direct couple on damper shaft. Use old motor as a mounting platform for anti-rotation strap.

5. Usually on a Negator Spring damper. For pneumatic, the FSLF120 will usually work. For electric, the Ruskin kit FSLF120/MP must be ordered from a Ruskin rep.

6. 10 in-lb. "A" model = CW rotation; plain = CCW. Check voltage. FSLF replaces both in most cases. Use FSTF when linkages necessary.

7. 10 in-lb. "A" model = CW rotation; plain = CCW. Check voltage. FSLF replaces both in most cases. Use FSTF when linkages necessary.

8. Inside clamp mounting or a shaft extension required.

9. See Greenheck Installation Instructions. Typically these were linkaged using a crank arm on the square shaft and the spring was on the round shaft. Remove all linkage parts and direct couple to damper shaft.

10. See Greenheck Installation Instructions. Typically these were linkaged using a crank arm on the square shaft and the spring was on the round shaft. Remove all linkage parts and direct couple to damper shaft.

11. Some were direct coupled to the damper shaft with an external spring. Some were linkaged using a crank arm on the square motor shaft and the spring was on the round shaft. Remove all linkage parts and direct couple.

12. Some were direct coupled to the damper shaft with an external spring. Some were linkaged using a crank arm on the square motor shaft and the spring was on the round shaft. Remove all linkage parts and direct couple.


14. Nailor. Remove linkage parts and mount to damper shaft. FSLF for dampers < 4 sq.ft. and FSNF for dameprs > 4 sq.ft.

15. Nailor. Remove linkage parts and mount to damper shaft. FSLF for dampers < 4 sq.ft. and FSNF for dameprs > 4 sq.ft.

16. Typically these were linkaged using a crank arm on the square motor shaft and the spring was on the round shaft. Remove spring and all linkage parts and direct couple to damper shaft.
<table>
<thead>
<tr>
<th>Siebe/Barber Coleman</th>
<th>Power</th>
<th>Torque</th>
<th>Aux Switches</th>
<th>Belimo</th>
<th>Notes</th>
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<tr>
<td>MA220</td>
<td>120 VAC</td>
<td>30</td>
<td></td>
<td>FSLF120 US</td>
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<tr>
<td>MA221</td>
<td>240 VAC</td>
<td>30</td>
<td></td>
<td>FSLF230 US</td>
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<tr>
<td>MA223</td>
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<td>30</td>
<td></td>
<td>FSLF24 US</td>
<td>1, 2, 4</td>
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<tr>
<td>MA230</td>
<td>120 VAC</td>
<td>50</td>
<td></td>
<td>FSNF120 US</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>MA231</td>
<td>240 VAC</td>
<td>50</td>
<td></td>
<td>FSNF230 US</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>MA233</td>
<td>24 VAC</td>
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<td></td>
<td>FSNF24 US</td>
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<td></td>
<td>5, 6</td>
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<tr>
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<tr>
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<td></td>
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<td>60</td>
<td>1</td>
<td>FSNF120-S US</td>
<td>1, 3</td>
</tr>
</tbody>
</table>

1. Direct couple the Belimo where shaft is available. Some were direct coupled.
2. FSTF <1.5 sq.ft. FSLF <4 sq.ft.
3. FSNF <12 sq.ft. FSAF* A <18 sq.ft.
5. Motor was not 90 degree and pulley and cable were usually used. Some geometric changes are necessary to simplify.
6. Provide photos. Motor, linkage, blades, fusible link, McCabe © Link, Typically direct couple to damper shaft if available. Otherwise, investigation necessary.
Applications

MultiProducts motors were used in a variety of ways. Two examples are shown below.

While the Belimo FSNF can replace the motor here, the damper should be replaced. The broken drywall ruins the fire protection. CODE VIOLATION.

REPLACE DAMPER.

Some internal mounts are very difficult to modify. See example to the right.

The Belimo jackshaft adaptor may be considered.

EMB2X MultiProducts type motor. A number of variations were made.

Motors were non-spring and many used a “screen door” spring was tensioned when the motor drove the damper open.
The essential point about replacing old Prefco or PHL motors is that one removes all the linkage components, not simply the motor.

Then the Belimo actuator is direct coupled to the damper shaft like modern fire and smoke dampers.

Note the damper shaft here is quite adequate for direct coupled mounting.
External spring and bracket parts that will be removed.

Note that the short ½" shaft is available for mounting Belimo. When too short for direct coupling, see linkages below.

**McCabe Link and shaft spring.**

These are not to be modified as they perform the fire damper closing function.

Regardless of what motor was used, this application can be replaced with a Belimo by removing the linkage parts and **mounting the Belimo on the damper shaft**. The spring must be removed unless it is part of the fire closing function. The bracket may be used in some cases to mount the Belimo anti-rotation strap.

---

**WARNING!**

USE CAUTION!

Spring is under high torsion and may cause serious injury! If any external springs are present, exercise caution – wear face and hand protection.
**Prefco McCabe® Link Operation with Belimo FSxx Series**

**WARNING!**

**CAUTION !!!**

The shaft spring closes the damper in < 1 second.

Do not put hands inside damper due to risk of injury.

---

When the actuator turns (here clockwise from the shaft side of damper), it moves the motor arm down and tensions the jackshaft spring. The arm catches in the Link and holds.

---

The motor arm is not engaged in the McCabe® Link above.

The motor arm is engaged in the McCabe® Link above.

---

WARNING!

CAUTION !!!

The shaft spring closes the damper in < 1 second.

Do not put hands inside damper due to risk of injury.
Replacement Instructions McCabe™ link damper models

Mounting actuators on dampers less than 10” in height (U10)

If the damper is less than 10” in height (U-10), the drive rod requires less than 90° of rotation (varies from 43-48°). As the drive mode delivers substantially more torque than the spring return it is preferred to have the actuator at full open when the damper is open. Therefore, for U-10 dampers the suggested method of installation is to power the actuator open, hold the damper open and then tighten the actuator to the shaft. Installing the actuator when de-energized on a closed damper could cause damage to the damper linkage as the actuator continues to attempt to drive the damper open after rotation has ceased.

1. Disconnect incoming power and wiring at junction box or actuator. Tag all wires.
2. Remove old actuator and mounting bracket. Attach shaft extension if required.
3. Mount Belimo FSLF or FSNF.
4. Reconnect wiring per original drawing. Typical wiring shown below.
5. Restore incoming power.
6. Test all functions.
   a. Open smoke detector or relay contacts. Actuator springs damper fully closed.
   b. Re-close contacts. Actuator drives damper open.
   c. Trip McCabe™ link with long screwdriver. Actuator is disconnected and the damper spring engages to fully close damper. CAUTION <1 SECOND CLOSING.
   d. After link release on a McCabe link operated damper, the best method of reset is to open the electrical circuit and allow the return spring of the actuator to unwind to the closed position – this resets the McCabe link. Then restore power and the actuator/damper assembly should wind back to open.

Replacement of old motors.
1. Remove old motor and external spring. A number of different discontinued motors were used.
2. Clean damper. Test McCabe® Link, open and close blades to ensure operation. Engage motor arm in McCabe® Link.
3. Close damper and place Belimo on shaft in sprung closed direction. (See , 10” note above.)
4. Mark holes and install anti-rotation strap.
5. If damper requires, install Belimo on jackshaft with 5° preload. Set anti-rotation strap with one screw and rotate out of way of U-slot in actuator.
Test functions after installation of Belimo.

1. Power actuator. Damper opens. McCabe® Link is engaged in order to operate.

   Actuator has opened the damper. McCabe® Link must be engaged for actuator to move damper.

2. Cut power to actuator. Actuator spring closes damper. McCabe® Link is engaged.

   Actuator has sprung damper closed.

   Another view of actuator sprung closed.
The actuator must wind up the spring the first time it drives. That one time requires extra torque. For that reason the actuators cannot operate as much damper area and require derating:

McCabe® Link dampers:

Up to 18” x 18” FSLF (30 in-lb)
Up to 36” x 45” FSNF (70 in-lb)
**Direct Coupled Mounting**

**Anti-rotation strap**

![Diagram of Direct Coupled Mounting](image)

The heavier duty 11414 AF-P may be ordered when needed.

Bend strap at perforations to adjust for necessary height.

Where necessary the Belimo anti-rotation strap may be bent to adjust to fit.

**FSTF**
Best solution for small dampers where the HW bracket has been hung out into the air is to use an FSTF actuator.

**Short shaft mounting**

For short shaft mounting, the ZG-LMSA-1/2-5 can be used. Alternately, the clamp can be installed between the actuator and sheet metal.
Distance at top must be the same as at bottom.

Actuator must be perpendicular to the damper shaft.

Actuator should be parallel to the plane of the damper frame and sleeve.

Allow any non-concentric shaft motion to be taken up by mounting stud in middle of U-slot.

Figure 1

Note how the pin of the anti-rotation strap is mounted in middle of actuator U-slot.

Figure 2

This is acceptable as long as mechanically solid.

As long as it is mechanically solid, the anti-rotation strap may be bent to fit height.

Figure 3
WARNING!

Actuator anti-rotation strap may not be screwed to the duct. It must attach to either the sleeve or to the mounting bracket. The duct must be able to fall away from the damper in case of ceiling collapse in a fire.

Note that actuator floats freely. The anti-rotation strap stud allows the actuator to move if shaft is not perfectly concentric. Rigid mounting by jamming the stud into the U-slot of actuator is NOT usually best.

WARNING!

Read Data Sheet provided in box with each actuator for specific wiring details.
Linkage applications

One linkage method that can be helpful is to use the FSTF actuator with its linkage parts. Shown at left.

The FSTF cannot be purchased without Product Management approval. It is limited in torque and the application must be reviewed and field tested before use. The actuator has 18 in-lb of torque; it will tolerate only 250°F for a half-hour. This makes it a 2 sq.ft. actuator. Linkage geometry can modify the torque translation and must be examined.

The Belimo ZG-AF and brackets are useful in some cases for larger dampers where linkages are needed.

FSAF_A and FSNF may be mounted as shown to the right.

Belimo linkage kits:

Mounting Methods Guide:
**Miscellaneous parts**

Should they be needed, Belimo carries a range of parts. Ball joints and 5/16” rods are available from most distributors.

Where the crank arm on the jackshaft is broken or not of the type needed, the KH12 fits over the shaft without removing it. Zinc plated steel. Slot is for the KG10A ball joint. V-bolt fits ¾” to 1” (20 to 25mm) shafts.

KH-6. Zinc plated steel. For shafts 3/8” to 11/16”
Uses KG6 ball joint. Slot width 1/4”

KH-8. Zinc plated steel. For shafts 3/8” to 11/16”
Uses KG8 (90 degree) or KG10A ball joint. Slot width 21/64”

SH8 (not shown – see picture page 9). Push-rod for KG6 & KG8 ball joints. 5/16” 36” long
Use SH10 3/8” rods for GMB and dual FSAF or FSNF linkages. 5/16” can bend under heavy loads.

**Damper blade clip and ball joints**

Typically 3.5” in width. Typically the actuator or rod to shaft is in front of blade.

Typically used for 6” wide blade control dampers. Typically the actuator or rod to shaft is above or below the damper.

**Thermal sensor replacements – BAE165 US**

Where existing sensor is defective or one must be added, the 165°F primary sensor may be used. Original equipment is recommended although not strictly required by code. UL does not regulate replacement or repair. See NFPA 80 or NFPA 105.


**Wiring**

**WARNING!**

Disconnect and lock out power before starting to disconnect old motor.

Where a J-box is needed for wiring connections, a chase nipple and 2 x 4 or 4 x 4 box can be attached to the actuator.

There is no electrical thermal sensor used where the McCabe Link was used. Wiring is shown in the drawing below.

This is the most common wiring method used.
Regardless of the wiring routes used, this drawing shows the wiring necessary for a UL555S damper and actuator. Use it as a basis for any of the other wiring schematics. Note that the alarm connections are not touched when replacing an actuator. This is a major concern for Fire Marshals.

Call with questions or if there are field modifications requiring more investigation.

**WARNING!**

Read Data Sheet provided in box with each actuator for specific wiring details. Colors of wires and switch configurations vary.

**Blade Position Indication Switches**

Dampers under 10" in height do not use a full 90° of rotation. If using the Belimo –S actuator and installed as noted on “U-10” dampers above, only the full open switch would be functional.

Use of Prefco blade indicator switches is recommended in that case.
Where the original switches for signaling position to a Fire Fighters' Smoke Control Panel or to local indicator lights must be replaced or are inoperative the Belimo –S model actuators may be used or a S2A-F may be installed.

**Belimo S2A-F**

FSLF (mid 2014ff), FSNF, and FSAF actuators can use the add on switch package.
Building Official / Fire Marshal Notification Form

Retain this portion of checklist at premises for Fire Marshal inspection. See local AHJ or Fire Marshal for more is in turn on them when they are other information and requirements regarding conformance with NFPA 80 & NFPA 105.

1. Single Sensor Combination Damper

☐ Test Checklist (Smoke dampers do not have sensors. Only steps a & b apply.)
   a. ☐ Open smoke detector or relay wire or contact to cut power. Damper springs closed.
   b. ☐ Reconnect power. Damper drives open.
   d. ☐ Spring damper actuator closed. This resets the McCabe Link into the arm.
   e. ☐ Restore power and drive damper open.

Repeat 3 times to ensure operation. This imitates UL555S test.

☐ When completed, ensure sensors are reset and smoke detector is in normal state. Damper is normally Open; check sequence of operation.

2. Reopenable Two Sensor Fire-Smoke Combination Damper
   (Since this system involves the Firefighters’ Smoke Control System, inform fire department.)

   Fire fighter light indicators and override switch must be checked per fire department instructions.

☐ When completed, ensure sensors are reset and smoke detector is in normal state and FSCS switch is in Auto. Damper is normally Open; check sequence of operation.

Damper Numbers or Location Identifying Numbers ..............................................................................................................
Date..............................................................................................
Contractor..............................................................................................
Service Technician (Print)..............................................................................................
Service Technician (Signed)..............................................................................................
Phone Number (…….)..............................................................................................
Notes..............................................................................................
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Call Belimo with any testing requirements for other applications.