Management of Change Guide

Keystone™ K-LOK High Performance Butterfly Valves Figure 310/312 to Figure 360/362 and Series 36

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Management of **Change**

Management of Change (MOC) is a procedure used to proactively manage changes that have the potential to result in safety or process impact within a process plant. Evaluating new techniques for improving MOC approval procedures can have an impact on plant efficiency. Historically, upgrading obsolete products or replacing existing process control equipment has been delayed or abandoned due to the extensive paperwork involved in completing a complex MOC approval document.

Contained in the following sections are design comparisons between the current Keystone K-LOK high performance butterfly valves and the obsolete Keystone Figure 310/312 high performance butterfly valves. These comparisons are intended to help end users complete MOC approval documents to understand the similarities and differences between these valves to effectively transition to current Keystone high performance butterfly valve solutions.

Background

The Keystone Figure 310/312 high performance butterfly valve is discontinued and is to be replaced with Emerson's current Keystone K-LOK Figure 360/362 and Series 36 high performance butterfly valves.

Question and Answer
Checklist

Below are typical questions received from customers regarding their management of change impact.

Q1. Does the proposed modification cause any changes to P&IDs?
A1. No.

Q2. Does the proposed modification change process chemistry, technology, or operating control philosophies?
A2. No.

Q3. Does the proposed modification change how the existing plant is operated?
A3. No.

Q4. Does the proposed modification change process flows?
A4. No.

Q5. Will the proposed changes affect products quoted and delivery times?
A5. Yes, new alternative products will be offered with plant lead times.

Q6 Do the proposed changes, change the process of how I receive my quotation?
A6. No. Your local Emerson representative will continue to support Emerson replacement products and spare parts.

Q7. Have the codes and standards to which the new equipment has been designed changed?
A7. No. Alternative products quoted will conform to the same international standards e.g. ASME, API 609

Q8. Does the proposed modification change the materials of construction such as a change in material form (cast, forged, or alloy)?
A8. No. All Keystone high performance butterfly valve products are cast construction.

Q9. Does the proposed modification introduce equipment items that require new periodic predictive maintenance?
A9. No. The new equipment items will require the same periodic maintenance as required by the old equipment items.

Q10. Does the proposed modification change existing operator training requirements?
A10. No.

Q11. Does the proposed modification introduce new equipment items that require training, manuals, maintenance procedures, or training to teach maintenance department craftsmen how to maintain them?
A11. Yes. Emerson local business partners and sales offices offer local training and support to help ensure operators, maintenance personnel, and instrument technicians are fully trained.

Q12. Does the proposed modification introduce new equipment items that require spares or obsolete spares for existing equipment?
A12. Yes. New spares will be required for the replacement valves, which are not compatible with the obsolete valves.

Q13. Does the proposed modification permanently remove the spares for existing pieces of equipment?
A13. Once the equipment items are replaced, yes, the spare parts of the existing equipment items should be removed from the plant.

Q14. Does the proposed modification change the inspection scope or inspection interval?
A14. No.

Figure 310/312 to Figure 360/362 and Series 36 **Comparison**

Emerson's current Keystone K-LOK Figure 360/362 and Series 36 High Performance Butterfly Valves are capable of use in a broad range of industries and applications and will be the primary replacement for the Keystone Figure 310/312 High Performance Butterfly Valves. Visit the following links to view literature.

Figure 360/362: https://www.emerson.com/en-us/catalog/keystone-sku-klok-figure360-370-butterfly-valve
Series 36: https://www.emerson.com/en-us/catalog/keystone-sku-k-lok-series-36-37-butterfly-valve

The tables and sections that follow describe the similarities and differences between these product lines.

1. Seat Availability

Each valve should be reviewed to help ensure the appropriate alternative valve is selected for the application. The following tables provide the necessary design information to compare discontinued Figure 310/312 valves to the current Keystone K-LOK product offering. Please consult the individual product literature for more information of proper product fit and available offering.

Figure 310/312		Figure 360/362 and Series 36 Replacement Summary by Size (NPS)								
Model	**Seat**	**2**	**2½**	**3**	**4**	**5**	**6**	**8**	**10**	**12**
310/312	PTFE	Replace with Figure 360/362 or Series 36								
	RTFE	Replace with Figure 360/362 or Series 36								

2. Body and Trim Material Availability

Please see the table below for body materials comparison.

Figure 310/312		Figure 360/362 and Series 36 Replacement Summary by Size (NPS)								
Model	**Body Material**	**2**	**2½**	**3**	**4**	**5**	**6**	**8**	**10**	**12**
310/312	ASTM A216 WCB	Replace with Figure 360/362 or Series 36								
	ASTM A351 CF8M	Replace with Figure 360/362 or Series 36								

3. Seating and Unseating Torque Comparison (lbs-in) at Rated Pressure

Please see the table below for valve seating and unseating torque values comparison. Refer to product literature for more information on rated torque values.

ASME 150 PTFE/RTFE Seat - Seating and Unseating Torque Comparison (lbs-in)								
Valve Size		Flow Direction	150 Psig / 10.34 Barg		200 Psig / 13.78 Barg		285 Psig / 19.65 Barg	
NPS	DN		F310/312	K-LOK*	F310/312	K-LOK*	F310/312	K-LOK*
2	50	Bidirectional	118	220	126	280	141	380
2½	65	Bidirectional	191	220	208	280	236	380
3	80	Bidirectional	235	250	255	320	288	430
4	100	Bidirectional	369	475	406	600	468	820
5	125	Bidirectional	579	925	664	1125	807	1350
6	150	Bidirectional	792	1370	906	1600	1101	1850
8	200	Bidirectional	1279	2060	1539	2330	1980	3200
10	250	Bidirectional	2000	3340	2441	3650	3191	4700
12	300	Bidirectional	2873	4590	3507	5250	4585	6400

NOTES

* K-LOK = Figure 360/362 and Series 36

4. Face-to-Face Dimensions (inches)

The table below highlights the face-to-face dimensions of the Figure 310/312 and Keystone K-LOK Series 36 and Figure 360/362 valves. Please consult the individual product literature for more information of proper product fit and available offering.

Valve Model		Figure 310/312	Figure 360/362	Series 36
Body Style		Wafer & Lug	Wafer & Lug	Wafer & Lug
NPS	DN	ASME Class 150	ASME Class 150	ASME Class 150
2	50	1.69	2.38	2.38
2½	65	1.89	1.88	1.88
3	80	1.89	1.88	1.88
4	100	2.13	2.13	2.13
5	125	2.25	2.25	2.25
6	150	2.25	2.25	2.25
8	200	2.50	2.50	2.50
10	250	2.81	2.81	2.81
12	300	3.19	3.19	3.19

5. Design Features Comparison

Keystone K-LOK Figure 310/312, Figure 360/362 and Series 36 butterfly valves share many standard features.

Feature	Keystone	Keystone	
	Figure 310/312	Figure 360/362	Series 36
Design Standard	ASME B16.34 MSS SP 68 API 609	ASME B16.34 MSS SP 68 API 609	ASME B16.34 MSS SP 68 API 609
End Connection	Wafer Lug	Wafer Lug	Wafer Lug Double Flanged
Size Range	NPS 2-12	NPS 2-36	NPS 2-24
Pressure Rating	ASME 150	ASME 150, 300	ASME 150, 300
Face-to-Face Dimensions	API 609 Cat B	API 609 Cat B	API 609 Cat B
Pressure/Temp. Rating	Limited – seat backing material	ASME B16.34	ASME B16.34
Seat Design	Pressure assist	Interference	Interference
Actuator Mounting	KV standard	KV standard	KV standard
Flow Direction	Bidirectional	Bidirectional	Bidirectional
Dead End Service (Lug Style)	Standard – Bidirectional full rating	Optional – Bidirectional full rating	Standard – Bidirectional full rating

Conclusion

Repair parts, such as packing and seat kits, will be available for the Keystone Figure 310/312 for 5 years from the date of discontinuation. Keystone K-LOK Figure 360/362 and Series 36 valves offer compatible sizes, features and materials to cover the wide range of applications and are the recommended replacement for the Keystone Figure 310/312 product line – summarized in the table below.

Figure 310/312	Figure 360/362 and Series 36 Replacement Summary by Size (NPS)								
Model	**2**	**2½**	**3**	**4**	**5**	**6**	**8**	**10**	**12**
Figure 310	Replace with Figure 360 or Series 36W								
Figure 312	Replace with Figure 362 or Series 36L								

NOTE

The above is for reference only. Please consult the individual product literature for detailed information to determine proper product fit and available offering.

Thank you

Thank you for utilizing this Management of Change Guide to aid you in this transition. Please contact your local Emerson representative for additional details, questions, and support regarding Emerson's Keystone K-LOK High Performance Butterfly Valve portfolio.