Management of Change Guide
KTM™ Series EF1 Two Piece Floating Ball Valves

KTM™

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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 new KTM Series EF1 and the obsolete K-Ball F190 / F190F and the consolidated EF190 / EF190FE ball 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 the new KTM Series EF1.

Background

K-Ball F190 and F190F ball valves are discontinued to be replaced with the new KTM Series EF1. KTM EF190 and EF190FE are consolidated under Emerson's new two piece, split body floating ball valve platform, the KTM Series EF1.

Model Comparison		K-Ball F190/F190F	KTM EF190/EF190FE	KTM Series EF1
Brand		K-Ball	KTM	KTM
Variants	Standard	Yes	Yes	Yes
	Firesafe to API 607	Yes	Yes	Yes
	Fugitive Emissions Compliant	**No**	**Yes**	**Yes**
Male Centering Top Flange		**No**	**Yes**	**Yes**
Connections	ASME Class 150 / 300	Yes	Yes	Yes
	DIN PN 10 / 16 / 25 / 40	Yes	Yes	Yes
	JIS 10K / 20K	**Yes**	**No**	**No**
Fire Tested & Certified to API 607 7th Edition		Yes	Yes	Yes
Patented SEALMASTER Stem Arrangement		Yes	Yes	Yes
Seat Options	PTFE	Yes	Yes	Yes
	RPTFE	Yes	Yes	Yes
	25% Carbon Filled PTFE	Yes	Yes	Yes
	50% S/S Filled PTFE	Yes	Yes	Yes
	UHMWPE	**Yes**	**Yes**	**No**
	PEEK (ARLON 1330)	Yes	Yes	Yes
	PTFE / PFA Co-polymer	Yes	Yes	Yes
PED / CE Marking		Yes	Yes	Yes
SIL Certification (self certification)		Yes	Yes	Yes

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. Does the proposed modification change existing pressure relief cases?
A5. No.

Q6 Does the proposed modification change the process description?
A6. No.

Q7. Have the codes and standards to which the new equipment has been designed changed?
A7. No.

Q8. Does the proposed modification change the materials of construction such as a change in material form (cast, forged, or alloy)?
A8. No.

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.

K-Ball F190/F190F, KTM EF190/EF190FE and KTM Series EF1 **Comparison**

Emerson's KTM Series EF1 will consolidate the EF190 and EF190FE. Series EF1 valves are capable of use in a broad range of industries and applications and will also be the primary replacement for the discontinued K-Ball F190 and F190F products. Visit the following link to view the latest literature.

KTM Series EF1: Product Web Page

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

1. Seat Material Availability

The new KTM Series EF1 provides complete coverage of seat materials available with the discontinued K-Ball F190/F190F, as well as the consolidated Series EF190/EF190FE.

		K-Ball		KTM		
Option Code	**Material**	**F190**	**F190F**	**EF190**	**EF190FE**	**EF1**
T	PTFE	✓	✓	✓	✓	✓
R	RPTFE	✓	✓	✓	✓	✓
4	25% Carbon filled PTFE	✓	✓	✓	✓	✓
S	50% SS Filled PTFE	✓	✓	✓	✓	✓
U	UHMWPE	✓	✓	✓	✓	
K	PEEK (ARLON 1330)	✓	✓	✓	✓	✓
H	PTFE / PFA Co-polymer	✓	✓	✓	✓	✓

2. Body and Trim Material Availability

Please see the table below for body materials comparison.

		K-Ball		KTM		
Material	**Grade**	**F190**	**F190F**	**EF190**	**EF190FE**	**EF1**
Stainless Steel	1.4408 / CF8M / SCS14A	✓	✓	✓	✓	✓
Carbon Steel	1.0619 / WCB / SCPH2	✓	✓	✓	✓	✓
Sizes DN (NPS)						
15 (½)	ASME 150/300 DIN 10/16/25/40	✓	✓	✓	✓	✓
20 (¾)		✓	✓	✓	✓	✓
25 (1)		✓	✓	✓	✓	✓
32 (1¼)		✓	✓	✓	✓	✓
40 (1½)		✓	✓	✓	✓	✓
50 (2)		✓	✓	✓	✓	✓
65 (2½)		✓	✓	✓	✓	✓
80 (3)		✓	✓	✓	✓	✓
100 (4)		✓	✓	✓	✓	✓
125 (5)		✓	✓	✓	✓	✓
150 (6)		✓	✓	✓	✓	✓
200 (8)		✓	✓	✓	✓	✓
250 (10)		✓	✓	✓	✓	✓
300 (12)		✓	✓	✓	✓	✓

3. Face-to-Face Dimensions

Face to face dimensions for the Series EF1 remain unchanged from the discontinued K-Ball F190/F190F and consolidated KTM EF190/EF190FE.

4. K-Ball F190/F190F Obsolescence

The main difference between the K-Ball F190/F190F and the KTM EF190/EF190FE is the locating spigot on top of the valve. As the product lines are consolidated into the KTM Series EF1, the K-Ball F190 /F190F recessed top plate design will be discontinued and spigot top plate design will become the standard design for the new KTM Series EF1. These changes dimensional changes are described in detail in the following section.

5. Top Mounting Plate Dimensions

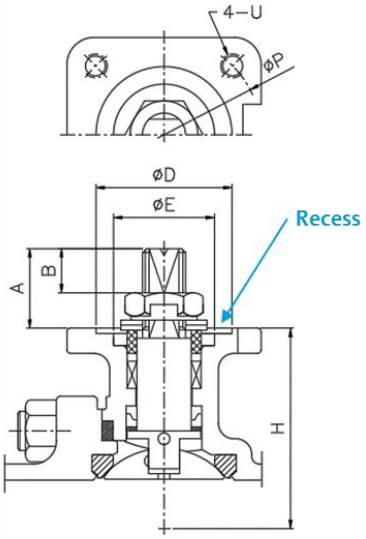
- KTM EF190/EF190FE are dimensionally identical to the new KTM Series EF1.
- Dimensional changes from the K-Ball F190/F190F to the new KTM Series EF1 are described in detail below.

For customers transitioning from the K-Ball Figure 190 and Figure 190F to the KTM Series EF1 ball valve, there is one key difference to note regarding the mounting plate.

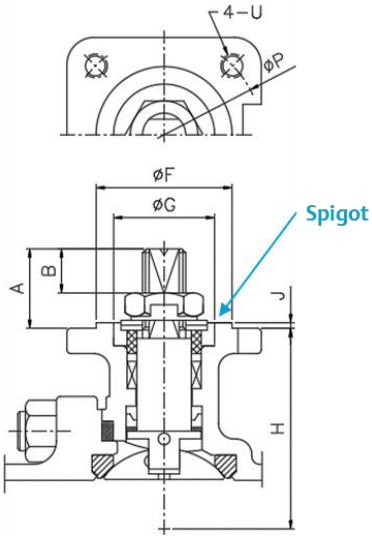
The KTM Series EF1 floating ball valve features a spigot mounting plate design, whereas the K-Ball Figure 190/190F featured a recess.

The resulting dimensional differences are outlined in the table below. All other components and key dimensions remain the same.

K-BALL F190/F190F



KTM SERIES EF1



Dimensions (mm)

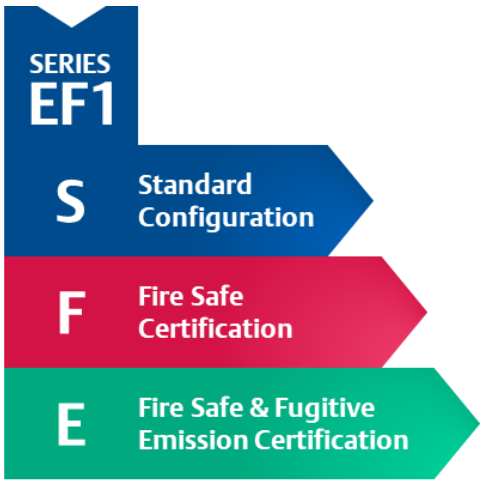
SIZE DN (NPS)	Dimensions in Common					Figure 190 (Recess)		Series EF1 (Spigot)		
	ISO 5211	U	A	B	H	D	E	F	G	J
15 (½)	F04	M5	20.3	12	38.5	30	22	30	22	2
20 (¾)	F04	M5	20.5	12.4	42	30	22	30	22	2
25 (1)	F05	M6	21.6	14	51.5	35	26	35	26	3
32 (1¼)	F05	M6	21.6	14	56.2	35.5	26	35	26	3
40 (1½)	F07	M8	26	16.2	65.5	48	33	55	35	3
50 (2)	F07	M8	26	16.2	74.5	48	33	55	35	3
65 (2½)	F10	M10	43	24.7	88	68	48	70	48	3
80 (3)	F10	M10	43.5	25.2	101	68	48	70	48	3
100 (4)	F10	M10	49	30	121.5	68	57	70	57	3
125 (5)	F10	M10	53.6	33	139.5	-	-	70	-	3
150 (6)	F12	M12	65	39	167	-	-	85	-	3
200 (8)	F12	M12	65	39	202.5	-	-	85	-	3
250 (10)	F14	M16	83.5	52	262.5	-	-	100	-	4
300 (12)	F14	M16	83.5	52	305	-	-	100	-	4

6. Design Features Comparison

The K-Ball F190/F190F and KTM EF190/EF190FE valves share many standard features with the KTM Series EF1.

Valve	K-Ball F190	K-Ball F190F	KTM EF190	KTM EF190FE	KTM Series EF1
Design	ASME B16.34 API 608 ISO 17292	ASME B16.34 API 608 ISO 17292	ASME B16.34 API 608 ISO 17292	ASME B16.34 API 608 ISO 17292	ASME B16.34 API 608 ISO 17292
End Connection	Flanged	Flanged	Flanged	Flanged	Flanged
Body	2-piece Full bore	2-piece Full bore	2-piece Full bore	2-piece Full bore	2-piece Full bore
Fugitive Emissions	N/A	N/A	ISO 15848-1 Class BH, C03 requirements (2500 cycles including thermal cycles to 200°C)	ISO 15848-1 Class BH, C03 requirements (2500 cycles including thermal cycles to 200°C)	ISO 15848-1 Class BH, C03 requirements (2500 cycles including thermal cycles to 200°C)
Packing	Gland	Gland Belleville spring	Gland Belleville spring SEALMASTER®	Gland Belleville spring SEALMASTER®	Gland Belleville spring SEALMASTER®
Firesafe	N/A	API 607	API 607 7th Edition	API 607 7th Edition	API 607 7th Edition
Topworks	ISO 5211 EN 15081	ISO 5211 EN 15081	ISO 5211 EN 15081	ISO 5211 EN 15081	ISO 5211 EN 15081
Flow Direction	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Bidirectional
Temperature Capabilities	-29°C to +200°C	-29°C to +200°C	-29°C to +232°C	-29°C to +232°C	-29°C to +232°C

Nomenclature Change



There is no technical change in the valves from K-Ball F190/F190F and KTM EF190/EF190FE to the KTM Series EF1. Instead, now customers will have a simple way to think about their two piece, split body flanged process ball valve solutions. We've consolidated the EF190, EF190F, EF190FE, F190 and F190F complementary product lines under a one platform, named the KTM Series EF1.

The full range of configurations for this platform product can now be specified with a single model code that captures the all material options and certifications available under the previous product lines.

Customers will now find a consistent naming convention across the product platform for an intuitive way to order and understand the valve configuration to meet their specific application. For the full list of KTM Series EF1 model code options, please consult the product technical data sheet (VCTDS-04534).

Conclusion

The discontinued K-Ball F190/F190F is replaced with the KTM Series EF1. This product line offers compatible sizes, features and materials to cover the wide range of customer application needs and is the recommended replacement for K-Ball F190/F190F valves. Spares for K-Ball F190/F190F will be available until February 2026. The KTM EF190/EF190FE product line is replaced with the KTM Series EF1 with no technical change to the product.

Thank you for utilizing this Management of Change Document to aid you in this transition

Please contact your Emerson local business partner or sales office for additional details, questions, and support regarding Emerson's KTM ball valve portfolio.