



# Design Appraisal Document

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Date  
09 September 2016

Please quote this reference number on all future communications  
HPC1461050/34963-16/TS

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2014**  
**ISSUED TO: KRONE FILTER SOLUTIONS GMBH**  
**FOR: SINGLE, DUPLEX AND AUTOMATIC FILTER**  
**TYPES: KSF, KMF, KDF-K, KDF-V, KAF, KRF**  
**TYPE APPROVAL CERTIFICATE NO. 16/20086**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System Procedure TA14 and this Design Appraisal Document forms part of the Certificate.

## APPROVAL DOCUMENTATION

|                                |  |            |
|--------------------------------|--|------------|
| -                              | Application Form to LR Type Approval   | 26.11.2014 |
| -                              | Product Catalogue / general Data sheets<br>for types KSF, KMF, KDFK, KDFV, KDF and KRF | 2014       |
| KSF LR Data sheet, Rev. 4      | KSF  | 2016       |
| KSF080.04.16.00.01, Rev. 0     | AW 613 PN16 DN80 incl. Parts list  | 22.04.2008 |
| KSF80.04.16.01.01, Rev. 1      | Body DN80 GR4  | 10.03.2006 |
| KSF000.05.16.02.01, Rev. 0     | Cover GR5  | 25.03.2009 |
| KMF LR Data sheet, Rev. 4      | KMF  | 2016       |
| KMF000.03.05.16.00.01, Rev 0   | KMF GR3 incl. Parts list   | 22.11.2013 |
| KMF000.03.05.16.01.01, Rev 0   | Body KMF GR3 / GR1 1/2" – G2"  | 22.11.2013 |
| KSF000.03.05.16.02.01, Rev. 1  | KSF Cover GR3  | 24.11.2011 |
| KDFK LR Data sheet, Rev. 4     | KDFK   | 2016       |
| KDFK080.06.05.10.00.01, Rev. 0 | KDFK DN 80 PN10 incl. Parts list   | 24.02.2011 |
| KDFK080.04.05.10.01.02, Rev. 2 | KDFK Body GR4 DN80 PN10 JIS 10K  | 20.03.2014 |
| KSF000.06.10.02.01, Rev. 0     | Cover GR6  | 31.03.2009 |
| KDFV LR Data sheet, Rev. 2     | KDFV   | 2016       |
| KDFV150.07.05.10.00.20, Rev 1  | KDFV GR7 DN150 incl. Parts list  | 12.07.2012 |
| KDFV150.07.05.10.01.20, Rev 1  | KDFV Body GR7 DN150  | 27.04.2012 |
| KDFV150.07.05.16.08.20, Rev 4  | KDFV Body Change Over GR7 DN150  | 12.07.2012 |
| KSF000.07.05.10.02.01, Rev. 0  | Cover GR7  | 24.02.2011 |

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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## APPROVAL DOCUMENTATION, cont.

|                               |  |            |
|-------------------------------|--|------------|
| KAF LR Data sheet, Rev. 0     | <b>KAF</b>                                       | 2016       |
| KAF150.01.16.05.00.01, Rev. 0 | KAF DN150 PN5 JIS B 2220 K5 FF incl. Parts list  | 16.05.2014 |
| KAF150.00.05.05.01.02, Rev. 0 | Body KAF DN150 PN5                               | 16.05.2014 |
| KAF150.00.16.05.01.02, Rev. 0 | Body KAF DN150 PN5 rubber lined incl. Parts list | 16.05.2014 |
| KAF150.00.05.10.02.01, Rev. 0 | KAF Cover DN150 PN 19 / DNC-50                   | 12.12.2013 |
| KAF150.00.16.10.02.01, Rev. 0 | KAF Cover DN150 PN 19 / DNC-50 incl. Parts list  | 12.12.2013 |
| KRF LR Data sheet, Rev. 4     | <b>KRF-BF</b>                                    | 2016       |

## TEST REPORTS

|               |   |            |
|---------------|---|------------|
| HPC1461050/01 | LR Works Inspection including hydrostatic burst pressure tests at 100 bar for type KSF: DN 50, size 2; KSF: DN 80, size 4 and KSF: DN 100, size 8                     | 14.12.2015 |
| HPC1461050/02 | hydrostatic burst pressure tests at 100 bar for type KMF: 2 ½" size 4; type KDF-K : DN 80, size 6 and KDF-K: DN 20, size 2 witnessed by LR Surveyor at Krone in Oyten | 17.12.2015 |
| HPC1461050/03 | hydrostatic burst pressure tests at 40 bar for type KAF: DN 200, PN 10 and at 64 bar for type KDF-V: DN 150, size 7, PN 16 witnessed by LR Surveyor at Krone in Oyten | 21.12.2015 |
| HPC1461050/04 | Visit of an existing installation with function test of KAF self-cleaning automatic filter at 'Elbphilharmonie Hamburg'   | 11.01.2016 |



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### Supplementary Type Approval Terms and Conditions

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.*

*Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.*

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