



Design Appraisal Document

Lloyd's Register EMEA
Global Technology Centre
Southampton Boldrewood Innovation Campus
Burgess Road
Southampton
SO16 7QF

Date
10 September 2020

Please quote this reference number on all future communications
GTC/ENG/KK/WP33152054

CLIENT: FILTERSAFE AUTOMATIC SCREEN FILTRATION
MANUFACTURER: FILTERSAFE AUTOMATIC SCREEN FILTRATION
SUBJECT: GENERAL APPROVAL OF FILTRATION UNITS BS025, 050, 070, 100, 150, 200,
300/300E, 400/400E & 500E

DESIGN PRESSURE: 10 BARG MAX FOR BS025/050/070/100/150/200 FILTERS
8 BARG MAX FOR BS300/400/500 FILTERS

DESIGN TEMPERATURE: 50°C

HYDRAULIC TEST PRESSURE:
17.6 BARG FOR BS025/050,
16.5 BARG FOR BS070/100,
15.8 BARG FOR 150/200,
11.9 BARG FOR BS300/400/500

Valid Until 19 September 2023

This Design Appraisal Document cancels and supersedes Document No. WP11127144, Issue No. 5, dated 20th September 2018

The Documents listed in paragraph 1 of the appendix have been examined for Compliance with the design requirements of Lloyd's Register Rules and Regulations for the Classification of Ships, Part 5, Chapter 11: July 2017 for the design conditions stated on the plans and are assigned an appraisal status as indicated subject to the following:

1. The models listed above approved with Standard, Turbo (T) and Super Turbo (ST) model

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

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2. All pressure retaining material certificates are to be to the satisfaction of the attending Surveyor in accordance with Lloyd's Register Rules Part 5 Chapter 11 Section 1.7.1
3. Filter component materials are to comply with specification, manufacture and testing requirements of Chapter 6 of the LR Rules for materials.
4. The leg length of each of the fillet welds for nozzle is to be not less than 1.4 times the actual thickness of the thinner of the parts being joined in accordance with Part 5, Chapter 10, Section 14.5.3 of LR Rules for Ships.
5. Mountings are to be subjected to a hydraulic test of twice the approved design pressure as per Part 5 Chapter 11 Section 10.2.1
6. Bolt tightening device should be used to ensure the bolting up the bolts is not overstressed.
7. Load cycles have not been considered in this appraisal as information submitted does not define.
8. External loads and/or moments caused by wind and ship motions have not been considered in this appraisal as information submitted does not define.
9. It is concluded that the NBR gasket material are used. The gasket factors have been extracted from the manufacturer's calculations.
10. The design appraisal of main flange is based on soft gasket case.
11. Should the manufacturer change the design or materials Lloyd's Register must be advised. Failure to do so will render this General Approval invalid.
12. The items referred to in this document are approved for installation in a ship classed by Lloyd's Register insofar as the above rules remain applicable and are not amended, and subject to the comments made in this design

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appraisal.


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Appendix

1. The documents listed below have been examined

Document No.	Rev.	Title	Status	Date
W-0000101-B	G	Filter Body, BS025-3" DIN 3 sheets	AQ	16 October 2017
M-0000271	B	Bracket for Conduit	SI	16 October 2017
M-0000280	B	Bracket for Nameplate	SI	16 October 2017
W-0000141-B-XX	B	Back Lid-H12" (T.24mm)	AQ	16 October 2017
W-0000959	B	Front Lid FT (BS25/BS50), 2 sheets	AQ	16 October 2017
W-0000170-C	F	Filter Body, BS050-06 DIN 3 sheets	AQ	16 October 2017
W-0000105-B	E	Filter Body, BS070-06 DIN Thickness 3 sheets	AQ	16 October 2017
W-0000145-B-XX	C	Back Lid-H16" (T.26mm)	AQ	16 October 2017
W-0000958-XX	A	Front Lid FT (BS70/BS100), 2 sheets	AQ	16 October 2017
W-0000172-B	C	Filter Body, BS100-10 DIN, 3 sheets	AQ	16 October 2017
W-0000149-B-XX	C	Back Lid-H24" (T.28mm)	AQ	16 October 2017
W-0000330	C	Filter Body, BS150-10 DIN, 3 sheets	AQ	16 October 2017
W-0000957-XX	A	Front Lid FT (BS150/BS200), 2 sheets	AQ	16 October 2017
W-0000111-B-XX	D	Filter Body, BS200-12 DIN, 3 sheets	AQ	16 October 2017
W-0000118-B-XX	H	Filter Body (BS300-14) DIN, 2 sheets	AQ	16 October 2017
W-0000995-XX	A	Filter Body (BS300V-14")DIN PN10_special, 9 sheets	AQ	7 March 2018
M-0000449	A	Saddle Bracket	SI	16 October 2017
W-0000135-B-XX	D	Base Lid 36" DIN (T=40mm), 2 sheets	AQ	16 October 2017
W-00001220-XX	C	Base Lid 36" E (T=40mm), 3 sheets	AQ	20 September 2018
W-00001235-XX	A	Reducer Flange (For 36" E x 6" VIC DIN (C.S.T)	AQ	20 September 2018
W-0000913-XX	E	Front Lid FT (HD), 2 sheets	AQ	20 September 2018
W-000XXX-XX	C	Filter Body, BS300-E, 6 sheets	AQ	20 September 2018
W-000XXX-XX	C	Filter Body, BS400-E, 4 sheets	AQ	20 September 2018
W-000XXX-XX	A	Filter Body, BS500-E, 4 sheets	AQ	20 September 2018
		Filter Body, BS300/400/500-E Welding Map, 2 sheets	AQ	20 September 2018
W-0000374-XX	H	Filter Body BS400-146 DIN, 2 sheets	AQ	16 October 2017

2. The documents listed below have been considered together with the submitted documents in the appraisal

Document No.	Rev.	Title
BS25-400	-	Calculation Description
Doc -00-075	A	Calculation Description for BS-300E/400E/500E, 12/06/2018

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3. The documents previously appraised in earlier submissions, now listed in paragraph 1 above, are superseded.
4. Documents not mentioned above are not required for appraisal or as supporting documentation and have not been retained.

Appraisal Status Key

- AQ Approved subject to the matters raised that require resolution - and provided the arrangements are to the surveyor's satisfaction
- SI Retained as supporting documentation for information only

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