Certificate No: TO.DEB.21-1552

TÜRK LOYDU

TYPE APPROVAL CERTIFICATE

This Certificate consists of 2 pages.

This is to certify that the

FUEL OIL FILTRATION SYSTEM

With type designations

KFWA (1 to 4)

Manufactured by

FILTRATION GROUP GmbH

Is found to comply with

"TL Rules, Part E, Chapter 107 - Naval Ship Technology, Ship Operation Installations and Auxiliary System January 2016", "TL Rules, Part B, Chapter 4, Machinery January 2021"

Application	: Products approved by this certificate are accepted for installation on all vessels classed by Türk Loydu
Design	: FILTRATION GROUP GmbH
Sizes	: See second page
Address of Manufacturer	: Schleifbachweg 45, 74613 Öhringen/ GERMANY
Place and date	: İSTANBUL, 21.12.2021

Subject to the conditions referred to in the following pages, this certificate is valid until 09.12.2026.

Emrah SÖĞÜTÇÜ
New Building Division Manager

119802

Product description : Fuel Oil Filtration System
Type Designation : KFWA (1 to 4)
Fuels Diesel fuel acc. to DIN 590,
DMX, DMA acc. to DIN ISO 8217
Flow rate range 670 [l/h] to 8000 [l/h]
Temperature range +2 [°C] to +55 [°C]
Service pressure range up to 6 [bar]

Materials used : To be referred to the approved drawing dated 14.09.2021, 30.09.2021.

Components	Type	Material	Standard
Tank and ball valves and fittings	KFWA (1 to 4)	Austenitic stainless steel (1.4571)	EN 10088

Application/ Limitation (Approval conditions):

1- The fuel oil treatment plants of type KFWA are type approved for the treatment of Marine Diesel Oil (MDO) and Marine Gas Oil (MGO) on ships classed with TL.

Type	Arrangement
KFWA 3- MAIN FILTER-COALESCER / MAIN PUMPENAGGREGAT	Between storage tank and combustion engine
KFWA 3 - BY FILTER-COALESCER / BY PUMPENAGGREGAT	Between storage tank and service tank

For selection of the fuel oil treatment plants for the corresponding application and the right installation and maintenance the instructions of the manufacturer are to be observed.

Documentation: The design and construction drawings approved by Türk Loydu, TL Ref Number: PAE-EPAS/010387/21-1552/OE, PAE-EPAS/010546/21-1552/ZK. on dated 14.09.2021, 30.09.2021.

Test carried out (and results) :
Following tests were carried out, found satisfactory.
- Visual Inspection
- Electrical Controls
- Tightness Test
- Function tests
- Control according to approved drawings

Place of test carried out : FILTRATION GROUP GmbH- Schleifbachweg 45, 74613 Öhringen/ GERMANY

Marking of product:
For traceability to this type approval each filter shall be marked:

Scope	Example
Manufacturer name or trade mark	Filtration Group GmbH
Type designation	KFWA (1 to 4)
Design pressure	6bar
Flow rate	4400 l/h
Serial number, date of manufacture	XXXXXXXXXX

1

S. Mahir TUĞCU
Surveyor

This certificate is subject to terms and conditions described below:

- Any significant change in design or construction may render this Certificate invalid. Type Approval Certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. This certificate is not valid for products without marking above mentioned. The manufacturer should notify TÜRK LOYDU of any modifications or changes to the equipment in order to obtain valid certificate. This certificate shows that tested specimens as representative of the product complies of the TÜRK LOYDU rules, and relevant international instruments that apply to it.