



Safety is for life.™

PRODUCT INFORMATION

Q-ROHR® DFE

Flameless Explosion Venting for
Dual-Fuel Engines



Consulting. Engineering. Products. Service.



New IMO regulations, new challenges

The situation:

The next phase of the IMO emission regulations for shipping intends to reduce the permitted sulphur and nitrogen content of fuel from the current level of 3.5% to a level of 0.5% in 2020. Due to the IMO tier 2 and 3 regulations, shipping will increasingly be required to use alternative sources of propulsion such as dual-fuel engines and LNG-powered plants.

The challenge:

When it is running on gas, a fault in the engine can allow a flammable mixture of gas and oxygen to occur in the exhaust system. In the worst case scenario, this could ignite and cause an explosion. The result would be a failure of the drive system and electrical power supply. Essential instruments such as radios, radar and navigation equipment could be adversely affected. In addition, bursting sections of the plant would create a serious risk of injury to persons working in the engine room.

New emissions regulations:
Current diesel engines will soon have to be switched to alternative fuels.



Future-proof
solutions from
REMBE®!



Q-Rohr® DFE

REMBE® has used its many years of experience in explosion safety to develop a system specifically for Dual-Fuel Engines. It is lightweight and has a compact design that provides outstanding levels of safety.

Q-Rohr® DFE permits flameless explosion venting in the ship's hull and thus protects the surrounding area against the consequences of an explosion. Normal operations can recommence on the ship very quickly after an explosion occurs.

■ Made
■ in
■ Germany



The most cost-effective
protection solution
for Dual-Fuel Engines:
Q-Rohr® DFE.



Your advantages:

- **Maritime class certification** in accordance with DNV-GL, LR, BV, ABS.
- **Rapid restart of operations.**
- **Flameless pressure venting in the ship's hull.**
- **100% seal tightness**, to eliminate danger of asphyxiation.
- **Compact, lightweight design.**
- **100% venting efficiency.**
- **Individually definable opening pressure.**
- **100% stainless steel for corrosion resistance.**
- **Connection flange in accordance with DIN 86044.**
- **No maintenance required**, visual inspection by a technician is sufficient.
- **REMBE® stainless steel filter ensures a high level of noise reduction during normal operation and in the event of an explosion.**

Q-Rohr® DFE

The compact, lightweight design of Q-Rohr® DFE enables it to be installed even in confined spaces.

Integrated REMBE® explosion vent incl. signalling unit and pre-installed gasket

Pre-wired junction box with transformer isolated barrier (intrinsically safe)

Explosion-proof housing structure with riveted retention rails, which remains stable even during extremely dynamic explosions

Reusable stainless steel filter with integrated pressure wave absorber



Q-Rohr® DFE components.

Technical data*

Burst pressure P_{stat}	0.1 to 0.5 bar
Operating temperature	-10 to +550 °C (14 to 1022 °F)

* Our specialists will be pleased to assist you in finding a solution that matches your specific operating conditions.

Certification



Patents:

DE 38 22 012;
US 7,905,244

✓

Certified in accordance with EN 14797

✓

Application in accordance with EN 14994

✓

Developed in accordance with EN 16009

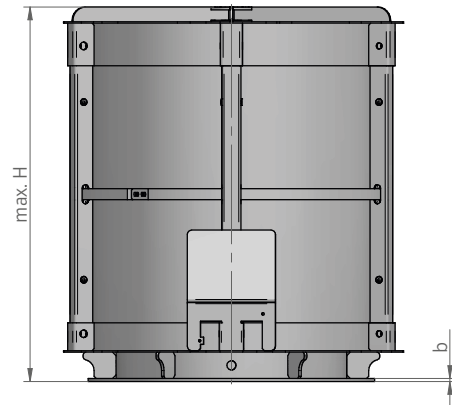
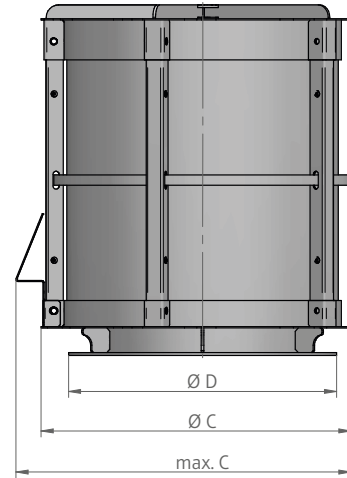
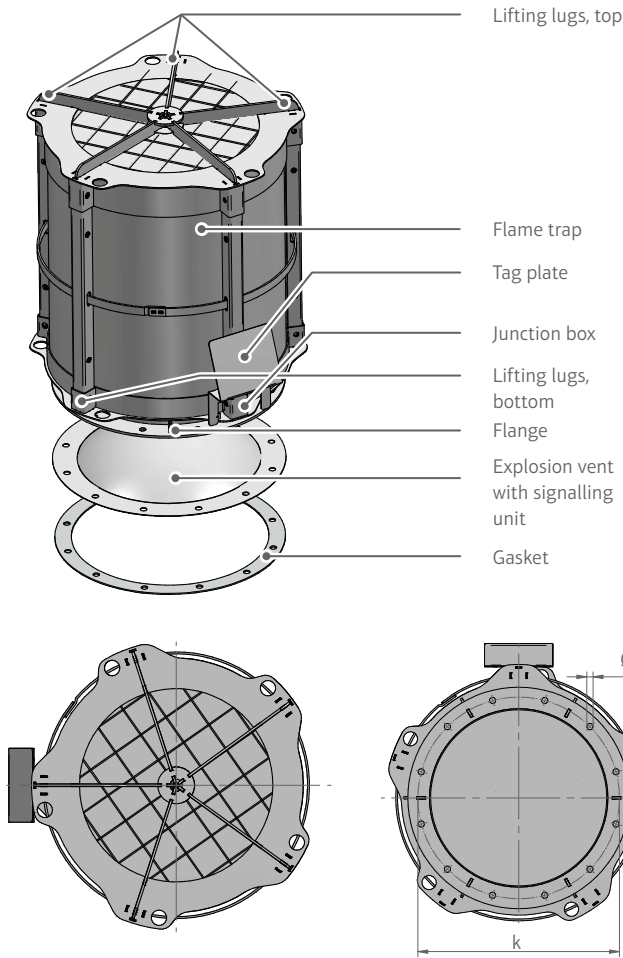
You can find detailed information and contact details for enquiries relating to Q-Rohr® DFE at www.rembe.de.
Give us a call on: T +49 2961 7405-0, or contact us via email: info@rembe.de.





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Technical data Q-Rohr® DFE in accordance with DIN 86044 Series 1/Series 2

DN [mm]	max. H [mm]	max. C [mm]	Ø C [mm]	Ø D [mm]		k [mm]		Ø d ₂ [mm]		b [mm]		No. of bolts		Recommended bolts		Weight [kg]
				Series 1	Series 2	Series 1	Series 2	Series 1	Series 2	Series 1	Series 2	Series 1	Series 2	Series 1	Series 2	
200	400	410	350	320	319	280	289	18	18	16	12	8	12	M16	M16	21
300	600	500	450	440	424	395	394	22	18	16	15	12	20	M20	M16	37
400	600	600	550	540	507	495	477	22	18	16	15	16	20	M20	M16	47
500	600	700	650	645	609	600	579	22	18	16	15	20	28	M20	M16	60
600	900	820	770	754	711	700	681	22	18	20	15	20	32	M20	M16	105
700	900	920	870	856	813	800	783	22	18	20	15	24	36	M20	M16	115
800	1200	1020	970	958	915	900	885	22	18	20	15	24	44	M20	M16	150
900	1200	1120	1070	1060	1017	1010	987	22	18	20	15	28	48	M20	M16	175
1000	1400	1220	1170	1162	1119	1110	1089	22	18	20	15	32	52	M20	M16	215
1100	1400	1320	1270	1266	1223	1210	1193	22	18	20	15	32	60	M20	M16	245
1200	1600	1430	1380	1366	1323	1310	1293	22	18	20	15	36	64	M20	M16	300
1300	1600	1530	1480	1466	1423	1410	1393	22	18	20	15	40	68	M20	M16	335
1400	1600	1630	1580	1566	1523	1510	1493	22	18	20	15	40	72	M20	M16	380

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