DNV·GL

EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRM0000001

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to

Discom B.V.

Ablasserdam, Netherlands

for
Spark arresters

with type designation(s)
Discom type C, CP and CS

The product is found to comply with
EU RO Mutual Recognition Technical Requirements for Spark arresters

Intended service
The spark arresters are approved for use on diesel engines, boilers and equipment containing sources of ignition in areas where emission of exhaust gas is permitted onboard ships or offshore units.

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2024-05-07**.

Issued at **Høvik** on **2019-05-08**

DNV GL local station: **Rotterdam, Product Certification /Verification**

for **DNV GL**

Approval Engineer: **Amir Dzaferi**

Oddvar Deinboll
Head of Section

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.
This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.4-000163-1**
Certificate No: **MRM0000001**

Product description
Cross Pipe Type Spark Arrester (CP) and Centrifugal Type Spark Arrester (C & CS)

Manufactured by
1. Discom B.V., Staalindustrieweg 5, NL-2952 AT Alblasserdam, The Netherlands
2. Prodis Est Srl, Str Industriala 13, RO-900147 Constanta, Romania

Application/Limitation

Material:	S235 JR – 1.0038 acc. EN 10025-2 S355 J2 – 1.0577 acc. EN 10025-2 S355 J0WP – 1.8945 acc. EN 10025-5 X2CrNi18-9 – 1.4307 (AISI304L) acc. EN 10088-2 X6CrNiTi18-10 – 1.4541 (AISI321) acc. EN 10088-2 X2CrNiMo17-12-2 – 1.4404 (AISI316L) acc. EN 10088-2 X6CrNiMoTi17-12-2 – 1.4571 (AISI316Ti) acc. EN 10088-2 X15CrNiSi20-12 – 1.4828 (AISI309) acc. EN 10088-2 X1CrNiMoCuN20-18-7 – 1.4547 (254SMO) acc. EN 10088-2
Media temperature range of spark arrester:	-20 C up to +600C*

* Material selection dependent on the temperature and level of corrosiveness of flue gas and environment

DN [mm]	Exhaust gas mass flow [kg/h] at 20 m/s	Exhaust gas mass flow [kg/h] at 40 m/s	Exhaust gas volume flow [m3/h] at 20 m/s	Exhaust gas volume flow [m3/h] at 40 m/s	Comments
40	51,3	102,5	105,0	210,1	Calculated**
50	85,9	171,8	176,1	352,1	Calculated**
65	139,5	279,0	285,9	571,7	Calculated**
80	194,3	388,5	398,1	796,1	Calculated**
90	254,9	509,7	522,2	1044,5	Calculated**
100	326,7	653,3	669,4	1338,8	Calculated**
125	493,3	986,6	1010,8	2021,7	Tested: HMC NB125, in both directions LHCP35 NB125 in both directions and CS NB 125 tested only in vertical direction***
150	718,0	1436,0	1471,3	2942,5	Calculated**
175	972,2	1944,5	1992,3	3984,6	Calculated**
200	1229,8	2459,5	2520,0	5040,0	Calculated**
250	1967,3	3934,5	4031,3	8062,6	Calculated**
300	2788,8	5577,7	5714,8	11429,7	Calculated**
350	3372,8	6745,5	6911,4	13822,8	Calculated**
400	4424,2	8848,3	9065,9	18131,8	Calculated**
450	5568,3	11136,6	11410,4	22820,9	Calculated**
500	6898,9	13797,9	14137,2	28274,3	Calculated**
550	8372,0	16744	17155,8	34311,5	Calculated**
600	9987,5	19975,0	20466,2	40932,5	Calculated**
650	11745,5	23490,9	24068,6	48137,1	Calculated**
700	13645,8	27291,7	27962,8	55925,5	Calculated**
750	15688,6	31377,3	32148,8	64297,6	Calculated**
800	17873,9	35747,7	36626,7	73253,5	Calculated**
850	20201,5	40403,0	41396,5	82793,1	Calculated**
900	22671,6	45343,2	46458,2	92916,4	Calculated**
950	25284,1	50568,2	51811,7	103623,4	Calculated**
1000	28039,0	56078,1	57457,1	114914,1	Calculated**

** Calculation based on density of exhaust gas of 0.481 kg/m3 at temperature of 450 C.
*** Spark arresters of CS type, to be used only in vertical direction.

The selection of size, the installation and maintenance is to be according to maker's instructions.

Type Approval documentation

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Tests carried out

- As documented in Philips innovation services test report for Discom BV Spark arrester with ID: GuuSte-20141120-01V1, last modified 2014 Dec 04.

Marking of product

Each component covered by this certificate shall be marked before shipment for identification as per referenced standard. In addition, and as a minimum, the following items are to be marked at the suitable places:
Manufacturer's name or trade mark, type number and serial number.

Rules & Standards

Periodical assessment

The manufacturer shall apply annually for periodical assessment to DNVGL. A survey will be carried out to confirm that the production under the MR TAC and the quality assurance scheme are being satisfactory maintained.
END OF CERTIFICATE