



Marine & Offshore

Certificate number: 26959/C0 BV

File number: ACM 135/2611/4

Product code: 2103I

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**HKS GmbH - industrieller Hersteller von Kompensatoren und Schläuchen**  
Rostock - GERMANY

*for the type of product*

**METALLIC HOSES (FLEXIBLE PIPES) ASSEMBLIES**  
STAINLESS STEEL HOSES, type: SE and SZ

**Requirements:**

BUREAU VERITAS Rules for the Classification of Steel Ships

BUREAU VERITAS Rule Note NR 529 Gas Fuelled Ships

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 02 Feb 2027**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 02 Feb 2022,

Udo Storm



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

#### Stainless steel hoses, types: SE and SZ

1.1 Design: Single and double braid metallic hoses

Type SE – single braid

Type SZ – double braid

1.2 Identification and technical data:

File number	Type	DN	PS [bar]	TS [°C]
ACM 135/2611/4/1	SE	6	140	-196 up to +550
		10	100	
		12	90	
		16	65	
		20	55	
		25	48	
		32	38	
		40	34	
		50	31	
		65	27	
		80	22	
		100	16	
		125	13	
		150	11	
ACM 135/2611/4/2	SZ	6	250	-196 up to +550
		10	180	
		12	160	
		16	120	
		20	93	
		25	77	
		32	62	
		40	46	
		50	43	
		65	35	
		80	33	
		100	26	
		125	21	
		150	18	
200	26			
250	25			

Maximum working temperature: 550 °C depending on the used sealing

### 2. DOCUMENTS AND DRAWINGS :

According to following documents:

Designation	DN	Drawing number	Rev.
HKS-Hose	6 – 80	SE 6-80-DAGA-AGA-600-196	-
HKS-Hose	6 – 250	SE 6-250-B-V-600-196	-
HKS-Hose	6 – 250	SE 6-250-F-F-600-196	-
HKS-Hose	6 – 250	SE 6-250-R-R-600-196	-
HKS-Hose	6 – 80	SZ 6-80-DAGA-AGA-600-196	-
HKS-Hose	6 – 250	SZ 6-250-B-V-600-196	-
HKS-Hose	6 – 250	SZ 6-250-F-F-600-196	-
HKS-Hose	6 – 250	SZ 6-250-R-R-600-196	-

### **3. TEST REPORTS :**

- 3.1 Type Test performed at TÜV SUD Automotive GmbH on Hoses SZ DN 40
- Burst pressure test
  - Leakage test
  - Flexibility test
  - Vibration test
  - U bend test
  - Pliable test
- 3.2 Burst pressure tests performed at HKS GmbH in Rostock
- 3.3 Pressure test certificate No.: 2019/7778 at HKS, Rostock / GERMANY dd. 22.10.2019 witnessed by an IACS member.
- 3.4 Pressure test certificate No.: 2019/7779 at HKS, Rostock / GERMANY dd. 22.10.2019 witnessed by an IACS member.
- 3.5 Leakage test at HKS, Rostock / GERMANY dd. 11.09.2019 witnessed by an IACS member.

### **4. APPLICATION / LIMITATION :**

- 4.1 May be used for the following services on board:
- Bilge and ballast
  - Steam and condensate
  - Compressed air
  - Fresh water and sea water
  - Fuel oil
  - Lub and hydraulic oil
  - LNG and BOG
  - hydrogen
  - oxygen
  - nitrogen
  - carbon monoxide
  - carbon dioxide
  - methanol
- 4.2 End fittings as per manufacturer's catalogue. The hoses are to be entirely assembled in the manufacturer's workshop.
- 4.3 The used materials, sealing included, should be suitable for the intended services.
- 4.4 Tapered thread end connections are not to be used for liquid fuel or oil circuits in engine rooms nor any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.
- 4.5 The hose assemblies are to be installed according to the Society's Rules requirements and the manufacturer's instructions.
- 4.6 The hoses are to be limited to a length necessary to provide for relative movement between fixed and flexibly mounted items of machine/equipment or systems and are only to be used in lengths up to 2 m. The hoses are to be installed in clearly visible and readily accessible locations at all times.

### **5. PRODUCTION SURVEY REQUIREMENTS :**

- 5.1 The hoses are to be supplied by **HKS GmbH** in compliance with the types and the requirements described in this certificate.
- 5.2 This type of product is within the category IBV of BUREAU VERITAS Rule Note NR320.
- 5.3 BUREAU VERITAS Product Certificate is required.
- 5.4 For information, **HKS GmbH** has declared to BUREAU VERITAS the following production site:  
**HKS GmbH, Rostock / GERMANY**

5.5 Each hose with end fittings is to be hydraulic pressure tested to twice the maximum working pressure under witnessing of a Society's Surveyor.

#### **6. MARKING OF PRODUCT :**

Each hose with end fittings is to be clearly marked as follows to avoid any wrong utilization:

- Manufacturer's name or logo
- Type designation
- Maximum working pressure
- Maximum and minimum working temperature
- Date of manufacture
- BUREAU VERITAS' marks

#### **7. OTHERS :**

- 7.1 It is **HKS GmbH**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 This certificate supersedes the Type Approval Certificate N° 26959/B1 BV issued on 10 Dec 2019 by the Society.

**\*\*\* END OF CERTIFICATE \*\*\***