



MARINE DIVISION

Certificate number: 19459/B0 BV

File number: AP 3816

Product code: 3881H

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

Barksdale GmbH
Reichelsheim - GERMANY

for the type of product

PRESSURE CONTROLLERS

Pressure Switches
Type: KLM-... Series and 8000-... Series

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

This certificate is issued to attest that BUREAU VERITAS 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: 17 Aug 2017

For BUREAU VERITAS,

At BV HAMBURG, on 17 Aug 2012,

Dirk Hoepfner



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. 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 Division available on the internet site 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 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.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

KLM- and 8000- series are adjustable pressure switches.

1.1 - Main Characteristics:

	KLM- series	8000- series
Pressure range [bar]:	1.0...6.0, 5.0...25.0, 10...40(diaphragm type)	0.6...6.0 to 4.0...45.0 (diaphragm type) 5.0...180 to 80.0...600 (piston type)
Pressure connection:	G1/4" male, M12x1.5 male, M18x1.5 male	Cetop flange, G1/4" female, 1/4"NPT female
Output:	1 x C/NC/NO (silver or gold contacts)	1 x C/NC/NO (silver or gold contacts)
Housing material:	Stainless steel	Aluminium or Stainless steel (option)
Ingress protection index:	IP 65/67 (depending on electrical connection)	IP 65/67 (depending on electrical connection)

1.2 - Variants:

Type: **KLM - aaa - bb - cc - d - e**
(acc. to document 923-1524 Rev. E)
aaa = Pressure range:
006, 025, 040
bb = Process connection:
M1, G1, M4
cc = Electrical connection:
K1, S1, ST0
d = Micro switch:
1, 2
e = Diaphragm:
V, N, E

Type: **81 a b - ccc - d - ee**
(acc. to document 923-1295 Rev. I)
a = Pressure range:
1 to 6 or A to F
b = Micro switch:
1, 2
ccc = Electrical connection:
PL1, PL2, PL3, PL4, CA1, CA2, CA3
d - Seal:
B, N, E, V
ee - Options:
VA

2. DOCUMENTS AND DRAWINGS:

- Data sheet: 923-1295 Rev. I; 923-1524 Rev. E
- Operating instructions: 923-1302 Rev. M dated 26.09.2011
- Drawings: 911-0111 Rev. A dated 25.09.01; 922-1019 Rev. F; 922-1025 Rev. Q dated 12.01.12

3. TEST REPORTS:

BFSV:

- 5527_2/05 dated 08.02.2005
- 5641a/05 dated 22.06.05

Ex Certificate:

- ISSeP 08 ATEX 016X dated 02.04.2008

4. APPLICATION / LIMITATION:

- 4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 33.**
- 4.4 - BV-Rules Part C, Ch 1, sec 10 apply for pressurized parts made of aluminium or aluminium alloys if they are used in piping systems for flammable liquids or fire-extinguishing systems.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The pressure switches of **KLM-** and **8000-** series are to be manufactured, examined and tested by **Barksdale GmbH** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.
- 5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **Barksdale GmbH** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.
- 5.3 - **Barksdale GmbH** has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production site:

Barksdale GmbH
Dorn-Assenheimer Strasse 27
61203 Reichelsheim
GERMANY

- 5.4 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT :

- Maker's name or trade mark.
- Date of manufacture and/ or serial number.
- Equipment type or model identification.
- Ex marking, as relevant.

7. OTHERS:

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **Barksdale GmbH - GERMANY**, will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 19459/A0 BV issued on 22 Jun 2007 by the Society.

*** END OF CERTIFICATE ***