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# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. P-12065  
This Certificate consists of 3 pages

*This is to certify that the*  
**Safety Relief Valve for LNG/LPG Service**  
*with type designation(s)*  
**2600 and 3500**


*Manufactured by*  
**Broady Flow Control Ltd**  
Hull, E.yorks HU3 2DU, United Kingdom

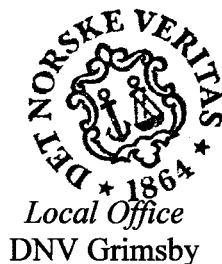
*is found to comply with*  
Det Norske Veritas' Rules for Classification of Ships  
Det Norske Veritas' Standards for Certification 2.9 No. 5-794.40

### *Application*

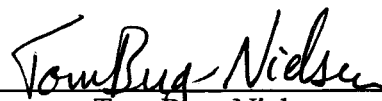
K-factor	Sonic flow: 0.956
Temperature range:	-190 C to +538 C
Max. working press.:	140 bar for 2600. 442 bar for 3500

*Place and date*  
Høvik, 2005-08-24  
for DET NORSKE VERITAS AS

  
John Olav Nøkleby  
Head of Section



*This Certificate is valid until*  
2009-12-31

  
Tom Berg-Nielsen  
Surveyor

**Notice: 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.**

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



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## Product description

Series 2600:

Flanged type

Sizes:

1/2" x 1", 3/4" x 1", 1" x 1"

Design:

Stainless steel body with austenitic piston. Closing action of main valve operated by a spring.

Series 3500:

Flanged type

Sizes:

1" x 2", 1 1/2" x 2", 1 1/2" x 3", 2" x 3", 3" x 4", 3" x 6", 4" x 6", 6" x 8", 6" x 10", 8" x 10"

Design:

Stainless steel body with austenitic piston. Closing action of main valve operated by a spring.

## Application/Limitation

The 2600 valve is for liquid and gaseous LPG/LNG.  
The 3500 valve is for gaseous LPG/LNG.

Each valve is to be certified by Det Norske Veritas' Surveyor.

Documents, signboards etc. which are to accompany each product/delivery:

- Instruction and maintenance manuals.
- Surveyor's Report.

Documentation of material used in the valve is to be acc. to Table E1 of Pt.5 Ch.5 Sec.2.

The following tests (to be done on each valve) are to be performed under the supervision by a Surveyor of Det Norske Veritas:

- Hydraulic test to 1.5 times the maximum allowable pressure setting.
- Checking of set pressure (popping pressure) and reset pressure at room temperature. Set pressure to be sealed.
- Auxiliary set and reset pressure.
- Leak test after reset at 90% of each set pressure at room temperature.
- Sufficient valve capacity is to be approved for each application.

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### **Type Approval documentation**

Ringbinder with test documentation and drawings/brochures as received with DNV  
Grimsby's letter dated 29.06.2005

### **Tests carried out**

Flow test, Set and leakage test, Cryogenic test

### **Marking of product**

For traceability to this type approval each valve is to be marked with:

- Manufacturers name or trademark
- Type designation
- Size
- Max. allowable relief valve setting

### **Certificate retention survey**

For retention of the Type Approval and if no certification has taken place during the last year of the validity period, Det Norske Veritas' surveyor shall perform a survey at the manufacturer's premises before the expiry date of this certificate, to verify that the conditions for Type Approval complied with.

END OF CERTIFICATE

*TOBV*