



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. P-14318

Holder of Certificate  
**Parker Hannifin Manufacturing Germany GmbH & Co KG**  
**Tube Fitting Division Europe**  
**BIELEFELD, Germany**

This is to certify that the  
**Check Valve**

with type designation(s)  
**RHDI;RHD;RHV-R-ED;RHV-M-ED;RHZ-R-ED;RHZ-M-ED**

is found to comply with  
Det Norske Veritas' Rules for Classification of Ships  
Offshore Standard DNV-OS-D101, Marine and Machinery Systems and Equipment  
Det Norske Veritas' Standards for Certification 2.9 No. 5-792.20

Application  
**See certificate**

Type:	Temperature range:	Max. working press.:	Sizes:
RHDI		250 to 400 bar	1/8" to 1 1/2"
RHD		250 to 400 bar	06 to 38
RHV-R-ED		250 to 420 bar	06 to 38
RHV-M-ED		250 to 420 bar	06 to 38
RHZ-R-ED		250 to 420 bar	06 to 38
RHZ-M-ED		250 to 420 bar	06 to 38

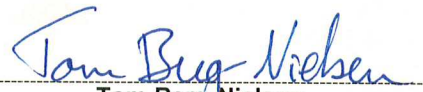
Høvik, 2012-12-21  
for Det Norske Veritas AS

  
Giorgio Saia  
Head of Section



DNV local office:  
Essen Business Support

This Certificate is valid until  
**2016-06-30**

  
Tom Berg-Nielsen  
Surveyor



Certificate No.: P-14318  
 File No.: 794.42  
 Job Id.: 262.1-013530-1

## Product description

Types:

RHD	EO 24° cone end
RHDI	BSPp female threads
RHV-R-ED	EO 24° cone end/ Male BSPP threads
RHV-M-ED	EO 24° cone end/ Male metric threads
RHZ-R-ED	Male BSPP threads
RHZ-M-ED	Male metric threads

## Manufactured by

This certificate is also valid for products manufactured at:

Parker Hannifin Sp.z.o.o.  
 Ul. E. Kwiatkowskiego 16  
 PL- 55011 Siechnice  
 Poland

## Responsibility

Parker Hannifin Manufacturing Germany GmbH & Co., KG  
 Tube Fittings Division Europe  
 Bielefeld, GERMANY

## Application/Limitation

The non-return valves may be used in ordinary machinery piping systems on ships and offshore installations. Valves with components of non-metallic material are not to be used for "fire-safe" applications.

Max. working pressure (bar):

Types	Size range	Series	MAWP
RHD	06 to 18	L	400
	22 to 42	L	250
	06 to 25	S	420
	30 to 38	S	250
RHDI	1/8" to 3/8"	L	400
	1/2 "	L	315
	3/4" to 1 1/2"	L	250
RHV-R-ED, RHV-M-ED, RHZ-R-ED, and RHZ-M-ED	06 to 18	L	400
	22 to 42	L	250
	06 to 25	S	420
	30 to 38	S	250

The pressure ratings given above are for valves produced of carbon steel.

Tube preparation and final installation must be conducted by personal which is trained and currently certified by Parker. All assemblies must be made with machines that are approved by Parker

The wall thickness and the material of the tubes are to be in accordance with the current Rules of Det Norske Veritas.

The approval is only valid when the valves are assembled with tubing of correct temper and tolerances as recommended by the manufacturer.

These valves should not be used on tubes in cold fabricated (hard temper) conditions.

These valves should not be used in high pressure fuel injection systems.



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The temperature range shall be as recommended by the manufacturer dependant on type of artificial material used.

Lining material used, shall be resistant to the fluid carried through the valves.

Each product/delivery is to be accompanied by the following documents:

- Product certificate prepared by the manufacturer
- Work's Certificate for materials used in valve body, stem and disc indicating mechanical and chemical properties. Valve bodies with nominal diameter 100 mm or less will be accepted with test report.
- Instruction manual/specification sheet.

The valve housing of each valve shall be subjected to a hydrostatic pressure test at minimum 1.5 times the design pressure. The test pressure need not be more than 70 bar in excess of the design pressure.

Holding time: 2 min. for all sizes.

The valve assembly shall be subject to a hydrostatic seat leakage test at minimum 1.1 time the design pressure. Holding time: 5 min. for all sizes.

### Type Approval documentation

Reference documents:

- Catalogue 4025/GB "Line mounted valves for fluid systems".
- Catalogue no. 4100-5 CD 0094/UK-FR-DE-IT-ES-FI 07/2003.
- Test documentation received with the manufacturer's letter dated 20.12.88.
- DNV Survey report dated 2004-03-26 ESN-03-6638.
- DNV Survey report dated 2008-09-26
- Test report for P-11737

### Tests carried out

The non-return valves are tested in accordance with Det Norske Veritas' Standards for Certification 2.9 Type Approval Program No.5-794.40.

### Marking of product

For traceability to this type approval the products are to be marked with:

- EO or EO-2
- Arrow to indicate direction of flow

### Certificate Retention Survey

For retention of the Type Approval, a DNV Surveyor shall perform a survey - every second year and before the expiry date of this certificate - to verify that the conditions for the type approval are complied with.

END OF CERTIFICATE