



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **P-14699**

This is to certify that the  
**Pressure Vessel**

with type designation(s)  
**500, 1000 and 2000 litre Class II P355GH, 500 and 1000 litre Class III P265GH, 2000 litre Class III P265GH**

Issued to  
**Euroelektro - Piotr Hinz**  
**Rumia, Poland**

is found to comply with  
**Det Norske Veritas' Rules for Classification of Ships**

Application  
**The pressure vessels are approved to DNV Ship Pt.4 Ch.7 for use with air and/or fresh water.**

Type:	Max. working temp.:	Design pressure:	Operating Medium
<b>500, 1000 and 2000 litre Class II P355GH</b>	<b>Max 90 °C</b>	<b>Max 1,5 MPa</b>	<b>Air/N2 or fresh water</b>
<b>500 and 1000 litre Class III P265GH</b>	<b>Max 90 °C</b>	<b>Max 1,1 MPa</b>	<b>Air/N2 or fresh water</b>
<b>2000 litre Class III P265GH</b>	<b>Max 90 °C</b>	<b>Max 0,7 MPa</b>	<b>Air/N2 or fresh water</b>

This Certificate is valid until **2018-06-30**.

Issued at **Høvik** on **2014-01-08**

DNV local station: **Gdansk**

Approval Engineer: **Simon Ratcliffe**

for **Det Norske Veritas AS**

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**Marianne Spæren Marveng**  
**Head of Section**

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.

**Product description**

Cylindrical pressure vessels with DIN 28013 ellipsoidal heads designed to DNV Ship Pt.4 Ch.7 available in three sizes; 500 litre, 1000 litre and 2000 litre. See application/limitation for design pressure and temperatures.

Vessels feature a central manhole in the main shell and a drain in the lower head (depending on orientation of the vessel).

- 500 litre and 1000 litre vessels – DN125 manhole or 160x126 oval manhole both of the internal type.
- 2000 litre vessels – DN400 manhole or 420x320 oval manhole both of the internal type.

Male threaded, female threaded or EN flanged nozzle connections up to DN80 in size. Nozzle arrangement is dependent on final customer requirements.

Horizontal orientation – vessel mounted on saddles.  
 Vertical orientation – vessel mounted on three legs.

Materials: P355GH EN 10028 – Class II vessels  
 P265GH EN 10028 – Class III vessels

Corrosion allowance: 1 mm

**Application/Limitation**

Volume (Litres)	Dimensions D <sub>o</sub> x t (mm)	Pressure		Design temp. Min/max (°C)	Vessel Class
		Design (MPa)	Test (MPa)		
500	612 x 6	0,7	1,05	0/+90	III
		1,1	1,65	0/+90	
		1,5	2,25	0/+90	II
1000	812 x 6	0,7	1,05	0/+90	III
	816 x 8	1,1	1,65	0/+90	II
		1,5	2,25	0/+90	
2000	1216 x 8	0,7	1,05	0/+90	III
		1,1	1,65	0/+90	II
		1,5	2,25	0/+90	

On completion, the vessels shall be hydraulically tested to at least 1.3 times the design pressure.

Each vessel is to be certified by a DNV surveyor and issued with a product certificate.

**Type Approval documentation**

**Marking of product**

Each pressure vessel shall be permanently and legibly marked on the vessel or on a nameplate permanently attached to a principal pressure part to show its identity and origin.

The marking shall show the following particulars:

- a) the name and domicile of the manufacturer,
- b) the manufacturer's type designation and serial number,
- c) the year of manufacture,
- d) the design pressure,
- e) the design temperature (s) in °C,
- f) the hydraulic test pressure,
- g) DNV's identifying mark.

Certificate No.: P-14699  
File No.: 742.0  
Job Id.: 262.1-016337-1

**Periodical assessment**

For retention of the Type Approval, a DNV surveyor shall perform a survey every second year to verify that the conditions of the Type Approval are complied with.

END OF CERTIFICATE