



RDW

Vehicle Technology Division

THE NETHERLANDS
(N E D E R L A N D)



COMMUNICATION

Concerning: ~~APPROVAL GRANTED~~
~~APPROVAL EXTENDED~~
~~APPROVAL REFUSED~~
~~APPROVAL WITHDRAWN~~
~~PRODUCTION DEFINITELY DISCONTINUED~~

of a type of LPG equipment pursuant to Regulation No. 67



Approval No.: E4-67R-0192006

Extension No.:07

1. LPG equipment considered :


~~Container including the configuration of accessories fitted to the container, as laid down in appendix 1 to this annex~~
~~-80 per cent stop valve~~
~~-Level indicator~~
~~-Pressure relief valve (discharge valve)~~
~~- Pressure relief device~~
~~-Remotely controlled service valve with excess flow~~
~~-Multivalve, including the following accessories :~~
~~-Gas tight housing~~
~~-Power supply bushing (pump/actuators)~~
~~-Fuel pump~~
~~-Vaporiser / pressure regulator~~
~~-Shut-off valve~~
~~-Non-return valve~~
~~-Gas tube pressure relief valve~~
~~-Service couplings~~
~~-Flexible hose~~
~~-Remote filling unit~~
~~-Gas injection device or injector~~
~~-Fuel rail~~
~~-Gas dosage unit~~
~~-Gas mixing piece~~
~~-Electronic control unit~~
~~-Pressure / temperature sensor~~
~~-LPG filter unit~~



2. Trade name or mark : LOVATO, model RGE170 and RGE220
3. Manufacturer's name and address : Officine Lovato S.p.A
Strada Casale, 175
36100 Vicenza
Italy
4. If applicable, name of the manufacturer's representative : -
5. Submitted for approval on : November 2004
6. Technical service responsible for conducting approval tests : Kiwa Gastec Certification B.V.
P.O.Box 137
7300 AC Apeldoorn
The Netherlands
7. Date of report issued by that service : December 2005
8. No. of report issued by that service : 119196, 161897, 120548, 120712, 120712/1
9. Approval : ~~granted/refused/extended/withdrawn/~~
10. Reason(s) of extension (if applicable) : The previous tested models will be extended with RGE170 and RGE 220
11. Place : Zoetermeer
12. Date : 18 JAN. 2006
13. Signature :  
14. The documents filed with the application or extension of approval can be obtained upon request.

F.E. Plancius

Documentation: 0 sheets and 2 drawing(s)

File Issue: 003	REPORT HISTORY SHEETS	
Report Number: 120712/1	LPG components	Page: RHS 1/00

Report history:

This Report History Sheet has been included as a result of a modification and/or extension to the preceding report(s) and is inserted as a first page when opening this report. This sheet details the modification and/or extension applicable to the preceding report(s) and clearly states where these details can be found. A copy of this sheet has also been provided to the applicant/manufacture, in order to keep the reports identical.

Date:	Description:	Report No:	Job Ref:
Earlier test reports related to this product are based on regulation 67-00 and no are longer relevant			
31-10-2000	Initial report (new)	120712	120712
29-03-2001	Extension: The vaporizer/pressure regulator model RG-92 will be extended with model RG80	120712/1	120920
25-04-2002	Modification: the model number RG-92 will be changed into RGE-92. No tests are required.	120712/1	121364
3-06-2002	Modification: Addition of marking label on vaporizer/pressure regulator	120712/1	121424
1-10-2002	Extension: The previous tested type RGE-92 will be extended with model super HP (code 604912K)	120712/1	121522
23-12-2005	Extension: The previous tested type RGE .. will be extended with Model RGE 170 and RGE 220. Furthermore the O-rings made of viton will be changed into HNBR	120712/1	122458
	Further details can be found under TAB 5 of report 120712/1		

Signed by Test engineer

Name: M de Vries

Date: December 2005



Job Reference: 122458	Initials: 	21-12-05
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File Issue: 003	MODIFICATION/EXTENSION SHEETS	GASTEC
Report Number: 120712/1	LPG components	Page: MES 1/00

Test report of the examination of the modification and or extension to the:

LPG components
Type RGE-170 and RGE-220

Tested and examined to:

Regulation 67-01 Uniform provisions concerning the approval of specific equipment of motor vehicles using liquefied petroleum gases in their propulsion system.

Revision 1 – Amendment 1
Revision 1 – Corrigendum 1
Revision 1 – Corrigendum 2

This report should be used in conjunction with report(s) no: 120712

Report contents:

Sheet

Modification/Extension Sheets

Summary Sheets

Identification Sheets

Result Sheets: Identification of EUT

Regulation 67-01

Cerisie report (RP no. 114/01)

Any Drawings, Technical Descriptions and Correspondence as identified below

<u>Code</u>	<u># Pages</u>
MES	2
SS	1
IS	1
RID	NA
RM	4
	2

Note: The revision number of each page of this report is identified in the right heading of the page by means of the last 2 digits in the page number (e.g. HS 1/00, Heading Sheet page 1, revision 00).

Signed by Test engineer:

Name: M. de Vries

Date: December 2005

Job Reference: 122458		Initials: <i>vd</i>	21-12-05
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File Issue: 003	MODIFICATION/EXTENSION SHEETS	GASTEC
Report Number: 120712/1	LPG components	Page: MES 2/00

Sample designation:

Description	Reference no.	Date intake
	C050233	June 2005
RGE220	C050234	June 2005
RGE170		

Drawings and Technical Descriptions:

Description

Pages Date

Drawing

1 to 66 (drawings are numbered by Gastec)

Note: The above mentioned drawings are only added to the file of Gastec and the file of the manufacturer

Contents of correspondence sheets:

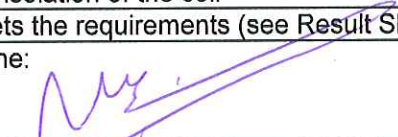
Reference

Author


Pages Date

NA

Modifications/extension to the product:

Modification/extension:	Extension / modification
Description:	The previous tested type RGE .. will be extended with Model RGE 170 and RGE 220. Furthermore the O-rings made of viton will be changed into HNBR
Relevant test(s):	Overpressure test, Leak tightness at room, low and high temperature, rubber tests, and isolation of the coil
Result of test(s):	Meets the requirements (see Result Sheets Regulation 67-01).
Signed by Product Manager:	Name:  Date: December 2005

Job Reference: 122458	Initials: 	21-12-05
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File Issue: 003	SUMMARY SHEETS	
Report Number: 120712/1	LPG components	Page: SS 1/00

This test report describes the examination of the extension to the Oficine Lovato SpA LPG component, type RGE-170 and RGE-220 as described in the Modification/Extension Sheets in this report and meets the requirements of:

Regulation 67-01 Uniform provisions concerning the approval of specific equipment of motor vehicles using liquefied petroleum gases in their propulsion system.

Revision 1 – Amendment 1
Revision 1 – Corrigendum 1
Revision 1 – Corrigendum 2

This report should be used in conjunction with report(s) no: 120712

See the Identification Sheets for all available types.

Signed in Acceptance:



Ing D. Kok


Date: 21-12-15

Proces Manager
GASTEC Certification B.V.

Notes:

The described test results are only valid for the tested materials and objects

Job Reference: 122458		Initials: VS	21-12-05
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File Issue: 003	IDENTIFICATION SHEETS	
Report Number: 120712/1	LPG components	Page: IS 1/00

Type break down (including specifications):

Vaporizer/Pressure regulator, model RG80 (Trade name LOVATO)

Code 704101K type Riduttore GPL

Code 704201K type Riduttore GPL

Vaporizer/Pressure regulator, model RGE92 (Trade name LOVATO)

Code 704701 type Riduttore GPL92 Elettr. Mimimo Separato

Code 704702 type Riduttore GPL92 Super Elettr. Minimo Sep.

Code 704801 type Riduttore GPL92 Elettr. Major Turbo

Code 704902 type Riduttore GPL92 Super/Major Elettr. Minimo Sep

Code 604912K type Riduttore GPL92 Super HP

Vaporizer/Pressure regulator, model RE01 (Trade name LOVTEC)

Code L203003K type Riduttore GPL aspirato

Code L203006K type Riduttore GPL aspirato

Vaporizer/Pressure regulator, model RE02 (Trade name LOVTEC)

Code L203002 type Riduttore GPL Elettr. Mimimo Separato

Code L203001 type Riduttore GPL Super Elettr. Minimo Sep.

Code L203004 type Riduttore GPL Elettr. Major Turbo

Code L203005 type Riduttore GPL Super/Major Elettr. Minimo Sep

Code L203006 type Riduttore GPL Super HP

Vaporizer/Pressure regulator, model RGE 170 (Trade name LOVATO)

Code 604905 type Riduttore GPL

Vaporizer/Pressure regulator, model RGE 220 (Trade name LOVATO)

Code 604906 type Riduttore GPL

Job Reference: 122458	Initials: 	21-12-05
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File Issue: 003	RESULT SHEETS R67-01 LPG EQUIPMENT	GASTEC
Report Number: 120712/1	HYDROSTATIC STRENGTH	Page: RM 01/00

Product:	
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Tested in accordance with:			
Approval requirement:	Regulation 67-01		
Annex:	15		
Article:	4		
Testing Equipment (when no accuracy is specified the Gastec standard applies)	Gastec no.	Calibrated (✓)	Operation OK (✓)
Hydraulic pressure equipment	109917	✓	✓
Pressure gauge, when tested pneumatically			
Stopwatch			
Test Conditions			
Safety precautions:			
- safety rules for high pressures Gastec reference HP1			
- safety rules for use of gas cylinders,, reference CP16-3.			
		Complies (✓)	N.A. (✓)
- Test is to be performed before and after the corrosion test;			✓
- The samples are filled with water and slowly pressurised;			✓
- The samples surface shows no visible cracks as a result of this test;		✓	
- Retest a new sample with a pressure gauge with accuracy $\pm 5\%$, if samples have failed		✓	

Test Results	Requirement				sample no.: 205020		sample no.: 201224		Sample no.:	
Moment of test	Before/after				before	after	before	after	Before	after
	Corrosion test									
Classification of component*	1	2	2A	3	1		1			
Test pressure (kPa) *	6750	1015	270	6750	6750		6750			
Test time	≥ 10 min				10		10			
Rupture	No				NO		NO			
Permanent distortion	No				NO		NO			
Test dated	To be monitored				June 05		June 05			

Conclusion		
Requirement	Complies (✓)	N.A. (✓)
Samples meet requirement	✓	
Remarks:		

Job Reference: 12241-2	Initials: VS
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File Issue: 003	RESULT SHEET R67-01 LPG EQUIPMENT	GASTEC ▲
Report Number: 120712/1	EXTERNAL LEAKTIGHTNESS including high and low temperature	Page: RM 02/00

Product:	Vaporizer
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Tested in accordance with:			
Approval requirement:	Regulation 67-01		
Annex:	15		
Article:	5, 6, 7		
Testing Equipment (when no accuracy is specified the Gastec standard applies)	Gastec no.	Calibrated (✓)	Operation OK (✓)
Oven		✓	✓
Cooler	020.	✓	✓
Pressure gauge		✓	✓
Leakage gauge			
Stopwatch			
Test Conditions			
Safety precautions:			
- safety rules for high temperature, Gastec reference HT1			
- safety rules for high pressures, Gastec reference HP1			
- safety rules for use of gas cylinders, reference CP16-3			
		Complies (✓)	N.A. (✓)
- The sample has conditioned for 8 hours (at least) at the test temperature;		✓	
- The sample is slowly pressurised after the 8 hours of conditioning at the test temperature;		✓	
- The test sample is submerged in the test fluid for at least 60 sec, preferred is 900 sec;		✓	
- When air bumble(s) are detected after 60 sec, leakage is considered to be > 15 cc/h.			✓

Test Results	Requirement				sample no.: C050233 (220)					
Test temperature					room temperature		65°C / 120°C *		-20°C	
Moment of test *	Corrosion / creep / endurance / cycle test				before	after	before	after	before	after
Classification of component *	1	2	2A	3	1		1		1	
Test pressure (kPa) *	4500	675	180	6750	4500		4120		4320	
External leakage	≤ 15cc/h				0		0		0	
Test date	To be monitored				Jan-03		Jan-05		Jan-07	

Conclusion		
Requirement	Complies (✓)	N.A. (✓)
Samples meet requirement	✓	
Remarks: After the endurance test, leakage testing is only required at room temperature.		

* Cross out which is not applicable

Job Reference: 122458	Initials: VS
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File Issue: 003	RESULT SHEET R67-01 LPG EQUIPMENT	GASTEC
Report Number: 120712/1	EXTERNAL LEAKTIGHTNESS including high and low temperature	Page: RM 03/00

Product:	Vaporized
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Tested in accordance with:			
Approval requirement:	Regulation 67-01		
Annex:	15		
Article:	5, 6, 7		
Testing Equipment (when no accuracy is specified the Gastec standard applies)	Gastec no.	Calibrated (✓)	Operation OK (✓)
Oven			
Cooler	820	✓	✓
Pressure gauge			
Leakage gauge			
Stopwatch			
Test Conditions			
Safety precautions:			
- safety rules for high temperature, Gastec reference HT1			
- safety rules for high pressures, Gastec reference HP1			
- safety rules for use of gas cylinders, reference CP16-3			
		Complies (✓)	N.A. (✓)
- The sample has conditioned for 8 hours (at least) at the test temperature;		✓	
- The sample is slowly pressurised after the 8 hours of conditioning at the test temperature;		✓	
- The test sample is submerged in the test fluid for at least 60 sec, preferred is 900 sec;		✓	
- When air bumble(s) are detected after 60 sec, leakage is considered to be > 15 cc/h.			✓

Test Results	Requirement				sample no.: C050234 (170)					
Test temperature					room temperature		65°C / 120°C *		-20°C	
Moment of test *	Corrosion / creep / endurance / cycle test				before	after	before	after	before	after
Classification of component *	1	2	2A	3	1		1		1	
Test pressure (kPa) *	4500	675	180	6750	4500		4500		4500	
External leakage	≤ 15cc/h				0		0		0	
Test date	To be monitored				Jun-05		Jun-05		Jun-05	

Conclusion		
Requirement	Complies (✓)	N.A. (✓)
Samples meet requirement	✓	
Remarks:		
After the endurance test, leakage testing is only required at room temperature.		

* Cross out which is not applicable

Job Reference: 122458	Initials: VS
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File Issue: 002	RESULT SHEET R67-01 LPG EQUIPMENT	
Report Number: 120712/1	GENERAL RESULT SHEET	Page: RM 04/00

Tested in accordance with:			
Approval requirement	Regulation 67-01		
Clause			
Test equipment used (when no accuracy is specified the Gastec standard applies)	Gastec no.	Calibrated (✓)	Operation OK (✓)
Test Conditions			
Ambient temperature	°C		
Ambient pressure	mbar		
TEST RESULTS			
<p>Sample NR. C050233.</p> <p>R67-01 art. NR. 6.15.2.</p> <p>Isolation resistance = 710Ω.</p> <p>$1500V = 0 \Omega$.</p> <p>Electrical system of the device isolated: from the body</p>			
Conclusion			
	Complies (✓)	NA (✓)	
Samples meet requirement	✓		
Remarks:			

Job Reference: 122458	Initials: US
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