



GRAND-DUCHÉ DE LUXEMBOURG

Ministère du Développement durable
et des Infrastructures
Département des Transports

L-2938 Luxembourg

SOCIÉTÉ NATIONALE DE
CERTIFICATION ET D'HOMOLOGATION

s.à r.l.

Registre de Commerce: B 27180



L-5201 Sandweiler

Référence: E13*67R00*67R01*0015*04

Annexes: - Rapport technique
- Fiche de renseignements du constructeur

Sandweiler, le 22 septembre 2010

Communication concernant ¹⁾:

Communication concerning ¹⁾:



- **la délivrance d'une homologation**
approval granted
- **l'extension d'homologation**
approval extended
- **le refus d'homologation**
approval refused
- **le retrait d'homologation**
approval withdrawn
- **l'arrêt définitif de la production**
production definitely discontinued

d'un type d'équipement GPL en application du Règlement N° 67
of a type of LPG equipment pursuant to regulation N° 67


Numéro d'homologation:

Approval number:

E13*67R00*67R01*0015*04

Marque d'homologation:

Approval mark:

 67R-010015 CLASS 3

1. Equipement GPL ¹⁾:
LPG equipment considered ¹⁾:

Réservoir:

Container:

not applicable

Accessoires fixés au réservoir:

Accessories fitted to the container:

- 80 % stop valve
- level indicator
- pressure relief valve (discharge valve)
- pressure relief device
- remotely controlled service valve with excess flow valve

Bloc multivannes, y compris les accessoires suivants:

Multivalve, including the following accessories:

- ~~gas tight housing~~
- ~~power supply bushing (pump/actuators)~~
- ~~fuel pump~~
- ~~vaporizer/pressure regulator~~
- ~~shut-off valve~~
- ~~non return valve~~
- ~~gas tube pressure relief valve~~
- ~~service coupling~~
- ~~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. Marque de fabrication ou de commerce:

Trade name or mark:

BRC, BRC Gas equipment, M.T.M., Kit MTM, IMPCO, ZAVOLI, FSS**Type:**

Type:

ET 98**Versions:**

Versions:

*ET 98, ET 98 without filter basin,
ET 98S, ET 98S without filter basin,
ET 98 MY07, ET 98 MY07 without filter basin,
ET 98S MY07, ET 98S MY07 without filter basin,
ET 98 Banjo BB, ET 98 Banjo SB.*

3. Nom et adresse du fabricant:

Manufacturer's name and address:

M.T.M. s.r.l.
Via La Morra, 1
I-12062 Cherasco (CN)

4. Le cas échéant, nom et adresse du mandataire du fabricant:

If applicable, name and address of manufacturer's representative:

not applicable

5. Equipement présenté à l'homologation le:

Submitted for approval on:

02.09. – 07.09.2010

6. Autorité déléguée:

Assigned authority:

*Société Nationale de Certification et d'Homologation
L-5201 Sandweiler*

Service technique chargé des essais d'homologation:

Technical service responsible for conducting approval tests:

Luxcontrol SA
B.P. 349
L-4004 Esch-sur-Alzette

7. Date du procès-verbal délivré par ce service:

Date of report issued by that service:

20.09.2010

8. Numéro du procès-verbal:

Number of report issued by that service:

LCA 54 0280 012 10

9. L'homologation est:

Approval:

extended

10. Raisons de l'extension (éventuellement):

Reason(s) for extension (if applicable):

- Supplement level of the regulation changed;
- Versions "ET 98 Banjo BB" and "ET 98 Banjo SB" added;
- Trade marks "FSS" added;
- Optional banjo connections for direct mounting of lock off valve on pressure regulator added.

11. **Lieu:**
Place: Sandweiler

12. **Date:**
Date: 22 septembre 2010

13. **Signature:**
Signature:

Pour le Département des Transports



Marco FELTES
Inspecteur Principal

Pour la SNCH



Claude LIESCH
Directeur



14. **Des copies soumis dans le dossier d'homologation ou d'extension de l'homologation peuvent être obtenues sur demande.**
The documents filed with the application or extension of approval can be obtained upon request.

see: INDEX to TYPE-APPROVAL REPORT

APPENDICE 1 (réservoirs uniquement)
APPENDIX 1 (containers only)

1. Caractéristiques du réservoir de base (config. 00)
Container characteristics from the parent container (configuration 00)

- a) Marque de fabrique ou de commerce:**
a) Trade name or mark: not applicable
- b) Forme:**
b) Shape: not applicable
- c) Matériau:**
c) Material: not applicable
- d) Ouvertures:**
d) Openings: not applicable
- e) Epaisseur de la paroi:**
e) Wall thickness: not applicable
- f) Diamètre (réservoir cylindrique):**
f) Diameter (cylindrical container): not applicable
- g) Hauteur (forme de réservoir spéciale):**
g) Height (special container shape): not applicable
- h) Surface externe:**
h) External surface: not applicable
- i) Configuration des accessoires fixés au réservoir (voir tableau 1):**
i) Configuration of accessories fitted to container (see table 1):

Tableau 1:
Table 1:

N° N°	Accessoires Item	Type Type	N° d'homologation Approval N°	N° d'extension Extension N°
a)	Limiteur de remplissage à 80%: 80% stop valve:	-	-	-
b)	Jauge: Level indicator:	-	-	-
c)	Soupape de surpression: Pressure relieve valve:	-	-	-
d)	Vanne d'isolement avec limiteur de débit: Remotely controlled service valve with excess valve:	-	-	-
e)	Pompe à GPL: Fuel pump:	-	-	-
f)	Bloc multivannes: Multi-valve:	-	-	-
g)	Enceinte étanche: Gas-tight housing:	-	-	-
h)	Raccord électrique d'alimentation: Power supply bushing:	-	-	-
i)	Soupape antiretour: Non return valve:	-	-	-
j)	Dispositif de surpression: Pressure relief device:	-	-	-

2. Liste des réservoirs de la même famille (les listes des réservoirs de la même famille indiquent le diamètre, la capacité, la surface externe et la (les) configuration(s) possible(s) des accessoires fixés au réservoir):

List of container family (The lists of the container family indicate the diameter, capacity, external surface and the possible configuration(s) of the accessories fitted to the container):

Tableau 2:

Table 2:

N° N°	Type Type	Diamètre/hauteur Diameter/height [mm]	Capacité Capacity [l]	Surface externe External surface [cm ²]	Configuration des accessoires Configuration of accessories [codes] ¹
-	-	-	-	-	-
-	-	-	-	-	-

3. Listes des configurations possibles des accessoires fixés au réservoir (indiquer la liste des accessoires possibles, qui diffèrent de la configuration essayée (code 00) et qui peuvent être fixés au type de réservoir en question. Pour tous les accessoires, préciser le type, le numéro d'homologation et le numéro d'extension, en indiquant pour chacun son propre code de configuration):

Lists of the possible configurations of accessories fitted to the container (Specify a list of the possible accessories, which differ from the tested configuration of accessories (code 00) and which may be fitted to the type of container. Specify for all accessories, type, approval number and extension number, indicating its own configuration code):

Tableau 3:

Table 3:

N° N°	Accessoires Accessories	Type Type	N° d'homologation Approval N°	N° d'extension Extension N°	Configuration des accessoires [code] Configuration of accessories [code]
a)	-	-	-	-	-

¹⁾ **Biffer les mentions inutiles.**
Strike out what does not apply.



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L-5201 Sandweiler

Référence: E13*67R00*67R01*0015*04

Annexes: - Rapport technique
- Fiche de renseignements du constructeur

Sandweiler, le 22 septembre 2010

INDEX DU DOSSIER D'HOMOLOGATION INDEX TO TYPE-APPROVAL REPORT

Numéro d'homologation:

Approval number:

E13*67R00*67R01*0015*04

Révision:

Revision:

01

Marque de fabrique ou de commerce:

Trade name or mark:

BRC, BRC Gas equipment, M.T.M., Kit MTM, IMPCO,
ZAVOLI, FSS

Type:

Type:

ET 98

1. Procès-verbal d'essai:

Test report:

N° LCA 54 0280 012 10

- Technical report:

Page(s) 1 to 6;

- Index:

Annex A - Page(s) 1 to 3.

2. Dossier du constructeur:

Report of the manufacturer:

N° 0280 012 10

- Manufacturer's information document:

Page(s) 1 to 11, 13 to 29, 30 to 32.

3. Autres documents annexés:

Other documents annexed:

not applicable

4. Date de délivrance de l'homologation initiale:

Date of issue of initial type approval:

02.08.2000

5. Date de la dernière délivrance de pages révisées:

Date of last issue of revised pages:

27.03.2002

6. Date de la dernière délivrance d'une homologation révisée:

Date of last extension:

22.09.2010

TECHNICAL REPORT

No.: LCA 54 0280 012 10

Inspection concerning the

Specific equipment of motor vehicles using liquefied petroleum gases in their propulsion system

performed according to

ECE – Regulation No. 67

Type: **ET98**
Manufacturer: **M.T.M s.r.l.**
Via la Morra, 1
I-12062 Cherasco (CN)

Extension 04 to ECE Type Approval no.: E13*67R00*67R01*0015*00

Index:

1. General	Page	2
2. Inspections and their results	Page	3
3. Evaluation of test results	Page	5
4. Statement of compliance	Page	6
5. Annex (beginning with an index)		

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1. General

1.1. Test Provisions

The inspection was carried out according to the requirements of ECE-Regulation No. 67 including Revision 2 – Amendment 2 - Supplement 8 of the 01 series of amendments, which entered into force on February 3, 2008.

1.2. Information concerning the vehicle type and the requested approval

The statements below apply to the previous ECE type-approval as referred to on page 1.

1.2.1. [] Numbering according to the communication concerning the approval of ECE-R67

[1.] LPG equipment considered:

Shut-off valve

- **type: ET98**
- **versions: ET 98, ET 98 without filter basin
ET 98S, ET 98S without filter basin
ET 98 MY07, ET 98 MY07 without filter basin
ET 98S MY07, ET 98S MY07 without filter basin
ET 98 Banjo BB, ET98 Banjo SB**

[2.] Trade name or mark:

M.T.M., BRC, BRC Gas Equipment, IMPCO, ZAVOLI, Kit MTM, FSS

[3.] Manufacturer's name and address:

**M.T.M s.r.l.
Via la Morra, 1
I-12062 Cherasco (CN)**

[4.] If applicable, name and address of manufacturer's representative:

Not applicable

[5.] Submitted for approval on: **02.09.2010 - 07.09.2010**

[10.] Reason(s) of extension:

**alternative main body shape for direct fixation of the lock-off valve on pressure reducer
alternative use of Brass for filter basin
alternative use of Viton for O'ring**

...



added versions (ET98 Banjo BB/SB) and trade mark (FSS)

2. Inspections and their results

2.1. Version of the tested equipment

The following variants have been used for testing (if not stated in part 1.2.1. of this report):

ET98 Banjo BB and ET98 Banjo SB

2.2. Inspection items

	Inspector:	Location of test:	Date of receipt of test item:	Date of test:
Main :	--	CSI SpA v.le Lombardia, 20 I-20021 Bollate (MI)	July 3 rd , 2000	July 3 rd , 2000
Amend:	--		not applicable	July 13 th , 2000
Ext 1:	D. Durazzi		not applicable	March 3 rd , 2004
Ext 2:	M. Moscardelli		29/10/2007	11.11.07 – 10.12.07
Ext 3:	D. Durazzi		L-4004 Esch/Alzette	Not applicable
Ext 4:	D. Durazzi	See item [3.]	02.09.2010	02.09.10-07.09.10

2.2.1. General

The marking requirements according to item 4.1. and 4.2. of Part I of the Regulation are fulfilled.

Every material of the equipment in contact with LPG is compatible with it.

The fitting of the LPG-component, approved by this regulation into a full installation of LPG-equipment, complies with relevant electromagnetic compatibility requirements according to Regulation R10.02 or equivalent.

The device has parts of class 3.



2.2.2. Inspections: (according to Annex 7; Class 3 device)

Tests	Test results	Line item
Overpressure test	no rupture or permanent distortion at a pressure of 6750 kPa maintained for a period of 60 seconds	Annex 15, par. 4
External leakage test	leakage from stem or body seals or other joints less than 15 cm ³ / hour under a pressure of 6750 kPa at room temperature, - 20°C and + 120°C	Annex 15, par. 5
High temperature test	leakage from stem or body seals or other joints less than 15 cm ³ / hour under a pressure of 6750 kPa at + 120°C after 8 hours of conditioning at + 120°C	Annex 15, par. 6
Low temperature test	leakage from stem or body seals or other joints less than 15 cm ³ / hour under a pressure of 6750 kPa at - 20°C after 8 hours of conditioning at - 20°C	Annex 15, par. 7
Seat leakage test	no leakage occurred	Annex 15, par. 8
Endurance test	after 6000 cycles of opening and closing, the valve passed the requirements of Annex 15, par. 5 and 8	Annex 15, par. 9
LPG compatibility	all the synthetic materials used satisfy the requirements	Annex 15, par. 11
Corrosion resistance	requirements fulfilled	Annex 15, par. 12
Resistance to dry heat	all the synthetic materials used satisfy the requirements	Annex 15, par. 13
Ozone ageing	all the synthetic materials used satisfy the requirements	Annex 15, par. 14
Creep test	all non metallic parts fulfilled the requirements	Annex 15, par. 15
Temperature cycle	all non metallic parts fulfilled the requirements	Annex 15, par. 16
Provisions regarding electrical insulation	requirements fulfilled	Part I, 6.15.2.
Provisions on valves activated by electrical power	requirements fulfilled	Part I, 6.15.3.1.

...



2.3. Remarks

Inspection results are only applicable to items, which have been tested.

2.4. Test facilities

Calibration of measuring and test equipment used to carry out the inspections is in accordance with the EEC-Directive and/or ECE-Regulation stated in 1.1. of this report and with ISO 17025.

Inspectors stated under 2.2. of this report were in charge of performing and/or evaluating the tests.

3. Evaluation of test results

3.1. Variants and equipment covered

The tests carried out cover the following variations as far as these are relevant for the gas shut-off valve:

- versions as stated in annex B
- trade marks as stated in annex B

3.2. Remarks

3.2.1. Main report and amendment 1 to main report:

Not applicable

3.2.2. Extension 1:

The added versions did not require new test to be performed.

3.2.3. Extension 2:

New tests were performed to cover the added alternative versions “ET98 MY07” and “ET98S MY07”.

3.2.4. Extension 3:

The stated changes did not require new tests to be performed.

3.2.5. Extension 4:

New tests were performed to cover the added alternative versions “ET98 Banjo BB” and “ET98 Banjo SB”.

...



4. **Statement of compliance**

The inspections items and measurements carried out have shown the compliance of the vehicle type described in this report and the attached Annex with the requirements of ECE-Regulation No. 67 including Revision 2 – Amendment 2 - Supplement 8 to the 01 series of amendments, which entered into force on February 3, 2008.

Esch/Alzette, 20 September 2010

Luxcontrol s.a.
Service Homologation-automobile

David Durazzi
Ingénieur-Inspecteur

Mauro Moscardelli
Ingénieur-Inspecteur

Annex



Index to the information package, including a summary in chronological order, concerning extensions and/or amendments

EEC type-approval No.: E13*67R00*67R01*0015*00

Main Report

Technical Report No.:	LCA 54 280 004 0	Page 1 to 6
Composition of the Annex:		
A: Index		Page 1
B: Information folder		Pages 1 to 14

Amendment 1 to Main Report

Technical Report No.:	LCA 54 280 001 2	Page 1 to 6
Composition of the Annex:		
A: Index		Page 1

Contents of the amendment

To be corrected:

- Stated overpressure value of 6750 kPa in Page 4, point 2.2.2. of test report
-

Extension 1

Technical Report No.:	LCA 54 280 004 4	Page 1 to 6
Composition of the Annex:		
A: Index		Page 1 to 2
B: Information folder		
to be deleted		Page 12
to be added		Page 15 to 19

Contents of the extension:

to be added:

- Versions ET98 S version super, ET98 without filter basin, ET98 S version super without filter basin
- trade marks M.T.M., BRC, IMPCO

to be deleted:

- trade marks ROXER, Stargas, Tartarini Auto, BRC Gas Equipment

to be updated:

- the stated amendment of the regulation
- the editorial arrangement



Extension 2

Technical Report No.:LCA 54 0280 001 08	Page 1 to 6
Composition of the Annex:	
A: Index	Page 1 to 2
B: Information folder to be added	Page 20 to 28

Contents of the extension:

to be added:

- alternative filter basin (new material, new O-ring position, new screw assembly)
- alternative socket integrated on the mould
- new versions “ET98 MY07” and “ET98S MY07” with all their characteristics
- trade mark “ZAVOLI”, “BRC Gas Equipment”

to be updated:

- the stated amendment of the regulation
 - the editorial arrangement
-

Extension 3

Technical Report No.:LCA 54 0280 008 08	Page 1 to 6
Composition of the Annex:	
A: Index	Page 1 to 2
B: Information folder to be added	Page 29

Contents of the extension:

to be added:

- trade mark “Kit MTM”

to be updated:

- the supplement level of the regulation
-

Extension 4

Technical Report No.:LCA 54 0280 012 10	Page 1 to 6
Composition of the Annex:	
A: Index	Page 1 to 3
B: Information folder to be added	Page 30 to 32



Contents of the extension:

to be added:

- optional banjo connections for direct mounting of lock off valve on pressure regulator
- version “ET98 Banjo BB” and “ET98 Banjo SB”
- new trade mark “FSS”

Index to the information folder:

- manufacturer's information document (page 1 to 11, 13 to 32)
-



M.T.M. s.r.l.
Società Unipersonale
Via La Morra 1
12062 – Cherasco (Cn)- Italy
Tel. +39 0172 48681
Fax +39 0172 593113
Fax +39 0172 488237
http://www.brc.it
e-mail: info@brc.it

P.IVA 00525960043
CCIAA Cuneo n. 107283
Reg. Imp.Uff. Alba n. 1423
Capitale Sociale:
EURO 2.400.000 i.v.
(Lire 4.647.048.000)



ET 98

1. List of modifications.

The modification indicated in this list are to be considered as alternative of the present production and will not replace the present production.

Working principle of the lock off stays unchanged.

All the part numbers indicated below refers to drawing 1246-10007-2 enclosed.

The main body (1) has different shape to be able to apply directly the lock off valve on others components particularly reducer the tightness with reducer is grated by the O-ring (100). Also inlet of body has been modified.

The design of the lock off has been revised also in filter area and filter basin (11) can be in some application manufactured in brass .

Filter case (6) has new design and O-ring 10 and 5 has new size.

Screw (12) has new design.

All the O-ring for tightness can be as alternative in VITON, already used in the lock off valve.

New version are added :

ET 98 banjo BB

ET 98 banjo SB



M.T.M. s.r.l.
Società Unipersonale
Via La Morra 1
12062 – Cherasco (Cn)- Italy
Tel. +39 0172 48681
Fax +39 0172 593113
Fax +39 0172 488237
<http://www.brc.it>
e-mail: info@brc.it

P.IVA 00525960043
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Reg. Imp.Uff. Alba n. 1423
Capitale Sociale:
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(Lire 4.647.048.000)



2. Material

No new material added

3. Trade Marks

The trade marks below shall be added for all the lock off versions

FSS (fuel system solution)

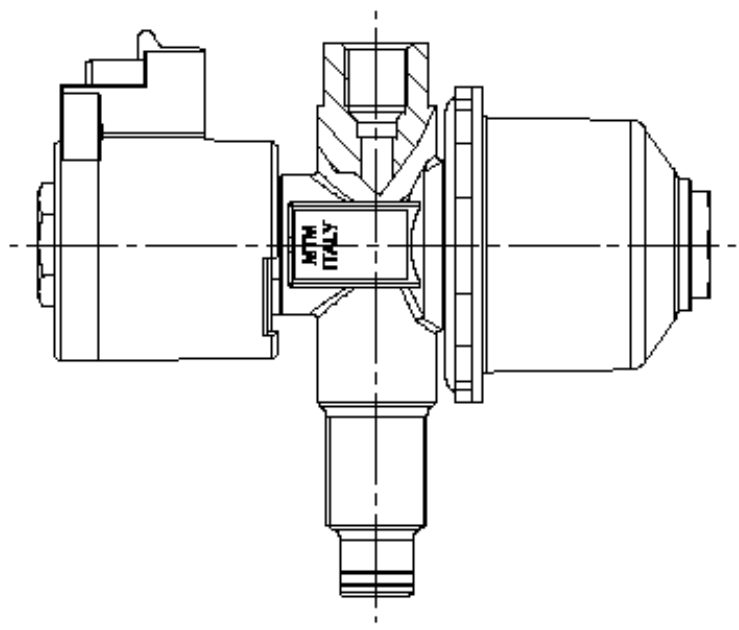
4. Marking

Markings shall be also on a specific label (as alternative of the present configuration)

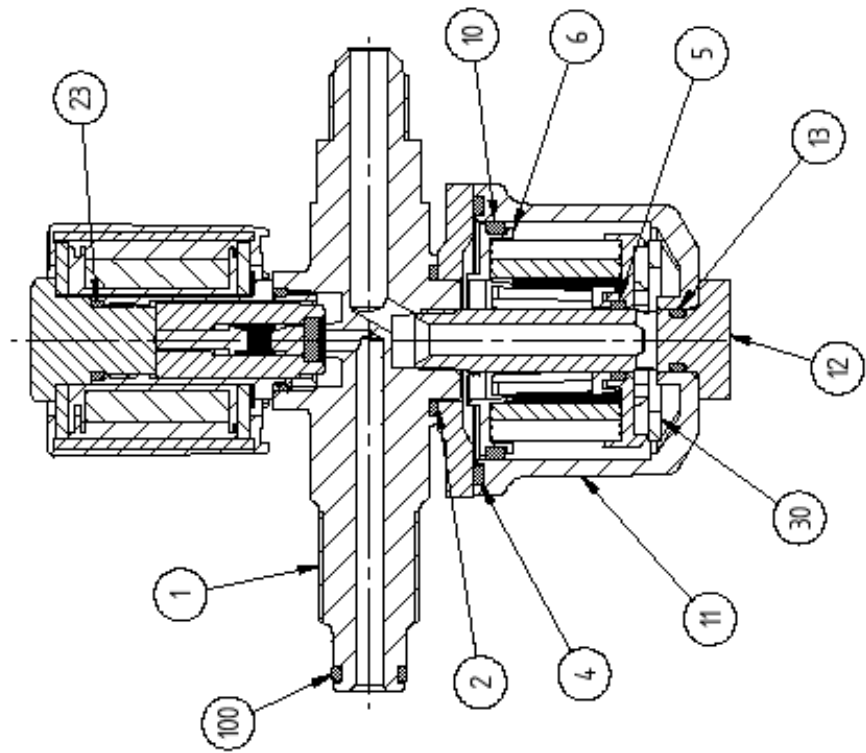
5. Drawings

See drawing *1246-10007-2*

BANJO LPG SOLENOID VALVE "ET 98"
STEEL BASIN VERSION



BANJO LPG SOLENOID VALVE "ET 98"
BRASS BASIN VERSION



M.T.M. s.r.l.
Draughtsman: M. Degiovanni
Checker: A. Moritá
Approved: G. Cravero
Drawing nr: 1246-10007-2
File: 1246-10007-2
Date: 03/09/2010
Sheet: 8