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THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

# COMMUNICATION CONCERNING THE GRANTING OF A COMPONENT TYPE-APPROVAL CERTIFICATE IN RESPECT OF A NON-ORIGINAL EXHAUST SYSTEM FOR A TYPE OF MOTORCYCLE PURSUANT TO DIRECTIVE 97/24/EC CHAPTER 9 OF 17 JUNE 1997

Report No: 374-0040-09-ITA By technical service: TÜV Italia S.r.l, TÜV Süd Group dated 12 October 2009

Type-approval No: e11*97/24*97/24/9/III*0694*00

Reason for extension: Not applicable

1. Make of exhaust: Termignoni

2. Type of exhaust: BMW8

3. Name and address of manufacturer:

   Termignoni S.p.A.
   Via della Rampina, 16
   15077 Predosa (AL)
   ITALY

4. If applicable, name and address of the manufacturer's authorized representative: Not applicable

5. Make(s) and type(s) and any variant(s) or version(s) of the vehicle(s) for which the exhaust system is designed: see list enclosed

6. Date system submitted for testing: See enclosure

7. Component type-approval has been GRANTED

8. Place: BRISTOL

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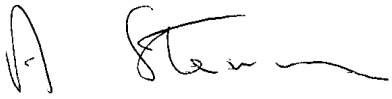
9. Date: 20 OCTOBER 2009

10. Signature: 

A. W. STENNING
Head of Technical and Quality Group

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APPROVAL NUMBER: e11*97/24*97/24/9/III*0694*00

**INFORMATION PACKAGE CONTENTS**

**INDEX**

**REVISION NUMBER: Not applicable**

| | |
|---|---|
| Total number of sheets: | 07 (Seven) |
| Number of separate drawings: | 0 (Nil) |
| Number of separate photographs: | 0 (Nil) |

Reasons for Revision: Not applicable

Revision date
&
Office stamp

20-Oct-09
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| | | |
|---|---|---|
| TERMIGNONI | **INFORMATION DOCUMENT**<br>**N° BMW8/97/24 rev. 00** | **Date: 02/10/2009**<br>**Page 1/2** |

***Information Document relating to EC type approval as separate technical unit of exhaust systems for motorcycles (Directive 97/24/EC amended 2006/120/EC)***

| | | |
|---|---|---|
| **1.** | *Make (trade name of manufacturer)*: | Termignoni |
| **2.** | *Type and general commercial description:* | BMW8 |
| **3.** | *Name and address of manufacturer:* | Termignoni S.p.A.<br>via della Rampina, 16<br>I-15077 Predosa (AL) |
| **4.** | *Name and address of manufacturer's authorized representative:* | *Not applicable* |
| **5.** | *Parts list:* | *Notice enclosure 1 of the test report* |
| **6.** | *Make and motorcycle type of the field of appication:* | *See list enclosed* |
| **7.** | *Restriction and instructions for installing:* | *Notice assembly manual and field of application* |

Sachverständiger Prüflabor DIN EN ISO/IEC 17025 TÜV SÜD TÜV SÜD Automotive GmbH

*Further details according to directive 97/24/EC, chapter 9, annex III, enclosure 2 A including amendment 2006/120/EC are mentioned in the motorcycle homologation (notice enclosure 2 of the test report).*

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***Information Document relating to EC type approval as separate technical unit of exhaust systems for motorcycles (Directive 97/24/EC amended 2006/120/EC)***

*Enclosures:*

| | | *Drawing no.* | *Date* |
|---|---|---|---|
| *c1.* | *Drawing of rear silencers* | BMW8: SILENCER | 17/09/2009 |
| *c2.* | *Drawing of composition* | BMW8: ASSEMBLY | 21/09/2009 |
| *c3.* | *Drawing of reduction* | BMW8: TAPPO | 17/09/2009 |
| *c4.* | *List of vehicles* | | |
| *c5.* | *Fitting instructions* | | |

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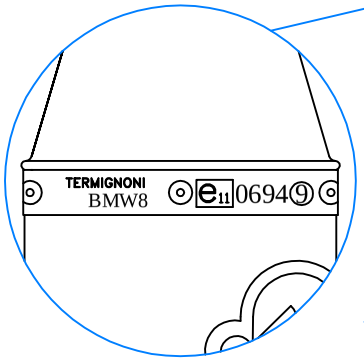
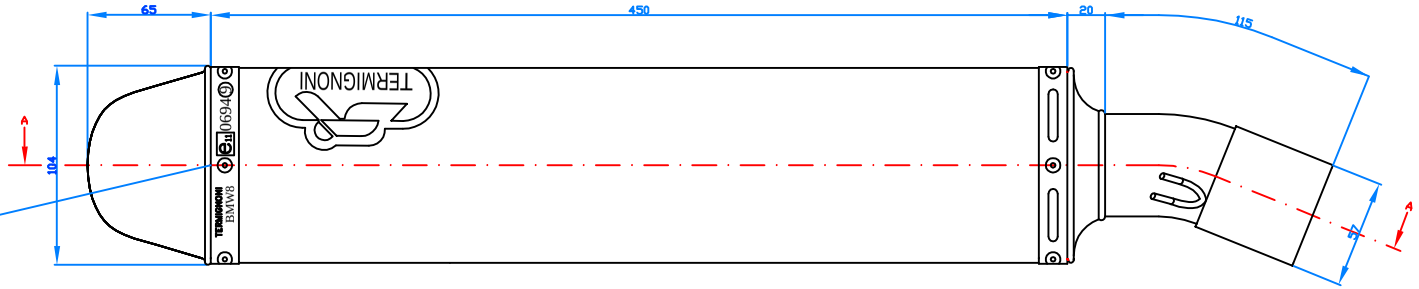
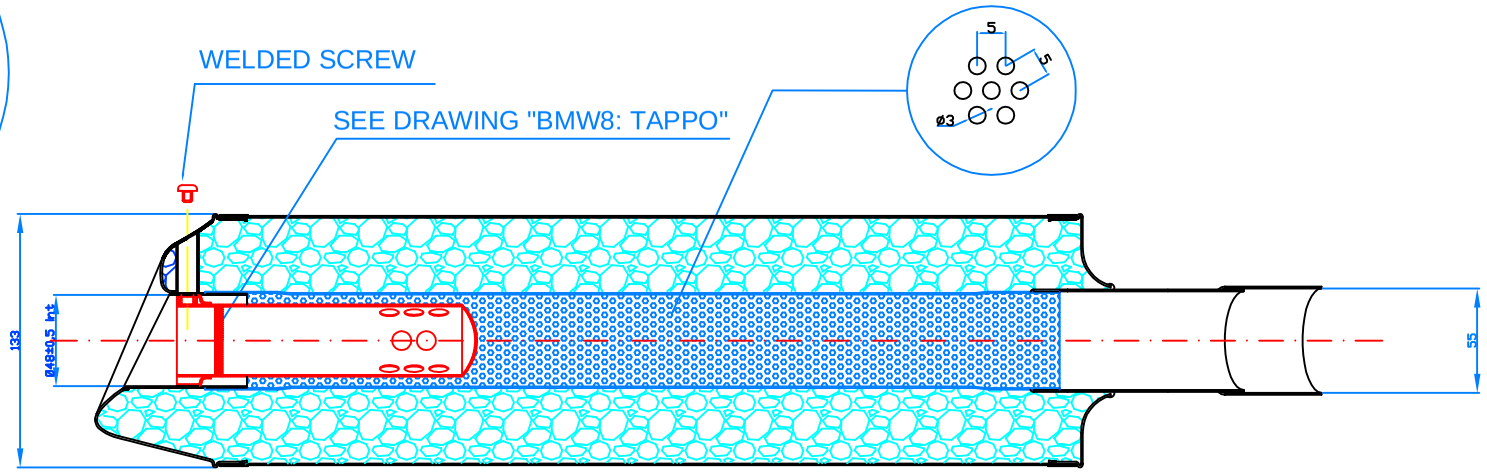
General tolerance: ±1mm

DETAIL NOT IN SCALE




## PART LIST

| Nr | Part name | Material | Dimensions | Qt. |
|---|---|---|---|---|
| 1 | Shell | Alluminium | Sp2mm x See draw | 1x |
| | or | Carbon fiber | Sp1mm x See draw | 1x |
| | or | Titanium | Sp0.6mm x See drawing | 1x |
| | or | Stainless steel | Sp0.6mm x See drawing | 1x |
| 2 | Outlet pipe | Stainless steel | SEE DRAWING | 1x |
| | or | Titanium | SEE DRAWING | 1x |
| 3 | Punched-holes pipe | Stainless steel | ø50x0,8 | 1x |
| | or | Titanium | ø50x0,8 | 1x |
| 4 | Sound Deadener | Fiberglass | 480 g | 1x |

Scale:
Date: 17.09.2009
Name: D. Folci
Type: BMW8: SILENCER
Model: BMW F 800 GS 1 sil STR code BW01 BMW8 e11 0694 9

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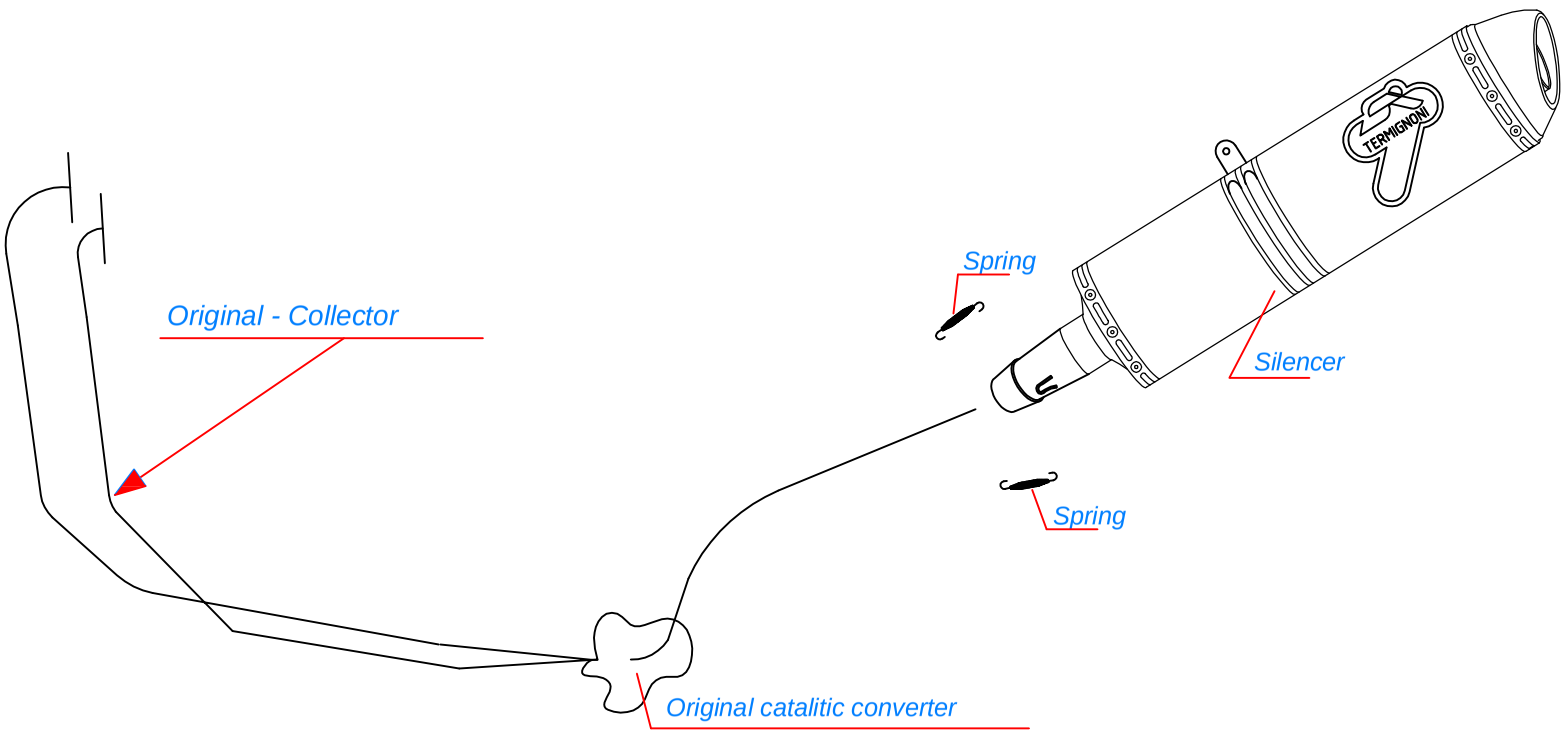


| | |
|---|---|
| **SCALE:** | **MODEL:** BMW F 800 GS 1 sil STR code BW01 BMW8 e11 0694 ⑨ |
| **DATE:** 21.09.2009 | |
| **DES:** D.Folci | |
| **TYPE:** BMW8: Assembly | |

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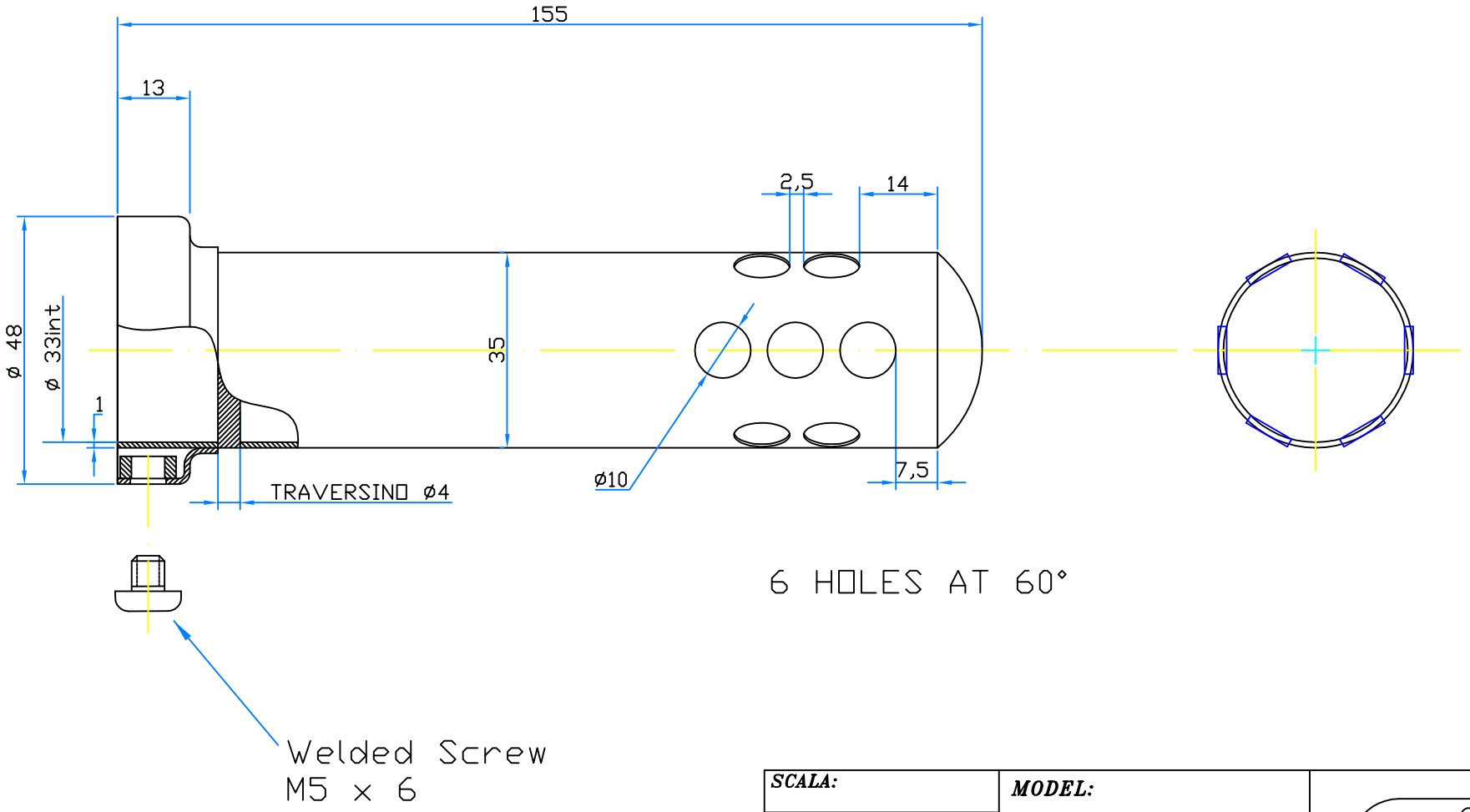
MATERIAL: S.Steel or Titanium




| | |
|---|---|
| SCALA: | MODEL: BMW F 800 GS '09<br>1 oval sil. COD BW01<br>BMW8 e11 0694 ⑨ |
| DATUM: 17.09.2009 | |
| NAME: D. FOLCI | |
| TYP: BMW8: TAPPO | |

Termignoni S.p.a.

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Cod. TERMIGNONI TER261

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**INFORMATION DOCUMENT N° BMW8/97/24 rev. 00 - List of the vehicles**

| No. of vehicle | Manufacturer | Make | Commercial name | Vehicle type (and no. of homologation) | Engine type | Stroke | Engine capacity in $cm^3$ | Rated maximum engine power in $kW/min^{-1}$ | Additional remarks: | Composition as shown in enclosure no. 1 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| 1) | Bayerische Motoren Werke | BMW | F 800 GS | E8GS (e1*2002/24* 0352*) | 80 2E A | 4-stroke | 798 | 63/7500 | with cat.*) | 1., c1., c2., c3. |

*) The original catalytic converter remain in the original exhaust system. A degradation of catalyst efficiency is not expected.

TERMIGNONI S.p.A
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C.F. e P.IVA 00862780061

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Fax +39 0131 71696
info@termignoni.it
www.termignoni.it

# FITTING INSTRUCTIONS

## For Termignoni exhaust systems

### A. Dismantling the original exhaust system

1. Remove any casing impeding clear access
2. Detach the silencer support(s) and the original silencer from the branch pipe and/or exhaust manifold

### B. Fitting Termignoni silencer(s)

1. Fit the Termignoni silencer(s) to the original branch pipe, or use the Termignoni branch pipe to fit the exhaust manifold
2. Attach the silencer(s) with the mounting(s) supplied with the vehicle, leaving the screws and bolts loose
3. Adjust the exhaust system so that when fully inserted it is at least 5 mm from any other component of the vehicle
4. Tighten all screws and bolts
5. Test the vehicle and check all connections, tightening the screws and bolts if necessary
6. After about 100 km check all the connections again and tighten the screws and bolts if necessary

**WARNING:**

Take care when working on the exhaust system after testing the vehicle since the surfaces could be very hot

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# TECHNICAL REPORT

# No. 374 - 0040 - 09 - ITA

about a test of a non-original exhaust system or a component

as a separate technical unit for motorcycles according to the directive of the Council

of the European Community for adaptation to the laws of the Member States

relating to

***the permissible sound level and exhaust systems for two or three-wheel motor vehicles***

*No.* ***97/24/EC*** *including the last amendment* ***2006/120/EC dated 27-Nov.-2006***
*concerning* ***Chapter 9, annex III***
*Approval mark according to annex VI point 6.1.1*



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# 0. Technical description

| | | |
|---|---|---|
| 0.1. | Make: | Termignoni |
| 0.2. | Type: | **BMW8** |
| 0.2.1. | Variants: | Not applicable |
| 0.3. | Name and address of the manufacturer: | Termignoni S.p.A.<br>Via della Rampina, 16<br>I-15077 Predosa (AL) |
| 0.4. | Name and address of manufacturer's authorized representative: | Not applicable |
| 0.5. | Class of the vehicles the unit is used for: | Motorcycle - L3e |



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## I. Test object(s)

| | | |
|---|---|---|
| 1.1. | Description of the vehicles the unit is used for: | Notice enclosure b |
| 1.2. | Identification number: | TERMIGNONI BMW8 e11 0694 9 |
| 1.2.1. | Structure of the non-original exhaust system: | Non-original exhaust system, consisting out of one silencer left, elliptic (main axle 133 mm, secondary axle 104 mm), shell length 450 mm, absorption-reflection- principle with an outlet pipe ∅ 33 mm with covering pipe ∅ 48 mm according to drawing no. BMW8: SILENCER in combination with original header system.<br>Carbon fiber- alternatively aluminium- alternatively stainless steel-alternatively titanium-cover. |
| 1.2.2. | List of parts: | See Test Report |
| 1.2.3. | Position of the marking: | On the silencer, see enclosures c1. |
| 1.2.4. | Make vehicles tested: | BMW |
| 1.2.5. | Material of the non-original exhaust system: | See Test Report |
| 1.3. | Remarks: | --- |



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## II. Test Report

| | | |
|---|---|---|
| 2.1. | Test equipment: | The tests were effected with an equipment that corresponds to the test requirements |
| 2.2. | Condition under which the above mentioned test Records have been achieved: | See Test Report enclosure |
| 2.2.1 | Summary of the Test Records: | See Test Report enclosure |
| 2.3. | General information about the Tests: | |
| 2.3.1. | Weather condition: | See Test Report enclosure |
| 2.3.2. | Place of the test: | See Test Report enclosure |
| 2.3.3. | Date of the test: | See Test Report enclosure |



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## III. Enclosures

a. Test Report
Composition of the non original exhaust system;
Field of application;
Test Records.

| | Number | Pages | Date |
|---|---|---|---|
| 1 | 374-0041-09-ITA | 6 | 12/10/2009 |

b. Information Document n° BMW8/97/24 rev. 00 02/10/2009

c1. Drawing BMW8: SILENCER 17/09/2009

c2. Drawing BMW8: ASSEMBLY 21/09/2009

c3. Drawing BMW8: TAPPO 17/09/2009



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## IV. Final confirmation

The named information document and the described type correspond to the Directive 97/24/EC chapter 9, annex III including the last amendment 2006/120/EC.
There are no technical objections against granting an EC Type-approval.

This technical report consists of sheet 1 to 6.

Recognised Expert
Pietro Vergani

pv Sesto San Giovanni (MI),
the 12.10.2009

197243

TÜV SÜD Automotive GmbH
Daimlerstraße 11
D-85748 Garching

Automotive



# TEST REPORT

# No. 374 - 0041 - 09 - ITA

*about a test of a non-original exhaust system or a component as a separate technical unit for motorcycles according to the directive of the Council of the European Community for adaptation to the laws of the Member States relating to the permissible sound level and exhaust systems for two or three-wheel motor vehicles*

*No. 97/24/EC including the last amendment 2006/120/EC dated 27-Nov.-2008 concerning chapter 9, annex III*
*Approval mark according to annex VI point 6.1.1*

## 0. General information

| | | |
|---|---|---|
| 0.1. | Make: | Termignoni |
| 0.2. | Type: | **BMW8** |
| 0.2.1. | Variants: | Not applicable |
| 0.3. | Name and address of manufacturer: | Termignoni S.p.A.<br>Via della Rampina, 16<br>I-15077 Predosa (AL) |
| 0.4. | Name and address of manufacturer's authorized representative: | Not applicable |



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| | | |
|---|---|---|
| 0.5. | No. of information document:<br>Date: | BMW8/97/24 rev. 00<br>02/10/2009 |
| 1.0. | Class of the vehicles the unit is used for: | Motorcycle - L3e (according to 2002/24/EC amended 2006/120/EC) |
| 1.1. | Description of the vehicles the unit is used for: | Notice enclosure 2 |

## 2. Composition of the separate technical unit

2.1. Kind of technical unit:

Technical unit, consisting out of one silencer left, elliptic (main axle 133 mm, secondary axle 104 mm), shell length 450 mm, absorption- reflection- principle with an outlet pipe ∅ 33 mm with covering pipe ∅ 48 mm according to drawing no. BMW8: SILENCER in combination with original header system.

| | | |
|---|---|---|
| 2.2. | Place of marking: | On the silencer, see drawing BMW8: SILENCER |
| 2.3. | Assembly of the exhaust system for testing (no. of parts, enclosure 1): | Notice 3.4 |
| 2.4. | Position and direction of the tail pipe: | On the left side of the vehicle |

## 3. Test report

The tests were carried out in 1 series A at 02/10/2009.



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## 3. **Test report** (continuation)

Series A: (no. 1)

### 3.1. Vehicle

| | | | |
|---|---|---|---|
| | (0.1) | Make: | BMW |
| 3.1.1. | (0.2.) | Type / variant / version: | E8GS / 0219 / A |
| 3.1.2. | (0.5.) | Manufacturer | Bayerische Motoren Werke AG |
| 3.1.3.<br>3.1.3.1 | | Homologation no.:<br>Extension: | e1*2002/24*0352*<br>00 |
| 3.1.4. | | Vehicle identification no.: | *WB102190X9ZT78481* |
| 3.1.5. | | Year of manufacture: | 2009 |
| 3.1.6. | (2.1) | Weight of the vehicle: | 207 kg |

### 3.2. (3.) Engine

| | | | |
|---|---|---|---|
| 3.2.1. | (3.0.) | Manufacturer: | Notice 3.1.2 |
| | (3.1.) | Make: | BMW |
| 3.2.2. | (3.1.1) | Type: | 80 2E A |
| 3.2.3. | | Engine capacity: | 798 $cm^3$ |
| 3.2.4. | (3.2.1.7) | Rated maximum engine power: | 63 kW at 7500 $min^{-1}$ |



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**3.** **Test report** (continuation)

| | | | |
|---|---|---|---|
| **3.3.** | **(4.)** | **Transmission** | |
| | (4.1) | Drawing of transmission: | Notice vehicle homologation no. s. 3.1.3. |
| 3.3.1. | (4.2) | Kind of transmission: | Mechanical |
| | (4.3) | Clutch (kind): | Wet multi-plate type |
| | (4.4) | Gearbox | |
| 3.3.2. | (4.4.1) | Kind | Mechanical |
| | (4.4.2) | Kind of activity: | Foot shifted |
| 3.3.4. | | No of gears | 6 |
| 3.3.5. | (4.5.) | Transmission ratios: primary / final | Notice vehicle homologation no. s. 3.1.3. |
| | (4.6.) | Top speed: | 204 km/h |
| | (5.2.) | Tires: | |
| | | front | 90/90 - 21 |
| | | rear | 150/70 R17 |
| 3.4. | | Assembly of the exhaust system (no. of parts, enclosure 1): | 1., c1., c2., c3. |



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## 3.5. Power measurement

3.5.1. The tested max. power and the engine speed are in the ± 5% tolerance in comparison with the original exhaust system.

3.5.2. Testing of top speed with non-original exhaust system:
Not applicable, because vehicle class : motorcycle

## 3.6. Conditioning

By pulsation

## 3.7. Test results

The results of
3.7.1. Sound testing
3.7.2. Power measurement
3.7.3. Top speed
3.7.4. Emission test
are attached in the enclosure 3.
The results of the sound tests with the original and non original exhaust systems fulfil point 3.5.2.1.1 of Directive 97/24/EC chapter 9, including last amendment 2006/120/EC. All motorcycles with the same serial exhaust system and same or fewer performance mentioned in enclosure 2, can be taken into the field of application due to the measurement with the above named motorcycle/s.
Emission test has not been carried out because the non original exhaust system does change neither cathalyst then vehicle performance.

3.7.5. The described non-original exhaust system / technical unit is suitable for an application at the vehicles listed in enclosure 2.

3.7.6. The general specifications concerning point 3.5.1 of Directive 97/24/EC Chapter 9 (including last amendment 2006/120/EC) were checked and were fulfilled by the non original exhaust system / technical unit.

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## 4. Enclosures

Enclosure 1, Composition of the non original exhaust system (Page 1)

Enclosure 2, Field of application (Page 1)

Enclosure 3, Test results (Page 1)

## 5. Summary

The named information document and the described type correspond to the Directive 97/24/EC including the amendment 2006/120/EC chapter 9, annex III.
There are no technical objections against granting an EC Type-approval.

This test report contains the pages 1 to 6 and enclosures.

Sachverständiger Prüflabor DIN EN ISO/IEC 17025 TÜV SÜD Automotive GmbH

Recognised Expert
Pietro Vergani

pv Sesto San Giovanni (MI),
the 12.10.2009

197243



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D-85748 Garching

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***E N C L O S U R E 1*** ***to test report no.*** **374-0041-09-ITA**
***Type:*** **BMW8**
***Manufacturer:*** **Termignoni S.p.A.**

***Composition of the original exhaust system + original parts*** 

| No. | Components parts, dimensions in mm | Dimensions of the part in mm or original part / replacement part | Part no. or homologation no. |
|---|---|---|---|
| | | | |
| 1. | Header pipes | Original parts | - |
| c1. | Rear silencer | One silencer left, elliptic (main axle 133 mm, secondary axle 104 mm), shell length 450 mm, absorption- reflection- principle with an outlet pipe ∅ 33 mm with covering pipe ∅ 48 mm | Drawing BMW8: SILENCER |
| c2. | Drawing of composition | Notice drawing | Drawing BMW8: ASSEMBLY |
| c3. | Reduction | Notice drawing | Drawing BMW8: TAPPO |

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***E N C L O S U R E 2*** ***to test report no.*** **374-0041-09-ITA**
***Type:*** **BMW8**
***Manufacturer:*** **Termignoni S.p.A.**

## *Field of application*



| No. of vehicle | Manufacturer | Make | Commercial name | Vehicle type (and no. of homologation) | Engine type | Stroke | Engine capacity in $cm^3$ | Rated maximum engine power in $kW/min^{-1}$ | Additional remarks: | Composition as shown in enclosure no. 1 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| 1) | Bayerische Motoren Werke | BMW | F 800 GS | E8GS (e1*2002/24* 0352*) | 80 2E A | 4-stroke | 798 | 63/7500 | with cat.*) | 1., c1., c2., c3. |

*) The original catalytic converter remain in the original exhaust system. A degradation of catalyst efficiency is not expected.

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***E N C L O S U R E 3*** ***to test report no.*** **374-0041-09-ITA**
***Type:*** **BMW8**
***Manufacturer:*** **Termignoni S.p.A.**

***Test results*** 

**- Noise and Power Test**

| | | | | | Sound levels driving vehicle in dB(A) | | | | | Sound levels stationary vehicle in dB(A) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of vehicle | Engine power original kW/min$^{-1}$ | Engine power non original kW/min$^{-1}$ | Vmax original km/h | Vmax non original km /h | measured in gear ratio | Limit Value **) | Original mea-sured | Non original measured | at km/h | Vehicle type hom. | Original mea-sured | Non original measured | at min$^{-1}$ |
| | | | | | | | | | | | | | |
| 1) A* | 63/7500 | 63,9/7500 | - | - | 2 / 3 | 80 | 81,00 | 80,50 | 50 | 88 | 89 | 88 | 3750 |

*) test series

**) Limit value of directive which was valid by vehicle type homologation