

Service Station Equipment
TAG-Adapter Typ S...-.



Further Documentation for this Product:

Description	Order No.
None	

History

Revision	Date	Editor	Status	Description
Rev. 1.00	June 2003	R.Arndt	released	first edition
Rev. 1.01	March 2006	J.Plumeyer	released	1.) modification chapter 1.1 / S.1 - Ex-Zone 0 to 1 2.) modification chapter 1.1 / S.1 - additional TAG info
Rev. 1.02	Februar 2007	J.Plumeyer	released	1.) New format and drawings 2.) Amendment of Chapter 3.2 - Additional Information ISO
Rev. 1.03	März 2008	/ RA / jp /	released	1.) Text / format corrections 2.) Alternatives nameplate Chapter 3.2 3.) Additional Drawing 51.351958
Rev. 1.04	December 2013	/ jp /	released	1.) Teflon [®] remove

Important

All information and technical specifications in this documentation have been carefully checked and compiled by the author. However, we cannot completely exclude the possibility of errors.

F.A. Sening GmbH is always grateful to be informed of any errors.

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EC - Declaration30

1 General

1.1 Orientation Aids for the manual

This manual contains a variety of information. We have produced some orientation aids so that you can easily find the required subjects.

- **Pictograms**

The information in this manual extends from mandatory safety measures and default values to concrete handling steps and well-intended advice. This information is identified with suitable pictograms in the margins to enable better distinction in context.

This will not only increase attention for „beginners“, but also help „cross-readers“ to rapidly locate the desired Information. Therefore the pictograms are symbolic of the underlying textual content.

- The following pictograms are used in this manual:



Danger sign. Danger of explosions caused by easily ignited gases and liquids here.



Risk of operating fault. Actions that damage the equipment.



Legal Notice. Actions that lead to legal consequences.



Working step. Concrete action statements, e.g. „Press the <Enter>-key“



Positive response message, e.g. „the main menu now appears “



Negative response message, e.g. „A fault message should now appear...“



Background information, Short-Tip, e.g. „See more detailed information in Chapter XX“



Option, Special Case



Function / Functional Description



NOTE: Indicates a special Situation



IMPORTANT: To be strictly observed

2 Fundamentals

2.1 Function of a QMS system

- The general functioning of a quality management system using the NoMix 2000 system as an example, is described in the following section. NoMix 2000 is installed on the tank truck.
- Electronic identification generators which are associated with this device, are installed on the petrol station side of the product and vapour recovery nozzles. They contain an electronic device that stores different data such as the serial number and the product quality.
- These components are called TAGs.
- A TAG consists of a small electronic board, installed in a flange adapter. The complete unit is the TAG adapter, which is approved for use in zone 1 explosion-proof areas (see appendix for EC prototype test certificates TÜV 02 ATEX 1981). The TAG is supplied from the TAG Interface via an intrinsically safe ia-circuit.
- The TAG-electronics meets all requirements as specified in the European standard EN 14116 („Tanks for transport of dangerous goods - Digital interface for the product recognition device“).
- The TAGs are supplied with a small intrinsically safe voltage from the conductive hoses, when the product and vapour recovery hose are connected.
- The TAG immediately starts transferring the data and internally stored information, via the conductive hoses, to the NOMIX 2000 system installed on the tank truck, where they are monitored.
- The tank truck driver can now start the product delivery, provided the connection is correct, the products in the tank truck compartment and the petrol station tanks have been assigned correctly and NoMix 2000 has enabled delivery.

2.2 Safety requirements

DIN standards and norms must be followed, particularly the ones for explosion protection, for all work carried out as described in these installation instructions.

2.3 Notes on Explosion Protection

- All components labelled with the  sign are explosion-proof electrical devices. They have been safety checked and certified.
- In case of a fault, the complete module must be replaced. The devices must be installed by a specialist installer.
- The electrical installation must be carried out according to EN 60079-14 (VDE165). All Ex components are explosion-proof electrical devices that have been safety checked and certified.
- The complete TAG adapter must be replaced if the TAG housing becomes damaged.
- None of the components found inside the TAG require maintenance or adjustment.



No intervention, either mechanical or electrical, is permitted

R I S K O F E X P L O S I O N

3 S type TAG adapter...-

3.1 General layout

The TAG adapter is installed between the standard 2", 3" or 4" product- / vapour recovery couplings and the tank pipe nozzle. The S... type TAG adapter integrates the insulation of the product / vapour recovery connector and the TAGs with a resistance for electrostatic discharging of a component. It consists of two flange halves which are isolated from each other with a seal and insulating bushes. The lower flange half has an inside thread, the upper an outside thread. There is a built-in recess in the lower flange half of the TAG electronic board. It is sealed for protection against environmental influences.

3.2 TAG Adapter in detail

The S... type TAG adapter is available in three different versions:

- 2": Drawing no. E61.251722 / page 27
- 3": Drawing no. E61.251723 / page 28
- 4": Drawing no. E61.251724 / page 29

Mechanical and electronic components are:

- Upper flange half with outside thread
- Lower flange half with inside thread
- Seal made of polyurethane or similar material
- 4 glass fibre reinforced insulating sleeves
- 4 M10 countersunk screws with nuts
- 3 spacers for the TAG electronic board connections
- Various M4 / M3 screws for fixing the TAG electronic board and the spacers
- Riveted or glued nameplate
- TAG electronic board*)

*) The TAG electronic board is certified, regarding explosion protection, in accordance with the EC prototype test certificate TÜV 02 ATEX 1981 (see appendix).

The TAG electronic board has 4 connections, 2 of which are only used with a level sensor. These connections are not described in more detail in this document:

- **Plus connection:**

The plus connection is made by an M4 screw that connects the insulated upper flange half to the TAG electronic board. This connects it to the insulated coupling. The TAG is supplied with a small intrinsically safe voltage from the conductive hose. The plus connection is displayed with measurement point 1 and 3 on the Installation drawing No. E51.351958 / page 26.

- **Minus connection, below ground tank earthing connection:**

The minus connection is made by TAG electronic board fixing screws with the lower flange half, which is screwed onto the pipe nozzle. The minus connection is displayed with measurement point 2 and 4 on the Installation drawing No. E51.351958 / page 26.

The S... type TAG adapter is factory programmed for each product quality or for use with vapour recovery connectors. The product quality or use with vapour recovery connectors can be seen by the parts No. on the name plate.

Example:

Parts no.	Description
SL95U-3	Super unleaded, 95 octane, version 3“, product
SV95U-2	Super unleaded, 95 octane, version 2“, single vapour recovery
SVCMN-2	Collective vapour recovery, version 2“

Table 1: product qualities

All part numbers / product qualities of the different S... type TAG adapters, are listed in the appendix of drawing No. E61.251722, E61.251723 and E61.251724 / from page 27 for the different variants.

If the product nozzle has an associated vapour recovery connection, it is absolutely essential to ensure that a TAG adapter of the same product quality is installed, e.g. SL95U-3 product TAG adapter, SV95U-2 vapour recovery TAG adapter.

4 Installation

4.1 General

Before installation, check that there is enough space between the individual nozzles or other mechanical parts, so that the individual TAG adapters do not touch each other when being screwed onto the pipe nozzles and cannot cause any short circuits later on. The minimum distances to be maintained, for the different sizes, are listed in the drawings No. E61.251722, E61.251723 and E61.251724 / from page 27. The TAG adapter increases the height by approx. 50 mm. It must be checked if there is enough space above the manhole cover.

4.2 Dismantling

When dismantling the couplings please ensure that the pipe nozzle threads do not become damaged. Apart from this it should be checked whether the threads of the removed couplings are true to size, burr-free and the seal is not damaged. Otherwise a new coupling must be used.

4.3 Assembly

The mechanical construction is shown in drawings No. E61.251722, E61.251723 and E61.251724 / from page 27, the installation of a 3" product nozzle and a 2"-vapour recovery connector with details of the measurement points are shown as an example in drawing No. E51.351958 / page 26.

Please pay attention to the following:

- The nozzle threads must be clean, burr-free and true to size.
- The usable nozzle thread length must be at least 25 mm.
- The pipe nozzle surface must be even.
- The S... type TAG adapter must be tightened to a torque of approx. 150Nm.
- The stay rope / the chain of the cover must be installed on the purpose made hole in the lower flange half. An insulated rope should be used in case there is a possibility of a short circuiting via the insulation during normal operation.



The Tag adapter must not be installed using hemp since the low ohm minus connection to the below ground tank earthing connection cannot be guaranteed!

5 Checking for correct installation

5.1 General

A measurement log must be prepared, in accordance with chapter 5, upon completion of the installation, in which it is stated that the electrostatic discharge is guaranteed and that all pipe nozzles have the same potential.

For the measurements it is necessary to use a suitable:

- explosion proof measurement instrument;
- the measurement instruments voltage must be less than 10V .
(e.g. digital multimeter type DIGEX-A from EX-ELEC).

 Insulation test instrument with measurement voltages ≥ 10 volt cannot be used, since electronic components can be destroyed.

The measurement points 1 to 4 of the product and vapour recovery connector are highlighted by a four cornered frame in drawing No. E51.351958 / page 26.

Example:

3

5.2 Measurement points

Measurement point	Description
1	Insulated vapour recovery connector coupling
2	Vapour recovery connector pipe nozzle
3	Insulated product nozzle coupling
4	Pipe nozzle of the product nozzle

Table 2: Measurement points

5.3 Measurements

The measurement points and the measurement values to be met for the measurement log, which is to be copied, are detailed in Appendix A / page 23. A sample measurement log is shown in chapter 6 / page 15.



Note: When measuring measurement points

1 → 2 and 3 → 4 a value between 180KΩ and 230KΩ must always be achieved during installation (TAG discharge resistance).

The values contained in the measurement log are min. and max. values resulting from humidity for example.

Nevertheless the function of the NoMix 2000 is guaranteed even with these values.

6 Sample measurement log

Sample measurement log

<p>Petrol station (stamp)</p> <p><i>Smith Storage plt</i> <i>51, Crude Oil Road</i> <i>Brownshire</i> <i>AB12 3DE</i></p>	<p>WHG (federal water act) approved installer:</p> <p><i>John Brown</i> <i>34, Shortcut Place</i> <i>Smithshire</i> <i>FG45 6HI</i></p>
---	---

Product /Vapour		SLDI	SL92U	SL95U	SL98U			
Measurement Point	Nominal Value	measurement results in KΩ						
1-2	10KΩ<R<500KΩ typical 215KΩ	215	210	219	217			
3-4	10KΩ<R<500KΩ typical 215KΩ	215	218	220	212			

It must be checked and confirmed, that all pipe nozzles (product / gas) have the same potential, resistance < 5Ω (measurement points 2 and 4).

Measured values 2-4 attained	Yes
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The measurements 1 – 2 and 3 – 4 verify that the electrostatic discharge is guaranteed.

Date and signature:

1.4.2006 / John Brown

7 Technical Data

EC prototype test certificate No.	TÜV 02 ATEX 1981
Permitted ambient temperature range	- 20 °C to 60 °C
TAG 1 type.-... TAG circuit (Connections L,+,-)	<p>EEx ia IIB type intrinsic safety ignition protection only for connection on a certified intrinsic safety circuit with the following max. values:</p> $U_0 = 15 \text{ V}$ $I_0 = 300 \text{ mA}$ $P_0 = 1.1 \text{ W}$ <p>The effective internal capacitance is: $\leq 600 \text{ nF}$ The effective internal inductance is negligible</p>
TAG 1 type.-... TAG circuit (Connections G, L,+,-)	<p>EEx ia IIB type intrinsic safety ignition protection only for connection on a certified intrinsic safety circuit with the following max. values:</p> $U_0 = 15 \text{ V}$ $I_0 = 300 \text{ mA}$ $P_0 = 1.1 \text{ W}$ <p>The effective internal capacitance is: $\leq 600 \text{ nF}$ The effective internal inductance is negligible</p>
TAG 1 ESD type.-... TAG circuit (Connections G, L,+,-)	<p>EEx ia IIB type intrinsic safety ignition protection only for connection on a certified intrinsic safety circuit with the following max. values:</p> $U_0 = 15 \text{ V}$ $I_0 = 300 \text{ mA}$ $P_0 = 1.1 \text{ W}$ <p>The effective internal capacitance is: $\leq 100 \text{ nF}$ The effective internal inductance is negligible</p>
TAG 1Z ... type or TAG 1 ... type with upstream protective circuit 3Z-... type TAG circuit(s) (Connections +,-)	<p>EEx ia IIB type intrinsic safety ignition protection only for connection on a certified intrinsic safety circuit with the following max. values:</p> $U_0 = 15 \text{ V}$ $I_0 = 400 \text{ mA}$ $P_0 = 1.475 \text{ W}$ <p>The effective internal capacitance is: $\leq 600 \text{ nF}$ The effective internal inductance is negligible</p> <p>The maximum values are generated by switching the NOMIX control unit TAG circuit and an intrinsically safe circuit at the same time (e.g. earthing test unit). This results in the following max. values:</p> $U_0 = 15 \text{ V}$

	$I_0 = 100 \text{ mA}$ $P_0 = 0.375 \text{ W}$
TAG 1.-P type... TAG circuit (connections 1,2,3,4)	EEx ia IIB type intrinsic safety ignition protection only for connection on a certified intrinsic safety circuit with the following max. values: $U_0 = 15 \text{ V}$ $I_0 = 300 \text{ mA}$ $P_0 = 1.1 \text{ W}$ The effective internal capacitance is: $\leq 600 \text{ nF}$ The effective internal inductance is negligible



**Conforms to EC Guideline 89/336/EEC or the
German EMC law (EMVG)**

8 Warranty and Service

In addition to the dealer's legal warranty in the purchase agreement we grant the end user a warranty for this device on the following conditions:

1. The warranty period is twelve months and starts at the time of delivery of the device by F. A. Sening. With electronic products the registration form must have been received at Sening fully completed and signed by the installation department.
2. The warranty includes the rectification of all device damage or defects occurring within the warranty period and which can be shown to be due to material or production faults.

The warranty does not include:

- slight deviations from the intended quality which are insignificant for the value or usefulness of the device,
 - damage or defects due to connection other than as specified, improper handling or non-observance of the installation guidelines and instructions for use,
 - damage caused by the chemical and electrochemical effects of water or other liquids, electrical or electromagnetic influences and or caused by abnormal ambient conditions in general,
 - damage due to external effects such as damage in shipment, damage due to shock or impact, the effects of the weather or other natural phenomena.
3. The right to claim under warranty becomes invalid if repairs or tampering have been carried out by persons not authorised by us for the work or if our devices have been fitted with supplementary parts or accessories which are not suitable for our devices and not released by us for that purpose.
 4. The warranty service is carried out, free of charge and according to our choice, by repairing defective parts or replacing them by perfect parts. Replaced parts become our property.
 5. During the first six months of the warranty period the warranty service is carried out without billing. Thereafter, travelling times, travelling costs and working time for the service staff and any transport costs occurred are billed or not reimbursed.
 6. Work under warranty does not imply any extension of the warranty period nor does it initiate a further period of warranty. The warranty period for installed replacement parts terminates with the end of the warranty period for the complete device.
 7. Any more extensive or additional claims, in particular those for compensation of damages or consequential damages occurred outside of the device are expressly excluded, provided no liability is deemed mandatory in law.

9 Address and Contact

Important Note

All explanations and technical details given in this documentation have been produced and edited by the author with the greatest care. However the possibility of errors cannot be completely eliminated. We would be very grateful for the notification of any errors found.

Our service department would be pleased to advise and help you.

They can be reached under:



Measurement Solutions

F. A. Sening GmbH

Regentstrasse 1
D-25474 Ellerbek

Tel.: +49 (0) 4101 304 - 0 (Switchboard)

Fax: +49 (0) 4101 304 - 152 (Service)

Fax: +49 (0) 4101 304 - 133 (Sales)

Fax: +49 (0) 4101 304 - 255 (Customer Service)

E-Mail: info.sening@intl.fmcti.com

Web: www.fmctechnologies.com/measurementsolutions

Appendix A. Drawings and Certificates

Drawings	No.	Page
Copy Master "Measurement Log"		25
Product & Vapour Coupling Installation / Measuring points	E51.351958	26
TAG-Adapter 2" mechanical assembly / part number	E61.251722	27
TAG-Adapter 3" mechanical assembly / part number	E61.251723	28
TAG-Adapter 4" mechanical assembly / part number	E61.251724	29
Certificates		
EC-Declaration	TÜV 02 ATEX 1981	30

Measurement log

Petrol station (stamp) <hr/> <hr/> <hr/> <hr/> <hr/>	WHG (federal water act) approved installer <hr/> <hr/> <hr/> <hr/> <hr/>
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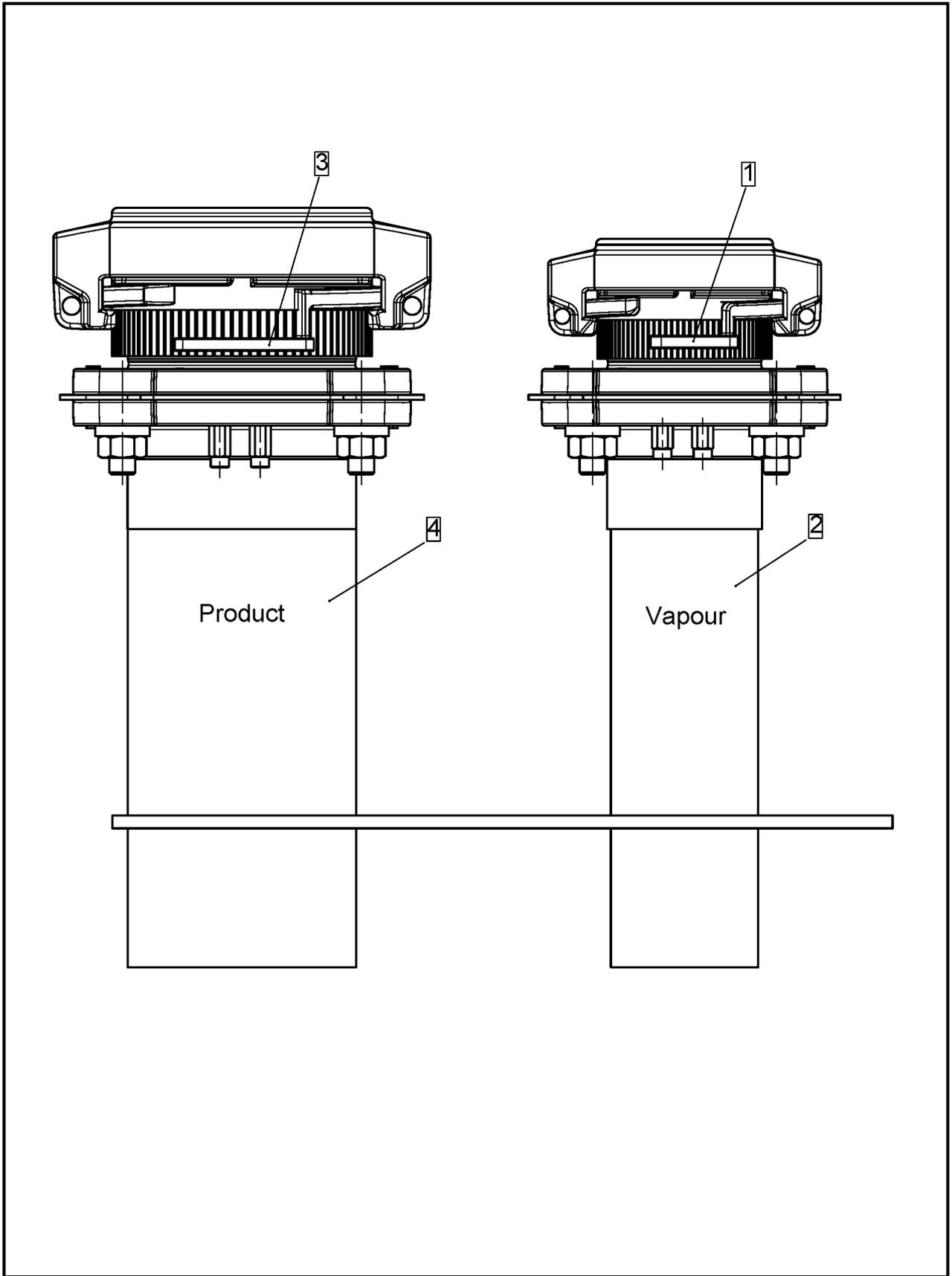
Product / vapour recovery								
Measurement point	Measurement values	Measurement results in K\square						
1-2	10K Ω <R<500K Ω typical 215K Ω							
3-4	10K Ω <R<500K Ω typical 215K Ω							

It must be checked and confirmed, that all pipe nozzles (product / gas) have the same potential, resistance < 5 Ω (measurement points 2 and 4).

Measured values 2-4 attained	Yes
------------------------------	-----

The measurements 1 – 2 and 3 – 4 verify that the electrostatic discharge is guaranteed.

Date and signature: _____ / _____



"Protective note according to DIN ISO 16016"

Product & Vapour Coupling
Installation / Measuring points

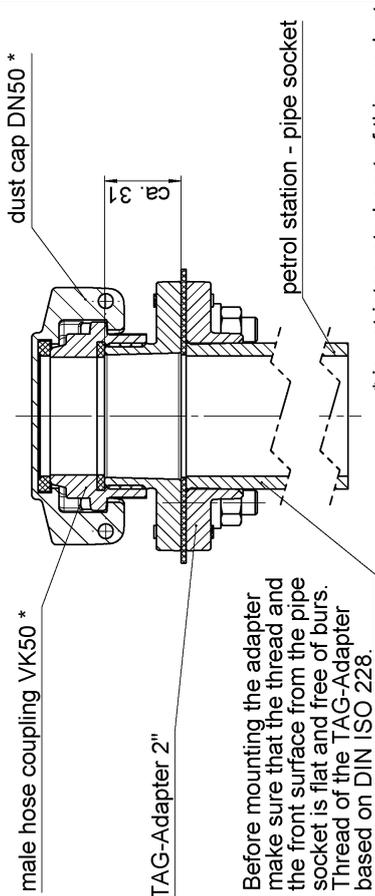
FMC Technologies

F.A. Sening GmbH
D-25474 Ellerbek, Germany

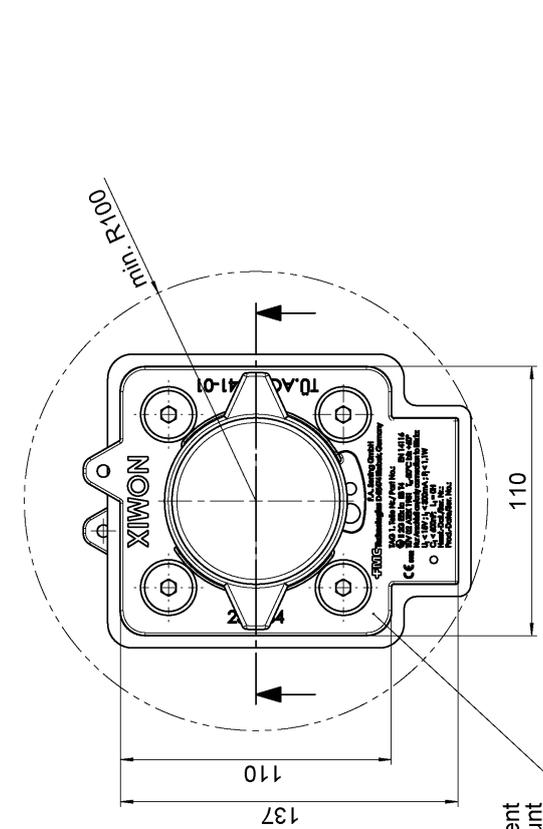
Weight:	Date:	Name:
kg	07.06.2006	Larsen

Changed:	Drawing No.:	Rev.:
	E 51.351958	

A		B		C		D		E		F	
Kodierung gemäß EN 14116 (Tabelle 10) / Coding according to EN 14116 (Table 10)											
Teil-Nr. / Part No.:	Beschreibung / Description	Typ u. Variable / Type a. Variable	Gruppe u. Untergruppe / Group a. Subgroup	Produkt Qualität / Product Grade							
SL100U-2	Super Plus (Produkt), Premium unleaded / ROZ 100	0001 xx00 b	0001 0010 b	RON 100							
SL99U-2	Super Plus (Produkt), Premium unleaded / ROZ 99	0001 xx00 b	0001 0010 b	RON 99							
SL98L-2	Super verbleit (Produkt), Premium leaded / ROZ 98	0001 xx00 b	0001 0001 b	RON 98							
SL98U-2	Super Plus (Produkt), Premium unleaded / ROZ 98	0001 xx00 b	0001 0010 b	RON 98							
SL97U-2	Super bleifrei (Produkt), Premium unleaded / ROZ 97	0001 xx00 b	0001 0010 b	RON 97							
SL95U-2	Super bleifrei (Produkt), Premium unleaded / ROZ 95	0001 xx00 b	0001 0010 b	RON 95							
SL92U-2	Normal bleifrei (Produkt), Gasoline unleaded / ROZ 92	0001 xx00 b	0001 0010 b	RON 92							
SLD1-2	Diesel "Variante A" (Produkt), Diesel "variant A" (Standard)	0001 xx00 b	0011 0000 b	"D" = 68 = 44h = Diesel (Standard)							
SLDB-2	Diesel "Variante B" (Produkt), Diesel "variant B" (V-Power / Ultimate)	0001 xx00 b	0011 0000 b	"F" = 70 = 46h = Diesel (Variant 2)							
SLDC-2	Diesel "Variante C" (Produkt), Diesel "variant C" (Truck Diesel)	0001 xx00 b	0011 0000 b	"L" = 76 = 4Ch = Diesel (Variant 3)							
SLDD-2	Diesel "Variante D" (Produkt), Diesel "variant D" (Biodiesel)	0001 xx00 b	0011 0000 b	"H" = 72 = 48h = Biodiesel							
SLHEL-2	Heizöl (Produkt), Heating Oil "Standard"	0001 xx00 b	0011 0000 b	"E" = 69 = 45h = Heating Oil (Standard)							
SLHEL-2	Heizöl schwefelarm (Produkt), Heating Oil ultralow sulfur	0001 xx00 b	0011 0000 b	"G" = 71 = 47h = Heating Oil (Variant 2)							
SV100U-2	Super Plus (Gasp.), Premium unleaded / ROZ 100	0011 xx00 b	0001 0010 b	RON 100							
SV99U-2	Super Plus (Gasp.), Premium unleaded / ROZ 99	0011 xx00 b	0001 0010 b	RON 99							
SV98L-2	Super verbleit (Gasp.), Premium leaded / ROZ 98	0011 xx00 b	0001 0001 b	RON 98							
SV98U-2	Super Plus (Gasp.), Premium unleaded / ROZ 98	0011 xx00 b	0001 0010 b	RON 98							
SV95U-2	Super bleifrei (Gasp.), Premium unleaded / ROZ 95	0011 xx00 b	0001 0010 b	RON 95							
SV92U-2	Normal bleifrei (Gasp.), Gasoline unleaded / ROZ 92	0011 xx00 b	0001 0010 b	RON 92							
SVD1-2	Diesel "Variante A" (Gasp.), Diesel "variant A" (Standard)	0011 xx00 b	0011 0000 b	"D" = 68 = 44h = Diesel (Standard)							
SVDB-2	Diesel "Variante B" (Gasp.), Diesel "variant B" (V-Power / Ultimate)	0011 xx00 b	0011 0000 b	"F" = 70 = 46h = Diesel (Variant 2)							
SVDC-2	Diesel "Variante C" (Gasp.), Diesel "variant C" (Truck Diesel)	0011 xx00 b	0011 0000 b	"L" = 76 = 4Ch = Diesel (Variant 3)							
SVDD-2	Diesel "Variante D" (Gasp.), Diesel "variant D" (Biodiesel)	0011 xx00 b	0011 0000 b	"H" = 72 = 48h = Biodiesel							
SVHEL-2	Heizöl (Gasp.), Heating Oil "Standard"	0011 xx00 b	0011 0000 b	"E" = 69 = 45h = Heating Oil (Standard)							
SVHEL-2	Heizöl schwefelarm (Gasp.), Heating Oil ultralow sulfur	0011 xx00 b	0011 0000 b	"G" = 71 = 47h = Heating Oil (Variant 2)							
SVCMN-2	Gassammelleitung (Gasp.) VK, Common Vapour A1 products	0011 xx00 b	0001 0000 b	0000.0000 b							
SVCMD-2	Gassammelleitung (Gasp.) K, Common Vapour A3 products	0011 xx00 b	0011 0000 b	0000.0000 b							



* is not integrated part of this product



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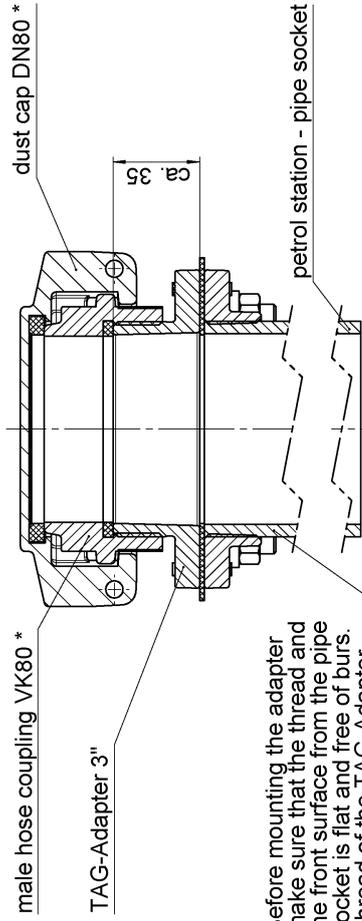
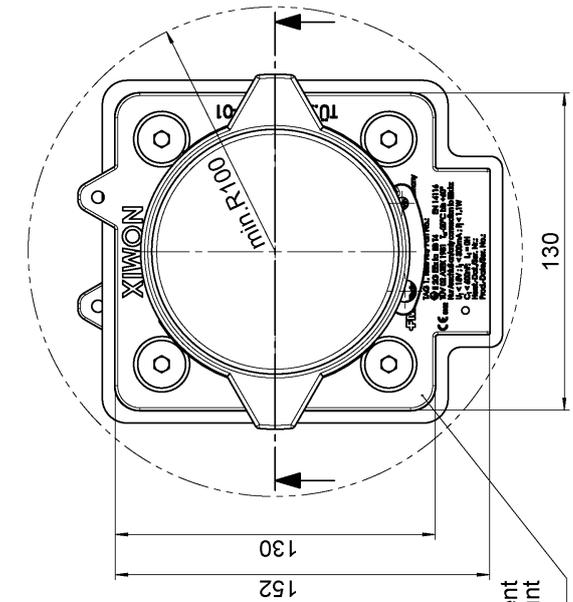
Weight: _____ Date: 07.06.2006 Name: Loisen
Drawing No.: E 61.251722 Rev. B
Part-No. see table

Protective note according to DIN ISO 16016

DOK-E466

Kodierung gemäß EN 14116 (Tabelle 10) / Coding according to EN 14116 (Table 10)

Teile-Nr. / Part No.:	Beschreibung / Description	Typ u. Variable / Type a. Variable	Gruppe u. Untergruppe / Group a. Subgroup	Produkt Qualität / Product Grade
SL100U-3	Super Plus (Produkt), Premium unleaded / ROZ 100	0001 xx00 b	0001 0010 b	RON 100
SL98U-3	Super Plus (Produkt), Premium unleaded / ROZ 99	0001 xx00 b	0001 0010 b	RON 99
SL98L-3	Super verbleit (Produkt), Premium leaded / ROZ 98	0001 xx00 b	0001 0001 b	RON 98
SL98U-3	Super Plus (Produkt), Premium unleaded / ROZ 98	0001 xx00 b	0001 0010 b	RON 98
SL97U-3	Super bleifrei (Produkt), Premium unleaded / ROZ 97	0001 xx00 b	0001 0010 b	RON 97
SL95U-3	Super bleifrei (Produkt), Premium unleaded / ROZ 95	0001 xx00 b	0001 0010 b	RON 95
SL92U-3	Normal bleifrei (Produkt), Gasoline unleaded / ROZ 92	0001 xx00 b	0001 0010 b	RON 92
SLDI-3	Diesel "Variante A" (Produkt), Diesel "variant A" (Standard)	0001 xx00 b	0011 0000 b	"D" = 68 = 44h = Diesel (Standard)
SLDB-3	Diesel "Variante B" (Produkt), Diesel "variant B" (V-Power / Ultimate)	0001 xx00 b	0011 0000 b	"F" = 70 = 46h = Diesel (Variant 2)
SLDC-3	Diesel "Variante C" (Produkt), Diesel "variant C" (Truck Diesel)	0001 xx00 b	0011 0000 b	"L" = 76 = 4Ch = Diesel (Variant 3)
SLDD-3	Diesel "Variante D" (Produkt), Diesel "variant D" (Biodiesel)	0011 xx00 b	0011 0000 b	"H" = 72 = 48h = Biodiesel
SLHEL-3	Heizöl (Produkt), Heating Oil "Standard"	0001 xx00 b	0011 0000 b	"E" = 69 = 45h = Heating Oil (Standard)
SLHEL-3	Heizöl schwefelarm (Produkt), Heating Oil ultralow sulfur	0001 xx00 b	0011 0000 b	"G" = 71 = 47h = Heating Oil (Variant 2)
SV100U-3	Super Plus (Gasp.), Premium unleaded / ROZ 100	0011 xx00 b	0001 0010 b	RON 100
SV99U-3	Super Plus (Gasp.), Premium unleaded / ROZ 99	0011 xx00 b	0001 0010 b	RON 99
SV98L-3	Super verbleit (Gasp.), Premium leaded / ROZ 98	0011 xx00 b	0001 0001 b	RON 98
SV98U-3	Super Plus (Gasp.), Premium unleaded / ROZ 98	0011 xx00 b	0001 0010 b	RON 98
SV95U-3	Super bleifrei (Gasp.), Premium unleaded / ROZ 95	0011 xx00 b	0001 0010 b	RON 95
SV92U-3	Normal bleifrei (Gasp.), Gasoline unleaded / ROZ 92	0011 xx00 b	0001 0010 b	RON 92
SVDI-3	Diesel "Variante A" (Gasp.), Diesel "variante A" (Standard)	0011 xx00 b	0011 0000 b	"D" = 68 = 44h = Diesel (Standard)
SVDB-3	Diesel "Variante B" (Gasp.), Diesel "variante B" (V-Power / Ultimate)	0011 xx00 b	0011 0000 b	"F" = 70 = 46h = Diesel (Variant 2)
SVDC-3	Diesel "Variante C" (Gasp.), Diesel "variante C" (Truck Diesel)	0011 xx00 b	0011 0000 b	"L" = 76 = 4Ch = Diesel (Variant 3)
SVDD-3	Diesel "Variante D" (Gasp.), Diesel "variante D" (Biodiesel)	0011 xx00 b	0011 0000 b	"H" = 72 = 48h = Biodiesel
SVHEL-3	Heizöl (Gasp.), Heating Oil "Standard"	0011 xx00 b	0011 0000 b	"E" = 69 = 45h = Heating Oil (Standard)
SVHEL-3	Heizöl schwefelarm (Gasp.), Heating Oil ultralow sulfur	0011 xx00 b	0011 0000 b	"G" = 71 = 47h = Heating Oil (Variant 2)
SVCMN-3	Gassammelleitung (Gasp.) VK, Common Vapour A1 products	0011 xx00 b	0000 0000 b	
SVCMDB-3	Gassammelleitung (Gasp.) K, Common Vapour A3 products	0011 xx00 b	0011 0000 b	



Before mounting the adapter make sure that the thread and the front surface from the pipe socket is flat and free of burrs. Thread of the TAG-Adapter based on DIN ISO 228.

* is not integrated part of this product

TAG-Adapter 3"

F.M.C Technologies
D-26474 Ellerbek, Germany

F.A. Sening GmbH
D-26474 Ellerbek, Germany

Weight	Date	Name
kg	07.06.2006	Larsen

Part-No. **E 61.251723**

see table

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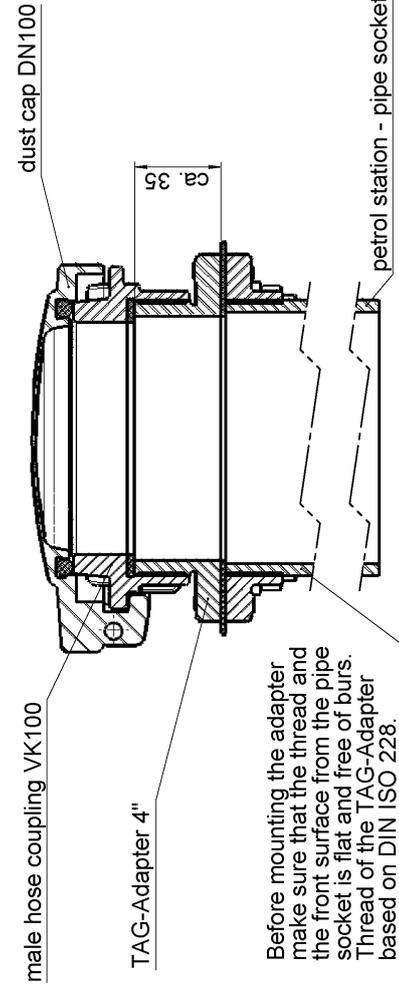
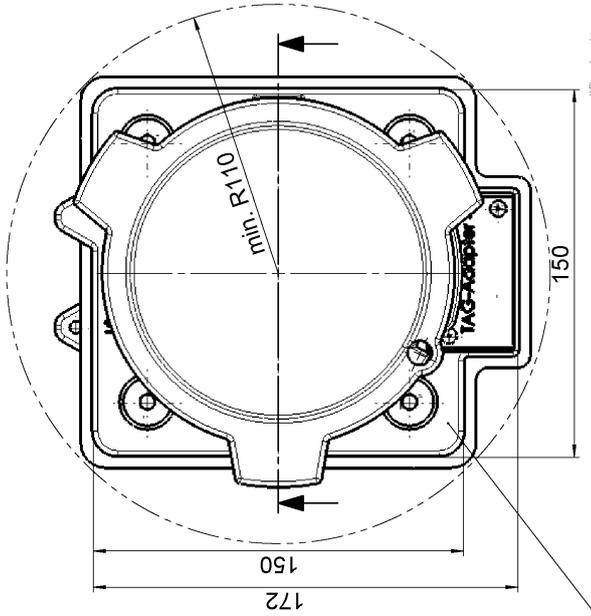
"Protective note according to DIN ISO 16016"

Use turning moment by 150 Nm to mount TAG-Adapter

DOK-E466

Kodierung gemäß EN 14116 (Tabelle 10) / Coding according to EN 14116 (Table 10)

Teil-Nr. / Part No.:	Beschreibung / Description	Type u. Variable / Type a. Variable	Gruppe u. Subgruppe / Group a. Subgroup	Produkt Qualität / Product Grade
SL100U-4	Super Plus (Produkt), Premium unleaded / ROZ 100	0001 xx00 b	0001 0010 b	0110 0100 b RON 100
SL99U-4	Super Plus (Produkt), Premium unleaded / ROZ 99	0001 xx00 b	0001 0010 b	0110 0011 b RON 99
SL98L-4	Super verbleit (Produkt), Premium leaded / ROZ 98	0001 xx00 b	0001 0001 b	0110 0010 b RON 98
SL98U-4	Super Plus (Produkt), Premium unleaded / ROZ 98	0001 xx00 b	0001 0010 b	0110 0010 b RON 98
SL97U-4	Super bleifrei (Produkt), Premium unleaded / ROZ 97	0001 xx00 b	0001 0010 b	0110 0001 b RON 97
SL95U-4	Super bleifrei (Produkt), Premium unleaded / ROZ 95	0001 xx00 b	0001 0010 b	0101 1111 b RON 95
SL92U-4	Normal bleifrei (Produkt), Gasoline unleaded / ROZ 92	0001 xx00 b	0001 0010 b	0101 1100 b RON 92
SLD1-4	Diesel "Variante A" (Produkt), Diesel "variant A" (Standard)	0001 xx00 b	0011 0000 b	0100 0100 b "D" = 68 = 44h = Diesel (Standard)
SLDB-4	Diesel "Variante B" (Produkt), Diesel "variant B" (V-Power / Ultimate)	0001 xx00 b	0011 0000 b	0100 0110 b "F" = 70 = 48h = Diesel (Variant 2)
SLDC-4	Diesel "Variante C" (Produkt), Diesel "variant C" (Truck Diesel)	0001 xx00 b	0011 0000 b	0100 1100 b "L" = 76 = 4Ch = Diesel (Variant 3)
SLDD-4	Diesel "Variante D" (Produkt), Diesel "variant D" (Biodiesel)	0011 xx00 b	0011 0000 b	0100 1000 b "H" = 72 = 48h = Biodiesel
SLHEL-4	Heizöl (Produkt), Heating Oil "Standard"	0001 xx00 b	0011 0000 b	0100 0101 b "E" = 69 = 45h = Heating Oil (Standard)
SLHEL-4	Heizöl schwefelarm (Produkt), Heating Oil ultralow sulfur	0001 xx00 b	0011 0000 b	0100 0111 b "G" = 71 = 47h = Heating Oil (Variant 2)
SV100U-4	Super Plus (Gasp.), Premium unleaded / ROZ 100	0011 xx00 b	0001 0010 b	0110 0100 b RON 100
SV99U-4	Super Plus (Gasp.), Premium unleaded / ROZ 99	0011 xx00 b	0001 0010 b	0110 0011 b RON 99
SV98L-4	Super verbleit (Gasp.), Premium leaded / ROZ 98	0011 xx00 b	0001 0001 b	0110 0010 b RON 98
SV98U-4	Super Plus (Gasp.), Premium unleaded / ROZ 98	0011 xx00 b	0001 0010 b	0110 0010 b RON 98
SV95U-4	Super bleifrei (Gasp.), Premium unleaded / ROZ 95	0011 xx00 b	0001 0010 b	0101 1111 b RON 95
SV92U-4	Normal bleifrei (Gasp.), Gasoline unleaded / ROZ 92	0011 xx00 b	0001 0010 b	0101 1100 b RON 92
SVD1-4	Diesel "Variante A" (Gasp.), Diesel "variante A" (Standard)	0011 xx00 b	0011 0000 b	0100 0100 b "D" = 68 = 44h = Diesel (Standard)
SVDB-4	Diesel "Variante B" (Gasp.), Diesel "variante B" (V-Power / Ultimate)	0011 xx00 b	0011 0000 b	0100 0110 b "F" = 70 = 48h = Diesel (Variant 2)
SVDC-4	Diesel "Variante C" (Gasp.), Diesel "variante C" (Truck Diesel)	0011 xx00 b	0011 0000 b	0100 1100 b "L" = 76 = 4Ch = Diesel (Variant 3)
SVDD-4	Diesel "Variante D" (Gasp.), Diesel "variante D" (Biodiesel)	0011 xx00 b	0011 0000 b	0100 1000 b "H" = 72 = 48h = Biodiesel
SVHEL-4	Heizöl (Gasp.), Heating Oil "Standard"	0011 xx00 b	0011 0000 b	0100 0101 b "E" = 69 = 45h = Heating Oil (Standard)
SVHEL-4	Heizöl schwefelarm (Gasp.), Heating Oil ultralow sulfur	0011 xx00 b	0011 0000 b	0100 0111 b "G" = 71 = 47h = Heating Oil (Variant 2)
SVCMN-4	Gassammelleitung (Gasp.) VK, Common Vapour A1 products	0011 xx00 b	0001 0000 b	0000 0000 b
SVCMD-4	Gassammelleitung (Gasp.) K, Common Vapour A3 products	0011 xx00 b	0011 0000 b	0000 0000 b



Before mounting the adapter make sure that the thread and the front surface from the pipe socket is flat and free of burrs. Thread of the TAG-Adapter based on DIN ISO 228.

Use turning moment by 150 Nm to mount TAG-Adapter

FMC Technologies
F.A. Sening GmbH
D-5474 Ellenbek, Germany

Weight: _____ Date: 07.06.2006 Name: Loisen
Drawing No.: E 61.251724 Rev. A
Unchanged 23.02.07/RL

Part-No. see table

TAG-Adapter 4"

Protective note according to DIN ISO 16016

EG - Konformitätserklärung
EC - Declaration of Conformity

im Sinne der EG-Richtlinie über explosionsgeschützte Geräte
nach 94/9/EG (ATEX)
as defined by non-electrical explosion protected Equipment Directive 94/9/EC

Der Hersteller / *The manufacturer*

F.A. Sening GmbH, Regentstraße 1, D-25474 Ellerbek

erklärt hiermit, dass das (die) explosionsgeschützte(n) Gerät(e)
herewith we declare, that the explosion protected equipment

	Produktbezeichnung: <i>Product:</i>	Zündschutzart: <i>Type of protection:</i>	EG – Baumusterbescheinigung* <i>EC – Type Test Approval</i>
1.	Elektronische Geber Type: TAG 1	Ex II 2 G EEx ia IIB T4	TÜV 02 ATEX 1981

einschließlich aller Ergänzungen / including all supplements

in der gelieferten Ausführung den folgenden Sicherheitsanforderungen entspricht (entsprechen):
Corresponds to following safety requirements in the delivered implementation:

Grundlegende Normen / CENELEC: EN 50 014: 1997 + A1 + A2, EN 50 020:1994 +
Basic norms: 2002

Angewandte harmonisierte Normen, insbesondere:.....
Applied harmonized standards, in particular:

Andere angewandte Bestimmungen / EG-Richtlinien:.....
Other applied appointments / EC-Directives:

Benannte Stelle / Produktionsüberwachung: Physikalisch-Technische Bundesanstalt
Notified Body Production control PTB 99 ATEX Q001; CE 0102

Prüfungen/Überwachung/Kontrollen während der Fertigung:..... Hersteller
Examination/inspection/tests during manufacturing: *Manufacturer*

Die zugehörige Betriebsanleitung enthält wichtige sicherheitstechnische Hinweise und Vorschriften für die
Aufstellung, Inbetriebnahme, Wartung und Instandhaltung der (s) Gerät(es).
*The appropriate operator's manual contains important safety technical notes and regulations for the installation, placing into
operation, maintenance and maintenance of the equipment.*

Ort und Datum: Ellerbek, den 10.05.2006
Location and date

Geschäftsführer
General Manager



(H. Short)