

Special Documentation

QGx, FQGx, FSG6x

Returns: Source containers, gamma radiation sources



1 About this document

1.1 Document function

This document describes the return procedure for source containers and gamma radiation sources.

1.2 Symbols used

1.2.1 Safety symbols

CAUTION

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or medium injury.

DANGER

This symbol alerts you to a dangerous situation. Failure to avoid this situation will result in serious or fatal injury.

NOTICE

This symbol contains information on procedures and other facts which do not result in personal injury.

WARNING

This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in serious or fatal injury.

1.2.2 Symbols for certain types of information






This symbol indicates additional information



This symbol indicates a reference to documentation

1.2.3 Symbols in graphics

 1,  2,  3...

Indicates a series of steps

1, 2, 3,...

Indicates item numbers

A, B, C, ...

Indicates views

2 Basic safety instructions

2.1 Requirements for the personnel

Personnel involved in installation, commissioning, diagnostics, maintenance and disassembly must meet the following requirements:

- ▶ Trained, qualified specialists must have a relevant qualification for this specific function and task
- ▶ Are authorized by the plant owner/operator
- ▶ Are familiar with federal/national regulations
- ▶ Before beginning work, the specialist staff must have read and understood the instructions in the Operating Instructions and supplementary documentation as well as in the certificates (depending on the application)
- ▶ Following instructions and basic conditions

The operating personnel must fulfill the following requirements:

- ▶ Being instructed and authorized according to the requirements of the task by the facility's owner-operator
- ▶ Following the instructions in these Operating Instructions

2.2 Radiation protection


WARNING

Radiation protection

- ▶ The source container must be in the "OFF" position and secured in this position by a lock.


3 Supplementary documentation

The following documentation types are available in the Downloads section of the Endress+Hauser website (www.endress.com/downloads):


 For an overview of the scope of the associated Technical Documentation, refer to the following:

- *W@M Device Viewer* (www.endress.com/deviceviewer): Enter the serial number from nameplate
- *Endress+Hauser Operations App*: Enter the serial number from the nameplate or scan the 2D matrix code (QR code) on the nameplate


Transport container HQG61

 SD01901F/00
10287-02, documentation by Bassum (transport container manufacturer)
10287-03, documentation by Bassum (transport container manufacturer)


Type A packaging

 SD00311F/00


Transportation cask for shipping radioactive sources

 SD01316F/00


Source container FQG60

 TI00445F/00


Source containers FQG61 and FQG62

 TI00435F/00


Source container FQG63

 TI00446F/00


Source container FQG66

 TI01171F/00


Source containers QG20 and QG100

 TI00264F/00

Source container QG2000

 TI00346F/00
BA00223F/00

Source container Multiplex 9S

 SD00537F/00

Gamma radiation sources FSG60 and FSG61

TI00439F/00




Information and documentation on other source containers are available on request.

4 Returns: Source containers, gamma radiation sources


Contact the responsible Endress+Hauser sales center or the appropriate authority to find a way of returning the container within the country concerned if possible. If it is not possible to return it in the country concerned, the next steps to be taken must be agreed with the Endress+Hauser sales center/representative concerned. The destination airport for returns is Frankfurt, Germany.

4.1 Conditions


 If necessary, Endress+Hauser will provide a suitable container for return transportation.

The following conditions must be met before returning a container or source:

- Observe the safety instructions in the Operating Instructions for the source container
- An inspection certificate, no more than three months old, from an officially approved agency confirming the leak-tightness of the radioactive source must be submitted to Endress+Hauser (wipe test certificate).
- The serial number of the radioactive capsule, the type of radioactive source (Co60 or Cs137), the initial activity and the construction type of the radioactive source must be specified. These data are available in the documentation that was supplied together with the radioactive source.
- There must be no corrosion on the container, particularly at the welded seams.
- The container must not be damaged in any way.
- ON/OFF mechanism must be corrosion-free and must function properly.
- Source containers must be shipped in the OFF position.
- For shipment, the source holder must be put in the OFF position and secured with a lock.
- Label the package in accordance with the applicable IATA requirements and national regulations.
- The item must be returned in the type-tested Type A packaging.
- The checklist must be correctly completed and submitted to Endress+Hauser prior to return shipment.

 If the above mentioned conditions are met, the FQG6x source container can be returned as a Type A package. However, it must be re-labeled.

4.2 Returning source containers: FQG60, FQG61, FQG62, FQG63, FQG66

 These source containers meet the requirements of a Type A package and therefore do not require separate Type A packaging.

- Observe the safety instructions in the Operating Instructions for the source container
- It is preferable to use the return packaging kits and labeling kits for return transportation.
- Prior to returning the FQG6x as a Type A package, the checklist must be completed and sent to Endress+Hauser.

4.2.1 Return packaging kit

Return packaging kit for source containers including labeling kit

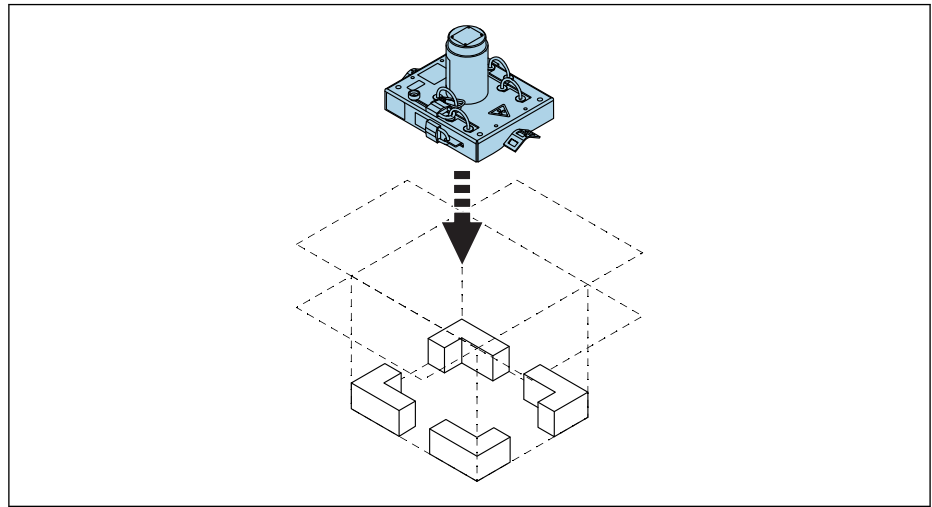
- FQG60
Order number: 71341814
- FQG61/62/63
Order number: 71341832
- FQG66
Order number: 71341833



Apply the labeling kit to the package in accordance with the applicable IATA requirements and national regulations.

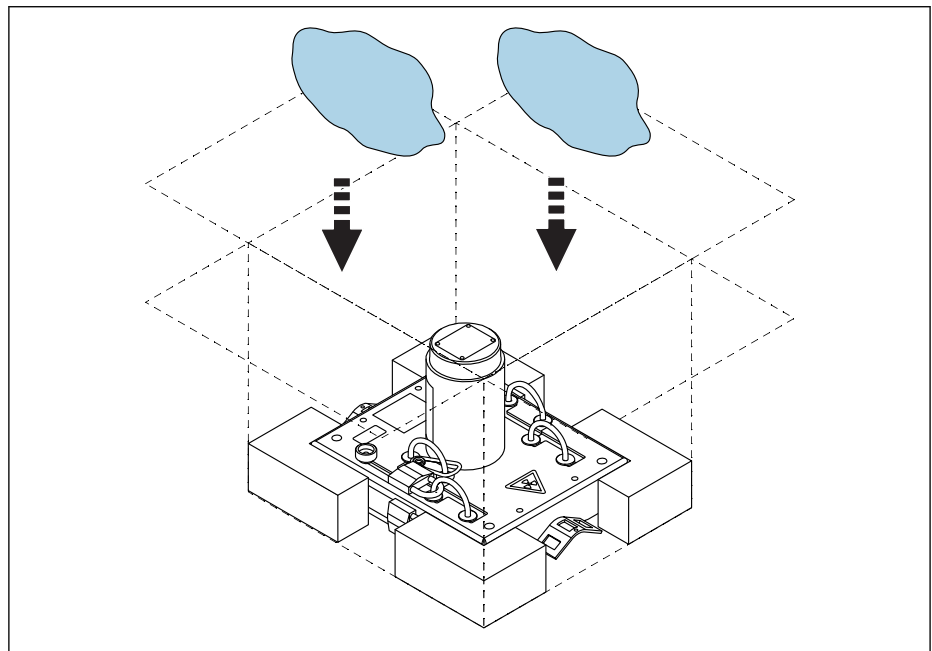
4.2.2 Packaging instructions for FQG60 source container with packaging kit (71341814)

1. Place source container in cardboard packaging.



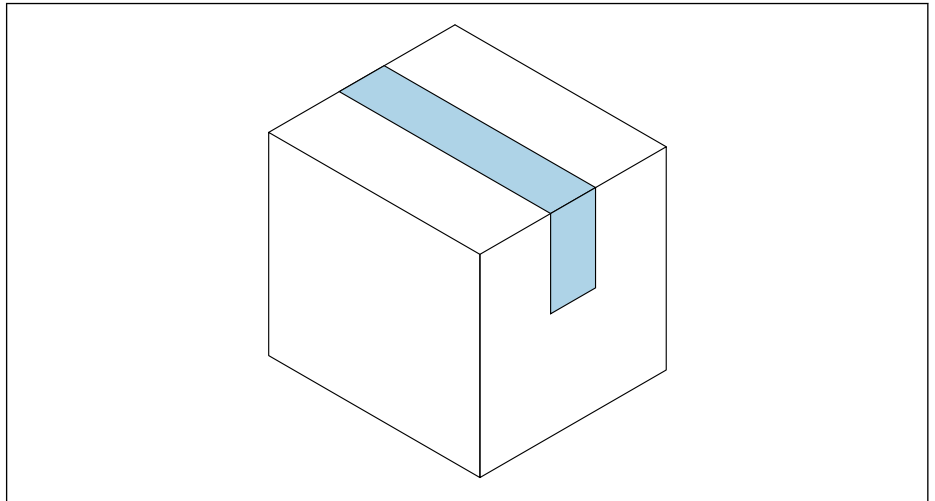
A0034741

2. Secure source container using packaging foam pieces.



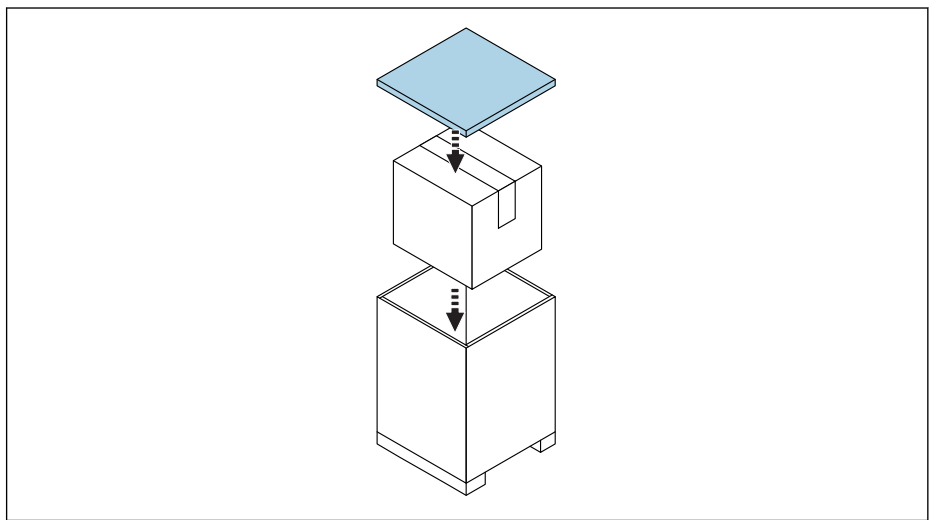
A0034742

3. Seal the cardboard box with adhesive tape.



A0034743

4. Place the cardboard box in the wooden crate and close the crate.



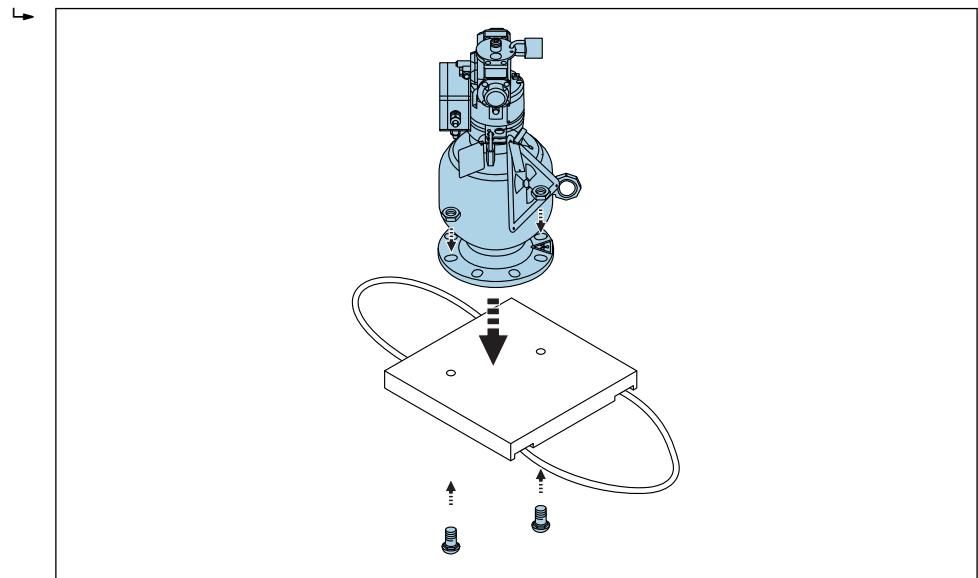
A0034744

5. Label the package.

- Apply the labeling kit provided to the package in accordance with the applicable IATA requirements and national regulations.

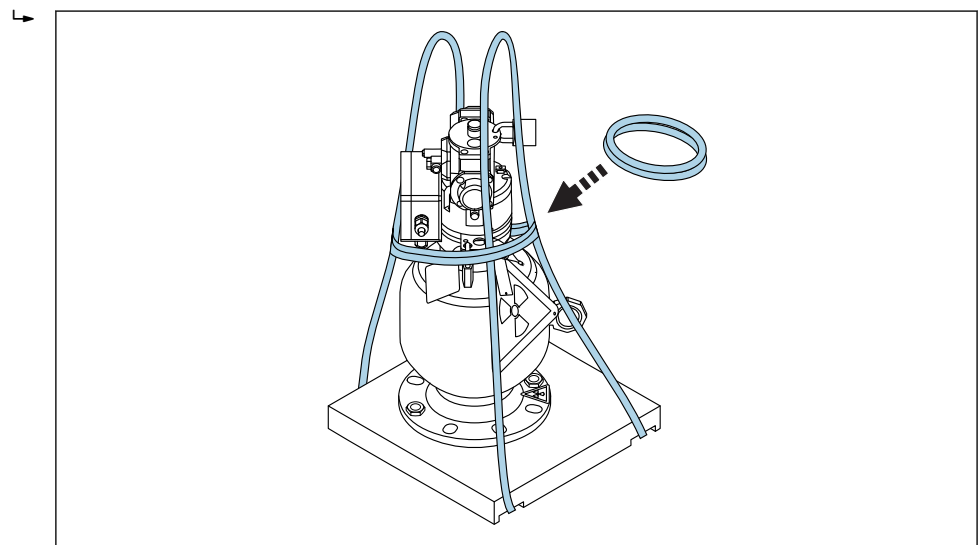
4.2.3 Packaging instructions for FQG61, FQG62, FQG63 source containers with packaging kit (71341832)

1. Mount source container on baseplate using screws and nuts.



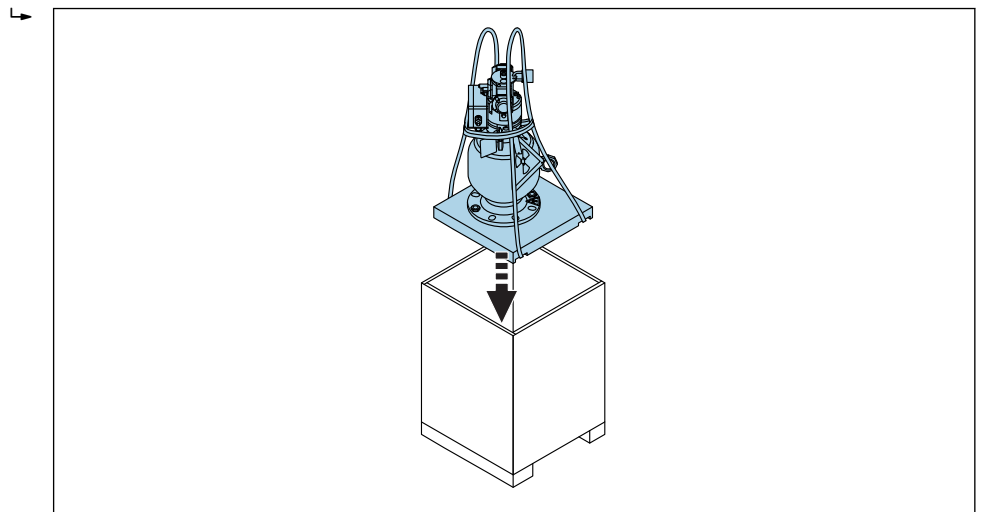
A0034745

2. Use the short harness to secure the top of the source container that is attached to the base plate in order to guard against tipping when lifted.



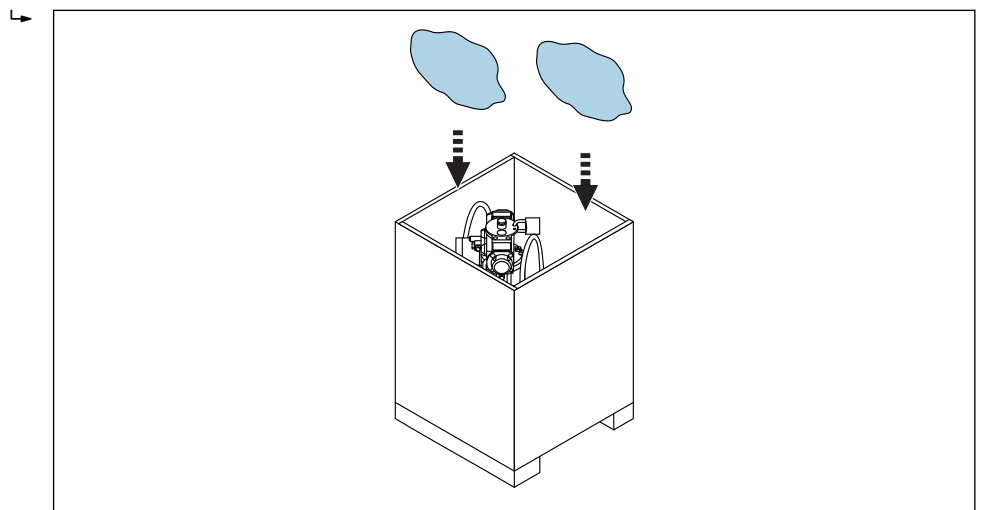
A0034746

3. Place source container in wooden crate.



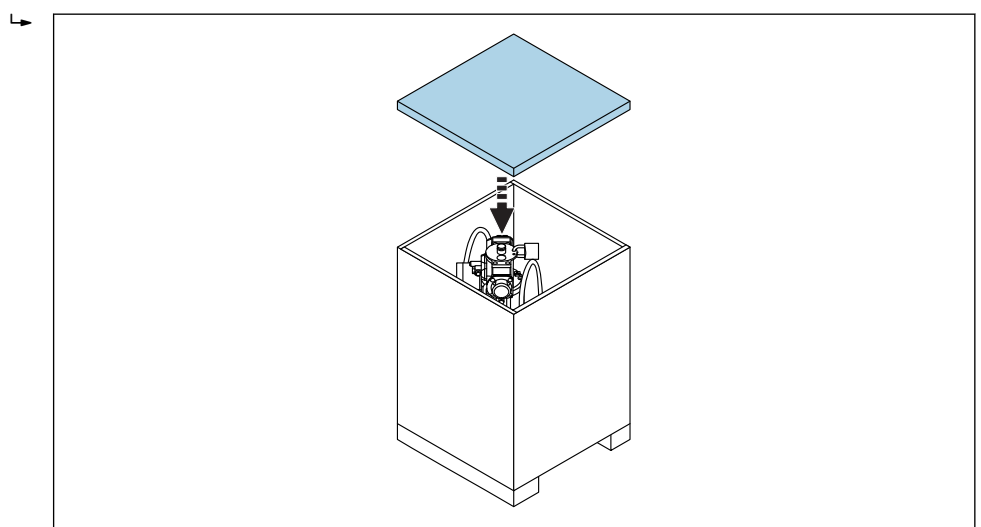
A0034747

4. Secure source container using packaging foam pieces.



A0034806

5. Close wooden crate.

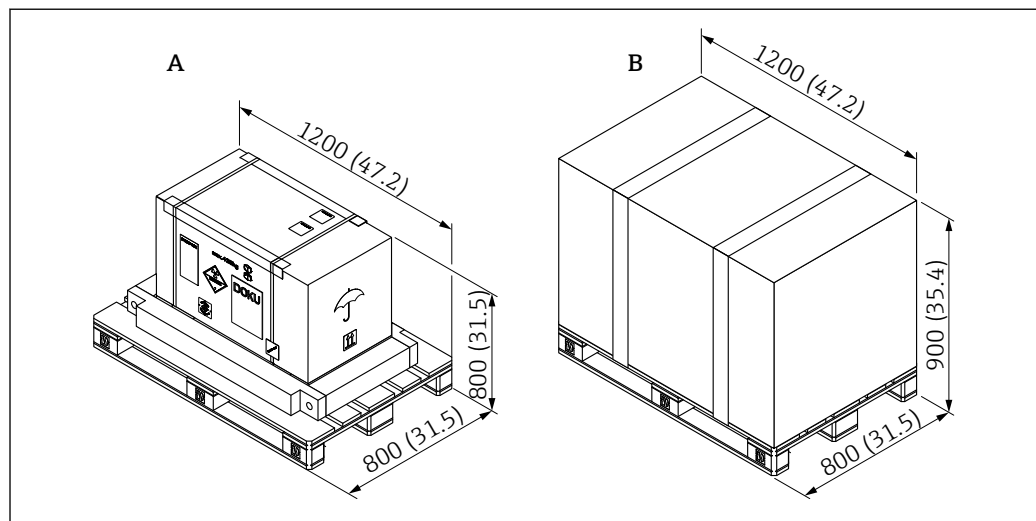


A0034748


6. Label the package.

- Apply the labeling kit provided to the package in accordance with the applicable IATA requirements and national regulations.

4.2.4 Packaging instructions for FQG66 source container with packaging kit (71341833)



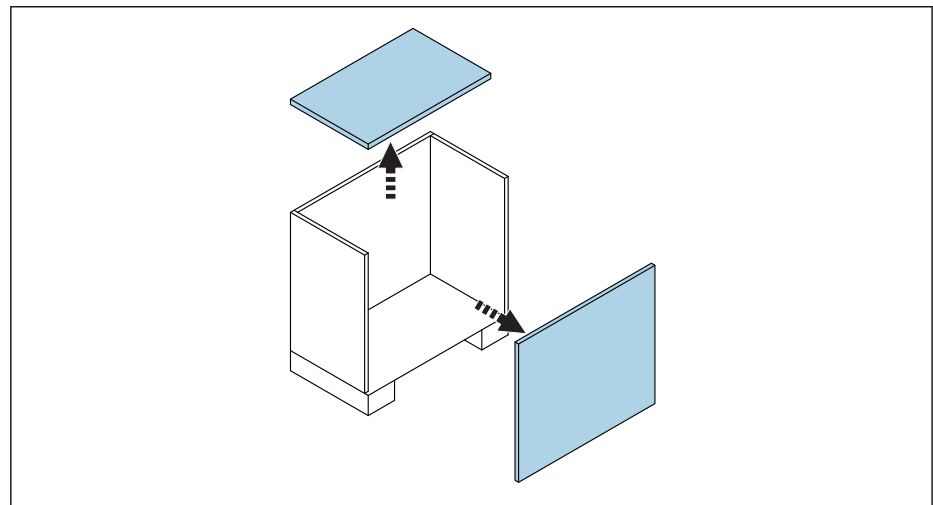
A0042981

 1 Dimensions of packaging kit (71341833). Unit of measurement mm (in)

A Secondary packaging for loaded / unloaded container

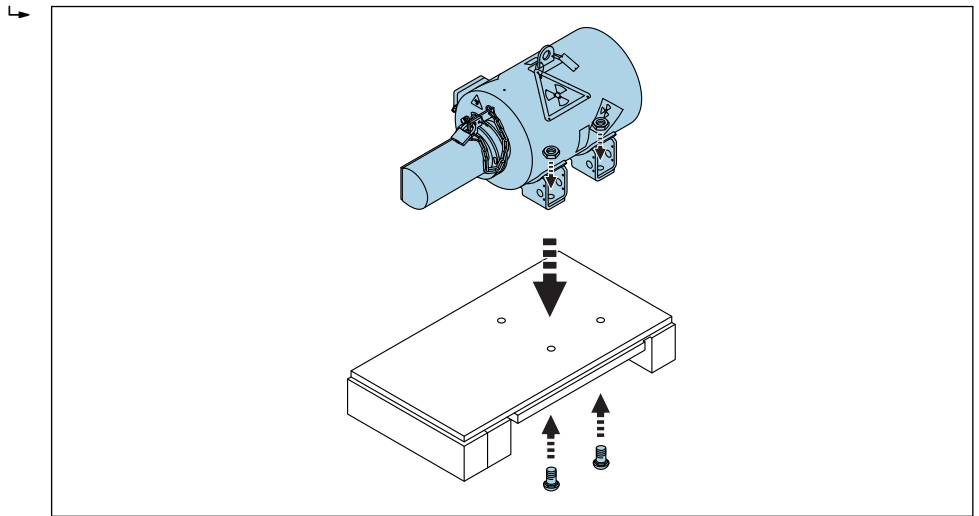
B Seaworthy secondary packaging

1. Remove the cover and side part of the wooden crate.



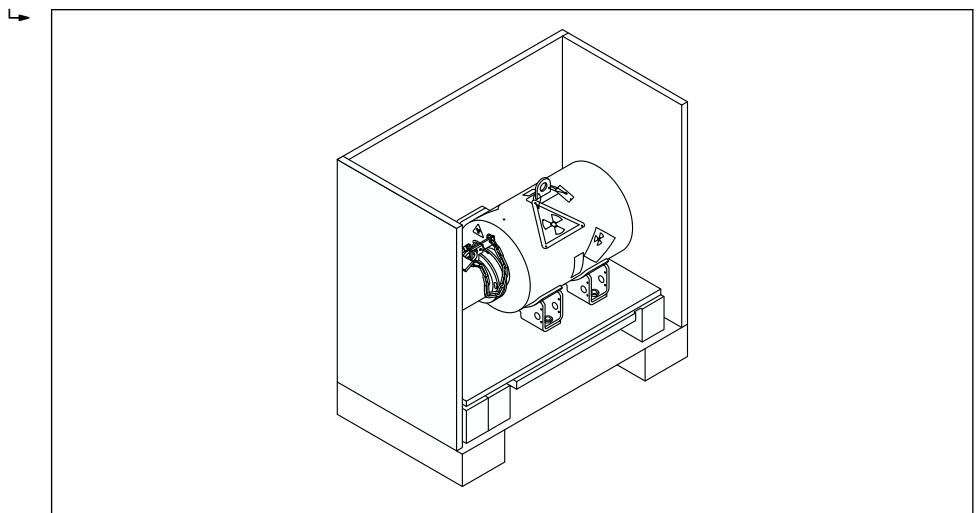
A0034749

2. Mount source container on pallet using screws and nuts.



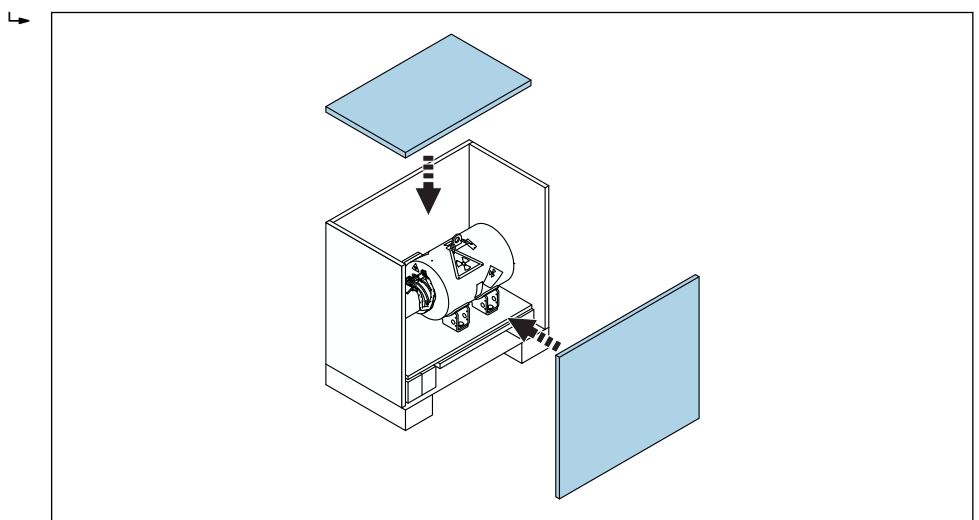
A0034750

3. Place source container with pallet in wooden crate.



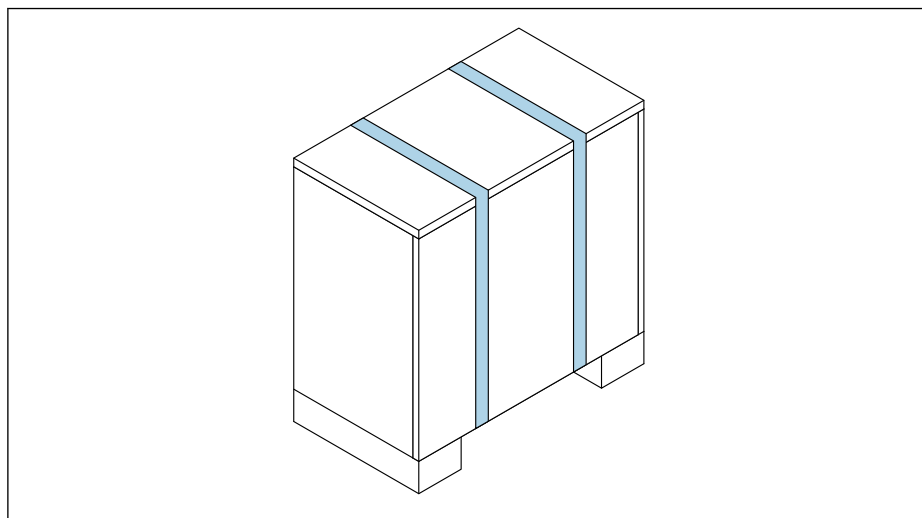
A0034751

4. Close wooden crate.



A0034752

5. Secure wooden crate on the outside with strapping tape.



A0034753

6. Label the package.



Apply the labeling kit provided to the package in accordance with the applicable IATA requirements and national regulations.

4.2.5 Returns procedure for loaded FQG6x source container

Return packaging kit

- for FQG60, order no.: 71341814
- for FQG61/62/63, order no.: 71341832
- for FQG66, order no.: 71341833

1. Using the appropriate packaging kit, package and label the source container.
2. Send to Endress+Hauser Maulburg.

4.3 Returning source containers in HQG61-S and HQG61-L transport containers

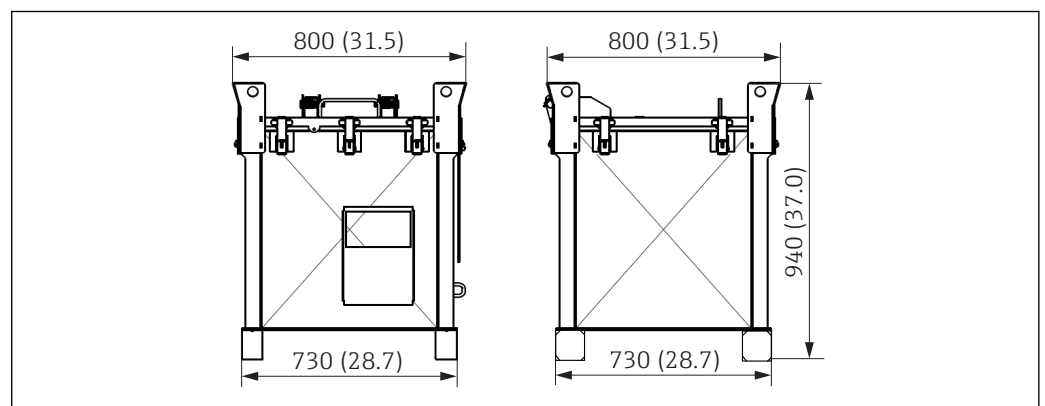
4.3.1 HQG61-S (Type A packaging) for QG020, QG100



SD01901F/00



The QG020, QG100 source containers are not Type A approved; HQG61 transport containers should therefore be used for transportation.



2 Type A packaging: HQG61-S (EB16-Q70)

Tare weight of transport container:

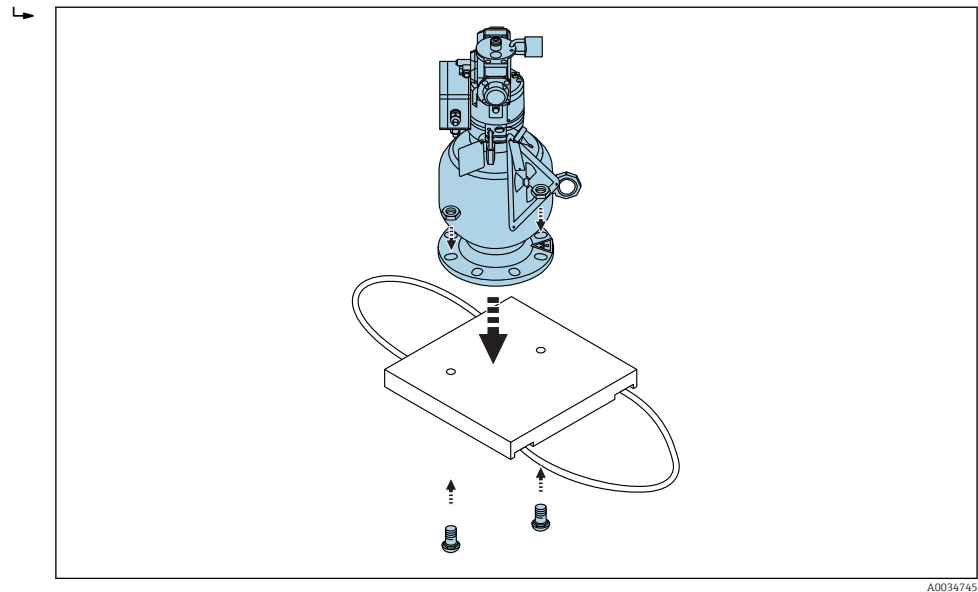
113.2 kg (249.3 lb)

Permitted total weight:

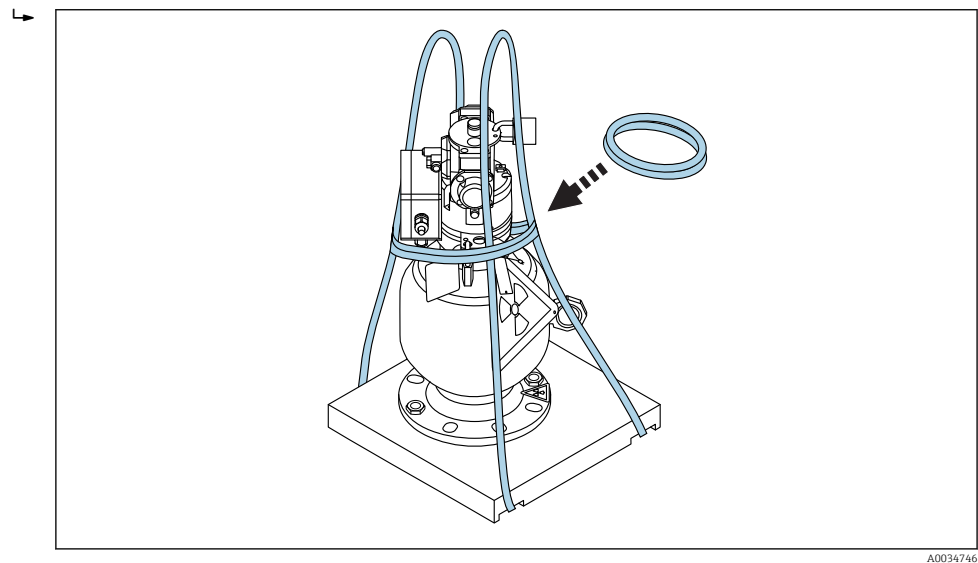
300 kg (660 lb)

4.3.2 Loading the HQG61-S transport container

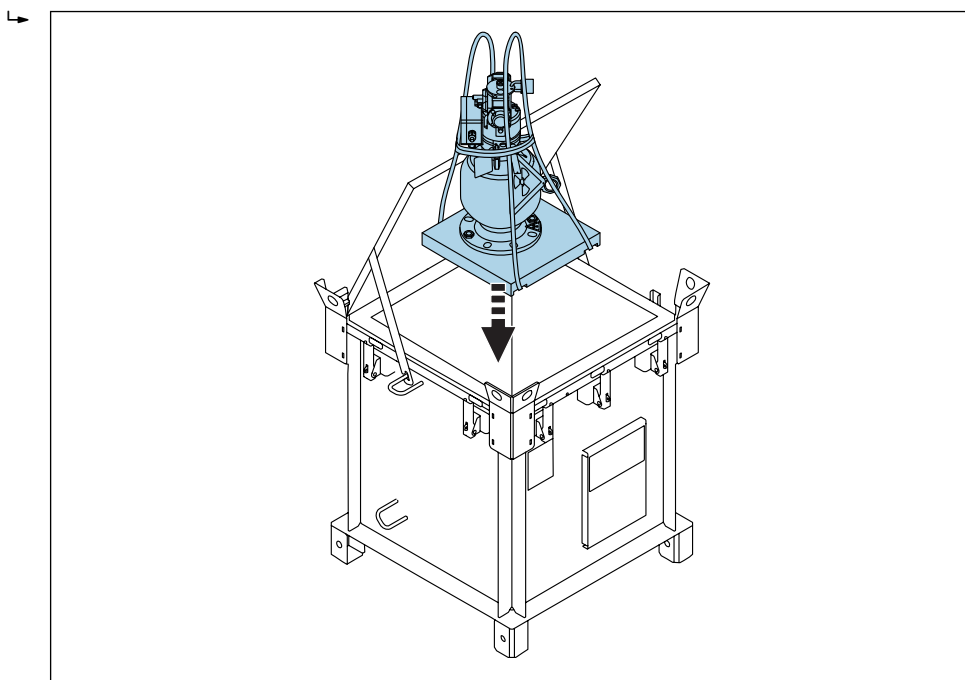
1. Mount the source container on the base plate using the screws and nuts provided.



2. Use the short harness to secure the top of the source container that is attached to the base plate in order to guard against tipping when lifted.

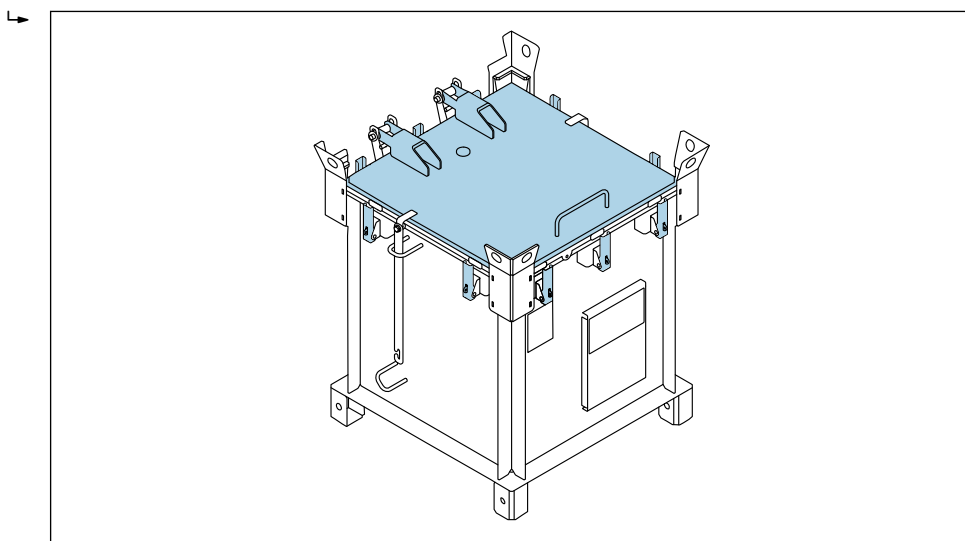


3. Place the source container into the transport container and secure it using the securing elements located inside the transport container.



A0034870

4. Closing the transport container



A0034871

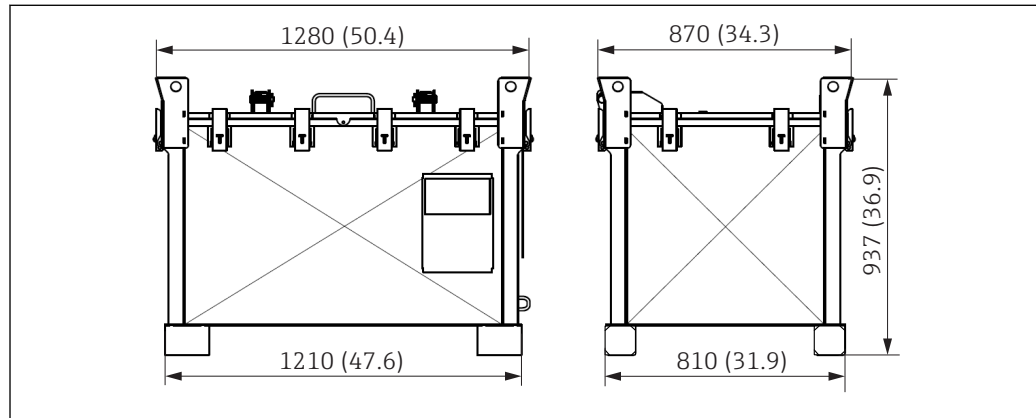
4.3.3 HQG61-L (Type A packaging) for QG2000, Multiplex 9S, other old source containers



SD01901F/00



The QG2000, Multiplex 9S source containers are not Type A approved; HQG61 transport containers should therefore be used for transportation.



A0032945

3 Type A packaging: HQG61-L (EB16-Q225)

Tare weight of transport container:

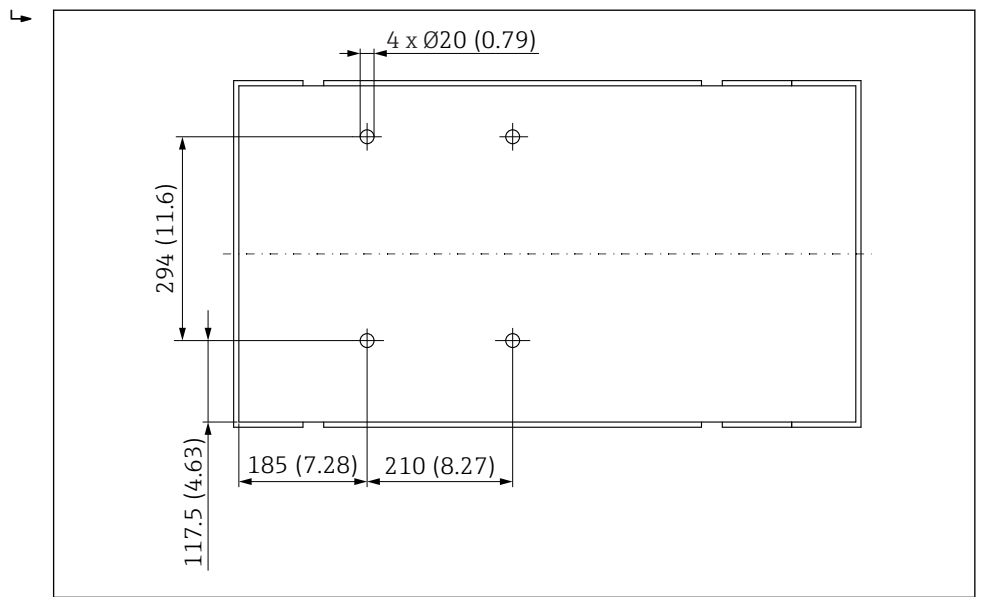
171.3 kg (377.3 lb)

Permitted total weight:

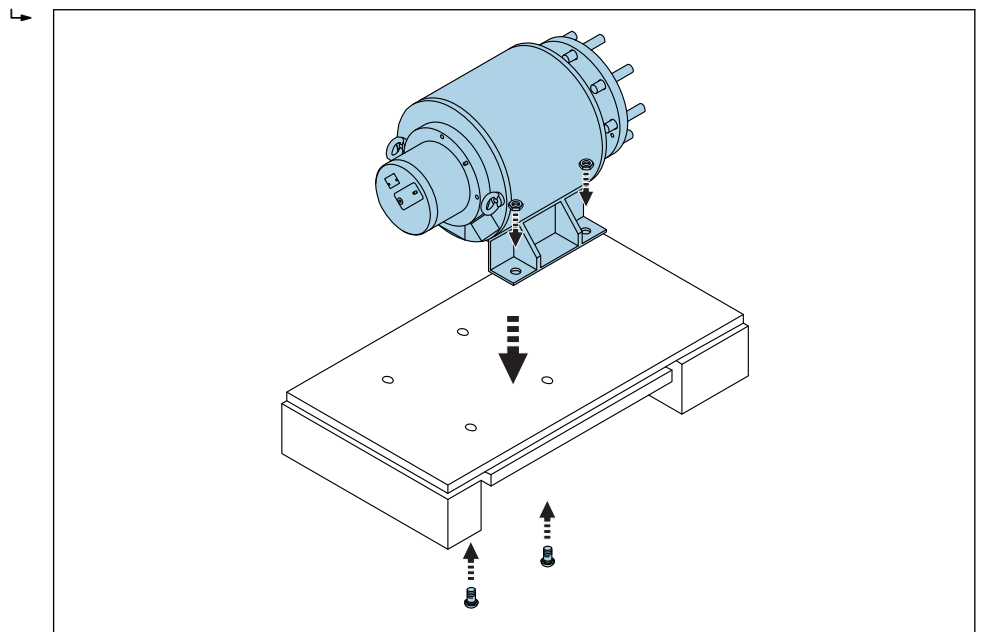
700 kg (1 541 lb)

4.3.4 Loading the HQG61-L transport container

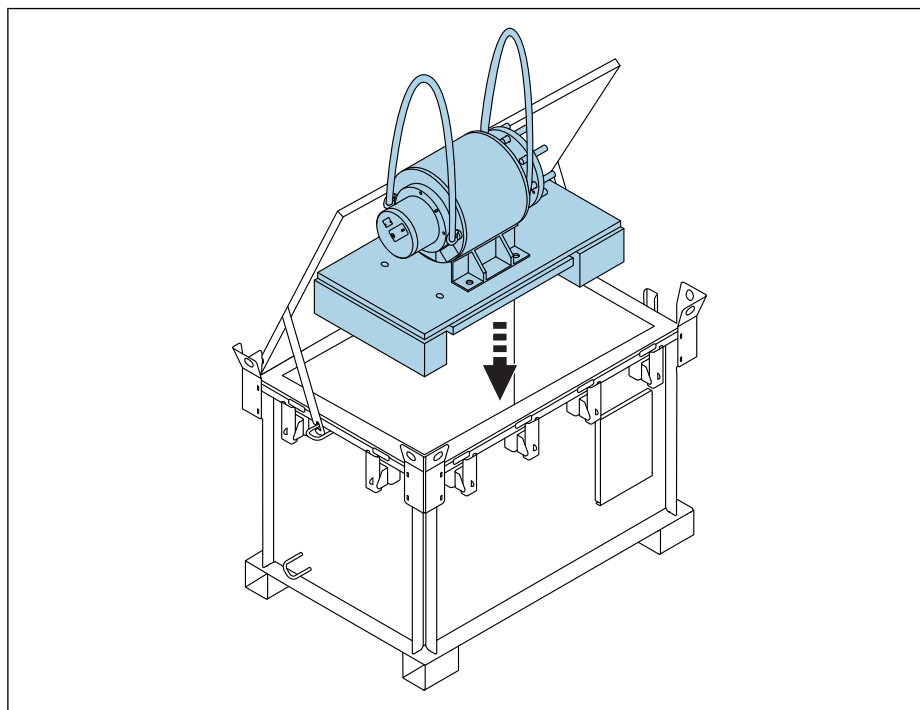
1. Drill securing holes in pallet for Multiplex 9S source container.



2. Mount the source container on the pallet using the screws and nuts provided.

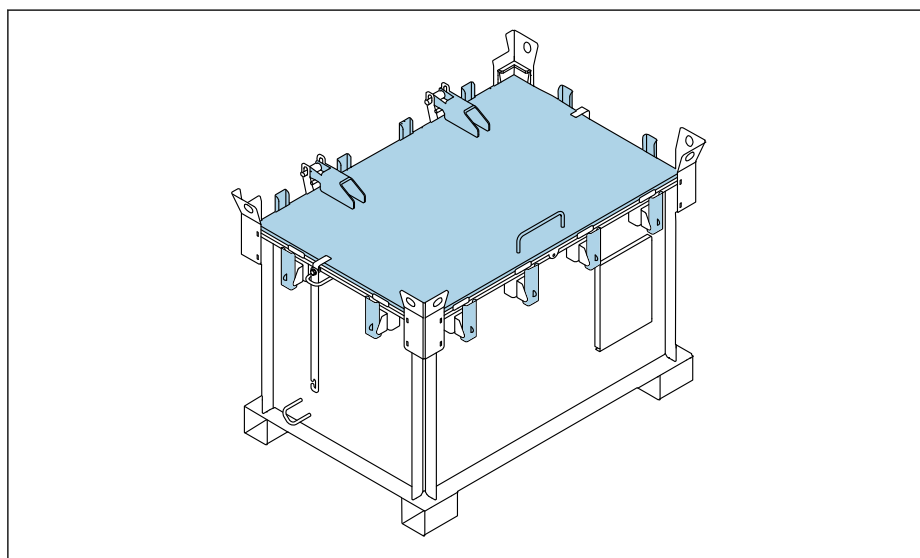


3. Place the source container into the transport container and secure it using the securing elements located inside the transport container.



A0034872

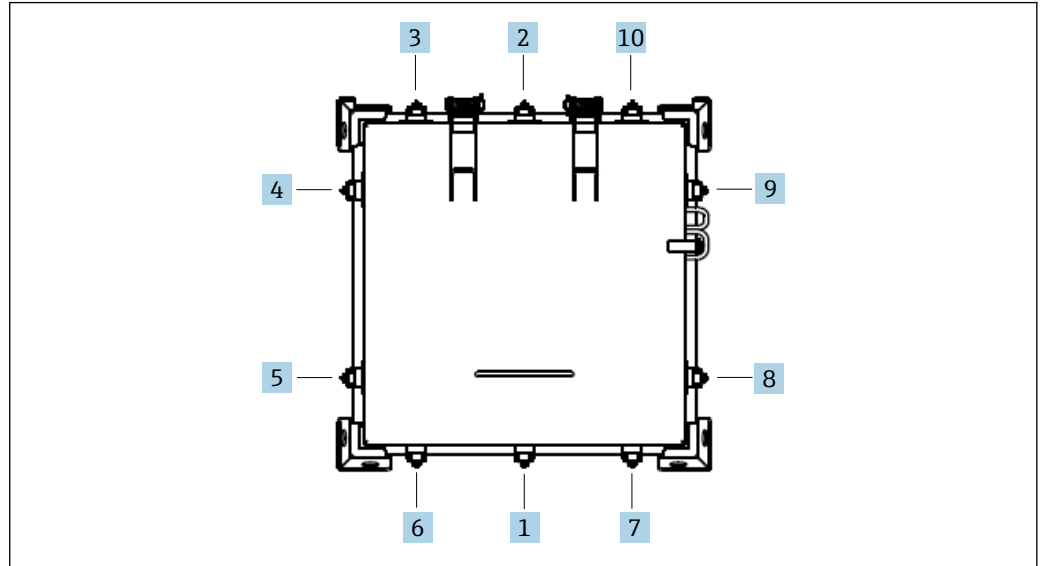
4. Closing the transport container



A0034873

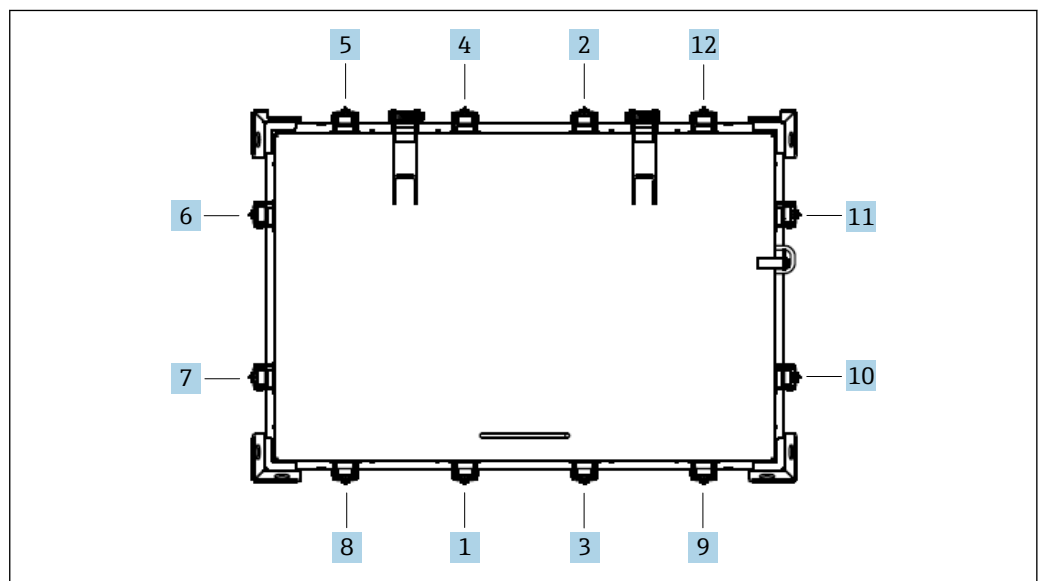
4.3.5 Closing the transport container

- The lid is closed by means of the toggle fasteners which must be fastened in the order shown below.
- As per ADR 6.4.7.3, it is mandatory for transport containers to be sealed when properly closed. It is also possible to use containers without padlocks installed.



A0032939

4 HQG61 S: Order of fastening

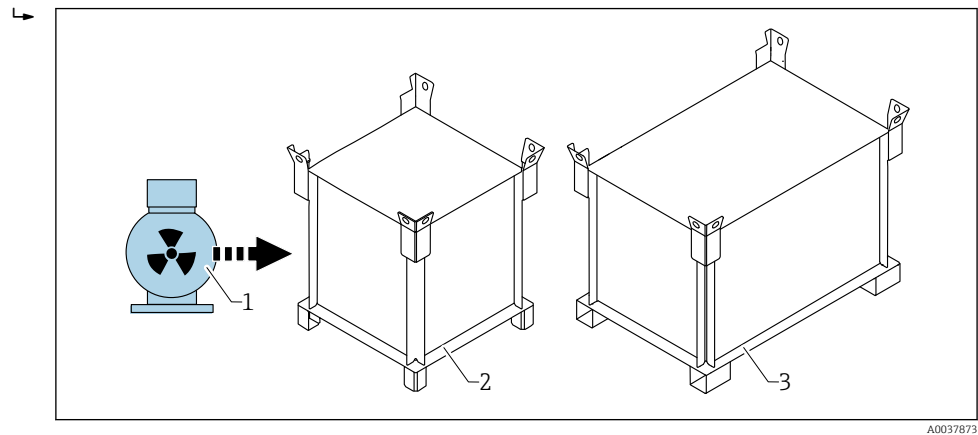


A0032940

5 HQG61 L: Order of fastening

4.3.6 Return procedure for loaded source containers in HQG61 transport container

1. Load source container into HQG61-S or HQG61-L transport container.




- 1 Source container incl. source: QG20/100/2000/Multiplex 9S/ other earlier source containers
- 2 HQG61-S for QG20/QG100 source container
- 3 HQG61-L for QG2000/Multiplex 9S source containers / other earlier source containers / several QG20 or QG100 containers

2. Rental of HQG61 transport container, order no.: 71348709. Must always be included in the order. Once the transport container has been returned, a credit note is issued.
3. Send to Endress+Hauser Maulburg.

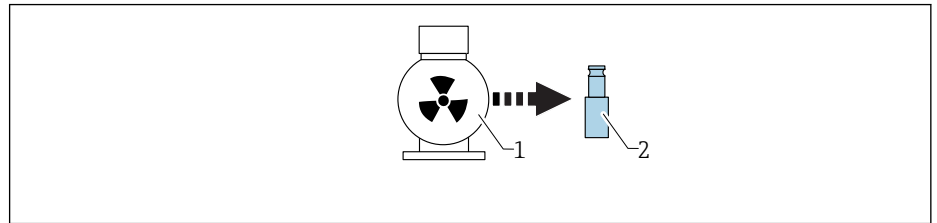
 Label in accordance with applicable IATA requirements and national regulations.

Additional information

 SD01901F

4.4 Return procedure for FSG60 and FSG61 gamma radiation sources

1. Remove source FSG60/FSG61 from source container.

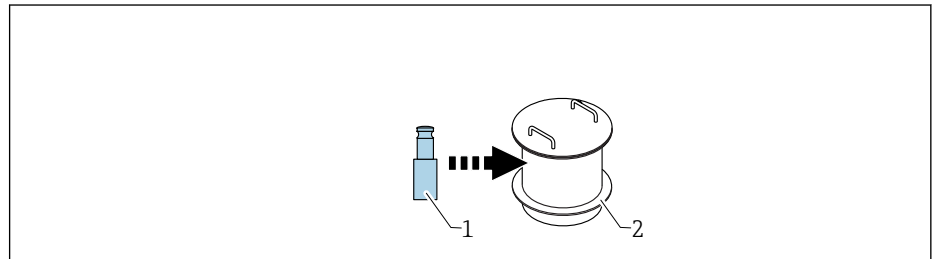


A0037859

- 1 Source container: QG20/100/2000/Multiplex 9S, FQG60/61/62/63/66
- 2 Source: FSG60/FSG61

2. Depending on activity, place FSG60/FSG61 source in the relevant transportation cask.

- HQG60-S: max. 0.37 GBq (^{60}Co), max. 18.5 GBq (^{137}Cs)
- HQG60-L: max. 4.81 GBq (^{60}Co), max. 888 GBq (^{137}Cs)
- HQG60-X: max. 37 GBq (^{60}Co), max. 888 GBq (^{137}Cs)



A0037860

- 1 Source: FSG60/FSG61
- 2 Transportation cask: HQG60-S/HQG60-L/HQG60-X

3. Rental of transportation cask HQG60, order no.: 71348708. Must always be included in the order. Once the transportation cask has been returned, a credit note is issued.
4. Send to Endress+Hauser Maulburg.



Label in accordance with applicable IATA requirements and national regulations.

Additional information



TI00439F



SD01316F/00

5 Checklist



Prior to return shipment,

complete the checklist correctly and send it to Endress+Hauser.

Company

- Name: _____
- Address: _____
- Name of inspector and role: _____

Source container

- Order code: FQG6_ - _____
- Serial number of source container: _____

Radiation source

- Isotope: ☐ ^{137}Cs
Isotope: ☐ ^{60}Co
- Serial number of source: _____
- Nominal activity (MBq / GBq): _____
- Date of manufacture: _____

Checks

- The safety instructions in the Operating Instructions for the source container have been observed.
☐ yes / ☐ no
- An inspection certificate, no more than three months old, from an officially approved agency confirming the leak-tightness of the radioactive source has been submitted to Endress+Hauser (wipe test certificate).
☐ yes / ☐ no
- There is no corrosion on the container, particularly at the welded seams.
☐ yes / ☐ no
- The container is not damaged:
☐ yes / ☐ no
- ON/OFF mechanism is corrosion-free and functions in accordance with the Operating Instructions:
☐ yes / ☐ no
- Source container is shipped in the OFF position:
☐ yes / ☐ no
- For shipment, the source holder is put in the OFF position and secured with a lock.
☐ yes / ☐ no
- The transport index has been determined:
☐ yes / ☐ no
- The package has been labeled in accordance with the applicable IATA requirements and national regulations:
☐ yes / ☐ no
- The item is being returned in the type-tested Type A packaging:
☐ yes / ☐ no
- The checklist was completed correctly and submitted to Endress+Hauser prior to return shipment.
☐ yes / ☐ no

Date: _____

Signature: _____

6 Manufacturer declaration Type A packaging

Eignungsbescheinigung Manufacturer Declaration

Endress+Hauser 
People for Process Automation

Company Endress+Hauser SE+Co. KG, Hauptstraße 1, 79689 Maulburg

erklärt als Hersteller, dass das folgende Produkt
declares as manufacturer, that the following product

Product **Strahlenschutzbehälter/ Radiation Source Container**
Typ FQG60, FQG61, FQG62, FQG63, FQG66

den Anforderungen über die internationale Beförderung gefährlicher Güter ADR/RID (2020) und IATA/DGR (2020) an ein Typ A Versandstück entspricht. Die Strahlenschutzbehälter sind für den Transport von umschlossenen radioaktiven Stoffen und von umschlossenen radioaktiven Stoffen in besonderer Form vorgesehen.

Die Eignung als Typ A Versandstück wurde durch eine Baumusterprüfung nach den Anforderungen von IAEA-TS-R-1 (2005) Kapitel 6 nachgewiesen und in den internen Dokumenten 961000072, 960009590, 961000169, 961000170 niedergelegt.

Die Qualitätssicherung während der Entwicklung, der Herstellung und der Prüfung der Strahlenschutzbehälter erfolgt gemäß BAM-GGR016 Rev. 0 vom 10. Nov. 2014. Der Ablauf ist im Qualitätssicherungsprogramm für Typ A Versandstücke (Dokumenten-ID GL_0372) beschrieben

confirms the requirements on international transportation of hazardous materials ADR/RID (2020) and IATA/DGR (2020) for Type A packaging and is suitable for the transportation of sealed radioactive material and sealed special form radioactive material.

The qualification as type A packaging is tested by an type approval according to IAEA-TS-R-1 (2005) section 6 and documented by the internal reports 961000072, 960009590, 961000169, 961000170.

The quality management during development, manufacturing and testing of the source containers is following the requirements of TRV006 and BAM-GGR016 Rev. 0 from 2014.Nov.10. It is described in the quality program for Type A packaging (document-ID GL_0372).

Maulburg, 4-März-2020
Endress+Hauser SE+Co. KG



i.A. Dr. Karl Barton
Gefahrgutbeauftragter
Safety advisor for the
transport of dangerous goods

HE_00042_03.20

1/1

A0037353

7 Certificate of suitability for HQG60

Hinterm Bahnhof 3, 27211 Bassum
Tel.: (0 42 41) 80 28-0, Fax 80 28-20
e-mail: eisenwerk@ewb-bassum.de
www.eisenwerk-bassum.de



Certificate of Conformity

No.: EWB-EB-TV-T40-T75-T110-Rev.13-E

For packages not requiring competent authority approval for the transport of radioactive material.

This is to confirm that the type of package as given below complies with the applicable requirements, see part 1 of this Certificate of Conformity.

Testing specification: The transport regulations mentioned in Part 1 for the transport methods approved by us

Package: **Transport Container T40, T75, T110, T130-W,**
see Part 2 of this Certificate of Conformity

Package type: Type-A, Industrial package IP-2 and IP-3

Conveyances: Road, railway, air, sea

Contents: Radioactive material as defined in Part 3

Validity: Until the testing specifications are amended.

Emergency measures: See written instructions of the sender.

Responsibility of the sender:

It is the responsibility of the sender to ensure that all requirements regarding Parts 3 to 9 of this Certificate of Conformity are met before the transport commences.

Amendments:

Without an EWB approval based on this Certificate of Conformity, no changes to the package, the specifications of the contents or instructions as mentioned are admissible.

The safety proof regarding the compliance of the type of package design with the regulations mentioned has been tested by the manufacturer.

The maximum admissible total weight of the package, including the contents is **450kg**.

This certificate does not release the sender from the necessity to observe possible additional instructions of the respective country affected by this transport.

Bassum, 12. December 2014

H. Grunau
Managing Director, EWB

H. Rüchel
Works Inspector, EWB

Refer to protection notice ISO 16016. Schutzvermerk ISO 16016 beachten.

Page 1 of 5

E:\QSP4_EWB-QSP-EB1-EB4\40_TL-T40-T110\40.6 Eignungsbescheinigung\EWB-EB-TV-T40-T75-T110-Rev-13-E.doc

A0038351

Hinterm Bahnhof 3, 27211 Bassum
 Tel.: (0 42 41) 80 28-0, Fax 80 28-20
 e-mail: eisenwerk@ewb-bassum.de
 www.eisenwerk-bassum.de



Part 1: Listing of the transport regulations the type approval is based on

[1] Gefahrgutverordnung Straße, Eisenbahn und Binnenschifffahrt (GGVSEB)

Verordnung über die innerstaatliche und grenzüberschreitende Beförderung gefährlicher Güter auf der Straße, mit Eisenbahnen und auf Binnengewässern (Gefahrgutverordnung Straße, Eisenbahn und Binnenschifffahrt – GGSEB) i.d.F. der Bek. vom 22.1.2013 (BGBl. I S. 110)

[2] ADR 2013 - Agreement for the Transport of the Dangerous Goods by Road (ADR)

Europäisches Übereinkommen vom 30. September 1957 über die internationale Beförderung gefährlicher Güter auf der Straße (BGBl. 1969 II S. 1489), in der Fassung der Bekanntmachung vom 03.06.2013 (BGBl. II 2013 S.648 und Anlagenband, ber.2014 S.237).

[3] RID 2013 - Regulations concerning the international carriage of dangerous goods by rail (RID)

vom 16. November 1993 (BGBl. II, 1993 S. 2044 und Anlagenband) in der Fassung der Bekanntmachung vom 16.5.2008 (BGBl. II S.475), zuletzt geändert durch V v. 25.05.2013 (BGBl. Teil II 2013 S. 562)

[4] Specific Safety Requirements No. SSR-6

International Atomic Energy Agency (IAEA) Regulations for the safe transport of radioactive material, 2012 edition, Specific Safety Requirements No. SSR-6, Vienna 2012

[5] IATA dangerous goods regulations 2014

International Air Transport Association, Gefahrgutvorschriften (IATA-Beschluss 618 Anlage "A"), erstellt im Einvernehmen mit der ICAO, 55. Ausgabe

[6] IMDG-Code 2012

IMDG-Code 2012 inkl. Amdt. 36-12 - International Maritime Dangerous Goods Code

Part 2: Description of the package

The package consists of steel / steel plate, shown on the drawing:

Type	Drawing no.	Parts list no.
Transport container T40	13-0985-000-01	ST13-0985-000-01
Transport container T75	13-0984-000-01	ST13-0984-000-01
Transport container T110	13-0988-000-01	ST13-0988-000-01
Transport container T110-EZ with inliner and garage	EB1-T110-500-00	EB1-T110-500-00
Transport container T130-W	11-0845-000-0	St11-0845-000-0.

Refer to protection notice ISO 16016. Schutzvermerk ISO 16016 beachten.

Page 2 of 5

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Part 3: Admissible contents:

- Solid, low level radioactive material of class 7 admissible according to ADR 2.2.7 for Type IP-2, IP-3 and Type-A packages. The user of the package must classify the intended contents according to the applicable regulations.
- Type A packages shall not contain activities greater than either of the following: For special form radioactive material — A1; For all other radioactive material — A2.
- Except for gases.
- Except for liquids.
- Except for materials that require a package with an approval by a competent authority.
- Materials with low specific activity (LSA ...) provided these correspond to the restrictions according to ADR 2.2.7 for IP-2, IP-3 and Type A packages.
- Surface contaminated objects (SCO ...) provided these correspond to the restrictions according to ADR 2.2.7 for for IP-2, IP-3 and Type A packages.
- Contents to be allocated to an industrial package type IP-2, IP-3 and Type A according to ADR 4.1.9.
- The limits of the applicable regulations (see part 1) must be observed.
- Contents containing fissile material up to a quantity permitted according to ADR 6.4.11.
- Solid and mobile materials must be packed in the leak-tight containment according to the User Manual /1/.
- The contents must be compatible with the leak-tight containment.
- The contents must not contain additional dangerous properties within the meaning of the dangerous goods regulations.
- Further the requirements of the applicable regulations for Type A and IP-packages (see part 1) are to be adhered to.

Part 4: Quality assurance

Planning, type approval, manufacturing and certification of the package are subject to the constant inspection by our quality assurance system consisting of the quality manual no.: EWB-QMH and the associated quality assurance program no.: EWB-QSP-EB1-EB4 including the type list. It is the users responsibility to perform the operation of the package according to the instructions of the User Manual /1/.

Operation, transport and transport-related stay must be performed by the user according to an appropriate quality assurance system to ensure that the conditions of this certificate as well as the national and international Dangerous Goods Regulations to be applied are met. For this QA system exclusively the user of the package is responsible.

Refer to protection notice ISO 16016. Schutzvermerk ISO 16016 beachten.

Page 3 of 5

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Part 5: Loading

The loading must be performed according to the instructions of the User Manual /1/.
If necessary any additional shielding of the package must be released by EWB.

Part 6: Measures prior to the transport

Prior to the transport, the measures as specified in the User Manual /1/ must be carried out. Further instructions of the applicable regulations (see part 1) are to be observed.
The user must ensure that the package is marked according to the User Manual /1/ and the regulations (see part 1) applicable at the time of the transport and that the package is identified and labelled according to its contents.

Part 7: Periodic inspections

During every loading process, the inspections must be performed as specified in the User Manual /1/.

The periodic inspections specified in the User Manual /1/ must be performed by the user within the specified intervals.

Part 8: Emergency measures

Exceeding the known regulations and emergency measures, no special measures are required. This does not release the sender from his obligation to take precautions regarding emergency events. During the transport, make sure to carry the written instructions according to ADR / RID and further applicable regulations.

Part 9: Others

Requirements resulting from other legal standards, directives and other definitions (e.g. approval-related specifications, interim storage or final storage condition) are not affected by this certificate.

This certificate does not release the user of this package from the obligation to meet own stipulations regarding the quality assurance and monitoring concerning the operation of the package.

Part 10: Applicable documents

/1/ User Manual no. EWB-HA-TV-T40-75-110 Rev.5

For the Transport Container T110-EZ including inner container and garage, drawing no. EB-T110-500-00, consider Gebrauchsanweisung MultiSource HDR Afterloader, Nr. TD09_099, current revision (available from E&Z Bebig GmbH, Berlin).

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

Addendum:

Updating also of the documents contained in the documentation must be taken into account by the sender of the package prior to every transport or during periodic inspections. The procurement of this information must be provided by the sender.

Remarks:

The sender represents the user or other users.

Release note

13	12.December 2014	H. Rüchel 	H. Grunau 
Revision	Date	Issued by Name, Signature	Checked and approved by Name, Signature

8 Certificate of suitability for HQG61

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Certificate of Conformity

No.: EWB-EB-EB16-Q70-Q225-Rev.00-E

For packages not requiring competent authority approval for the transport of radioactive material.

This is to confirm that the type of package as given below complies with the applicable requirements, see part 1 of this Certificate of Conformity.

Testing specification: The transport regulations mentioned in Part 1 for the transport methods approved by us.

Package: **Transportcontainer EB16-Q70, EB16-Q225**
 See part 2 of this Certificate of Conformity.

Package type: Type-A, IP-2 package, IP-3 package

Contents: Low level radioactive material of class 7 as defined in Part 3.

Conveyances: Road, rail, sea, air

Validity: Until the testing specifications are amended.

Emergency measures: See written instructions of the sender.

Responsibility of the sender:

It is the responsibility of the sender to ensure that all requirements regarding Parts 3 to 9 of this qualification certificate are met before the transport commences.

Changes:

Without an EWB approval based on this certificate, no changes to the package, the specifications of the contents or instructions mentioned are admissible.

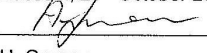
The safety proof regarding the compliance of the type of package design with the regulations mentioned has been tested by the manufacturer.

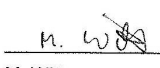

The maximum admissible total weight of the package, including the contents is

- EB16Q-70 :300 kg
 - EB16-Q225 :700 kg

This certificate does not release the sender from the necessity to observe possible additional instructions of the respective country affected by this transport.

Bassum, 21st October 2016


 H. Grunau
 Managing Director, EWB

 
 M. Witt
 Works Inspector, EWB

Refer to protection notice ISO 16016. Schutzvermerk ISO 16016 beachten.

Page 1 of 4

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Part 1: Listing of the transport regulations the type approval is based on

/1/ Gefahrgutverordnung Straße, Eisenbahn und Binnenschifffahrt (GGVSEB)

Verordnung über die innerstaatliche und grenzüberschreitende Beförderung gefährlicher Güter auf der Straße, mit Eisenbahnen und auf Binnengewässern (Gefahrgutverordnung Straße, Eisenbahn und Binnenschifffahrt – GGSEB) i.d.F. der Bek. vom 30.05.2015.

/2/ ADR 2015 - Agreement for the Transport of the Dangerous Goods by Road (ADR)

Europäisches Übereinkommen vom 30. September 1957 über die internationale Beförderung gefährlicher Güter auf der Straße (BGBl. 1969 II S. 1489), in der Fassung der Bekanntmachung vom 17.04.2015.

/3/ Specific Safety Requirements No. SSR-6

International Atomic Energy Agency (IAEA) Regulations for the safe transport of radioactive material, 2012 edition, Specific Safety Requirements No. SSR-6, Vienna 2012

/4/ BAM-GGR 016

Maßnahmen zur Qualitätssicherung von Verpackungen nicht zulassungspflichtiger Bauarten für Versandstücke zur Beförderung radioaktiver Stoffe, Revision 0 vom 10.11.2014

Part 2: Description of the package

The package consists of steel as shown on drawing no.:

- 16-1290-100-00 Transportcontainer EB16-Q70
- 16-1290-300-00 Transportcontainer EB16-Q225

and the associated parts lists.

Part 3: Admissible contents:

- The packagings are only suitable for the transport of lead-coated containers in which there are contaminated, radioactive sources of radiation.
- The packaging is equipped with the filter: TRUVENT filter type MN0901765-NPX-S, power > 99.97% of the particles between 0.2 and 0.5µm are retained. Contents with a particle size <500µm must not be transported.

Above-mentioned content must also adhere to the following, where applicable:

- Solid radioactive material of class 7 admissible according to ADR 2.2.7 for Type A and IP-2, IP-3 packages. The classification shall be chosen by the user of the package according to the intended use or contents conform to the transport regulations.
- Except for gases. Except for liquids.
- Except for contents that are requiring packages with an approval by a competent authority.
- Surface contaminated objects (SCO ...) provided these correspond to the restrictions according to ADR 2.2.7 for Type-A and for IP-2, IP-3 packages.

Refer to protection notice ISO 16016. Schutzvermerk ISO 16016 beachten.

Page 2 of 4

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- Contents to be allocated to a Type-A package and an industrial package type IP-2, IP-3 according to ADR 4.1.9.
- The allowable limits of the applicable regulations (see part 1) must be met.
- Contents containing fissile material up to a quantity permitted according to ADR 6.4.11.
- Solid and free-flowing materials must be packed in the tight containment according to the user manual /1/.
- The contents must be compatible with the leak-tight containment.
- The ingredients must not contain additional dangerous properties within the meaning of the dangerous goods regulations.
- Mechanical or chemical interactions of the contents with the transport container shall be checked by the user and shall be agreed with EWB where appropriate.

Part 4: Quality assurance

Planning, type approval, manufacturing and certification of the package are subject to the constant inspection by our quality system consisting of the quality management manual no.: EWB-QMH and the associated quality management plan no.: EWB-QSP-EBQ.

For the use of the transport container the instructions of the user manual /1/ must be observed. Application, transport and transport-related stay must be performed by the user within an appropriate quality system to ensure that the conditions of this certificate as well as the national and International Dangerous Goods Regulations to be applied are met. For this QA system exclusively the user of the package is responsible.

Part 5: Loading

The loading must be carried out according to the definition of the user manual /1/. If additional shielding should be necessary this must be designed by EWB.

Part 6: Measures prior to the transport

Prior to the transport, the measures must be taken as specified in the user manual /1/.

The user must ensure that the package is marked according to the specifications of the regulations applicable at the time of the transport and identified and labelled according to its contents.

Part 7: Periodic inspections

Periodic inspections are not applicable due to the restricted lifetime of three years, starting from the day of acceptance by EWB. However, the inspections before loading and during storage according to User manual apply.

Part 8: Emergency measures

Exceeding the known regulations and emergency measures, no special measures are required. This does not release the sender from his obligation to take precautions regarding emergency events. During the transport, make sure to carry the written

Refer to protection notice ISO 16016, Schutzvermerk ISO 16016 beachten.

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instructions according to ADR / RID.



Part 9: Others

Requirements resulting from other legal standards, directives and other definitions (e.g. approval-related specifications, interim storage or final storage condition) are not affected by this certificate.

This certificate does not release the user of this package from the obligation to meet own stipulations regarding the quality assurance and monitoring concerning the operation of the package.

Part 10: Applicable documents

/1/ User manual no. EWB-HA-EB16-Q70-Q225 Rev.00.



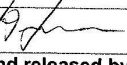
Addendum:




Updating also of the documents contained in the documentation must be taken into account by the sender of the package prior to every transport or during periodic inspections. The procurement of this information must be provided by the sender.

Remarks:

The sender represents the user or other users.

Release note

00	26.09.2016	M. Witt  	H. Grunau 
Revision	Date	Issued by	Checked and released by

	Certificate of amendment Of Transportcontainer	Date: 14.11.2016
		Document indicator: EWB-AE-EBQ-2016-11-13-E
Title: Adjusting the container coating of the transportcontainer EB16-Q70. Max.300kg according to customer requirements		Page 1 of 1
Component: Transportcontainer EB16-Q70		
Traffic law , reference to admission / procedure Certificate of Conformity.: EWB-EB-EB16-Q70-Q225-Rev.00-E		Atomic law , reference to test certificate / procedure Not applicable
1. Amendment - The coating of the transportcontainer type EB16-Q70 produced according to drawing no.: 16-1290-300-00 were not carried out with the described coating system contrary to the part list no.: ST-16-1290-300-00. The transportcontainer were hot dip galvanized according to DIN EN ISO 1461.		
2. Records - None		
3. Justification of the amendment - Customer request		
4. Assessment of the change and impact on precursor revisions - The mechanical integrity of the transportcontainer type EB16-Q70 remains unaffected by the change - EWB points out that, according to ADR, all packages must be easily decontaminated. The applied hot galvanizing is not. - The user is obligated to ensure decontamination in an appropriate manner. - The coating variant is made of the explicit request of the customer.		
EWB Quality management Date / Signature <div style="display: flex; justify-content: space-between; align-items: center;"> 23 NOV. 2016 <div style="text-align: right;">   </div> </div>		

General: Invalid fields have to get depreciated when creating the dossier.

Revision directory

00	13.11.2016	Initial version	M. Bernhard  EWB 27%	M. Witt  EWB QS
Revision	Date	Comment	Issued by	Checked and released by

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Inspection Certificate

"type 3.1" according to DIN EN 10204

Acceptance Test Certificate

Type-A package
 Industrial package IP-2

for the transport of radioactive material.

on the acceptance before initial operation of a package for the transport of radioactive material.

Test object: Transportcontainer EB16-Q70

Test specification:

- Certificate of Conformity, No.: EWB-EB-16-Q70-Q225-Rev.00-E
- Drawing No.: 16-1290-300-00
- Parts list No.: ST-16-1290-300-00
- Inspection sequence plan No. (FPP): EWB-FPP-16-Q70-Q225-Rev.00

Requirements: Quality assurance program No. EWB-QSP-EBQ-Rev.00

Customer: Endress + Hauser GmbH + Co. KG, Maulburg

Order No. of customer: 196/1017015246

Ordner No. of Manufacturer: 16-10287

Certificate No.: 10287-2-E

Delivery note No.: 16-20717

Ident. no.: 10287-01, 10287-02, 10287-03, 10287-04, 10287-05

Coating: Galvanized according to DIN EN ISO 1461.

Leakage rate: Not specified. 100 % of the container has been leak-tested by bubble test.

Inspection: The correctness and the compliance with the testing specifications and the completeness have been checked.


Statement:

This is to confirm that the packages as mentioned at "Ident. no." are compliant with the type tested design according to the Certificate of Conformity, see above.

The user shall apply labels for the identification of the package type if necessary.


The Transportcontainer have been galvanized following customer requests.
 See Certificate of amendment EWB-AE-EBQ-2016-11-13-E

27211 Bassum, 14.11.2016


 Works inspector of the manufacture

FB-B4-16-Rev1_10287-2-E-InspectionCertificate-Transport

A0038362

	Certificate of amendment Of Transportcontainer	Date: 14.11.2016
		Document indicator: EWB-AE-EBQ-2016-11-14-E
Title: Adjusting the container coating of the transportcontainer EB16-Q225. Max. 700kg according to customer requirements		Page 1 of 1

Component: Transportcontainer EB16-Q225	
Traffic law , reference to admission / procedure Certificate of Conformity.: EWB-EB-EB16-Q70-Q225-Rev.00	Atomic law , reference to test certificate / procedure Not applicable

1. Amendment

- The coating of the transportcontainer type EB16-Q225 produced according to drawing no. : 16-1290-100-00 were not carried out with the described coating system contrary to the part list no. : ST-16-1290-100-00. The transportcontainer were hot dip galvanized according to DIN EN ISO 1461.

2. Records



- None

3. Justification of the amendment

- Customer request

4. Assessment of the change and impact on precursor revisions

- The mechanical integrity of the transportcontainer type EB16-Q225 remains unaffected by the change
- EWB points out that, according to ADR, all packages must be easily decontaminated. The applied hot galvanizing is not.
- The user is obligated to ensure decontamination in an appropriate manner.
- The coating variant is made of the explicit request of the customer.

EWB Quality management Date / Signature 14. NOV. 2016  

General: Invalid fields have to get depreciated when creating the dossier.

Revision directory

00	14.11.2016	Initial version	M. Bernhard  	M. Witt  
Revision	Date	Comment	Issued by	Checked and released by

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Inspection Certificate

"type 3.1" according to DIN EN 10204

Acceptance Test Certificate

Type-A package
 Industrial package IP-2

for the transport of radioactive material.

on the acceptance before initial operation of a package for the transport of radioactive material.

Test object: Transportcontainer EB16-Q225

Test specification:

- Certificate of Conformity, No.: EWB-EB-16-Q70-Q225-Rev.00-E
- Drawing No.: 16-1290-100-00
- Parts list No.: ST-16-1290-100-00
- Inspection sequence plan No. (FPP): EWB-FPP-16-Q70-Q225-Rev.00

Requirements: Quality assurance program No. EWB-QSP-EBQ-Rev.00

Customer: Endress + Hauser GmbH + Co. KG, Maulburg

Order No. of customer: 196/1017015246

Order No. of Manufacturer: 16-10287

Certificate No.: 10287-3-E

Delivery note No.: 16-20717

Ident. no.: 10287-06, 10287-07, 10287-08, 10287-09, 10287-10

Coating: Galvanized according to DIN EN ISO 1461.

Leakage rate: Not specified. 100 % of the container has been leak-tested by bubble test.

Inspection: The correctness and the compliance with the testing specifications and the completeness have been checked.

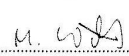
Statement:

This is to confirm that the packages as mentioned at "Ident. no." are compliant with the type tested design according to the Certificate of Conformity, see above.

The user shall apply labels for the identification of the package type if necessary.

The Transportcontainer have been galvanized following customer requests.
 See Certificate of amendment EWB-AE-EBQ-2016-11-14-E

27211 Bassum, 14.11.2016


 Works inspector of the manufacture

FB-B4-16-Rev1_10287-3-E-InspectionCertificate-Transport

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Technical Data sheet no.: EWB-DB-EB16-Q70-Q225-Rev.00-E
Transportcontainer EB16-Q70 und EB16-Q225

Operation parameter			Design		
1	Medium, admissible contents:	Solid substances, see and maintenance user manual	18	Material thickness side / end wall	3 mm
2	Conveyances:	Road, rail, see, air	19	Material thickness bottom:	5 mm
3	Operating temperature:	-40°C to +70°C	20	Material thickness Corner column:	5 mm
4	Nominal pressure (abs.):	Ambient pressure	21	Material thickness lid:	4 mm
5	Max. gross weight:	300 kg (EB16-Q70) 700 kg (EB16-Q225)	22	LAP-Transportcontainer, Hanging device:	4pcs. Stackcorners w. loop, Optional: Stapler bags, 2-sided
6	Tare weight:	apprx. 116 kg (EB16-Q70) apprx. 175 kg (EB16-Q225)	24	Internal load securing	4 pcs. VRS-F Ring screw 2 pcs. Lashing strap
7	Stackability:	5 times	Classification		
8	Tightness:	Not specified	25	Traffic law ADR	TYP-A / IP-2 / IP-3 package
Dimensions			Coating and preservation		
9	External dimensions:	800 x 800 x 940 mm (EB16-Q70) 1275 x 870 x 937 mm (EB16-Q225)	27	Coating system Internal- and external:	ISO 12944, 3-coat, SA 2 ½, DFT: 240µm
10	Internal dimensions:	600 x 600 x 703 mm (EB16-Q70) 1080 x 670 x 703 mm (EB16-Q225)	28	Decontamination of the outer	Test certificate according to DIN 25415-1, ISO 8690
Materials			Manufacture		
11	Steel compnents:	EN 10025-2, S355J2 (1.0577)	30	QMP-No.:	EWB-QSP-EBQ
12	Sealing:	EPDM	31	Drawing-no.:	16-1290-300 (EB16-Q70) 16-1290-100 (EB16-Q225)
13	Fasteners:	1.4301	Operation and admissible contents		
14	/	/	32	User manual no.	EWB-HA-EB16-Q70-Q225
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>EB16-Q225</p> </div> <div style="text-align: center;"> <p>EB16-Q70</p> </div> </div>					

Issued by 11.10.2016 M. Bernhard



Checked and approved: 11.10.2016



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Observe the protective label DIN ISO 16016!

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