

**Gammapilot M FMG60**

Scintillation compact transmitter.  
Measuring: Nucleonic, contactless.  
Application: Level/density/point level.  
Liquids + solids.  
Protection IP65/IP67.  
:: Highly sensitive detector.  
:: Automatic source decay compensation.  
:: Detection of NDT Radiography.  
:: Self-checking.  
Integrated linearisation.  
Setup-/diagnostic software  
included.

**FMG60-**  
**52018524**  
**SPK: FGA**



Gammapilot M FMG60

**Approval:**

- A Non-hazardous area
- F Non-hazardous area, WHG (point level)
- 3 ATEX II (1)2G EEx d (ia) IIC T6
- 4 ATEX II (1)2G EEx d (ia) IIC T6, WHG (point level)
- 1 ATEX II (1)2G EEx de (ia) IIC T6
- 2 ATEX II (1)2G EEx de (ia) IIC T6, WHG (point level)
- 6 ATEX II (1)2GD EEx de (ia) IIC T6
- 7 ATEX II (1)2GD EEx de (ia) IIC T6, WHG (point level)
- 8 ATEX II (1)2GD EEx d (ia) IIC T6
- M ATEX II (1)2GD EEx d (ia) IIC T6, WHG (point level)
- 5 ATEX II (1)2D
- G IECEx zone1 (zone0) Ex de (ia) IIC T6
- H IECEx zone1 (zone0) Ex d (ia) IIC T6
- N CSA General Purpose
- P CSA Cl.I Gr.A-D/Cl.II Gr.E-G/Cl.III, zone 1
- S FM Cl.I Gr.A-D/Cl.II Gr.E-G/Cl.III, zone 1
- K TIIS Ex d (ia) IIC T6
- C NEPSI Ex de (ia) IIC T6
- D NEPSI Ex d (ia) IIC T6
- Y Special version, TSP-no. to be spec.

**Power Supply:**

- 1 90-253VAC
- 2 18-36VDC
- 9 Special version, TSP-no. to be spec.

**Connect. Power Supply; Connect. Output:**

- A non Ex; non Ex
- B Ex e; Ex ia
- C Ex e; Ex e
- D Ex d (XP); Ex d (XP)
- E Ex d (XP); Ex ia (IS)
- F dust-Ex; dust-Ex
- G EEx e, dust-Ex; EEx e, dust-Ex
- H EEx d, dust-Ex; EEx d, dust-Ex
- J EEx e, dust-Ex; EEx ia, dust-Ex
- K EEx d, dust-Ex; EEx ia, dust-Ex
- L dust-Ex; Ex ia
- Y Special version, TSP-no. to be spec.

**Output:**

- 1 4-20mA, HART
- 2 PROFIBUS PA
- 3 FOUNDATION Fieldbus
- 9 Special version, TSP-no. to be spec.

**Scintillator; Measuring Range:**

- A NaI-Crystal; 50x50mm
- C NaI-Crystal; 50x50mm+collimator radial
- D NaI-Crystal; 50x50mm + cooling tube
- G PVT; 200mm
- H PVT; 200mm + cooling tube

- J PVT; 400mm
- K PVT; 400mm + cooling tube
- L PVT; 800mm
- M PVT; 800mm + cooling tube
- N PVT; 1200mm
- P PVT; 1200mm + cooling tube
- Q PVT; 1600mm
- R PVT; 1600mm + cooling tube
- S PVT; 2000mm
- T PVT; 2000mm + cooling tube
- Y Special version, TSP-no. to be spec.

**Housing, Pipe; Operation:**

- 1 316L, 316L; prepared for FHX40, Remote display (accessory)
- 3 Alu, 316L; prepared for FHX40, Remote display (accessory)
- 9 Special version, TSP-no. to be spec.

**Cable Entry Power Supply:**

- A Gland M20
- B Thread M20
- C Thread G1/2
- D Thread NPT1/2
- Y Special version, TSP-no. to be spec.

**Cable Entry Output:**

- 1 equal to supply (gland/thread)
- 2 Plug M12
- 3 Plug 7/8"
- 9 Special version, TSP-no. to be spec.

**Additional Option:**

- A Basic version
- B SIL (max and min point level)
- Y Special version, TSP-no. to be spec.

**>>>Marking: (optional)**

- 1 Tagging (TAG), see additional spec.

**Detector DG27, Alu**

Point level switch.  
Measuring: Nucleonic, contactless.  
Liquids + solids.  
Sensitivity: 3.5pA/kg  
(0,5uSv/h; 0,05mR/h).  
3m connection cable.  
Housing: Alu, IP55, L=280mm, d=65mm.

**915936-0000**

SPK: FGB



Detector DG27, Alu

**Detector DG17, Alu**

Point level switch.  
Measuring: Nucleonic, contactless.  
Liquids + solids.  
Sensitivity: 7pA/kg  
(1,0uSv/h; 0.1mR/h).  
3m connection cable.  
Housing: Alu, IP55, L=280mm, d=65mm.

**915935-0000**

SPK: FGB



Detector DG17, Alu

---

## Gammapilot FTG470Z

Level instrument, point level.  
Measuring: Nucleonic.  
Input: 1-channel DG17/DG27.  
LED row for display of dose rate.

**FTG470Z-**  
**917548-9000**

SPK: FGO



Gammapilot FTG470Z

### Approval:

- A Non-hazardous area
- Y Special version, TSP-no. to be spec.

### Housing:

- 0 Racksyst 4HP
- 9 Special version, TSP-no. to be spec.

### Power Supply:

- E 21.5-26.5VDC
- Y Special version, TSP-no. to be spec.

### Switch Output:

- 0 Relay SPDT
- 9 Special version, TSP-no. to be spec.

---

## Cooling tube FMG60, 316L, PVT L=400mm

Mounting parts.  
Usage: FMG60.

**71003009**

SPK: FGS

Cooling tube FMG60, 316L, PVT L=400mm

---

## Cooling tube FMG60, 316L, PVT L=200mm

Mounting parts.  
Usage: FMG60.

**71003008**

SPK: FGS

Cooling tube FMG60, 316L, PVT L=200mm

---

## Cooling tube FMG60, 316L, NaI crystal

L=50mm.  
Mounting parts.  
Usage: FMG60.

**71003005**

SPK: FGS

Cooling tube FMG60, 316L, NaI crystal

---

**Cooling tube FMG60, 316L, PVT L=1600mm**

Mounting parts.  
Usage: FMG60.

**71003001**

SPK: FGS

Cooling tube FMG60, 316L, PVT L=1600mm

---

**Cooling tube FMG60, 316L, PVT L=1200mm**

Mounting parts.  
Usage: FMG60.

**71002999**

SPK: FGS

Cooling tube FMG60, 316L, PVT L=1200mm

---

**Cooling tube FMG60, 316L, PVT L=800mm**

Mounting parts.  
Usage: FMG60.

**71002998**

SPK: FGS

Cooling tube FMG60, 316L, PVT L=800mm

---

**Cooling tube FMG60, 316L, PVT L=2000mm**

Mounting parts.  
Usage: FMG60.

**71003014**

SPK: FGS

Cooling tube FMG60, 316L, PVT L=2000mm

---

---

**Clamping device density meas. FHG61**

Radiometric density measurement  
on pipe lines.  
Usage: FMG60 + FQG60/61/62.

**FHG61-**  
**52024119**  
  
SPK: FGS

Clamping device density meas. FHG61

**Pipe Diameter Source Container:**

- A 50-220mm, FQG61/FQG62
- C 50-220mm, FQG61/FQG62, 30deg, diagonal radiation
- B 200-420mm, FQG61/FQG62
- E 48-77mm outside, FQG60
- F 80-273mm outside, FQG60
- Y Special version, TSP-no. to be spec.

**Mounting Clamp for Scintillator:**

- A NaI, 50mm
- B PVT, 200mm
- C PVT, 400mm
- D NaI, 50mm + cooling tube/collimator / PVT, 200mm/400mm + cooling tube
- Y Special version, TSP-no. to be spec.

**Material:**

- 1 316L
- 9 Special version, TSP-no. to be spec.

**>>>Marking: (optional)**

- 1 Tagging (TAG), see additional spec.

---

**Synchronizer FHG66**

Pulse generator for Modulator FHG65  
Rail mounting, IP20  
Power supply: 18-36VDC  
Switch output: 1x relay SPDT

**71060806**  
  
SPK: FGS



Synchronizer FHG66

---

**Mounting accessory FHG60, wall/pipe**

Usage: Mounting FMG60.

**FHG60-**  
**52024116**  
  
SPK: FGS

Mounting accessory FHG60, wall/pipe

**Application:**

- 1 Level, FMG60 400-1200mm measuring range
- 2 Level, FMG60 1600-2000mm measuring range
- 3 point level switch
- 9 Special version, TSP-no. to be spec.

**Mounting Clamp:**

- A FMG60

- B FMG60, cooling tube
- Y Special version, TSP-no. to be spec.

**Material:**

- 1 316L
- 9 Special version, TSP-no. to be spec.

**>>>Marking: (optional)**

- 1 Tagging (TAG), see additional spec.

**Source container QG2000**

Pivoting insert on/off switch  
source mounting.

:: Fixation + theftproof  
(padlock).

Control area when loaded 3uSv/h:  
Max 1m at Co60 > 29,6GBq (800mCi).  
No one at Cs137.

Control area when loaded 7,5uSv/h:  
Max 1m at Co60 > 74GBq (2000mCi).  
No one at Cs137.

Source container QG2000

**Design:**

- Q Pneumatic cutoff, remote indication
- R Manual ON/OFF
- T Manual ON/OFF, remote indication
- V US, manual ON/OFF
- Y Special version, TSP-no. to be spec.

**Radiation Shielding:**

- 1 Basic version
- 9 Special version, TSP-no. to be spec.

**Fitting Position; Emission Angle:**

- A Standing; Horizontal
- B Standing; Vertical
- Y Special version, TSP-no. to be spec.

**Emission Angle:**

- 1 20deg
- 2 40deg
- 3 See additional spec., 5deg steps (alpha + beta)
- 9 Special version, TSP-no. to be spec.

**Material Container:**

- A 316Ti, glass bead blasted
- B 316Ti, epoxy coated
- C 316Ti, sea water resistant coated
- Y Special version, TSP-no. to be spec.

**Additional Option:**

- 1 Basic version
- S GL marine certificate
- Z see additional spec.
- 9 Special version, TSP-no. to be spec.

**Documentation:**

- A Not selected
- C PTB Isodose curves > Co60, 37GBq(1Ci)
- Y Special version, TSP-no. to be spec.

**>>>Marking: (optional)**

- 1 Tagging (TAG), see additional spec.

**QG2000-**  
**52004752**

SPK: FGS



**Source container FQG62**

Pivoting insert on/off switch,  
source mounting.  
Theftproof.  
Fire-resistant 538oC/5 minutes.  
Hole pattern as DN100 PN16 + 4" 150lbs.  
Control area 3uSv/h 1m:  
Cs137 > 74GBq (2000mCi),  
Co60 > 1.1GBq (30mCi).  
Control area 7.5uSv/h 1m:  
Cs137 > 185GBq (5000mCi),  
Co60 > 3.7GBq (100mCi).

**FQG62-**  
**71087045**  
**SPK: FGS**



Source container FQG62

**License:**

- AA Not necessary
- AB AERB Type approval certificate, India
- AC CNSC Radiation Device Cert., Kanada
- AD NRC Device Registration General License USA
- AE NRC Device Registration, USA
- AF GOST, Russia
- AG Device Registration License of (Territory), Australia fire-resistant 821oC/30 minutes
- AH Norwegian Radiation Protect. Authority
  - AI Swedish Radiation Protection Institute
- YY Special version, TSP-no. to be spec.

**Version:**

- A Cylinder lock fixation ON/OFF + covering cap
- B Rotary bracket + locking bolt ON + padlock fixation OFF
- C Padlock fixation ON/OFF + rotary bracket
- D Padlock fixation ON/OFF+O-ring seal double > higher protection dust/ humidity + rotary bracket
  
- K Pneumatic cutoff, non Ex + padlock fixation OFF
- M Pneumatic cutoff, non Ex + O-ring seal double > higher protection dust/humidity + padlock fixation OFF
  
- N Pneumatic cutoff, ATEX + O-ring seal double > higher protection dust/humidity + padlock fixation OFF + ATEX II 2G IIB T4
  
- L Pneumatic cutoff, ATEX + padlock fixation OFF ATEX II 2G IIB T4
- Y Special version, TSP-no. to be spec.

**Prepared for Source Loading:**

- 1 Caesium 137, please order separately
- 2 Cobalt 60, please order separately
- V Provided by customer

**Prepared for Source Activity:**

- AA 3,7MBq/0,1mCi
- AB 7,4MBq/0,2mCi
- AC 18,5MBq/0,5mCi
- AD 37MBq/1mCi
- AE 74MBq/2mCi
- AF 110MBq/3mCi
- AG 185MBq/5mCi
- AH 370MBq/10mCi
- AK 740MBq/20mCi
- AL 1,1GBq/30mCi
- AM 1,85GBq/50mCi
- AN 3,7GBq/100mCi
- AP 7,4GBq/200mCi
- AR 11GBq/300mCi
- AT 18,5GBq/500mCi
- AW 29,6GBq/800mCi
- BB 37GBq/1000mCi
- BC 55,5GBq/1500mCi
- BD 74GBq/2000mCi
- BF 111GBq/3000mCi
- VV Not specified
- YY Special version, TSP-no. to be spec.

**Prepared for Source Capsule Type:**

- A1 Nipple d=6,4x16mm, capsule VZ79-001
- B1 Thread M4 d=6,4x17,6mm, capsule VZ1508- 001
- C1 Nipple d=8x19mm, capsule VZ357-001
- D1 Thread M4 d=8x19mm, capsule VZ3579-001
- F1 Cylinder d=8,05x12,3, capsule X.9
- J1 Cylinder d=6x10, capsule IGI-Z-3
- L1 Cylinder d=8x12, capsule IGI-Z-4
- A2 Nipple d=6,4x16mm, capsule VZ64-001
- B2 Thread M4 d=6,4x17,6mm, capsule VZ1486- 001
- Y9 Special version, TSP-no. to be spec.

**Container:**

- A Steel
- B 316L
- C 304
- Y Special version, TSP-no. to be spec.

**Surface Protection:**

- 2 PUR 2K-texture paint RAL 1003
- 9 Special version, TSP-no. to be spec.

**Emission Angle:**

- 1 5deg
- 3 20deg
- 5 40deg
- 9 Special version, TSP-no. to be spec.

**Labelling:**

- A German/English
- B French/English
- C Swedish/English
- D Norwegian/English
- E Russian/English
- Y Special version, TSP-no. to be spec.

**>Test, Certificate:**

- K9 Special version, TSP-no. to be spec.

**>>Additional Function:**

- WA Density measurement > fixation ON
- WE Fire-resistant 821oC/30 minutes
- W9 Special version, TSP-no. to be spec.

**>>Marking:**

- Z1 Tagging (TAG), see additional spec.

**Source container FQG61**

Pivoting insert on/off switch,  
source mounting.  
Theftproof.  
Fire-resistant 538oC/5 minutes.  
Hole pattern as DN100 PN16 + 4" 150lbs.  
Control area 3uSv/h 1m:  
Cs137 > 7.4GBq (200mCi),  
Co60 > 185MBq (5mCi).  
Control area 7.5uSv/h 1m:  
Cs137 > 25.9GBq (700mCi),  
Co60 > 740MBq (20mCi).

Source container FQG61

**License:**

- AA Not necessary
- AB AERB Type approval certificate, India
- AC CNSC Radiation Device Cert., Kanada
- AD NRC Device Registration General License USA
- AE NRC Device Registration, USA

**FQG61-**  
**71087043**  
**SPK: FGS**





- AF GOST, Russia
- AG Device Registration License of (Territory), Australia fire-resistant 821oC/30 minutes
- AH Norwegian Radiation Protect. Authority
- AI Swedish Radiation Protection Institute
- YY Special version, TSP-no. to be spec.

**Version:**

- A Cylinder lock fixation ON/OFF + covering cap
- B Rotary bracket + locking bolt ON + padlock fixation OFF
- C Padlock fixation ON/OFF + rotary bracket
- D Padlock fixation ON/OFF+O-ring seal double > higher protection dust/ humidity + rotary bracket
  
- K Pneumatic cutoff, non Ex + padlock fixation OFF
- M Pneumatic cutoff, non Ex + O-ring seal double > higher protection dust/humidity + padlock fixation OFF
  
- N Pneumatic cutoff, ATEX + O-ring seal double > higher protection dust/humidity + padlock fixation OFF + ATEX II 2G IIB T4
  
- L Pneumatic cutoff, ATEX + padlock fixation OFF ATEX II 2G IIB T4
- Y Special version, TSP-no. to be spec.

**Prepared for Source Loading:**

- 1 Caesium 137, please order separately
- 2 Cobalt 60, please order separately
- V Provided by customer

**Prepared for Source Activity:**

- AA 3,7MBq/0,1mCi
- AB 7,4MBq/0,2mCi
- AC 18,5MBq/0,5mCi
- AD 37MBq/1mCi
- AE 74MBq/2mCi
- AF 110MBq/3mCi
- AG 185MBq/5mCi
- AH 370MBq/10mCi
- AK 740MBq/20mCi
- AL 1,1GBq/30mCi
- AM 1,85GBq/50mCi
- AN 3,7GBq/100mCi
- AP 7,4GBq/200mCi
- AR 11GBq/300mCi
- AT 18,5GBq/500mCi
- AW 29,6GBq/800mCi
- BB 37GBq/1000mCi
- VV Not specified
- YY Special version, TSP-no. to be spec.

**Prepared for Source Capsule Type:**

- A1 Nipple d=6,4x16mm, capsule VZ79-001
- B1 Thread M4 d=6,4x17,6mm, capsule VZ1508- 001
- C1 Nipple d=8x19mm, capsule VZ357-001
- D1 Thread M4 d=8x19mm, capsule VZ3579-001
- F1 Cylinder d=8,05x12,3, capsule X.9
- J1 Cylinder d=6x10, capsule IGI-Z-3
- L1 Cylinder d=8x12, capsule IGI-Z-4
- A2 Nipple d=6,4x16mm, capsule VZ64-001
- B2 Thread M4 d=6,4x17,6mm, capsule VZ1486- 001
- Y9 Special version, TSP-no. to be spec.

**Container:**

- A Steel
- B 316L
- C 304
- Y Special version, TSP-no. to be spec.

**Surface Protection:**

- 2 PUR 2K-texture paint RAL 1003
- 9 Special version, TSP-no. to be spec.

**Emission Angle:**

- 1 5deg

- 3 20deg
- 5 40deg
- 9 Special version, TSP-no. to be spec.

**Labelling:**

- A German/English
- B French/English
- C Swedish/English
- D Norwegian/English
- E Russian/English
- Y Special version, TSP-no. to be spec.

**>Test, Certificate:**

- K9 Special version, TSP-no. to be spec.

**>>Additional Function:**

- WA Density measurement > fixation ON
- WE Fire-resistant 821oC/30 minutes
- W9 Special version, TSP-no. to be spec.

**>>Marking:**

- Z1 Tagging (TAG), see additional spec.

---

## Source container FQG60

Shutter for switch on/off the radiation.  
Theftproof  
Mounting plate for level and density  
Control area when loaded 3uSv/h:  
Max 1m at Cs137 > 370MBq (10mCi).  
Control area when loaded 7,5uSv/h:  
Max 1m at Cs137 > 1,1 GBq (30mCi).  
Fire-resistant 821oC/30 minutes.

**FQG60-**  
**71115243**  
SPK: FGS



Source container FQG60

**License:**

- AA Not necessary
- AH Norwegian Radiation Protect. Authority
- YY Special version, TSP-no. to be spec.

**Version:**

- B Locking bolt ON + padlock fixation OFF
- C Padlock fixation ON/OFF
- Y Special version, TSP-no. to be spec.

**Prepared for Source Loading:**

- 1 Caesium 137, please order separately
- V Provided by customer

**Prepared for Source Activity:**

- AC 18,5MBq/0,5mCi
- AD 37MBq/1mCi
- AE 74MBq/2mCi
- AF 110MBq/3mCi
- AG 185MBq/5mCi
- AH 370MBq/10mCi
- AK 740MBq/20mCi
- AL 1,1GBq/30mCi
- RS 0,74MBq/0,02mCi
- VV Not specified
- YY Special version, TSP-no. to be spec.

**Prepared for Source Capsule Type:**

- A1 Nipple d=6,4x16mm, capsule VZ79-001
- B1 Thread M4 d=6,4x17,6mm, capsule VZ1508- 001
- J1 Cylinder d=6x10, capsule IGI-Z-3
- L1 Cylinder d=8x12, capsule IGI-Z-4
- Y9 Special version, TSP-no. to be spec.

**Container:**

- A 304
- Y Special version, TSP-no. to be spec.

**Surface Protection:**

- 1 w/o varnishing, glass bead blasted
- 9 Special version, TSP-no. to be spec.

**Emission Angle; Application:**

- 3 20deg; limit switch + density
- 5 40deg; level
- 4 20deg; density 30deg diagonal radiation
- 9 Special version, TSP-no. to be spec.

**Labelling:**

- 1 English
- A German/English
- B French/English
- C Swedish/English
- D Norwegian/English
- E Russian/English
- Y Special version, TSP-no. to be spec.

**>Test, Certificate:**

- JA Dose rate diagram Cs137
- K9 Special version, TSP-no. to be spec.

**>>Accessory Mounted:**

- NA Calibration plate

**>>Marking:**

- Z1 Tagging (TAG), see additional spec.

---

## Collimator radial, Nal crystal

Mounting parts.  
Usage: FMG60.

**71002997**

SPK: FGS

Collimator radial, Nal crystal

---

## Transport drum, small

Usage: Shipment of radioactive industry product without source container QG.  
Consists of: transport drum, insert, max 24 sources, holder, tongs.

**980016-0000**

SPK: FGS

Loading large container:  
Transport index: 2,0.  
Total activity Cobalt60 629MBq (17mCi).  
Total activity Caesium137 37GBq (1Ci).  
Decisions concerning the use of containers are made exclusively with regard to the German regulations for safety of radiation called.

Transport drum, small

**Source container FQG63**

Pivoting insert on/off switch,  
source mounting.  
Version: extension rope >  
installation source in vessel.  
Double walled protective pipe on  
customer side.  
Theftproof.  
Control area 3uSv/h 1m:  
Cs137 > 74GBq (2000mCi),  
Co60 > 1.1GBq (30mCi).  
Control area 7.5uSv/h 1m:  
Cs137 > 185GBq (5000mCi),  
Co60 > 3.7GBq (100mCi).

**FQG63-**  
**71116080**  
**SPK: FGS**



Source container FQG63

**License:**

- AA Not necessary
- AB AERB Type approval certificate, India
- AH Norwegian Radiation Protect. Authority
- AI Swedish Radiation Protection Institute
- YY Special version, TSP-no. to be spec.

**Version:**

- B Rotary bracket + locking bolt ON + padlock fixation OFF
- C Padlock fixation ON/OFF + rotary bracket
- Y Special version, TSP-no. to be spec.

**Prepared for Source Loading:**

- 1 Caesium 137, please order separately
- 2 Cobalt 60, please order separately
- V Provided by customer

**Extension:**

- 2 Rope 316
- 9 Special version, TSP-no. to be spec.

**Length; Prepared for Source Activity:**

- AA xxx mm; 3,7MBq/0,1mCi
- AB xxx mm; 7,4MBq/0,2mCi
- AC xxx mm; 18,5MBq/0,5mCi
- AD xxx mm; 37MBq/1mCi
- AE xxx mm; 74MBq/2mCi
- AF xxx mm; 110MBq/3mCi
- AG xxx mm; 185MBq/5mCi
- AH xxx mm; 370MBq/10mCi
- AK xxx mm; 740MBq/20mCi
- AL xxx mm; 1,1GBq/30mCi
- AM xxx mm; 1,85GBq/50mCi
- AN xxx mm; 3,7GBq/100mCi
- AP xxx mm; 7,4GBq/200mCi
- AR xxx mm; 11GBq/300mCi
- AT xxx mm; 18,5GBq/500mCi
- AW xxx mm; 29,6GBq/800mCi
- BB xxx mm; 37GBq/1000mCi
- BC xxx mm; 55,5GBq/1500mCi
- BD xxx mm; 74GBq/2000mCi
- BF xxx mm; 111GBq/3000mCi
- VV xxx mm; not specified
- YY Special version, TSP-no. to be spec.

**Prepared for Source Capsule Type:**

- A1 Nipple d=6,4x16mm, capsule VZ79-001
- B1 Thread M4 d=6,4x17,6mm, capsule VZ1508- 001
- C1 Nipple d=8x19mm, capsule VZ357-001
- D1 Thread M4 d=8x19mm, capsule VZ3579-001
- F1 Cylinder d=8,05x12,3, capsule X.9
- J1 Cylinder d=6x10, capsule IGI-Z-3
- L1 Cylinder d=8x12, capsule IGI-Z-4

- A2 Nipple d=6,4x16mm, capsule VZ64-001  
 B2 Thread M4 d=6,4x17,6mm, capsule VZ1486- 001  
 Y9 Special version, TSP-no. to be spec.

**Container:**

- B 316L  
 Y Special version, TSP-no. to be spec.

**Surface Protection:**

- 2 PUR 2K-texture paint RAL 1003  
 9 Special version, TSP-no. to be spec.

**Align. Flange:**

- 1 DN100 PN16 flange EN1092-1  
 2 4" 150lbs flange ANSI B16.5  
 9 Special version, TSP-no. to be spec.

**Emission Angle:**

- 0 W/o, sliding source holder  
 9 Special version, TSP-no. to be spec.

**Labelling:**

- A German/English  
 B French/English  
 C Swedish/English  
 D Norwegian/English  
 E Russian/English  
 Y Special version, TSP-no. to be spec.

**>Test, Certificate:**

- K9 Special version, TSP-no. to be spec.

**>>Additional Function:**

- WE Fire-resistant 821oC/30 minutes  
 W9 Special version, TSP-no. to be spec.

**>>Marking:**

- Z1 Tagging (TAG), see additional spec.

**Mounting accessory ref. source FMG60**

Tension band: 316L.  
 Usage: FQG60>FMG60 SIL Min.  
 FQG60 + FSG60 0,74MBq separat order.

**71130143**

SPK: FGS

Mounting accessory ref. source FMG60

**Flange DG17/DG27**

Installation detector, front.  
 Mounting: Flange DN100 PN16 +  
 clamps.

**915498-0000**

SPK: FGS

Flange DG17/DG27

---

**Metal armoured hose DG17/DG27**

Connection piece WADI-coupling.  
Length: 3m.

**915508-0000**

SPK: FGS

Metal armoured hose DG17/DG27

---

**Cooling tube DG17/DG27, Steel**

Double walled.  
2x water connection G1/4.  
Mounting: 2x pipe clamp.

**915509-0000**

SPK: FGS

Cooling tube DG17/DG27, Steel

---

**Cooling tube DG17/DG27, Steel + flange**

Double walled.  
2x water connection G1/4.  
Mounting: Flange DN100 PN16.

**915510-0000**

SPK: FGS

Cooling tube DG17/DG27, Steel + flange

---

**Gamma Modulator FHG65**

modulated radiation,  
(NDT) radiography suppression by FMG60.  
For source container QG020/100,  
FQG61/62.  
Mounting between source container  
and vessel wall or pipe.  
Protection IP65/IP67  
:: continuous measuring during NDT  
radiography  
:: independent of isotope

**FHG65-****71060804**

SPK: FGS

Gamma Modulator FHG65

**Approval:**

- A Non-hazardous area
- 1 ATEX II 2G Ex de IIC T5/T6
- 3 ATEX II 2G Ex d IIC T5/T6
- 5 ATEX II 2D Ex t IIIC
- G IECEx Ex de IIC T5/T6
- H IECEx Ex d IIC T5/T6
- N CSA General Purpose
- P CSA Cl.I Gr.A-D/Cl.II Gr.E-G/Cl.III Cl.I Zone 1 Ex d IIC T5/T6
- S FM Cl.I Gr.A-D/Cl.II Gr.E-G/Cl.III Cl. I Zone 1 AEx d IIC T6/T4
- K TIIS Ex d IIC T6
- C NEPSI Ex de IIC T5/T6



- D NEPSI Ex d IIC T5/T6
- Y Special version, TSP-no. to be spec.

**Power Supply:**

- 1 18-36VDC
- 9 Special version, TSP-no. to be spec.

**Housing:**

- A 304
- Y Special version, TSP-no. to be spec.

**Cable Entry Power Supply:**

- A Gland M20
- B Thread M20
- C Thread G1/2
- D Thread NPT1/2
- Y Special version, TSP-no. to be spec.

**Mounting device:**

- 1 Level, point level, density
- 2 Level, point level, density + cooling tube
- 9 Special version, TSP-no. to be spec.

**>>>Marking: (optional)**

- 1 Tagging (TAG), see additional spec.

**Meas. path density measurement FHG62**

Mounting device.  
Usage: Gammapiot M, Source Container,  
measuring pipe + flange.  
Pipe diameter: DN25-DN80.

**FHG62-**  
**71006356**  
**SPK: FGS**

Meas. path density measurement FHG62

**Shape Measuring Pipe:**

- A S-shaped
- B U-shaped
- Y Special version, TSP-no. to be spec.

**Length Measuring Path:**

- 1 350mm
- 9 Special version, TSP-no. to be spec.

**Pipe Diameter; Flange; Material:**

- A1 DN25, PN16, 316Ti
- B1 DN32, PN16, 316Ti
- C1 DN40, PN16, 316Ti
- D1 DN50, PN16, 316Ti
- E1 DN65, PN16, 316Ti
- F1 DN80, PN16, 316Ti
- A2 DN25, PN16, PP
- B2 DN32, PN16, PP
- C2 DN40, PN10, PP
- D2 DN50, PN10, PP
- E2 DN65, PN10, PP
- F2 DN80, PN10, PP
- A3 DN25, PN16, PVDF
- B3 DN32, PN16, PVDF
- C3 DN40, PN16, PVDF
- D3 DN50, PN16, PVDF
- E3 DN65, PN16, PVDF
- F3 DN80, PN16, PVDF
- Y9 Special version, TSP-no. to be spec.

**Material Clamping Device:**

- A 304  
Y Special version, TSP-no. to be spec.

**>>>Marking: (optional)**

- 1 Tagging (TAG), see additional spec.

## Transport drum, large

Usage: Shipment of radioactive industry product without source container QG.

Consists of: transport drum, insert, max 24 sources, holder, tongs.

Loading large container:

Transport index: 2,0.

Total activity Cobalt60 4,8GBq (130mCi).

Total activity Caesium137 592GBq (16Ci).

Decisions concerning the use of containers are made exclusively with regard to the German regulations for safety of radiation called.

**980015-0000**

SPK: FGS

Transport drum, large

## Gamma source FSG60, Cs137

Isotope: Caesium 137,

Capsule: Stainless Steel, double-walled-sealed, corrosion- resistant.

Usage: mounting in source container.

Source production will start after receipt of a valid import licence.

**FSG60-**

**71087046**

SPK: FGV

Gamma source FSG60, Cs137

**Activity:**

- AC 18,5MBq/0,5mCi  
AD 37MBq/1mCi  
AE 74MBq/2mCi  
AF 110MBq/3mCi  
AG 185MBq/5mCi  
AH 370MBq/10mCi  
AK 740MBq/20mCi  
AL 1,1GBq/30mCi  
AM 1,85GBq/50mCi  
AN 3,7GBq/100mCi  
AP 7,4GBq/200mCi  
AR 11GBq/300mCi  
AT 18,5GBq/500mCi  
AW 29,6GBq/800mCi  
BB 37GBq/1000mCi  
BC 55,5GBq/1500mCi  
BD 74GBq/2000mCi  
BF 111GBq/3000mCi  
BG 148GBq/4000mCi  
BH 185GBq/5000mCi  
BJ 222GBq/6000mCi  
BK 259GBq/7000mCi  
BL 296GBq/8000mCi  
BM 333GBq/9000mCi  
BN 370GBq/10000mCi  
BP 740GBq/20000mCi  
RS 0,74MBq/0,02mCi  
YY Special version, TSP-no. to be spec.



**Capsule Type:**

- A1 Nipple d=6,4x16mm, capsule VZ79-001 classification C66646, ISO2919
- B1 Thread M4 d=6,4x17,6mm, capsule VZ1508- 001 classification C66646, ISO2919
- C1 Nipple d=8x19mm, capsule VZ357-001 classification C65545, ISO2919
- D1 Thread M4 d=8x19mm, capsule VZ3579-001 classification C65345, ISO2919
- F1 Cylinder d=8,05x12,3, capsule X.9 classification C66646, ISO2919
- J1 Cylinder d=6x10, capsule IGI-Z-3 classification C65546, ISO2919
- L1 Cylinder d=8x12, capsule IGI-Z-4 classification C65546, ISO2919
- G1 Cylinder d=12,9x19,3, capsule X.38/4, classification C66646, ISO2919
- H1 Cylinder d=12,5x17,9, capsule R6000, classification C63646, ISO2919
- Y9 Special version, TSP-no. to be spec.

**>>Marking:**

---

**Gamma source FSG61, Co60**

Isotope: Cobalt 60, metallic,  
Capsule: Stainless Steel, double-  
walled-sealed.

Usage: mounting in  
source container.

Source production will start after  
receipt of a valid import licence.

**FSG61-****71087049**

SPK: FGV

Gamma source FSG61, Co60

**Activity:**

- AA 3,7MBq/0,1mCi
- AB 7,4MBq/0,2mCi
- AC 18,5MBq/0,5mCi
- AD 37MBq/1mCi
- AE 74MBq/2mCi
- AF 110MBq/3mCi
- AG 185MBq/5mCi
- AH 370MBq/10mCi
- AK 740MBq/20mCi
- AL 1,1GBq/30mCi
- AM 1,85GBq/50mCi
- AN 3,7GBq/100mCi
- AP 7,4GBq/200mCi
- AR 11GBq/300mCi
- AT 18,5GBq/500mCi
- AW 29,6GBq/800mCi
- BB 37GBq/1000mCi
- BD 74GBq/2000mCi
- YY Special version, TSP-no. to be spec.

**Capsule Type:**

- A2 Nipple d=6,4x16mm, capsule VZ64-001 classification C66646, ISO2919
- B2 Thread M4 d=6,4x17,6mm, capsule VZ1486- 001 classification C66646, ISO2919
- C2 Cylinder d=6,3x12,1, capsule X.2163 classification C63545, ISO2919
- Y9 Special version, TSP-no. to be spec.

**>>Marking:**

---

**Warning sign: Symbol "Radioactive !"**

Corrosion resistant Steel, 304.

**916497-0000**

SPK: FGX

Warning sign: Symbol "Radioactive !"

---

**Warning sign: "Vorsicht Strahlung !"**

Corrosion resistant Steel, 304.

**916497-0001**

SPK: FGX

Warning sign: "Vorsicht Strahlung !"

---

**Warning sign: "Attention radiation !"**

Plastics.

**916497-1011**

SPK: FGX

Warning sign: "Attention radiation !"

---

**Credit note for large transport drum**

For the prepaid return in good condition of the transport drums within 4 weeks.

**980015-9901**

SPK: FGZ

Credit note for large transport drum

---

**Delay cost for small transport drum**

Per day, over 4 weeks, deduction amount from the credit note.

**980016-9902**

SPK: FGZ

Delay cost for small transport drum

### **Delay cost for large transport drum**

Per day, over 4 weeks, deduction amount from the credit note.

**980015-9902**

SPK: FGZ

Delay cost for large transport drum

---

### **Calculation of linearization curve**

Customized Gammasilometer value table based on individuell vessel drawing. During commissioning, this table must be entered into the FMG60.

**015147-0000**

SPK: FGZ

Calculation of linearization curve

---

### **Credit note for small transport drum**

For the prepaid return in good condition of the transport drums within 4 weeks.

**980016-9901**

SPK: FGZ

Credit note for small transport drum

---