

# Upgrade old 2202D neutron monitor to 2222A Digipig version

## Advantages by upgrading

By upgrading your old neutron monitor of type Studsvik 2202D or Alnor 2202D you receive all new functions present in the new version 2222A Digipig to a reduced price.

New functions are:

- Microprocessor controlled unit with internal storage of dose rate data
- Dose rate presentation in digital and graphic format
- Dose presentation in digital format
- Alarm levels can be programmed
- RS-232 communication port
- Optional software WinPig for communication between your neutron monitor and PC

## How it works?

When upgrading you send your old neutron monitor of type 2202D to KWD and we will re-use some of the most expensive parts for the new monitor 2222A. The components that we take care of are:

- BF-3 tube
- Boron plastic cylinder
- Polyethylen body
- Mechanical parts as feet and handles

By this we will save costs and give you a modern neutron monitor for about half of price as for a brand new 2222A. In addition we reduce environmental impact by re-using components functional working, instead of generating waste.

The new monitor is using the proven Bf-3 counter/ boron plastic measuring technology, with very high neutron sensitivity over a wide energy range, in combination with the well known high suppression of gamma radiation.



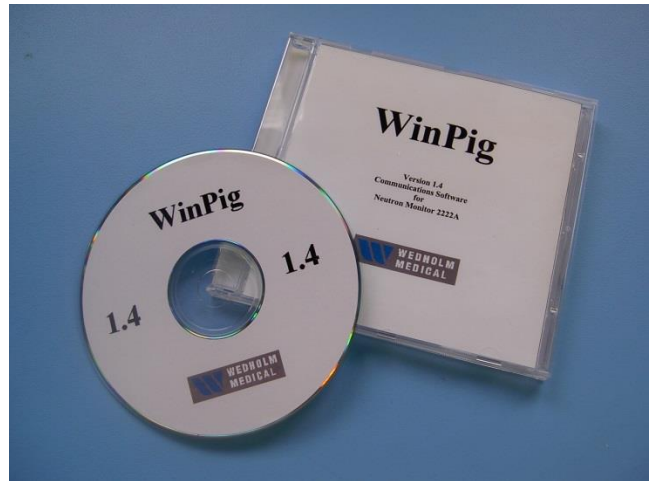
Studsvik Neutron Monitor 2202D

### WinPig software (Option)

By this software you allow communication between your 2222A neutron monitor and your PC with operating system Windows 98, 2000 and XP.

Via a communication protocol you can set parameters as date, time, alarm levels in the 2222A remote and retrieve dose rate data for presentation at the computer display. Data can also be collected online. If programmed alarm level is reached the 2222A forwards the alarm to the PC.

Stored data can be presented in numeric or graphic format.



## TECHNICAL SPECIFICATIONS FOR 2222A

<b>Detector</b>	Boron trifluoride counter tube (BF3)	<b>Presentation dose</b>	Summarised dose in digital range 0.01 uSv-999.9 mSv 999.9 mSv indicates OVERFLOW
<b>Moderator</b>	Polyethylene and boron plastic		
<b>Energy range</b>	0.0025 eV- 17MeV	<b>Dose rate alarm</b>	Five preset values for dose rate manually selected by push button: 10 uSv/h, 100 uSv /h, 1 mSv/h, 10 mSv/h, 100 mSv/h
<b>HV power supply</b>	2500 Volt, drift 1V/C frequency from DC/AC converter 50 Hz		
<b>Neutron sensitivity</b>	0.35- 0.5 cps/uSv/h (new tubes)		
<b>Gamma sensitivity</b>	2 Gy/h gives <5 uSv/h	<b>Pulse output</b>	Height 4 V, 500 ns, minimum load 10 kohm
<b>Real-time clock</b>	Presentation of date, time Example 990420 14:13	<b>Power supply Internal</b>	Alkaline batteries 6x1,5 V IEC LR14 Operational time 80 hours
<b>Memory size</b>	200 values stored in RAM	<b>External</b>	Via connector "External power" a battery eliminator can be used
<b>Output port</b>	Connector RS-232 to PC- cable	<b>Power consumption</b>	In Power-off mode < 0.30 mA
<b>Display</b>	LCD with eligible background light	<b>Temperature range</b>	-10 - +40 C
<b>Presentation dose rate</b>	Analogue log scale, range 0.001-100 mSv/h Digital range 0.001- 999.9 mSv/h 999.9 mSv/h indicates OVERFLOW	<b>Dimensions</b>	Diameter 215 mm, length 325 mm, weight 10.5 kg including batteries