Panasonic

Official List of UD-800 series Thermoluminescent Dosimeters for 2012

UD-802 Series

UD-802AT

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{n}Li_2B_4O_7$	$^{n}Li_2B_4O_7$	$CaSO_4$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm

Remarks

The most commonly used Panasonic dosimeter. Use of natural LiBO makes thermal neutron dosimetry possible if the appropriate energy correction factor for neutrons is known. Q rank available as special.

UD-802A2T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{n}Li_2B_4O_7$	$^{n}Li_2B_4O_7$	$CaSO_4$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 75 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 75 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm

Remarks

A variation of the most commonly used Panasonic dosimeter. A reduced filter thickness on Element 2 for more information of mixed-energy betas for US-Algorithms

UD-804 Series.

UD-804AT

	Element 1	Element 2	Element 3	Element 4
Phosphor	NONE	$CaSO_4$	$CaSO_4$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Lead – 0.7 mm	Lead – 0.7 mm	Lead – 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Lead – 0.7 mm	Lead – 0.7 mm	Lead – 0.7 mm

Remarks

Intended for environmental measurements. Contains no first element. Remaining three elements are all CaSO4 under Lead to screen low-energy photons. Can measure low doses <10µSv.

UD-806 Series

UD-806AT

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{n}Li_2B_4O_7$	$^{n}Li_2B_4O_7$	$^{n}Li_2B_4O_7$	$^{n}Li_2B_4O_7$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks

Sometimes used for calibration to a single energy-point.

UD-807 Extremity Dosimeter

UD-807ATN

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{n}Li_2B_4O_7$	NONE	NONE	NONE
Front Filtration				
Rear Filtration				

Remarks

A single element of LiBO not set in a regular Panasonic dosimeter. Used for extremity monitoring and must be manually inserted into a special adaptor UD-807HA2 in order to be read by the UD-716, or UD-7900 automatic TLD readers. N suffix = With ID Code. Can be supplied without ID Code.

UD-808 Neutron Dosimeter

UD-808A

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$CaSO_4$	$^{7}Li_2{}^{11}B_4O_7$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 60 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 60 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks

Intended for use together with the UD-809. Measures beta particles and photons, but is insensitive to neutrons. An algorithm must be used to separate photons from neutrons in the UD-809.

UD-809 Neutron Dosimeter

UD-809AT

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{7}Li_2{}^{11}B_4O_7$	$^{6}Li_2{}^{10}B_4O_7$	$^{6}Li_2{}^{10}B_4O_7$	$^{6}Li_2{}^{10}B_4O_7$
Front Filtration	Cadmium – 0.7 mm	Tin – 0.7 mm	Cadmium– 0.7 mm	Cadmium – 0.7 mm
Rear Filtration	Cadmium – 0.7 mm	Cadmium – 0.7 mm	Cadmium – 0.7 mm	Tin – 0.7 mm

Remarks

A primary neutron dosimeter, intended to be used with the UD-808. An algorithm is used to determine the contribution of thermal, epithermal, and fast neutrons.

UD-810 Series

UD-810A1T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{6}Li_2{}^{10}B_4O_7$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm

Remarks

Specialised dosimeter.

UD-810A2T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{6}Li_2{}^{10}B_4O_7$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks

Specialised dosimeter.

UD-812-A Series

UD-812-A5T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{7}Li_2{}^{11}B_4O_7$ 7	$^{7}Li_2{}^{11}B_4O_7$	$CaSO_4$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm

Remarks
Specialised dosimeter.

UD-812-A7T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$CaSO_4$	$CaSO_4$	$CaSO_4$	$CaSO_4$
Front Filtration	Lead – 0.7 mm	Lead – 0.7 mm	Lead – 0.7 mm	Lead – 0.7 mm
Rear Filtration	Lead – 0.7 mm	Lead – 0.7 mm	Lead – 0.7 mm	Lead – 0.7 mm

Remarks
Specialised dosimeter.

UD-812-A11T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$CaSO_4$	$CaSO_4$	$CaSO_4$	$CaSO_4$
Front Filtration	Lead/Tin 0.7 mm	Lead/Tin 0.7 mm	Lead/Tin 0.7 mm	Lead/Tin 0.7 mm
Rear Filtration	Lead/Tin 0.7 mm	Lead/Tin 0.7 mm	Lead/Tin 0.7 mm	Lead/Tin 0.7 mm

Remarks
Specialised dosimeter.

UD-812-A14T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$CaSO_4$	$CaSO_4$	$CaSO_4$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead - 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead - 0.7 mm

Remarks
Specialised dosimeter.

UD-813-A Series

UD-813-A1T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{n}Li_2B_4O_7$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead - 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead - 0.7 mm

Remarks
Specialised dosimeter.

UD-813-A4T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{6}Li_2{}^{10}B_4O_7$	$^{6}Li_2{}^{10}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$
Front Filtration	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks
Specialised dosimeter.

UD-813A6T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{6}Li_2{}^{10}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{6}Li_2{}^{10}B_4O_7$
Front Filtration	Plastic – 75 mg/cm^2	Plastic – 75 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks
Specialised dosimeter.
Used in PTW holder in Europe for beta-gamma-neutron measurement

UD-813A9T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{n}Li_2B_4O_7$	$^{n}Li_2B_4O_7$	$CaSO_4$	$^{n}Li_2B_4O_7$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 75 mg/cm^2
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks Not a standard Panasonic dosimeter. Available for special design and use.

UD-813A14T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{n}Li_2B_4O_7$	$^{n}Li_2B_4O_7$	$CaSO_4$	$^{n}Li_2B_4O_7$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks Not a standard Panasonic dosimeter. Available for special design and use.

UD-814-A Series

UD-814A1T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{n}Li_2B_4O_7$	$CaSO_4$	$CaSO_4$	$CaSO_4$
Front Filtration	Plastic – 14 mg/cm^2	Lead – 0.7 mm	Lead – 0.7 mm	Lead – 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Lead – 0.7 mm	Lead – 0.7 mm	Lead – 0.7 mm

Remarks
Not a standard Panasonic dosimeter. Available for special design and use. Often used like the UD-804 environmental dosimeter except with the addition of a LiBO element in position 1, encapsulated in 14 mg/cm2 plastic to enable monitoring for beta particles in the environment.

UD-814A4T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{n}Li_2B_4O_7$	$^{n}Li_2B_4O_7$	$CaSO_4$	$^{n}Li_2B_4O_7$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 60 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 60 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks
Not a standard Panasonic dosimeter. Available for special design and use. Often used like the UD-804 environmental dosimeter except with the addition of a LiBO element in position 1, encapsulated in 14 mg/cm^2 plastic to enable monitoring for beta particles in the environment.

UD-814A6T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$CaSO_4$
Front Filtration	Plastic – 14 mg/ cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Lead – 0.7 mm

Remarks
Not a standard Panasonic dosimeter. Available for special design and use. Often used like the UD-804 environmental dosimeter except with the addition of a LiBO element in position 1, encapsulated in 14 mg/cm^2 plastic to enable monitoring for beta particles in the environment.

UD-814A9T

	Element 1	Element 2	Element 3	Element 4
Phosphor	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{7}Li_2{}^{11}B_4O_7$	$^{6}Li_2{}^{10}B_4O_7$
Front Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 14 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks

Not a standard Panasonic dosimeter. Available for special design and use. Often used like the UD-804 environmental dosimeter except with the addition of a LiBO element in position 1, encapsulated in 14 mg/cm2 plastic to enable monitoring for beta particles in the environment.

UD-815 Series

UD-815AQ

	Element 1	Element 2	Element 3	Element 4
Phosphor	NONE	NONE	$CaSO_4$	$CaSO_4$
Front Filtration	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2
Rear Filtration	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2	Plastic – 160 mg/cm^2

Remarks

Originally intended for automatic calibration of the UD-710 automatic TLD reader photon and frequency counters. Now relatively unused.