



## Activated charcoal cartridge gamma standards

These interchangeable cartridges are used to trap radioactive gases released by nuclear power plants and nuclear fuel cycle facilities.

Standards impregnated with barium-133, cesium-137, europium-152 or a mixture of ten radionuclides are available for calibration of cartridge measuring instrumentation.

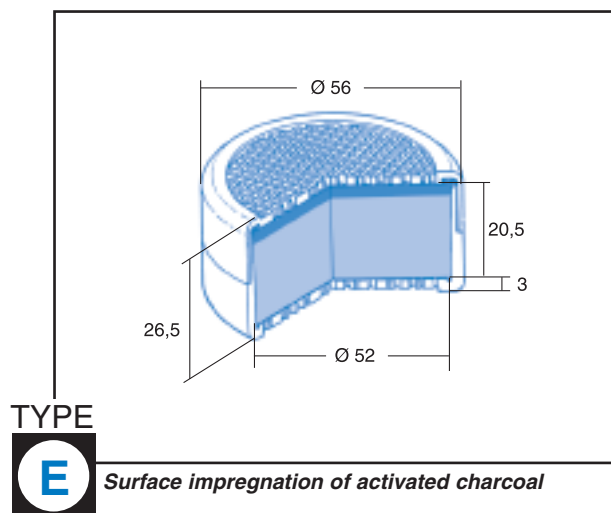
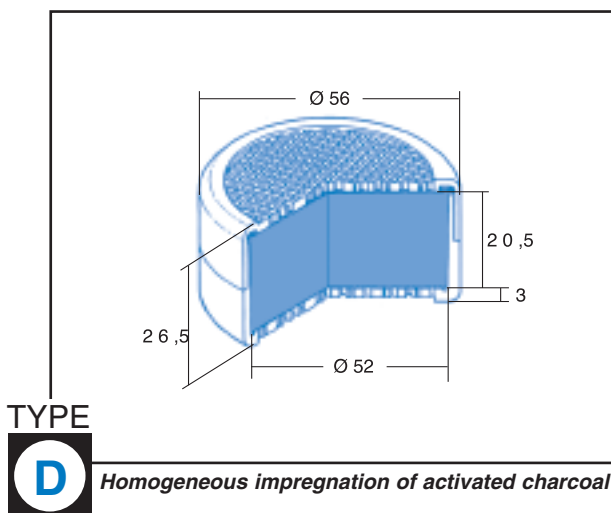
### •Technics

The cartridges are characterized in terms of activity, and comprise a leaktight polycarbonate housing (volume: 44 cm<sup>3</sup>) containing the activated charcoal (model Merlin Génin Provence, ref. 12217). Two types of standards are available:

• **Type D** : the activated charcoal is homogeneously impregnated ( $\pm 5\%$ ) with the radionuclide or radionuclides.

• **Type E** : the activated charcoal is not impregnated. Instead, a radioactive disk is placed in contact with one of the inside surfaces of the housing to simulate surface contamination. The activity of the radionuclide is distributed uniformly ( $\pm 5\%$ ) over the surface of a disk 50 mm in diameter which is hot-sealed between two thin plastic foils (total mass per unit area: 24 mg.cm<sup>-2</sup>).

### • Available packaging



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Radionuclide Half-life	Product code	Activity		Package		Measurement uncertainty
		KBq	μCi	Diameter	Type	
				mm		%
<b><sup>133</sup>Ba</b> 1,05 x 10 <sup>1</sup> years	<b>BA133EDCD10</b>	4	1 x 10 <sup>-1</sup>	56	D	5
	<b>BA133EDCE10</b>	4	1 x 10 <sup>-1</sup>	56	E	5
<b><sup>152</sup>Eu</b> 1,35 x 10 <sup>1</sup> years	<b>EU152EDCD10</b>	4	1 x 10 <sup>-1</sup>	56	D	5
	<b>EU152EDCE10</b>	4	1 x 10 <sup>-1</sup>	56	E	5
<b><sup>137</sup>Cs + <sup>137</sup>Ba<sup>m</sup></b> 3,02 x 10 <sup>1</sup> years	<b>CS137EDCD10</b>	4	1 x 10 <sup>-1</sup>	56	D	5
	<b>CS137EDCE10</b>	4	1 x 10 <sup>-1</sup>	56	E	5
<b>Mixture</b> <sup>241</sup> Am, <sup>109</sup> Cd, <sup>139</sup> Ce, <sup>57</sup> Co, <sup>60</sup> Co, <sup>51</sup> Cr, <sup>137</sup> Cs, <sup>113</sup> Sn, <sup>85</sup> Sr, <sup>88</sup> Y	<b>9ML01EDCD11<sup>(1)</sup></b>	18,5	5 x 10 <sup>-1</sup>	56	D	5
	<b>9ML01EDCE11<sup>(1)</sup></b>	18,5	5 x 10 <sup>-1</sup>	56	E	5

### Legend:

(1) Lead time: see production schedule at the last page of the catalogue.

To order: see Commercial Information on pages I.1 – I.5 of the INFORMATION section