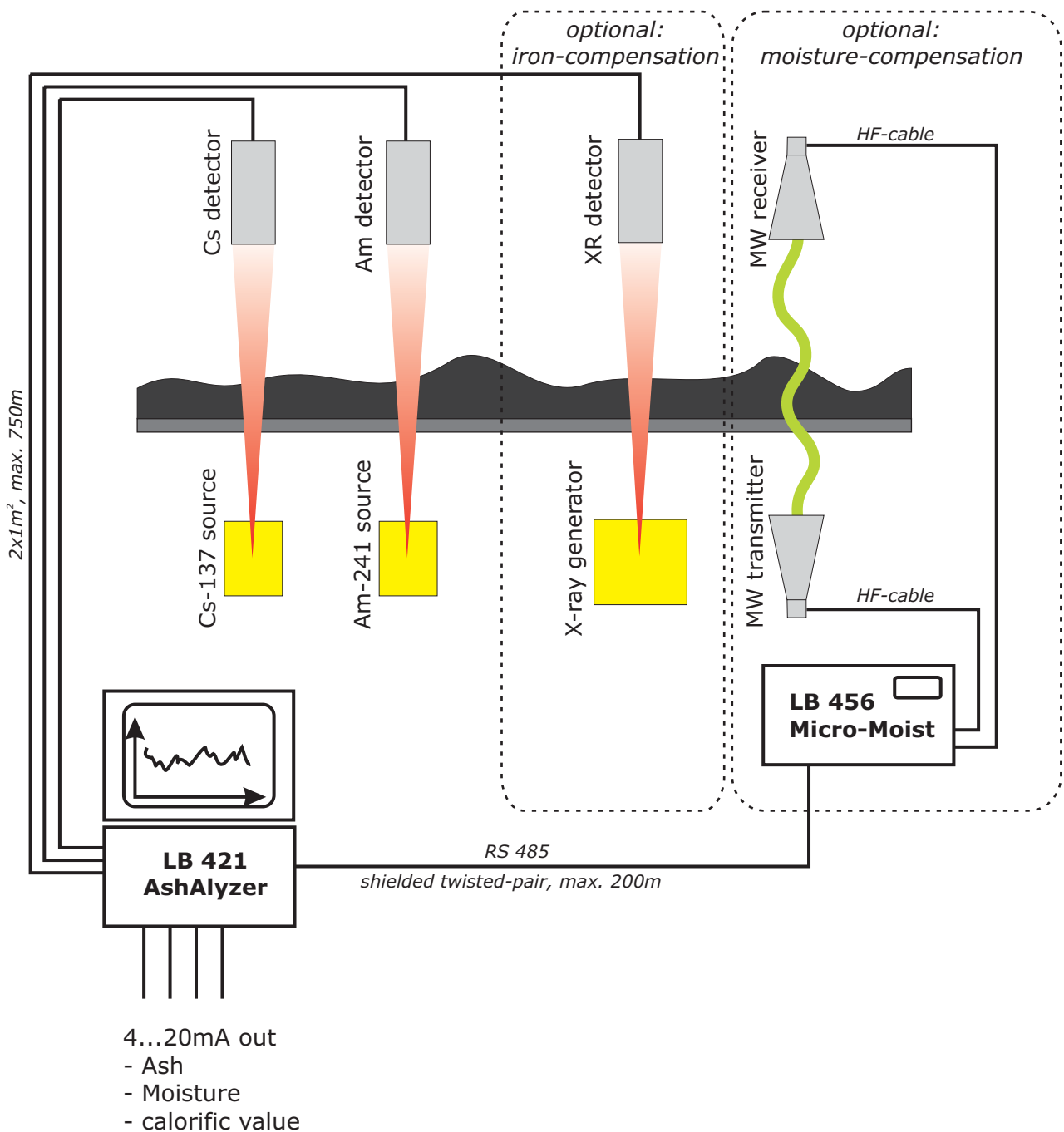


Technical Information

AshAlyzer LB 421

Online Ash-in-Coal Monitor System

1. General measurement arrangement

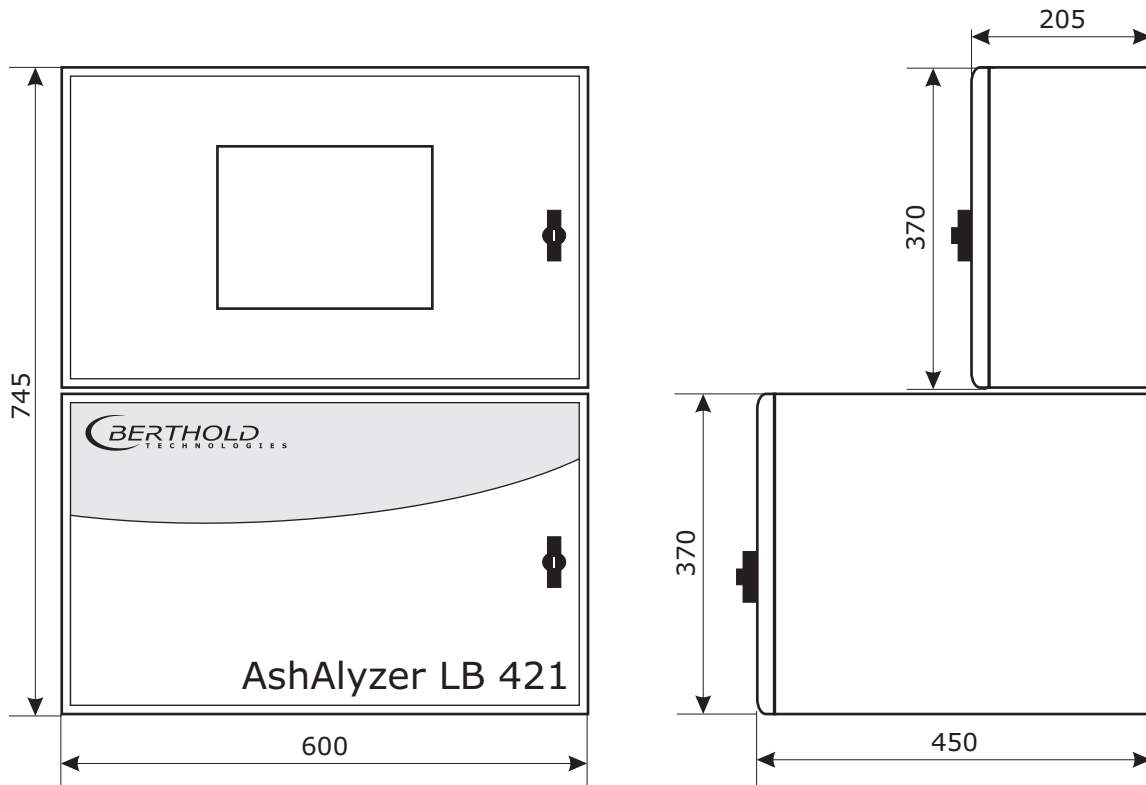


AshAlyzer LB 421

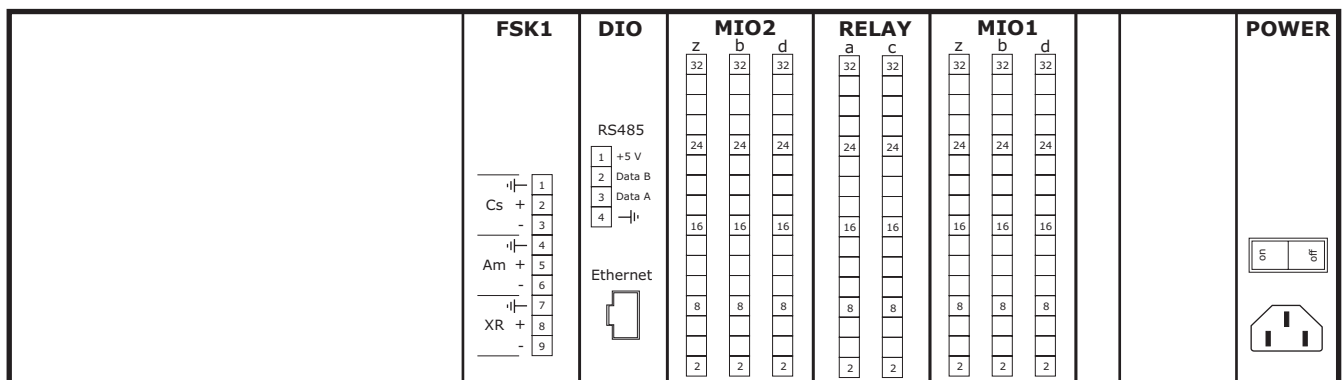
dimensions in mm

2.0 LB421 Evaluation unit

2.1 Wall housing dimensions



2.2 General arrangement of electronic boards



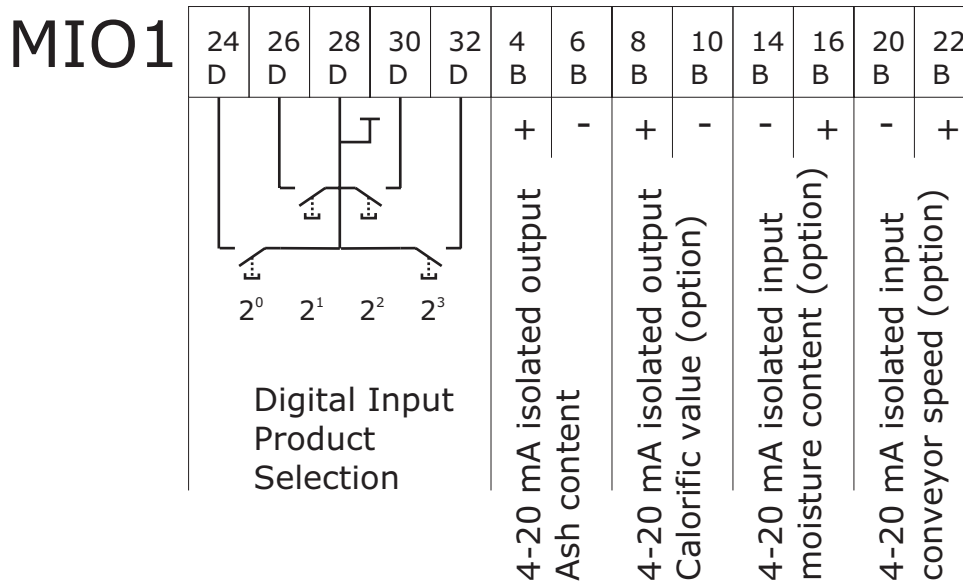
Line
100-240 VAC
47-63 Hz

DIO: *Digital Input-Output*
 FSK: *Frequency-Shifted-Key Communication*
 MIO: *Multiple Input-Output*

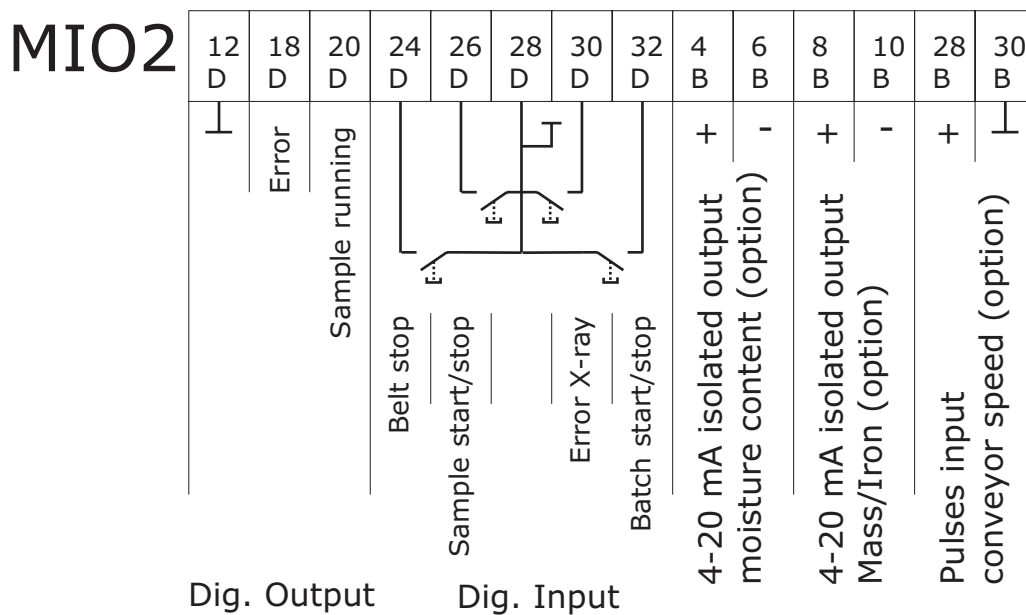
AshAlyzer LB 421

dimensions in mm

2.3 Wiring Diagram Multi-IO 1 (MIO1) electronic board



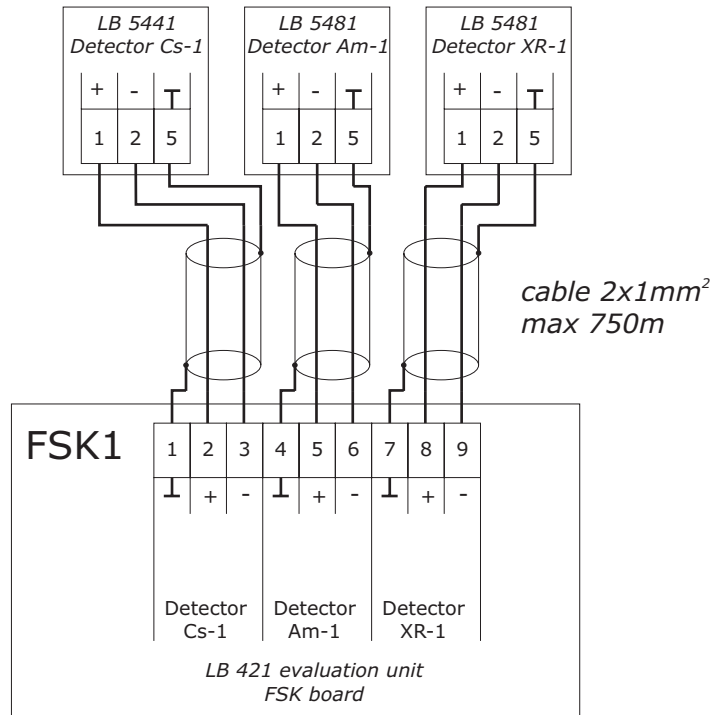
2.4 Wiring Diagram Multi-IO 2 (MIO2)



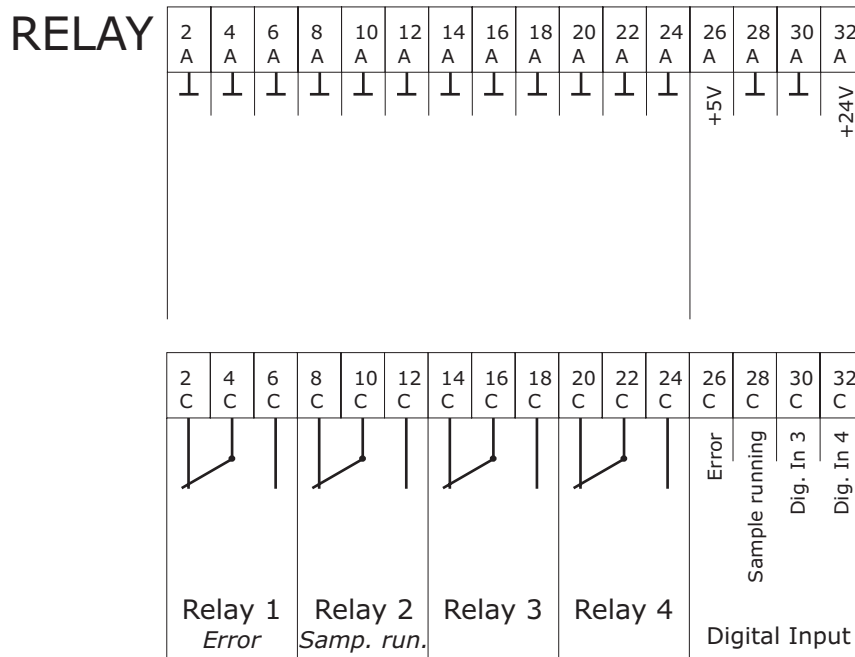
AshAlyzer LB 421

dimensions in mm

2.5 Wiring Diagram FSK1 electronic board



2.6 Wiring Diagram Relay Card electronic board

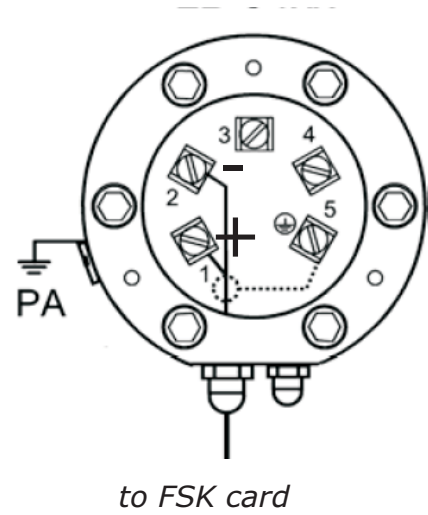
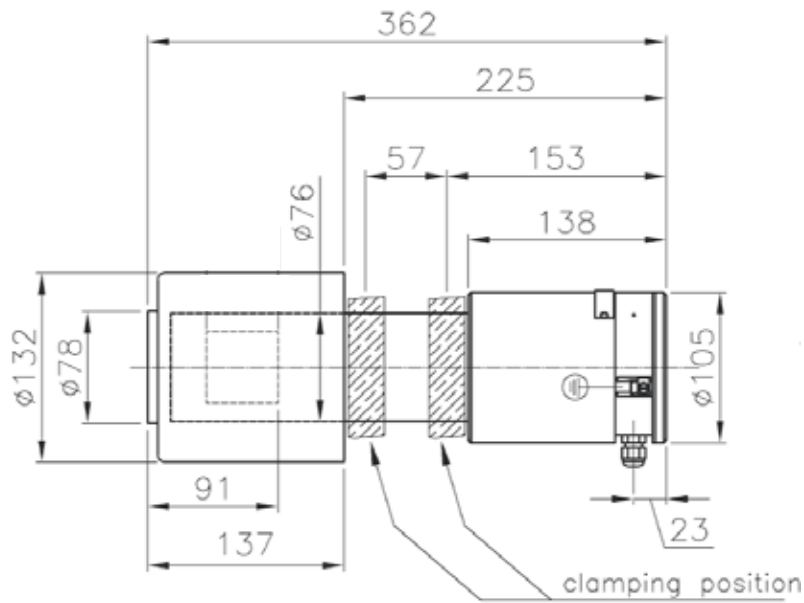


AshAlyzer LB 421

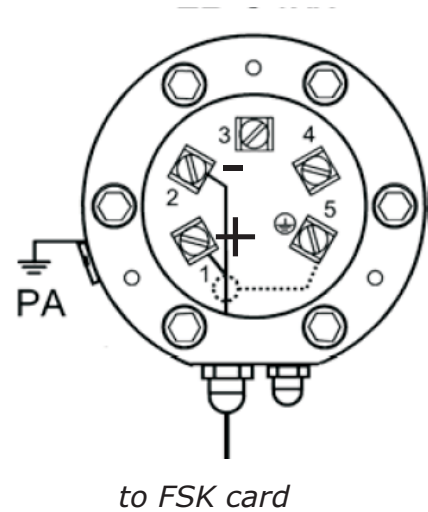
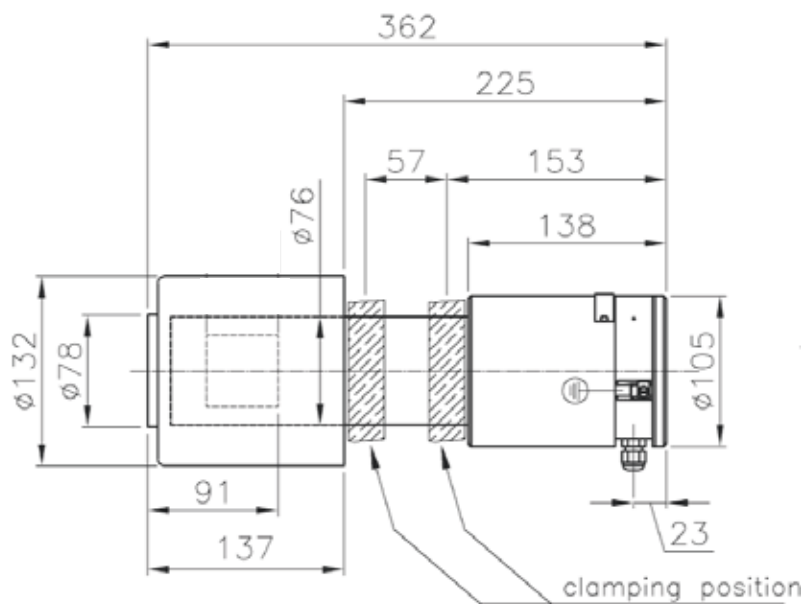
dimensions in mm

3.0 Radiation detectors

3.1 Cesium detector (Cs) LB 5441-02



3.2 Americium/X-ray detector (Am/XR) LB 5481

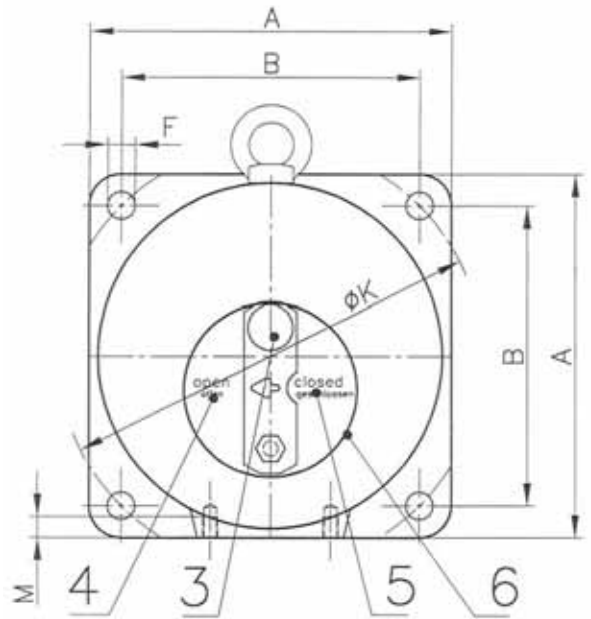
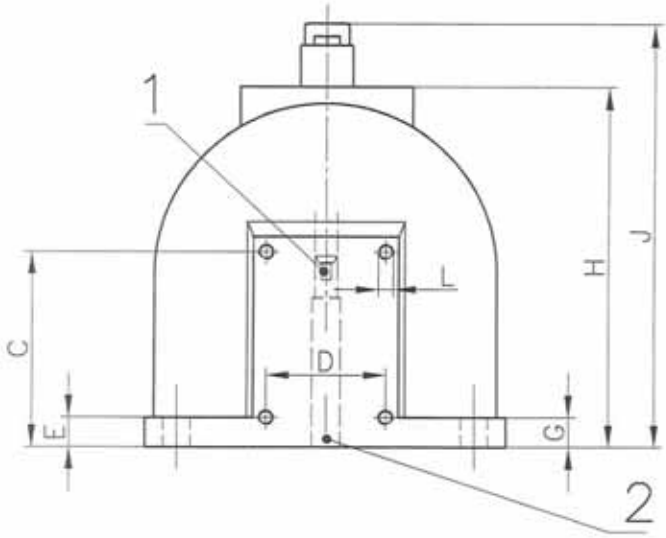


AshAlyzer LB 421

dimensions in mm

4.0 Source shieldings

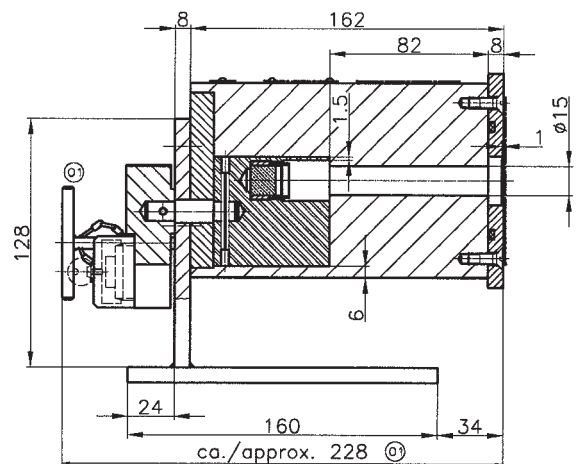
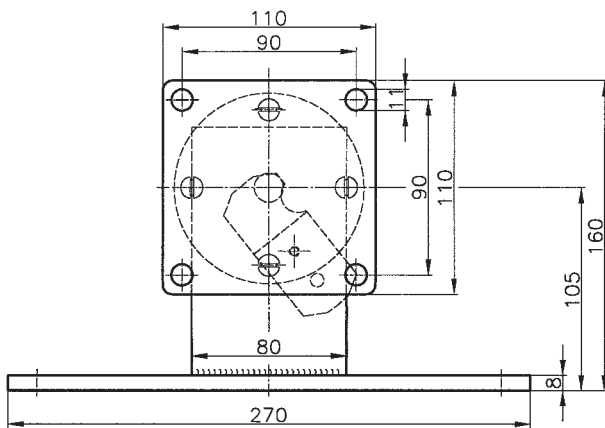
4.1 Cesium shielding LB 7440D / LB 7442D



1 Point source 2 Radiation beam outlet 3 Padlock 4 Position OPEN 5 Position CLOSED 6 Name plate

Model	A	B	C	D	E	F	G	H	J	K	L	M	N ca.	Flange DIN 2501 4 holes	Weight in kg
LB 7440	180	141.5	75	60	15	18	20	172	200	200	M8	12	390	ND 125, PN 6	31
LB 7442	240	198	130	80	20	18	20	240	270	280	M10	14	460	ND 200, PN 6	81

4.2 Americium shielding LB 7487

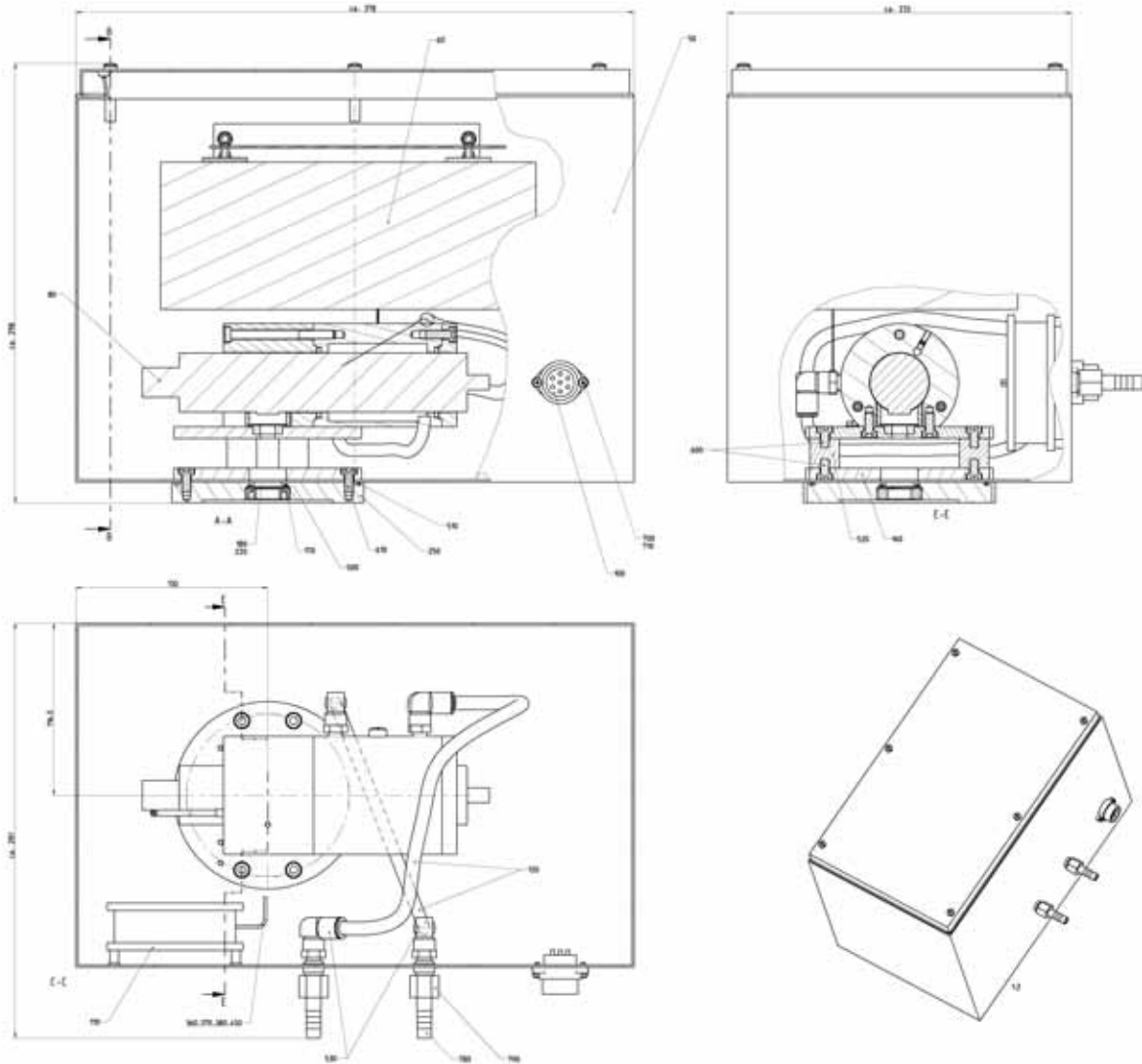


AshAlyzer LB 421

dimensions in mm

5.0 X-Ray generator

5.1 Dimensional Drawing



5.2 X-Ray cooling

Water temperature	Flow
$\leq 10\text{ }^{\circ}\text{C}$	0.5 liters/minute
20 $^{\circ}\text{C}$	1.0 liters/minute
30 $^{\circ}\text{C}$	3.0 liters/minute

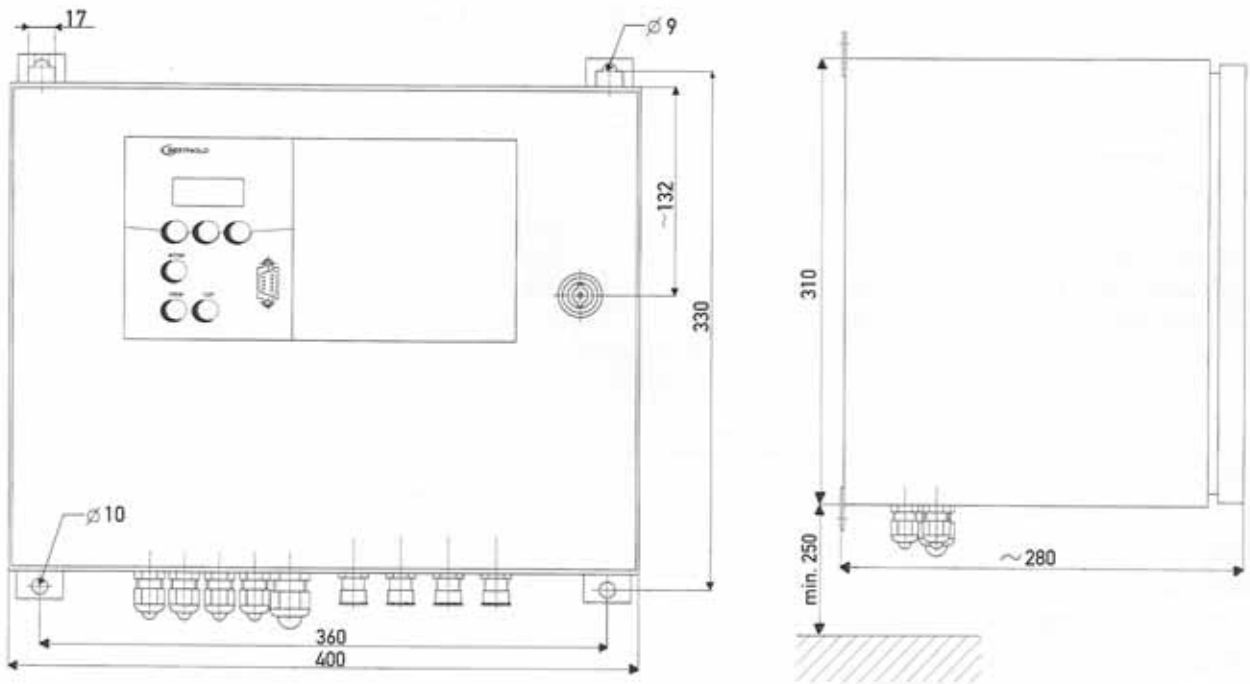
Cooling water must be of drinking quality.
Pressure shall not exceed 5 bar.

AshAlyzer LB 421

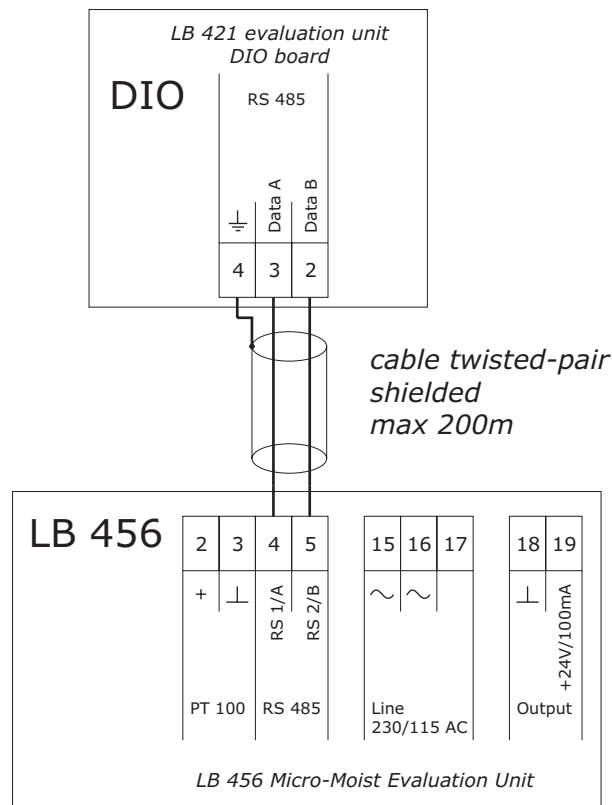
dimensions in mm

6.0 Microwave Moisture measurement

6.1 LB 456 Micro-Moist evaluation unit - stainless steel wall housing



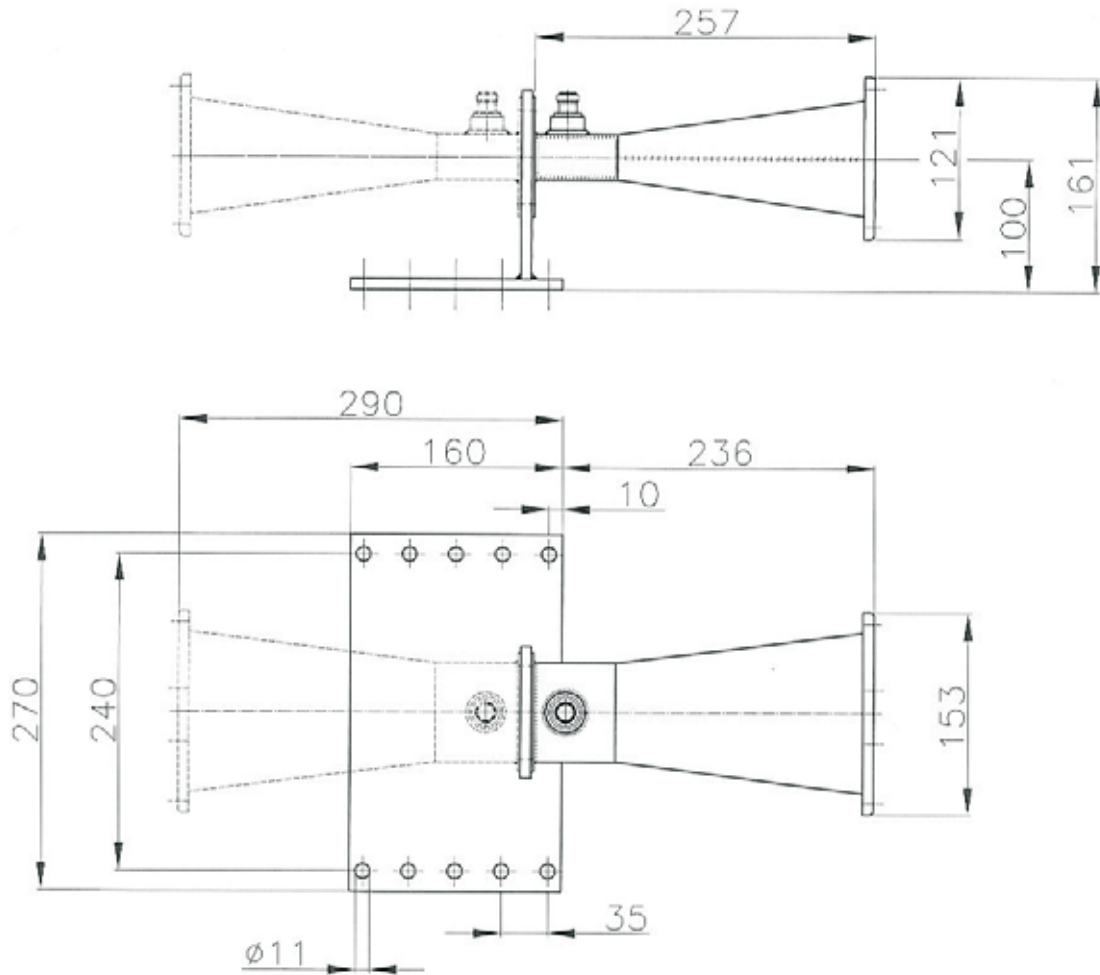
6.2 Wiring diagram LB 456



AshAlyzer LB 421

dimensions in mm

6.3 Microwave Horn antenna



AshAlyzer LB 421

dimensions in mm

8.0 Instrument weights

Evaluation units

AshAlyzer LB 421 Evaluation unit	50 kg
Micro-Moist LB 456	17 kg

Radiation sources

Cs shielding type LB 7440	31 kg
Cs shielding type LB 7442	81 kg
Am shielding	10 kg
X-ray source LB 3380	20 kg

Detectors

LB 5441-02-0a 40/35 for Cs-137	18 kg
LB 5481-06 44/5 for Am-241	18 kg
LB 5481-06 44/5 for X-Ray	18 kg

Microwave

Horn antenna	1.4 kg
Holder for antenna	3.8 kg

Mounting frames

Frame for Cs and Am	110 kg
Frame for XR and MW	110 kg