~~CLAIMS~~ THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. Measuring cell ~~adaptable to a~~ for spectro-analytical absorption measurement and spectral analysis of a gas sample ~~and having means~~ contained in said measuring cell and for electric and mechanical co-operation with a carrier, such as a card having printed wiring, ~~where~~ said measuring cell ~~is designed and adapted to allow co-ordinating light beams emitted from a means~~ comprising a means for generating light ~~in a direction toward~~ , a means for receiving light, ~~by allowing utilizing a plurality of reflections of said emitted light beams from~~ an inner cavity comprising a number of reflection surfaces ~~assigned to~~ thus defining a predetermined, optical measuring path length in the inner cavity of the measuring cell, ~~thereby allowing creating a predetermined, optical measuring distance in~~ whereby the inner cavity of the measuring cell~~,~~ ~~such as from the means generating light to the means receiving light, and where the cavity of said measuring cell is adapted to allow containing the gas sample intended for a spectroanalytical absorption measurement and where the inner cavity of the measuring cell and the volume thereof are limited by a first part, in the form of a~~ is defined by a first bottom part, ~~allocated to the measuring cell, in co-operation with~~ and a second ~~part, such as an~~ upper part~~, allocated to the measuring cell, and where~~ which co-operate with each other, and whereby the first ~~part~~ and/or ~~the~~ second part ~~are/is assigned~~ comprise respective recesses and/or seats, ~~where assigned~~ whereby the recesses ~~are adaptable to~~ allow a passage of light beams~~, generated by~~ respectively from the means for generating light~~,~~ and to ~~a passage of light beams assigned a direction toward~~ the means for receiving light, ~~while assigned seats are adaptable in order to~~ and whereby the seats entirely or partly ~~be able to~~ hold the means for generating light and/or the means for receiving light, ~~besides which light beams, from the means generating light, are directed to and/or adaptable, such as reflectable, in a first reflection surface (M1) in order to thus reflected become directed to a second reflection surface (M2), shaped as a first concave~~

~~reflection surface, **characterized in** that~~ whereby the plurality of reflection surfaces comprises a first reflection surface and a second concave shaped reflection surface, the first reflection surface reflecting light to the second concave shaped reflection surface, whereby the first part ~~(11)~~ is adapted to rest against said carrier ~~(3, 13), which, within its~~ with a first surface ~~(11a) faceable to~~ facing the carrier, ~~is~~ being formed with one or two recesses ~~(14)~~ or seats, in order to entirely or partly ~~allow surrounding,~~ surround at least, said means ~~(4)~~ for generating light, ~~and that the carrier (3), within its first surface (3a) faceable to the first part (11), is formed with one or two recesses (16) or seats, in order to entirely or partly allow surrounding, at least, said means (4) generating light, and~~ characterized in that the first reflection surface ~~(M1) reflecting light~~ is

adapted to ~~allow directing generated~~ direct light generated by the means for generating light to a first plane ~~(P1)~~, separated from a second plane ~~(P2) assigned to~~ in which said means ~~(4)~~ for generating light is located, and that the first part form a space facing the carrier for the formation of a protected space for electronic components.

2. Measuring cell according to claim 1, **characterized in** that, between the carrier ~~(3)~~ and the second part ~~(12)~~, the first part ~~(11)~~ is arranged as an intermediate orientated part portion ~~(11')~~, which forms, together with the carrier ~~(3)~~, the first part ~~(11)~~ and the second part ~~(12)~~, said first reflection surface ~~(M1)~~ preceding a second concave reflection surface. ~~(M7)~~

3. Measuring cell according to claim 1 or 2, **characterized in** that the first part, or the intermediate orientated part portion, is adapted to have a seat or a recess ~~(14)~~ facing the carrier, ~~adaptable~~ adapted to one half, or essentially one half, of the means ~~(4)~~ for generating light.

~~4. Measuring cell according to claim 2 or 3, **characterized in** that the first part, or the intermediate orientated part portion, is adapted to form a space (17) faceable to the carrier (3) for the formation of a protected space for electronic components (18).~~

~~5~~ 4. Measuring cell according to claim 2~~, 3~~ or ~~4~~ 3, **characterized in** that, within the first part, or the intermediate orientated part portion ~~(11')~~, said means ~~(5)~~ for receiving light is installed.

~~6~~ 5. Measuring cell according to claim 1 or ~~5~~ 4, **characterized in** that said first part, or its intermediate intermediate orientated part portion, forms, together with the second part ~~(12)~~ and the carrier ~~(3)~~, a common second concave reflection surface ~~(M7)~~, in order to convergingly allow directing generated light beams, via reflection surfaces and focal points, to the means ~~(5)~~ for receiving light and the light detector thereof.

~~7~~ 6. Measuring cell according to claim 1 or 2, **characterized in** that the second concavely curved reflection surface (M7) is adapted to enclose said means ~~(4)~~ for generating light and, via said concave reflection surface ~~(M7)~~, allow concentrating generated light beams to a deflecting first reflection surface ~~(M1)~~

in order to, via a first focusing point ~~("F1")~~, be reflected against the second, such as the first concavely shaped, reflection surface ~~(M2)~~.

~~8~~ 7. Measuring cell according to any one of the preceding claims, **characterized in** that the converging light beams reflected from the second reflection surface ~~(M2)~~ are, as converging light beams, directed to a third reflection surface ~~(M3)~~, shaped as a plane reflection surface, that the converging light beams reflected from the third reflection surface ~~(M3)~~ are directed to a fourth reflection surface ~~(M4)~~, such as formable to a plane reflection surface, that the light beams reflected from the fourth reflection surface ~~(M4)~~ are, via a second focal point ~~("F2")~~, directed to the second reflection surface ~~(M2)~~, and that the converging light beams reflected thereby from the second reflection surface ~~(M2)~~ are directly or indirectly adapted and directed to the means ~~(5)~~ receiving light, as a third focal point ~~(F3)~~.

~~9~~ 8. Measuring cell according to claim 1 or ~~8~~ 7, **characterized in** that the light beams allocated to the generated light in the means ~~(4)~~ for generating light are adapted to be reflected from a part of a revolution ellipsoidal or revolution paraboloidal reflection surface ~~(M7)~~ preceding the first reflection surface ~~(M1)~~ as counted in the direction of travel or propagation of the light beams.

~~10~~ 9. Measuring cell according to claim 1 or ~~8~~ 7, **characterized in** that a fifth reflection surface ~~(M2)~~ or reflection point ~~(M2b)~~, in the second reflection surface ~~(M2)~~, is adapted to allow directing the light beams reflected from the fourth reflection surface ~~(M4)~~ to the means ~~(5)~~ receiving light.

~~11~~ 10. Measuring cell according to claim 1 or ~~8~~ 7, **characterized in** that the measuring cell ~~(1)~~ is adapted to allow having an inner cavity ~~(1c)~~ and shape connecting to a parallelogram, in section, or a parallelepiped, such as with right angles, or at least essentially right angles, such as the shape of a rectangle in cross-section.

~~12~~ 11. Measuring cell according to claim 1 or ~~8~~ 7, **characterized in** that the angles of incidence of the light beams, as for a central ray, to the first reflection surface ~~(M1)~~ are selected to be less than 10°.

~~13. Measuring cell according to any one of the preceding claims, **characterized in** that the second reflection surface (M2) is adapted with a curvature in the cavity (1c), such as a partly elliptic or parabolic curvature, with a distance from the outer surface of the measuring cell to a curved wall portion (1d) of the cavity (1c) of the measuring cell varying from "0" to 2–4:10 along a shorter side (1A) of the cavity (1c) of the measuring cell.~~

~~14~~ 12. Measuring cell according to claim 1 or ~~8~~ 7, **characterized in** that the third plane reflection surface ~~(M3)~~ is related to a longer side of the inner shape or cavity of the measuring cell

~~15~~ 13. Measuring cell according to claim 1 or ~~8~~ 7, **characterized in** that the fourth reflection surface ~~(M4)~~ is adapted to have a length of 25 to 40 % of a shorter side ~~(1C)~~ allocated to the measuring cell.

~~16~~ 14. Measuring cell according to claim 1, ~~8~~ 7 or ~~15~~ 14, **characterized in** that the fourth reflection surface ~~(M4)~~ is adapted, as for a central ray, to assume an angle to said shorter side of 10° to 20°.

~~17~~ 15. Measuring cell according to claim 1, ~~8~~ 7, ~~15~~ 14 or ~~16~~ 15, **characterized in** that the fourth reflection surface ~~(M4)~~ is adapted to receive, as for a central ray, incident light beams within an angle of incidence of 15° to 30°, such as about 20°.

~~18~~ 16. Measuring cell according to any one of the preceding claims, **characterized in** that said cavity is contained in, at least, two co-ordinated parts ~~(11, 12)~~, in the form of plastic details, and having outer dimensions of approx. 20 × 25 × 2–4 mm or thereabout, for an optical measuring distance of approx. 100 mm.

~~19~~ 17. Measuring cell according to any one of the preceding claims, **characterized in** that the means ~~(4)~~ for generating light is adapted to have a frequency coverage within the infrared (IR) range.

~~20~~ 18. Measuring cell according to any one of the preceding claims, **characterized in** that design of the measuring cell is adapted to be able to have a selected ratio between "the length of the measuring distance/the outer ~~(inner)~~ volume of the measuring cell" that, using a millimetre rule, gives a ratio of 1:7 to 1:60 (mm^{-2}), such as between 1:10 to 1:30, say about 1:20.

~~21~~ 19. Measuring cell according to any one of the preceding claims, **characterized in** that the second part ~~(12)~~ accommodates the cavity ~~(1c)~~ that there has a height dimension from 1 to 5 mm, such as 2 to 4 mm.

~~22~~ 20. Measuring cell according to any one of the preceding claims, **characterized in** that the length of the measuring distance is adapted to embrace two to four focal points, such as three focal points at a measuring distance of 100 mm or thereabout, where two focal points give a shorter measuring distance and four focal points give a longer measuring distance.

~~23~~ 21. Measuring cell according to any one of the preceding claims, **characterized in** that the means ~~(4)~~ for generating light is a lamp with its longitudinally orientated axis ~~(4')~~ related to, or in close connection to, a plane of the upper surface ~~(3a)~~ of the carrier, in order to reduce the requisite structure height.