[0031] Each cartridge **2** comprises storage means **10** which can be provided as an electrical memory member, e.g. a memory chip, in particular EEPROM, FRAM, PROM or battery backed RAM. This storage means **10** are designed as permanent memory and are readable with appropriate reading means. It is also possible to use writable and alterable memory. In the cartridges **2***a* and **2***c* the storage means **10** are connected with the connecting means **8** of the respective cartridge **2**.

[0032] Cartridge **2***b* shows a special embodiment having radio frequency data transfer means **11** symbolised with an antenna **12**. These radio frequency data transfer means **11** communicate with the storage means **10** and will be provided additionally or instead of the connection with the connecting means **8**.

[0033] In the storage means **10** are stored cartridge specific data and/or information, e.g. calibration and/or characterisation data relating to the respective cartridge **2**, and/or manufacturing lot data relating to the lot, to which the respective cartridge **2** belongs, and/or a production date of the respective cartridge **2**, and/or shelf life information or an expiration date of the respective cartridge **2**, and/or cartridge type information, and/or a unique serial number of the respective cartridge **2**. This list is only an example and is in particular not complete.

[0034] The diagnosis and/or analysis apparatus **3** comprises electrical connecting means **13** corresponding to the connecting means **8** of the cartridges **2**. The apparatus **3**, which can be a handheld or benchtop, further comprises diagnosing and/or analysing means **14**, which can be represented by a programmed or programmable microprocessor. This diagnosing and/or analysing means **14** are connected with the connecting means **13** of the apparatus **3**. The apparatus **3** also comprises reading means **15** connected with the connecting means **13**. These reading means **15** are provided for reading the data and/or information stored in the storing means **10** of any cartridge **2** connected to the apparatus **3**.

[0035] These reading means **15** additionally may be provided with radio frequency data transfer means **16** symbolised with an antenna **17**. These radio frequency data transfer means **16** and the radio frequency data transfer means **11** of the cartridges **2** are provided to perform a communication between the storage means **10** of the respective cartridge **2** and the diagnosing and/or analysing means **14**. Therefore the diagnosing and/or analysing means **14** can read in and/or write on the storage means **10** via the reading means **15**.

[0036] The apparatus **3** also comprises a storage or memory member **18** storing e.g. coefficients and/or algorithms and/or parameters which will be required for evaluating the measured values or signals. There may be provided display means **19** to indicate the results of the diagnosis and/or analysis, and an interface **20** with which the apparatus **3** can communicate with peripheral equipment, e.g. a printer, or with a data management system.

[0037] The system **1** according to the invention works as follows:

[0038] Each manufacturing lot of cartridges **2** has its own lot data leading to specific calibration and characterisation data for the cartridges **2** of this lot. These specific calibration and characterisation data and preferably a number of other useful cartridge specific data and/or information are stored in the storage means **10** of each cartridge **2**. Therefore every cartridge **2** is inseparably combined with this information. The storing of the data and/or information can be realised via the connecting means **8** or via the radio frequency data transfer means **11**. The latter has the advantage of storing the data after sterilisation and packaging the cartridge **2**.

[0039] After filling a sample of body fluids, e.g. a blood sample, into the sample receiving room **4**, the respective cartridge **2** is inserted into the diagnosis and/or analysis apparatus **3** to provide a communication between the connecting means **8** of the cartridge **2** and the connecting means **13** of the apparatus **3**. This insertion is indicated with broken lines **21***a*, **21***b* and **21***c*.

[0040] The reading means **15** can automatically read the stored cartridge specific data and/or information, especially the calibration and characterisation data of the inserted cartridge **2** via the connecting means **13** and/or via the radio frequency data transfer means **16**. Since the cartridge specific data and/or information comprise cartridge type information, the diagnosing and/or analysing means **14** will select appropriate measurement and/or evaluation routines.

[0041] Via the connecting means **8** and **13** the diagnosing and/or analysing means **14** will measure the electric values correlating with the concentration of the specific components and—in case of cartridge **2***b*—also values correlating with the temperature of the sample. Before this measurement is performed or before an evaluation of this values takes place the diagnosing and/or analysing means **14** will perform some routines like the following:

[0042] According to the cartridge specific data and information the diagnosing and/or analysing means **14** will compare the expiration date of the connected cartridge **2** with the current date, and perform the measuring and/or evaluation of the concentration and/or temperature values, only if the expiration date is not exceeded.

[0043] Alternatively or additionally the diagnosing and/or analysing means **14** compare the serial number of the connected cartridge **2** with invalid serial numbers stored in the memory member **18** of the diagnosis and/or analysis apparatus **3**, and perform the measuring and/or evaluation of the respective values, only if the serial number of the connected cartridge **2** is not invalid.

[0044] In case of a connected single use cartridge **2** the diagnosing and/or analysing means **14** alternatively or additionally check, whether this cartridge **2** is used or not and perform the measuring and/or evaluation of the respective values, only if the cartridge **2** is unused.

[0045] In case of a connected multiple use cartridge **2** the diagnosing and/or analysing means **14** alternatively or additionally check, how often and/or since when this cartridge **2** is used and perform the measuring and/or evaluating of the respective values, only if the cartridge **2** is still usable.

[0046] Since these routines have valid results the diagnosing and/or analysing means **14** will perform an evaluation of the measured values. This evaluation has to be performed with appropriate coefficients and/or parameters and/or algorithms for determining the real component concentration and the real sample temperature, respectively. In accordance with the automatically read calibration and characterisation