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26. An apparatus according to claim 25, wherein:
 a fluid sample intake conduit which extends to fluid in
 said channel, said sample intake conduit being se-
 lectively connectable to said fluid sampling assem-
 bly inlet; and
 said user-selected input parameters further compris-
 ing data relating to the volume of said sample in-
 take conduit and purging thereof.
27. An apparatus according to claim 16, wherein:
 said data memory is provided with back-up battery
 power means for permitting said stored fluid sam-
 pling data and fluid flow-related data to remain
 stored in memory when said power means for sup-
 plying power to said apparatus is turned off.
28. An apparatus according to claim 16, wherein said
 fluid sampling assembly comprises:
 a pump provided with said inlet for receiving fluid
 from said channel;
 a plurality of sample containers; and
 distributor means connected by a conduit with an
 outlet of said pump for selectively distributing fluid
 samples to said sample containers.
29. An apparatus according to claim 16, wherein said
 fluid sampling assembly comprises:
 a single fluid sample container disposed in a lower
 portion of said case.
30. An apparatus according to claim 16, wherein:
 said program memory stores a plurality of equations
 for computing values of said fluid flow-related
 variable in said channel; and
 said microprocessor receives said signal related to
 fluid flow via said input connection and calculates
 values of said fluid flow-related variable based on
 said signal, said at least one user-selected fluid
 flow-related parameter, and a selected one of said
 equations stored in said program memory.
31. An apparatus according to claim 16, wherein:
 said integral operating unit further comprises means
 for conditioning said signal for input to said control
 means.
32. A method for automatically collecting samples
 from a fluid channel and for measuring a fluid flow-
 related variable, according to modes of operation se-
 lected by a user, said modes of operation including
 sampling on the basis of time and/or said fluid flow-
 related variable, comprising the steps of:
 connecting, to an input connection of an integral
 operating unit, a sensing means for producing a
 signal related to the fluid flow in said channel;
 connecting a sample intake conduit to an inlet of a
 sampling assembly of said integral operating unit;
 mounting said sensing means in a detecting position
 relative to said channel;
 lowering a lower intake end of said conduit into fluid
 in said channel;
 positioning in an operable position said integral oper-
 ating unit, including said fluid sampling assembly,
 means for supplying power to said integral operat-
 ing unit, and means for controlling said integral
 operating unit, all disposed within a single case
 which is sufficiently compact so as to be receivable
 in a manhole;

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- operating said control means, including program
 memory thereof programmed for computing val-
 ues of said fluid flow-related variable, data memory
 thereof which stores user-selected input parameters
 including operating mode selection data, at least
 one fluid flow-related parameter and fluid sampling
 times, such that a microprocessor of said control
 means receives said signal from said sensing means
 via said input connection and utilizes said program
 memory to calculate the value of said fluid flow-
 related variable based on said signal and said at
 least one user-selected fluid flow-related param-
 eter, for controlling said fluid sampling assembly
 according to at least one of said modes of operation
 selected by the user, based on said user input sam-
 pling times and/or computed values of said fluid
 flow-related variable; and
 operating said data memory of said control means for
 automatically storing sampling data and fluid flow-
 related data.
33. A method according to claim 32, further compris-
 ing the step of:
 displaying said stored fluid sampling data and fluid
 flow-related data on an alphanumeric display of
 said integral operating unit, in response to a user
 display input command.
34. A method according to claim 32, further compris-
 ing the step of:
 retrieving said stored fluid sampling data and fluid
 flow-related data via a portable data transfer unit
 by connecting said data transfer unit to an output
 connection of said integral operating unit and in-
 putting a command to transfer said data to said
 transfer unit; and
 transferring said data retrieved by said portable data
 transfer unit to an external output device by con-
 necting said data transfer unit to said external out-
 put device.
35. A method according to claim 32, further compris-
 ing the step of:
 inputting user commands, via a user input keypad
 means of said integral operating unit, relating to
 sampling parameters including sample collection
 time intervals, sample collection flow intervals,
 program start and stop criteria, and sample size;
 and
 inputting user commands, via said keyboard means,
 relating to fluid flow-related parameters including
 specifications relating to said fluid channel, and
 intervals and units for storing fluid flow-related
 data.
36. A method according to claim 32, wherein:
 when said control means is operated to control said
 fluid sampling assembly, said microprocessor of
 said control means receives said signal from said
 sensing means via said input connection and utilizes
 a selected one of a plurality of equations stored in
 said program memory for computing values of said
 fluid flow-related variable based on said signal and
 at least one user-selected fluid flow-related param-
 eter.

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