

## Multi parameter monitoring for swimming pool water treatment

### Multi parameter measuring and controlling system in accordance with DIN 19643 for swimming pool water treatment (complete mounted on a water quality panel)

1 piece

#### Water Quality Panel

PVC panel (dimension about 600 x 600 mm, colour white), complete pre-mounted with pipes (DN 15), calibration assembly, shutoff ball valves for checking of sample water, rotameter (15 ... 150 l/h) and shutoff ball valves for dosing (of the measuring medium water)

**Type: Water Quality Panel Standard**

1 piece

#### Multi Parameter Controller

microprocessor based Multi Parameter Controller for maximum 4 internal and up to 12 external measuring modules, with respectively 1 piece measuring module for measuring of pH value/temperature, redox/ORP and 2 pieces measuring modules for chlorine (total chlorine and free chlorine or difference as bound chlorine), isolated inputs; streaming control via switch contacts on rotameter, electromagnetic compatibility to 89/336/EWG; EN 61326, NAMUR recommendation NE 21, measuring ranges: pH 0 ... 14

-2,000 ... + 2,000 mV absolute or temperature compensated calculation of the redox potential in relation to the Standard Hydrogen Electrode in accordance with DIN 38404 T6.

0 ... 2 mg/l free chlorine

0 ... 2 mg/l total chlorine

5 ... 45°C

corrosion and weather resistant aluminium case with protection standard IP 65 (suitable for wall mounting and with additional accessory for post mounting) with strip compartment; power supply 115/230 V AC; 48 ... 63 Hz; about 25 VA; permissible ambient temperature -10°C ... 55°C; automatic temperature compensation; manual and automatic calibration; touch-screen display, back-lighted, for maximum 16 measuring parameters and device status; digital interface RS-232 or RS-485 / CAN bus, optional additional 4 analog outputs 0(4) ... 20 mA; measuring span for analog outputs free scaleable, integrated data logger (for about 50,000 values); log-book for storage of parameter alterations, calibration values and error registrations, (about 200 activities); incl. PC visual software program MVremote for measuring, calibration, displaying, storage and export of measuring values to the PC with an adequate PC connection cable (length 5 m), 4 on/off floating control relay outputs for switch and alarm function, configurable in any combination, maximum 5 A, 250 V AC, inclusive controller module with 2 selectable PID controller as constant analog-, pulse length- or pulse frequency controller for control of pH- value and chlorine dosing

**Type: KM 2000 with MVremote**

1 piece

#### Flow-Through Housing

flow-through housing consist of AD 2000 with 3 ports PG 13.5 for insertion of pH combination electrode, redox/ORP combination electrode, temperature probe and 1 port 1" for chlorine sensor connected with 1 piece flow-through housing AD82-CI for insertion of the second chlorine measuring sensor, application in pipes by means of DN 10 hose connection or screw connection; material acrylic glass, PVC, max. pressure 1 bar; max. temperature 50°C

**Type: AD2000-AD82-CI**

1 piece

#### pH Combination Electrode

glass stem ø 12 mm, immersion length 120 mm, ceramic frit, zero point pH=7, gel-filled (non refillable), low maintenance electrode, Euro-Standard PG 13.5 threaded plug head S7-system; pH-range

0 ... 14; temperature range - 5 ... 80°C, max. pressure 6 bar

**Type: EGA 150 I**

1 piece

**Redox/ORP Combination Electrode**

glass stem  $\varnothing$  12 mm, immersion length 120 mm, ceramic frit, platinum disk  $\varnothing$  6 mm; reference system Ag/AgCl, 3 mol/l KCl, gel-filled (non refillable), low maintenance electrode, Euro-Standard PG 13.5 threaded plug head S7-system; temperature range -5 ... 80°C, max. pressure 6 bar

**Type: EMC 33 I**

1 piece

**Temperature Sensor**

glass stem  $\varnothing$  12 mm, immersion length 120 mm, platinum resistance sensor DIN/IEC 751 class A for temperature measurement and automatic temperature compensation; Euro-Standard PG 13.5 threaded plug head S7-system; temperature range -5 ... 100°C, max. pressure 6 bar;

**Type: Pt 1000 I**

1 piece

**Chlorine Measuring Sensor**

long term stable membrane covered amperometric sensor with high zero point stability for measurement of total chlorine in comparison with the photometric DPD method, pH and temperature compensated, pH range pH 6...10, material PVC, stainless steel, length 220 mm,  $\varnothing$  25 mm, mountable connection cable length 2 m, measuring range 0...2 mg/l total chlorine; temperature range 5...45°C; max. pressure 0.5 bar

**Type: CP 2**

1 piece

**Chlorine Measuring Sensor**

long term stable membrane covered potentiostatic sensor with high zero point stability for measurement of free oxidising chlorine as HOCl in comparison with the photometric DPD method, pH range pH 4...12, temperature compensated, material PVC, length 220 mm,  $\varnothing$  25 mm, mountable connection cable length 2 m, measuring range 0...2 mg/l free chlorine; temperature range 0...40°C; max. pressure 0.5 bar

**Type: CS 2**

3 pieces

**Measuring Cable**

low-noise coaxial measuring cable for connection between Multi Parameter Analyzer and pH-, redox/ORP combination electrode and temperature sensor; S7 plug head connector (protection standard IP 65)/second side stripped tinned ends for connection with Analyzer, cable  $\varnothing$  about 5 mm; standard length 2 m;

**Type: K 43/2**

1 piece

**Accessories and Replacement Parts**

triple – set NBS – Standard Buffer Solution 1000 ml pH 4.01; pH 6.87; pH 9.18 (pH value 25°C); 250 ml cleaning solution, re-conditioning solution and filling/storage solution 3 Mol KCl, 250 ml redox buffer solution  $U_H = 427$  mV, pH=7 (25°C)

**Type: NBS-Standard Buffer Solutions; Maintenance Kit pH  
Redox Buffer Solution  $U_H = 427$  mV, pH=7**