

# General Specifications

## Heavy Duty Combined Electrodes Model SC21- . . . . .

pH

The heart of a pH measuring loop is the electrode system. Yokogawa have designed a wide range of electrodes to ensure this heart keeps beating, even under the most severe conditions. For use in dirty applications where frequent cleaning of the sensitive membrane is required to remove tenacious deposits, the strength of the glass membrane gives a truly rugged sensor in the format of a combined electrode. The specially formulated sensitive glass is the key to the performance of these sensors.

The electrode with the gelled electrolyte meets the requirements of DIN 19263. The mounting of these sensors employs selected items from the Yokogawa range of electrode holders. The combination electrode plug and cable socket is watertight and temperature resistant up to 130°C. It also meets the requirements of IP65.

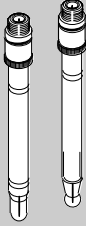
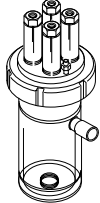
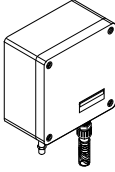

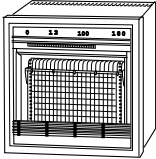

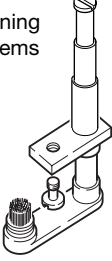

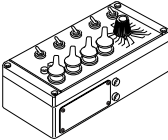
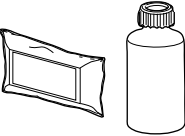
The electrode cap is made of Ryton R4. This is a highly chemically resistant material, with excellent mechanical properties. The cap is joined to the body by a screw thread, and bonded to ensure a waterproof seal.

### FEATURES

- Dome shaped membrane for easy cleaning.
- Thick membrane for great strength.
- Yokogawa specially formulated membrane glass for optimum performance.
- Gold plated, sprung, cable connector for reliable connection, even under severe conditions.
- Compatible with a very wide range of flow-through, immersion and retractable fittings.
- Isothermal point of intersection pH = 7; 0 mV.



### SYSTEM CONFIGURATION

<p><b>Sensors</b></p> 	<p><b>Fittings</b></p> 	<p><b>Connecting Equipment</b></p> 	<p><b>Converters</b></p> 	<p><b>Recorders</b></p> 
<p><b>Cables</b></p> 	<p><b>Cleaning Systems</b></p>  <p>Brush, Ultrasonic, Chemical</p>		<p><b>Test Equipment</b></p> 	<p><b>Accessories</b></p> 

There are two types of heavy duty combined pH/reference sensors. The non-flow (gelled electrolyte) type, and the flowing electrolyte type that needs a reference electrolyte reservoir.

The non-flow type has a polymer gel electrolyte with the low maintenance that this brings. The PTFE ring junction and the dome membrane make the design particularly suited to applications where mechanical strength and chemical stability are important, where deposits are heavy, and frequent cleaning is needed. This sensor is compatible with the holders from Yokogawa, and is especially suited to the retractable assembly, model PR20.

The flowing electrolyte sensor uses a ceramic reference junction, with the electrolyte (3.3 mola KCl) fed from a reservoir. Gravity feed or a pressurised system may be used to suit the application. This sensor is designed to provide a heavy duty, compact system in applications where reference junction potentials may be significant. The flow of electrolyte through junction, while small, remains the safest way to prevent plugging and to protect the internal reference against poisoning and diffusion. This electrode features a PG13.5 connector for use with the Yokogawa "Compact" fittings program. An adapter is supplied with each sensor to enable it also to be used with the other Yokogawa electrode holders.

## ADDITIONAL FEATURES

### For SC21-AGP25

- Heavy duty glass membrane for long operation in corrosive, abrasive and fouling environments.
- Large area PTFE junction to resist fouling.
- Simple concept in installation and use.
- Symmetrical system with isothermal at pH 7.

### For SC21-AGC55

- Heavy duty pH sensitive glass.
- Flowing reference system for pollution resistance, and highly stable reference potential.
- PG13.5 standard DIN electrode connection.
- Adapter to ensure compatibility with full fitting programme.

## SPECIFICATIONS

TYPE	MEMBRANE	RESISTANCE MOhms (25°C)	pH RANGE	TEMP. RANGE	PRESSURE RANGE	REFERENCE LIQUID	REFERENCE SYSTEM	DIAPHRAGM	FLOW
SC21-AGP25	Universal pH glass dome (heavy duty)	120-200	2-12	0-80°C	1-500 kPa	Saturated KCl polymer gel	Ag/AgCl (wire)	Porous PTFE	0
SC21-AGC55	Universal pH glass dome (heavy duty)	120-200	0-14	0-100°C	1-500 kPa (only with pressure reservoir)	3.3 molar KCl	Ag/AgCl (pin)	Ceramic	max. 3 ml per day at 10 kPa over-pressure

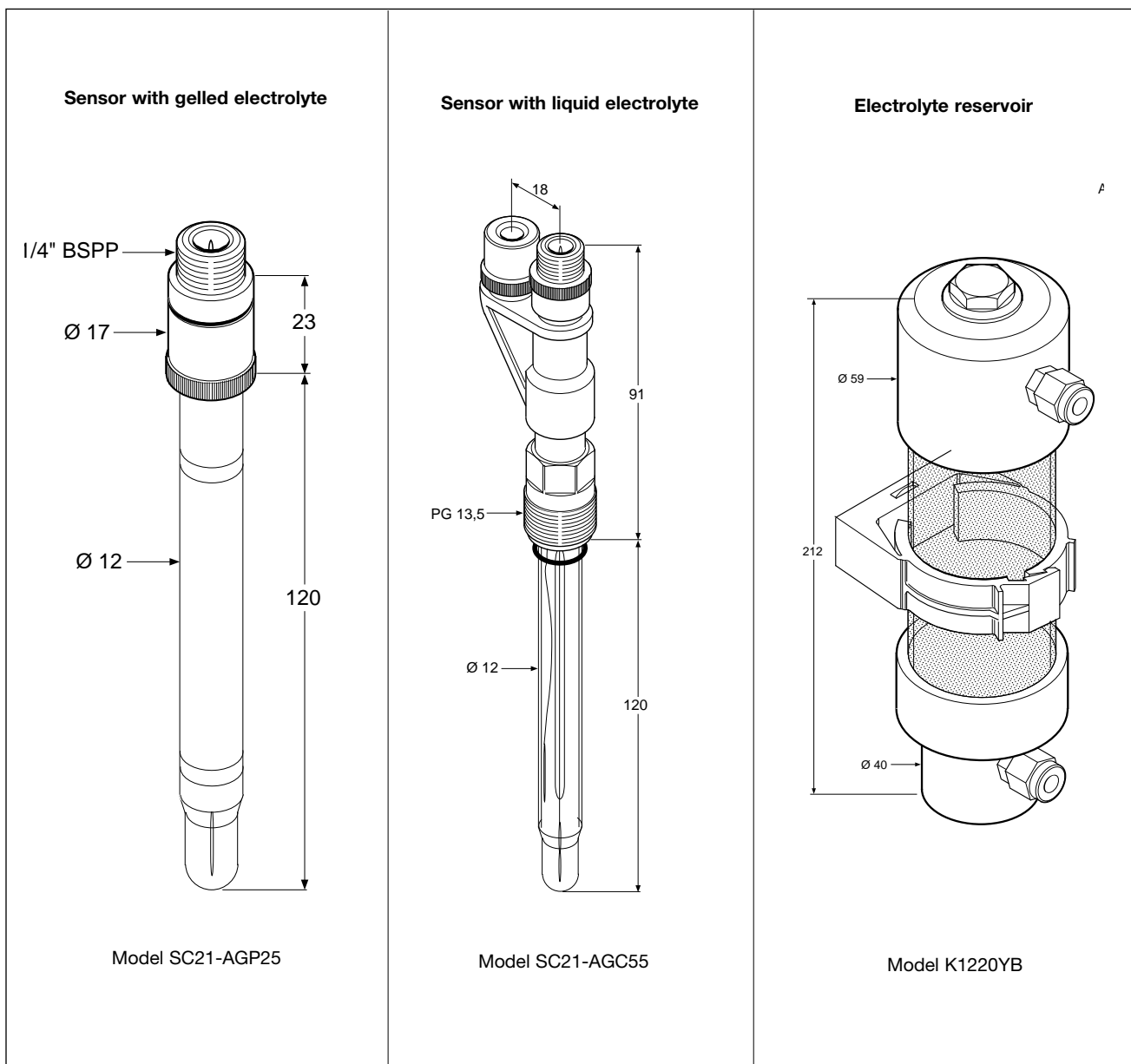
## Accessories and spare parts

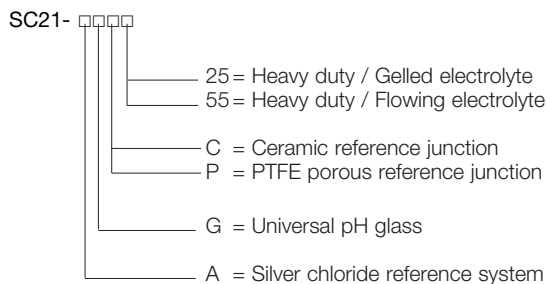
K1220YB : Electrolyte reservoir for SC21-AGC55  
 K1500ZF : Connection kit for electrolyte reservoir tubing  
 K1520FK : Connection tubing (10 metres)  
 K1520JN : Mounting adapter  
 K1520VA : Electrolyte for SC21-AGP25 (250 ml)

## For accessories and fittings refer to

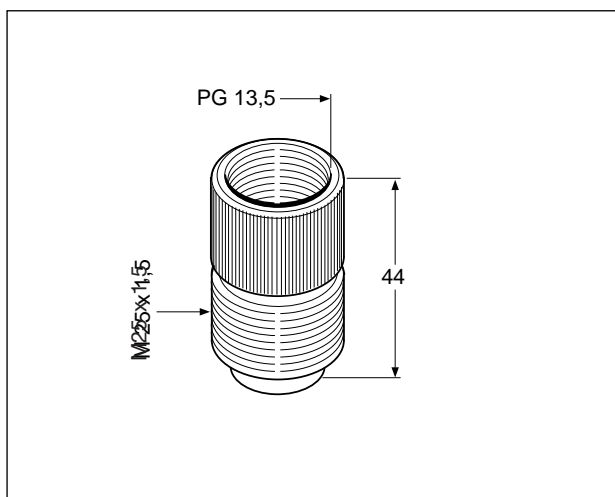
GS 12B6K1-01E : Flowfittings  
 GS 12B6K2-01E : Immersion fittings  
 GS 12B6W1-01E : Sensor cables  
 GS 12B6K3-01E-H : Retractable fittings (SC21-AGP25 only)  
 GS 12B6K4-01E-H : Compact fittings (SC21-AGC55 only)

## DIMENSIONS



**MODEL CODES (EXPLANATION)**

For compatibility with the Yokogawa "Compact" range of electrode holders the SC21-AGC55 combined sensor, has a PG13.5 DIN connector. This also makes the sensor suitable for mounting in a wide range of industry standard equipment. The SC21-AGC55 is supplied with a 25 mm adapter that makes the sensor compatible with the full Yokogawa fitting programme.

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