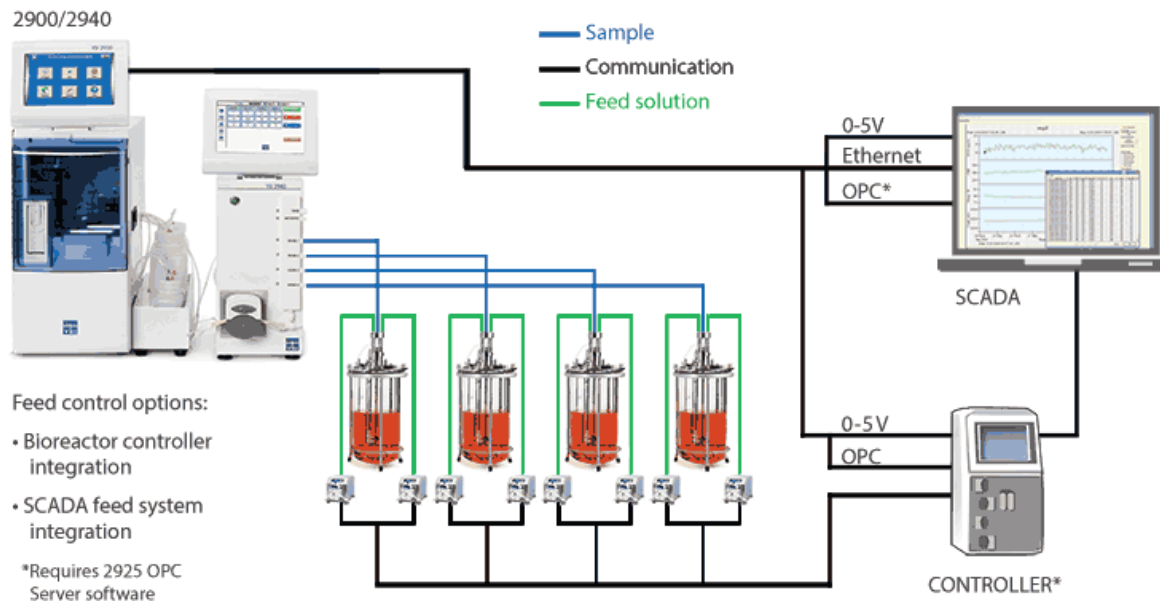


4 and 8 Channel Online Monitoring Systems

For multiple and parallel bioreactor systems, our 4-channel and 8-channel sampling systems provide many simple and reliable online monitoring and control solutions for your bioreactor processes. Closed-loop monitoring and control capabilities are easily achieved for any scale of operation or type of bioreactor, including single-use systems.

Multiple Connectivity Options Include Analog (0-5V), Ethernet and OPC



YSI 2940 and YSI 2980

- Automated, aseptic sampling of up to 8 vessels
- Monitor up to 6 chemistries
- Analytical results in 60 seconds for each chemistry
- Simultaneous online monitoring and 96-well plate sampling
- Automated cleaning cycle
- Autoclaveable components
- CIP and SIP compatible
- Touchscreen, icon-driven HMI for easy viewing and menu navigation
- Connectivity options for SCADA, DAS, LIMS and feed-control systems
- Remote access and control via web-based server
- OPC server option
- 21 CFR, Part 11 compliant



Specifications:

Analog Output

2940: 4 ports (1 port per vessel)

2980: 8 ports (1 port per vessel)

Each port capable of communicating up to 2 chemistries

Antiseptic Cycle User defined flow rate (mL/minute) and time (minutes) Benchtop Yes Certifications CE, ETL, UL, RoHS Compliance
21 CFR. Part 11

Equipment used with 2900D, 2950D Ethernet TCP/IP 2 ports (additional ports if Ethernet hub is used) Graphic Display Color Memory Yes Monitoring Yes OPC2 ports (additional ports if Ethernet hub is used) Operating Temperature 18-28°C Power 100-120 VAC/220-240 VAC, 1.5 A, 50/60 Hz Sample Flow Rate 0.1 - 2.5 mL/minute (user defined) Sample Interval Time Unit: minutes (user defined) Sample Size 0.5 - 2.0mL (user defined) Security / Password Protection / UserID Yes Size
6.0" w x 18.2" h x 11.0" l

15.2cm w x 46.2cm h x 29.7cm l

Tubing ID

Sample inlet: 0.030"

Peristaltic pump: 0.030"

Waste: 0.0625"

USB3 ports Vessel Inputs

2940: 4 vessel inputs

2980: 8 vessel inputs

Vessel Tubing Length

1.5 meters (5 ft) (autoclavable and gamma irradiated options)

3.0 meters (10 ft) (autoclavable and gamma irradiated options)

Weight 16.0lbs (7.26kg) Wetted Materials

Pharmed® tubing (peristaltic pump)

C-Flex® and C-Flex Ultra® tubing (sample inlet and waste lines)

PBT (Sample manifold)

Nylon (connectors)

Analog Output	2940: 4 ports (1 port per vessel) 2980: 8 ports (1 port per vessel) Each port capable of communicating up to 2 chemistries
Antiseptic Cycle	User defined flow rate (mL/minute) and time (minutes)
Benchtop	Yes
Certifications	CE, ETL, UL, RoHS
Compliance	21 CFR. Part 11
Equipment used with	2900D, 2950D
Ethernet	TCP/IP 2 ports (additional ports if Ethernet hub is used)
Graphic Display	Color
Memory	Yes
Monitoring	Yes
OPC	2 ports (additional ports if Ethernet hub is used)
Operating Temperature	18-28°C
Power	100-120 VAC/220-240 VAC, 1.5 A, 50/60 Hz
Sample Flow Rate	0.1 - 2.5 mL/minute (user defined)
Sample Interval	Time Unit: minutes (user defined)
Sample Size	0.5 - 2.0mL (user defined)
Security / Password Protection / UserID	Yes
Size	6.0"w x 18.2" h x 11.0" l 15.2cm w x 46.2cm h x 29.7cm l
Tubing ID	Sample inlet: 0.030" Peristaltic pump: 0.030" Waste: 0.0625"
USB	3 ports
Vessel Inputs	2940: 4 vessel inputs 2980: 8 vessel inputs
Vessel Tubing Length	1.5 meters (5 ft) (autoclavable and gamma irradiated options)

3.0 meters (10 ft) (autoclavable and gamma irradiated options)

Weight

16.0lbs (7.26kg)

Wetted Materials

Pharmed® tubing (peristaltic pump)
C-Flex® and C-Flex Ultra® tubing (sample inlet and waste lines)
PBT (Sample manifold)
Nylon (connectors)

FISP® *in-situ* Ceramic Membrane Bioreactor Sampling Probes

YSI proudly offers Flownamics FISP® *in-situ* Sampling Probes as part of our online monitoring systems. FISP sampling probes have been the standard *in-situ* bioreactor and vessel sampling device for over 20 years. Employing ceramic microfiltration technology, FISP sampling probes provide simple, cell-free sampling while ensuring bioreactor or fermentor sterility. FISP sampling probes are available in a variety of sizes to fit most types of bioreactors, including single-use vessels.

FISP Features

- Aseptic, cell-free vessel sampling
- 0.2 micron filter assures vessel sterile barrier
- Wetted materials provide excellent chemical resistance
- SIP/CIP/Autoclave compatible
- Minimal dead volume provides consistent, accurate sampling
- Resistant to temperatures, pressures, viscosities and shear forces
- For use in lab, pilot and industrial scale vessels
- Compatible with bacterial, yeast, fungal, algal and mammalian cell culture processes
- Animal-derived component free (ADCF) wetted materials
- Membrane meets ISO 10993:5, *in vitro* Cell Cytotoxicity, requirements

F-series FISP Probe

- Fits 12 & 19mm headplate ports
- Dead volume 0.24 – 0.44 ml, depending on probe length
- Immersion lengths (mm): 120, 200, 310, 410
- Can be used with single-use bioreactors
- Can be used with 1.5 and 2.0 inch sanitary fitting ports (adapter required)

D-Series FISP Probe

- Fits standard and safety 25mm ports
- Dead volume 0.24 – 0.44 ml, depending on probe length
- Immersion lengths (mm): 90(standard) & 115 (safety port)

Compliance

Animal-derived component free (ADCF) wetted materials

Membrane meets ISO 10993:5, in vitro Cell Cytotoxicity, requirements

Sample Flow Rate

up to 2mL per minute

Size

F-Series: 12mm & 19mm headplate ports, 120, 200, 310, and 410mm immersion lengths

D-Series: 25mm standard and safety ports, 90 and 115mm immersion length

Wetted Materials

316SS, EPDM and Ceramic