

QuixStand benchtop system

The QuixStand™ benchtop system is a compact, easy to use laboratory-scale separations system that uses GE Healthcare hollow fiber cross flow filtration cartridges for quick and efficient concentration and diafiltration of a wide range of biological solutions. The QuixStand system is capable of rapidly processing solution volumes up to 10 liters.

The basic QuixStand system consists of a fluid manifold, inlet and outlet pressure gauges, and 400-ml and 1-liter reservoirs. This self-contained system also incorporates a micrometer backpressure control valve and a convenient sampling/drain valve. An optional peristaltic pump with a nominal maximum recirculation rate of two liters/minute is available. The low holdup volume design of the QuixStand system allows concentration to as low as 30-50 ml and can provide efficiency and speed along with true scale-up data impossible to achieve using conventional dialysis or stirred cells.

All QuixStand system configurations are designed to accommodate the full range of GE Healthcare Xampler™ hollow fiber ultrafiltration (UF) and microfiltration (MF) cartridges. Short and long cartridge support rods are provided to facilitate the use of both Xampler cartridge lengths. When equipped with M-series (mini Tri-clamp® fittings) cartridges, sanitary pressure gauges, and stainless steel sampling/drain valve, the QuixStand system allows the preparation of materials for early-stage clinical trials. For aseptic processing, an autoclavable QuixStand system is also available.

QuixStand system features and benefits

Versatile

- Multiple system configurations available to suit specific needs
- Sanitary and autoclavable versions are available
- Some systems include peristaltic pumps



Figure 1. QSM-03SP QuixStand benchtop system with peristaltic pump and Xampler size 4M hollow fiber cartridge

Designed for the laboratory

- Rapid processing of volumes up to 10 liters
- Quick, easy cartridge change-out
- Low holdup volume design allows concentration to as low as 30-50 ml
- Reservoir can be pressurized for gentle recirculation of labile solutions

Accommodates all Xampler cartridges

- UF pore sizes from 1,000 to 750,000 nominal molecular weight cutoff (NMWC)
- MF pore sizes from 0.1 to 0.65 micron
- Membrane areas from 110 cm² (0.12 ft²) to 1,400 cm² (1.5 ft²)

Typical applications

- Clarification of lysates and cell cultures
- Concentration, diafiltration, and purification of monoclonal antibodies, plasmids, proteins, viruses, vaccines, colloids, and plasma
- Material manufacture for early stage clinical trials
- Scale-up/scale-down studies



GE Healthcare hollow fiber membrane

The outstanding performance of GE Healthcare hollow fiber products is based on a proprietary manufacturing process that yields membrane with a structure free of macrovoids and pinhole defects associated with conventional hollow fiber membranes.

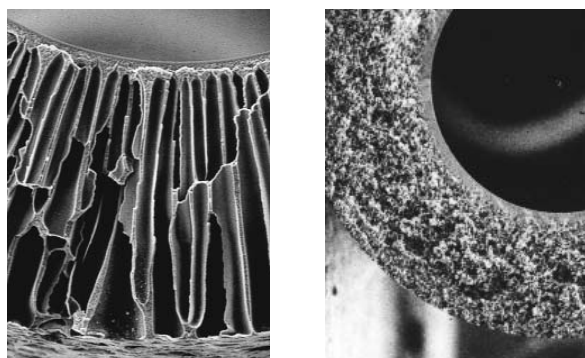


Figure 2. Conventional hollow fiber ultrafiltration membrane (left) and GE Healthcare ultrafiltration membrane (right)

GE Healthcare Xampler hollow fiber cartridges

GE Healthcare Xampler ultrafiltration and microfiltration cartridges are offered with nominal flowpath lengths of 30 and 60 cm and membrane areas ranging from 110 to 1,400 cm² (0.12 to 1.5 ft²). These cartridges are ideal for processing up to 10 liters of feed solution.



Figure 3. Xampler hollow fiber cartridges are available in several housing sizes and membrane formats to suit individual process needs

QuixStand system

Physical specifications

Dimensions	
Footprint	24 × 34 cm (9.5 × 13.5 in)
Height – short rod without pump	55 cm (22 in)
Height – long rod without pump	93 cm (37 in)
Height – short rod with pump	70 cm (28 in)
Height – short rod with pump	108 cm (43 in)
Weight	
Without pump	12 kg (25 lb)
With pump	18 kg (40 lb)
Materials of construction – wetted parts	
QSM-02S, QSM-02SP, QSM-02SP/50	Polysulfone, Bioprene®, Nylon drain valve, 316L SS gauges
QSM-03S, QSM-03SP, QSM-03SP/50	Polysulfone, Bioprene, 316L SS drain valve, 316L SS gauges
QSM-04SA, QSM-04SAP, QSM-04SAP/50	Polysulfone, Bioprene, 316L SS drain valve, 316L SS gauges
Gaskets and O-rings	Silicone
Power requirements	
QSM-02SP, QSM-03SP, QSM-04SAP	110 VAC/60 Hz
QSM-02SP/50, QSM-03SP/50, QSM-04SAP/50	220 VAC/50 Hz, CE compliant
Operating specifications	
Operating temperature	
Recommended	5°C to 40°C (41°F to 104°F)
Maximum, short term	50°C (120°F)
Inlet pressure	
Maximum	1.7 barg (25 psig)
Flow rate at 400 rpm	
Size 18 tubing	2 lpm
Size 17 tubing	1.4 lpm
Minimum working volume	
	30 to 50 ml

Ordering information

QuixStand systems without pumps

Code number	Model number	Description
56-4107-41	QSM-02S	QuixStand benchtop system. Includes: fluid manifold; 2 pressure gauges, NPT, 0-2 barg (0-30 psig); micrometer tubing valve, nylon; reservoir kit with 400-ml and 1-liter reservoirs, cap, downcomers, clamps, and gaskets; NPT-threaded sampling/drain valve, nylon; QAK-2 accessory kit; assembly guide. Not autoclavable.
56-4107-42	QSM-03S	Same as QSM-02S system, with fractional Tri-clamp® fittings, sanitary pressure gauges, and stainless steel sampling/drain valve. Not autoclavable.
56-4107-43	QSM-04SA	Same as QSM-03S system, with autoclavable pressure gauges. Autoclavable.

QuixStand systems with pumps

Code number	Model number	Description
56-4107-44	QSM-02SP	QuixStand benchtop system with pump, includes: QSM-02S system and PRP-09WM peristaltic recirculation pump (110 VAC/60 Hz), and stainless steel system stand
56-4107-77	QSM-02SP/50	Same as QSM-02SP, 220 VAC/50 Hz. Power cord must be ordered separately, see below
56-4107-45	QSM-03SP	QuixStand benchtop system with pump, includes: QSM-03S system and PRP-09WM peristaltic recirculation pump (110 VAC/60 Hz), and stainless steel system stand
56-4107-78	QSM-03SP/50	Same as QSM-03SP, 220 VAC/50 Hz. Power cord must be ordered separately, see below
56-4107-46	QSM-04SAP	QuixStand benchtop system with pump, includes: QSM-04SA system and a PRP-09WM peristaltic recirculation pump (110 VAC/60 Hz), and stainless steel system stand
56-4107-79	QSM-04SAP/50	Same as QSM-04SAP, 220 VAC/50 Hz. Power cord must be ordered separately, see below
56-4109-47	PC01-CH	Power cord, China
56-4109-48	PC02-EU	Power cord, Europe
56-4109-49	PC03-IN	Power cord, India
56-4109-50	PC04-UK	Power cord, United Kingdom

QuixStand system accessories

Code number	Model number	Description
56-4107-47	QRV-2.5	2.5-liter QuixStand reservoir with downcomers only, polysulfone. Not autoclavable.
56-4107-48	KQRVA-0.4	400-ml QuixStand reservoir with cap and downcomers, polysulfone. Autoclavable. Excludes clamps and gaskets
56-4107-49	KQRVA-1.0	1-liter QuixStand reservoir with cap and downcomers, polysulfone. Autoclavable. Excludes clamps and gaskets
56-4107-50	QAK-2	QuixStand accessory kit includes: 3 0.5-in TC to 0.375-in barbed adaptors, polysulfone; 5 0.5-in blank-off caps, polysulfone; 2 0.375-in Snapper® clamps; 2 0.5-in Snapper clamps; 1 micrometer tubing valve, nylon; 2 size 4 cartridge to 0.5-in TC adaptors, polysulfone; 5 0.5-in TC gaskets, silicone; 10 2-014 O-rings, silicone; 4 0.25-in cartridge caps, vinyl; 4 0.375-in cartridge caps, vinyl; 16 size 4 cartridge standoffs, Tygon®
56-4106-53	PRP-09WM	Peristaltic recirculation pump, Watson-Marlow™ (up to 1.4 lpm with size 17 tubing, and up to 2.0 lpm with size 18 tubing). Includes: variable speed drive and manual control system, flip-top pump head, pump tubing; 110 VAC/60 Hz, 220 VAC/50 Hz (dual voltage). For 220 VAC/50 Hz operation, power cord must be ordered separately.
56-4105-97	PG-01NX04T-30	Pressure gauge, 0-2 barg (0-30 psig), 0.125-in NPT with adaptor to 0.5-in TC fitting, bottom mount
56-4105-98	PG-01NX04T-60	Pressure gauge, 0-4 barg (0-60 psig), 0.125-in NPT with adaptor to 0.5-in TC fitting, bottom mount
56-4105-99	PG-06T-30	Pressure gauge, 0-2 barg (0-30 psig), 0.75-in TC, non-autoclavable, bottom mount
56-4106-00	PG-06T-30S	Pressure gauge, 0-2 barg (0-30 psig), 0.75-in TC, non-autoclavable, side mount
56-4106-01	PG-06T-60	Pressure gauge, 0-4 barg (0-60 psig), 0.75-in TC, non-autoclavable, bottom mount
56-4106-02	PG-06T-60S	Pressure gauge, 0-4 barg (0-60 psig), 0.75-in TC, non-autoclavable, side mount
56-4105-90	VPC4	Sampling/drain valve, 0.5-in TC, 316L SS
56-4105-92	VDM-6SS	Diaphragm valve, 0.75-in TC, 316L SS
56-4106-18	PTPM06-10	Peristaltic pump tubing. Bioprene, size 17, 6.4-mm ID, 3.1 m (10 ft)
56-4106-19	PTPM09-10	Peristaltic pump tubing. Bioprene, size 18, 9.5-mm ID, 3.1 m (10 ft)

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