

Kvick Lab cross flow system

Instructions for use



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Introduction

About this user manual

This user manual describes how to use the Kwick™ Lab cross flow system. Topics include a product description, assembly instructions, operation instructions, and maintenance procedures.

Audience

This user manual addresses the needs of scientists, process engineers, and technicians who operate laboratory- and pilot-scale cross flow systems. The level of information presented in this manual assumes the user possesses basic laboratory and technical skills, and has the knowledge and documentation to safely operate any user-supplied equipment connected to the Kwick Lab cross flow system. If you need assistance with the instructions in this manual, contact GE Healthcare for more information.

Where to find more information

This user manual belongs to a set of documents that you receive when you purchase Kwick Lab products (Figure 1).

You can download technical documents and learn more about Kwick Lab cassette holders and cross flow systems by visiting our web site, www.gehealthcare.com.

Kwick Lab cross flow system: Instructions for Use—Describes how to install, use, and maintain the Kwick Lab cross flow system, reservoir, feed pump, and accessories. Supplied with Kwick Lab cross flow systems.

Learning to Use the Kwick Lab cassette holder—Describes how to use the Kwick Lab cassette holder. Topics include: installation in a cross flow system, operation, and cleaning. Supplied with Kwick Lab cassette holder.

GE Healthcare cassettes: Instructions for Use—Describes basic operational procedures such as flushing, cleaning, and specifications. Supplied with cassettes.

MSDSs for glycerin, sodium hypochlorite, and hydraulic fluid—Provides safe handling and disposal information. Available for printing and downloading from the GE Healthcare web site.

Figure 1. Key documents for Kwick Lab products

Kvick Lab cross flow system

Package contents

Your Kvick Lab system arrives assembled and packaged in a wooden crate. The wooden crate includes these components:

- Kvick Lab system including a jacketed feed reservoir, rotary lobe pump,
- Kvick Lab cassette holder, piping, and assembled fittings
- Torque wrench and socket
- Loose fittings including: two 1/2-inch NPT-to-3/8-inch hose barb fittings, two 24-inch-long pieces of 3/8-inch ID tubing, three hose clamps, 1/2-inch sanitary cap, and vortex diverter
- Torque wrench user manual
- Kvick Lab system user manual
- Kvick Lab cassette holder user manual
- Rotary lobe pump user manual
- Micro-inverter user manual
- Pressure gauge user manual
- Certificates of compliance for Kvick Lab system, holder, and components
- EC declaration of conformity

System overview

The Kvick Lab cross flow system includes the components needed to complete many types of cross flow processes with precise process control (Figure 3).

- 1 Feed reservoir
- 2 Pump head
- 3 Pump controls
- 4 Pump cabinet
- 5 Inline pressure gauge
- 6 Kvick Lab cassette holder
- 7 Retentate valve
- 8 Drain valve



Figure 3. Kvick Lab cross flow system

Learning about the system components

The main components of a Kvick Lab cross flow system include:

- Stainless steel, jacketed reservoir
- Rotary lobe feed pump
- Kvick Lab cassette holder
- Valves
- In-line pressure gauges
- Fittings and piping
- Torque wrench and socket

The following sections describe each component.

Feed reservoir

The feed reservoir holds your process solution, feeds the solution to the feed pump, and collects the retentate stream. The feed reservoir's cover includes two inlet ports enabling you to vent the reservoir and introduce buffer during diafiltration. The feed reservoir's cooling/heating jacket enables you to control the temperature of the solution in the reservoir. The reservoir holds 2.5 liters of feed solution and is constructed of stainless steel. A sanitary clamp holds the reservoir cover and ethylene propylene diene monomer (EPDM) cover gasket in place.

Six inlet and outlet ports support the functions of the feed reservoir (Figure 4). The drain port located on the bottom of the reservoir feeds the pump. The retentate port on the side of the tank accepts the return (retentate) flow. The inlet and outlet ports for the cooling/heating jacket are located on the side of the