20L G3/G3X

Benchtop Short Path Distillation System

LAB SOCIETY
By AGRIFY

SYSTEM SPECIFICATIONS

- **BATCH CAPACITY: 10,000mL**
  (approx. 10,000g dewaxed oil)
- **OPTIMUM CAPACITY: 7,000 - 9,000mL**
- **ABSOLUTE MAX. CAPACITY: 12,000mL**
  (approx. 12,000g dewaxed oil)
- **MAIN BODY FRACTION FLOW RATE: 2,000 - 4,000g/hour**
- **BATCH DURATION: 4-10 Hours**
  (Estimated - batch durations are dependent upon primary extraction method, pre-processing methodology and material composition.)
- **BENCHTOP SIZE: 45" x 27" x 42"**
  (not including pump/trap/circulator)
- **DISTILLATION HEAD: PDH-6**
- **AMERICAN-MADE GLASSWARE AND CONTROLLERS**

OPTIONAL ADD ONS

- **Modular Condenser Kit (MCK)**
- **Hot Condenser Mantle Kit (HCK)**

SYSTEM REQUIREMENTS AND ACCESSORIES

- **VACUUM PUMP:**
  - -Pair with: LS-RV-12, LS-RV-18, LS-RV-25, LS-RV-36, CRVpro16 (3161-01), CRVpro24 (3241-01), CRVpro30 (3301-01)
  - -Optimal Ultimate Pressure Rating: 20 Micron
  - -Free Air Displacement: min. 5 cfm. / Max. 30 cfm
- **VACUUM/COLD TRAP:**
  - -Glass Cold Trap: LS-DCT-2HE
  - -Mechanical Cold Trap: MAXTRAP 105 or T80 with Stainless Steel Cold Trap Insert
- **LIQUID CIRCULATOR:**
  - -Pair with: MX07R, SD07R, AD07R, K-6, CD-200F
  - -Chiller Temp. Requirement: 32°F, 0°C or below

SYSTEM AND ELECTRICAL PARAMETERS

- **HEATING MANTLE**
  - -1750w, 120V, 15.2 amps / EU 1750w, 230V, 7.7 amp
  - -Max. System Temperature: 260°C *(PTFE/PFA temp. limit)*
- **STIRRING MOTOR**
  - -110 - 240V, 50/60 Hz, 2 amp
  - -Speed Range: 100-1850 rpm
- **VACUUM MONITORING**
  - -100 - 240V, 50/60 Hz, 0.3 amp
  - -Range: 1 mTorr - 760 Torr
- **TEMPERATURE MONITORING**
  - -100-240V, 50/60 Hz, 1 amp

CERTIFICATIONS

- **Complete System:** Peer-Reviewed, GMP Compliant
- **Heating Mantles:** CSA
  - -CAN/CSA C284101, C22.2 No. 88
- **Temperature Controller:** NRTL, QPS, CE, Constructed with 100% UL and CSA listed parts.
  - -UL 61010-1; 61010-2-201
  - -CAN/CSA 61010-1, C22.2
- **Temperature Monitor:** CE, Constructed with 100% UL and CSA listed parts.
- **Stir Controller:** CE, Constructed with 100% UL and CSA listed parts.
- **Vacuum Monitor RoHS / CE / NRTL**
- **Glassware:** Meets ASTM specification E438, type 1, class A, Kimble Kimax or Schott Duran Glass

WHAT'S IN THE BOX

- -Documentation & SOPs for GMP integration
- -Electronic controllers & monitors
- -Glassware, supports, & clamps
- -Technical Support & Warranties

G3X also includes:

- -LS Jacketless Condenser
- -LS 90° Adapter with Vertical Condenser
- -LS Swing Arm with Angled Take-Off Valve
- -LS Distribution Adapter with Angled Take-Off Valve

EliteLab Compatibility

- **-TCM** (Temperature Controller/Monitor)
- **-DTM-1** (Digital Temperature Monitor)
- **-PVM-2** (Precision Vacuum Monitor - Dual)
- **-DSC-1** (Digital Stir Controller)

All G3 Kit purchases come with a 1 year license ($299.99 Value). Now available on macOS, Windows 10+, and Linux.
Learn more at labsociety.com/elitelab

20L G3
Stand-alone starting at $16,900
Turnkey starting at $33,661

20L G3X
Stand-alone starting at $19,700
Turnkey starting at $36,461

labsociety.com | 720.600.2037 | sales@labsociety.com

The 20L G3 systems feature a single-headed full bore configuration with a silvered 60mm bore distillation head (LS-PDH-6) and 45mm discharge port for maximum throughput.

Full bore systems promote molecular flow conductivity under high vacuum, which helps decrease pressure within the system as well as at the pump. **Benchmark results show between 2 to 4 liters per hour (LPH),** during main body fraction, along with significant reductions in operating temperatures. Silvering on the inside of the vacuum jacketed distillation heads greatly improves the system's thermal efficiency. This (coupled with the new full bore design) decreases boiling temperatures by up to 20-40°C and vapor temperatures by 10-40°C, depending on system volume, material contents, and operational parameters. **The increase in throughput and efficiencies are allowing users to experience higher potencies, due to product having less residence time in the system.**

G3 Improvements and Features

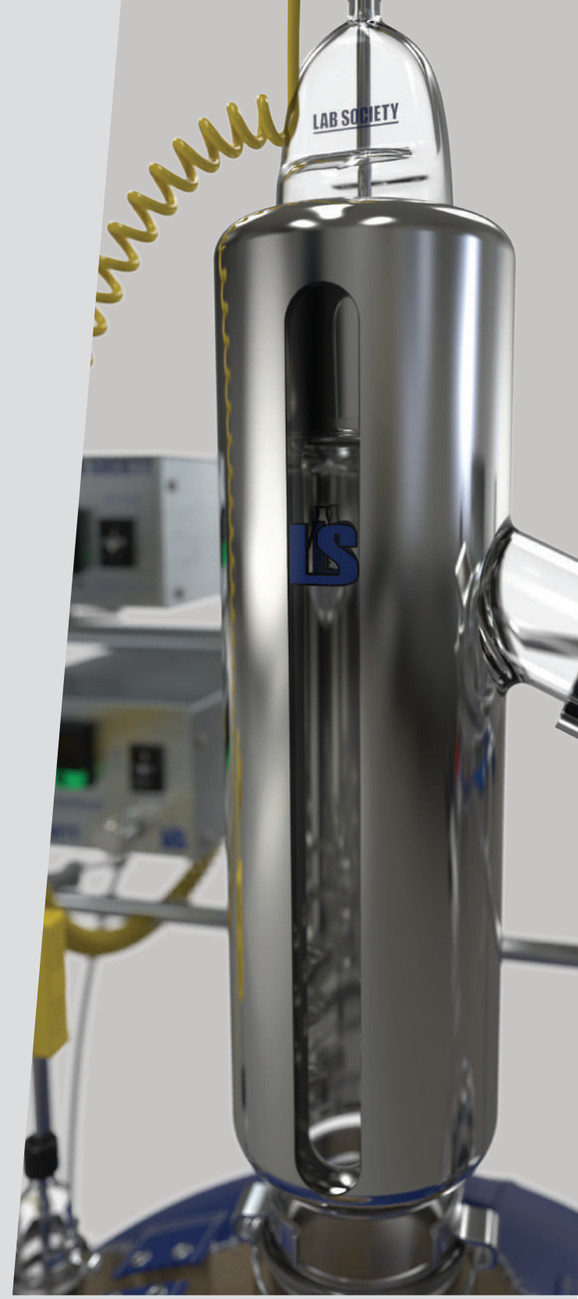
- **System is fully peer-reviewed with certifications on electrical parts:**
  - -CSA listing on heating mantles
  - -QPS listing on temperature controllers

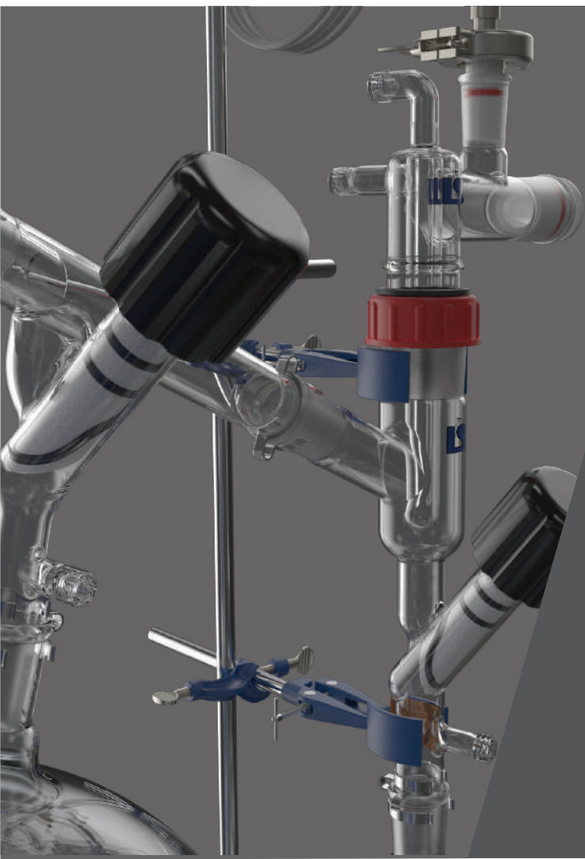
- **Single head version includes a 60/50 joint for the PDH-6, Two-Piece Silvered, Packable Distillation Head** - *boasting high-speed flow rates and lower boiling/vapor temperatures*
  - -Pinched thermocouple adapter for easier removal of probe from distillation head

- **Condenser/collection upgrades:**
  - -Custom cut ground glass drip tips on all G3 condensers are now standard, eliminating grease contamination
  - -Condenser drip tips are aligned precisely with distribution receiver (swing arm) collection port
  - -All collection port joint sizes increased to 29/42 (29mm) joints for clog reduction
  - -Condenser lengths extended to increase surface area of condenser and allow for larger collection flask sizes (up to 12L)
  - -Optimized Volume-to-Surface-Area Ratio from column to condenser
  - -O-Ring Connection for quick greased/greaseless connection

- **Aluminum-reinforced Silicone Base for mantle** - increases stability, dampens vibration, and provides proper alignment to system

- **Improved glassware connections with KF25 vacuum ports and clamps** - no more hose clamps and barbs, minimizes vacuum leaks





Innovations on the G3X systems include angled vacuum take-off valves - at both the swing arm collection port (primary) and the secondary collection port - giving users the ability to isolate collected fractions, collect larger volumes, and collect a virtually unlimited amount of fractions.

These valves are very different from other isolation valves on the market, as they are not present in the vapor path; Instead, they are located below the collection outlet. Additionally, the G3X systems include a primary/secondary condenser setup, giving users the ability to run jacketless condensers or hot condensers for additional separation. The liquid-cooled secondary condenser (LS-A90-VC45) replaces the air condenser on previous full bore systems, providing more surface area and the ability to cool the finger to a desired temperature.

G3X Features

- **Secondary Cold Finger Condenser (LS-A90-VC45) for use with jacketless condenser, hot condenser, or high efficiency fraction collection within the system**
- **Angled Isolation Valves:**
  - -Inline distribution adapter (swing arm/primary collection) valve with vacuum release for unlimited fraction collection
  - -Distribution receiver (secondary collection) valve with vacuum release for unlimited fraction collection