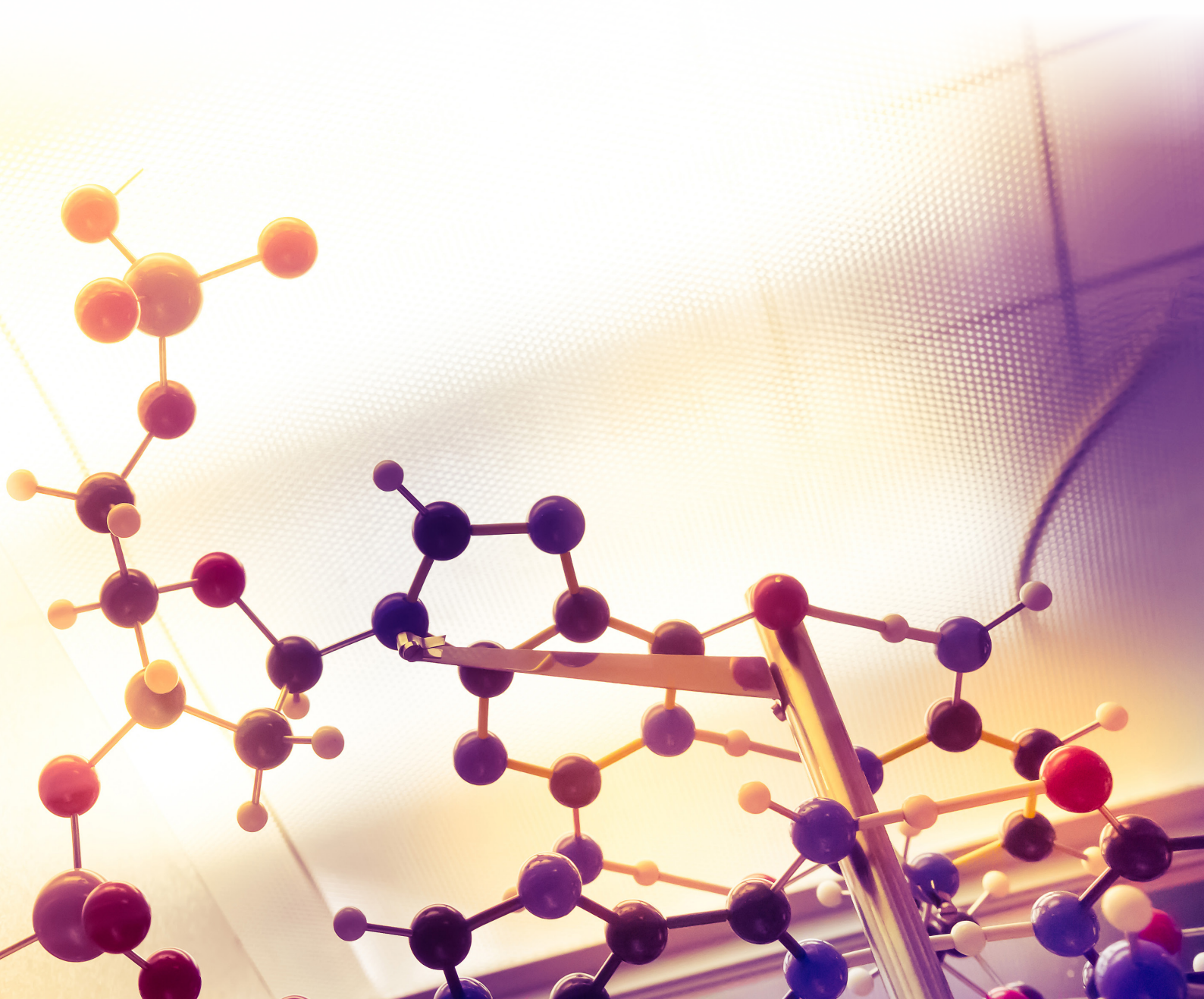


verity[®]

CPC PROCESS



**We Blend Laboratory Demands for Flexibility
with Manufacturing Drive for Profitability**



 **GILSON[®]**

VERITY CPC PORTFOLIO AT A GLANCE

verity®

CPC LAB

Lab Scale

SMALL SCALE PRODUCTION

Beyond 100 kg of sample injected per year¹



verity®

CPC PILOT

Pilot Scale

MID-SCALE PRODUCTION

Beyond 1 Ton of sample injected per year¹



verity®

CPC PROCESS

Process Scale

LARGE SCALE PRODUCTION

Up to several Tons of sample injected per year¹



EXTRACTION AND PURIFICATION APPLICATION SERVICES

Note: (1) Application dependant

THANK YOU FOR YOUR INTEREST IN GILSON VERITY® CPC PROCESS SYSTEM

In 2020, Gilson is proud to introduce its new range of CPC systems for large-scale production.

Designed to integrate with your manufacturing processes, these systems will address safety and certification requirements for the industry and are backed by our worldwide service and support network.

The VERITY CPC Process pioneers a new era for delivering profitable purification and extraction applications to manufacturing.



GILSON VALUE PROPOSITION



A POWERFUL SYSTEM FOR YOUR PRODUCTION

CPC technology has provided generations of scientists with highly customizable, reliable, and cost-effective solutions to support their purification and extraction research.

More recently, Gilson CPC 1000 PRO pilot scale system allowed our mid-size customers – especially those in the cannabis and natural extracts industries – to integrate CPC into their production cycle.

The release of the Gilson VERITY CPC Process brings to the market the most efficient, user-friendly, and large-scale CPC production system to date. From lab to pilot and production scales, this system confirms Gilson's unique ability to deliver a consistent end-to-end CPC portfolio.

EQUIPMENT TO SERVE YOUR PERFORMANCE

At Gilson, we don't just develop market leading technology. Our dedicated and experienced teams are there to make sure that **you get the best from our solutions:**

- **Architecture design:** sharing our engineering expertise and direct knowledge of our systems' performance so that you can select the settings best adapted to your needs
- **Feasibility and scale-up studies:** enlisting our application experts at the Gilson CPC Center of Excellence to develop the right method for your technical and business goals
- **Qualification support:** providing you with dedicated assistance through your journey to certification (e.g. GMP)
- **Operational ramp-up:** committing to support you from the moment of installation right through to operations; training your teams, assisting you during the first steps and answering day-to-day questions while you integrate your new system
- **Consumables provider:** designing, testing, and delivering quality spare parts and solvents optimized for your production needs and maintenance objectives
- **Service and support:** giving you an access to our global service and support network to help keep your system operating at peak performance for years to come
- **Leasing solutions:** partnering with a global equipment leasing and brokerage provider to offer you maximum flexibility for financing of your system
- **Rental options:** allowing you a simple, quick access to the technology and services that will kickstart your production and project agenda

SOLUTIONS DEVELOPED WITH SAFETY IN MIND

With production come risks and safety requirements. We responsibly embrace them and are committed to deliver solutions that contribute to your environmental, health, and safety (EHS) performance too. Our equipment feature the following main characteristics:

- ATEX compliant
- Emergency stop functionality
- Door equipped with safety lock
- Leak sensors for both CPC (rotary seals) and SKID (pumps)
- Customizable gas sensor for the rotor compartment
- Rotor balancing sensor, shocks resistant chassis, a frame designed to avoid solvent accumulation, etc.

GILSON VERITY® CPC PROCESS SYSTEM - DESCRIPTION

SYSTEM SPECIFICATIONS

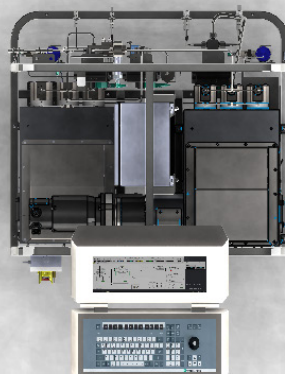
- **Certifications:**
 - Conformity with EU directives 2006/42/EC (machinery), 2014/34/EU (ATEX), and 21 CFR part 11 software
 - Conformity upon request with North American commonly used explosion protection standards (“hazloc”) and UL
- **Good manufacturing standards:** ability to address your industry best practices in terms of design, functionalities, validation and documentation requirements
- **Capacity:** customizable rotor for a capacity currently ranging from 1 to 5 L, which allows the system to process up to several tons of sample per year
- **Eluant:** compatibility with n-Heptane, Acetonitrile, MTBE, Ethyl acetate, Acetone, 1-Butanol, Methanol, Water, Methyl ethyl ketone, 1-Propanol, 2-Propanol, Toluene, Acetic Acid, Formic Acid, Ethanol, etc.
- **Electrical and air supply:** power consumption at 2500 W (380-400 VAC three phases, 50/60 Hz) and recommended air supply for VERITY SKID, ISO 8573-1 CLASS 5 at a maximal pressure intake of 6 to 8 bar
- **Physical considerations:** total maximum weight is 1100 kg/2457 lbs. (SKID equipped with casters for improved mobility), and the noise emission is < 80 dB (A)
- **And... fully automated** (automated stacked injections)

SYSTEM OVERVIEW

Min 10 sqm space



VERITY® CPC Process



VERITY® SKID



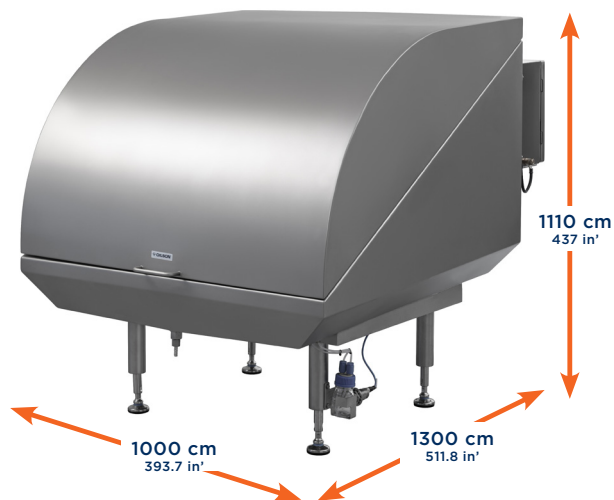
Switchboard cabinet
(can be located in a separate room)

VERITY® CPC PROCESS

The VERITY CPC Process is designed to perform liquid-liquid chromatography for process scale purification and extraction. The system delivers optimal productivity thanks to high retention of the liquid stationary phase at the highest flow rate.

It is developed with a horizontal rotor installed in a cabinet in conformity with the “rotating machines” regulation. The system is controlled by the VERITY SKID software.

The rotor is set to provide both optimal performance and high flexibility. It features minimized dead volume as well as a 100 to 1800 rpm rotation speed, and “customizable” rotor capacity.

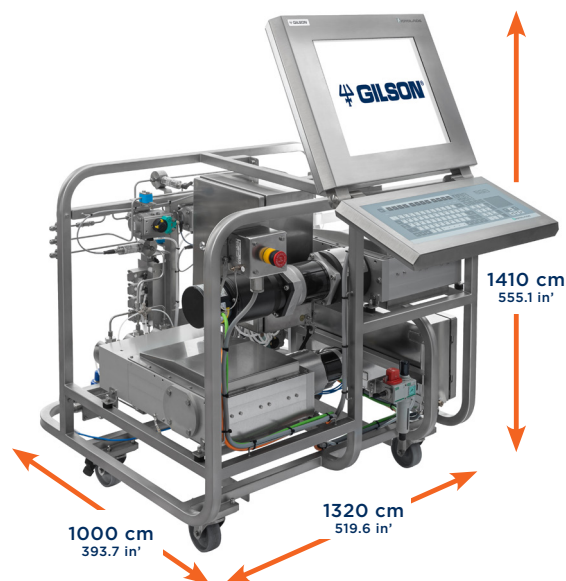


VERITY® SKID

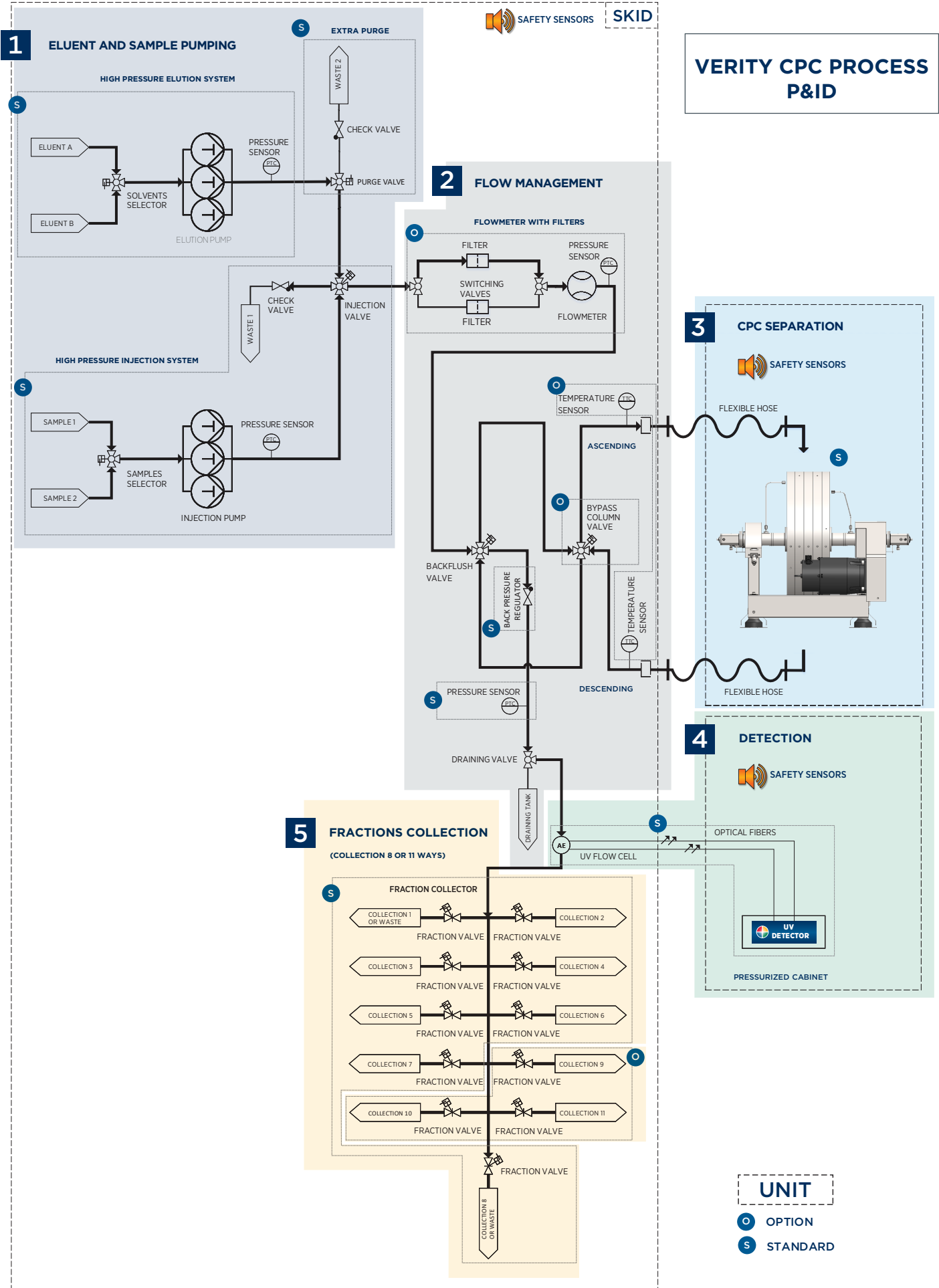
The VERITY SKID is designed for preparative and industrial liquid chromatography (LC). The system automatically elutes the mobile phase, injects a solution, detects molecules by UV/Vis absorbance (by default 200 to 600 nm), and collects fractions when connected to a LC column, such as HPLC, MPLC, or CPC.

The entire system is controlled by a certified 21 CFR part 11 chromatographic software specifically designed for production. Process data is automatically recorded and can be shared via a customer’s network.

The VERITY SKID operates at a maximum pressure of 100 bars. Its 3 L/min fast elution pump allows the system to achieve flowrate accuracy and flowrate repeatability, respectively, at 2% and 0.5% : these will significantly improve your production reliability, costs, and quality.



VERITY CPC PROCESS P&ID



- UNIT**
- O OPTION
 - S STANDARD



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