

Volumetric Hand Pumps



Picture Courtesy of the Petroleum Engineering Department
at the Colorado School of Mines, Golden, CO USA



Positive Displacement Pumps

Leutert high pressure positive displacement pumps are precision instruments, used to meter, fill, or proportion predetermined quantities of liquid with the highest accuracy.

Description

Leutert high pressure positive displacement pumps are precision instruments, used to meter, fill, or proportion predetermined quantities of liquid. Hand operated volumetric pumps are primarily used in laboratories as they meter with a precision necessary to many laboratory experiments. All wetted parts are made from NACE approved material.

During operation an accurately machined plunger is driven into a cylindrical chamber filled with fluid such as various hydrocarbons, chemicals, brines or mercury. The plunger is driven by a spindle. Plunger and spindle form an integral unit.

Pumps rated for lower pressure use a hand turnstile to turn the threaded spindle. The turnstile is equipped with three arms to facilitate increments increase in pressure.

Higher pump pressure require higher operating torque. For ease of operation and enhanced resolution, pumps with working pressures above 10,000 psi are provided with a hand-wheel and worm-gear drive. These pumps are also available as motor driven, single or double cylinder units.

The changes of volume by movement of the plunger are displayed on a high precision digital scale for most accurate volume readings. Digital pressure and temperature gauges are also available. Pressure, volume and temperature (PVT) data may be logged and processed with a windows based software.

Leutert pumps can be equipped with cylinder heating or cooling jackets so that the temperature of the liquids to be discharged can be controlled.

Technical Specifications



Model	Hand pump with turnstile	Hand pump with hand-wheel and worm-gear drive
Single stroke volume	100 cm ³ , 200 cm ³	100 cm ³ , 250 cm ³
Maximum pressure rating	10,000 psi	25,000 psi
Pressure accuracy	0.1% FS	0.1% FS
Volume accuracy	0.5% FS	0.1% FS
Temperature regulation	± 1 K	± 1 K
Temperature range	ambient to 250°F	15°F to 350°F
Wetted parts	NACE approved stainless steel	NACE approved stainless steel
Cylinder outlets	4 x 7/16" -20UNF	4 x 9/16" -18UNF