

Point of Comparison	ETC Pask Permeameter	Guelph Permeameter
Used to determine:	Field saturated hydraulic conductivity (Kfs) of <i>in situ</i> soil, also prepared fill materials and constructed soil liners.	Field saturated hydraulic conductivity (Kfs) of <i>in situ</i> soil, also prepared fill materials and constructed soil liners.
Applicable permeability range:	4.0 x 10 ⁻⁹ m/sec to 5.0 x 10 ⁻⁴ m/sec	10 ⁻⁷ m/sec to 10 ⁻⁴ m/sec
Applicable soil textures/types:	Virtually any soil type - USDA/CSSC: clay to sand. USCS: Sand, silty sand, silt and clay.	Virtually any soil type - USDA/CSSC: clay to sand. USCS: Sand, silty sand, silt and clay.
Time to set-up, fill and tear down Permeameter:	Approx. 2 min.	Approx. 7 min.
Time to conduct a test:	Most tests on medium permeability soils take 20-45 min. Tests on very slowly permeable soils (clays) can take several hours.	Most tests on medium permeability soils take 20-45 min. Tests on very slowly permeable soils (clays) can take several hours.
Guidance information on relationship to Percolation Time?	Yes. A correlation is presented based on the latest peer reviewed paper by Reynolds et al (2015). Formulas and a quick conversion table are included in the guide.	User guide states: "Approximate relationship is available on request".
Are quick field calculation tables provided?	Yes, for the four major soil <i>capillarity category</i> types described by Reynolds (2008).	No
Math skills required to conduct tests and obtain Kfs results:	Basic to average. The <i>Quick Field Calculation Tables</i> make determination of Kfs (in the field) fast and easy.	Above average (College or University). Must calculate Kfs from formulas, or using the <i>Guelph Permeameter Calculator</i> spreadsheet.
Method for testing imported fill materials used in septic beds?	Guidance provided based on method recommended in CAN CSA B65-12 standard.	No method or guidance provided.
Volume of water required:	Approx. 2 Litres (0.5 usgals) per test	Approx: 2.5 Litres (0.66 usgals) per test
Theory & calculations based on:	Reynolds (2008), Elrick & Reynolds (1985, 1992), Lilly (1991, 1994, 2000)	Elrick & Reynolds (1985, 1992), Zhang & Parkin (1998)
Single or double ponded head method?	Single ponded head method.	Can accommodate single and double ponded head methods.
Maximum operating/testing depth below soil surface:	60cm (24 in) for standard model. If testing to a greater depth is required, excess soil can first be removed with a hand shovel or excavating machine. Custom models provided on request.	75cm (30 in) for standard set-up. If testing to a greater depth is required, remove excess soil or purchase extension tubes. Maximum practical testing depth is 3.15m (10.3ft).
Ability to test very soft soils with low bearing capacity?	Not recommended without supporting the permeameter, otherwise, it may sink into the soil during the test.	Yes, the tripod will support the permeameter and prevent sinking, unless the tripod legs themselves are standing on very soft soil.
Height of water in well:	15cm (fixed, a good height for most soil conditions and applications). Can be supplied with alternative well heights if desired.	2.5cm to 25cm (adjustable)
Well hole diameter (based on auger supplied with kit):	Approx. 8.3cm (3 1/4 in) if using auger supplied with our kit. May be used with alternative auger / well hole diameters.	Approx. 6cm (2 3/8 in) based on cutting diameter of auger supplied with kit.
Kit components: Note*- ETC does not recommend use of a <i>sizing auger</i> . It can cause soil smearing (Lilly, 1991).	Pask Permeameter with custom cap and stainless steel clip, AMS Riverside auger, wire well prep brush, user guide, quick field calculation tables.	Guelph Permeameter, water container & tube, support kit, Riverside auger, sizing auger (see note*), tripod, well prep brush, vacuum test hand pump, carrying case, user guide.
Weight of permeameter only:	1.4kg (3lbs)	1.8kg (4lbs)
Weight of complete kit:	Kit: 4.1kg (9lbs)	Kit: 14.9kg (33lbs)
Overall dimensions of Kit:	1372mm x 381mm x 203mm (54" x 15" x 8")	1270mm x 444mm x 152mm (50" x 18" x 6")