Geocomp

Test Smart. Test with Confidence. Test for Success.

LAB VANE SHEAR SYSTEM

The Lab Vane Shear System is used to quickly calculate peak and/or residual undrained shear strength on intact or remolded specimens in the lab. Once the set-up is in place and the test conditions are selected, the Vane Shear system will run the entire test from start to finish. The Vane Shear utilizes a high speed, precision micro-stepper motor to apply the torque. An embedded control board with a dedicated CPU takes readings from the torque sensor and controls the stepper motor.

- **Determine both peak and residual shear strength**

- **Highly portable and lightweight**

- **Unmatched automation from test start to finish** - *2 to 32 times faster results and labor time savings of 30% to 95% vs. manual testing*

- **Flexible design** - *perform additional testing on the same platform and save money and space in your lab*

- **Full test control and remote monitoring allows you to take your testing on the go** - *view real-time results, check test quality, and change parameters*

- **Convenient reporting** - *produce complete, compliant reports instantly or export data for desired manipulation*

- **Designed for consistent and repeatable testing you can be confident in**
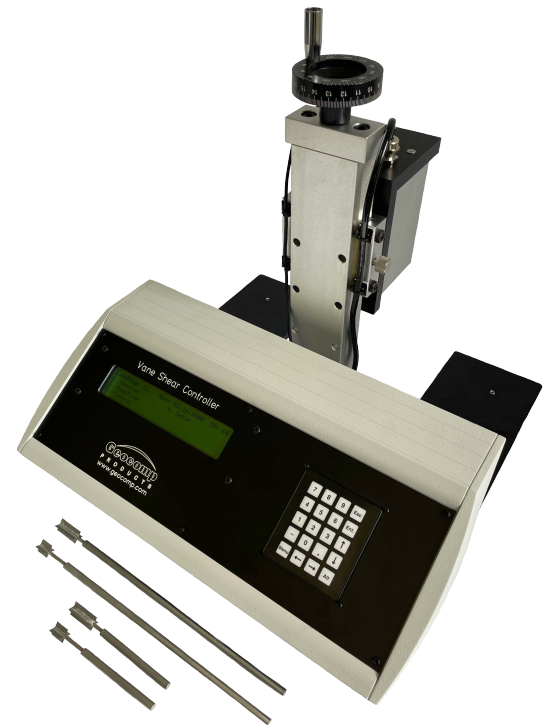
Standard Lab Vane Shear System

Applicable Test Standards

- ASTM D4648

LAB VANE SHEAR SYSTEM

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TECHNICAL SPECIFICATIONS

TORQUE CAPACITY
9 lbf-in (1 Nm)

ROTATIONAL MOTOR
Micro-stepper system with built-in controls

ROTATIONAL SPEED RANGE
0 to 8 rad/sec (customizable for higher speeds)

CONTROL
Torque or Rotation

TORQUE MEASUREMENT
Embedded torque sensor

MEASUREMENT RANGE
-1 Nm (- 9 lbf-in) to 1 Nm (9 lbf-in)

MEASUREMENT ACCURACY
61 µNm (0.0005 lbf-in)

VERTICAL TRAVEL
6 in (152 mm)

POWER
110/220 V, 50/60 Hz, 1 phase

DIMENSIONS
394 x 400 x 394 mm (15.5 x 15.75 x 15.5 in)

WEIGHT
10 kg (22 lbs)

INCLUDED
· Geo-NET network card and cable to link to PC
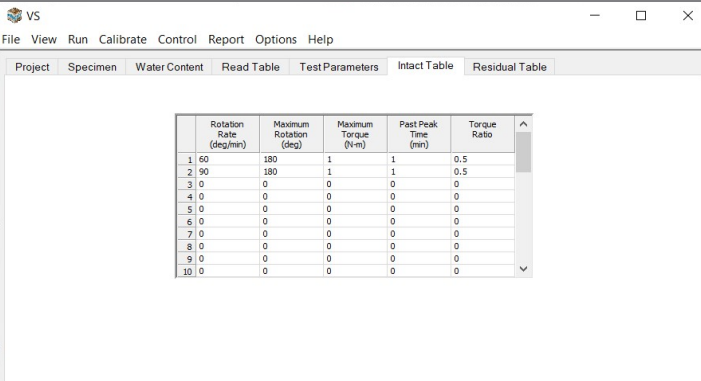· VS software module to automatically run and report tests

ACCESSORIES
Four vane blades: 2 short and 2 long (custom lengths available)
· H:D of 1:1: 12.7 x 12.7 mm (0.5 x 0.5 in)
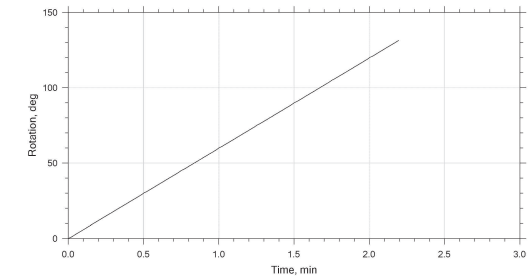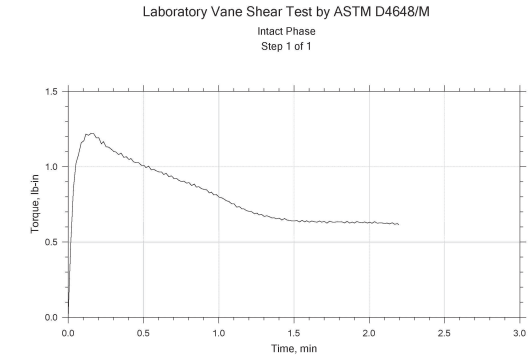· H:D of 2:1: 12.7 x 25.4 mm (0.5 x 1.0 in)

WARRANTY
· 12 month warranty; extended warranties available

USER FRIENDLY EXPERIENCE

VS — File View Run Calibrate Control Report Options Help

Project | Specimen | Water Content | Read Table | Test Parameters | Intact Table | Residual Table

	Rotation Rate (deg/min)	Maximum Rotation (deg)	Maximum Torque (N-m)	Past Peak Time (min)	Torque Ratio
1	60	180	1	1	0.5
2	90	180	1	1	0.5
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	0	0
7	0	0	0	0	0
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0

Typical Test Output (example)

Laboratory Vane Shear Test by ASTM D4648/M
Intact Phase
Step 1 of 1

Your Company's Logo	Project:	Location: Houston, TX	Project No.: 424142
	Boring No.:	Tested By: AA	Checked By:
	Sample No.:	Test Date: 08/11/22	Depth:
	Test No.:	Sample Type:	Elevation:
	Description:		
	Remarks:		

Typical Test Output (example)

Laboratory Vane Shear Test by ASTM D4648/M
Intact Phase
Step 1 of 1

Elapsed Time min	Rotation deg	Torque lb-in	Lab Shear Strength psi	Field Shear Strength psi
0	0.000	0.000413	0.00158	0.00158
0.017267	0.759	0.496	1.89	1.89
0.034583	1.80	0.857	3.27	3.27
0.051817	2.85	1.02	3.90	3.90
0.0693	3.88	1.08	4.14	4.14
0.086633	4.95	1.16	4.43	4.43
0.10413	5.99	1.17	4.48	4.48
0.11698	6.78	1.22	4.65	4.65
0.13443	7.82	1.21	4.62	4.62
0.15173	8.86	1.22	4.66	4.66
0.16922	9.90	1.22	4.66	4.66
0.18627	10.9	1.19	4.55	4.55
0.2035	12.0	1.19	4.56	4.56
0.22097	13.0	1.15	4.40	4.40
0.23382	13.8	1.17	4.46	4.46
0.25143	14.8	1.13	4.33	4.33
0.26865	15.9	1.13	4.32	4.32
0.2862	16.9	1.12	4.26	4.26
0.3037	18.0	1.10	4.20	4.20
0.31678	18.8	1.10	4.20	4.20
0.334	19.8	1.08	4.13	4.13
0.35147	20.8	1.09	4.16	4.16
0.36878	21.9	1.06	4.06	4.06
0.38633	22.9	1.07	4.07	4.07
0.40383	23.9	1.05	4.00	4.00
0.41693	24.7	1.05	4.03	4.03
0.43417	25.8	1.03	3.95	3.95
0.45163	26.8	1.03	3.92	3.92
0.46895	27.9	1.03	3.92	3.92
0.48625	28.9	1.01	3.86	3.86
0.50388	30.2	1.01	3.85	3.85
0.51673	30.7	0.993	3.79	3.79
0.53407	31.8	1.00	3.84	3.84
0.55155	32.8	0.979	3.74	3.74
0.56885	33.8	0.982	3.75	3.75
0.58612	34.9	0.973	3.71	3.71
0.6035	35.9	0.965	3.69	3.69
0.6208	37.0	0.965	3.69	3.69
0.63387	37.7	0.948	3.62	3.62
0.65107	38.8	0.956	3.65	3.65
0.66852	39.8	0.935	3.57	3.57
0.68583	40.9	0.940	3.59	3.59
0.7033	41.9	0.921	3.52	3.52
0.72033	42.9	0.922	3.52	3.52
0.73335	43.7	0.911	3.48	3.48
0.7508	45.0	0.902	3.44	3.44
0.7679	45.8	0.904	3.45	3.45
0.7854	46.8	0.891	3.40	3.40
0.80272	47.9	0.895	3.42	3.42
0.82003	48.9	0.875	3.34	

Your Company's Logo	Project:	Location: Houston, TX	Project No.: 424142
	Boring No.:	Tested By: AA	Checked By:
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	Description:		
	Remarks:		