

Rock borehole pressuremeter



Description

Rock borehole pressuremeter is attached bearing plate of jack to measure the contraction and expansion for the displacement of borehole wall pressured by a hollow wall.

This jack is located in appointed location of hole connected such as drill rod of NX bearing machine for hydraulic lines and signal cable.

When applied hydraulic to manual pump, the jack's bearing plate will expansion and the borehole will attached to borehole wall.

Jack has two built-in LVDT (Linear variable displacement Transducer) that measure the displacement of the rock mass. It can display and store in the data logger (GJ-75D) by connecting to the signal cable of displacement sensor and pressure sensor of the hydraulic pump.

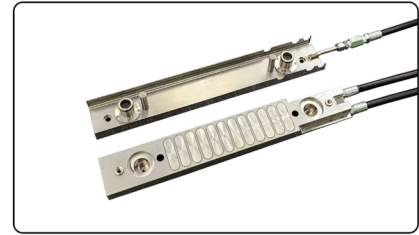
Jack of rock borehole pressuremeter is selected by geological survey investigated in advance. Usually, the jack for hardrock is used. Jack for softrock is useful for testing properties of softrock, soil and petrified clay. Jack of GJ-75 is waterproofed and is designed to endure the pressure of about 10000psi.

The data logger called GJ-75D, stores data and allows you to directly check the graph of the relationship between displacement and pressure, and the data measured for each measured holes are saved as a file. It is waterproof and rust-proofed to enable use in harsh field environments.



[GJ-75 Composition of test set]

Components



[Hard rock jack]



[Soft rock jack]



[Data logger]



[Hand pump & hydraulic hose, signal cable]



[Semi calibrator]

Applications

Rock borehole pressuremeter is portable equipment designed for measuring displacement of rock in the NX drill ($\varnothing 75\text{mm}$) borehole as in-situ equipment.

Jack of rock borehole pressuremeter have two models. Rock borehole pressuremeter is designed to measure the coefficient of elasticity and deformation regarding a base rock by jack for hardrock having 12ea piston and jack for softrock having 3ea pistons.

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Specification

Model	GJ-75			
Data logger (GJ-75D)	Display	Graphic LCD (2-displacement, 1-pressure)		
	Accuracy	±0.05% FSR		
	Resolution	0.001mm, 0.001MPa		
	Memory	15000 Data points (Max. 100 points / Hole)		
	Power	7.2VDC / Rechargeable Ni-MH battery		
	Operating time	14 hours continuous (when fully charged)		
	Material	ABS case		
	Dimensions	247 × 227 × 155(h)mm		
	Weight	2.7kg		
	Accessories	Charger (12VDC 3Ah)		
Hard rock jack (GJ-75H)	Number of piston	12 EA		
	Maximum pressurized	654kg/cm ² (9300psi)		
	Linearity	Maximum	±0.5% Ø73.7~Ø78.7mm interval	
		Minimum	±1.0% Ø72.4~Ø80mm interval	
	Boring diameter	Maximum	Ø81.2mm	
		Minimum	Ø70mm	
	Operating temperature	-20~60°C		
	Material	Stainless steel (HRC 30~40 with heat treatment)		
	Dimensions	Ø70 × 445mm		
	Weight	14.5kg		
Case material	Aluminum			
Soft rock jack (GJ-75S)	Number of piston	3ea		
	Maximum pressurized	390kg/cm ² (5540psi)		
	Linearity	Maximum	±0.5% Ø73.7~Ø78.7mm interval	
		Minimum	±1.0% Ø72.4~Ø80mm interval	
	Boring diameter	Maximum	Ø81.2mm	
		Minimum	Ø70mm	
	Operating temperature	-20~60°C		
	Material	Stainless steel (HRC 30~40 with heat treatment)		
	Dimensions	Ø70 × 445mm		
	Weight	14.5kg		
Case material	Aluminum			
Hand pump (GJ-75P)	Maximum allowable pressure	703kg/cm ² (10000psi)		
	Pressure sensor range/resolution	100MPa / 0.001MPa		
	Accuracy	±0.5% FSR		
	Dimensions	690 × 180 × 150mm		
	Weight	9kg		
	Manufacturer	Korea hydraulic co - model. EPA-702		
Hydraulic hose (for inlet and outlet)	Maximum pressurized	703kg/cm ² (10000psi)		
	Weight	8kg/15m (standard)	20m, 30m, 40m (optional)	
Signal cable	Dimensions	Ø10mm, 0.75mm ² × 6C PU jacket cable		
	Weight	2kg/15m (standard),	20m, 30m, 40m (optional)	
Semi calibrator	Dimensions	Ø76.2 × Ø118 × 209mm		
	Weight	10.5kg (carbon steel)		