

H-1351 Semi-Circular Bending (SCB) Head



Semi-Circular Bending setup
shown on HM-5030

The H-1351 Semicircular Bend fixture has been designed for use with the test methods outlined in AASHTO T-105-13 and ASTM D8044. The SCB test is used to determine the low temperature fracture energy and fracture toughness of asphalt mixtures. These parameters describe the fracture resistance of asphalt mixtures. Fracture energy (G_f), stiffness (S), and fracture toughness (K_{IC}) are calculated from the load and load line displacement results.

The H-1351 SCB head can be configured in two ways. The first utilizes the upper and lower segments of the breaking head. The lower segment is comprised of a base with two perpendicular guide rods extending vertically and an upper segment mounted to the lower segment by sliding on the vertical guide rods. The holes in the upper segment are lined with brass to reduce binding as it moves up and down the guide rods. In this configuration the upper swivel contact bar is mounted to the upper breaking head segment.

In the second configuration, the upper swivel contact bar is separated from the upper breaking head bar and is mounted directly to the load cell. If using this method, precise alignment can be achieved by using the alignment guide, which is included.

For both methods, sample alignment on the base is simplified using scribe marks on lower support rollers and center guide at cut of sample to aid in alignment of sample front-to-back and left-to-right on base.

The H-1351 Semi-circular Bending Head can be used in conjunction with one of Humboldt's load frames, such as the HM-5030 Master Loader or HM-5120 Marshall frames. It may also be used with your present load frame, which meets the test's speed requirements. Humboldt offers additional Data Loggers with instrumentation for data acquisition of the SCB test results using the SCB breaking head when used with your present load frame.

Load Frame Options



HM-5030.3F

Humboldt MasterLoader Marshall Solution

ASTM D5581, D6926, D6931; AASHTO T245, T283; BS 598; EN12697-34

Designed for applications requiring multi-purpose loading systems, such as road construction projects in either mobile or fixed labs, educational institutions and consulting firms, the HM-5030 Master Loader is ideal for just about any application from road construction to high-volume commercial and educational laboratories.

While the HM-5030 has been specifically designed for soil testing labs conducting multiple testing operations including: UU, CU and CD triaxial, UC, CBR and LBR, it is also perfect for running Marshall, Hveem, TSR and SCB asphalt tests as well. Its heavy-duty design and precise stepper-motor control provide a stable platform for years of reliable service allowing the HM-5030 to perform any tests required up to its load capacity of 11000 lbf (50kN).

Like all Elite Series load frames, the HM-5030 is

built around Humboldt's integral, 4-channel data logger with touch-screen control, which allows the load frame to be used as a standalone device, which can perform Marshall tests at the push of a button; or with the aid of Humboldt's NEXT software, and the Marshall software module and a computer, it can be automated to run tests and gather data in real-time data acquisition in the form of charts and graphs. The HM-5030 is ideal for road construction projects in either mobile or fixed labs, educational institutions and consulting firms.

Load capacity	11000 lbf (50kN)
Speed range	0 - 3.0000 in/min. 0 - 75.0000 mm/min.
Data channels	4
Platen Size / Travel	10" (254mm) / 4" (100mm)
Data storage	1000 tests and up to 3000 readings per test
Clearance, vertical	40" (1000mm)
Clearance, horiz.	15" (380mm)
Voltage	110/220V 50/60Hz. 5.0 amps

Master Loader, 110/220V 50/60 Hz HM-5030.3F

Shipping wt. 300 lb (136kg)

Marshall, TSR, SCB Load Frame

ASTM D5581, D6926, D6931; AASHTO T245, T283; BS 598; EN12697-34

HM-5120 Loader has been specifically designed to handle Marshall, TSR and SCB applications. Its heavy-duty design and precise stepper-motor control provide a stable platform for years of reliable service. From educational institutions and consulting firms to high-volume commercial labs and construction projects, the HM-5120 Loader can handle these applications with ease.

The HM-5120 is built around Humboldt's integral, data logger with touch-screen control, which allows the load frame to be used as a standalone device capable of full test control and data logging. It can also be controlled by a networked computer at any location with access to the network.

Adding the Marshall-specific Software Module allows you to better control your Marshall test procedure. The HM-5120 is sold as a Load Frame ONLY, refer to the recommended accessories chart for items needed to perform Marshall, TSR and SCB testing. These new waterproof, touch screens provide colorful, at-a-glance monitoring of testing functions without the use of a computer.



Operators can see all the data in several formats at the machine while the test is running. Data can then be transferred to a computer for use with Humboldt's Next Software for report generation.

This machine can also be controlled from a computer using Humboldt's NEXT software. This software provides robust machine control, data acquisition and report generation. Because the HM-5120 is connected to your network, your computer can be placed in the your lab, in the next room or at a different location. Adding the Marshall-specific Software Module allows you to better control your Marshall test by guiding you through the specific process.

The HM-5120 is sold as a Load Frame ONLY, refer to the recommended accessories chart for items needed to perform Marshall and TSR and SCB testing.

Marshall Load Frame, 110/220V 50/60 Hz HM-5120.3F

Shipping wt. 300 lb (136kg)

Load capacity	11000 lbf (50kN)
Speed range	2 in/min. 50.8mm/min.
Data channels	2
Platen Size / Travel	10" (254mm) / 4" (100mm)
Data storage	1000 tests and up to 3000 readings per test
Clearance, vertical	40" (1000mm)
Clearance, horiz.	15" (380mm)
Voltage	110/220V 50/60Hz. 5.0 amps



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