

HF 160 WATER HAMMER APPARATUS

GENERAL DESCRIPTION:

This apparatus is used to study the effects of both pipe surge and water hammer using two separate straight pipes with a constant head tank.

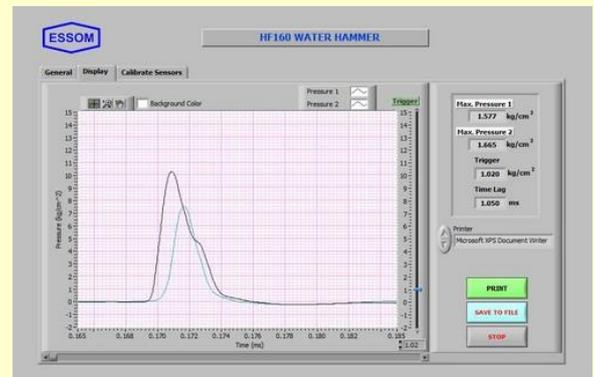
Pipe surge employs a clear acrylic surge shaft to demonstrate gradual velocity change, hence pressure rise and its oscillations by slow valve closing. Water hammer employs a quick closing valve and two pressure sensors-one next to the valve and another further away. Sudden rise in pressure on quick closing valve can be demonstrated on a computer (separately supplied). A Hydraulics Bench (required but separately supplied) with a measuring tank, a storage tank and a pump is used for both water supply and flow rate, measurement.



Photograph includes optional equipment

TYPICAL TESTS:

- Pipe surge and oscillations in surge shaft.
- Friction loss between head tank and surge shaft.
- Pressure profiles for water hammer and comparison with theoretical values.
- Determination of the velocity of sound through a fluid in a pipe.



Pressure Waves

TECHNICAL DATA:

- Constant head tank : 1 ea.
- Delivery pipes :
 - Water surge : Stainless steel pipe, and clear acrylic surge shaft, with a slow closing valve, and flow control valve.
 - Water hammer : Stainless steel pipe, with quick closing valve.
- Pressure sensors : 2 ea on water hammer pipe
- Computer interface unit and software for data display of pressure waves on computer (separately supplied).
- Power supply : 220 V, 1 Ph, 50 Hz. Other power supply is available on request.

OPTIONAL EQUIPMENT:

- HB100 Hydraulics Bench with stop watch
- HP 010 Flow digital display

Net Dimensions WxLxH : 50 x 375 x 110 cm
Net Weight : Approx. 190 kg

