

Energy Losses in Bends and Fittings Apparatus (EDC-FM-109EL)

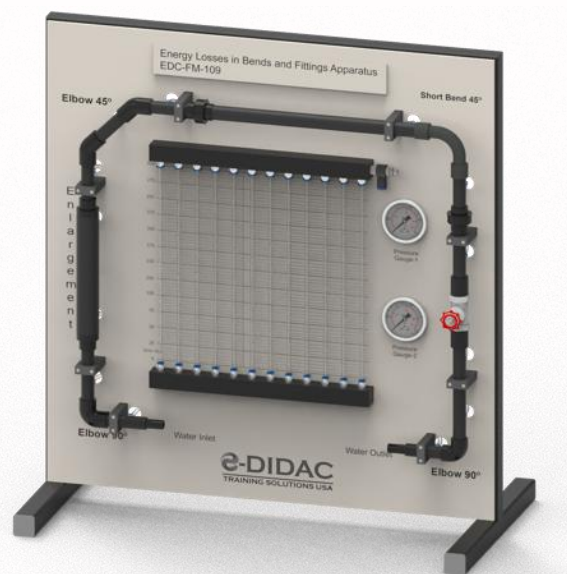
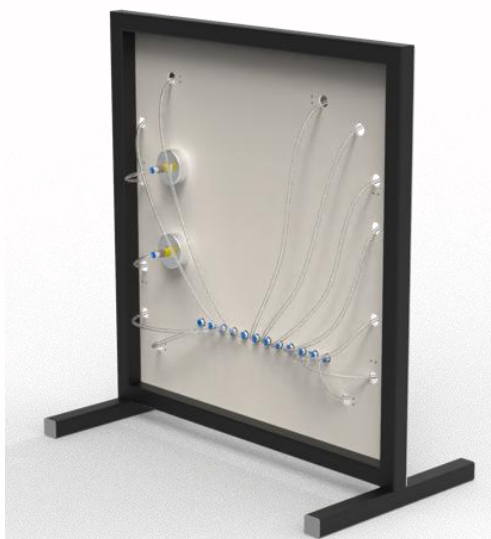
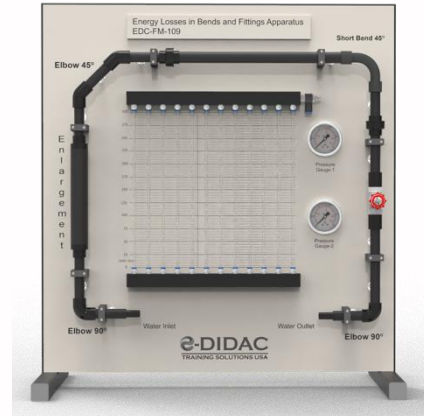
EXPERIMENTAL DATA:

- Investigation of head loss in pipe fittings
- Investigation of pressure loss in pipe fittings for laminar and turbulent flow and 'k' value
- Investigation of load losses for a valve
- Investigation of pressure differential at sudden enlargement and contraction

DESCRIPTION:

This experimental unit consists of a pipe section containing different segment fittings along the loop as well as sudden enlargement and contraction elements. These pipe fittings easy to use and handle include mitre bend, 90° elbow, sweep bend, contraction and enlargement. Bends and fittings are all instrumented with upstream and downstream pressure tapings connected to a bank of twelve water manometer tubes. The manometer tubes are pressurized by a hand pump. The system has manometers, Bourdon type: 0 - 2.5 bar. Measurement of Pressure loss in flow though different pipe fittings and in Gate Valve. Pipe Fitting Measurement objects are sudden contraction and sudden enlargement, pipe bend, segment bend, pipe angle and Gate valve as measurement objects. It includes three different bends - mitre, elbow and large radius. Direct comparison of pressure loss across different pipe fittings and their 'k' value. 12 tube manometers for displaying the pressures, 2 Bourdon tube pressure gauge for pressure measurement.

This unit can be used with EDC-FM-100HB or can also be used with laboratory water supply. The on-board flow control valve allows students to observe the pressure losses at different flow rates.



TECHNICAL DATA:

Pipe Bends and Fittings:

- **Material:** PVC
- **Pipe Size:** 0.5-inch standard pipe size
- **Types of Bends & Fittings:**
 - 90-degree miter bend
 - 90-degree elbow
 - Large radius bend
 - Sudden expansion: 0.5 inch to 0.75 inch
 - Sudden contraction: 0.75 inch to 0.5 inch

Gate Valve:

- **Material:** Stainless Steel
- **Fitting Size:** 0.5-inch pipe size
- **Maximum Water Working Pressure:** 2 bar

Manometer Tubes:

- **Material:** PPI
- **Quantity:** 12 nos.

Bourdon Gauges:

- **Quantity:** 2 nos.
- **Measuring Range:** 0 to 2.5 bar
- **Mounting Type:** Panel mount

DIMENSIONS AND WEIGHT:

- **Minimum Size:** 800 x 550 x 750mm (L x W x H)

SCOPE OF DELIVERY:

- 1 x EDC-FM-109EL
- 1 x Instructional Manual