

## Energy Losses in Bends and Fittings - F1-22-MKII

This accessory allows users to explore and gain an understanding of pressure losses in different, bends, pipe fittings and flow control valves.

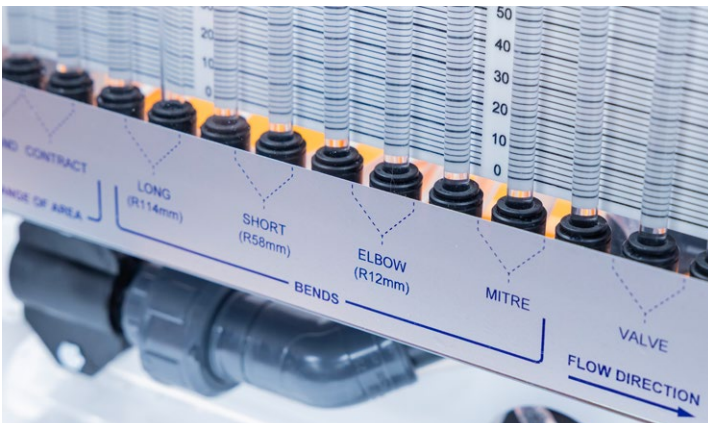
- ▶ Mitre bend - 90° elbow - Short and long bends
- ▶ Sudden contraction and sudden enlargement
- ▶ Fully instrumented with upstream and downstream pressure tapings
- ▶ A bank of 12 water manometer tubes mounted on the framework for visualisation of the pressure drop profiles

## Description

The equipment is mounted on a free-standing framework which supports the test pipework and instrumentation. The following typical pipe fittings are incorporated for study: mitre bend, 90° elbow, swept bends (large and small radius), sudden contraction and sudden enlargement.

All are instrumented with upstream and downstream pressure tapings. These tapings are connected to a bank of 12 water manometer tubes mounted on the framework. Pressurisation of the manometers is facilitated by a hand pump. A gate valve is used to control the flow rate.

A separate gate valve is instrumented with upstream and downstream pressure tapings which are connected to a differential gauge on the edge of the framework. The gate valve can be replaced with two other valve types to further increase the experimental content. The unit stands on the working top of the hydraulics bench, which also serves as the water supply source.



## Experimental content

Supplied as standard: Measuring the losses in the devices related to flow rate and calculating loss coefficients related to velocity head including:

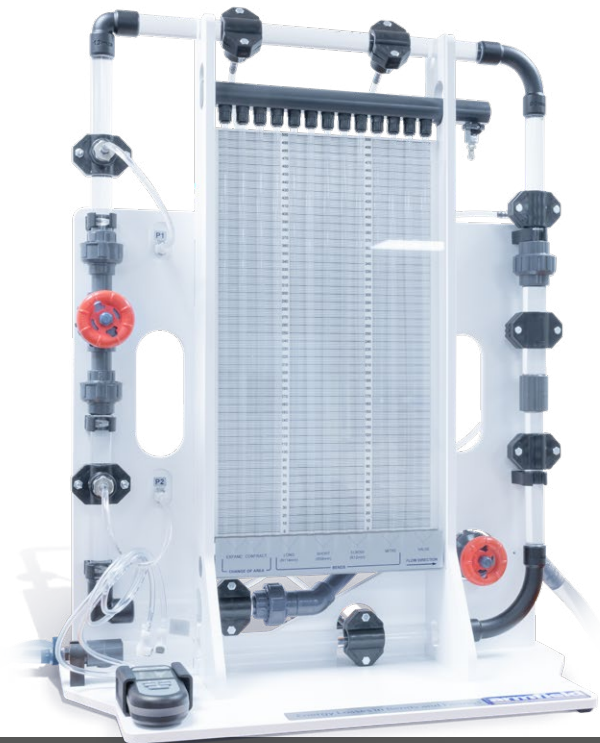
- ▶ Short bend
- ▶ Long bend
- ▶ Elbow bend
- ▶ Mitre bend
- ▶ Area enlargement
- ▶ Area contraction
- ▶ Gate valve fitting
- ▶ Comparing the pressure drop across each device

## Overall dimensions

Length	0.86m
Width	0.34m
Height	0.74m

## Ordering codes

- ▶ F1-22-MKII
- ▶ F1-22-MKII-1



Valves: Gate valve

Ball valve

Angle valve



## Technical specifications

Pipe diameter	19.48mm
Differential pressure gauge	0-3 bar
Enlargement diameter	26.2mm
Contraction diameter	19.48mm
Fittings	short bend
	long bend
	elbow bend
	45° mitre bend
	enlargement
	contraction
	gate valve
Additional valves	Ball valve
	Angle seat valve
Manometer range	0-440mm
Number of manometer tubes	12
Differential manometers	6
Requires Hydraulics Bench Service unit F1-10/F1-10-2	