

# Solutions@ Mecmesin

## Filter Test Station

### Specification

The following tests were required in a simple-to-use system for a series of tests on automotive filters.

- Tension force to break off the outlet tube from the housing.
- Compression force to penetrate through the inlet housing of the filter.
- Push-out force until break of a suspended base inside the air filter.

The operator was able to quickly interchange fixtures to minimise the time needed for testing.

### Solution

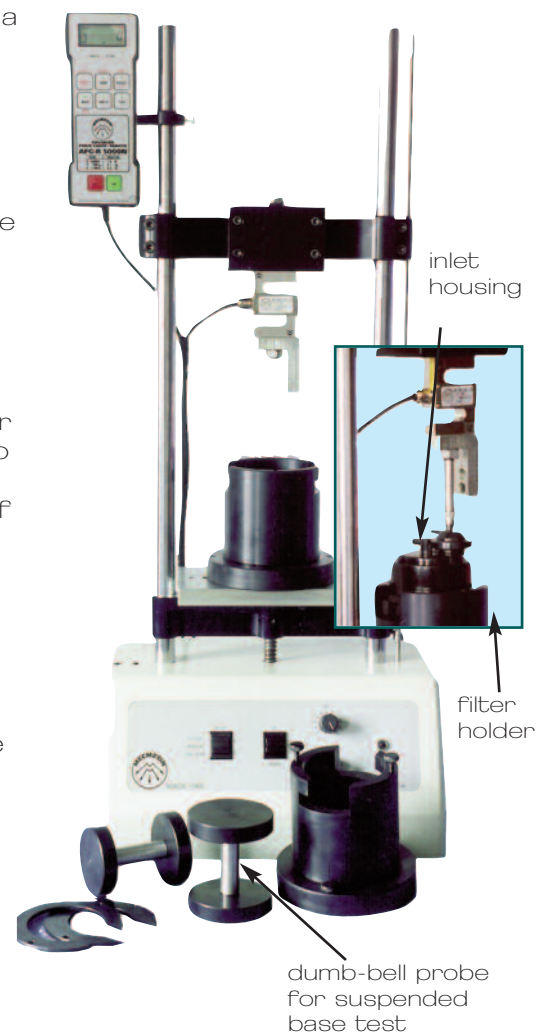
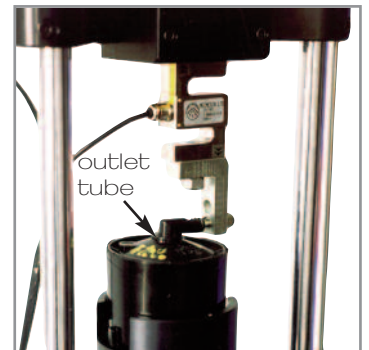
Two holders accommodated the various sizes of filter on the lower moving crosshead of the test stand. An 'L' shaped fixture connected to the S-beam loadcell was designed to accept either tension or compression probes. A cone point probe was used to perform the penetration test on the inlet housing. A horizontal location probe fitted into the hole of the outlet tube to pull it off from the filter housing. Both the maximum compression and maximum tension force for these tests were captured on the AFTI display. The top portion of the air filter was then sawn off to allow access to the suspended base inside. The dumb-bell probe was placed inside the filter on the top of the filter base. The probe was then compressed until the base broke at forces in excess of 5kN. Forces were applied using the 10kN capacity test stand in the 'manual' mode, then the operator released the load when the filter was observed to break.

### System

- M10KNE Motorised Test Stand
- 10kN S-Beam loadcell
- AFTI display
- Universal fixtures
- Swivel mounting bracket

### Supplied to

Vecol, UK



#### Mecmesin Limited

Newton House, Spring Copse Business Park, Slinfold,  
West Sussex, United Kingdom, RH13 0SZ

e: sales@mecmesin.com t: +44 (0) 1403 799979 f: +44 (0) 1403 799975 www.mecmesin.com

# automotive industry



automotive